



Intralake Zoning for Sensitive Lakeshores

Tools for Identifying and Protecting Sensitive Lakeshore



A common loon (*Gavia immer*) nesting in near-shore habitat. Very sensitive to disturbance during nesting, loons need these sheltered areas for their nests.

Minnesota's lakes are one of the state's most valuable resources. Lakes provide various recreational opportunities and are home to numerous fish, wildlife, and plant species. Many of these fish and wildlife species, including species of greatest conservation need, depend on naturally vegetated shorelines as habitat for feeding, resting, and mating and juvenile life stages. For example, loons avoid clear beaches and instead nest in sheltered areas of shallow water where nests are protected from wind and wave action. Mink frogs and green frogs are shoreline-dependent species that prefer quiet bays and protected areas with abundant aquatic plants. Fish such as the least darter, longear sunfish, and pugnose shiner are strongly associated with large, near-shore stands of aquatic plants.

Increasing development pressure along Minnesota's lakeshores has negative impacts on these species and water quality. However, local governments can use intralake zoning on large lakes to help protect ecologically sensitive sections of lakeshore. Areas that are identified as sensitive, such as important bays or critical sections of shoreline, can be placed in a sensitive shoreland overlay district that has conservation-based standards for new development.

Cass County and the Minnesota Department of Natural Resources (DNR) are collaborating on a project to identify and protect ecologically sensitive shoreland. First, the sensitive shoreland project provides reliable advice about sensitive lakeshores. Cass County has identified 17 lakes

that are the highest priority for assessment (e.g., Ten Mile Lake, Woman Lake, and Leech Lake). These lakes represent some of the county's largest and most valuable waters. These lakes also contain extensive areas of undeveloped shoreland and represent excellent locations to test the capabilities of the new zoning tool. The DNR established objective, science-based criteria to identify sensitive shoreland parcels on large lakes. Sensitive lakeshores represent geographical areas comprising shorelands, shorelines, and the near-shore areas defined by natural and biological features that provide unique or critical ecological habitat. Second, Cass County will work to incorporate the identified sensitive areas into its zoning code. The county plans to propose innovative zoning within these sensitive shoreland areas to protect water quality and near-shore habitat via conservation-based development where it is appropriate.

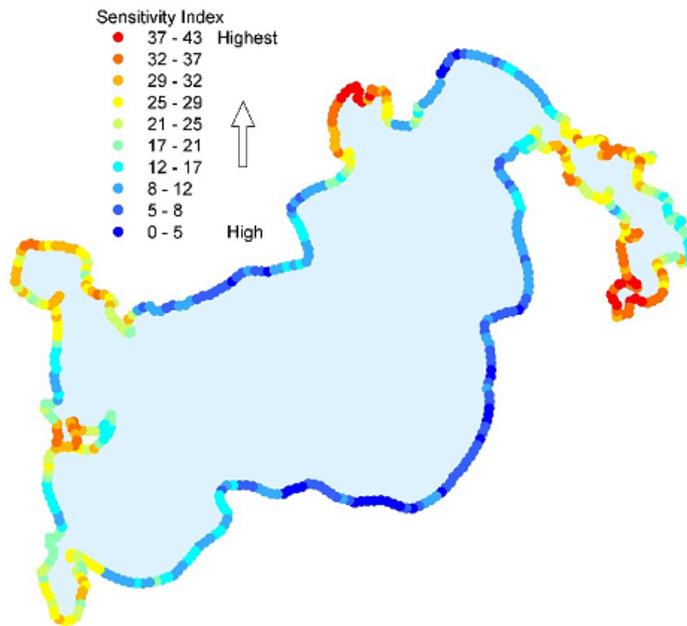


Intralake zoning can be used by local units of government to protect undeveloped sections of ecologically sensitive shoreland on large lakes.

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Intralake zoning is based on identifying sensitive lakeshore habitat. Identification includes conducting surveys of fish, wildlife, and plants in the lakeshore area.



Identifying the relative sensitivity of lakeshore areas is accomplished by using the three-component lakeshore protocols. Local units of government can then identify lakeshore areas that need protection from development.

The sensitive lakeshore protocol consists of three components. The first component includes field surveys to evaluate the distribution of high-priority plant, fish, and wildlife species. The second component involves the development of an ecological model that objectively and consistently ranks lakeshores for sensitive area designation. The model is based on the results of the field surveys. Lakeshores used by focal species, areas of high biodiversity, and critical and vulnerable habitats are important elements in the ecological model used to identify sensitive lakeshores. Because the model is based on scientific data, it provides objective, repeatable results that can be used as the basis for regulatory action. The final component involves compiling and delivering information on sensitive lakeshores to various land and resource managers who can use the information to maintain high-quality environmental conditions and to protect plant, fish, and wildlife habitat.

A protocol for identifying sensitive lakeshore is available in Minnesota's Sensitive Lakeshore Identification Manual.

The comments in this brochure address jurisdictional matters and concerns of the DNR, Division of Waters. Please contact your DNR Area Hydrologist to discuss issues relating to your project or this brochure. More information is available at this website: <http://mndnr.gov/waters/shoreland.html>

