**DNR FACTS ABOUT THE HEALTH OF CEDAR LAKE: WHY WE NEED STEWARDSHIP**

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**Stewardship is the responsible overseeing and protection of something considered worth caring for and preserving.**

**FACT** - about half of Minnesota’s natural shorelines are vanishing at an alarming rate – a loss that contributes to degraded lake quality. **Lakes in Central Minnesota have lost the most natural shorelines** and about 28% of the lakes in this region scored low for protection of natural shoreline.

**FACT** - The DNR has given a **Lake Health Score** to about 3000 lakes. The score consists of data from water quality, biology, hydrology, geomorphology, and connectivity, **and the level of risk from land use activities.** **Cedar Lake got a grade of C+,** even though we have done a great job of controlling aquatic invasive species for many years. Grades for surrounding lakes are:

 Sugar and West Lake Sylvia – B+

 Lake John, East Lake Sylvia, Indian, Bass – B

 Cedar and Maple – C+

 Pleasant, Clearwater, Mink and Summers – C

 Henshaw and Swartout – D

**FACT – 54% of Cedar’s shoreland cover is disturbed (not natural). Large amounts of disturbed land cover contribute polluted surface water to the lake.**

**FACT** - **Cedar has more surface water inflow** than groundwater inflow.

**FACT** – **Cedar achieved a low “Score Your Shore” score,** **because many of our shorelines have heavily altered habitat with a significant amount of vegetation removed.**

**FACT** - **Lakeshore property owners value healthy lakes and clean water, but the condition of Minnesota’s shorelines suggests that action on the land is inconsistent with this value.** The lack of scientific data and information is not the issue. The connection between behavior (both individual and collective), knowledge, and values is the issue.

The experts are aware that the status quo is not working**. Despite 50 years of state shoreline vegetation standards and local government regulation, the system has failed to adequately protect our natural shorelines. Additional efforts such as education and enforcement have been only marginally successful.**

**FACT** - **A healthy lake has natural shoreline, aquatic and shoreland zones.** The presence of natural habitat provides erosion control, contaminant filtering, habitat corridors, and improved resilience to stressors.

**FACT – Natural shorelines are the first and last defense to protect lake quality.** They adapt better to changes in precipitation and changing lake levels, as well as to intense rainfall events.

**FACT – Native plants have long, dense roots,** e.g., roots of Little Bluestem are about 2-3 feet long and have a great capacity to hold soil. **Roots of lawn grass are only 2-3 inches long, and do not filter contaminants like native plants.**

**FACT – “Lawn down to lake” management style makes the shoreline vulnerable to waves from wind and boat traffic, leading to shore and bank erosion.** The average pollution from a “lawn down to lake” has been estimated at 0.2 pounds of phosphorous compared to 0.03 pounds per summer for a lot with a native vegetated shoreline buffer. **This increase in nutrient pollution can result in the generation of 100 pounds of algae compared to just 15 pounds under natural conditions. In addition, a bare shoreline is LOVED by geese,** creating a nuisance with their droppings, aggressive behavior and noise. **Geese can’t see any potential predators in a shoreline that is planted with native plants and therefore they stay away.**

**FACT – The loss of trees on a lake property means fewer trees fall into the lake, and biologists have determined that this loss will negatively affect fish populations for centuries.**

**FACT - Individual choices by many have cumulative impacts on a lake and its ecosystem. Your actions can restore or degrade the quality of Cedar Lake’s ecosystem. Restoring your lakeshore to a more natural condition is important, even if your neighbors are not restoring theirs, because you will be helping wildlife habitat, water quality and fish.**

**FACT - A reasonable natural shoreline protection and restoration goal would be that 75% of a shoreline be natural vegetation that is at least 25 feet in width landward from the lake.**  A 25 foot buffer strip along the lake can trap about 80% of the phosphorous runoff and about 90% of the sediment pollutants.

**QUESTIONS – ANSWERED BY THE DNR**

1. **If a lawn is not fertilized or sprayed with pesticides, is this ok to have it down to the lake?** The answer is **NO**, due to the shallow root system of turf grass.
2. **What if a lakeshore is planted with cultivars versus native plants?** Plant diversity and plants with deep roots to hold the soil is what is important.
3. **Is a weedy or naturally vegetated shoreline or bluff better for the lake than lawn and sand? YES!**
4. **What should lakeshore owners do with washed-up or harvested aquatic plant materials?** They should be moved away from the shore, composted, or use as mulch in the garden. Ashes from your firepits can also be used for mulch.
5. **What about rip rap? Rip rap is best when it is planted with native plants** because they filter out contaminants.