



The Shorewood Waters Project is a series of Atwater Beach improvements and outreach to empower residents with solutions to protect and enhance Shorewood's waterways. Components will include: interpretive signs at Atwater Park; a simple solutions guide to improve water quality and fun, interactive activities for all ages.

Shorewood is bordered by two amazing water resources – the great Lake Michigan and mighty Milwaukee River.

## Why does this matter?

Where does the Milwaukee River flow and where do Shorewood residents get their drinking water from? ...

### Lake Michigan

These waterways are connected and their health directly affects us.

Planet Earth consists of 70% water – just like our bodies.

97% of Earth's water is salt water in oceans and seas and just 3% is freshwater. But wait.... the majority of this freshwater is locked in glaciers leaving us ...

**LESS THAN 1% OF THE WORLD'S WATER AS FRESHWATER AVAILABLE FOR THE WORLD'S POPULATION – THAT'S 6.5 BILLION PEOPLE!**



We are VERY lucky to live in a region where nearly 20% of the world's freshwater is contained in the Great Lakes.

Now that you've got the solutions....

## Get Involved!

Share these solutions with your family and friends :

Organize cleanups in spring with Keep Greater Milwaukee Beautiful ([www.kgmb.org](http://www.kgmb.org)) or in fall with the Adopt-a-Beach program ([www.greatlakes.org](http://www.greatlakes.org))

Check-out classes and events at Urban Ecology Center just south of Shorewood off Oakland Ave. [www.urbanecologycenter.org](http://www.urbanecologycenter.org)

## Learn More!

**Lake Michigan:**  
Great Lakes Information Network  
[www.great-lakes.net](http://www.great-lakes.net)

**Milwaukee River:**  
Milwaukee Riverkeeper: [www.mkeriverkeeper.org](http://www.mkeriverkeeper.org)  
Urban Ecology Center: [www.urbanecologycenter.org](http://www.urbanecologycenter.org)

Milw. Urban Water Trail: [www.mkeriverkeeper.org/content/milwaukee-urban-water-trail](http://www.mkeriverkeeper.org/content/milwaukee-urban-water-trail)

Milwaukee River Watershed – UW Extension: [www.basineducation.uwex.edu/milwaukee/](http://www.basineducation.uwex.edu/milwaukee/)

River Revitalization Foundation: [www.milwaukeeerrf.org](http://www.milwaukeeerrf.org)

**Reducing Stormwater:**  
H2O Capture: <http://www.h2ocapture.com/en.aspx>  
WI DNR: <http://dnr.wi.gov/runoff/rg/links.htm>  
Milwaukee Metropolitan Sewerage District [www.mmsd.com](http://www.mmsd.com)  
U.S. EPA: [www.epa.gov](http://www.epa.gov)



This information is provided by the Village of Shorewood and funded from a U.S. EPA, Great Lakes Restoration Grant.

For more information contact: Village of Shorewood, Department of Public Works: Leeann Butschlick at 414-847-2650  
Shorewood Waters Project: Kae DonLevy at 414-588-0617

The original "What You Can Do" section was designed by the MMSD.



# SHOREWOOD WATERS PROJECT

## Simple Solutions Guide



[www.villageofshorewood.org/watersproject](http://www.villageofshorewood.org/watersproject)

## The Earth's Freshwater Seas:

- Nearly 20% of the World's surface freshwater is located in the Great Lakes.
- Over 42 million people depend on the Great Lakes for drinking water, industry, transportation of goods, jobs, tourism and recreation. Thousands of species also depend on the Great Lakes.
- Economic Impact: The Great Lakes support a \$4 billion commercial and sports fishing industry and a \$14 billion tourism industry in Wisconsin.
- Our health and economy depend on clean abundant water from these lakes.
- We all need to do our part to protect, preserve and improve water quality to ensure that the Great Lakes can be enjoyed and used by generations to come.



## Shorewood's Waters

### Lake Michigan:

- The largest lake completely within the U.S
- The 5th largest lake in the world
- Provides drinking water for over 13 million people
- Was formed during the last Ice Age when glaciers scoured this area and filled it with melt water when the glaciers retreated north
- Is a Native American term meaning "great water"
- Challenges: invasive species (zebra and quagga mussels) and algae (Cladophera)

Max. Depth: 923 ft.  
Max. Length: 307 m.  
Max. Width: 118 m.

### Milwaukee River Basin

- Covers 900 square miles
- Home to over 1.2 million people
- Includes Cedar Creek and the Menomonee and Kinnickinnic Rivers
- Located in 7 WI counties
- Has 500 miles of perennial streams
- Contains 68,000 acres of wetlands

Length: 106 miles  
Headwaters: Fond du Lac County  
Mouth: Lake Michigan

### Why the "Stinky Algae" on our Beach? Too Many Nutrients

We add too many nutrients to our waters that encourage algae growth. Nutrients are **nitrogen and phosphorous** that come from fertilizers, pet waste, grass clippings, leaves and other yard waste that gets into our rivers and Lake Michigan. These nutrients are one of the factors causing beach closings and can be hazardous to fish, bird and human health. Read more about nutrients at: [www.epa.gov](http://www.epa.gov) – search for "nutrients".

Open this Guide to learn how to keep it clean.

## What affects these waters? STORMWATER

Rain and snowmelt mixes with dirt, garbage, pet and yard waste and chemicals in our yards and streets. This dirty mix is "stormwater runoff" and flows across the land into storm sewers and often directly to Lake Michigan and the Milwaukee River.

Shorewood has combined sewers in the area next to Lake Michigan. The combined sewers carry sanitary waste from our homes and businesses and storm water to the treatment plant. However, there are still some storm drains in this area that go directly into the Lake.



Never pour chemicals or car or boat oil down a sink, drain, toilet, sewer or on the ground!

We DON'T want these in our waters!

# Simple Solutions for Shorewood

## Homes

- Keep hazardous chemicals out of sinks, drains, toilets and sewers. These chemicals are not cleaned out of wastewater and can enter our drinking water source.
- Choose less harmful household products. Read labels and avoid ingredients that are toxic, poisonous, corrosive or reactive.
- Use phosphorous-free cleaners – less phosphorous in surface waters means less algae and cleaner beaches.
- Take a reusable grocery bag to the store. In the U.S. we throw away 100 billion plastic bags each year – the equivalent of 12 million barrels of oil.
- Hire a service to check the lateral pipe from your home to the sanitary sewer to ensure it doesn't leak into storm sewers that go to the river and lake.



## Yard Care

- Properly manage yard waste: grass clippings, leaves and garden debris can be reused as mulch or composted.
- Don't sweep or blow grass clippings, leaves and other debris into street's sewers. They end up in rivers and lakes and add unwanted nutrients.
- Use less fertilizer on your lawns to decrease polluted runoff when it rains. Corn gluten is a great natural weed killer and source of nitrogen for lawns. Contact UW Extension for instructions on how to use.
- Avoid applying bug killer (pesticides) or fertilizers just before or during rain to reduce polluted runoff.
- Start a compost pile that uses kitchen and yard waste to create natural fertilizer.
- Use native plants in gardens and landscaping which use less water and are more resistant to pests.
- Disconnect rain gutters and direct to gardens or lawn. Contact the Village of Shorewood at 414.847.2640 to ensure this step makes sense in your yard.



## Pet Waste

- Clean up pet waste regularly in your yard so it's not washed into waterways.
- Take garbage bags along on walks with your pet to pick up their waste.
- Pet waste contributes nitrogen, phosphorus, parasites and bacteria to waterways. Although the amount of waste produced by one pet might seem small, the cumulative impact of pet wastes on a water body can be significant and lead to conditions unfit for swimming or fishing.

## Car Care

- Keep your car tuned-up to reduce chemical leaks which wash into rivers and lakes when it rains.
- Take used motor oil and antifreeze to a recycling center. Never pour down a sewer! Shorewood DPW accepts used motor oil and antifreeze.
- Wash your car at a car wash so dirty water and soap go to a sanitary sewer, not into a storm sewer that drains directly to rivers or lakes.
- Run several errands in the same trip to reduce air pollution, toxic metals and petroleum by-products that are released into the environment.
- Bike to work. Biking can save money, improve your health and protect the environment.

## Garbage and Litter

- Close garbage bags and garbage cart lids tightly to prevent garbage from escaping and animals from making a mess.
- Don't litter! Bring a garbage bag along on walks to pick up litter you see.
- Don't throw cigarette butts on the ground – they end up in our waterways. Cigarette filters do not decompose easily (they're made of fiberglass) and are harmful to birds and fish.
- Don't flush medicines, cosmetics or personal care products down the toilet or drain. Wastewater treatment plants can't clean these chemicals out of the water. There are medicine collection days each year – visit [www.mmsd.com](http://www.mmsd.com) for dates and locations.



Photo: UW Extension

## Enjoy Your Rivers and Lakes

- Go fishing, canoeing, kayaking, boating or hiking on the shores of the Milwaukee River or Lake Michigan. Contact a local nature center such as Urban Ecology Center and enjoy their outdoor activities and programs.
- Become a Citizen Scientist. Do water quality monitoring and other programs with Milwaukee Riverkeeper.
- Restore the banks of the Milwaukee River with River Revitalization Foundation.

## Smart Water Use

- Since it takes a lot of energy to clean and filter water, conserving water conserves energy!
- Fix leaks! A leaky faucet or toilet can really add to your water bill. Use dye tablets to ensure your toilet isn't running up your water bill.
- Install low-flow faucets, shower heads and toilets and cut water use by one-third!
- Take shorter showers instead of baths and save about 7 gallons of water.
- Turn off water when brushing teeth and save up to 5 gallons of water.
- Use dishwashers & washing machines for full loads only.
- Don't let faucets run. Collect water for reuse such as watering plants.
- Keep a pitcher of water in the fridge so you don't have to run the tap for cold water.

## In Your Yard

- Minimize evaporation by watering lawns or gardens in early morning when temperatures are cooler and winds lighter.
- Use soaker hoses or trickle irrigation systems for trees and shrubs.
- Set sprinklers to water lawns or gardens only – not the street or sidewalk.

## Water Facts:

An average American uses 150 gallons of water per day. An average person in a developing country struggles to find 5.

The diagram shows percentages a family of four uses daily for each task. What can you do to reduce your water use?



## Reduce Stormwater Runoff

### INSTALL:

- **Rain Barrels:** Disconnect a rain gutter downspout and install a rain barrel that collects water for your gardens or lawn. Gutters deliver up to 12 gallons of water a minute during heavy rain. Rain barrels save money! Up to 40% of a home's water use is watering lawns and gardens. Rain water also supplies soft, chlorine-free water which is better for plants and lawn. Contact the Village of Shorewood to ensure downspout disconnection makes sense for your yard.
- **Rain Gardens:** Construct gardens in areas that collect water. Use deep-rooted native or ornamental plants to allow stormwater to slowly soak into the ground. Rain gardens help to decrease the amount of runoff going into our waterways.
- **Trees:** Plant trees. Trees leaves capture a significant amount of rain water and tree roots that break-up soil to allow water to soak into the ground.
- **Green Roofs** – Create rooftop gardens with plants that reduce water runoff up to 60%. Green roofs can also extend the life of your roof, decrease costs by improving heating and cooling of your house and reduce air pollution.



Rain Barrel