

WHAT IS A RAIN BARREL?



A rain barrel is any large container designed to collect rain water. Usually, the rain barrel is placed at the bottom of a downspout to collect rainwater as it runs off of a roof. A typical rain barrel includes: a reservoir (barrel) to store water, a mesh screen, lid or filter to prevent organic matter and insects from contaminating water in the barrel, spigots for easy drainage, valves that can be used to connect multiple barrels together with hoses, and overflow valves designed to direct excess water away from water sensitive areas (e.g., a house foundation).

What are the benefits of a rain barrels?

1. The main purpose of a rain barrel is to provide the homeowner a free source of water (which is usually soft and slightly acid water that is better than chlorinated city water for irrigating their lawns and gardens).
2. Rain barrels can also reduce the possibility of basement flooding by directing water away from house foundations.
3. Rain barrels can also reduce the amount of water running into lakes and rivers, thereby reducing erosion and helping prevent storm water pollution of lakes and waterways.
4. Rain barrels work particularly well on smaller properties where plants can be watered directly from a barrel using an attached hose.
5. Due to the possibility of leaching of chemicals and microorganisms (e.g., bacteria and fungi) from roofing materials, rain barrel water should not be used on vegetables, or for human consumption.
6. Rain barrels are not recommended for homes with tar and gravel roofs, or roofs made of asbestos or treated cedar shakes shingles.

Where can you get a rain barrel?

At many stores with garden centers you can purchase a ready-made rain barrel. Or you can check the upcoming events on this website, the UWEX, or Northcentral Stormwater Coalition websites to see if there are any upcoming workshops to make your own rain barrel. You can also check out the PowerPoint presentation that follows, which includes step-by step instructions on making your own rain barrel.

ADDITIONAL INFORMATION CAN BE FOUND AT:

WI DNR: [HTTP://DNR.WI.GOV/RUNOFF/PDF/RG/LINKS/WHAT-IS-RAINBARREL.PDF](http://DNR.WI.GOV/RUNOFF/PDF/RG/LINKS/WHAT-IS-RAINBARREL.PDF)

[HTTP://PDDC.WISC.EDU/FACTSHEETS/LOW%20COLOR%20PDF%20FORMAT/RAIN%20BARRELS.PDF](http://PDDC.WISC.EDU/FACTSHEETS/LOW%20COLOR%20PDF%20FORMAT/RAIN%20BARRELS.PDF)

UWEX:

[HTTP://WWW.UWEX.EDU/SEARCH/?SEARCH=RAIN%20BARRELS&COLLECTION=UWEX](http://WWW.UWEX.EDU/SEARCH/?SEARCH=RAIN%20BARRELS&COLLECTION=UWEX)

NORTHCENTRAL WI STORMWATER COALITION WEBSITE:

[HTTP://BASINEDUCATION.UWEX.EDU/CENTRALWIS/STORMWATER.HTM](http://BASINEDUCATION.UWEX.EDU/CENTRALWIS/STORMWATER.HTM)

LAKE SUPERIOR WEBSITE:

[HTTP://WWW.LAKESUPERIORSTREAMS.ORG/STORMWATER/TOOLKIT/RAINBARRELS.HTML](http://WWW.LAKESUPERIORSTREAMS.ORG/STORMWATER/TOOLKIT/RAINBARRELS.HTML)



STORMWATER - + - RAIN BARRELS

Let's Talk About Stormwater Pollution:

Stormwater pollution is caused by water washing over the land picking up contaminants and directly or indirectly depositing them in our waterways.



Polluted
Water

As shown -
the water
goes to storm
drains, and
Deposits
(water and
pollutants)
To our
waterways . .

Where does stormwater go?

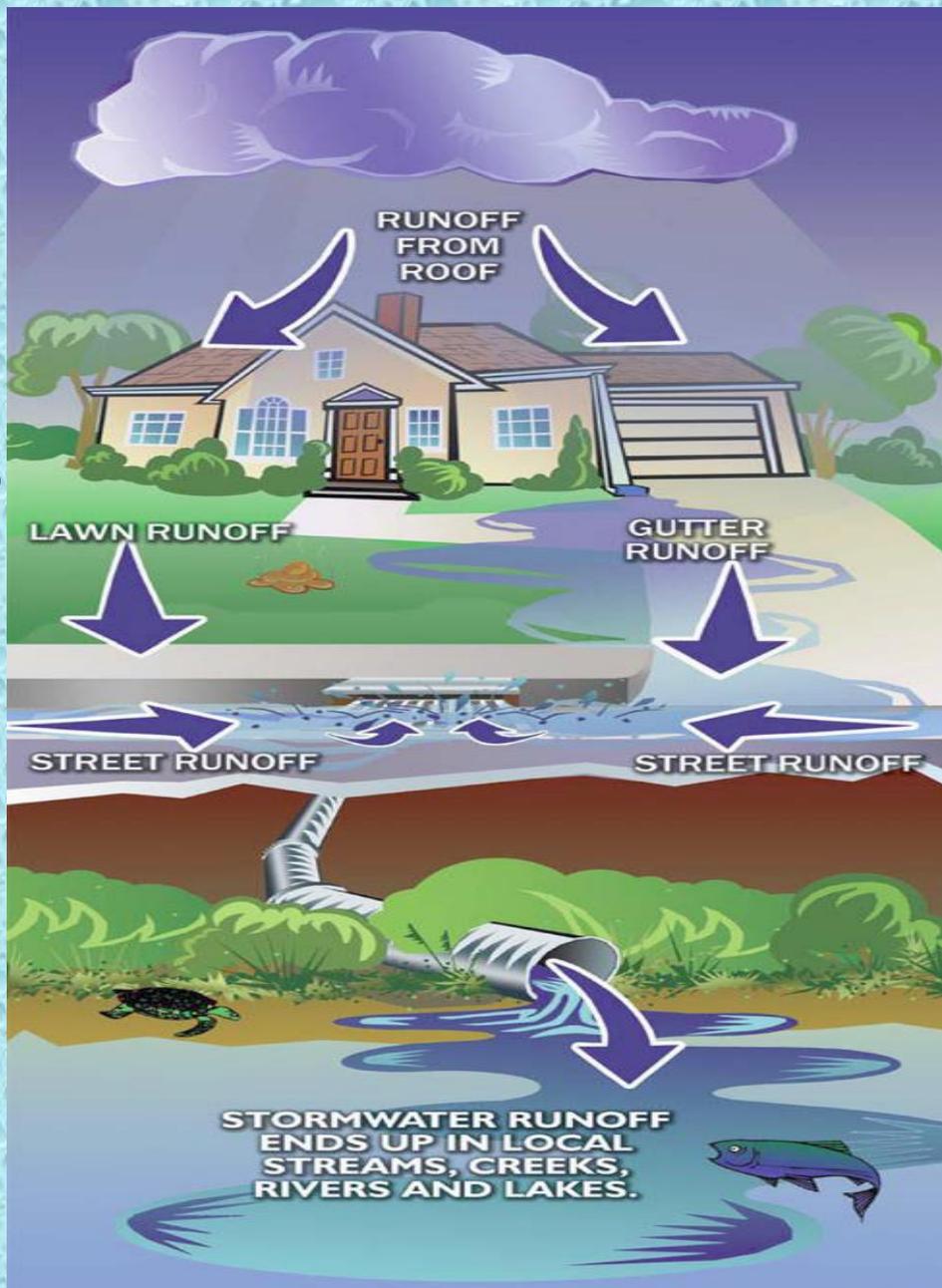
- ✓ Stormwater washes down storm drains on the curbs of roads and heads directly into lakes, rivers, and streams untreated.
- ✓ It **DOES NOT** go to a water treatment plant.
- ✓ It can carry pollution directly into natural water resources.

EPA estimates the # 1 source (80 percent) of surface water pollution is caused by stormwater runoff and has caused pollution of nearly 40% of U.S. water bodies.

SO..... What Really Pollutes Our Waterways?

- Oil leaks from vehicles
- Drips of spilled gasoline
- Plant and lawn fertilizers
- Lawn and garden pesticides
- Pet waste
- Soaps and detergents from washing cars
- Oil dumped in ditches or drains by do-it yourselfers
- Cigarette butts, litter, and debris
- And..... you !!!

STORMWATER RUNOFF AND YOU:



LAWN:

- Pesticides
- Fertilizers
- Dog & cat poop

SIDEWALK:

- Dog poop
- Grass clippings
- Leaves

ROOF:

- Bird droppings
- Heavy metals

DRIVEWAY:

- Oil / Grease
- Detergents
- Chemical spills

STREET:

- Oil / Grease
- Sediment
- Leaves
- Salt

Polluted runoff from Residential areas may contain:

- **Nutrients:** lawn fertilizers & septic system effluent
- **Pathogens:** malfunctioning septic systems, pet waste, wildlife
- **Sediment:** construction, road sand, erosion from lawns & gardens
- **Toxic:** household products, pesticides
- **Debris:** litter & illegal dumping
- **Thermal:** heated runoff, removal of natural vegetative buffers

Polluted runoff from Commercial & Industrial areas may contain:

- **Nutrients:** acid rain and car exhaust
- **Pathogens:** malfunctioning or overloaded septic systems & lagoons
- **Sediment:** construction, road sand, roadside erosion
- **Toxic:** auto emissions, industrial pollutants
- **Debris:** litter & illegal dumping
- **Thermal:** heated runoff, removal of natural vegetative buffers

WHAT CAN YOU DO?



USE A RAIN BARREL



What is a Rain Barrel?

- A barrel that collects and stores rainwater from your roof that would otherwise be lost to runoff.
- A 55 gallon drum, with a hose connection at the bottom, and a screen grate over the top to keep debris and insects out.
- A simple and inexpensive way to conserve water and reduce runoff.
- RB's collect rain water from roof-tops thereby, diverting water from storm drains and decreasing the impact of runoff to streams.

Typical features of a rain barrel:

- ✓ Container to store water
- ✓ Mesh screen
- ✓ Lid or filter to prevent organic matter and insects from contaminating water in the barrel
- ✓ Spigots for easy drainage
- ✓ Valves that can be used to connect multiple barrels together with hoses
- ✓ Overflow valves designed to direct excess water away from water sensitive areas (e.g., a house foundation)



**DID YOU
KNOW ? ?**

If your roof's area is 1,200 square feet
(30 X 40 feet),

Then 1 inch of rain = more than
700 gallons of rooftop runoff!!!

Why use a Rain Barrel?

to prevent . . .



Oil spills



Urban flooding



Sediment-laden runoff

Why use a Rain Barrel? To...

- ✓ Reduce demand on the water supply.
- ✓ Save on water/save money by lowering your water bills.
- ✓ Make efficient use of a "free" valuable resource.
- ✓ Reduce stormwater runoff, (# 1 cause of pollution in our streams). Runoff carries fertilizers, pesticides, other chemicals into our nearby waterways.

Continue Why use a Rain Barrel? To..

- ✓ Provide healthy, chemical-free water for irrigation of lawns, gardens, and trees.
- ✓ Be connected to a rain garden, further improving our water quality.
- ✓ Be an attractive, yet functional addition to the landscape.

Continue

Why use a Rain Barrel? To..

- ✓ Collect rainwater, that helps to prevent flooding and erosion, by turning stormwater problems into water supply assets and slowing runoff. This allows the water to soak into the ground, recharging the groundwater and preventing urban flooding.



**FLOODED
CITY
STREET**

What can you use the water for:



Wash Cars on your lawn, instead of the driveway where the soapy water can quickly run toward the nearest storm sewer, picking up other pollutants as it goes.



Construction workers used it to make grout..clean brushes.



Clean things ... composting buckets, etc.



Fill Bird baths.

OTHER USES COULD BE TO:



Water plants, trees, lawns, and gardens . . . inside and out.

1. Rain water can be better for plants than water pumped through a city water main.
2. It's not chlorinated, fluoridated, or loaded with dissolved salts.
3. Rain water is mildly acidic, which helps plants take up important minerals from the soil.

**But DO NOT ... Drink it or
use it on food you eat !!**



How DOES a rain barrel work:

1. Rain lands on the roof ...
and it doesn't take much..

1 inch of rain on 20 ft of gutter =
375 gals (7.5 gal/cf)

2. Water Runs into your gutters,

Continue **How a rain barrel works:**

3. Water reaches a downspout,
4. Runs down into the rain barrel,
5. Once full any additional rain runs out the barrel's overflow valve,
6. Once collected, you get the water out of the barrel and use to water plants, lawn, etc.

Can I install more than 1 RB if I have a big garden or lawn? **yes**

- ✓ To increase the storage, link two or more barrels together in a stairstep fashion, or graduate up to a larger rain barrel.
- ✓ Linking barrels together or purchasing one large barrel eliminates cutting multiple downspouts.
- ✓ One 275-gallon barrel comes with a cage, a built-in vine support!
- ✓ Keep in mind your neighborhood aesthetics and deed restrictions when purchasing and locating your rain barrel.



Can I paint my barrel? **Yes!** Match your house, camouflage the barrel, or be creative.

Painting your Rain Barrel:

1. Wipe down the barrel with a one-to-one mixture of vinegar and water.
2. Rough the surface of the barrel with a piece of fine grit sand paper.
3. Apply a coat of latex bonding primer.
4. Paint your design with "exterior latex paint".



Use your
Creative
abilities
and
make the
Rain
Barrel
Your own
design !!





A simple rain barrel with intake from a downspout (top), an overflow spout (side) and a drainage spout (at bottom).

* Note that a hose should be attached to the overflow spout to drain water away from your house foundation.

Plan before you start:

- **Design Considerations**

- Start from the ground up
- Stand at the right height for filling your watering can
- Stand that can support @ least 500 lbs.

- **Possible Materials for stand**

- Wood
- Brick
- Blocks
- Earth



U-cap

Wooden rain
barrel stand

**Picture
of a
Typical
setup
for a
Rain
Barrel.**

Making the rain barrel

- Try to reuse material sources
- Components
 - 55 gal Barrel (Reuse food containers)
 - Connect to the gutter with flex adapter
 - Faucet
 - Overflow tube / hose
- Sources for Barrels
 - Food processing (bottling plants)
 - Car washes

Supplies you will need to Make Your Rain Barrel:

- Barrel
- 3/4 inch shutoff valve/faucet (Is 1-inch on the outside.)
- 1 to 1 1/2 inch female adapter for drain hose
- 2 washers and 1 lock nut for the hose assembly
- Silicone sealant / teflon tape
- Cover to keep debris, insects, pets, wildlife and children out of barrel.
 - * Option 1 - Screening with metal hardware cloth
 - * Option 2 - Cutout hard cover (barrel top), put on a skimmer basket
- Bricks or wood for stand

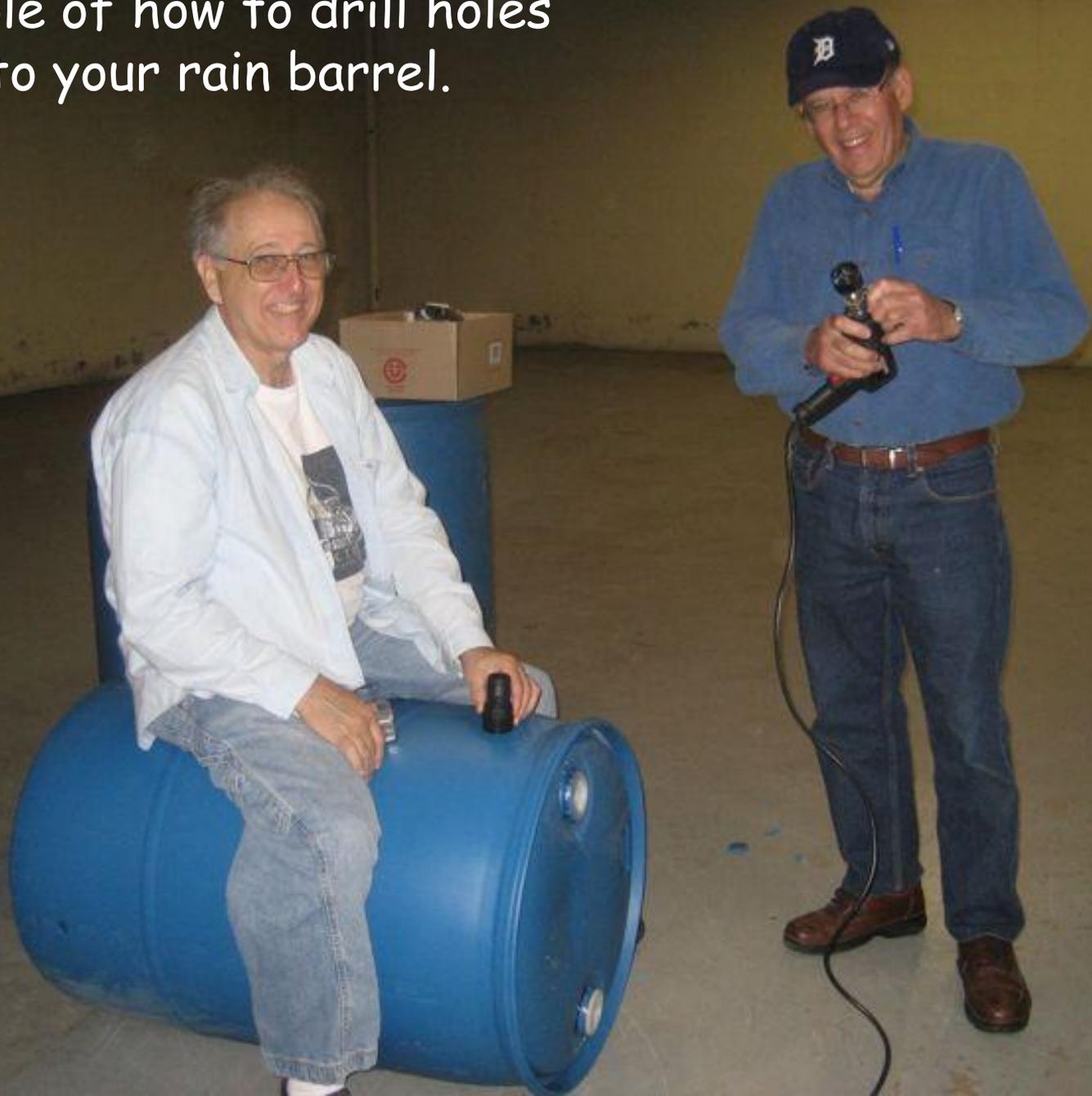
Tools needed to Make Your Own Rain Barrel:

- Power drill with 1" hole bit
- Wrench and pliers to tighten lock nut
- Utility knife or small saber saw to cut lid
- Scissors and shears to cut screening and hardware cloth
- Hacksaw to shorten downspout
- Screwdriver for hose clamp

Step-by-Step Instructions:

1. Start about 1-1 $\frac{1}{2}$ inch up from the bottom of the barrel, Drill a $\frac{7}{8}$ inch hole using a saw, use gentle pressure to reduce kickback. Increase hole diameter as needed to fit valve/faucet.
2. Screw in shutoff valve/faucet, Back it out and apply Teflon tape and a bead of silicone caulk on the flange edge to seal. Re-screw back in to hole.
3. Start about 4-5 inches from top of barrel, mark center of overflow hole. Typically this hole is at a 90-degree angle from the lower hole for the garden hose.

Example of how to drill holes into your rain barrel.



Step-by-Step Instructions: page 2

4. Drill this hole using the 1-1/4 inch hole saw.
5. With some force, pop the 1-1/4 inch Female Adapter for the drain hose into the hole. Seal around opening with a bead of silicone caulk (optional).
6. Let all glued and siliconed parts cure for 24 hours before connecting hoses.

Step-by-Step Instructions: page 3

7. Make the desired cover for your Rain Barrel:

Option 1: Cut screen and metal hardware cloth to fit on top of the barrel;

and/or

Option 2: Cut a hole on the top of the barrel to collect rooftop run-off directly off the down spout.

Installation Instructions continue:

After all silicone is DRY (about 24 hrs.)

8. Position barrel on sturdy platform at least 12 -16 inches above ground near/under downspout. Raising the barrel facilitates the flow of water and ease of access to lower hole for the garden hose. Cinder blocks can be used and topped with a more aesthetic 24 inch cement paver. Please remember - the barrel can weigh up to 400 lbs. when full of water.
9. Connect a soaker hose to the hose adapter and open the valve when needed to slowly water an adjacent garden.

Installation Instructions continue:

10. Connect the drain hose to the overflow adapter. Trim the hose connector end to the appropriate size, and use the included clamp to fasten.
11. Connect two barrels in series to collect more rainwater. Simply connect the upper overflow hose to another lower rain barrel. The Second rain barrel must ALSO must have an overflow valve.

Before Installing the Rain Barrel

- Prepare the area under your downspout for the barrel. Landscape the barrel on the sides for camouflage.
- Rain barrels need to be higher than ground level. A higher barrel = higher water pressure.
- Use bricks, cinder blocks, or pressure treated wood to create a platform.
- Remember Measure twice, cut once!

Installing the Rain Barrel to drain pipe:

- Use a hacksaw to cut off part of downspout. Leave space to reattach the downspout end-piece.
- Put the barrel in place.
- Place potted plants conveniently next to their water source to hide the raised base.

TYPICAL RAIN BARREL SETUP:



DRAIN PIPE



RAIN BARREL



FAUCET



STAND

Care of your Rain Barrel (RB's)



- Winterizing...

It's a good idea to empty your barrel and disconnect it from the downspout before the frost.



1. Empty the rain barrel.

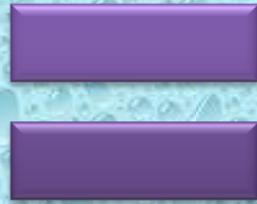


2. Disconnect RB & Reconnect the downspout.



3. Clean the barrel out with a hose and store.

A Small
task by
Some



A Big
Effect

What if every household
had at LEAST 1
Rain Barrel?

300
gallons X
105 million
households

SAVE 30
Billion
gallons
water/year

Review of Rain Barrels:

- ✓ Reduce demand on the water supply,
- ✓ Save on water use,
- ✓ Saves you \$\$ by lowering your water bill,
- ✓ Makes efficient use of a "free" valuable resource,
- ✓ Reduce stormwater runoff, (the # 1 cause of pollution in our streams). Runoff carries fertilizers, pesticides, other chemicals into our waterways.

Upcoming Rain Barrel Workshops:

- Check your local city website, and your local County Extension Office for upcoming workshops.
- Also check with local Northcentral Stormwater Coalition website at:

<http://basineducation.uwex.edu/centralwis/stormwater.htm>

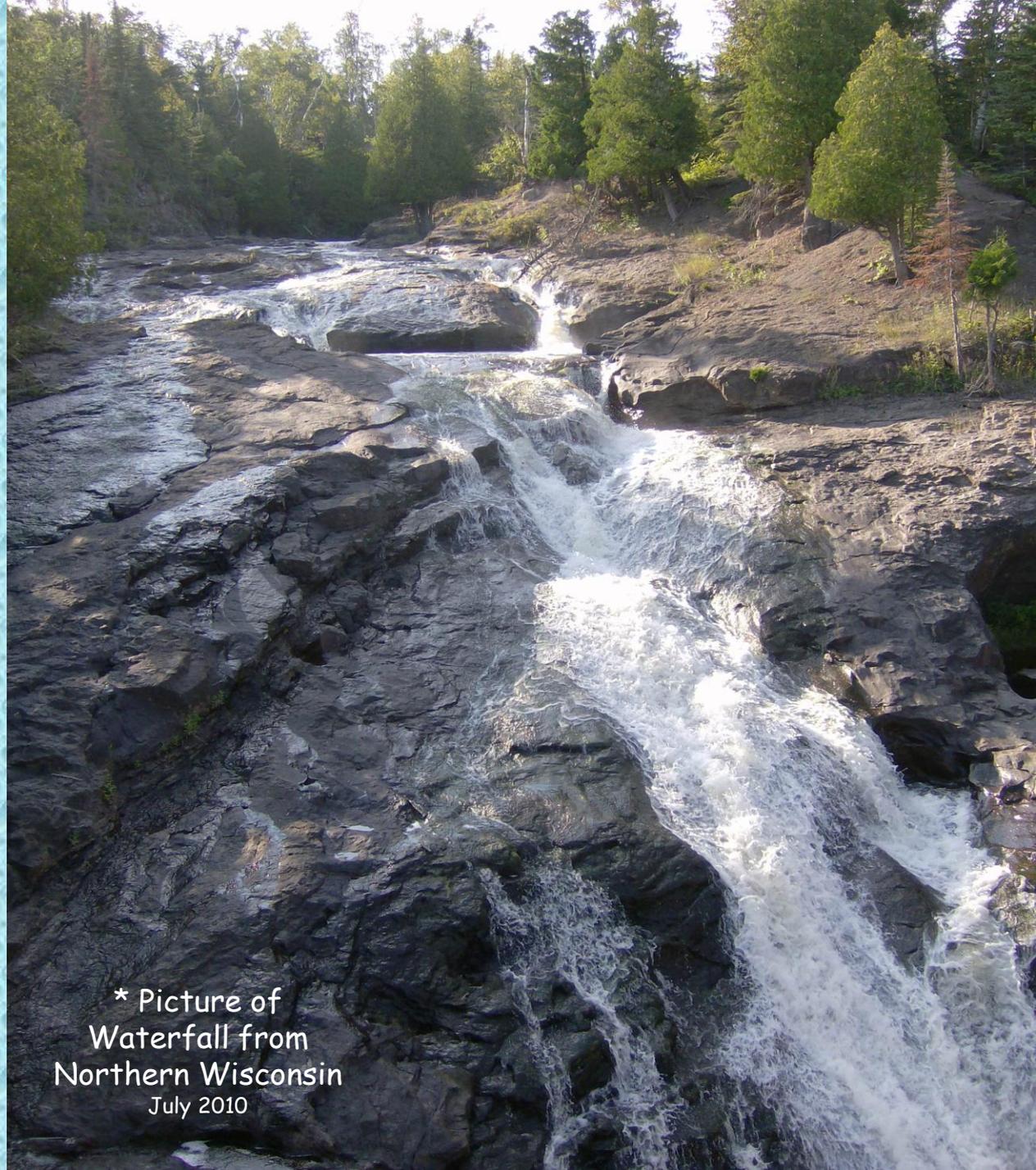
QUESTIONS ??

**IF YOU STILL HAVE
QUESTIONS, CONTACT THE
STEVENS POINT ENGINEERING
DEPT. AT**

715-346-1561

Our Goal:
To Keep
our
Clear
Water..
CLEAN

Written: April 2011
S. Kufahl



* Picture of
Waterfall from
Northern Wisconsin
July 2010

A wide-angle landscape photograph of a large, calm lake, likely Glacier Lake in Montana. The lake is surrounded by steep, forested mountains with patches of snow on their peaks. The sky is filled with soft, white clouds. The water is a deep blue, reflecting the sky and the surrounding greenery. The overall scene is peaceful and majestic.

**THANK YOU FOR
YOUR ATTENTION !**