

Healthy Lakes: How to Build, Fund & Implement a Project



Wisconsin Lake Partnership Convention
23 April 2015



Agenda

- Logistics & Introductions
 - Name, goals for the workshop
- Healthy Lakes Overview
- 5 Best Practices – technical descriptions
- Site evaluation & Practice Selection
- Grant Application & Administration
- Partnerships
- The Social Science



Healthy Lakes Lean Government Team



THANK YOU to everyone who provided feedback, including the many partners who completed a customer survey and commented during the public review of proposed DNR guidance.

Additional contributors include: Cheryl Clemens, Karen Engelbretson, John Haack, Dave Kafura, Amy Kowalski, Jessa LaMarche, Flory Olson, Tim Parks, Bret Shaw, Shelly Thomsen, Scott Toshner, Bone Lake Management District, Maine Lake Smart Program, and Vermont Lake Wise Program.

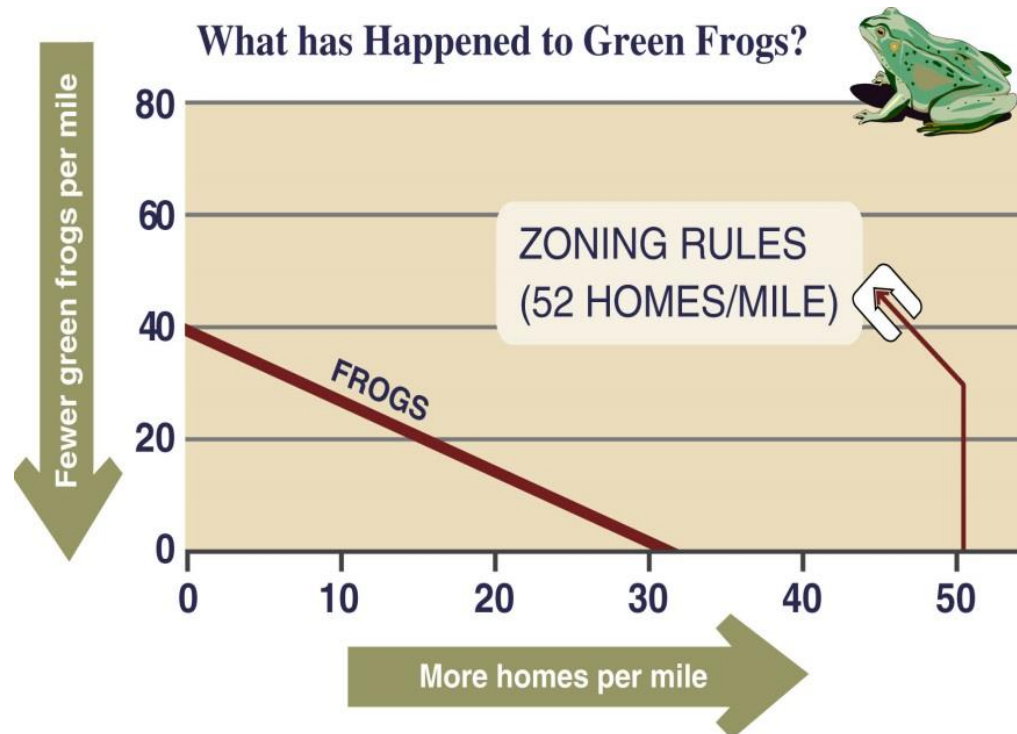


Citizens lead, and government follows.



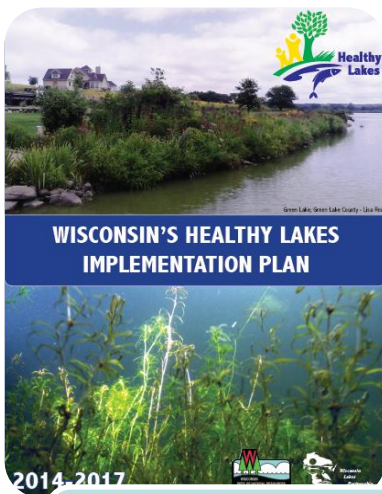
Background

- > 15,000 lakes
- \$2.3 billion economic impact from fishing alone, tourism & property taxes
- Two primary threats to our lakes are **water quality declines** and **habitat loss**
- Poorer shoreland conditions = poor habitat = poor water
- We all love lakes and have a role in protecting, improving, and restoring them
- What can we do easily to encourage better shoreland conditions?
- Healthy Lakes is one way to do so. Building off existing grants & lessons learned from citizen champions, at DNR, from other agency partners and other states



Wisconsin's 2014-2017 Healthy Lakes Implementation Plan

Goal: protect and improve the health of Wisconsin lakes by increasing lakeshore property owner participation in habitat restoration and runoff and erosion control projects.



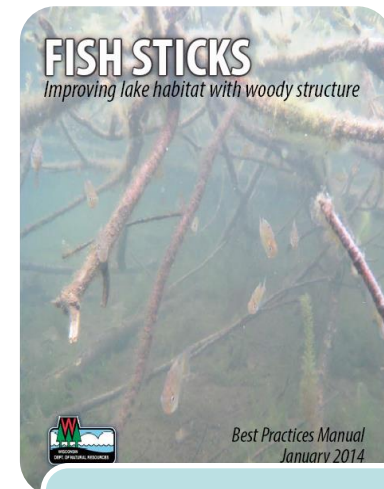
Statewide Plan

- Implementation focus



Fact Sheets

- 5 Best Practices
- Funding & Admin FAQs



Technical Guidance

- More project installation detail

Wisconsin's 2014-2017 Healthy Lakes Implementation Plan

Do it yourself

Adopt by resolution on grant application

Integrate into local planning efforts



Green Lake, Green Lake County (Lisa Reas)

Wisconsin's 2014-2017 Healthy Lakes Implementation Plan



Healthy Lakes project participation is voluntary. 8

Healthy Lakes Best Practices



ILLUSTRATION: KAREN ENGELBRETSON

Resources

- <http://tinyurl.com/healthylakes>
- Future workshops



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Your local DNR Lake Biologist or Environmental Grants Specialist.

Healthy Lakes isn't for everyone or everywhere.

Not intended for complex sites where engineering design/review needed

<http://www.uwsp.edu/cnr-ap/UWEXLakes/Documents/resources/healthylakes/RunoffGuide.pdf>

Professional assistance is recommended where one or more of the following occur:

- Construction occurs on slopes >20%
- More than 20,000 square feet are cleared
- More than two acres drain to an eroded area
- Severe gully erosion (at least one foot deep) is present
- You are not comfortable implementing solutions on your own
- You have tried the suggestions in this guidebook, and your problems remain

NOT for steep slopes



NOT for largely cleared parcels

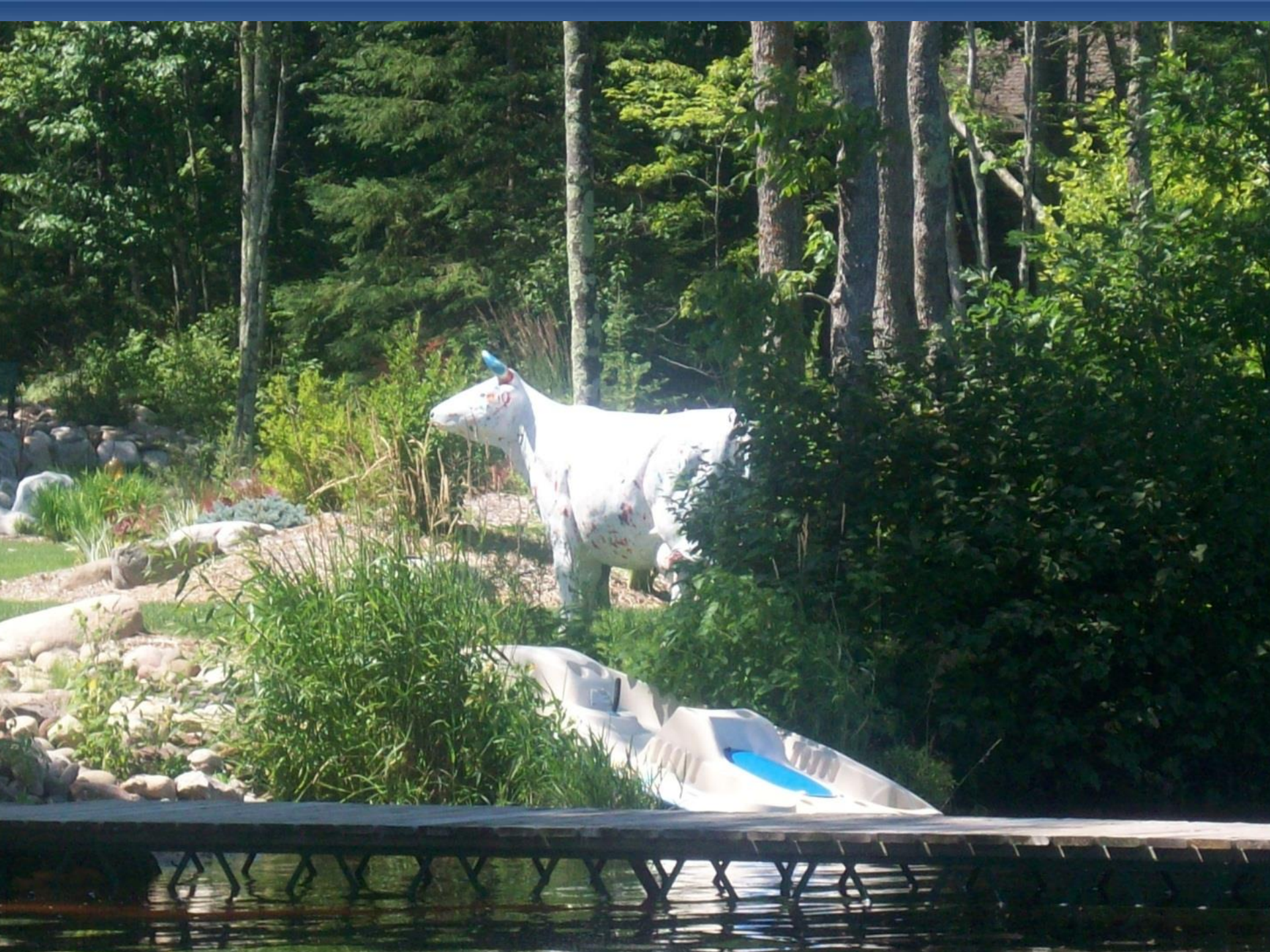


NOT for >2 acres draining to eroded area



NOT for severe gullies





Practice #1: Fish Sticks



ILLUSTRATION: KAREN ENGELBRETSON

Practice #1: Fish Sticks

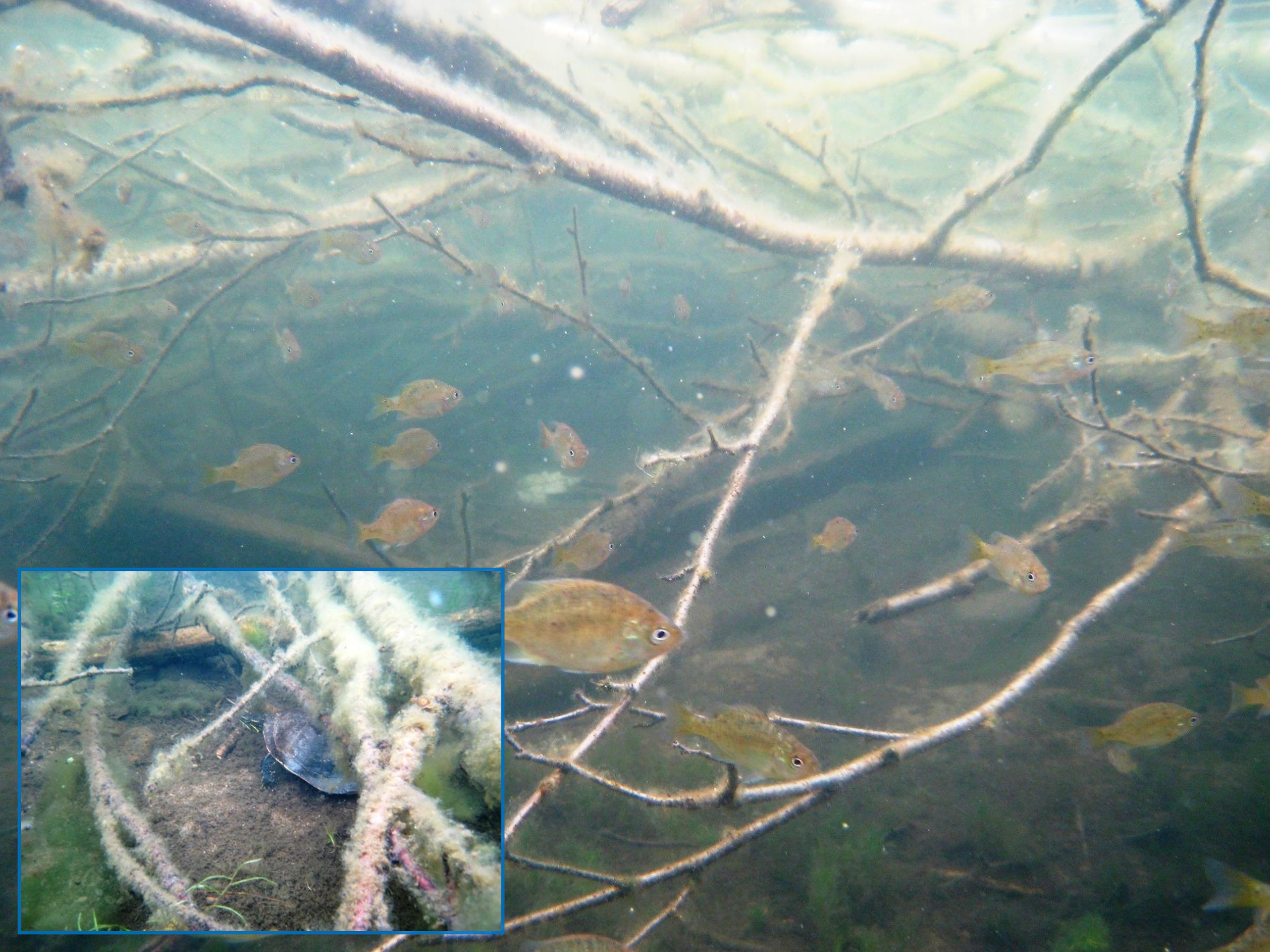


Pewaukee Lake, Waukesha County (Tom Koepp)

- Commit to no-mow or 350 ft² native planting at the base









Practice #2: 350 ft² Native Plantings



(Robert Korth)

- 350 contiguous ft² at least 10 feet wide
- One 350 ft² native planting per property per year







08.



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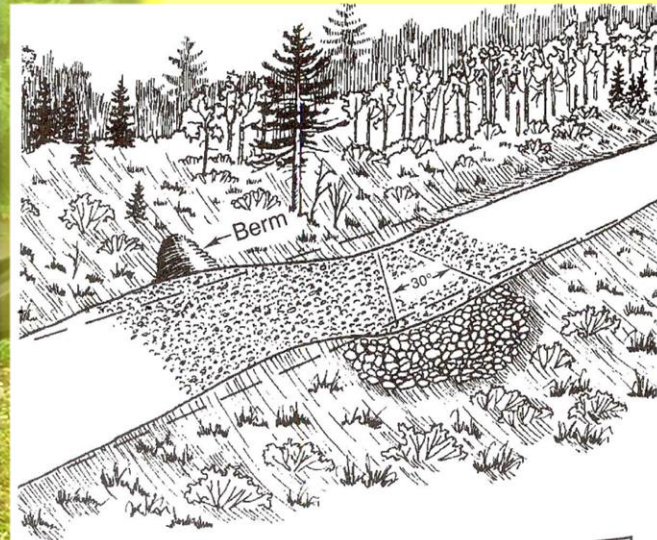
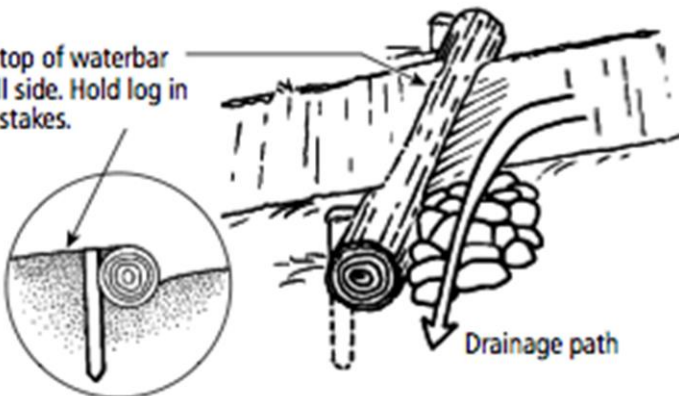
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Practice #3: Diversion

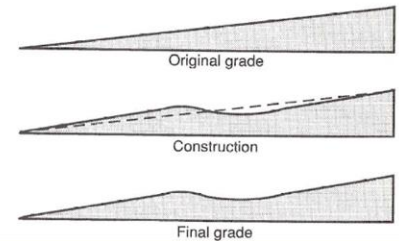


Log waterbar

Pile soil to top of waterbar on downhill side. Hold log in place with stakes.



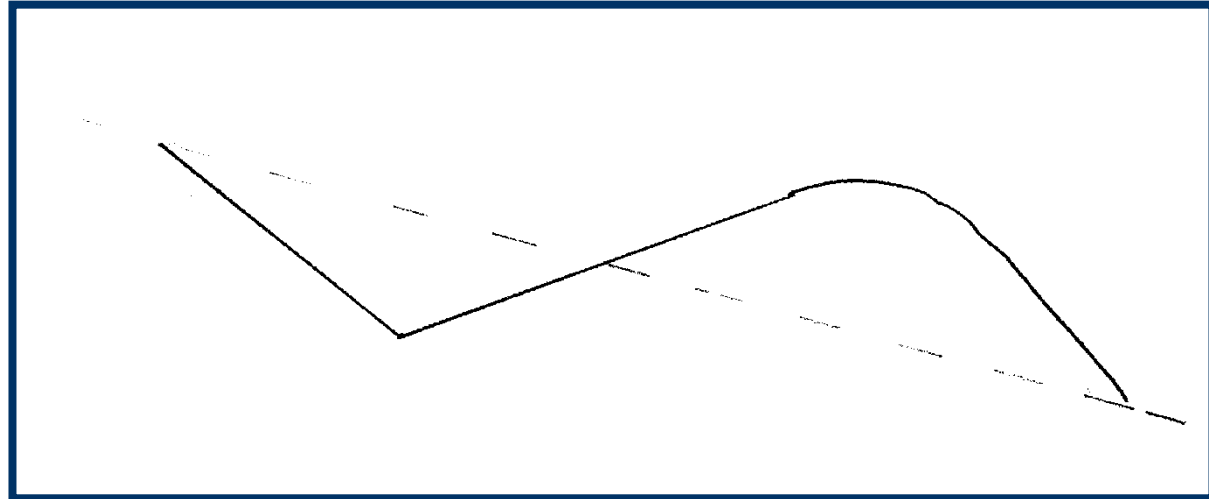
Broad-based dip



(<http://awwatersheds.org/>)

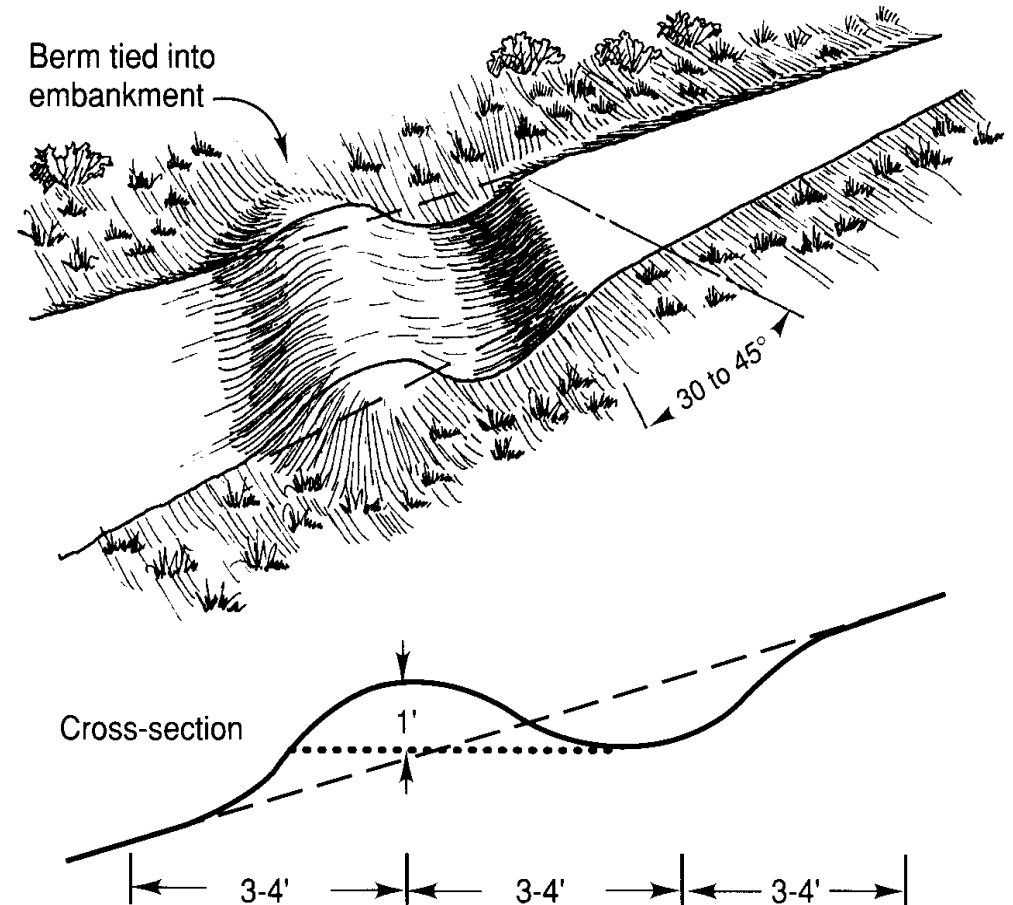
Diverting Runoff

- Grading
- Berms
- Pipes
- Channels

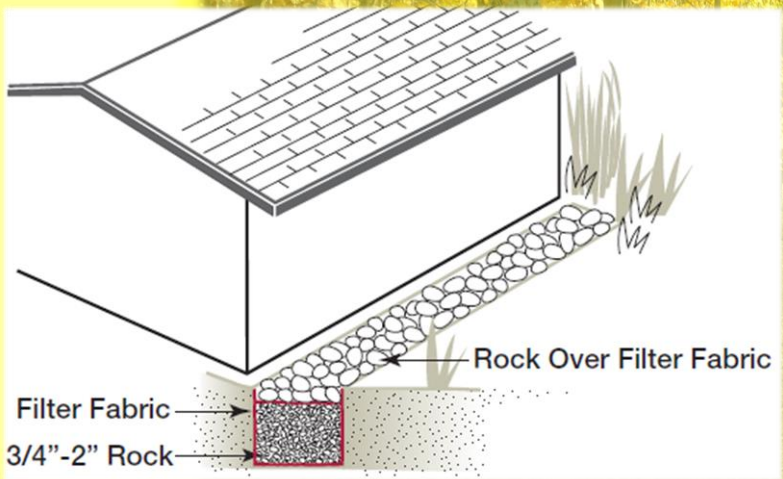


Pathway and Driveway Diversions

- 🌀 Broad Dip
- 🌀 Water Bars



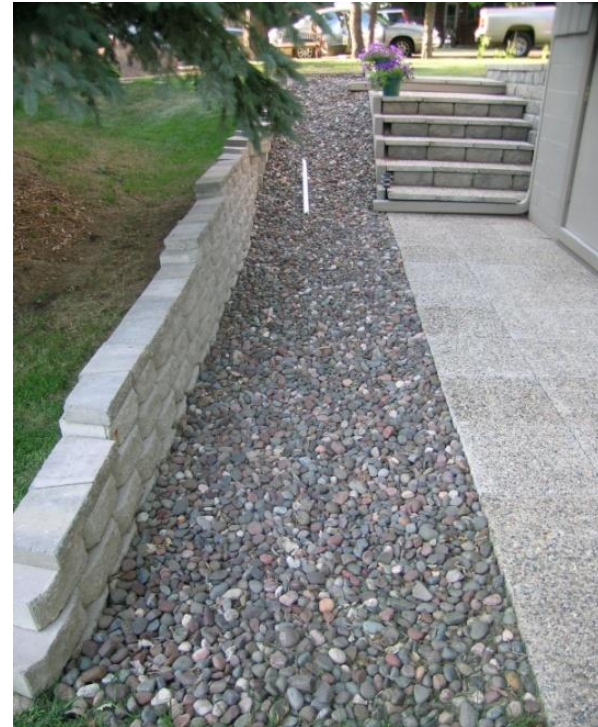
Practice #4: Rock Infiltration



Opportunities for Infiltration



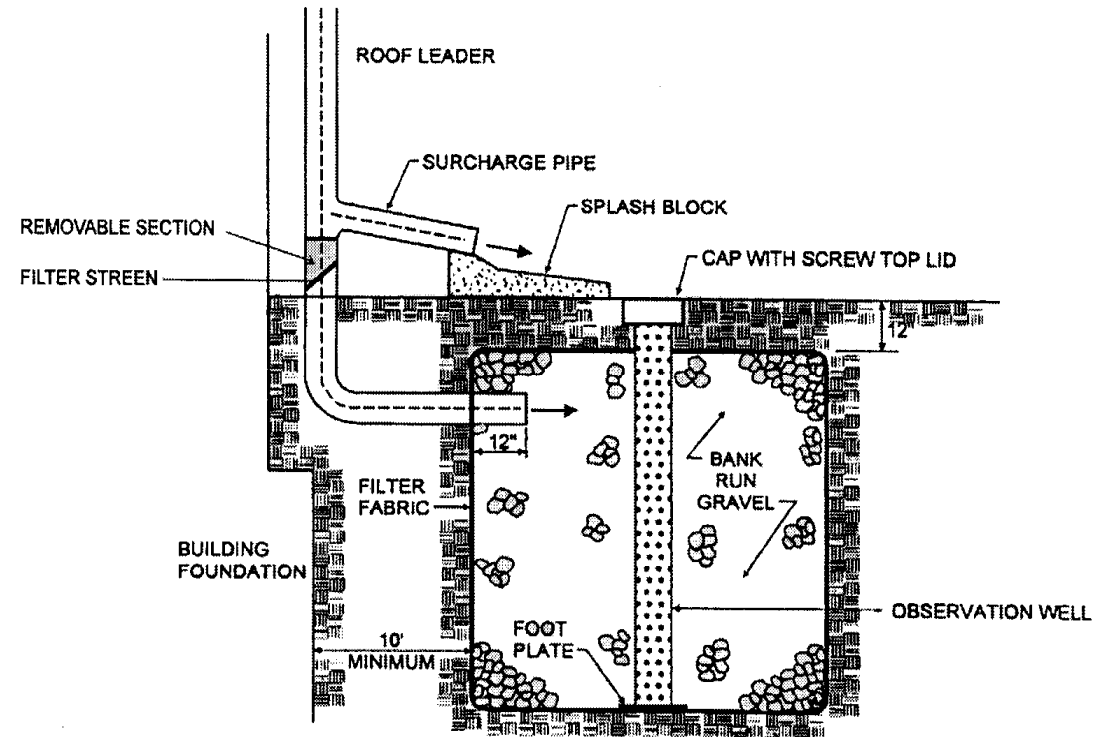
Rain Gardens

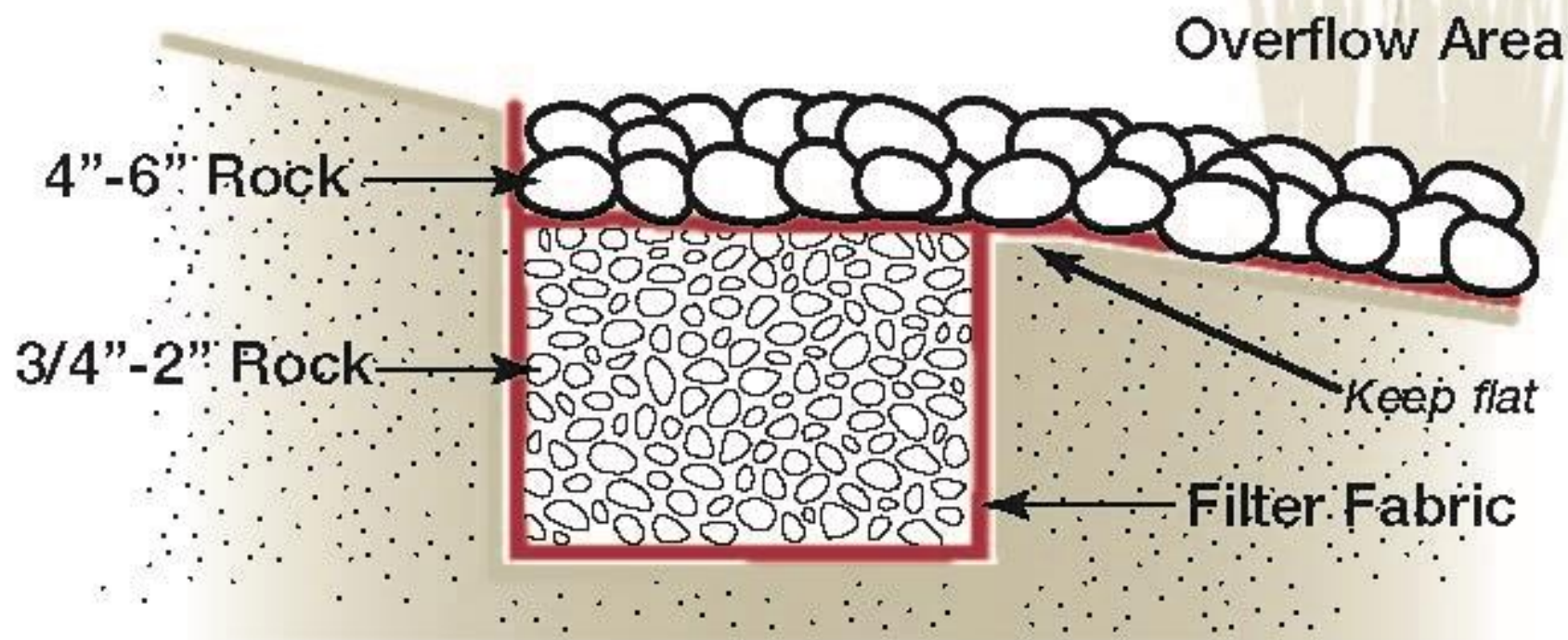


Rock Infiltration Practice

Rain Gutters and Down Spouts directing water to infiltration practice

- Collect water
- Spread out flow
- Release to infiltrate















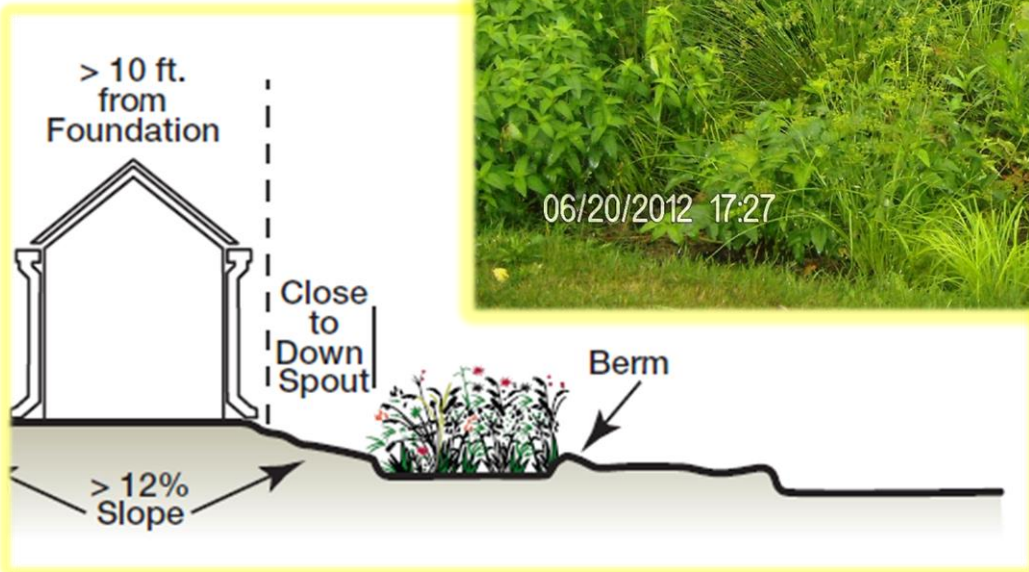








Practice #5: Rain Garden



Shell Lake, Washburn County (Brent Edlin)

What is a Rain Garden?



- ☞ Shallow depression (6 inches to 1 foot deep)
- ☞ Planted with native wildflowers
- ☞ Capture runoff from roofs, driveways, and lawns







Healthy Lakes: site assessment & practice selection review

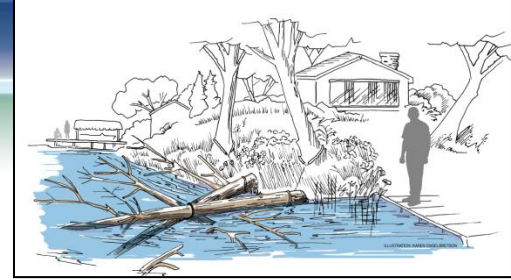


Wisconsin Lake Partnership Convention - 23 April 2015
Patrick Goggin, WLP/UWEX Lakes

< pgoggin@uwsp.edu >



Practice #1: Fish sticks



Utilize the fish sticks best practices manual

< <http://dnr.wi.gov/topic/fishing/outreach/fishsticks.html> >

FISH STICKS

Improving lake habitat with woody structure



*Best Practices Manual
January 2014*

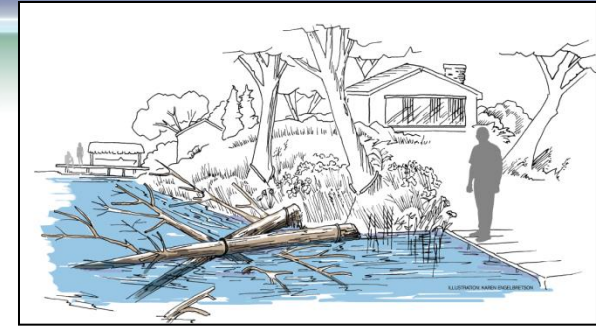
- Projects are typically conducted on lakes where the density of trees in the water is less than 200 trees/mile of shoreline (tree defined as a piece of wood \geq 6 feet with a diameter \geq 6 inches).

Fish sticks - site visits and marking

- Project coordinator meets with each property owner who wants to place Fish Sticks along their lakeshore. The coordinator and property owner discuss what the project entails and determine appropriate locations along the shoreline.
- It is important to keep Fish Sticks complexes away from high use areas such as docks or swimming areas and also from the property line so not to interfere with the neighbors' use of the shoreline.
- Consideration should be given to water depth and whether or not the property experiences ice heave.
- In general, water depth should be greater than 2' at 50' from shore to obtain ideal benefits from wood additions.
- Ice heave action is visible in the form of ice pushed up onto the banks (also called "high energy sites"). Often the property owners will know whether ice heave impacts their shoreline. If ice heave is a concern, structures should be placed with the butt end of the tree pulled 10 to 15 feet landward and cabled directly to a tree.

Practice #1: Fish Sticks

Go out to your pier and look for wood

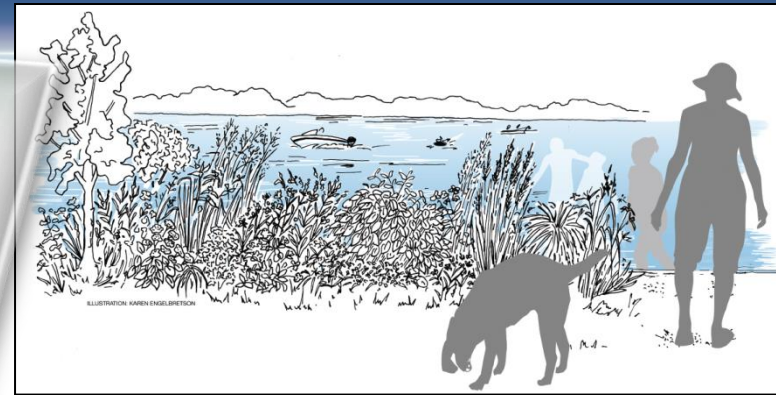
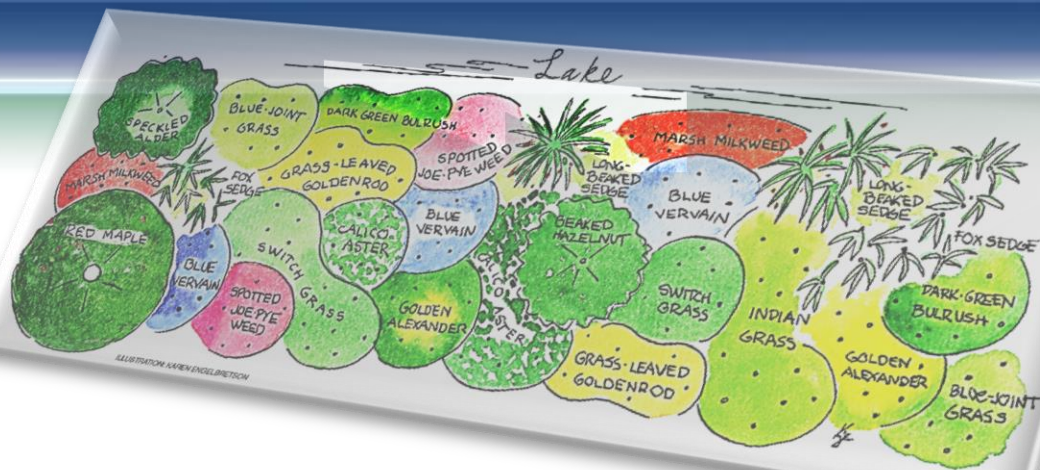


Water reflection is a challenge to spotting wood under water



Looking for signs of wood – lake edge recruitment; exposed wood





Practice #2: 350 ft² Native plantings

UWSP | UW Extension Lab - x Patrick

www.uwsp.edu/cnr-ap/UWEXLakes/Pages/healthylakes/default.aspx

Apps Suggested Sites Imported From IE Accept friend request grosbeaksgalore New Tab A-Hole 2015 Lakes Partners... Google Docs Other bookmarks

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Wisconsin's Healthy Lakes Implementation Plan

Simple and inexpensive best practices for lakefront property owners.

Illustration: KAREN ENGELBRETON

Introducing Healthy Lakes : Funding for Lakeshore Best Practices
On-line Presentation November 13, 2014
Jane Parashak, Carol Schuck & Pamela Trimmer (DNR) with Healthy Lakes Staff

Wisconsin's [Healthy Lakes Implementation Plan](#) (Plan) goal is to protect and improve the health of our lakes by increasing lakeshore property owner participation in habitat restoration and runoff and erosion control projects. The following frequently asked questions about funding and administering a Healthy Lakes project may help you get the answers you're looking for. Click [here](#) to view a recording of the Healthy Lakes webinar from November 13, 2014.

Examples


The following examples are all in PDF format. In order to view them you must have Adobe Reader. Get it free here: <https://get.adobe.com/>

- Participation pledge as part of the Healthy Lakes Implementation Plan
- Sample resolution adopting Wisconsin's Healthy Lakes Implementation Plan

Healthy Lakes
Healthy Lakes Plan
Grants (exit to DNR)
Fact Sheets
Funding & Admin FAQs
Fish Stix
Native Plantings
Rain Garden
Diversion Practice
Rock Infiltration Practice
Siltation Socks
Native Plantings Guide
Social Science Background

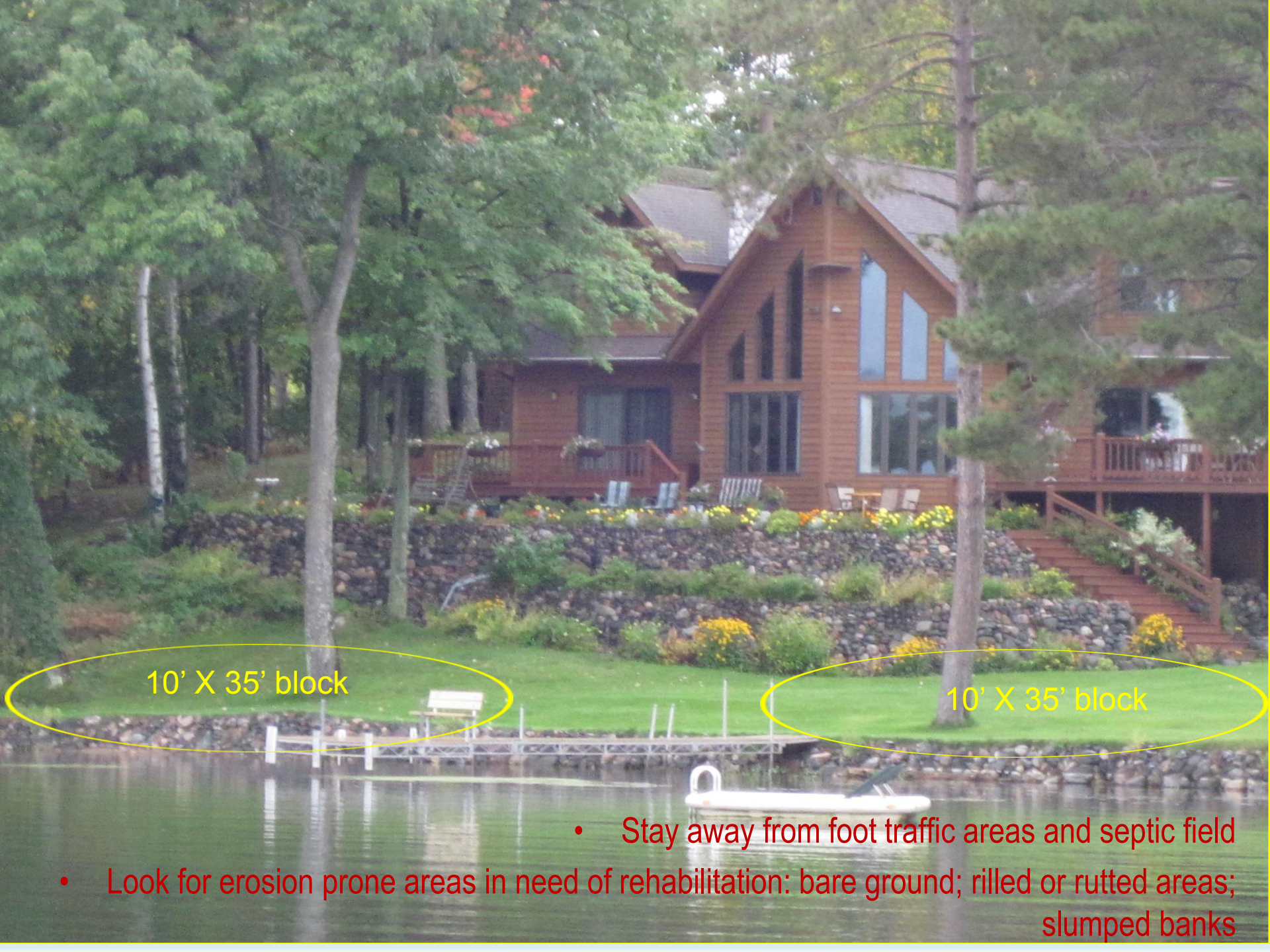
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Consult the native planting guide on our Healthy Lakes web pages for siting ideas, planning and design help, and template plant lists



18.5' X 19'
block

18.5' X 19'
block



10' X 35' block

10' X 35' block

- Stay away from foot traffic areas and septic field
- Look for erosion prone areas in need of rehabilitation: bare ground; rilled or rutted areas; slumped banks

Practice #2: 350 ft² Native Plantings



10' X 35' block -
placed along
tairwell



10' X 35'
block –
slumped
bank
example



10' X 35'
block –
wet area
example



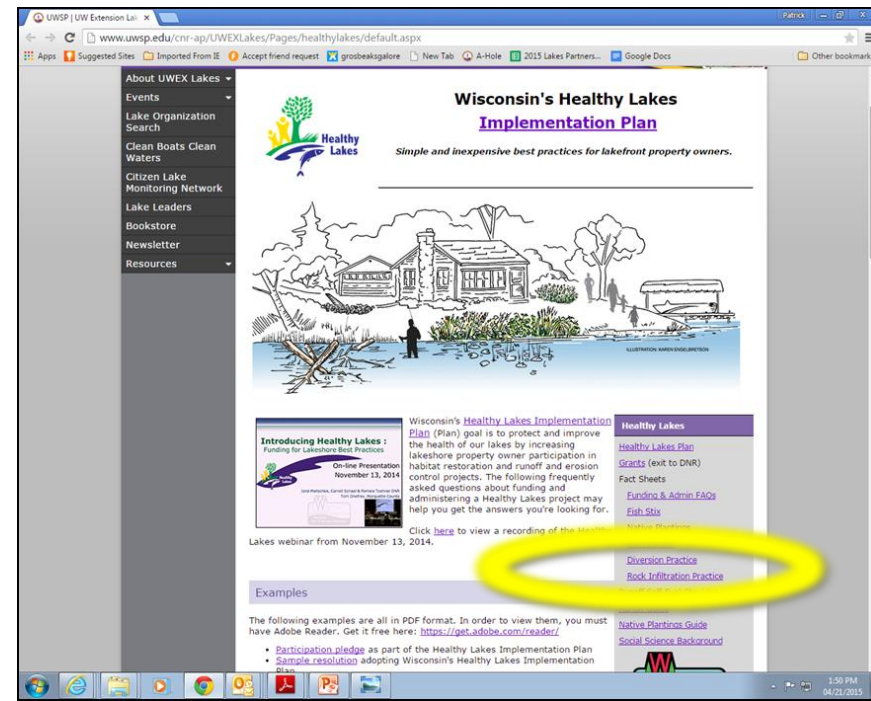
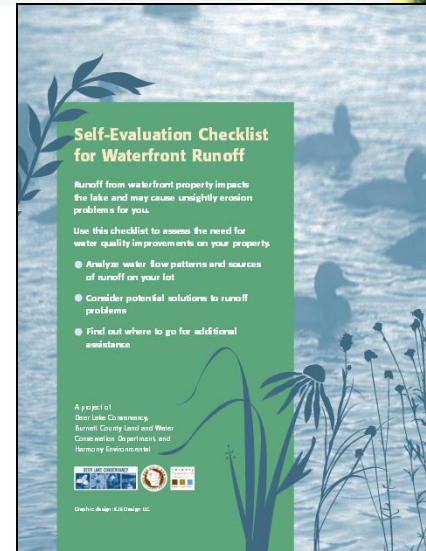
10' X 35' block – remove poorly placed fire pit to better location away from lake edge



10' X 35' block – erosion prone area rehab

Practice #3: Diversion

- Use the self-evaluation checklist to estimate your runoff volume
- Runoff should be diverted to a flat area that is well-vegetated with grasses and groundcovers and / or to where the soil is covered with a thick duff layer.
- Where water doesn't soak in naturally, you can divert water to an infiltration area.
- Erosion frequently occurs along driveways and pathways to the lake, especially where slopes are steep.
- For help thinking through water diversion ideas, siting, and design consult the runoff guide [pages 11-17].



Diversion example

old boat launch ripped out—water bar utilized to divert upland flow into wooded area before it reaches the lake buffer / edge



Diversion practice – design and sizing

Determine how many diversions are needed:

A). You will need to calculate the slope of your driveway or path (Figure 1) using the following equation:

$$(RISE / RUN) \times 100 = \% \text{ SLOPE}$$

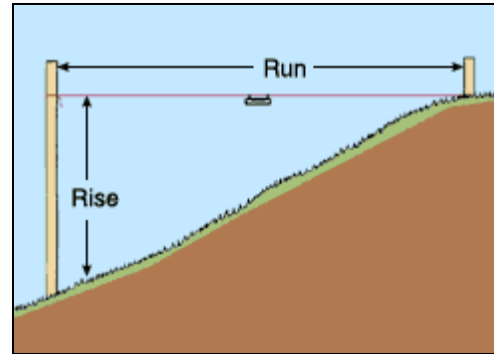


Figure 1

B. Compare your % slope to the diversion spacing in Table 1 to determine how far apart the diversions should be:

C. Divide the length of your driveway or path (along the ground surface) by the spacing between diversions from Table 1 to get the number of diversions that you will need.

Table 1	
% slope	Spacing between water diversions (in feet)
2	250'
5	130'
10	80'
15	50'
25+	40'



Driveway:

A) Calculate the slope of your driveway or path: = 9 %

B) Compare your % slope to the diversion spacing in Table 1 to determine how far apart the diversions should be:

9% slope = 80 feet between water diversions

C) Divide the length of your driveway (240') or path (along the ground surface) by the spacing between diversions (80'):

= length of driveway / water diversions spacing = # of water diversions [240' / 80' =] 3 water diversions needed for this driveway example

Practice #4: Rock infiltration



Determine the best placement for your rock infiltration bmp:

- This is usually where large amounts of concentrated runoff flow, such as off of a roof valley or at the end of your roof gutter downspout.
- It is best to observe runoff during a rain storm.
- Follow the steps outlined in the runoff guide to estimate how much stormwater your property creates (pages 5-6).
- Pay attention to contributing factors of runoff such as roofs, downspouts, bare soil, straight driveways / pathways, ongoing construction, poor turf grass, & neighboring properties
- Look at your driveway during a rain storm to determine how stormwater runoff flows across it.

**Assess
Minimize
Divert
Infiltrate**

What to do on your lot

Assess the Problem
Look for areas where erosion is occurring. Runoff water is likely the cause of erosion. Right after a big rainstorm is the perfect time to look at erosion patterns. Can you see the pathway of water flow? Are leaves and pine needles or groundcover vegetation removed by flowing water? Follow the path of water uphill to its source. Is a channel created by runoff from a roof, driveway, road, or other hard surface? Don't ignore small channels and eroded areas. These spots frequently turn into bigger problems. Erosion that you identify may get worse if you increase the hard surfaces on your lot or if you experience a lot of rain in a short period of time.

Develop a Base Map
You can do a better job assessing your erosion problem and developing solutions with a base map of your property. Start by drawing a map that shows your entire property to scale. Include structures like your house, garage, sheds, pathways, and paved areas. Also measure or estimate the size of uphill areas that drain to your property from a road or your neighbor's property. Look at the direction of water flow during or after a large rain event and add arrows to illustrate the flow on the map. The eroded areas or gullies identified above also give you clues for placing flow arrows. The base map will be a useful tool as you begin to figure out solutions to your erosion problems.

Estimate Drainage Area
The size of the area that flows to a problem area is important information for coming up with runoff solutions. You might need some help with this step. Your local Land and Water Conservation Department or a landscaper might be able to provide assistance.

To do this yourself, keep in mind what we all know, water flows downhill. So, look uphill to find the source of water. This might be easy if the flow is from a roof or a driveway that clearly drains to your problem area. It may be more difficult when there isn't much slope or slope varies from point to point. Look for culverts that drain under roads and driveways. A culvert may carry water from another section of land you haven't considered.

Once you have an idea visually of the drainage, draw the area on the base map, take some measurements and do some calculations. Divide the area into shapes so area is easy to calculate. (Here's where you get to use your sixth-grade math!)

Area of a rectangle = length X width
Area of a triangle = base X 1/2 height
Area of a circle = πr^2
(where π is 3.14 and r is the radius or half the distance across the circle)

Figure Out a Solution
The next step to controlling runoff is to investigate and select options to minimize, divert, and infiltrate runoff water. Each lot is unique. A variety of tools may be needed to address the problem. If erosion problems are minor, start with simple practices like planting native vegetation and diverting water to relatively flat areas with good vegetative cover. Moderate to severe erosion will probably require more complex, structural practices. If the practices you have installed don't work the first time, don't give up. Reconsider patterns of water flow and erosion and adjust your plan of action.

Concepts and tools to consider are described on the following pages. A combination of diversion and infiltration of water is generally needed, and may need to be installed both above and below buildings. The drawings in this handout are conceptual and the suggestions are general. Seek professional assistance from an engineering firm or your Land and Water Conservation Department for more detailed recommendations.

- Professional assistance is recommended where one or more of the following occur:**
- Construction occurs on slopes >20%
 - More than 20,000 square feet are cleared
 - More than two acres drain to an eroded area
 - Severe gully erosion (at least one foot deep) is present
 - You are not comfortable implementing solutions on your own
 - You have tried the suggestions in this guidebook, and your problems remain

Practice #4: Rock infiltration



Determine the best placement for your rock infiltration bmp [continued]:

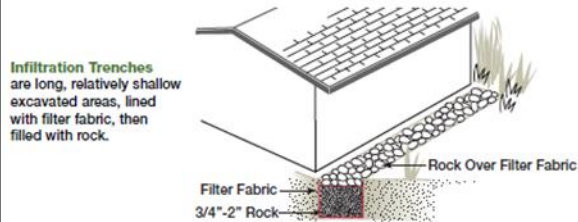
- To determine how large to make your rock infiltration area, follow the directions in the runoff guide (pages 22-24).
- Clearly mark the boundary of your rock infiltration area to identify where you will dig.
- Slope the bottom of the rock infiltration system away from your house so that water drains away from the foundation.

Rock Infiltration Trenches

Use a rock trench to capture runoff from a roof or parking area. A filter fabric trench liner prevents soil from entering the spaces between the rocks where water is held. Filter fabric is available from many hardware stores and some Land and Water Conservation Departments.

Try to keep sediment out of the rocks at the top of the trench to maintain the pore spaces and extend the life of the trench. One method to do this is to create an area that can be readily cleaned out. Fill trench to within six inches of the top with rock. Place a layer of filter fabric over the rock then fill to the surface. This allows removal of rock and sediment cleaning from the top six inches. The filter fabric prevents sediment from reaching lower layers.

Trenches may be constructed next to buildings without basements or foundations such as pole sheds. It is a good idea to leave at least six inches between the edge of a poured concrete slab or asphalt driveway to prevent undermining. This area can be covered with rock at the surface, if desired. Do not place trenches within ten feet of a house where water could soak into the basement. Allow a fifteen-foot wide strip of grass between a heavily used parking area and a rock trench to clean the water before it soaks into the ground.



Trench size depends upon the amount of water to be captured and the rate of infiltration of underlying soil. The space between the rocks holds water, which then soaks into the soil beneath the trench. A two-foot deep trench along a roofline will capture a significant volume of water. The table on page 23 lists the length of trench necessary to capture a one-year, 24-hour storm event. These trenches will probably overflow with large storms. The edge where the overflow occurs should be made as level as possible to reduce the creation of channelized flow.

Sizing for rock trenches along roofs and parking areas.^{1,2}

Area of hard surface (sq. ft.)	Length (ft.) of 2 ft. wide trench	Length (ft.) of 3 ft. wide trench
200	17	11
400	33.5	22
600	50	33.5
800	67	45
1000	84	56
1500	126	84
2000	167	112
2500	209	140
3000	251	168

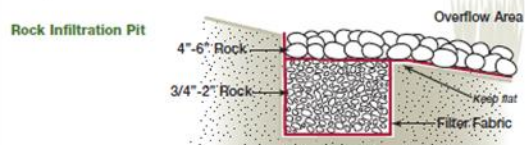
IMPORTANT NOTE:
Sizing in the table is for areas with sandy or sandy loam soils with drainage rate of at least 0.5 inches per hour.

¹ Trenches are all two feet deep.
² Trenches are sized to capture a one year, 24-hour storm event.

Rock Infiltration Pits

An infiltration pit is constructed similarly to a trench, except that a pit is deeper, and a pit is designed to fit into available area. This deeper pit may reach sandy soils with higher infiltration rates when a shallower trench does not. With sandy soils, a 3-foot deep infiltration pit should be 5 to 10 percent of the size of the impervious surface that drains to it. A 4-foot deep infiltration pit should be from 4 to 8 percent of the size of the impervious surface that drains to it. See the table on page 24 for sizing in sandy loam soils.

If this much space isn't available, a smaller pit will still help reduce pollutants by capturing runoff from small rain events and the first flush from larger storms. Be sure to consider how water will flow from the pit when it overflows. The overflow area should be broad (2 to 4 feet) and absolutely flat across the overflow for even flow. Reinforce the overflow area with clean 4- to 6-inch rock underneath with filter fabric to prevent underlying soil from washing out. Do not construct a pit deeper than five feet because the soil beneath the pit will compact and drain more slowly.



Sizing Infiltration Pits -

Area of pit compared to impermeable area that drains to it*

Soil Type	Infiltration Rate	3 foot deep pit	4 foot deep pit
Sand	More than one inch per hour	5-10 percent	4-8 percent
Sandy Loam	0.5-1 inch per hour	10-20 percent	8-15 percent
Silt or Clay	Do not use infiltration pits or trenches unless you can dig to a sandy soil layer		

* This will capture the runoff from a 1 year, 24-hour storm event to a 10 year, 24-hour storm event. Across Northern Wisconsin this ranges from just over 2 inches (1 year storm) to around 4 inches (10 year storm) of rain in a 24-hour period.

Preventing Sediment Accumulation

To prolong the life of your infiltration pit, install a layer of filter fabric six inches below the final top surface. Cover the filter fabric with clean rock to the surface.

Follow these steps to maintain the infiltration system

1. Remove pine needles and any other matter that has collected on top of the system.
2. For small rock, remove rock and sift with a 3/4" mesh to remove sediment.
3. Rinse rock.
4. Remove remaining sediments and replace or rinse filter fabric.
5. Refill with clean rock.
6. Place recovered fine sediments in bordered flower bed or other contained area and mulch.
7. Discard dirty water and sediment in a contained area on your property such as a plant bed.

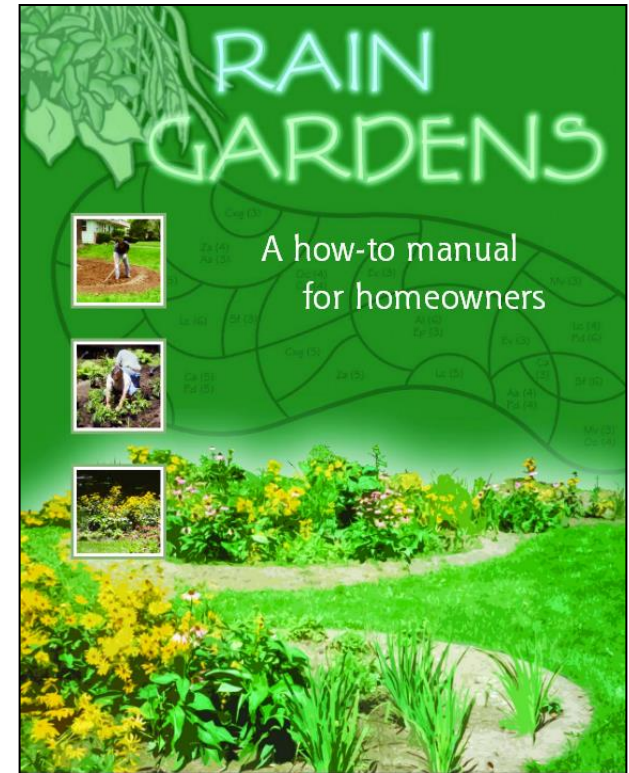
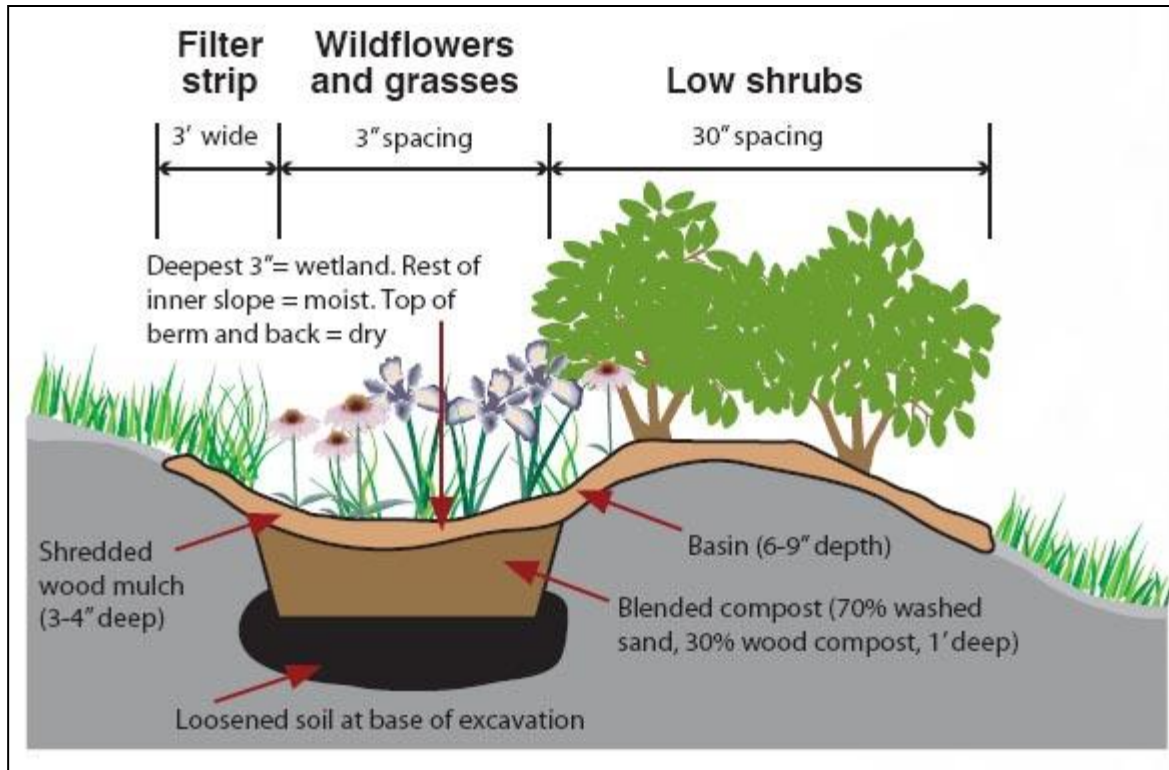
Subsurface Infiltration Pits

An infiltration pit can be constructed beneath the soil and grass, but be sure to keep the following in mind:

- Cover rock with filter fabric to prevent soil from entering the spaces between the rocks.
- Be sure the location of the infiltration pit is noted above ground. To minimize compaction and maximize effectiveness, do not drive across this area.
- An overflow device is needed.
- A direct connection to a rain gutter downspout may deliver leaves, pine needles, and other debris below ground and clog the rock spaces. See photo on page 25 for a tube system that provides overflow for excess water and allows access to clean out debris.

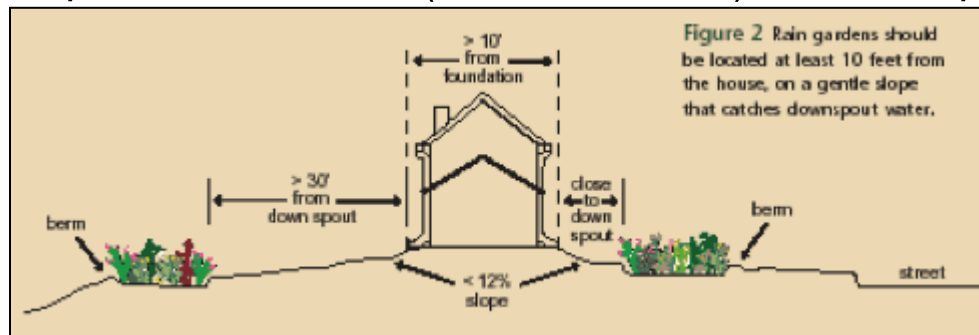


Practice #5: Rain garden



Practice #5: Rain garden – siting tips

- Rain gardens around lake homes can be placed either near the house to catch roof runoff, or set back from the residence to collect water from the roof, lawn, and / or driveway areas.
- Select a sunny, gently sloping area with soils that percolate.
- Do not place under a large tree.
- Rule out locations with poorly draining soil types by digging a hole 6” deep, filling it with water and checking for complete drainage after 24 hours (aka perk test).
- Place the garden at least 10 feet away and downslope from any structures so that infiltrating water does not harm the foundation of buildings.
- Do not construct rain gardens over septic fields or in a low spot where rainwater already ponds.
- Choose areas with slopes of under 10% (4 to 8 % is best). Avoid slopes greater than 12%.



Rain garden – How large should the rain garden be?

- A typical residential rain garden is 100 to 300 ft.²
- To size your garden to capture 100% of the runoff for an average storm event, estimate the contributing drainage area from the portion of the roof that drains to that downspout and multiply that area by a factor of .32 for clay soils, assuming a 7” deep basin within 30 feet of the house.
- Place the longer side of the garden perpendicular to the slope and downspout.
- Crescent and kidney shapes with recommended widths of about 10 feet seem to work best.
- Dig out and create a basin measuring between four and eight inches deep and surround with a berm.
- A rain garden more than eight inches deep might pond water too long, look like a hole in the ground, and present a tripping hazard.



Practice #5: Rain garden



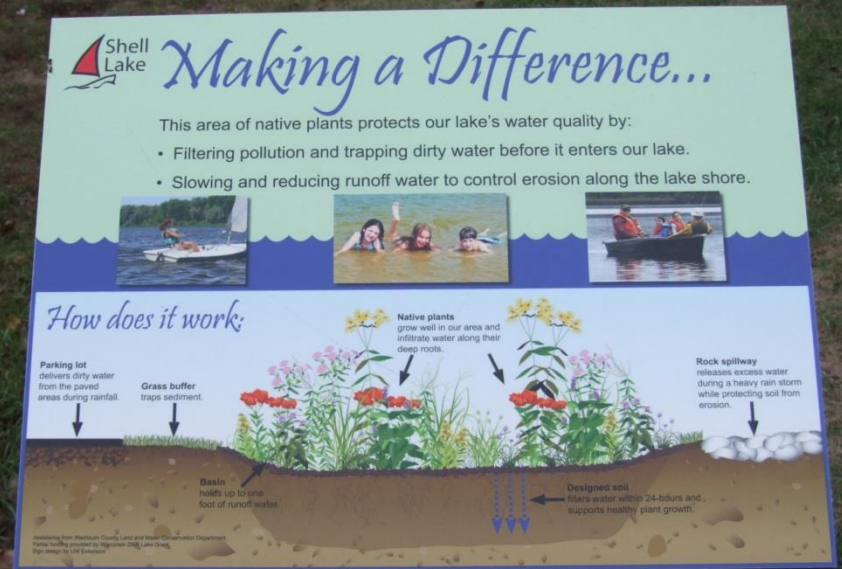
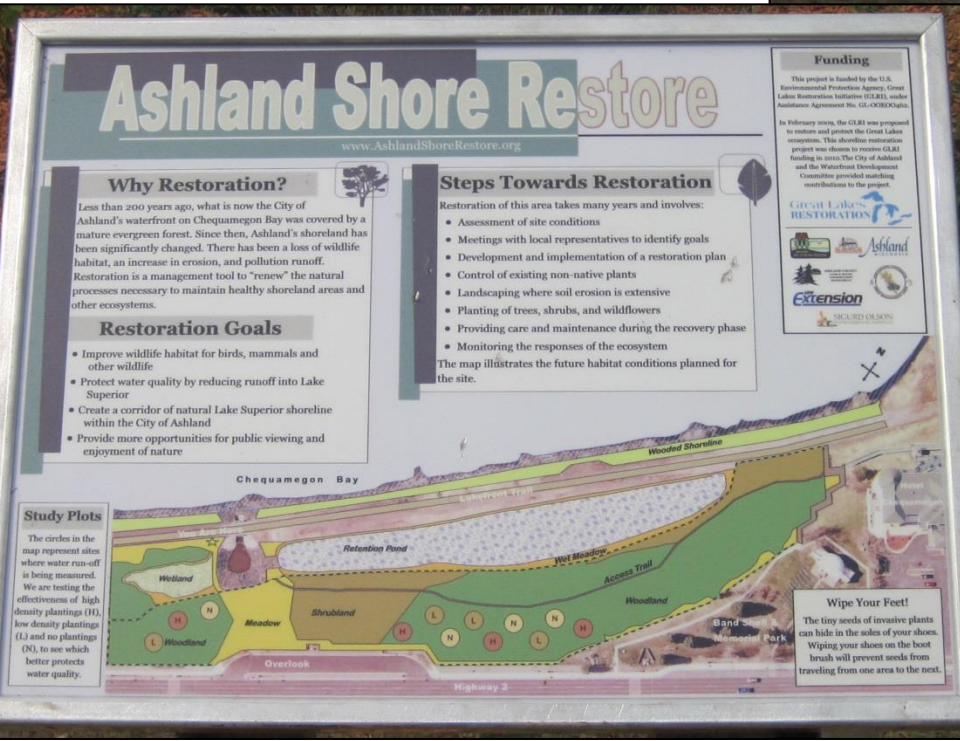
Practice #5: Rain garden – calculating depth given slope and soil type



Slope	Depth
< 4%	3 - 5 in
5 - 7%	6 - 7 in
8 - 12%	8+ in

Soil Type	Rain Garden Depth (from Table 1)		
	3-5 in	6-7 in	8+ in
Sand	0.19	0.15	0.08
Silt	0.34	0.25	0.16
Clay	0.43	0.32	0.20

Signage examples





Rain Gardens

Making a Beautiful Difference!

This perennial garden of native plants protects water quality while adding beauty to the yard. Water from the roof soaks in instead of running off.

Why build a rain garden?

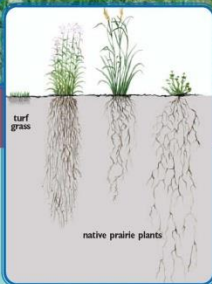
- Water that soaks in replenishes groundwater and helps prevent flooding.
- A Rain Garden protects water quality by trapping sediment, fertilizers and other pollutants.
- It needs no additional fertilizer and little pesticides.
- Native plants provide food and shelter for butterflies, song birds and other animals.

A typical rain garden:

- Is a sunken garden 4 - 8 inches deep
- Has a flat bottom
- Is 1/3 the size of the area draining to it - usually 75 - 300 square feet in size
- Can be formal or informal in design
- Drains within two days

Did you know . . .

Water running off of residential roofs, roads and driveways can increase water in a stream by 500%, leading to increased flooding and erosion. A 300-square-foot rain garden infiltrates 12,000 gallons of water every year, or enough to fill 2 1/2 tanker trucks.



Why use native plants?

With roots growing down twice as deep as the plants are tall, native plants are very efficient at absorbing water.

Also, each year one-third of the roots die, providing deep tunnels for water to filter into the ground.



Extension

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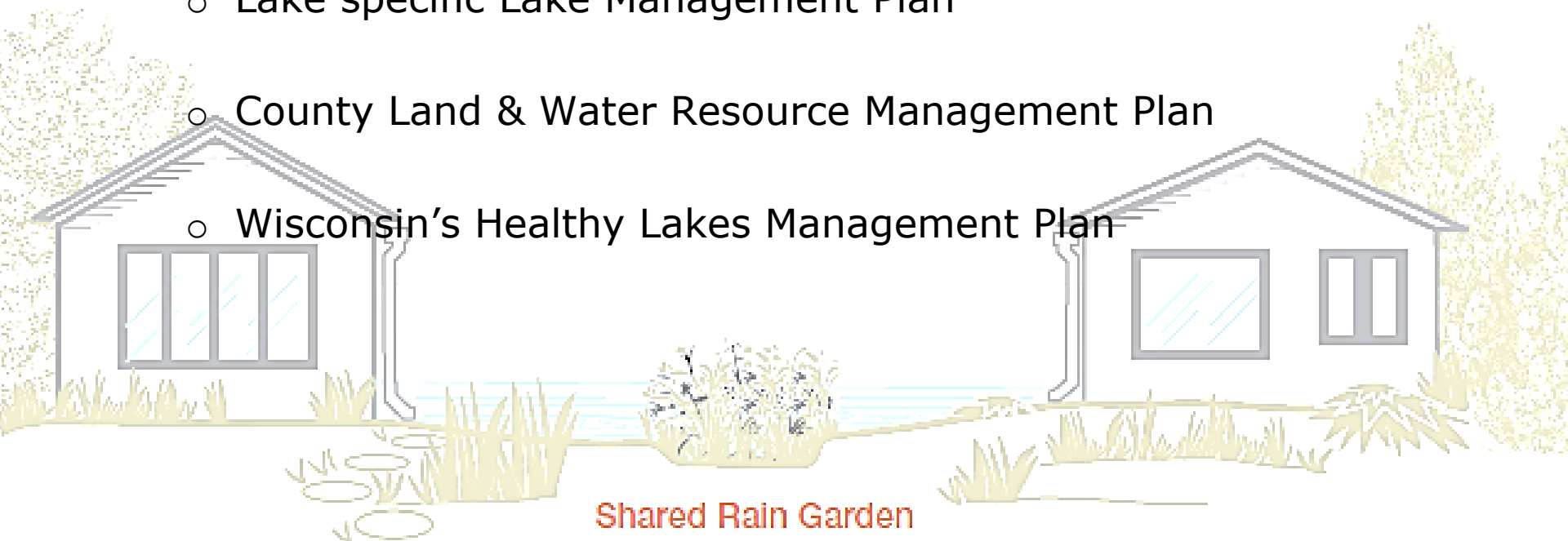


Healthy Lakes Grants

- Annual deadline February 1
- \$25,000 state cap with up to 10% of it for technical assistance and project management
 - 75/25% state/sponsor match
 - Eligible sponsors, including qualified lake associations, lake districts, counties and other local government units, may apply on behalf of multiple landowners
 - Standard **2-year** grant agreement
- Each best practice capped at \$1000 state share
- 10-year contract with standard operation & maintenance details described in grant agreement
 - Grant sponsor develops and administers contract that landowner signs
- Self-reporting or site visits on 10% of projects annually

Lake Protection Grant Lake Management Plan Implementation Category

- **Purpose of grant category – provide funds for implementation of Dept. approved recommendations in a plan to improve lakes & lake ecosystems**
 - Lake specific Lake Management Plan
 - County Land & Water Resource Management Plan
 - Wisconsin's Healthy Lakes Management Plan



RESOLUTION # _____

Resolution of _____ *Clean Lake* _____

County of _____ *Washburn* _____

WHEREAS, *Clean* Lake is an important resource used by the public for recreation and enjoyment of natural beauty; and

WHEREAS, *Clean Lake Association* recognizes the importance of the quality and health of Wisconsin's lakes to its citizens and local economies; and

WHEREAS, the quality and health of Wisconsin's lakes is directly related to the quality and condition of their shorelands; and

WHEREAS, the *Clean Lake Association* recognizes the need for an implementation plan to protect and improve lake shorelands; and

WHEREAS, the Wisconsin's Healthy Lakes Implementation Plan is a statewide implementation plan which identifies best practices for the protection and improvement of lake shorelands including habitat restoration, runoff and erosion control best practices; and

WHEREAS, adoption of the said Wisconsin's Healthy Lakes Implementation Plan enables a grant applicant to be eligible for grant funding through the Wisconsin Lake Protection Grant Program, Healthy Lakes Project;

NOW, THEREFORE, BE IT RESOLVED that *Clean Lake Association* hereby adopts the Wisconsin's Healthy Lakes Implementation Plan and will use the plan to guide the implementation of best practices to protect and improve the quality and health of lake shorelands and Wisconsin's lakes.

Adopted this day *01* of August _____, 2015

By a vote of: _____ in favor, _____ against, _____ abstain

BY: _____ *Jane Doe* _____ Secretary/Clerk of

_____ *Clean Lake Association* _____

Save... Print... Clear Data Submit by Email

State of Wisconsin
Department of Natural Resources
PO Box 7921, Madison WI 53707-7921
dnr.wi.gov

Surface Water Grant Application Lake Management Planning, Lake Protection & Classification, River Protection, River Planning, Aquatic Invasive Species (AIS) Control

Form 8700-284 (9/14) Page 1 of 4

Notice: Use of this form is required by the Department of Natural Resources for any application filed pursuant to chs. NR 190,191,195 & 198, Wis. Adm. Code. Personal Information collected on this form, will be used for administrative purpose and may be provided to requesters to the extent required by Wisconsin's Open Records Laws [ss.19.31 – 19.39 Wis. Stats.]

[General application instructions for sections 1-7.](#)

Section 1: Application Type (check one)

Application Deadlines:

DECEMBER 10

Lake Management Planning Grant:
 Large Scale Planning Small Scale Planning

Lake Protection Grant:
 Lake Classification & Ordinance Development

Aquatic Invasive Species Grant:
 Education, Prevention & Planning
 Clean Boats Clean Water [Form 8700-337](#)

River Protection Grant:
 River Planning

YEAR-ROUND:

Aquatic Invasive Species Grants:
 Early Detection & Response Maintenance & Containment [Form 8700-323](#)

FEBRUARY 1

Lake Protection Grant:
 Land/Easement Acquisition
 Wetland & Shoreline Habitat Restoration
 Lake Management Plan Implementation
 Healthy Lakes Project

Aquatic Invasive Species Grant:
 Established Population Control

Rivers Protection Grant:
 River Management
 Land/Easement Acquisition

Section 2: Applicant Information

Applicant Name (Organization)	Organization Type
Authorized Representative Name	Title

Lake Management Plan Implementation Healthy Lakes Project Application

Surface Water Grant Application
Lake Management Planning,
Lake Protection & Classification,
River Protection, River Planning,
Aquatic Invasive Species (AIS) Control
 Form 8700-284 (9/14) Page 5 of 5

[Application Instructions](#)

Application Type: Lake Protection Grant – Healthy Lakes Project

A. Project Area, Landowner and Practice Information (Provide a parcel map showing property location of all participating landowners.)

Name of Lake [Add Lake](#)

Landowner Name Parcel Number [Add Landowner](#)

Has the landowner signed a participation pledge? Yes No

Practices to be Installed and Costs

Zone 1: In-lake		Zone 2: Transition		Zone 3: Upland	
	Cost		Cost		Cost
<input type="checkbox"/> Fish Sticks	\$ <input type="text"/>	<input type="checkbox"/> Native Planting	\$ <input type="text"/>	<input type="checkbox"/> Rain Garden	\$ <input type="text"/>
		<input type="checkbox"/> Diversion Practices	\$ <input type="text"/>	<input type="checkbox"/> Diversion Practices	\$ <input type="text"/>
				<input type="checkbox"/> Rock Infiltration Prac	\$ <input type="text"/>

Provide a parcel map showing property location of all participating landowners.

B. Products and Deliverables

- Signed Conservation Commitment w/ completed installation checksheet & O&M plan
- Pre and Post project installation photographs
- Summary of other education activities
- Summary of publicity events to promote the Lake Health Initiative project

C. Data to be Collected All practices have standardized data reporting requirements as defined in the Conservation Commitment and as explained in the grant application guidance.

D. Role of project in planning and/or management of lake

Has the Statewide Healthy Lakes Implementation Plan been adopted? If so, identify how the plan was adopted:

- By resolution (provide date of resolution):
- Through a local planning process (provide name of plan and date of adoption):

Other – Specify:

Describe:

Participation Pledge (optional)



HEALTHY LAKES PARTICIPATION PLEDGE

I/we **Mr. and Mrs. Lake-Lover** pledge to participate in Wisconsin's Healthy Lakes initiative. More property owners implementing the suggested best practices over time may eventually add up to significant success and healthier lakes for current and future generations.

I/We pledge to work with DNR Lake Protection Grant sponsor **Healthy Lakes Association** to install the following best practice(s) to restore fish and wildlife lakeshore habitat and/or prevent storm water runoff and erosion. (check practices to be installed on the property)

- Fish Sticks
- 350 square feet native plantings
- Diversion practice(s)
- Infiltration practice(s)
- Rain garden

I/We understand that by signing this Pledge I/we am/are indicating a strong interest to follow through with a Healthy Lakes project on my/our property, but this is not a legal requirement to do so.

Describe Personal Participation Goal (optional):

Name: **John and Jane Lake-lover** (please print)

Phone #: **(123) – 456-7890**

E-mail address: **lovinglakes@voohoo.com**

Signed: **John Lake-Lover and Jane Lake-Lover**

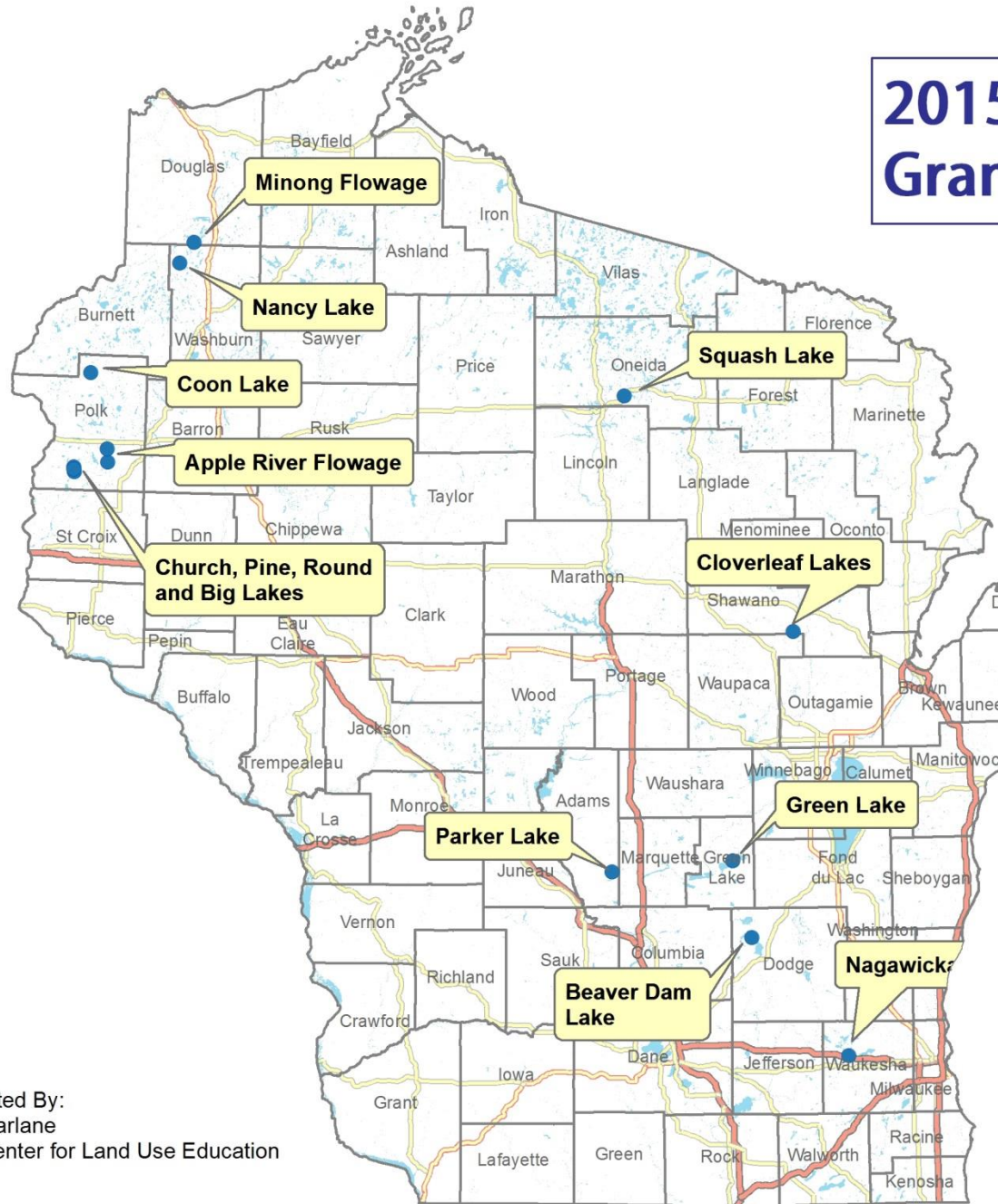
Date: **01/01/2015**

Grant Review/Ranking

- **LPT 191.07 Priorities (4) The department *may* consider the following factors when developing a project priority list:**

- The degree to which the project provides for the protection or improvement of water quality
 - E.g. ORW/ERW, impaired?
- The degree to which the project provides for protection or improvement of other aspects of the natural ecosystem such as fish and wildlife habitat, native vegetation or natural beauty
 - E. g. sites adjacent to sensitive area, support from fisheries, wildlife, etc.
- The availability of public access to, and public use of, the lake.
 - E. g. public property or demonstration sites
- The degree to which the proposed project complements other lake and watershed management efforts including local comprehensive plans and the level of support from other affected management units or organizations
 - E. g. partner support, other plans
- The likelihood of the project to successfully meet the stated project objectives and 2-year timeline and the degree of detail in the application
 - E. g. landowner commitment, neighbors participating together, costs, baseline monitoring/inventory completed, compliance monitoring/maintenance assistance

2015 Healthy Lakes Grant Recipients



11 applications
8 counties
15 lakes
48 properties
100 practices

\$81,540.54 state
\$126,667 total

Map Crafted By:
Dan McFarlane
UWSP Center for Land Use Education



Partnerships



Insights to promote natural shorelines among lakeshore property owners



Factors Related to Adoption

- Beliefs alone don't get it done
- Varying levels of readiness
 - use tailored message v. 1 size fits all
- Perceptions: My shore is more natural than... (survey/biologist/ photos)
- Understand lake property owners
 - survey, focus group, interviews..

Messaging Recommendations


- Providing objective feedback mildly (i.e. self assessment/worksheet, shoreland map ratings ?)
- Avoid “*reactance*”



Messaging Recommendations

Self-assessment worksheets

objective feedback provided mildly...



Bone Lake Management District Polk County, WI

[Home](#) [Administration](#) [Bone Lake Mgmt Plan](#) [Lake Protection](#) [Bone Lake Events](#) [About Bone Lake](#) [About Polk County](#) [Water Quality](#) [Join Our Mailing](#)

Interactive Checklist Survey for a FREE Site Visit

Are all areas of your lot well covered with vegetation?

- My lot is completely vegetated with tall growth between my house and the lake.
- There are no areas of bare soil on my lot. My lot has some tall vegetation near the water.
- There are few areas of bare soil AND/ OR my property is covered with a thick lawn.
- My lot has extensive areas of bare soil AND/OR is covered with a thin lawn.
- Gullies have formed from water running across my lot.



Bone Lake
WATERFRONT RUNOFF COMMITTEE

2080C-G20 West Bone Lake Drive
Milltown WI 54858

Messaging Recommendations

Shoreland assessment maps



Option: Only green & yellow?

Messaging Recommendations

- Use outreach messages emphasizing **social norms** (informal rules of behavior)
 - “Join your neighbors in adopting a natural shoreline to keep your lake clean”

Messaging Recommendations

- Emphasizing social norms cont.
- Shine a spotlight on good example
 - Shoreland signs, boat landings, parks, tours, feature articles...



Choose Words Selectively

- Not just what you say but how you say it

- **Water Words that Work**

www.waterwordsthatwork.com



- **“Swap the shop talk”**


- **Emphasize:**

- Inclusivity – WE, OUR, SHARED...
- Water Protection and Preserving Water Quality
- Future Generations...
- Keep people in the Picture- benefits for people

Choose Words Selectively

- The Language of Conservation

<i>Bad Words to Avoid</i>	<i>Good Words to Use</i>
<i>Environment</i>	<i>Land, air and water</i>
<i>Ecosystems</i>	<i>Natural areas</i>
<i>Biodiversity / endangered species</i>	<i>Fish and wildlife</i>
<i>Regulations</i>	<i>Safeguards/protections</i>
<i>Riparian</i>	<i>Land along lakes, rivers and streams</i>
<i>Aquifer</i>	<i>Groundwater</i>
<i>Watershed</i>	<i>Land around rivers, lakes and streams</i>
<i>Environmental groups</i>	<i>Conservation groups / organizations protecting land, air, and water</i>
<i>Agricultural land</i>	<i>Working farms and ranches</i>
<i>Urban sprawl</i>	<i>Poorly planned growth/ development</i>
<i>Green jobs</i>	<i>Clean energy jobs/jobs protecting water quality/etc.</i>



Small Message Difference Make a Difference

- Native plant coupon promotional effort
 - \$5 Off vs. Free
 - “Free” double coupon redemption

FREE SHRUB* *or \$7 off*

ANY ONE OF THE TOP TEN NATIVE SHRUBS FOR BURNETT COUNTY
*Free container(s), or \$7 off a native shrub purchase

CHOOSE FROM THESE TOP 10 NATIVE SHRUBS

- Nannyberry
- Red osier dogwood
- American highbush cranberry
- Black chokeberry
- Gray dogwood
- Pagoda dogwood
- Snowberry
- Dwarf bush honeysuckle
- Juneberry
- Chokecherry

COUPON VALID FROM MAY 1 TO JUNE 17, 2012 AT THESE PARTICIPATING GREENHOUSES:

Austin Lake Greenhouse HWY 35 Webster	Grantsburg Family Foods HWY 70 Grantsburg	Wayne's Foods Plus HWY 35 Webster and HWY 77 Danbury	The Grainery HWY 35 Webster
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SHARE YOUR SHORE
For Clean Water & Lakeshore Habitat

Sponsored by:
Burnett County
Lakes and Rivers
Association

Existing Natural Vegetation on Neighbors - Important

- Vegetation on a shoreline was more strongly related to the amount of vegetation on neighbors' shorelines...

...than to their property management goals or stewardship.



Native Plants are Good

- Emphasize positive outcomes landowner care about (barriers/ benefits)
 - Habitat for desired wildlife
 - Potentially less undesirable wildlife
- Address outcomes they don't want
 - Blocking their view
 - Looking messy
 - Decreased property value



Address Owners Goals for Shoreline Landscaping

- Neatly groomed landscape, not messy- clean edges along more natural areas
- Clear view of the lake – lower natural vegetation
- Ticks- mulched pathways



Promote Natural Shorelines to Attract Desired Wildlife

- Highlight the species most meaningful to property owners you work with:
 - Song Birds
 - Frogs
 - Fish

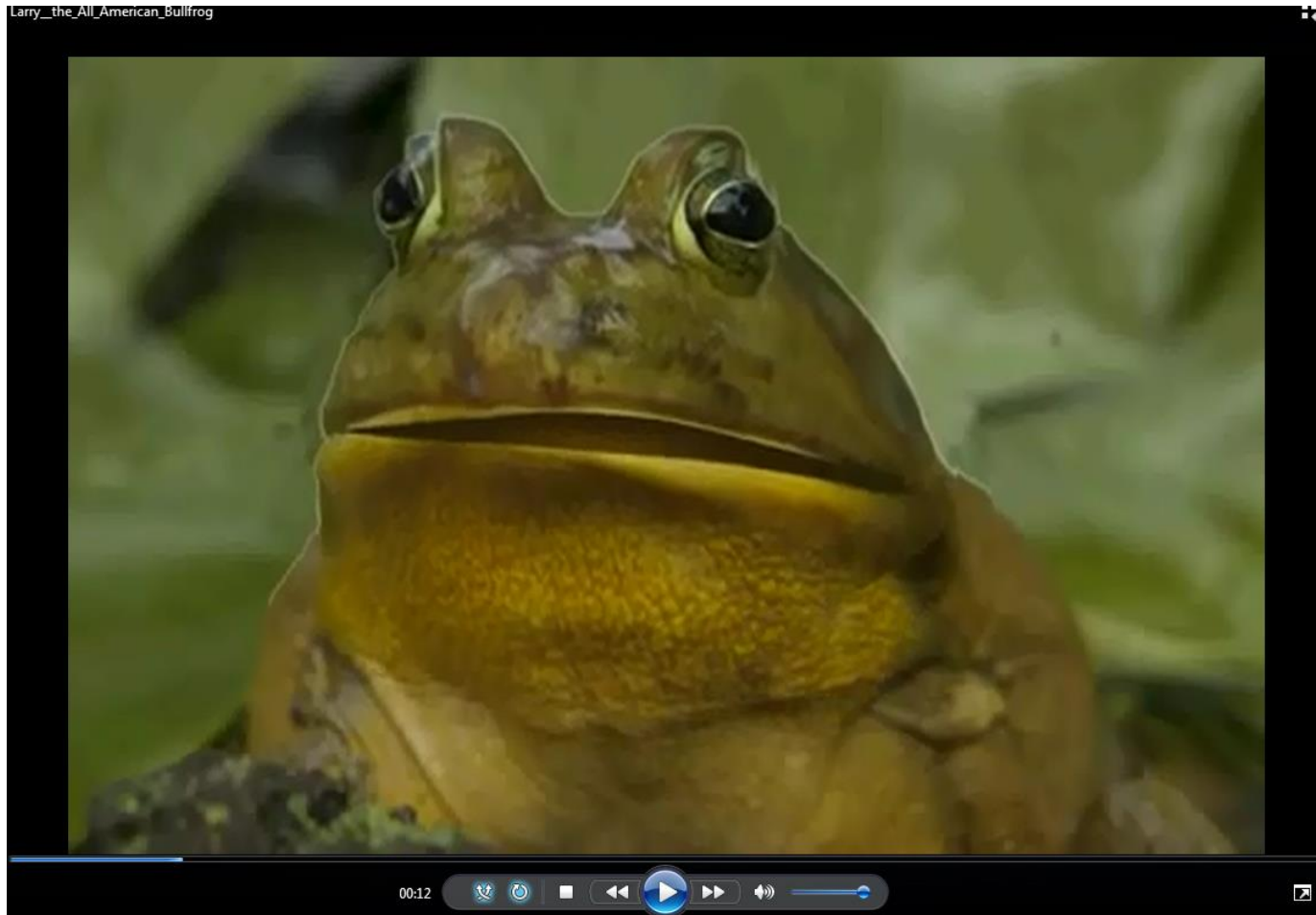


Promote Natural Shorelines to Attract Desired Wildlife

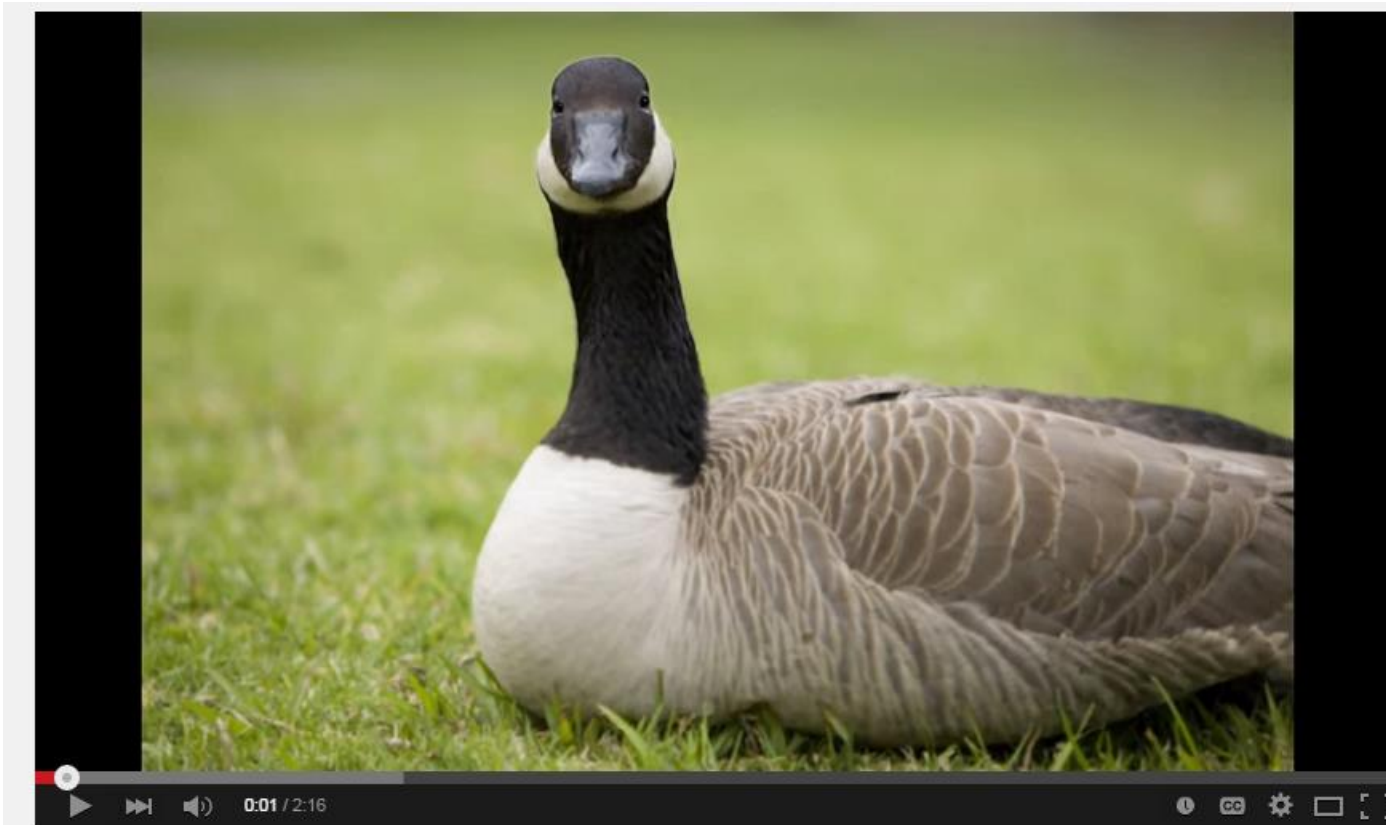
- Highlight the species most meaningful to property owners you work with:
 - Song Birds
 - Frogs
 - Fish



Benefits/ More Frogs



Benefits/ Prevent Geese



Sebastian the Goose Encourages Natural Shorelines

Other Considerations: Pick Your Messenger carefully

- Many folks prefer a messenger similar to target audience
 - Neighbors
 - Friends
 - Lake Assoc. Members



Other Considerations: Vocal Minority Put-off

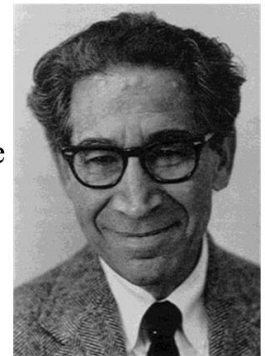
- Reactance Theory- perceived threat to their private property rights... those with perceived authority
 - Greatest when comes from gov. or some untrusted entity
 - Least when coming from those without authority- neighbors, volunteers

Dave



Other Considerations: Vocal Minority Put-off

- Reactance Theory- perceived threat to their autonomy/ self-governing
- “A MAN WITH A CONVICTION is a hard man to change. Tell him you disagree and he turns away. Show him facts or figures and he questions your sources. Appeal to logic and he fails to see your point” Leon Festinger



Other Considerations: Use Multiple Strategies

- Use multiple approaches that complement each other
- Similar design elements
- Create long-term relationships
- Sustained efforts: 18% -154 parcels, 660 sq ft.



Other Considerations: Use Multiple Strategies

- Real change-more natural shorelines takes time
- No silver bullets
- Be patient



Using Social Information

- Basic assumption (Kristin F.)
 - One-size fits all outreach unsuccessful strategy
 - Importance of case specific data, targeting audiences
 - We wouldn't use ecological data from one lake to plan for another, same with social



Implementing

Key /Foundation

Beyond Service Delivery Model



Human Capacity to govern for the common good.

1. Democracy- rule by the people
2. Active Citizenship... me too.
3. Mindset and skills to do this work- define problem, solutions... ***Civic Imagination***
4. Institutional efficacy “effectiveness/ competency”

UWEX Lakes → Healthy Lakes



**Using Social Science to Encourage More
Natural Shorelands and Healthier Lakes**

[Back to Healthy Lakes Home Page](#)

[General Principals of Social Marketing](#)

[Marketing Materials](#)

[Coupon Promotional Materials](#)

[Key Insights and Recommendations](#)

[Resources and Reports](#)

[Peer Reviewed Journal Articles](#)

[Multiple Website Linkes](#)

[Media Coverage](#)

[Contact Us](#)

**Insights to promote natural shorelines among
lakeshore property owners**

Questions? Thoughts?

Thanks to:

Bret Shaw and Mike Amato

UW Madison

Life Sciences Communication





Leadership:

A Case Study in Making a Movement Happen

