



PRIORITIES FOR LAKE CONSERVATION

A Portfolio for Minnesota

conservation profile

Known as the Land of 10,000 Lakes, Minnesota actually has more than 13,000 lakes larger than 10 acres. These lakes range from the crystal clear waters found in the northern forests to prairie potholes in the west that host thousands of nesting and migrating birds. Produced by the immense forces of glacial erosion and deposition, Minnesota's lakes also vary in size and depth from small, shallow wetland ponds to enormous freshwater basins such as Lake of the Woods and Mille Lacs.



Early fall comes to Crook Lake within The Nature Conservancy's Moe Woods Preserve. Crook Lake is one of seven shallow portfolio lakes of its kind within the North Central Glaciated Plains ecological section of southwestern Minnesota. © Mark Lissick/Coldsnap Photography

Lakes are a crucial component of the state's \$10-billion-a-year tourism economy. They also are very much in demand by residents for summer cabin and year-round home sites, drinking water and outdoor recreation including boating, swimming, fishing and hunting. Minnesotans value our lakes for reasons beyond money and sport. More than 90 percent of residents surveyed by the Minnesota Department of Natural Resources and Sea Grant agreed that, whether people use them or not, the state's lakes are important and should be maintained for their scenic

beauty and the habitat they provide for fish and wildlife.

It is hardly surprising that Minnesota's official state bird and fish—the common loon and the walleye—are two animals most at home in its lakes. But the state's tremendous number and diversity of natural lakes also provide critical habitat for many native plants and animals. Lake types influence the structure and function of native communities on and near the shore. Aquatic plants, which serve as important biological indicators of a lake's overall health,



Island in Lake Alexander. A large, morainal, cold water lake, Lake Alexander is one of only two lakes in its class in Minnesota. It is located in Cushing, Minnesota. © TNC

provide essential fish habitat, help cycle nutrients and maintain water quality. Minnesota's lakes are also vital to amphibians, reptiles and migrating waterfowl and shorebirds.

In recent years, much of the region's lake country, especially in north central Minnesota, has experienced a rapid increase in lakeshore development, with more homes per lake documented every year. This growth has generated concerns among residents and scientists alike about threats to lake ecosystems including invasive species, excessive nutrients and the loss of habitat, all of which can affect water quality and aquatic life. Public opinion surveys show that Minnesotans rank protection of surface water as their top environmental priority, according to the Minnesota Pollution Control Agency.

Clearly, there is a pressing need to begin concerted planning for the protection and conservation of the state's lake ecosystems. But with such a large and diverse collection of lakes, the challenge has long been where to focus conservation efforts. Although numerous lake classifications have been developed, the conservation community lacked a comprehensive, ecologically-based classification that organizes lakes based on multiple factors such as size, average and maximum depth, landscape

position, ecoregional setting and fish and aquatic communities.



Kids enjoying the water in the Boundary Waters Canoe Area Wilderness of the Border Lakes. © Doug Shinneman

In 2007, The Nature Conservancy developed a statewide lake classification to aid in the development of landscape-level conservation action plans that recognize Minnesota's lakes as diverse and complex freshwater ecosystems. Specifically, inventory and assessment data such as water quality measures, presence of rare aquatic plant and animal species and native ecological communities, as well as potential threats such as incompatible land use, development, invasive species and water level alterations, were used to identify the best examples of each type of lake. As part of this project, Conservancy scientists worked with aquatic experts across the state to answer a number of questions, including:

- How are fish, plants and ecological communities distributed among lake systems across the state?
- How can the Conservancy classify lakes to ensure conservation of unique representative lake ecosystems and the life they support?
- How do differences among lake systems influence their vulnerability to different threats such as development and climate change and, therefore, their long-term viability?

Through this process, the Conservancy developed a comprehensive, statewide lake conservation portfolio to help guide conservation of all lake types in Minnesota, including its most significant and distinct lakes. The portfolio includes a representative total of 949 lakes selected for their ecological characteristics and quality. The portfolio is designed to be flexible. The Conservancy expects that lakes will be added to or dropped from this list as additional information becomes available.

Conserving all of Minnesota's different lake types as well as its most exceptional examples would be a great investment in preserving the state's natural beauty, key fish and wildlife habitats and countless outdoor recreation opportunities.

To see the lake classification report, a copy can be downloaded online at: nature.org/minnesotascience

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