

NERRs translate scientific knowledge into practical, on-the-ground actions that citizens can take to protect their quality of life.

WISCONSIN LAKE SUPERIOR NATIONAL

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Lake Superior is the largest and most pristine of the Great Lakes. As such, it has the most at stake in the ongoing efforts to protect and restore coastal ecosystems. Scientific research and regulatory actions are focused primarily on reducing toxic pollution and protecting populations of native species from non-native invaders. Local communities and state and federal agencies are also addressing the effects of land use and runoff pollution through comprehensive planning and improved land management practices.

Despite the impressive achievements of scientists, coastal managers and local communities to increase public awareness and appreciation for restoring Lake Superior's ecosystem, more remains to be done. Much could be accomplished by increasing the knowledge of citizens and decision-makers about the challenges to the lake, and the opportunities for restoring the lake's fisheries, wetlands and other coastal resources.

National System of Coastal Research and Education Centers. Wisconsin is beginning the process of adding a Lake Superior site to a national program that provides opportunities to learn more about managing and restoring coastal resources. The National Estuarine Research Reserve (NERR) System consists of 27 sites that are living laboratories for studying coastal wetlands and neighboring natural communities. Research at these sites is used not only to increase

scientific knowledge, but is also translated into practical, on-the-ground actions that citizens and communities can take to protect their quality of life.

Each NERR site begins as a partnership between the state and federal governments to identify a site that contains a type of estuary, or coastal wetland, that has value for research and education. Once a site is selected, a partnership of state, federal, tribal and local governments, as well as citizens and nonprofit organizations, develops a management plan that describes what resources the NERR will manage and the type of information that is most important for local communities to learn from research activities.

The management of a NERR is the state's responsibility, and there are no federal restrictions on the use of a NERR's land and water resources. Existing sustainable uses such as hunting and fishing can continue.

A typical NERR has a boundary that encompasses the core estuarine area from the lake or ocean to a point upriver where the influence of lake or ocean water diminishes. Although the state must control the majority of the area within the boundary, it does not need to own all of the land.

The NERR System provides annual federal cost-share grants to support site operation, research and education programs. Construction and acquisition grants are also available. NERR sites are managed



ESTUARINE RESEARCH RESERVE

by a variety of state agencies including natural resource departments and universities.

Each NERR is part of the national system of reserves. NERR managers across the nation regularly exchange information about estuarine science, land conservation and management and education programs for coastal communities.

Benefits to Wisconsin and Lake Superior.

Establishing a NERR on Lake Superior will bring national recognition to the value of freshwater estuaries and the Great Lakes ecosystem. There is currently only one freshwater NERR at Old Woman Creek on Lake Erie in Ohio. Researchers at that site have for over twenty years studied the relationship between agricultural practices and water quality in Lake Erie. Lessons learned there have been used to improve land use planning and educate landowners and communities about how to reduce soil erosion and runoff pollution of local waterways.

A Wisconsin NERR would enhance existing research and education programs throughout the Lake Superior basin. Research on Wisconsin's Lake Superior coast is currently conducted by several institutions including the University of Wisconsin-Superior's Lake Superior Research Institute, Northland College's Sigurd Olson Environmental Institute, the University of Minnesota-Duluth's Natural Resources Research Institute, the U.S. Environmental Protection Agency's Mid-Continent Division in Duluth, and several departments of the University of Wisconsin-Madison. The Wisconsin and Minnesota Sea Grant programs participate in and support much of this research.

Much like the "Wisconsin Idea," the NERR System uses the results of research to improve the design and implementation of government programs. Through the Coastal Training Program, for example, local community leaders and land

management professionals learn about how to apply science-based lessons to better manage coastal resources. A Wisconsin NERR would also build on existing community education, public school programs and teacher professional development courses provided by University of Wisconsin-Extension programs, Northland College and the Cooperative Education Service Agency for northwest Wisconsin.

Next Steps for a Wisconsin NERR. The University of Wisconsin-Extension is leading the process, in collaboration with the Wisconsin Coastal Management Program, Wisconsin Department of Natural Resources and The Nature Conservancy, to identify the most appropriate site for a Lake Superior NERR. A Site Selection Technical Team will provide shared leadership and scientific expertise, and will include representation by local individuals and organizations. The site selection and designation process is expected to take three to five years and includes several opportunities for public involvement. The final result of developing a NERR on Lake Superior will be better understanding of Lake Superior's coastal ecosystems and greater integration of research and education for Wisconsin's coastal communities.

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