



*Protecting Northern Michigan's
Water Resources*

February 2023

Dear members of the Pickerel-Crooked Lakes Association:

As the Restoration Coordinator at Tip of the Mitt Watershed Council, I get a lot of calls from people who are concerned about shoreline erosion. Shorelines are dynamic places, subject to the forces of wind, ice, and waves, and some level of erosion should be expected, even under natural conditions. However, naturally occurring erosion can also be exacerbated by the choices made by lakefront property owners. Severe erosion can threaten waterfront homes and structures, degrade water quality and wildlife habitat, bury fish spawning areas, and contribute to nutrient pollution that fuels unwanted growth of algae and aquatic plants. While many people turn to seawalls and larger boulders, these approaches can intensify erosion at the base of the structure and on neighboring properties, and they diminish habitat quality for fish and wildlife. Instead, the Watershed Council has long promoted a softer approach.

Fortunately, there is a wide range of natural shoreline protection and restoration options for people who want to help preserve both their property and their water quality. One of the most basic is to maintain or create a greenbelt along your shoreline. A greenbelt is a strip of native or mostly native vegetation along the water's edge. The native plants in a greenbelt form dense, deep root networks that bind the soil together and prevent erosion. Some people are concerned that native plants will make their property look messy or block views and access to the water. However, greenbelts can be designed in both formal and informal styles. Open areas can be left for access, and low-growing plants can be used to maintain views. Even if you already have a seawall or boulder riprap, a greenbelt can still help improve wildlife habitat and absorb excess nutrients coming from lawns and landscaping before they reach your lake and impact your water quality. If you are interested in creating a new greenbelt for your property, stay tuned. The Watershed Council will soon be mailing out information about a cost-share program for greenbelt installation on Douglas, Burt, and Crooked and Pickerel Lakes, a project which has been generously funded through a grant from the Michigan Department of the Environment, Great Lakes, and Energy.

On sites where erosion is ongoing and newly planted native plants would just get washed away, we recommend an approach called bioengineering, also called biotechnical erosion control. This approach combines the soil-holding properties of native plants with protective, biodegradable materials and, where appropriate, fieldstone. A common example uses coir (fiber from the husks of coconuts), which is manufactured into a "log" and anchored in place with stakes and rope. The coir log offers temporary (4-10 years) protection to the shoreline, while newly planted native plants get established behind the coir log. Eventually, the plant roots grow into the coir log as it begins to break down. For large lakes with higher wave energy, we encourage the use of a gently sloped fieldstone revetment in front of the coir log to offer additional long-term protection. Bigger is not always better when selecting stone for the revetment; stone size should be calculated to be