

Turtle Lakes Shoreline Protection Projects

2010 - 2015



**LOWER TURTLE LAKE
MANAGEMENT DISTRICT**

&

UPPER TURTLE LAKE ASSOCIATION

*Funded by a WDNR Lake Protection Grant, Town of Almena,
and property owners of Upper and Lower Turtle Lakes*

TURTLE LAKES PROTECTION PROJECT 2010-2015

Lower Turtle Lake usually turns very green during the summer months. Algae and excessive aquatic plant growth are supported by nutrients, mainly phosphorous, coming into the system. Upper Turtle Lake suffers the same, but because it's at the top of the watershed, its problems are not yet as severe.

The Turtle Lakes Protection Project was a five-year joint effort between the farmers and the lake property owners to improve the conditions on both lakes. Projects were funded by a WDNR Lake Protection Grant and through support from the Town of Alma. Projects and grant management were overseen by the Turtle Lakes Stakeholders Board, which consists of members from the Lower Turtle Lake Management District, the Upper Turtle Lake Association, Barron County Soil & Water Conservation, and farmers located within the watershed.

The agricultural activities that were completed through this effort include Hoyt Rose Farmstead Runoff Reduction, Dean West Farmstead Runoff Reduction, 1,795 acres of no-till corn and soybean planting over 5 years (eight participants), contracted services for no-till corn and soybean planting (three participants), cover crop planting (two participants), and the BMP Challenge Program (two participants).

The shoreline projects, including shoreline buffers and rain gardens, are listed in this booklet. The property owners were reimbursed 70% of the cost of plants and materials. These practices help protect the lake by reducing the amount of runoff from the land and providing food and shelter to birds, pollinating insects, and small mammals. Buffers also help protect the shoreline from soil erosion.



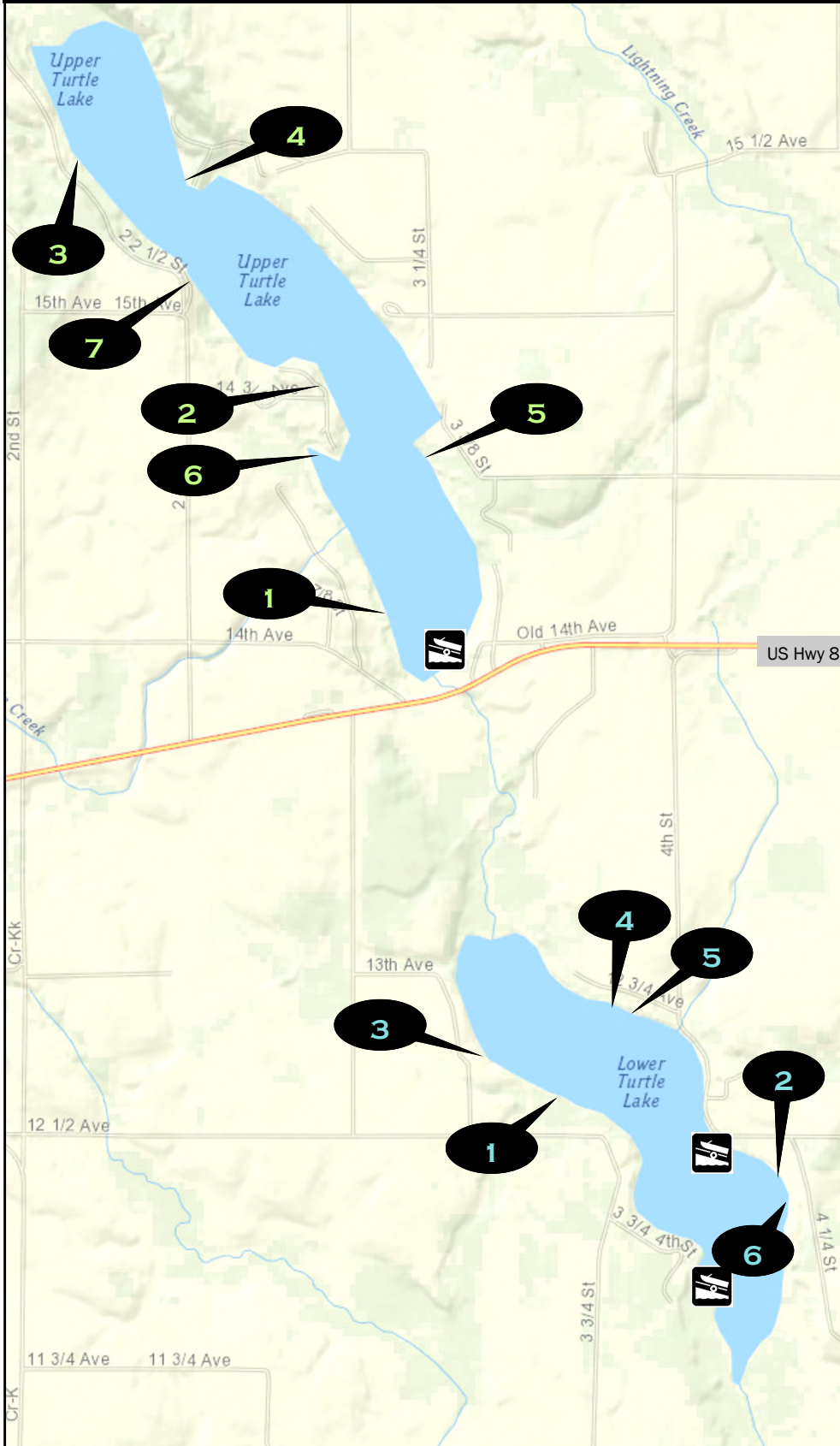
What Is a Watershed?

A watershed is the area of land around a lake, or group of lakes, where when rain falls on the land, it ends up in the lake, instead of flowing away to another place. Water can either enter the lake as groundwater, or flow over land as runoff. Runoff comes from many places such as fields, barnyards, roads, lawns, driveways, and roof

tops. It can enter directly into the lake or into streams and wetlands carrying water to the lakes. Runoff can carry things like topsoil, garbage, manure, nutrients, and even chemicals. In a heavily-farmed and developed watershed like this, the amount of runoff going to the lake is tremendous, especially during spring snow melt and after large rains. Each particle of topsoil washed into the lakes carries with it the nutrients nitrogen and phosphorous. On the farmers' fields this nutrient-rich topsoil is essential for crops. In the lake, however, the soil builds up on the bottom and the nutrients fuel excess algae and aquatic plant growth.



Turtle Lakes - BARRON CO, WI



Upper Turtle Lake

- 1 ZALUSKY**
Increased shoreline buffer (p. 3)
- 2 HOPPE**
Installed rain garden (p. 4)
- 3 STUEBER**
Planted bare spots in shoreline buffer (p. 5)
- 4 KALIS**
Established new shoreline buffer (p. 6)
- 5 KOEGEL**
Increased shoreline buffer (p. 7)
- 6 LICHT (previous owner)**
Planted ferns and wildflowers on bare soil under shoreline tree
- 7 TAXDAHL**
Planted native plants on shoreline

Lower Turtle Lake

- 1 JOHNSON**
Established new shoreline buffer (p. 8)
- 2 POST**
Established new shoreline buffer (p. 9)
- 3 D. RHEINGANS**
Planted native grasses and wildflowers between existing buffer and sitting area
- 4 CRAN**
Increased shoreline buffer
- 5 MEYER**
Installed rain barrel
- 6 R. RHEINGANS**
Planted ferns under roof drip line on house to reduce runoff

All projects are listed here. The larger projects are highlighted on the following pages.
You are welcome to view these sites by boat anytime.
However, please do not go on private property without the permission of the owner.

Shoreline Buffer

Established:
2014

Owners:
Bill & Kathy Zalusky

Plan:
Green Frog Co.

Labor:
Owners

Plants:
Dragonfly Gardens

Cost:
Total = \$1060
Reimbursed = \$742

Area:
819 sq. ft.



Growing Conditions:
part sun to shade

Native Plant List:

big leaf aster
black-eyed Susan
N. plains blazing star
calico aster
hoary vervain
wild blue lupine
prairie coreopsis
Bicknell's sedge
bottlebrush grass
little bluestem
side oats grama

1 ZALUSKY



Before

Most of their shoreline already had a natural vegetation buffer that they had let grow over the years. However, they noticed that water from downspouts and the adjacent hillsides flows into this area, which slopes toward the lake. They decided to make the whole area a buffer to help the runoff slow down and soak in. However, since there is a door leading from the basement here, they left a walking path to the lake. As according to plan, the lawn was treated with herbicide, wood mulch was laid, and native wildflowers and grasses were planted—all by the Zalusky's. In a year or two, this buffer will be impressive.



Just planted



Spring 2015

Because of the steep slope here, the stormwater runoff from the cabin was carving a small gully as it flowed toward the lake. The runoff was also eroding some of their steep bank along the shore that already held a natural vegetation buffer. The rain garden was designed to slow and contain the runoff so it can soak into the ground before it reaches the buffer. The rain garden's depression and berm were created in early November, 2014. It was then covered with erosion control blanket to help keep the bare soil from eroding during snow melt and rain. The native wildflowers and ferns were planted the following summer.



"Reducing runoff into the lake is just one benefit of this project. The plants are turning an unsightly gully into a beautiful garden."

-Jan Hoppe



Rain Garden

Established:
2014-15

Owners:
Jan Hoppe Family

Plan:
Green Frog Co.

Labor:
Green Frog Co., Lake Education and Planning Services LLC, & Rod Olson

Plants:
Dragonfly Gardens

Cost:
Total = \$694
Reimbursed = \$300

Area:
137 sq. ft.



Growing Conditions:
part sun to shade

Native Plant List:
big leaf aster
orange coneflower
Jacob's ladder
golden Alexander
wild strawberry
toothed wood fern

Shoreline Buffer

3

STUEBER

Established:
2014

Owner:
Kitty Stueber

Plan:
Green Frog Co.

Labor:
Owner &
Green Frog Co.

Plants:
Dragonfly Gardens

Cost:
Total = \$433
Reimbursed = \$162

Area:
400 sq. ft.



Growing Conditions:
dry, sandy soil; full to
part sun

Native Plant List:

big leaf aster
N. plains blazing star
butterfly weed
yellow coneflower
showy goldenrod
hoary vervain
beard tongue
white snakeroot
wild blue lupine
wild columbine
yarrow
side oats grama
June grass
little bluestem



After letting her shoreline vegetation grow on it's own, and unsuccessfully trying to plant a wildflower here and there, Kitty was not satisfied with her shoreline buffer. Her soil is very sandy, dry, and receives direct sun for half of the day. Those are pretty harsh conditions for the plants and grasses trying to grow there. A native plant list was customized for those tough growing conditions and the new plants were placed in areas where not much was growing. Kitty worked alongside Amanda from The Green Frog Co, learning how to successfully establish and care for her new plants.



Spring 2015

"I can't wait to
see it this
summer!"

- Kitty Stueber



4 KALIS

This shoreline was being mowed and trimmed to the water's edge. The landscape here is so low and flat that there was not much protection from shoreline erosion when the wind or passing boats produced big waves. The roots of lawn grasses are not long enough to anchor the soil properly, and the waves were carrying it away. Water can still get behind the rock (rip rap) that is there. However, an area for recreation along the shore was also important to them. They struck a balance, by planting a buffer at each end of their shoreline and leaving the area in between open for their large family get-togethers. Also, being a gardener, Kari loved the idea of having more interesting and colorful wildflowers along the shore.



Before

"If we would have done this sooner, we wouldn't have lost shoreline during the high water this spring."

- Kari Kalis
2014



2014

Shoreline Buffer

Established:
2013

Owners:
Marc & Kari Kalis

Plan:
Green Frog Co.

Labor:
Owners & lake volunteers

Plants:
Dragonfly Gardens

Cost:
Total = \$981
Reimbursed = \$687

Area:
1,080 sq. ft.



Growing Conditions:
medium to moist soil;
full to part sun

Native Plant List:
big leaf aster
hoary vervain
woodland phlox
prairie onion
showy goldenrod
white snakeroot
wild columbine,
woodland strawberry
yarrow
graceful sedge
little bluestem
Pennsylvania sedge

Shoreline Buffer

5

KOEGEL

Established:
Ongoing, with an
addition in 2014

Owners:
Mark & Jennifer
Koegel

Plan:
Owners

Labor:
Owners

Plants:
Dragonfly Gardens

Cost:
Total = \$341
Reimbursed = \$239



1993



Summer 2015

When the Koegels bought their property in 1993, 100% of their 140-ft shoreline was mowed lawn to the water's edge. They quickly realized the importance of having a shoreline buffer. Since then, they have let it grow back naturally by not mowing. Recently they added color and diversity by planting native wildflowers. Now only about 20% of their shoreline is lawn, left to access their swimming area and boat dock.

"We've grown to
enjoy the buffer
with all its
natural
diversity,
compared to a
sterile, mowed
lawn."

- Mark Koegel



Spring 2015

1 JOHNSON

Lloyd and Jane Johnson drag piles of green goop out of the water along their shore every summer. They learned that too many nutrients from shoreland runoff add to the lake's algae problem. They wanted to be part of the solution. So, they decided to establish a native plant buffer along their shore where none had existed before. They prepared the planting site as directed, and Jane helped plant wildflowers, native sedges, and ferns along the shore. Lloyd teasingly insists that these native plants are no more than glorified weeds. That may be in some cases, but they are doing good things for the lake.



"The weeds are blooming!"

- Lloyd Johnson,
about their
native plants



Shoreline Buffer

Established:
2014

Owners:
Lloyd & Jane Johnson

Plan:
Green Frog Co.

Labor:
Owners &
Green Frog Co.

Plants:
Dragonfly Gardens

Cost:
Total = \$753
Reimbursed = \$527

Area:
670 sq. ft.



Growing Conditions:
sun to part shade

Native Plant List:
Big leaf aster
Jacob's ladder
Northern bedstraw
great blue lobelia
white snakeroot
swamp milkweed
woodland phlox
Pennsylvania sedge
lady fern
orange coneflower
N. Plains blazing star
turtlehead
fringed brome
maidenhair fern
royal fern
wild geranium
marsh marigold
wild strawberry

Established:
2014

Owners:
Delphine Post

Plan:
Green Frog Co.

Labor:
Green Frog Co.

Plants:
Dragonfly Gardens

Cost:
Owner did not seek
reimbursement

Area:
67 sq. ft.



Growing Conditions:
full sun

Native Plant List:
Big leaf aster
black-eyed Susan
hoary vervain
Jacob's ladder
prairie phlox
wild columbine
Bicknell's sedge
snowberry shrub



This shoreline had a different problem to address. The bank was eroding because the lake ice pushed against it in the winter. When the ice melted, bare soil would be exposed on her shoreline, which the water would wash away. Ice shove occurs easiest when there are not tree, shrub, or plant roots to resist the force of the ice. Turf grass roots are just too shallow. Because Delphine didn't want to obstruct her view of the lake with trees and shrubs, she agreed to have native wildflowers and sedges planted in order to help hold the shoreline together.

**THANK YOU TO THOSE WHO HAVE HELPED MAKE THE TURTLE LAKES
PROJECT POSSIBLE THROUGH ADMINISTRATION, SUPPORT, AND
DEDICATION TO IMPROVING THE LAKES.**

Turtle Lakes Stakeholders Board Members

Ken Bonner – Chair (6 years)
Lower Turtle Lake Management District
Corry Walbridge – Treasurer (6 years)
Lower Turtle Lake Management District
Mark Koegel – Secretary (6 years)
Upper Turtle Lake Association
Sue Rheingans – At Large (6 years)
Lower Turtle Lake Association
Tyler Gruetzmacher – Barron County (6 years)
Barron County Soil and Water Conservation Department
Dave Blumer – Consultant (6 years)
Lake Education and Planning Services, LLC
Dale Scheps – Agricultural Representative
Lower Turtle Lake Watershed
Harland Becker – Agricultural Representative
Upper Turtle Lake Watershed

Alternates

Kathy Zalusky – Upper Turtle Lake
Tom Bjork – Upper Turtle Lake
Diane Taxdahl – Upper Turtle Lake

Resource Support Personnel

Tim Jergenson – Barron County Agricultural Extension Agent
Pamela Toshner/Alex Smith – WI Department of Natural Resources
Amanda Kostner – The Green Frog Company
Louie MacLaughlin – Dragonfly Gardens

Water Quality Sampling

Ken and Mary Jo Bonner – Lower Turtle Lake
Earl Hoscheit – Upper Turtle Lake

Aquatic Invasive Species Monitoring

Randy Rheingans – Lower Turtle Lake
Mark Koegel – Upper Turtle Lake

Clean Boats, Clean Waters

Sue Rheingans – Lower Turtle Lake
Mark Koegel – Upper Turtle Lake

Agricultural Resource Support

Sheldon Betzold – Nutritionist
Mike Wachtendonk – Nutritionist
Tim Mares – Agronomist
DeLynn Toews – Volunteer
Edward Freitag – Volunteer
Julia Freitag – Volunteer
Amber Scheps – Volunteer
Brian Scheps – Volunteer
Dale and Sandra Scheps

Simple & Inexpensive Ways to Reduce Your Impact on the Lake:

- Stop mowing along the shore.
- Plant trees and shrubs.
- Direct downspouts away from the lake or into a rain barrel.
- Pick up pet waste.
- Move your campfire at least 35 feet away from the water.

Lower Turtle Lake Management District

Corry Walbridge
651.483.2230

Upper Turtle Lake Association

Mark Koegel
715.357.3633

Barron County

Soil & Water Conservation Department

Tyler Gruetzmacher
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The Green Frog Company

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More Turtle Lakes information and newsletters can be found at:
www.townofalmena.com and www.sites.google.com/site/upperturtlelakeassociation/

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