

# The Michigan Natural Shoreline Partnership

**Brian Majka**  
GEI Consultants  
Michigan Natural Shoreline  
Partnership



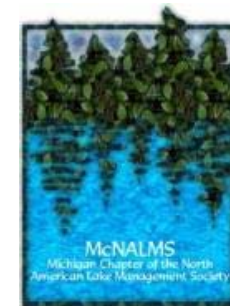


**MISSION: PROTECTING MICHIGAN LAKES  
THROUGH THE CONSERVATION AND RESTORATION  
OF NATURAL SHORELINES**

**FOUNDED IN 2008 AS A COLLABORATION OF PUBLIC, PRIVATE, ACADEMIC,  
AND NON-PROFIT ENTITIES**

[www.mishorelinepartnership.org](http://www.mishorelinepartnership.org)

# Michigan Natural Shoreline Partnership Members





**# 1 Threat  
to inland lakes is ....**

A: Near shore habitat loss

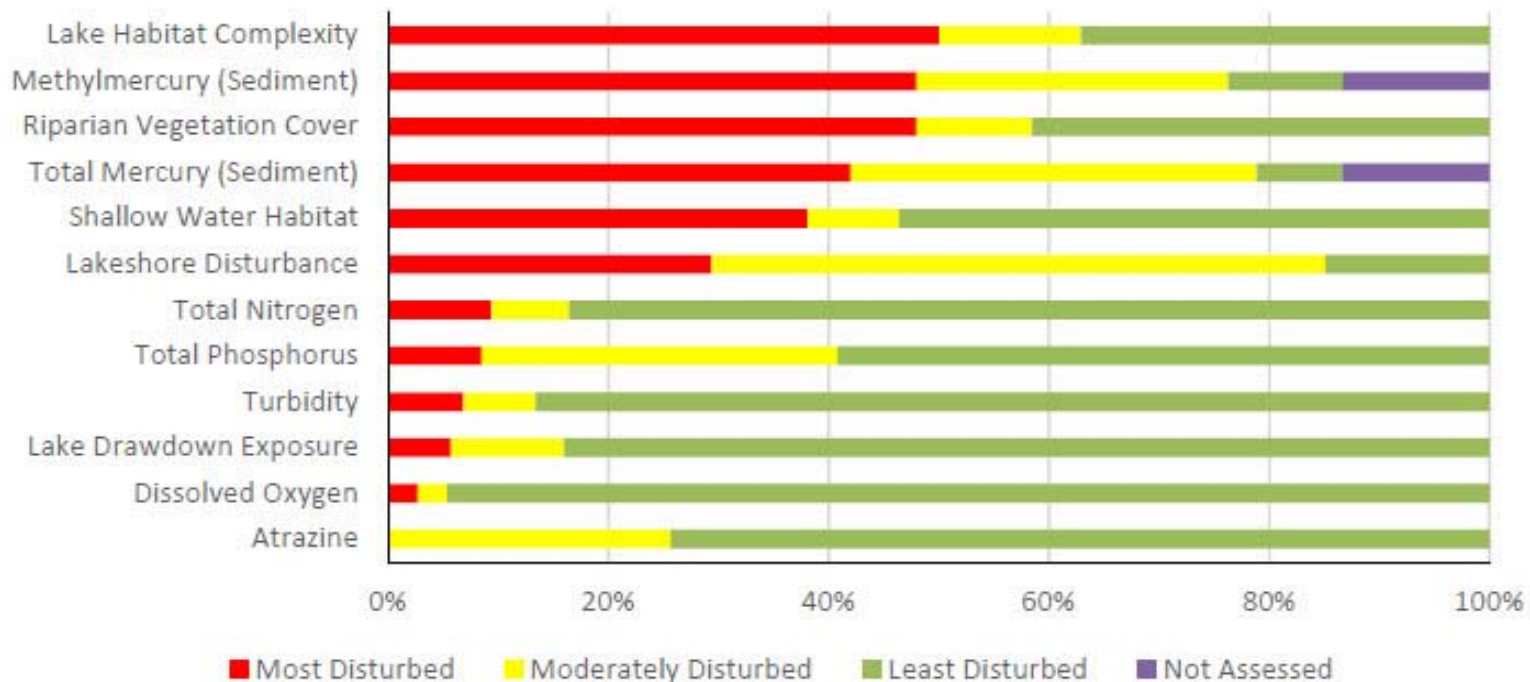
B: Excessive nutrients

C: Excessive plant growth

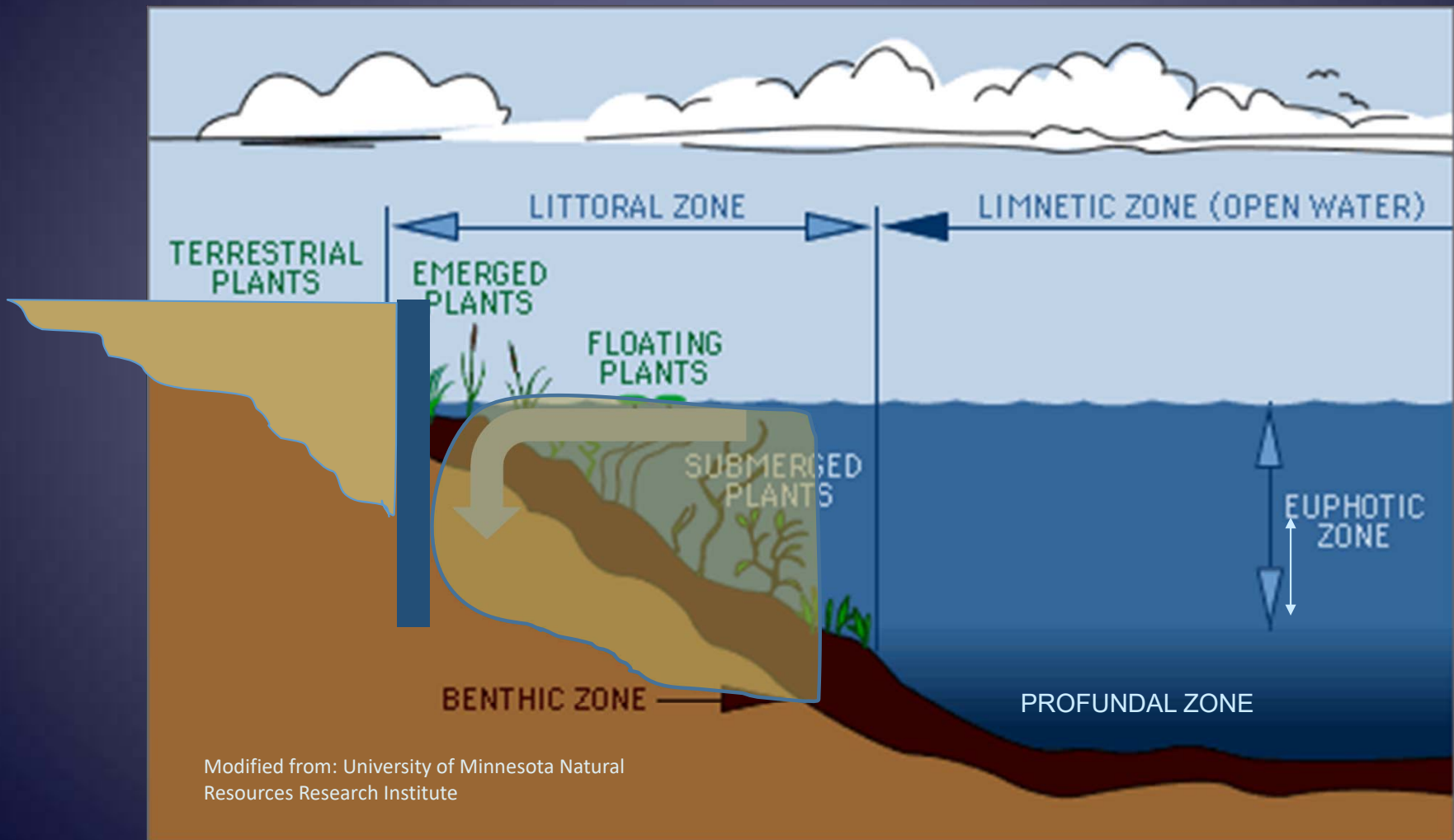
# Near Shore Habitat Loss #1 Threat to inland lakes

Lakes with  
**POOR**  
Habitat Complexity  
**50%**

2012 Michigan NLA Lake Condition and Stressors



# The system becomes broken





## Seawalls =

- Barrier for animal movement
- Creates scouring effect
- Wave flanking

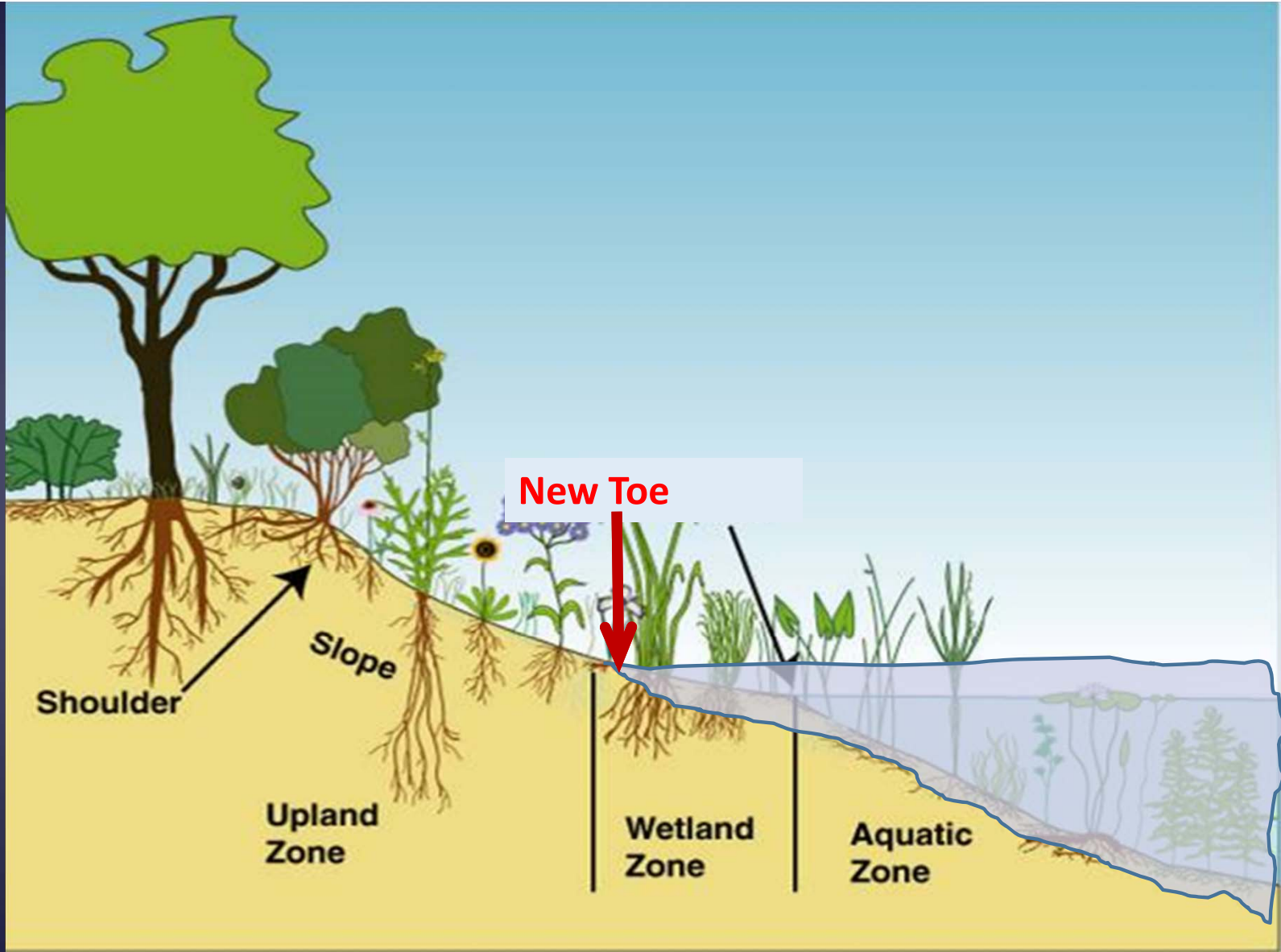


**Turfgrass roots:**

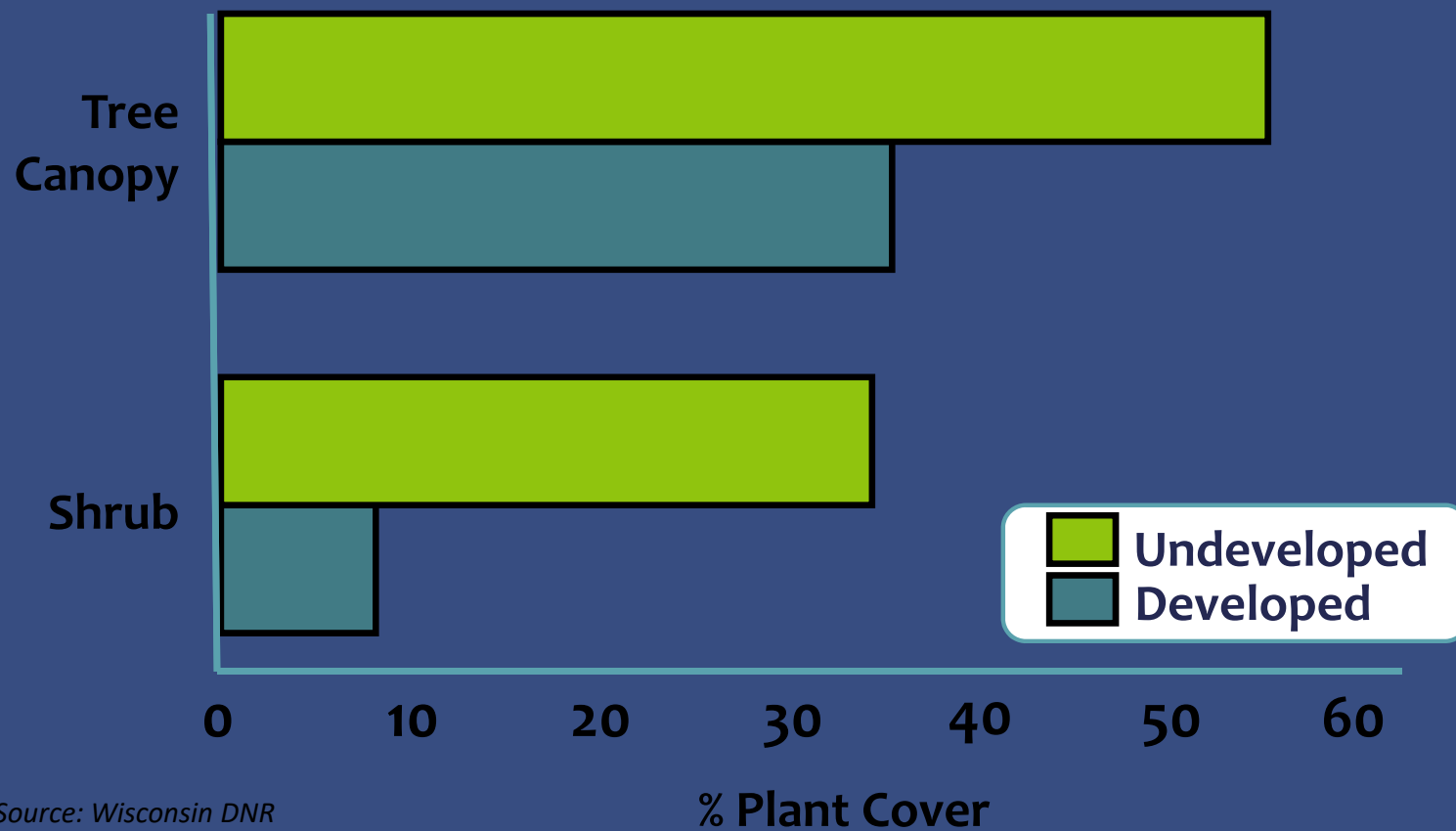
**Too short**

**Not strong enough**





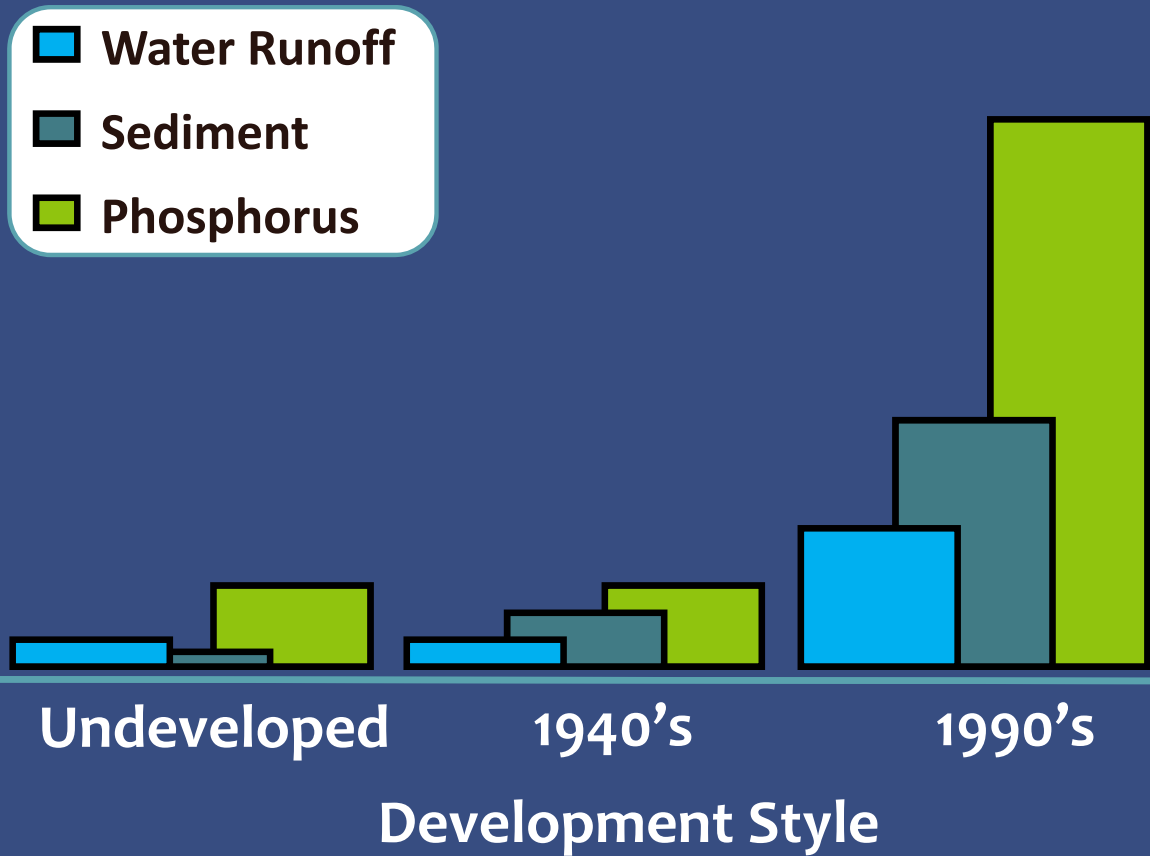
# What's Happened to Shoreland Plants?



Source: Wisconsin DNR

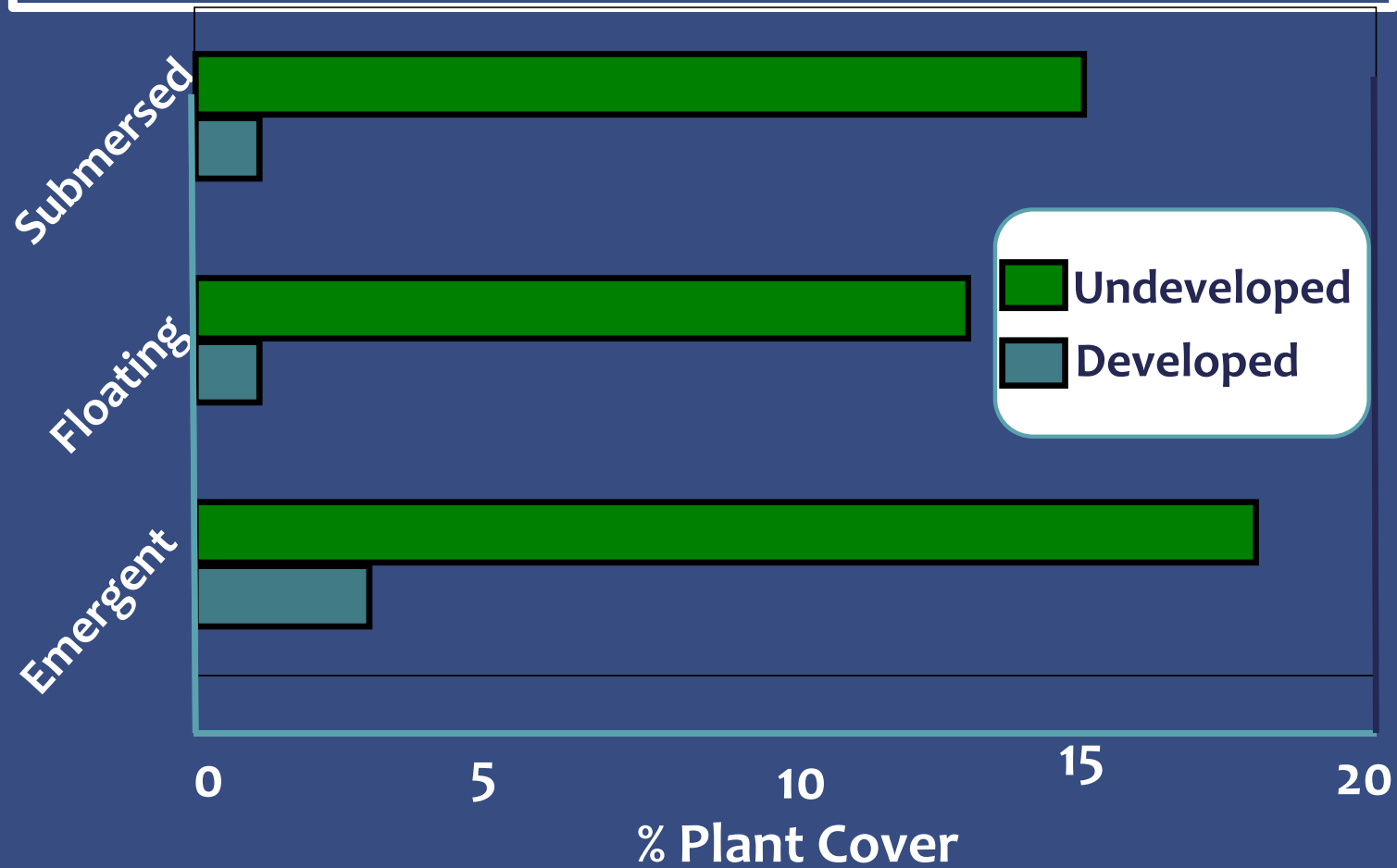
# Impacts of Lake Development

Pollutant Loads



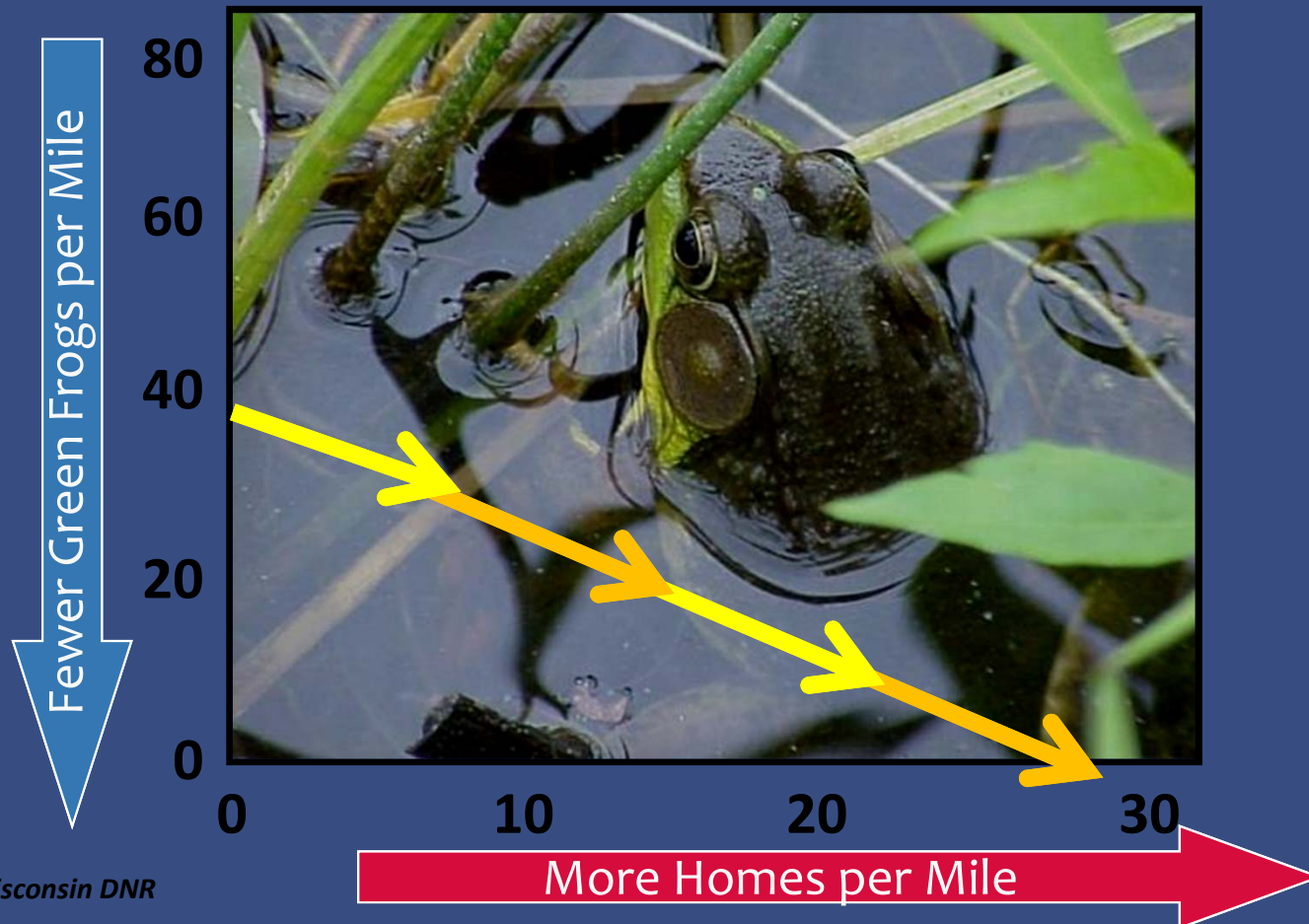
Source: Wisconsin DNR

# What's Happened to Aquatic Plants?

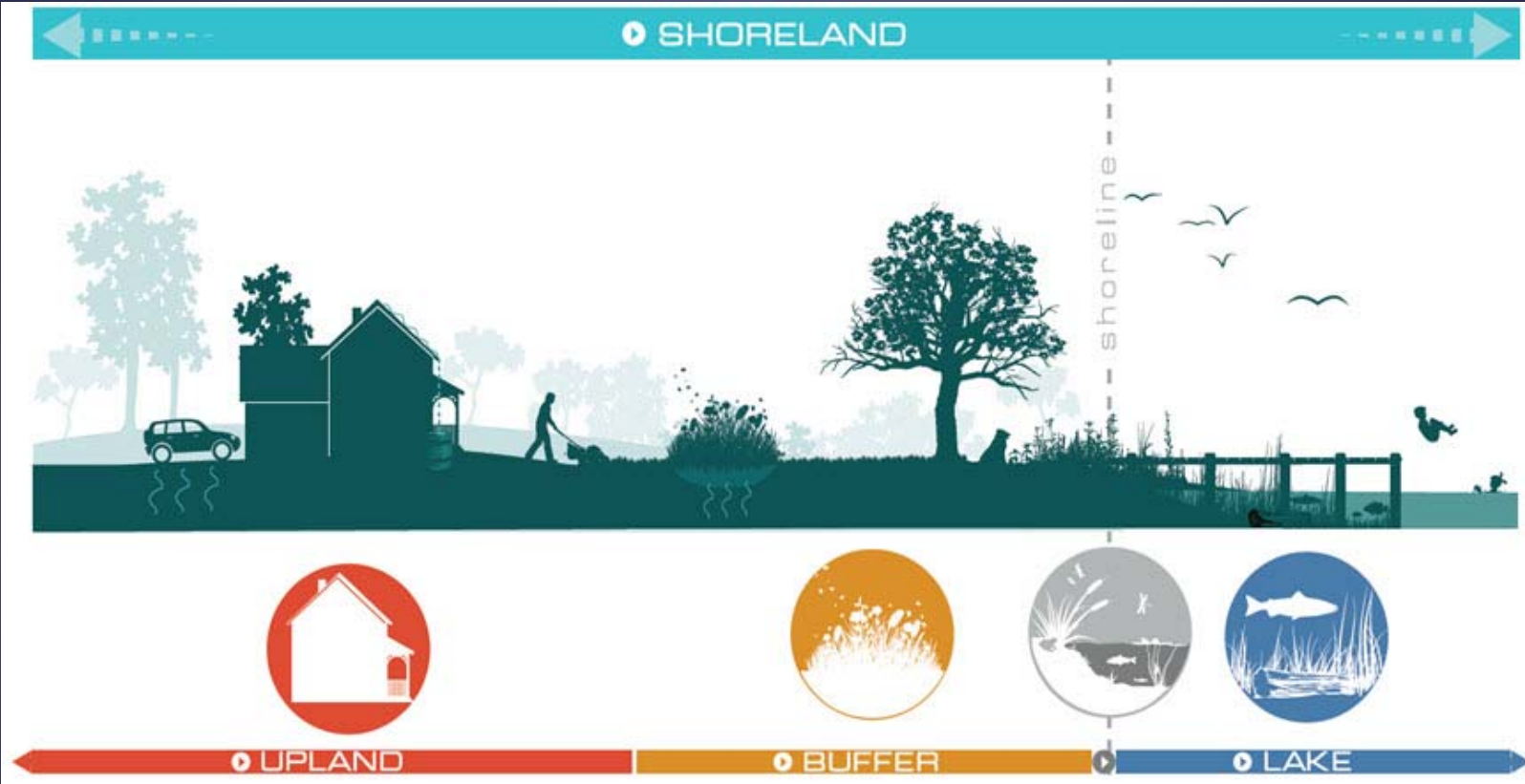


Source: Wisconsin DNR

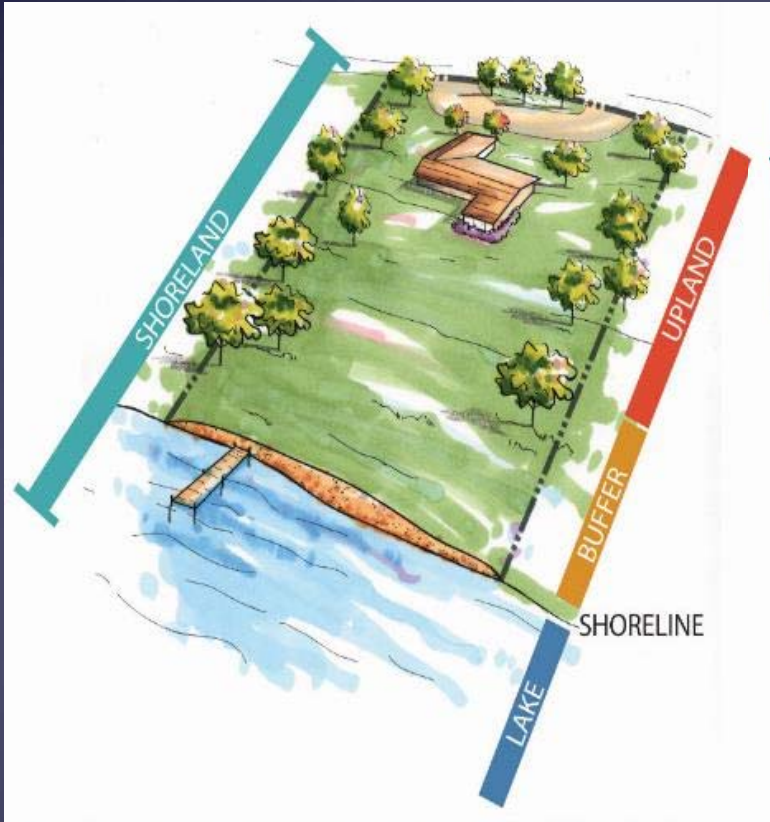
# What's Happened to Frogs?



Source: Wisconsin DNR









# Four Objectives of MNSP

Informed Contractors



Policy Changes

## Healthier Shorelines

Interested Property Owners

Techniques that work



**Species Supported**  
**by Shorelines:**  
**24 amphibian**  
**25 reptile**  
**87 bird**  
**19 mammal**



**MNSP**  
**Objective**  
*Informed*  
*Contractors*

**CERTIFIED NATURAL SHORELINE PROFESSIONAL TRAINING**

- Over 300 Professionals Trained
- Over 200 Professionals Listed on website
- Homeowners can search for a contractor near them.



**LEARN ABOUT:  
SHORELINE EROSION CAUSES  
DESIGNS AND TECHNIQUES FOR  
BIOENGINEERED EROSION CONTROL  
NATIVE PLANTS  
PERMITTING  
AND MORE!**



**Find more information and registration form at:**  
[www.mishorelinepartnership.org/contractors](http://www.mishorelinepartnership.org/contractors)





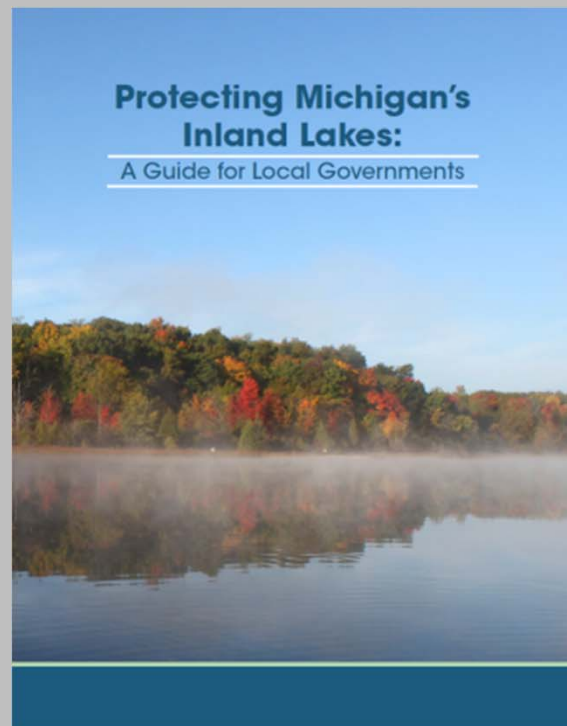




**MNSP  
Objective**  
*Policy  
Changes*

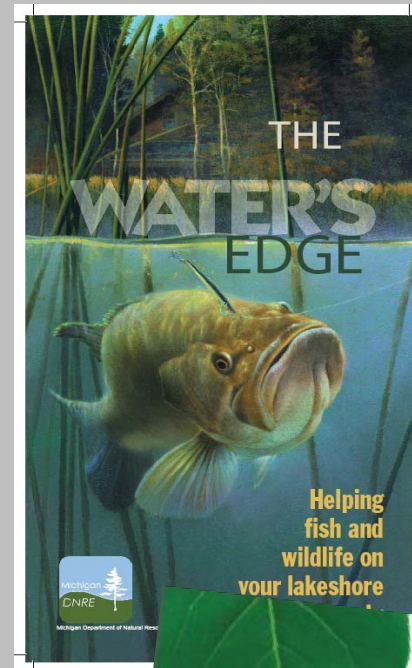
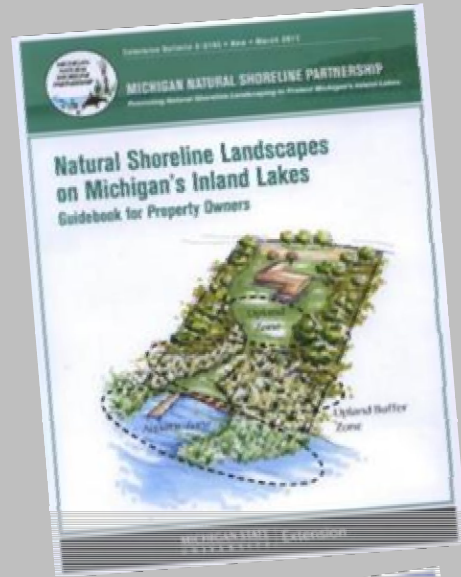
**DEQ Inland Lakes Permit:**  
**Bio-engineering Minor Project Category**

Created to encourage  
bioengineering on inland lake shorelines





# MNSP Objective Interested Property Owners



**MNSP**  
**Objective**  
*Interested*  
*Property*  
*Owners*



**MNSP**  
**Objective**  
*Interested*  
*Property*  
*Owners*

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

**Become a MI Shoreland Steward!**

- 1 Take the online question naire 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](http://www.mishorelandstewards.org)

Property Owner  
Recognition Program



*Training volunteers to take the next step as a Shoreland Steward to protect and preserve the health of their lake.*



The **MI Shoreland Stewards program** is a statewide program developed to recognize lakeshore property owners who protect their lake through good shoreland management practices.



### What are Best Management Practices?

*Best management practices (BMPs) are actions that you can take to reduce your impact on your shoreland property. Shoreland best management practices help to protect water quality and the lake ecosystem through restoring natural characteristics and improving problem areas.*



To learn more, visit [www.mishorelandstewards.org](http://www.mishorelandstewards.org)

## Shoreland Survey - Upland Questions

[Home](#) / [Rate Your Shoreland](#) / [Survey](#)



### Upland Questions

You are taking the survey anonymously, and your answers are only saved for this session. Click the **Save and Finish Later** button to register and save your answers.

Please answer this question within 19 minutes.

Hey Anonymous, you have maybe 42 questions to go!

Post Progress

Do you pick up or remove pet waste in the upland to prevent it from washing into the lake?

- Yes
- No
- I don't have a pet, but pick up pet waste as necessary on my property

Next

Register and Save

Start Over

▶ Why is pet waste management important?



Starter

Gold Level

# MNSP Objective *Techniques That Work*



MNSP  
Recommended  
Plant Lists

## 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

# MNSP Objective Techniques That Work



**Shoreline and Shallows Conference**  
**"Increasing Habitat, Reducing Threats"**  
[www.mishorelinepartnership.org](http://www.mishorelinepartnership.org)

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.lwr.msu.edu/events/ANRW17](http://www.lwr.msu.edu/events/ANRW17)

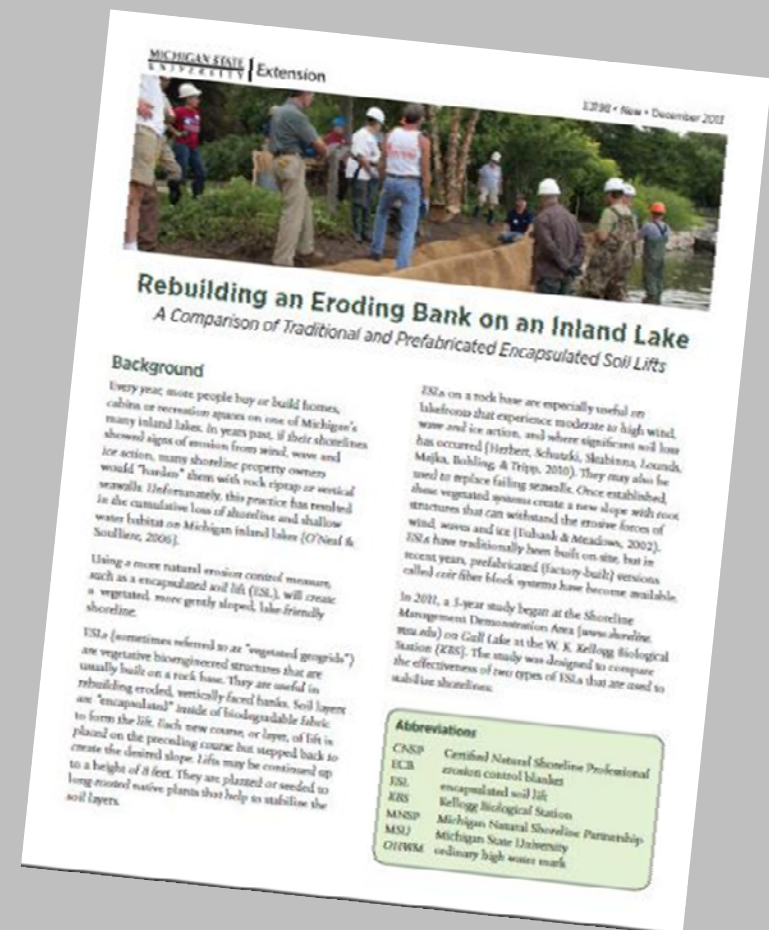
**Featured Topics:**  
 MI Shoreland Stewards Program  
 Dealing with invasive species in shoreline projects  
 MI Lake Habitat Viewer  
 New Products for bio-engineering

Approved for 4 credits towards the Pesticide Applicator Re-certification in the Commercial Core, Category 3 - Aquatic pest Management

See website for information on our price

Directions and Lodging Information available at [www.kelloggcenter.com](http://www.kelloggcenter.com)  
 Questions: Contact Lois Wolfson, [wolfson1@msu.edu](mailto:wolfson1@msu.edu), 517-353-9222

Logos: UNR, MICHIGAN STATE UNIVERSITY Extension, PRISM, wildtype, Michigan Native Connections, KIESER ASSOCIATES, DEQ, Michigan State University



MICHIGAN STATE UNIVERSITY Extension  
 EP30 • New • December 2011



## Rebuilding an Eroding Bank on an Inland Lake

*A Comparison of Traditional and Prefabricated Encapsulated Soil Lifts*

**Background**

Every year, more people buy or build homes, cabins or recreation spaces on one of Michigan's many inland lakes. In years past, if their shorelines showed signs of erosion from wind, wave and ice action, many shoreline property owners would "boulder" them with rock riprap or vertical seawalls. Unfortunately, this practice has resulted in the cumulative loss of shoreline and shallow water habitat on Michigan inland lakes (O'Neal & Southace, 2006).

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

ESLs (sometimes referred to as "vegetated geogrids") are vegetative bioengineered structures that are usually built on a rock base. They are useful in rebuilding eroded, vertically-faced banks. Soil layers are "encapsulated" inside of biodegradable fabric to form the lift. Each new course, or layer, of lift is placed on the preceding course but stepped back to create the desired slope. Lifts may be constructed up to a height of 8 feet. They are planted or seeded to long-rooted native plants that help to stabilize the soil layers.

ESLs on a rock base are especially useful on lakefronts that experience moderate to high wind, wave and ice action, and where significant soil loss has occurred (Herbert, Schatzki, Shalinski, Loucks, Majka, Baskin, & Tripp, 2010). They may also be used to replace failing seawalls. Once established, these vegetated systems create a new slope with rock structures that can withstand the erosive forces of wind, waves and ice (Tubash & Atadwaini, 2002). ESLs have traditionally been built on-site, but in recent years, prefabricated (factory-built) versions called *cell fiber block systems* have become available.

In 2011, a 3-year study began at the Shoreline Management Demonstration Area ([www.shoreline.msu.edu](http://www.shoreline.msu.edu)) on Gull Lake at the W. K. Kellogg Biological Station (KBS). The study was designed to compare the effectiveness of two types of ESLs that are used to stabilize shorelines.

**Abbreviations**

CNSP	Certified Natural Shoreline Professional
ECB	erosion control blanket
ESL	encapsulated soil lift
KBS	Kellogg Biological Station
MNSP	Michigan Natural Shoreline Partnership
MSU	Michigan State University
OHWMA	ordinary high water mark





**Thank you!**

**Brian Majka**

**[bmajka@geiconsultants.com](mailto:bmajka@geiconsultants.com)**

**616-384-2716**

**[www.mishorelinepartnership.org](http://www.mishorelinepartnership.org)**

**[www.facebook.com/MNSP1](http://www.facebook.com/MNSP1)**

**[www.mishorelandstewards.org](http://www.mishorelandstewards.org)**