



## Contact the MACC

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### What Is A Watershed?

A watershed is the area of land that drains to a common point. The Lake Macatawa Watershed includes all the land that drains to Lake Macatawa. Each year thousands of pounds of phosphorus are carried from this watershed into Lake Macatawa when it rains. Ninety percent of the phosphorus entering our watershed comes from stormwater runoff from residential areas that use fertilizers containing phosphorus, sediment from construction sites and agricultural areas. Too much phosphorus causes overgrowth in aquatic plants and algae blooms, which can lead to depleted oxygen in the water, fish kills, and overall poor water quality.

### Macatawa Watershed Project Goal

Reduce the amount of phosphorus in Lake Macatawa through public awareness, education and water quality Best Management Practices (BMPs).

## FREE Children's Books Still Available



Copies of these books are available for FREE.

Please contact the MACC office at (616) 395-2688 to get your copies.

**Teachers, educators and others!**

These books are great for the classroom or for presentations and can be ordered for free in bulk.

### UPCOMING ACTIVITIES

**May 3** - Storm drain Stenciling Campaign Kick-off,  
Zeeland East Pavilion @ 10:00 am

**Watershed Technical Committee Meetings** - 2nd Tuesday of the month, Zeeland Charter Township Hall @ 10am.

**The public is invited. For more information call (616) 395-2688 or email [bvankley@the-macc.org](mailto:bvankley@the-macc.org)**

Please visit [www.the-macc.org](http://www.the-macc.org) to find more information on our projects and committees.



## Help Your Watershed

We are all responsible for the quality of our water. Everyone can do something to help the watershed.

Reduce the amount of runoff leaving your property.

- ◆ Direct downspouts away from paved areas and point them toward grassy, planted or mulched areas.
- ◆ Wash your car on the grass to prevent water from entering directly into the storm sewer. Use cleaners labeled biodegradable.
- ◆ Leave grass higher between 3"-3 1/2" in height to retain more water.
- ◆ Use native plants in your landscape.
- ◆ Install a rain garden.
- ◆ Plant bare soil areas.
- ◆ Create a buffer strip of vegetation along streams, ponds and ditches.



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## Think Spring, Think Healthy Lawn Practices

### Do You Use a Lawn Service?

Ask if the company is endorsed by the Macatawa Watershed Project Seal of Approval Program. Endorsed firms offer the following:

- Spring Lawn Care
- Storm Drain Stenciling
- DVD wins International Award of Distinction
- Be Stormwater Savvy

- The company makes every attempt to use no phosphorus fertilizer.
- Prior to applying fertilizer, the lawn is measured and the resident or property owner is given a diagram of the lawn to ensure the correct amount of fertilizer is applied.
- On property near bodies of water, a 3-foot buffer strip to the body of water is designated to receive no fertilizer.
- All grass clippings and fertilizer are blown off impervious surfaces and back onto lawns to prevent runoff into storm drains.
- Grass is cut no shorter than 3 inches.



Beginning in 2008, Ottawa County residents will have to closely watch which fertilizer they put on their lawns after the county's Board of Commissioners voted to ban the use of phosphorus fertilizers for residential use except in specific situations, such as when planting new grass. The ban states that no lawn fertilizer "labeled as containing more than 0 percent phosphorus" can be used in the county. Before you fertilize your lawn this year, consider having your soil tested. A soil test will tell you exactly what nutrients are needed in what amounts for optimum growth. **Soil test kits can be obtained by calling the MACC office at (616) 395-2688.**

## Storm Drain Stenciling Campaign

### Johnson Controls, Inc. & Zeeland Public Schools

This spring, keep an eye out for groups of Zeeland Public School students and adults roaming the streets with cans of spray paint. They will be part of an education campaign to remind all of us that storm water pollution begins at the drain on our streets. The storm drain stenciling program, a cooperative effort between Johnson Controls and the MACC, provides free stenciling kits to individuals and community groups who want to volunteer to paint messages such as:

### Dump No Waste: Drains to Lake

People should be concerned about what enters a storm drain because anything that is flushed down a storm drain is not treated before it reaches a stream or river and ultimately, Lake Macatawa. This means that oil, antifreeze, paint, grass clippings, household waste, pet wastes, or any other waste on streets and sidewalks goes directly into a nearby stream, river, or lake.

The next time you wash your car on your driveway, consider where the water goes. The soapy, dirty water runs down the street into the storm drain and eventually this drain carries the wash water to a water body. Next time you wash your car, consider washing it on the lawn to prevent the soapy runoff from entering a storm drain.

**To learn more about the campaign or to get involved, please call the MACC office at (616) 395-2688 or email [bvankley@the-macc.org](mailto:bvankley@the-macc.org).**



## Volunteer Spotlight

*"It's not just one person's fault. It's hard not to, but we can't just blame one person. Almost everyone in the watershed contributes, and everyone can take part in cleaning it up."*

**"The Lake I Didn't Remember"**  
by Sara DenHerder



Steve VanHoeven, Environmental Coordinator with the Ottawa County Road Commission, also serves as Chair of the Macatawa Stormwater Committee. This group, comprised of technical representatives from each local unit of government within the Macatawa Watershed, focuses on local stormwater issues while complying with the MDEQ Phase II Stormwater Permit. With his vast knowledge of the local water resources, Steve has provided valuable support to staff in identifying several successful water quality demonstration site locations. Thanks so much Steve!

Judy Visscher, Environmental Regulatory Specialist with the Holland Board of Public Works (HBPW), serves as the Chair of the Macatawa Watershed Technical Committee. This group meets on the second Tuesday of each month at 10:00 am at Zeeland Charter Township Hall to hear speakers and to hold discussions about technical issues related to improving water quality. The public is invited to attend. With the HBPW, Judy is responsible for monitoring environmental issues and regulations and assuring that the HBPW Power Resource Dept. is in compliance with all appropriate environmental regulations. Judy has been very supportive of watershed activities and was spotted last fall planting in one of the raingardens at Smallenburg Park. Thanks Judy for your support!



## Agricultural Innovation

The combination of northern Allegan County and southern Ottawa County now has the highest concentration of animal manure in the state. Allegan County now ranks (statewide) #2 for swine operations, #2 for dairy population, and #3 for total cattle raised. The area includes the Lake Macatawa Watershed and the 30,850-acre Little Rabbit River watershed in southwest Michigan, primarily in the northern section of Allegan County, including Overisel Township. The Little Rabbit River flows southwesterly to the Rabbit River, a tributary of the Kalamazoo River, which then flows on to Lake Michigan. The dominant land use in the watershed is agriculture, but rapid growth in residential development is also impacting water quality. Sediment, nutrients, and high flow are adversely affecting the area.

Significant water quality impairments include degraded indigenous aquatic habitat and biotic diversity, reduced fish populations and flooding. Major Nonpoint Source (NPS) pollutants include sediment, excessive nutrients, and high flow. Occasional spikes in fecal coliform bacteria have also been noted, raising concerns about water-body contact. The conditions in the watershed greatly limit manure application and require most farmers to build more than a year's storage and to haul manure long distances. Increasing residential development in Zeeland, Overisel and Fillmore Townships is also putting additional pressure on agricultural land users, limiting the number of large tracts for crop cultivation and land application of nutrients.

A recent meeting of the Macatawa Watershed Technical Committee featured a presentation by Norma McDonald. Her company, in collaboration with Sheff & Sons Engineering and Geerlings Hillside Farms, will install equipment and technology which will result in a substantial reduction in field application of untreated manure and total nutrients, thereby reducing soil nutrient loading and soil compaction. The technology can be easily transferred to any other site with similar numbers of animals within a 1-3 mile radius. The technology does not require special capabilities beyond the basic mechanical and operational skills possessed by typical farmers.

This highly innovative project has a high probability of removing more than 90% of the N-P-K (Nitrogen-Phosphorus-Potassium) nutrients from the waste streams of the participating farms. The combined unit operations in this system encompass both physical and chemical means by which to partition the nutrients. Each of the technologies used in these unit operations are more effective on digester effluent than on untreated manure because of the precipitation of certain nutrients; a reduction in viscosity, meniscus forces, and organic loading; and the increase in the homogeneity of the substrate.

- Article submitted courtesy of Norma McDonald, Operating Manager, Phase 3 Developments & Investments, LLC [www.phase3dev.com](http://www.phase3dev.com)

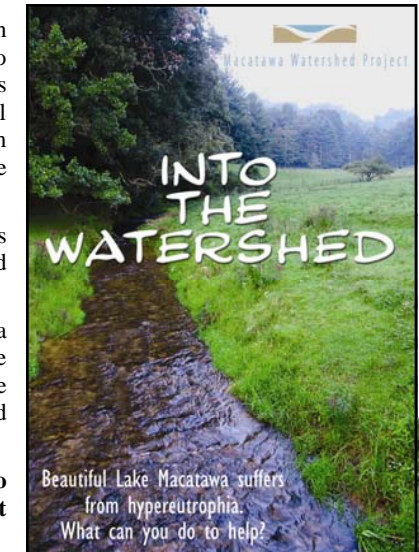
## Watershed Video Wins International Award

The Macatawa Area Coordinating Council has been designated with an Award of Distinction by the 13<sup>th</sup> Annual Communicator Awards 2006 Video international competition for its production of "Into the Watershed". This 3D-animation DVD, featuring several Holland High School students and local watershed experts, provides educational information about wetlands, storm water, agriculture, and land use influences on overall water quality of the Macatawa Watershed.

Entries for this international competition are judged by industry professionals who look for companies and individuals whose talent exceeds a high standard of excellence and whose work serves as a benchmark for the industry.

This educational video is one of the tools utilized by the Macatawa Area Coordinating Council to address the goal of reducing phosphorus in the Macatawa Watershed. The production of this DVD has been made possible by funding support from the Community Foundation of the Holland/Zeeland Area and the Office of Michigan Attorney General.

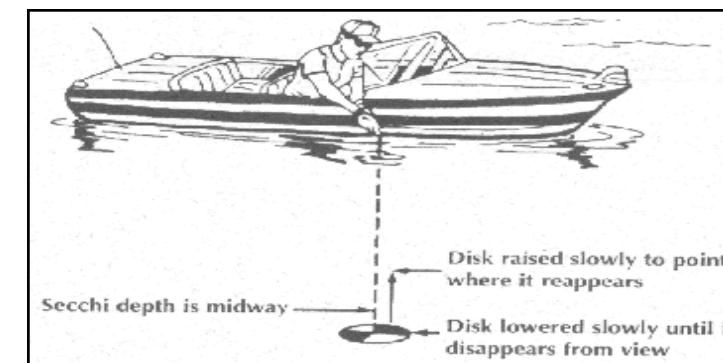
**For a free copy of the DVD, other educational materials and/or to schedule an educational presentation, contact the MACC office at (616) 395-2688 or email [bvanklev@the-macc.org](mailto:bvanklev@the-macc.org).**



## What is a Secchi Disk?

Created in 1865 by Pietro Angelo Secchi, the Secchi disk is a device used to measure water transparency in open waters of lakes, bays, and the ocean. The pattern shown in the image is drawn or painted onto a card or acrylic, mounted on a pole or line, and lowered slowly down in the water. The depth at which the pattern on the disk is no longer visible is taken as a measure of the transparency of the water. This measure is known as the Secchi depth and is related to water turbidity.

Secchi disk readings do not provide an exact measure of transparency, as there can be errors due to the sun's glare on the water, or one person may see the disk at one depth, but another, with better eyesight, may see it at a greater depth. However, a Secchi disk is an inexpensive and straightforward method of measuring water clarity. Because of the potential for variation between practitioners, methods should be standardized as much as possible.



**The following volunteers are appreciated for their hard work in collecting water quality data in the watershed for the past five years: Dennis Kaleugher, Joel McElrath, Carol and Bruce Panse, Graham Peaslee, Matt Van Dyken, Carl Van Fassen and Al Walters.**

**This data has proven invaluable as we continue to measure the progress towards improving the quality of our waterways.**

*The first Secchi disk was lowered from the papal steam yacht, l'Immacolata Concezione in the Mediterranean Sea on April, 20, 1865.*

