

Michigan Natural Shoreline Partnership

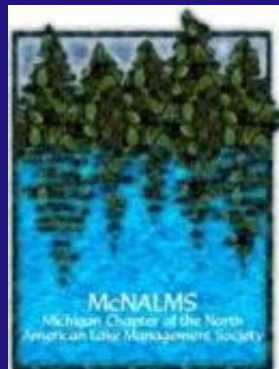


Julia Kirkwood

Michigan Department of Environmental Quality
Water Resources Division Nonpoint Source Program



Michigan Natural Shoreline Partnership Members



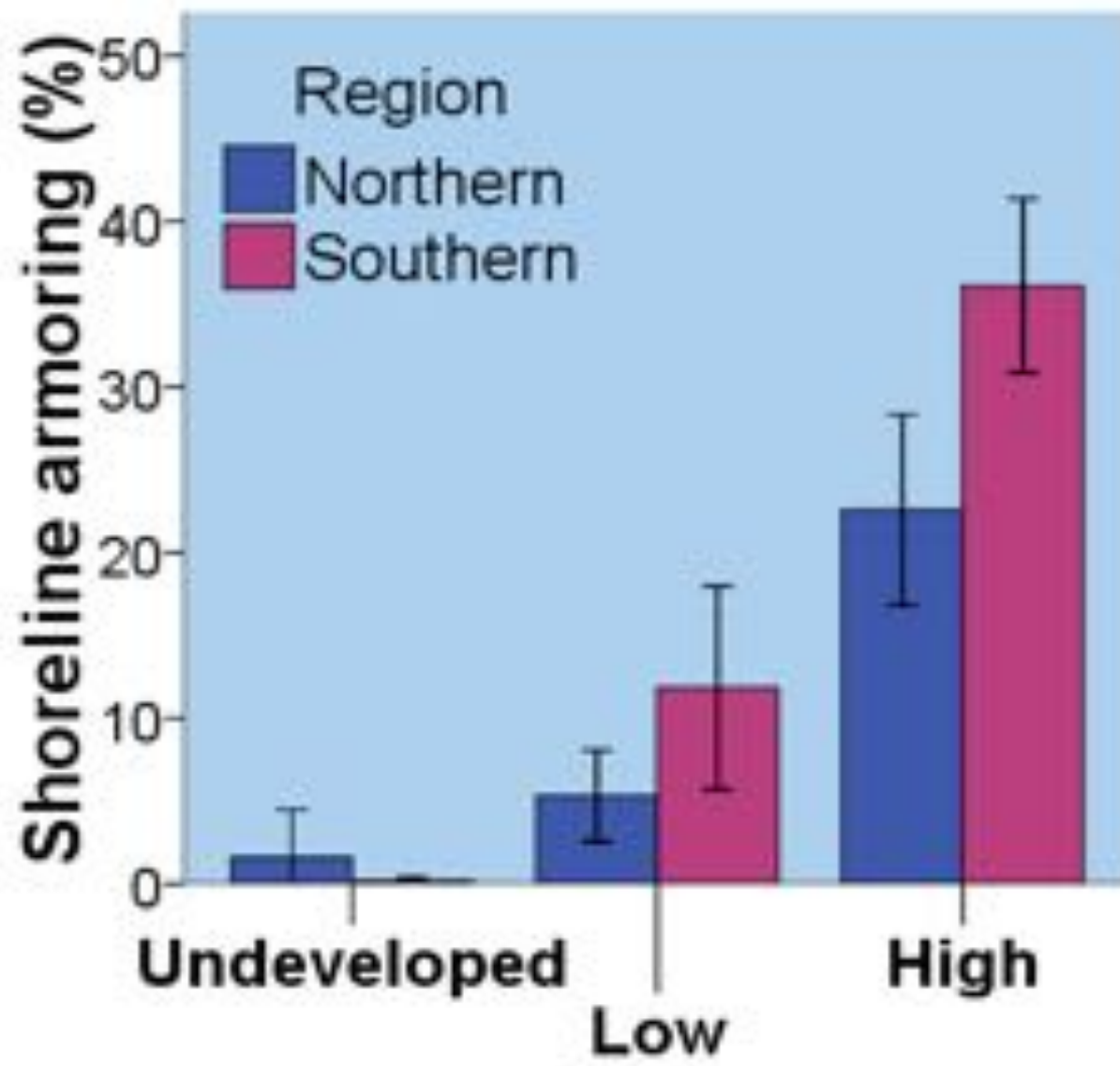
MNSP Mission:

Promote natural shorelines through
use of green landscaping
technologies and bioengineered
erosion control for the protection of
Michigan inland lakes





Photo: Scott Brown



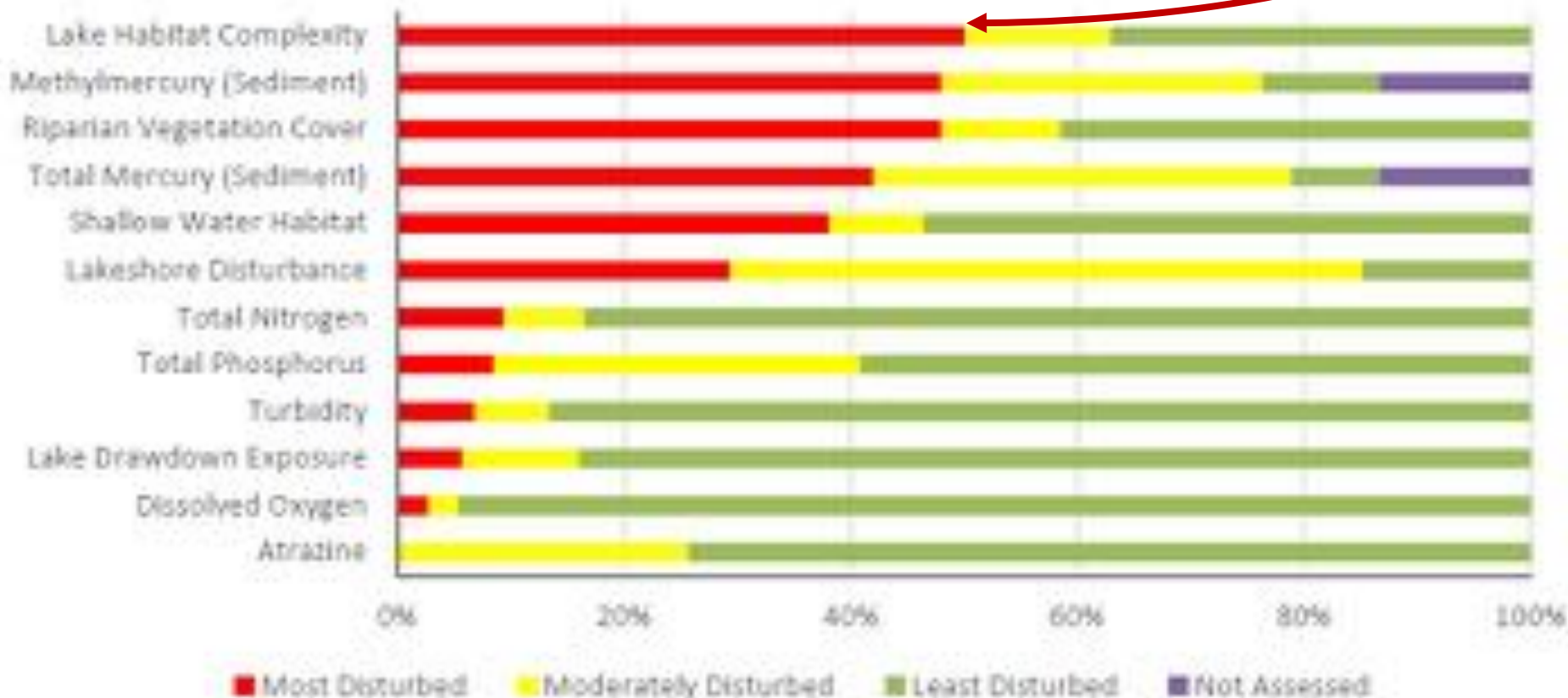
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Near Shore Habitat Loss #1 Threat to inland lakes

Lakes with
POOR
Habitat
Complexity
50%

2012 Michigan NLA Lake Condition and Stressors





67% of
threatened and
endangered
birds, fishes,
reptiles and
amphibians in
MI spend all or
part of their lives
at the lakeshore.

Certified Natural Shoreline Professional

Find a Shoreline Professional Now!

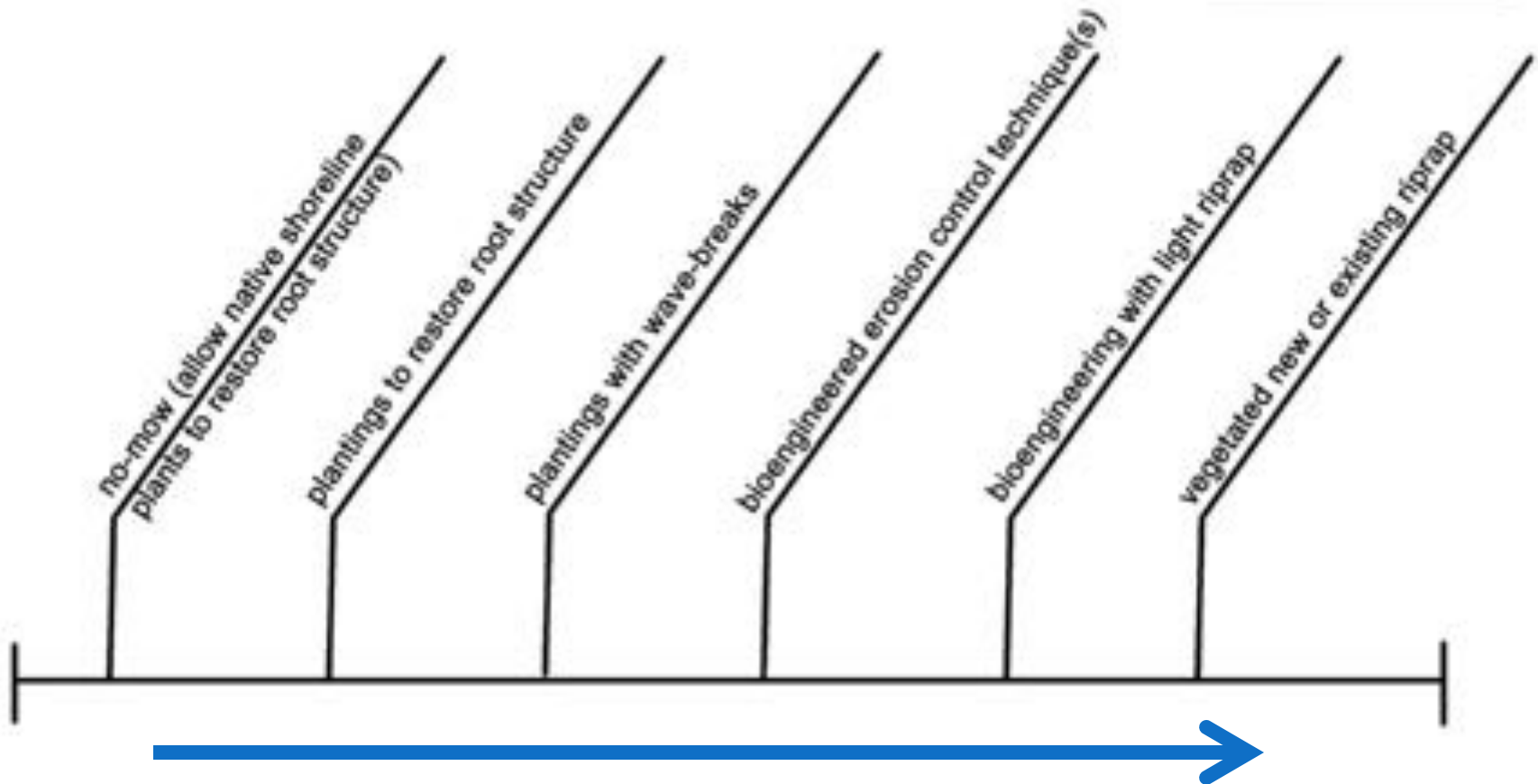


Find more information

www.mishorelinepartnership.org/contractors

Natural Shoreline Erosion Control Continuum

Plantings: aquatic, wetland and/or upland.



As erosion problems and/or energy potential increase so does the complexity of solution



DEQ Inland Lakes Permit: Bio-engineering Minor Project Category

State

Created to encourage
bioengineering on inland lake shorelines


Policy
Changes

Local



Homeowner Outreach

Workshops for
Resource Professionals
& Property Owners



MICHIGAN NATURAL SHORELINE PARTNERSHIP
Promoting Natural Shoreline Landscaping to Protect Michigan's Inland Lakes

Protecting Your Shoreline: A Workshop for Inland Lakefront Property Owners

Two sessions: Tuesdays August 15 &
August 22 6:00 PM – 9:00 PM
Kellogg Biological Station,
Hickory Corners

Registration: \$50.00/person and
\$25/second household member no book.

PRE-REGISTRATION IS REQUIRED at:
<http://events.anr.msu.edu/swnaturalshore17>

We want to recognize **YOU** for protecting Michigan's inland lakes.



Become a MI Shoreland Steward!

- 1 Take the online questionnaire to determine if your lakefront property qualifies as a gold, silver or bronze stewardship level.
- 2 Learn important tips on how you can protect your lake and improve your shoreland.
- 3 Once you complete the questionnaire, you can print a stewardship certificate. If you want to let everyone else know you're a MI Shoreland Steward, purchase a sign to display in your shoreland.

www.mishorelandstewards.org



Vegetative Cover for a Healthy Lake



Percentages of Shoreland Vegetation



**Ambassador Training
Coming 2018**

Technical Information



MNSP Recommended Plants

3 categories: wet to moist areas

- Below the Water Level
- Between Water Level and Ordinary High Water Mark
- Above the Ordinary High Water Mark

1 category: dry areas away from the shoreline

- Upland





Shoreline and Shallows Conference

* Increasing Habitat, Reducing Threats*

www.michiganstateuniversity.edu/shoreline

Thursday, March 9, 2017 9:30—3:45
Kellogg Hotel & Conference Center
Lincoln Room
East Lansing, MI

Early Bird Registration: \$45
Late Registration: \$50 (Begins February 25th)
To register: www.michiganstateuniversity.edu/shoreline

Featured Topics:

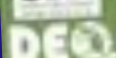
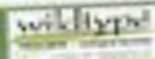
- MI Shoreland Stewards Program
- Dealing with Invasive Species in Shoreland Projects
- MI Lake Habitat Viewer
- New Products for Site-engineering

Approved for 6 credits
towards the Professional
Engineer Registration in
the Commonwealth of
Massachusetts
Category 1 - aquatic plant
management

Directions and lodging information available at www.kelloggcenter.com
Questions: E-mail: lori.warfoot@msu.edu, 517-353-8032



MICHIGAN STATE UNIVERSITY Extension



Rebuilding an Eroding Bank on an Inland Lake A Comparison of Traditional and Prefabricated Encased Soil Lifts

Background

Every year, more people live on "island homes," islands or peninsulas, specific to some of Michigan's many inland lakes. In many cases, if these shorelines showed signs of erosion from wind, wave and ice action, many islanders properly assume would "hardline" these with rock riprap or wood pilings. Unfortunately, this practice has resulted in the cumulative loss of shoreline and shallow water habitat on Michigan inland lakes (Jensen & Swenson, 2006).

Using a more natural erosion control measure, such as a vegetated soil lift (SL), will create a "softer," more gently sloped, lake-friendly shoreline.

SLs (sometimes referred to as "vegetated geogrids") are aggressive bioengineered structures that are usually built on a rock base. They are made of interlocking geogrid, vertically fixed burlap, and layers of "encased soil" inside of biodegradable fabric to form the lift. Each year erosion, or loss, of lift is placed on the preceding years that support back to create the desired slope. SLs may be considered to be a hybrid of both. They are placed or added to long-term native plants that help to stabilize the soil/lifts.

SLs on a rock base are especially useful on lakefronts that experience moderate to high winds, wave and ice action, and where riprap use and loss has occurred (Jensen, Swenson, Madson, Gamble, Myles, Bickling, & Trapp, 2010). They may also be used to replace a failing seawall. Once established, these vegetated systems create a new slope with root structure that can withstand the erosive forces of wind, wave and ice (Kuback & Swenson, 2007). SLs have traditionally been built on-site, but in many cases, prefabricated (factory-built) systems called out that block systems have become available.

In 2014, a 3-year study began at the Shoreline Management Demonstration Area (www.demonstration.msu.edu) on Cold Lake at the W. K. Kellogg Biological Station (KBS). The study was designed to compare the effectiveness of two types of SLs that are used to stabilize shorelines.

Abbreviations

ENGP	encased natural geogrids (prefabricated)
SLR	erosion control structure
SL	vegetated soil lift
SLB	Kellogg Biological Station
MSU	Michigan State University
MSU	Michigan State University
MSU	Michigan State University



www.mishorelinepartnership.org

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www.mishorelandstewards.org