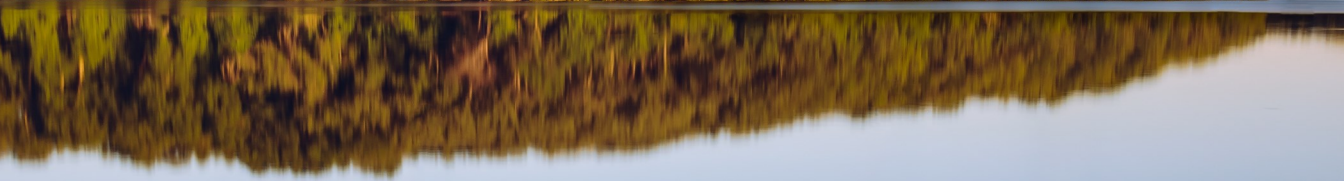


THE QUICK GUIDE TO **SHORELAND STEWARDSHIP**



Cook County, Minnesota



A HEALTHY LAKE STARTS WITH A HEALTHY WATERSHED

Cook County contains over 880 of the highest quality and most pristine lakes in Minnesota. Providing priceless recreational, ecological, and environmental services, lakes are one of the most cherished natural resources in the County. With the enjoyment of our lakes comes the responsibility to protect, improve, and enhance the quality of these waters for ourselves and future generations. As a shoreland owner, or one who occasionally uses our county's waterways, we must all practice good stewardship to ensure our waters remain pristine for years to come.

WHAT IS A WATERSHED?

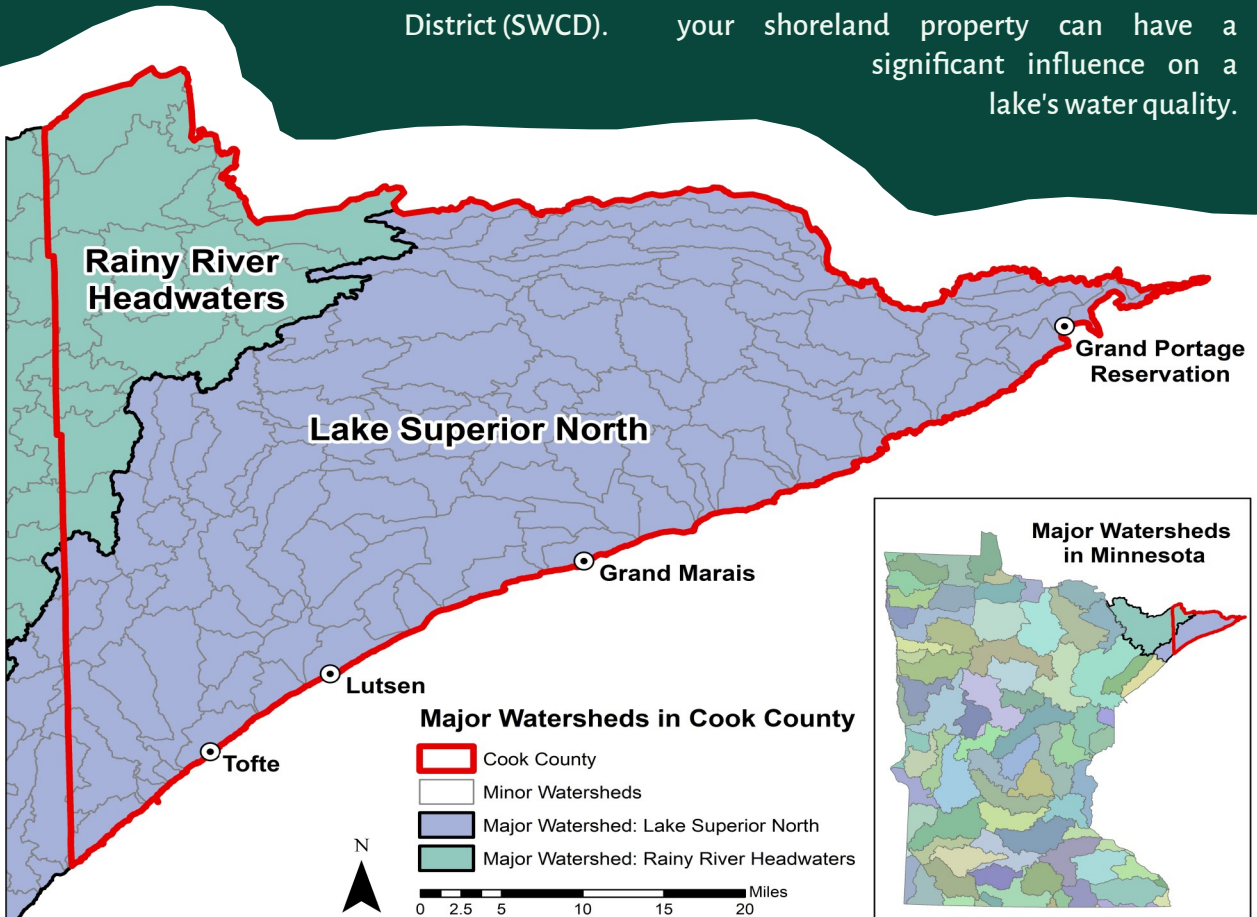
A watershed is an area of land in which all of the precipitation that falls within it could flow to a particular receiving waterbody - usually a lake, river, or stream. Everyone lives in a watershed and each lake has its own watershed. Water quality is directly impacted by activities occurring on the land around a lake and within the lake's watershed. Protecting our lakes starts with protecting our watershed by practicing good individual land use.

STEWARDSHIP

The personal responsibility to manage one's life, property and shared natural resources with regard to the rights of others.

No matter the location of your property in Cook County, you are in one of two major watersheds, Lake Superior North or Rainy River Headwaters. There are 80 major watersheds in Minnesota. Each of these major watersheds contains many minor watersheds. There are a total of 121 minor watersheds in Cook County where water is flowing in or out of the County. A lake's watershed is part of one of these minor watersheds. To locate the minor watershed for the lake you live on, contact Cook County Soil and Water Conservation District (SWCD).

Major watersheds will eventually drain into larger watersheds and become incorporated into expansive networks and a part of the global water cycle. Every drop of water, and the pollutants it picks up along its journey, adds up to influence water quality. As a steward of the land, it is important to ensure the water leaving your property is as clean as it was when it entered. This can be achieved by limiting our impacts on the natural environment and incorporating best management practices whenever possible. The individual actions you do or don't do on your shoreland property can have a significant influence on a lake's water quality.



BENEFITS OF NATURAL SHORELINE BUFFERS

A shoreline buffer is a forested or vegetated strip of land adjacent to streams, rivers or lakes. Protecting the lake's first line of defense, the shoreline buffer zone, is the most important thing you can do on your shoreland property. The ideal buffer width is at least 50 feet. However, a small buffer is better than no buffer, and the bigger the buffer the better.

Natural shoreline buffers, full of diverse native plants, provide countless benefits for landowners and the environment. These include maintaining and protecting water quality, erosion protection, wildlife habitat, regulating temperatures, and increasing and maintaining property values.

MAINTAINING AND PROTECTING WATER QUALITY

Pollutants and contaminants transported with runoff negatively impact water quality by altering the water chemistry and providing excess nutrients. Nutrients promote excessive aquatic plant growth or algae blooms, which can produce toxins harmful to human and animal health in addition to catastrophic fish kills. Natural shoreline buffers protect water quality by slowing, infiltrating and filtering nutrient riddled runoff through the soil layer before it reaches a waterbody.



EROSION PROTECTION

The vegetation in a diverse shoreline buffer creates an elaborate underground root system. The roots weave their way through the ground binding and interlocking soil particles together like a strong thread. This minimizes soil loss from runoff, wind erosion, and wave action. Dense vegetation above ground intercepts rainfall and slows runoff, which could exacerbate soil erosion if not present.



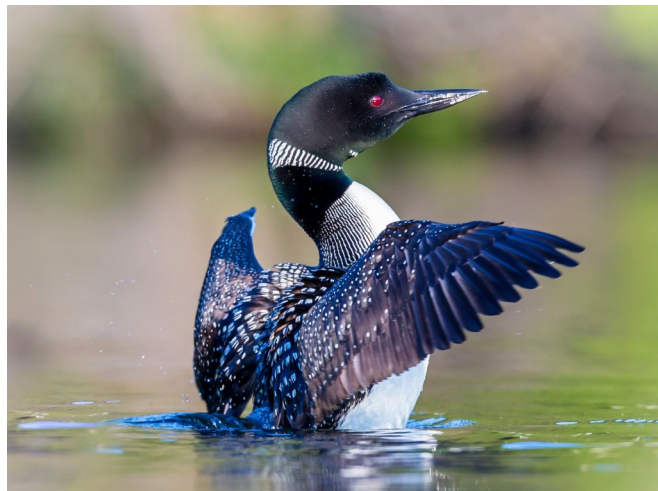


REGULATING TEMPERATURES

Shade produced by vegetation helps moderate temperatures during the summer months near the shore and in the water. Terrestrial and aquatic wildlife seek refuge and relief from sun exposure and heat in the shade provided by buffers. Shade from vegetation provides an impactful cooling effect and is necessary to maintain the healthy and productive cold water fisheries we have in Northern Minnesota.

WILDLIFE HABITAT

Shorelines provide crucial habitat for numerous species of reptiles, amphibians, fish, birds, insects, and mammals. Almost all wildlife depend on shorelines during different stages of their lives. This essential environment is utilized for sources of food, shelter, protection, refuge during migration, breeding grounds, and rearing of young. Creating or maintaining a healthy shoreline protects this vital habitat and provides more opportunities to view and enjoy wildlife.



INCREASING & MAINTAINING PROPERTY VALUES

A high quality, natural shoreline is an asset to your property. While waterfront views and access are important, eroding shorelines and poor water quality diminish your property's value. Buffers can be maintained or created in a way to allow access and sightlines to the lake while also providing shoreline protection, water quality, and wildlife benefits. A healthy, productive lake directly correlates to high property values.



THREATS AND LAKE PROTECTION TIPS

The water resources in Cook County are arguably some of the most pristine resources in Minnesota. The aquatic ecosystems they support and recreational opportunities they supply are invaluable. Together, we can help keep our waters clean by understanding common threats to our waters and practicing simple lake protection tips to prevent negative and costly impacts.

SOIL EROSION & SEDIMENTATION

Many aquatic species rely on gravel spawning beds, free of fine sediments, to propagate their young. Soil can erode and deposit on the lakebed when vegetation along the shoreline is removed. Aquatic ecosystems can become impaired or destroyed when excess sediment enters the lake.

- ✓ Practice a “no mow zone” in the shoreland area.
- ✓ Protect and maintain the native vegetation along the shoreline.
- ✓ Restore vegetation along the shoreline by planting native species.



NUTRIENTS

Nutrients are normally in limited abundance in a natural setting. When nutrients, such as phosphorus and nitrogen, are added to the aquatic system, increased plant and algae growth occurs. Excessive plant growth impacts recreation and harms aquatic species. When these plants die, masses can be washed to the shore causing unsightly beaches and foul odors. The plants that don't make it on shore sink to the bottom and decay. This creates depleted dissolved oxygen levels resulting in fish kills.

- ✓ Limit or avoid using fertilizers on your shoreland property.
- ✓ Establish a robust shoreline buffer. Vegetation can significantly reduce nutrient inputs into the lake by filtering and slowing down nutrient laded runoff.
- ✓ Place fire pits at least 50 feet away from the water's edge. Burning wood produces ash, rich in phosphorus, that is easily blown or washed into the lake.

Blue-green algae bloom due to excess nutrients entering the waterbody

ESCHERICHIA COLI (E.COLI)

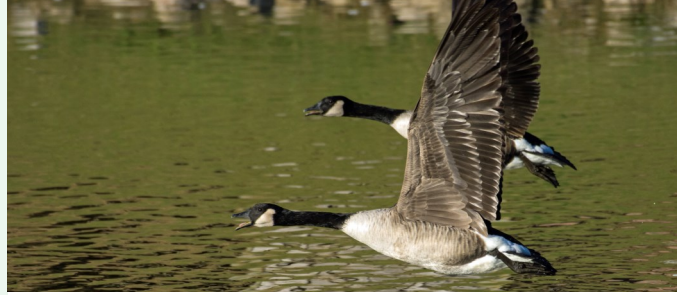
E. coli is a bacteria species that normally lives in the intestines of healthy people and animals. Harmful outbreaks can occur when human or animal waste contaminates a waterbody. Certain strains produce powerful toxins capable of causing severe illness and tainting drinking water.

- ✓ Properly care and maintain septic systems. As a general rule, septic systems should be inspected and pumped every three years to prevent leaks and to identify maintenance needs.
- ✓ Promptly clean up and dispose of animal and pet waste properly. Bag it now or swim in it later.

AQUATIC INVASIVE SPECIES (AIS)

AIS are non-native plants, animals, or pathogens that invade ecosystems beyond their natural, historic range. AIS can cause extensive economic loss, environmental damage, and harm to human health by threatening the diversity or abundance of native species, interrupting the natural food chain, and negatively impacting recreation.

- ✓ Stop the spread of AIS by following the clean, drain, dispose, and dry rule when exiting a waterbody.
- ✓ If you know or suspect your boat has been in contact with an infested water, decontaminate it.
- ✓ If you suspect a new infestation of an aquatic invasive plant or animal, note the exact location, take a photo and contact the Cook County AIS specialist.



POLLUTANTS

Oil, gas, cleaning products, soaps, microbeads, medications, herbicides, and pesticides are just some of the pollutants that can enter a waterbody if proper care is not taken. These products contain hazardous chemicals which threaten the health of aquatic life and decrease water quality.

- ✓ Check motorized water equipment regularly for leaks. Take precautions when refueling to avoid spills. Use a rag to wipe up any spill or overflow; do not rinse into the water.
- ✓ Never dispose of household hazardous waste such as paints, chemicals, aerosols, or cleaning products down the drain. These can damage septic systems or contaminate surface waters if improperly disposed. Hazardous waste collection days are hosted annually at the Cook County Recycling Center.
- ✓ Never flush unwanted or expired medications. These items can be properly disposed of in the amnesty bin located in the Cook County Courthouse or Cook County Sheriff's Office.
- ✓ Consider using organic personal care products or natural cleaning products to limit the chance of introducing chemicals into the environment.

WHAT RULES AND REGULATIONS APPLY TO SHORELAND IN COOK COUNTY

“Shoreland” in Cook County is defined as all property within 1,000 feet of a lake, pond, or flowage, or 300 feet of a river or stream. It includes the North Shore Management Zone.

When you own shoreland property, you do have certain riparian rights and privileges, such as the right to take water for domestic and agriculture purposes, to fish, boat, hunt, and swim. It is important to understand what you can and cannot do in the water and on the adjacent shoreland. Projects that impact Minnesota's water resources are regulated by a variety of state, local, and federal agencies. In many cases, a permit is required from one or more of these agencies before proceeding with any alterations.

- ✓ For any actions in the water or on the land below the ordinary high water level (OHWL) of a public water, check with the Minnesota Department of Natural Resources for permit requirements. 218-834-1441
- ✓ For any actions on the land above the OHWL and within the shoreland zone, contact the Cook County Land Services Department. 218-387-3630 : www.co.cook.mn.us
- ✓ If you are interested in a shoreline restoration or learning more about best management practices for your property, contact the SWCD office. 218-387-3647 : www.cookswcd.org



ADDITIONAL RESOURCES

Do I need a Permit?

dnr.state.mn.us/permits/water/needpermit.html

Shoreland Landscaping

Blue Thumb-Planting For Clean Water : www.blue-thumb.org

Restore your Shore : www.dnr.state.mn.us/rys

Lakescaping for Wildlife and Water Quality : Carrol L. Henderson

Credits

Cass County Shoreland Homeowner's Guide to Lake Stewardship :
Cass County Soil & Water Conservation District

The Shoreline Vegetation Stewardship Manual : Watersheds Canada

The Property Owner's Resource Guide : Cook County

