



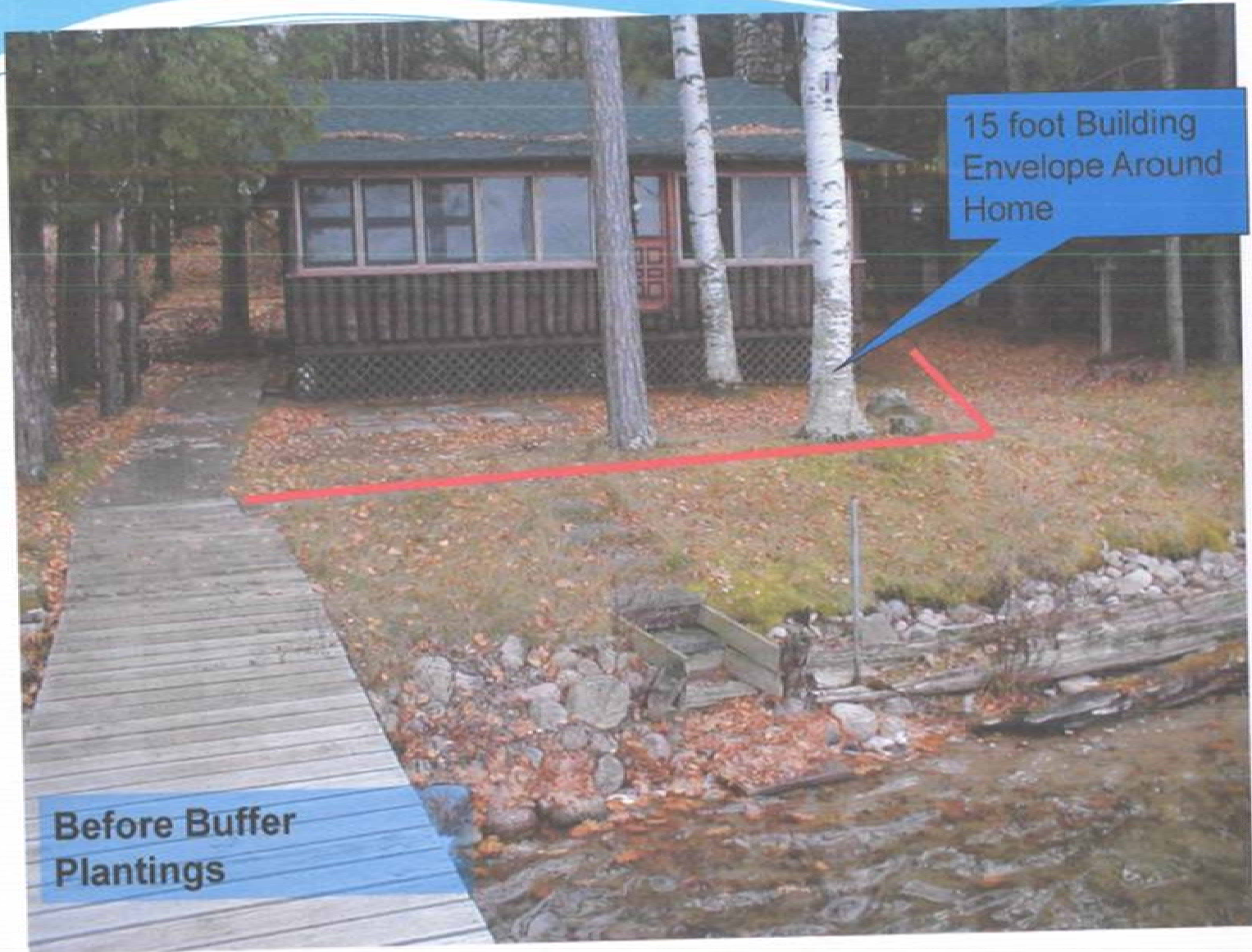
Shoreland Restoration Techniques,  
Bio-engineered Projects & Monitoring

2015

Wisconsin Lakes Partnership Convention

Stacy Dehne, DATCP Conservation Engineer

# Project Examples Before / After



15 foot Building Envelope Around Home

Before Buffer Plantings



**After Buffer Plantings**

# AMNICON LAKE

BEFORE



AFTER





BEFORE



Seawall Re



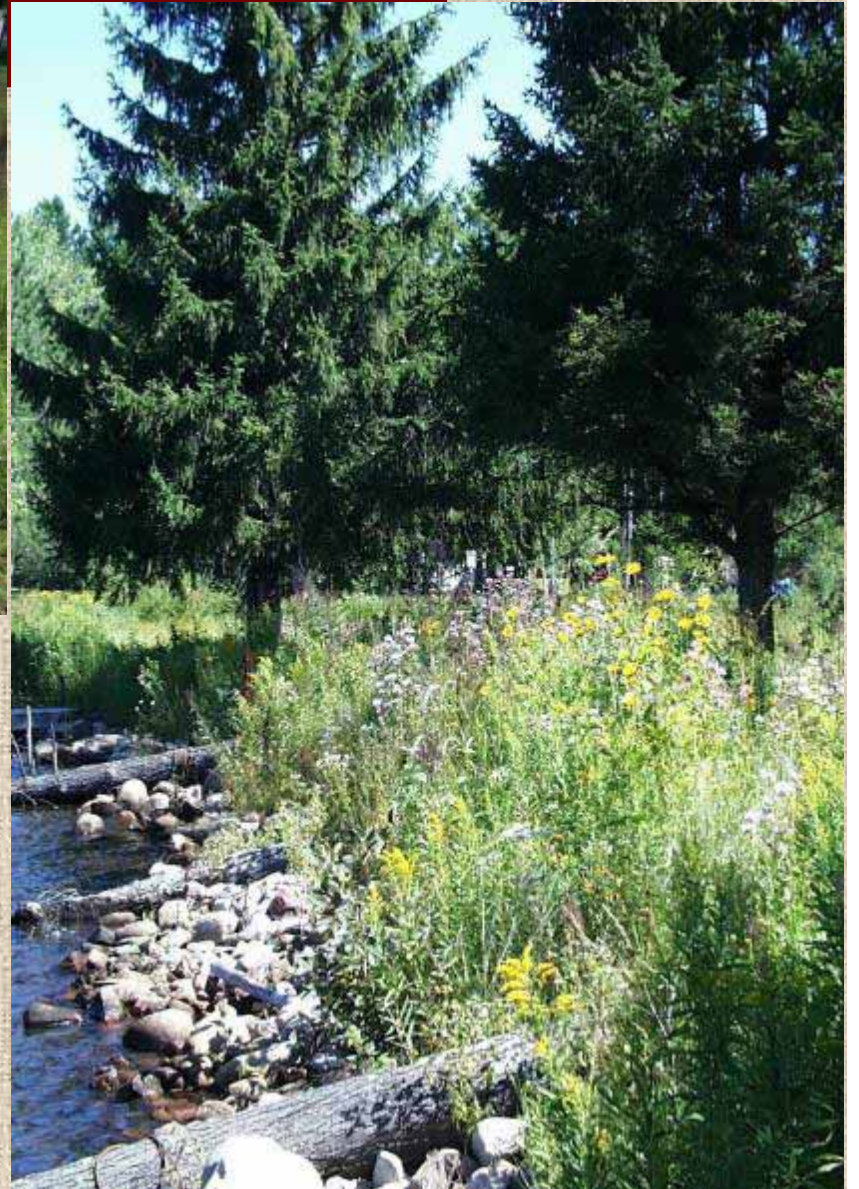
Rock Riprap  
AFTER



BEFORE



AFTER













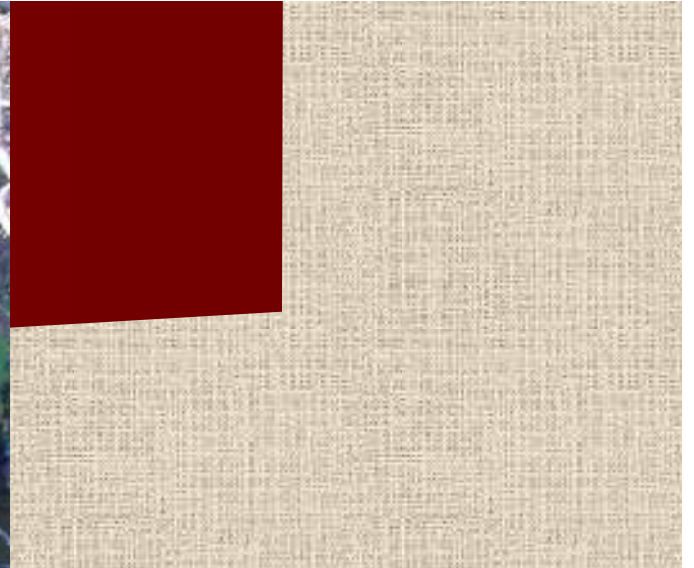


















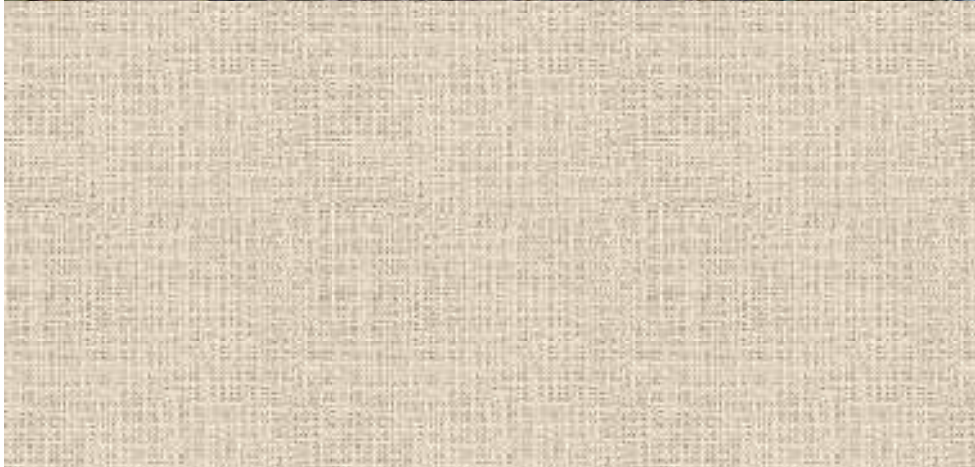
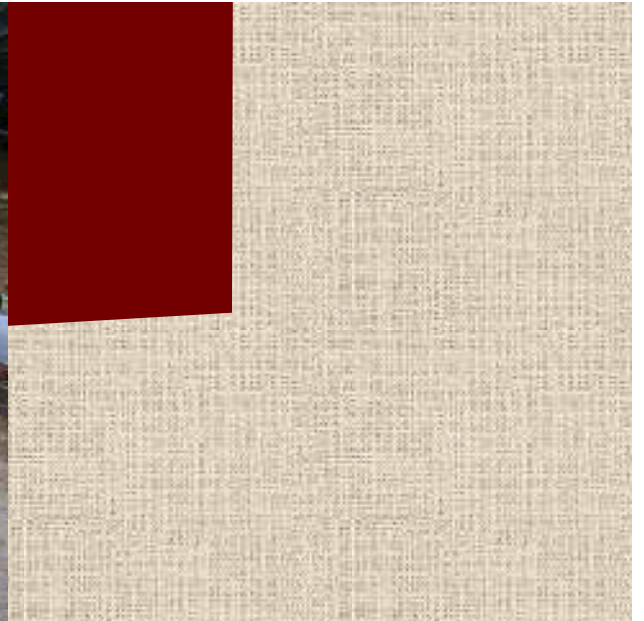


Before – Oct 2009



After - Oct 2012









After 5 months of growth (May 2010 to Oct 2010)





**Vegetated Retaining Walls - Geotextile Bags (Install)**



**Vegetated Retaining Walls - Geotextile Bags (After)**



## One growing season later – Summer 2012

(left side of stairs)

- Native plants are growing successfully
- Bags are camouflaged and will break down in time (biodegradable)

June 2010 Before



June 2011

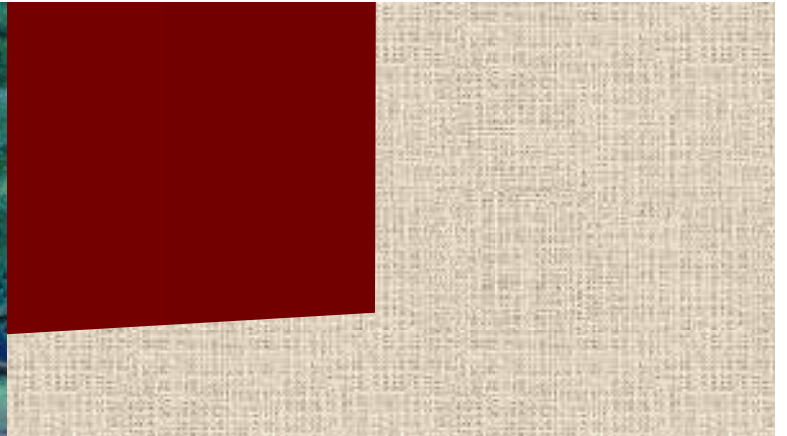


June 2012



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After After



After After



# ShoreMax Product



## **ShoreMax**<sup>TM</sup>

**Soft Revetment Scour Protection Mat**

**What is ShoreMax?**

ShoreMax<sup>TM</sup> is a patent pending soft revetment scour protection mat designed as mechanical protection over highly eroded areas. ShoreMax provides protection against much higher shear stresses and velocities than turf reinforcement mats (TRMs) alone. The ShoreMax system is comparable to hard armor products such as rock rip-rap and articulated concrete blocks in turbulent flow and wave attack applications.

ShoreMax is a unique, highly flexible UV stabilized rubber mat designed with voids to allow vegetation establishment through the mat, or natural infilling of sediment. ShoreMax is a versatile product that should be used in conjunction with other erosion control products such as turf reinforcement mats above water lines and geotextiles below river water lines.

**Typical Applications and Uses for ShoreMax**

- Stream protection along rivers, streams, and lakes
- Rear stocking areas
- High flow channel bottoms and banks
- Stormwater pipe vents and outlets
- Catchment basins and downspouts
- Over flow structures like levees and spillways
- Bridge abutments
- Anywhere extra scour protection is needed

The flexible interlock system of the ShoreMax allows for easy installation in adverse conditions. ShoreMax can be installed with different fasteners including galvanized earth anchors, standard wire staples, or water nails.

For more information contact North American Green or your authorized distributor looking for calling (800) 773-2348, emailing [customerservice@nagreen.com](mailto:customerservice@nagreen.com) or visiting [www.nagreen.com](http://www.nagreen.com).






North American Green  
 1481 N. Market Corporate Bl.  
 Provo, Utah 84601  
 (800) 773-2348  
 (801) 961-4622  
[www.nagreen.com](http://www.nagreen.com)

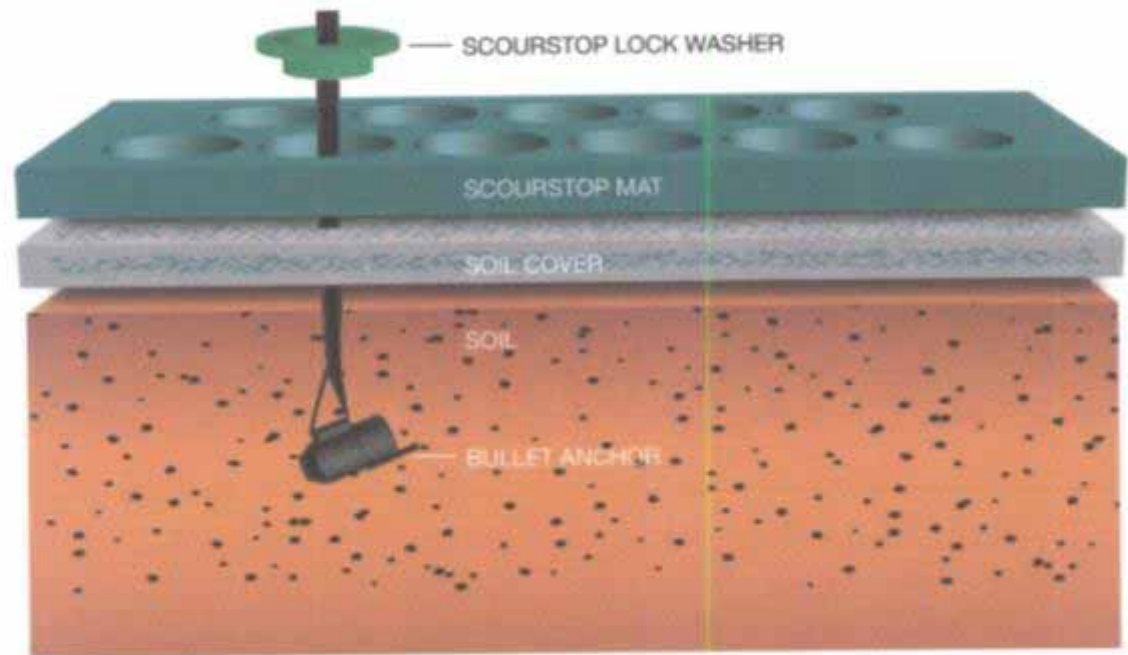
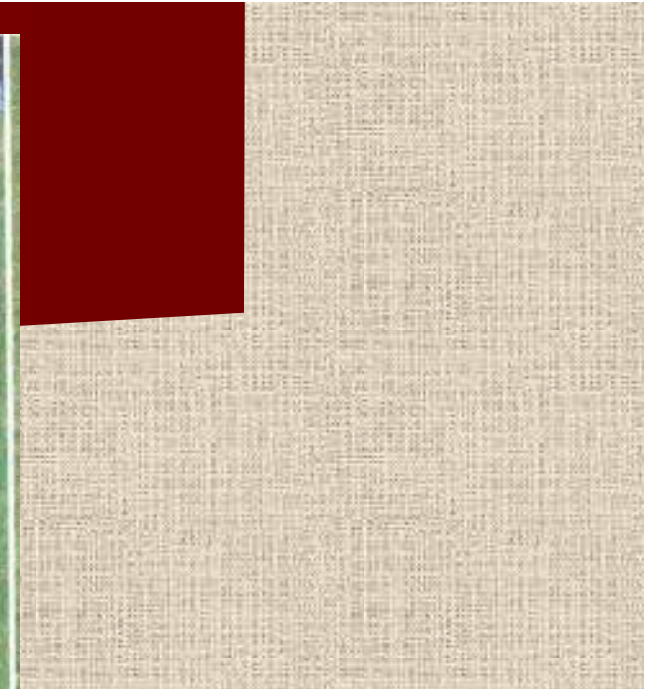
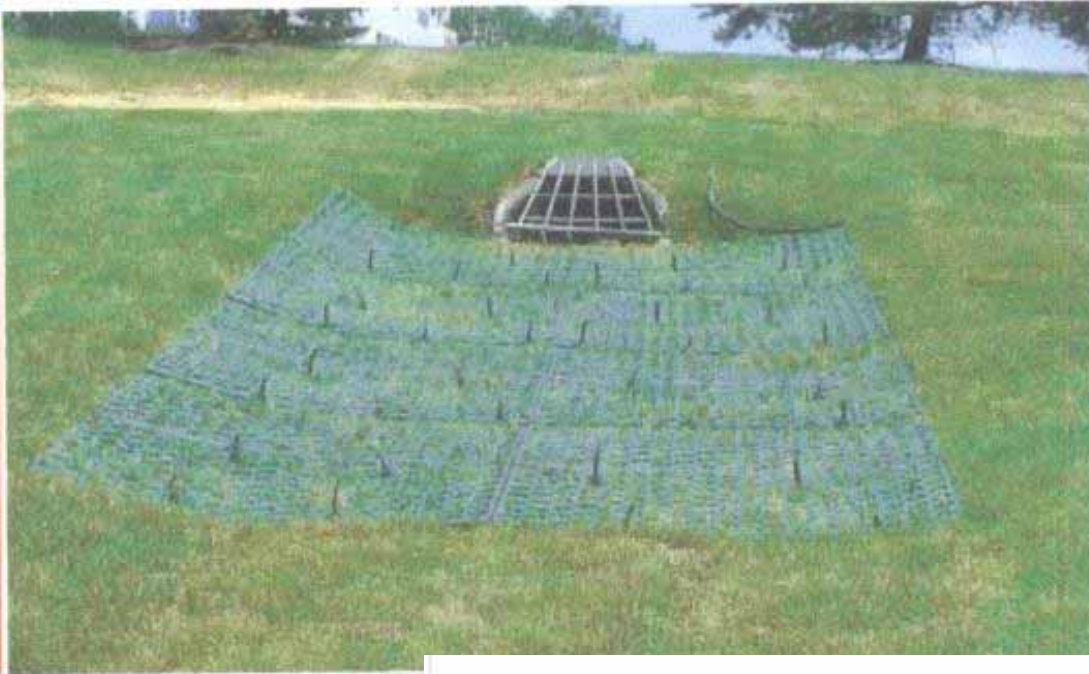
After After

# Scourstop™

Literature ▼



culvert outlets



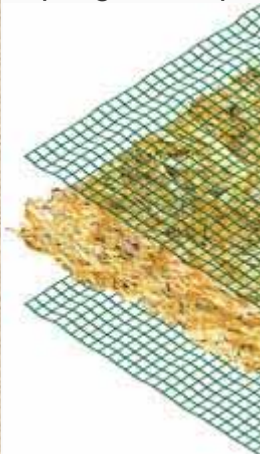
# Flexamat is a "Tied Concrete Block Mat".

*(Tied Concrete Block Mat is a generic term for Flexamat.)*

Flexamat consists of concrete shapes, locked together with a high strength, polypropylene geogrid. There are openings around each concrete block that give Flexamat the flexibility and enable it to be packaged in rolls. The openings also allow vegetation to grow through the mat. Eventually, vegetation will completely cover Flexamat. It can be manufactured with various backings such as non-woven fabric to stop vegetation growth or a TRM (turf re-enforcement mat) depending on the soil conditions and other factors.

There's a wide range of applications where Flexamat is utilized, but it is most commonly used for erosion control. Flexamat is used to **control erosion** in channels, outlet protection, on slopes, for shoreline protection and many other applications.

Flexamat offers permanent, hard armor protection, with a natural vegetated appearance. Flexamat may be mowed over with commercial mowing equipment or left to grow wild. Besides grass, there are many other types of native plant species that can be planted to grow within the mat. For example, Willow Saplings were planted through Flexamat for a streambank re-vegetation project.





Not Advised!



# Questions?

Thank you for your interest in  
Shoreland Restoration and  
Bioengineering Techniques!