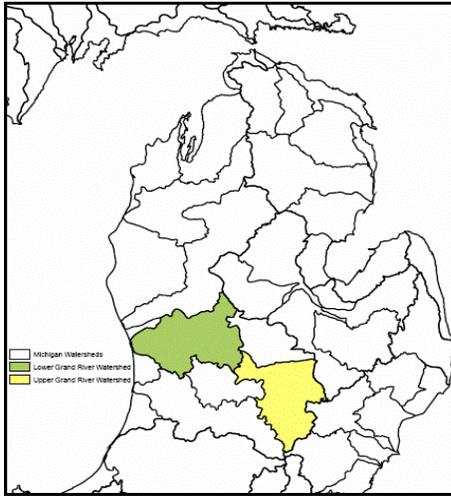


## **Suggested Time Line for News Articles:**

- **First Article:** What is a watershed
- **Second Article:** Who/what the GLRC is
- Spring: Fertilizer article
- Spring/Summer: Pet waste article
- Spring/Summer: Car washing article
- Spring/Summer: Illicit discharges article
- Spring/Summer: Riparian article
- Fall: Onsite septic system article
- Fall: Vehicle maintenance article
- Anytime: Storm vs. sanitary sewer article
- Anytime: Adopt your catch basin article
- Anytime: Wetlands article

## We all live in a watershed!



No matter where you live, you live in a watershed. A watershed is the land area that drains to a single body of water such as a lake or river. Watersheds come in many different sizes. A few acres might drain into a small stream or wetland, or a few rivers might drain into a large lake. The actions of people who live in a watershed affect the health of the waters that run through it. Rainfall and snowmelt wash chemicals, fertilizers, sediment, and other pollutants from the land into water bodies. To achieve healthy watersheds we need your help!

The greater Lansing area falls within the Grand River Watershed, where water eventually drains into Lake

Michigan. The urbanized area around the City of Lansing lies within a portion of the Upper Grand River Watershed which can be broken into three smaller watershed areas. If you live in the area, you live in the Grand River Watershed, the Looking Glass River Watershed, or the Red Cedar River Watershed.

Rivers and streams do not recognize political boundaries. It is important that the public and local governments work together to protect our water resources for current and future generations. Twenty of the communities that fall within our local watersheds are participating in the Greater Lansing Regional Committee for Stormwater Management (GLRC), a cooperative effort that seeks to address water quality in our lakes, rivers, streams, and wetlands. You can help protect our water by following the *top ten things we can do to protect our watersheds*:

1. Always conserve and reuse water wisely.
2. Soil test before you apply fertilizers. Use low or no-phosphorus fertilizers.
3. Use native vegetation and reduce turf grass by increasing native wildflowers and grasses.
4. Capture and reuse rainwater to control stormwater runoff.
5. Dispose of pet waste properly in the trash or toilet (not onsite septic systems).
6. Wash your car on the lawn instead of pavement (*if allowed by local ordinance*).
7. Maintain all vehicles, eliminating leaks and spills.
8. Recycle and dispose of household chemicals properly (motor oil, household cleaners, paint, etc.)
9. Inspect and maintain onsite septic systems and sewers.
10. Participate in the GLRC or join a local watershed organization

Having a clean environment is of primary importance for our health and economy. Clean waterways provide recreation, commercial opportunities, fish habitat, and add beauty to our landscape. All of us benefit from clean water - and all of us have a role in getting and keeping our lakes, rivers, wetlands, and groundwater clean. For more easy steps on protecting our lakes and streams, visit [www.mywatersheds.org](http://www.mywatersheds.org).



## Who Is Your Local Watershed Group?



The Greater Lansing Regional Committee for Stormwater Management (GLRC) was formed to protect and improve the quality of our water resources through a coordinated and consistent stormwater management effort. The GLRC represents 20 of the region's counties, communities, and schools that have been required to implement a stormwater management program as part of the federal Stormwater Regulations. In a nutshell, the GLRC was formed to help reduce polluted runoff from reaching our local rivers and streams.

### Watershed Management Plans

In 2006, the GLRC published watershed management plans for the Grand River, Red Cedar River, and Looking Glass River watersheds. These plans were updated in 2007 to address current water quality issues and needs. The revised plans focus on restoration and maintenance of designated uses for surface waters and advocates for an inter-municipal approach for protecting water quality. One of the goals of the plan is to provide educational programs for greater Lansing area stakeholders, including programs that advocate voluntary pollution prevention actions and stewardship of our water resources by the public, government, and business. Implementing a regional education campaign is a key component in implementing the Watershed Management Plans.

### Public Participation, How You Can Get Involved

While public education is a large of the GLRC, public participation is just as important. Here are some activities that you can do to join us in protecting our local water resources:

- Help collect information about our local rivers and streams by filling out simple visual assessment sheets. This can be done by a local boy/girl scout troop, by individuals using the waterway for recreation or pretty much anybody!
- Participate in the local Adopt A River events that take place every spring and fall.
- Help label storm drains in you community. By labeling the storm drain to let people know that they dump directly to the river can reduce pollution in a big way!
- RECYCLE – Use your community's local recycling program and facilities to help reduce trash and pollution in your community.

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## Remember, you're not just fertilizing your lawn...



Image Courtesy of Puget Sound Action Team, a cooperative venture between the Washington State Department of Ecology, King County and the cities of Bellevue, Seattle and Tacoma

Storm drains found in our streets and yards empty into our lakes and streams. So, when we fertilize our lawn we could also be fertilizing our lakes and streams! While fertilizer is good for our lawn, it's bad for our water. Just like in your garden, fertilizer in rivers and lakes makes plants grow. In water bodies, extra fertilizer can mean extra algae and aquatic plant growth. Too much algae harms water quality and makes canoeing, fishing and swimming unpleasant. As algae decay, they use up oxygen in the water that fish and other wildlife need.

### How Can You Care for Your Yard *and* Help Keep Our Environment Clean?

You can help keep our lakes, rivers, streams, wetlands, and groundwater clean by applying the following tips.

- **Sweep it.** Sweep excess fertilizer and grass clippings from pavement back onto your lawn so that they don't wash into storm drains.
- **Buy low and go slow.** First, find out if you even need fertilizer! Contact your Michigan State University Extension office to get a soil test. If you do need it, choose a fertilizer with no or low phosphorus - phosphorus causes algae growth. You can also use an organic or slow-release nitrogen fertilizer, which causes less harm to water. Follow the manufacturer's recommended amounts, and don't fertilize before a rain storm.
- **Hire smart.** Select a lawn care service that follows the practices noted above.
- **Mow high.** Keep your lawn at three inches in height. Taller grass strengthens roots and shades out weeds. Also, remember that the nutrients from grass clippings left on your lawn act as a great fertilizer.
- **Don't over water your lawn and garden.** Consider using a drip system or soaker hose instead of a sprinkler.
- **Go natural.** Use commercially available compost or make your own using garden waste. Mixing compost with your soil means your plants will need less chemical fertilizer and puts your waste to good use. And, consider using organic fertilizers and pest control methods whenever possible.
- **Make fertilizer-free zones.** Keep fertilizer at least 20 feet away from the edge of any lakes, streams, or storm drains.

In recent years sources of pollution like industrial wastes from factories have been greatly reduced. Now more than 60 percent of water pollution comes from things like excess fertilizer applications, cars leaking oil, pet waste and failing septic tanks. All these sources add up to a big pollution problem. But each of us can do small things to help clean up our water too, and that adds up to a pollution solution!



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role in getting and keeping our lakes, rivers, wetlands, and groundwater clean. For more easy steps on protecting our lakes and streams, visit [www.mywatersheds.org](http://www.mywatersheds.org).

## Remember, your dog isn't just making a mess on the lawn...



Image Courtesy of Puget Sound Action Team, a cooperative venture between the Washington State Department of Ecology, King County and the cities of Bellevue, Seattle and Tacoma

When our little friends leave those little surprises, rain washes all that pet waste and bacteria into our storm drains. This waste then pollutes our waterways. It's a health risk to pets and people, especially children. It is also a nuisance in our neighborhoods.

Pet waste is full of bacteria that can make people sick. If it's washed into the storm drain and ends up in a river, lake, or stream, the bacteria ends up degrading water quality. People who come in contact with the water can get very sick. Unless people take care of it, the waste enters our water with

no treatment.

### How Can Picking Up After Your Pet Help Keep Our Environment Clean?

You can help keep our lakes, rivers, streams, wetlands, and groundwater clean by applying the following tips.

- **Bring A Bag.** Carry a plastic bag when walking pets and be sure to pick up after them. Clean up pet waste in your yard frequently.
- **Clean It Up.** Pick up after your pets before watering your yard or cleaning patios and driveways. Never hose pet waste into the street or gutter.
- **Dispose of the Waste.** Bury small quantities in your yard where it can decompose slowly. Dig a hole one foot deep. Put three to four inches of waste at the bottom of the hole. Cover the waste with at least eight inches of soil. Bury the waste in several different locations in your yard but keep it away from vegetable gardens!

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## Remember, you're not just washing your car...



Image Courtesy of Puget Sound Action Team, a cooperative venture between the Washington State Department of Ecology, King County and the cities of Bellevue, Seattle and Tacoma

How does caring for your car affect our waterways? Storm drains found in our streets and roadside ditches lead directly to our lakes and streams. If dirty water from washing our cars gets into the storm drain, it pollutes our local waterways. This “dirty” water contains pollutants such as grease, oil and dirt. Also, most soap contains phosphates and other chemicals that can harm fish and water quality. The phosphates from the soap can cause excess algae to grow. Algae blooms look bad, smell bad, and harm water quality. As algae decays, the process uses up oxygen in the water that fish need.

### How Can You Wash Your Car *and* Help Keep Our Environment Clean?

You can help keep our lakes, rivers, streams, wetlands, and groundwater clean by applying the following tips.

**Wash it—on the grass.** If allowed by your local community, wash your car on the lawn so the ground can filter the water naturally. The lawn will gladly soak up the soapy, dirty water preventing it from entering storm drains or roadside ditches. If you can't use the lawn, try to direct the dirty water towards the lawn and away from the storm drain. Pour your bucket of soapy water down the sink when you're done, NOT in the street. *Please check local ordinances before washing or parking your vehicle on the lawn!*

**Minimize it.** Reduce the amount of soap you use or wash your car with plain water. Use a hose nozzle with a trigger to save water when you don't need it. Avoid using engine and wheel cleaners or degreasers.

**Use a car wash.** Best of all; take your vehicle to a commercial car wash, especially if you plan to clean the engine or the bottom of your car. Most car washes reuse wash water several times before sending it to the sanitary sewer system for treatment.

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## Remember, it ALL Drains to our Lakes and Rivers



Photo: City of Lansing

You might not be able to see the stream or lake from your house, but it's there! It might be a small stream or ditch or even a storm drain in the street. All of these lead directly to our lakes and streams. What we do at home affects our water. So, any oil, pet waste, leaves or dirty water from washing your car that enters a storm drain gets into our lakes and rivers without being treated. We all need to be aware of what goes into our storm drains.

An illicit discharge is anything that drains to a storm drain or directly to the river and is not stormwater. An illicit discharge can be an illegal pipe draining directly to the river, a failing onsite septic system, or even a spill that goes into the storm drain. As a community member, you play a large role in identifying and reducing illicit discharges in your community.

### What Can You Do About Illicit Discharges?

You can help keep our lakes, rivers, streams, wetlands, and groundwater clean by applying the following tips.

- **Sweep it.** Do you have extra fertilizer, grass clippings, or dirt on your driveway or sidewalk? Sweep it back onto your lawn. Hosing your driveway sends these pollutants into storm drains that lead directly to our lakes and rivers.
- **Keep it clean.** Whether in the street or in your yard, remember to keep leaves, grass clippings, trash, and fertilizers away from storm drains.
- **Only rain in the drain.** Never dump motor oil, chemicals, pet waste, dirty or soapy water, or anything else down the storm drain. All of these materials pollute our lakes and rivers!
- **Clean it.** Clean up after your pet to reduce pet waste traveling to local waterways.
- **Dispose of it properly.** Take household hazardous waste (paint, motor oil, etc.) to a local collection event.
- **Report it.** If you see someone dumping something into a storm drain, or see a direct connection to the river that may be pollution you are encouraged to report it. You can do this by contacting your local public works department. In addition, you can contact the Michigan Pollution Emergency Alerting System (PEAS) at (800) 292-4706. PEAS is a 24 hour hotline managed by the Michigan Department of Environmental Quality and is used to report environmental pollution emergencies.

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## Protecting the Waters Edge



The way we take care of the land has a huge impact on water quality. As landowners and citizens it is important that we take care of the land immediately surrounding the river in a way that is beneficial to the river and the wildlife that depend on it.

Riparian zones are areas of vegetation between the river and the surrounding land use, usually a lawn or field. Riparian zones have the capacity to buffer rivers and other waters from polluted runoff from agricultural, urban, residential or other land uses. Healthy riparian zones can absorb sediments, chemical nutrients, and other substances contained in polluted runoff. They also provide for groundwater recharge, diverse habitats and water storage and release. A healthy, functioning riparian area and associated uplands dramatically increase benefits such as fish and wildlife habitat, erosion control, forage, late season stream flow and water quality.

### What Can YOU Do to Protect the Water Edge?

By creating a healthy riparian zone on your property, you can help improve water quality.

- **Reduce Turf Grass** - Shoreline and stream bank property planted with turf grass is really an unnatural landscape. While turf grasses slow runoff, their root systems are too shallow to stabilize stream banks or shorelines.
- **Don't Mow to the Waters Edge** - Lawns mowed to the water's edge will do little to control shoreline erosion. In fact, removing native vegetation and replacing it with turf grass usually results in accelerated stream bank and shoreline erosion that degrades water quality. A buffer between 15-25 feet is usually suitable, the more the better.
- **Plant Native Michigan Plants** - Native Michigan plants actually help improve water quality, and they're an attractive alternative to turf grass. Native plants generally have deeper roots which absorb runoff and break down pollutants that would otherwise go straight to the river. Native plants can be found at your local nursery.

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## **EMERGENCY! YOUR SEPTIC SYSTEM JUST FAILED. YOUR BASEMENT IS FLOODED.... AND YOU COULD HAVE PREVENTED IT!**



**Sewage and soap suds are ruining the carpet and furniture in your basement. Foul smelling water is puddled in the yard. Don't let this happen to you. If you are not on a municipal sewer system, then you have an on-site septic system.** A well-maintained septic system protects your investment in your home. If properly maintained, your septic system can provide long-term, effective treatment of household wastewater.

### **Signs of Failure**

- Pooling water or muddy soil around your septic system.
- Water backing up into your basement.
- Your toilet or sink backing up when you flush or do laundry.
- Strips of bright green grass over the drain field.

### **What Can I do?**

- Don't use excess water. Using too much water is the single biggest reason for system malfunction.
- Don't add additives, they only harm your system.
- Don't damage it. The septic system is buried just beneath the ground surface and can be damaged if you pave over it, drive over it or park on top of it.
- Don't direct excess rain water to the area where the septic system is buried. Water from the septic tank travels through the laterals to drain through the soil. If the soil is already wet, the water may back up in your system or pool on the ground. Make sure downspouts and yard drainage are directed to other areas of your yard.
- Do install risers and inspection ports. Because the system is buried, it is difficult to inspect to check for problems leading to a malfunction. Small inspection ports are easy to install and can allow inspectors to easily check your system.
- Do get a yearly inspection. An annual inspection of the lateral lines will reveal possible problems.
- Do check septic tanks for damage every three years and pump out solid material when needed.

### **Save Money**

If your septic system isn't maintained, you will need to replace it, costing you thousands of dollars. And if you sell your home, your septic system must be in good working order.

### **Protect the Environment**

Proper maintenance of your septic system prevents the spread of infection and disease and protects water resources. Inadequately treated sewage from failed septic systems can cause groundwater contamination, posing a significant threat to drinking water. Improperly treated sewage that contaminates nearby surface waters also increases the chance of swimmers contracting a variety of infectious diseases.



**Who do I call?**

Consult your local telephone directory or [www.septicyellowpages.com](http://www.septicyellowpages.com) The Septic Yellow Pages provides listings by state for professional septic pumpers, installers, inspectors, and tank manufacturers and will answer simple questions about your septic system.

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## Remember, the taste of cod liver oil? Fish feel the same way about motor oil...



Image Courtesy of Puget Sound Action Team, a cooperative venture between the Washington State Department of Ecology, King County and the cities of Bellevue, Seattle and Tacoma

The fluids that leak or drip from your automobile eventually end up in our rivers, lakes, and streams. Did you know that even though your home may be miles away from a lake or a river, the chemicals that spill on your driveway or parking lot find their way to our local waterways? The mid-Michigan area is home to three separate watersheds: the Grand River, Red Cedar River, and Looking Glass River Watersheds. The rainwater, soiled water from washing your car, and any toxic chemicals which are allowed to enter drainage ditches and storm sewers end up

flowing into these watersheds. Keeping hazardous chemicals from entering the watershed is an important task for everyone to keep in mind.

Here are suggestions how the proper maintenance of your automobile plays a key role in keeping our surface water clean.

- Repair any leaks and drips from your automobile. This includes: motor oil, transmission fluid, anti-freeze/coolant, power steering fluid, brake fluid, gasoline and other lubricants. Remember, these chemicals are also dangerous to your pets.
- If you choose to change your own oil, do not dump the used oil in the yard, on your driveway, or in a storm drain. Find a local firm that will recycle the used oil.
- Do not use used motor oil to control dust on gravel drives.
- Wash your car on the grass to filter out impurities or take it to a commercial car wash where the water is reclaimed (check local ordinances first).
- Basic automobile maintenance such as tune-ups, proper tire inflation, and efficient driving practices saves on fuel, as well as water and air pollution.
- Abandoned automobiles should be taken to a scrap yard or donated to a local charity. Old cars sitting out in a field will leak oil and fuel.

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## What's the Difference between Sanitary and Storm Sewers?



You've seen one drain, you've seen them all. They are all the same, right? I can pour this cleaner down the drain because it goes to a wastewater treatment plant, right? Not so! It's important to understand the difference between sanitary sewers and storm sewers so we can prevent environmental damage.

The **sanitary sewer** is a system of underground pipes that carries sewage from bathrooms, sinks, kitchens, and other plumbing components to a wastewater treatment plant where it is filtered, treated and discharged.

The **storm sewer** is a system designed to carry rainfall runoff and other drainage. It is not designed to carry sewage or accept hazardous wastes. The runoff is carried in underground pipes or open ditches and discharges untreated into local streams, rivers and other surface water bodies. Storm drain inlets are typically found in curbs and low-lying outdoor areas. Some older buildings have basement floor drains that connect to the storm sewer system.

Disposal of chemicals or hazardous substances to the storm sewer system damages the environment. Motor oil, cleaners, paints and other common household items that get into storm drains can poison fish, birds, and other wildlife, and can find their way into drinking water supplies. In addition, grass clippings, leaves, litter, and organic matter can clog storm drains and cause flooding.

Here are some things you can do to help maintain our sewer systems and keep our environment clean:

- Do not pour anything into storm sewer drains.
- Keep storm sewer drains clear of leaves, grass clippings, sticks and litter
- Repair any leaks and drips from your vehicle.
- Collect and recycle motor oil
- Clean up spills and don't wash them into a drain.
- Don't pour paints, solvents, cleaners, etc. into any drain – take it to your local county household hazardous waste collection.
- Minimize the use of herbicides and pesticides.

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## Adopt Your Catch Basin



Catch basins are storm sewer inlets that filter out debris such as leaves and litter. They are typically located next to street curbs or in the rear yards of residential areas. It is important to maintain catch basins to prevent storm sewer blockages and minimize the amount of pollutants entering storm sewers. Storm sewers usually discharge directly into streams. Clogged catch basins can also cause water to pond along streets and in yards. This flooding can be a nuisance to motorists and homeowners.

Stormwater drainage systems are typically designed to remove water from a developed area as quickly as possible during a storm. While these systems are convenient for urban residents, they also carry pollutants to surface waters at a “rapid transit” pace. **Contrary to popular belief, pet wastes, oil and other materials dumped into storm sewer grates do not go to the waste water treatment plant, but flow directly into streams and lakes.** For example: dumping oil into a storm sewer grate has almost unthinkable consequences. When it reaches the water, five quarts of oil can create a slick as large as two football fields and persist on mud or plants for six months or more.

### How can you adopt your catch basin?

- **Remove debris from grates** - the grates of catch basins can become clogged with litter or leaves, especially in the spring and fall. Regularly inspect the grate and remove debris. Encourage neighbors to adopt the catch basins in front of their homes, and keep them free of debris.
- **Ensure regular cleaning** - catch basins should be cleaned out before the storage area is half full. Once this level is reached, debris begins to wash into sewer pipes. Cleaning these storage areas should be performed by your local jurisdiction or a private contractor. Contact your local public works department if you are concerned about the catch basins in your neighborhood.
- **Label your storm drains** - stenciled signs or applied decals that read “Dump No Waste - Drains to River” are a good reminder that nothing but water should enter a storm drain. Call the number below for more information about participating in a storm drain labeling event.

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*This article was adapted from a fact sheet prepared by the Washtenaw County's Drain Commissioner's office.*

## Wetlands – What they are and why are they important . . .



**What is a wetland?** A wetland is transitional land that lies between the water and dry ground. It has often been referred to as ‘too wet to plow and too dry to swim’. Most people think of wetlands as marsh-like areas filled with cattails. However, there are many types of wetlands such as swamps, marshes, bogs and fens, and seasonal wetlands such as wet meadows, sedge meadows and wet prairies.

Officially, a wetland contains:

1. Water at or near the surface during at least part of the year.
2. Special wetland soils known as hydric (or moisture containing) soils.
3. Specific types of plants known as wetland plants and vegetation.

### Why are wetlands important?

While some view wetlands as wasted land, in reality they are one of our most valuable resources. Indeed, their importance to the protection of our lakes and streams cannot be overstated. For this reason, many wetlands, particularly the larger ones and those bordering the Great Lakes, are protected by state and federal laws. A number of communities also regulate smaller wetlands. Some of the many benefits we derive from wetlands include:

1. Helping to control flooding and storm water. Wetlands help to stabilize soil and reduce erosion by soaking up excessive surface water runoff. They can then slowly release this excess water either into the groundwater or into the lake or stream.
2. Protecting water quality by filtering and breaking down sediments, nutrients, and toxins and then slowly releasing the water to recharge the groundwater.
3. Providing habitat for many different species of wildlife including fish, insects, amphibians, reptiles, birds and mammals. This habitat is used for breeding, nesting, feeding and cover. Many threatened or endangered species depend on wetlands.
4. Providing numerous recreational opportunities for fishing, bird watching, canoeing, hiking and hunting. In addition, there are other economic benefits such as farming for blueberries, cranberries, wild rice and timber.
5. Treating pollution by serving as a biological and chemical oxidation basin.
6. Controlling erosion by serving as a sedimentation area and filtering basin for silt and organic matter.

You can play a role in protecting our vital wetland resources by helping to restore wetlands, promoting wetland stewardship and permanent protection through conservation easements, and educating



yourself and others about the importance of wetlands and how to protect them.

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