

The World of Green Water

Who wouldn't want green water? *Environmentally speaking that is.* "Going Green" is a common phrase heard today. It is a broad philosophy and social movement centered on a concern for the conservation and improvement of the natural environment for all inhabitants. There is no resource more precious than water. There is also no resource that is misused, abused, misallocated, and misunderstood the way water is. Safe drinking water, healthy and intact natural ecosystems, and a stable food supply are a few of the things at stake as our water supply is put under greater and greater stress. The picture might look grim, but opportunities to be more efficient abound. Many people have had water-saving etiquette pumped into them at one point or another, so hopefully we can make a good case for conserving and protecting our water with practical, everyday strategies as well as some more high-tech approaches.

Let's Talk Water

Before we get started, however, let's "talk water" so that we are speaking the same language. Groundwater is water that collects beneath the earth's surface and it is the very source of our drinking water. Surface water is just that—water on the surface of the earth—in streams, rivers and lakes. Both are a part of the water cycle.

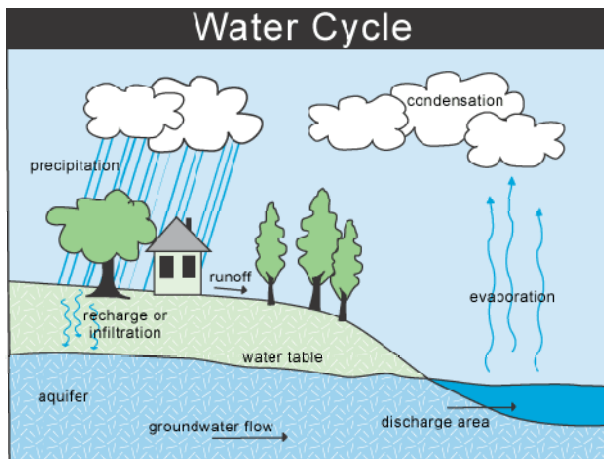


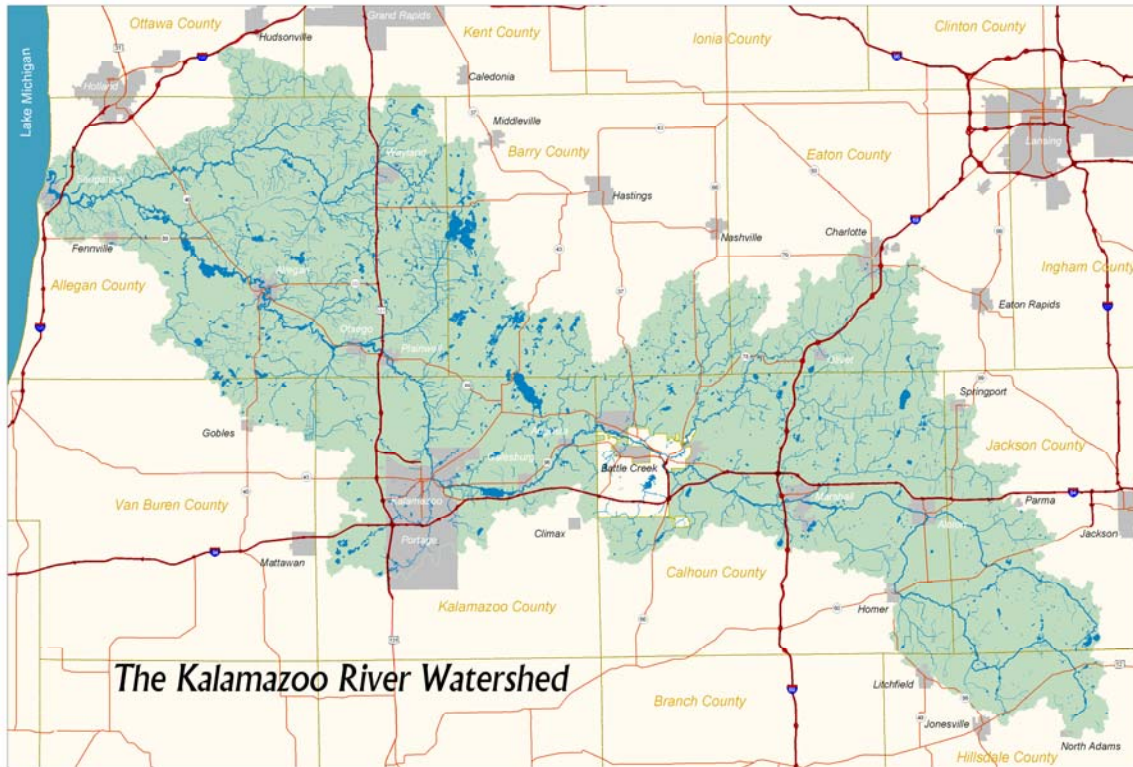
Diagram courtesy of the Groundwater Foundation

Another word to explain is watershed. The word doesn't describe its meaning.

A watershed is a region of land that drains to a common body of surface water. In other words, water drains from higher points of land to lower points. Everyone lives in a watershed and all watersheds are impacted by the activities that occur within their boundaries. In the Battle Creek and Marshall areas, we live in the Kalamazoo River Watershed. The Kalamazoo River and its tributaries begin in Hillsdale County. The

Kalamazoo River flows through many cities and towns before it discharges to Lake Michigan at Saugatuck. The watershed covers 2020 square miles.

Almost everything we do, from mowing our lawns to taking out the trash can affect the quality of our water. Watershed management is a holistic approach to protecting our water. By looking at the big picture today, we can see more clearly how to protect our water for tomorrow.



In the Battle Creek and Marshall areas, we are implementing numerous "green" activities designed to reduce the impact we have on our water environment. Some of the programs and public events we currently have ongoing include:

Programs

- Wellhead Protection Programs – Because all of us get our drinking water from groundwater, both the City of Battle Creek and the City of Marshall have adopted wellhead or source water protection programs. The plans are proactive, preventative initiatives to help guard the water we drink everyday. Prevention of groundwater contamination is also far less expensive than groundwater cleanup.
- Groundwater Guardian – To help meet the goals of the wellhead protection plans, Battle Creek and Marshall voluntarily participate in the Groundwater Guardian program through the Groundwater Foundation. For more information, visit www.groundwater.org.
- Stormwater Improvement Programs - Storm water, from rainfall and snowmelt, picks up pollutants and contaminants, especially over impervious surfaces, as it flows into the storm sewer system. Storm water then discharges directly to a river, a lake, a wetland, or to groundwater without being cleaned. Storm water is one form of non-point source pollution. The United States Environmental Protection Agency (USEPA) considers non-point source pollution to be the nation's largest threat to water quality. The City of Battle Creek and its Clean Water Partners and the City of Marshall are trying to bring attention to personal actions which can help reduce contaminants, especially phosphorus, in storm water.

Phosphorus from grass clippings, leaves, pet wastes, and fertilizers is making its way into the Kalamazoo River Watershed during normal watering, snow melt, or rainstorms. Once in the river, the extra phosphorus promotes the rapid growth of algae, which in turn crowds out beneficial water plants. As the algae dies off, the decaying process depletes the water of oxygen, harming fish and insects. If the problem becomes severe enough, water can become clogged with algae and appear like “pea soup” and scum. Fish kills can result. 1 pound of phosphorus in water can grow 500 pounds of algae!

Low Impact Development Projects (LID) – LID is one of the best ways to handle storm water. It handles the water where it falls rather than allowing it to run off and pick up pollutants along the way. Examples of LID in the Battle Creek and Marshall areas are:

- Rain Gardens/Bioswales – Depressions planted with native species designed to infiltration storm water. The native plants have deeper root systems, which can better infiltrated water and can help with pollutant removal. Examples of rain gardens can be found at Marshall Riverwalk, Willard Beach, Battle Creek Police Department, Lakeview High School, and Pennfield High School.



Rain garden in front of the Battle Creek Police Department building.

- Green Roof – Vegetated roof system planted with varieties of low growing sedum in a light-weight soil mixture. Advantages of the roof include reduced storm water runoff, extended roof life because ultraviolet light damage is reduced, and reduced energy costs because roof system insulates the building. Example – Battle Creek Police Department roof.



Vegetated roof on the Battle Creek Police Department building.

- Porous Pavement – Porous pavement infiltrates storm water rather allowing it to run off. An example of this technique can be found at Willard Beach.



Porous asphalt during a rain storm at the entrance of Willard Beach in Battle Creek

Upcoming Events

- Super Soils Test Saturday, April 19, 2008; 9:00 a.m. to 1:00 p.m.: Property owners are encouraged to bring a sample of their lawn soil for testing before buying fertilizer. Testing over the last several years has shown that background levels of phosphorus in soil are adequate and that fertilizer with phosphorus (the middle number on a fertilizer bag) is not needed. Testing locations: Marshall – Darling's Hardware; Battle Creek Farm Bureau- Battle Creek Store, Lakeview Hardware; Bedford Twp. – Level Park Hardware; Emmett Twp. - Lowe's; Pennfield Twp. - Scooters Hardware; City of Springfield – Springfield Do-It Center.
- Kanoe the Kazoo – Beginning in May, various canoeing trips are planned throughout the Kalamazoo River Watershed. Visit www.kingmanmuseum.org for more information.
- River Clean Up & Global Citizens River Conservation Day: The Battle Creek and Marshall areas, and other areas in Calhoun County, have conducted community-wide river cleanups, which include conservation projects. Since the event began in 2001, over 60 tons of trash, hundreds of tires, and many cubic yards of invasive brush and plant species have been removed. The event is held the first Saturday in October. This year's event will be on October 4, 2008.
- River Monitoring: The City of Marshall conducts river monitoring on river conservation day. Call 269-781-3289 for more information.
- Green Drinks: The fourth Thursday of the month, the Battle Creek Clean Water Partners host a Green Drinks gathering at Arcadia Brewery in Downtown Battle Creek. Green Drinks is for those with an interest in environmental issues. Join other environmental enthusiasts for casual networking from 5:30 p.m. to 7:00 p.m.

What You Can Do to Help Protect

Our Water Resources

- Household hazardous waste: Never dump items such as used motor oil, fuel products, cleaners, paints, and pesticides on the ground or down the storm drain. They can contaminate groundwater and surface water. For a listing of household hazardous waste collection sites and dates in Calhoun County, contact the Calhoun County Environmental Health Department at (269) 969-6341 or visit the website <http://www.calhouncrc.net/>.
- Septic systems: If you have a septic system, have it checked every two to three years to ensure it is working properly.
- Fuel storage tanks: Leaking of storage tanks both above and below ground level is a major source of contamination. Check tanks regularly for leaks.
- Abandoned wells: Properly close any abandoned wells on your property. They can carry contaminants directly to groundwater.
- Landscape with nature: Try landscaping with plants native to Michigan. They are well suited to our climate and are resistant to pests. They can reduce the need for irrigation and fertilizer application resulting in less runoff and more water conservation.
- Pet waste: Because pet waste can be high in bacteria and nutrients, it should be disposed of in a toilet or trash can.
- Don't guess; soil test: Have your lawn soil analyzed for nutrient information. Misapplication of fertilizers can cause these products to make their way into both surface waters and groundwater. Visit www.bcwater.org for more information on water.
- Get involved! Participate in one of the many water protection events!