



Natural Resources

Lakes

Protection and preservation of our natural resources (including lakes) is imperative. The state has an interest in conserving the amount of water contained within water bodies, as well as the quality of water. One of the obvious reasons for these conservation measures is that surface waters provide vital habitat for fish and wildlife, as well as a place for people to fish, hunt, trap, boat, and swim. Some of the most important benefits of lake protection/preservation may be less obvious:

A lake may be defined as an enclosed basin filled, or partly filled, with water. A lake may have an inlet and/or an outlet stream, or it may be completely enclosed (landlocked). Generally a lake is an area of open, relatively deep water that is large enough to produce a wave-swept shore. (Source: MN DNR)

- Large amounts of water are stored in lakes, wetlands, and streams, which can seep into the ground to recharge ground water aquifers. As a result of these conditions, the shoreline edges around all lakes in the western portion of Rice County are highly susceptible to rapid absorption of pollutants directly into the ground water aquifer.



Source: MN DNR "The Waters Edge". Page 4

- Lakes, wetlands, and streams store excess water in times of flooding and provide an important reserve of surface water during times of drought.

Rice County contains a total of 43 lakes, with 14 over 300 acres in size. Of the 43 lakes, 34 are listed as state protected. The majority of lakes within Rice County are shallow and considered hyper-eutrophic. Hyper-eutrophic lakes are nutrient-rich, characterized by frequent and severe nuisance algal blooms and low transparency with a visibility depth of less than 3 feet, greater than 40 micrograms/liter total chlorophyll and greater than 100 micrograms/liter phosphorus.

THE IMPORTANCE OF A HEALTHY LAKESHORE

A healthy lakeshore consists of many natural elements (plants, soils, rocks, decaying trees and logs) that function together to form a unique ecosystem (Figure 1). Shoreline alterations that damage or remove some of these components sever essential biological and physical connections between the upland and the water (Figure 2).

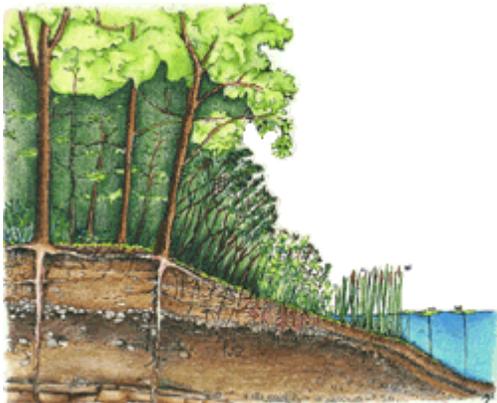


Figure 1. Vegetated Shoreline

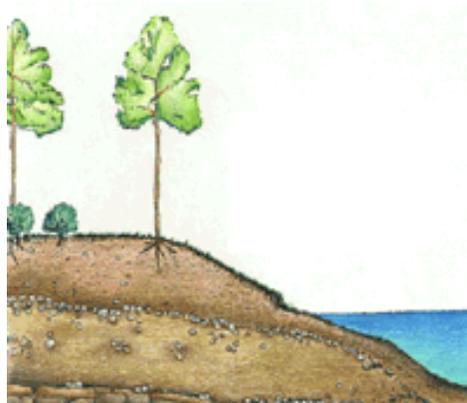


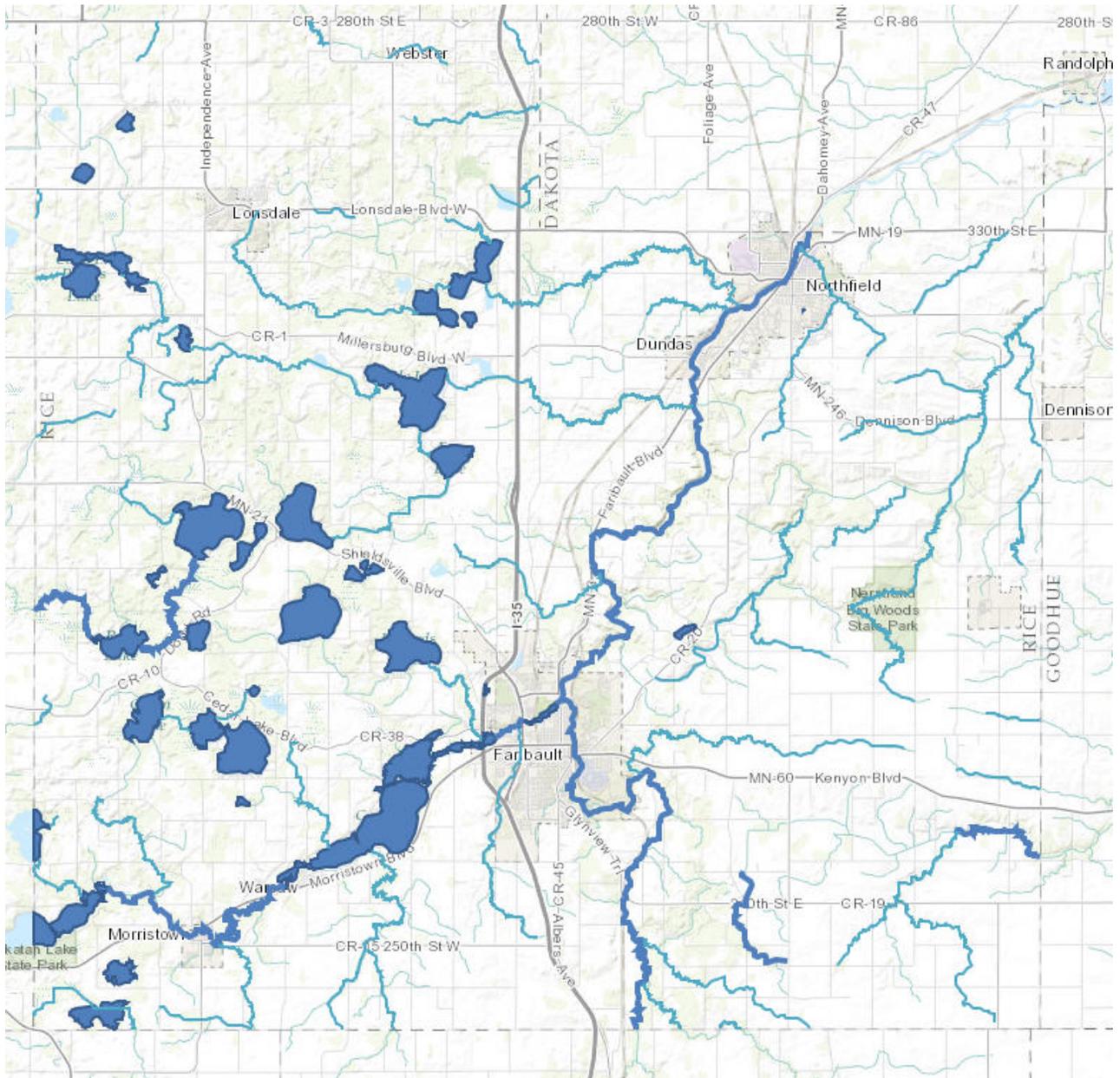
Figure 2. Altered Shoreline

Protecting natural vegetation, or re-establishing it, either directly or through natural succession, is critical for a functioning shoreline buffer. The vegetative goal for the shoreline buffer is mature native forest or other natural vegetation. A natural vegetated shoreline buffer generates important ecological and aesthetic functions. A vegetated buffer can: provide vegetative screening for structures; maintain physical conditions such as bank or shore stabilization; shade streams and lakes; minimize disturbances to the littoral zones (the shallow transition zone between dry land and the open water area of a pond, lake or river) of lakes; retain and transform sediments, nutrients, and toxicants; improve stream and lake habitat structure by allowing for contribution of woody habitat and organic matter to lakes and streams; provide habitat for some shoreline-dependent wildlife such as amphibians that utilize narrow corridors; and provide perching spots for fish-eating birds and ambush sites for other shoreline predators. Rice County has routinely required shoreland restoration projects as a variance approval condition for a portion of the lot fronting on lakes which predominate the western half of the county. Although somewhat incremental in approach, all efforts to improve water quality should be pursued to address lake water quality issues for the community when the opportunity arises.

For more information about how to restore and protect your shoreline from ground and surface water pollutants and enhance aquatic vegetation and wildlife visit:

<http://www.dnr.state.mn.us/restoreyourshore/index.html>

Rice County Lakes and Streams



Click on the following to access the map:

<http://www.arcgis.com/home/webmap/viewer.html?webmap=82a9fb3cfafd47a29f7d53f2074675e5>

For detailed information on individual Rice County lakes, please visit the following link:

<http://www.dnr.state.mn.us/lakefind/index.html>