STORMWATER COALITION

The Stormwater Coalition is a committee of the Toledo Metropolitan Area Council of Governments (419.241.9155). The coalition is composed of the following members:

Lucas County
(419.213.4500)
Wood County
(419.354.9000)
City of Northwood
(419.693.9327)
City of Oregon
(419.698.7047)
City of Toledo
(419.245.1050)
Village of Haskins
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Home Builders Association
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Ohio Department of Transportation
(419.373.4433)
Property Rights Coalition
(419.241.4677)

Fertilize Your Lawn if You Must, But Don't Fertilize the Water

The Toledo Metropolitan Area Council of Governments (TMACOG) and the Stormwater Coalition remind people that fertilizer should be applied to lawns sparingly and caringly. And it should stay on your lawn and not get into the storm sewer system where it affects our streams and lakes.

A little care will save you money and will also protect streams and lakes.

First, use only as much fertilizer as you need. A simple soil test will tell you if you need to add nutrients. If you do want to fertilize, use a no- or low-phosphorus fertilizer, and select a slow release fertilizer where at least half of the nitrogen is water insoluble.

Then, don't let your fertilizer wash away into the storm sewers where it will end up in streams and lakes. If we get a rain right after you fertilize, you'll watch your investment flow right to the storm sewers, and fertilizer does not belong in the water supply. Do use a broom to sweep excess or spilled fertilizer off the sidewalks and back onto your lawn, don't use a hose that will wash fertilizer into the street and then into sewers.

Excess amounts of nitrogen and phosphorus can cause blooms of algae in our lakes and streams. Some algae is natural and is part of the food chain, but overgrowth of algae forms mats of goo that clog water inlets and block sunlight to the water. And as algae decay they use up oxygen in the water that fish, frogs, and other wildlife need.

There are ways to keep a lawn green and healthy that are 100 percent free and ecologically sound. When you mow, leave the grass at least 3 inches tall, and leave the clippings on the lawn. Grass clippings will quickly breakdown and enrich the soil. You can also make your own organic fertilizer in a home compost bin. Kitchen waste like vegetable peels and eggshells, combined with leaves and grass clippings will create a rich compost that will keep a lawn or garden healthy and growing.

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Putting Yard Waste to Work

Yard waste is the organic matter that is left over from mowing lawns, pulling weeds, raking leaves, and other landscaping activities. It can be used to improve your yard, but if it is improperly managed, organic matter can enter our streams where it has a negative effect on water quality and habitat.

Options for Dealing with Yard Waste

1. **Grasscycle:** Grasscycling is the simplest way to deal with grass clippings. To recycle grass, only mow one third of the length of the grass and leave the grass clippings on the lawn. Grasscycling has several benefits including reducing lawn management time because there is no more bagging, providing nutrients from the clippings, reducing stress on the grass, which keeps it healthier, and keeping grass clippings out of the storm drains.
2. **Composting:** Turn your yard waste (clippings, leaves, and garden debris) into compost that will be a great soil additive. Mix compost into clay soils to allow water to seep through. The soil will retain moisture and nutrients better. This provides a benefit to your plants and helps reduce stormwater runoff.
3. **Mulching:** Leaves, tree bark, and wood chips from downed tree limbs make excellent mulch. Mulch is a stormwater-friendly way to prevent weeds and reduce soil erosion when applied properly. Mulch should be layered no more than 2-3 inches tall to prevent it from washing away during heavy rains.
4. **Disposal:** Bagging yard waste and taking it to a mulching or composting facility is the best option. Also, some communities offer leaf pickup in the fall. Rather than the waste going to a landfill, it is reused. However, if no yard waste facility is available and yard waste must be disposed of, sending it to the landfill is the next best option.

What *not* to do:

- Never dispose of yard waste into a storm drain.
- Do not hose or sweep grass clippings into the street or sidewalk.
- Do not overwater lawns. Watering too frequently can send nutrients and sediment into storm drains. Most lawns need very little water (about an inch a week) to stay healthy.
- Do not rake leaves into the street during the fall unless your jurisdiction request that you do so for municipal pickup.

Where to recycle/dispose:

- Contact your county's solid waste district for mulching, composting, or disposal locations.
- Lucas County (Yard Waste Collection Center information): http://www.co.lucas.oh.us/index.aspx?NID=791
- Wood County: http://www.wcswmd.org/newyardwaste.htm

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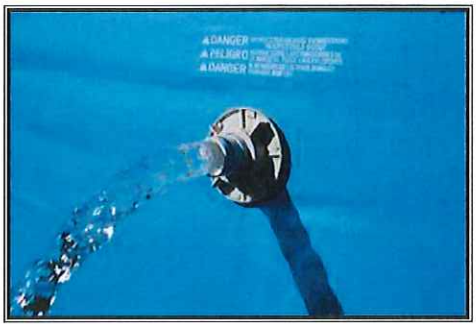
End of Season Pool and Hot Tub Draining



You've spent the summer barbequing, swimming and appreciating Ohio's abundant natural resources and now it's time to pack up the last picnic, send the kids off to school and close the backyard pool. Many pool owners don't know that draining pool water directly to the storm sewer can harm local creeks, rivers and lakes and the fish and wildlife that live in them. This is because pool water contains chlorine, copper, and filter backwash that, when discharged to a storm sewer, runs directly to ditches and streams without being treated.

Discharging chlorinated water through your sanitary drain is the best option because this allows the water to be treated before it enters natural water bodies. In most cases, the sewer rate is based on water use when you filled the pool, so you will not be charged an additional fee. On the other hand, you could incur fines for improperly draining pool water to the storm sewer. If your only option is to drain pool water to a storm sewer, use the steps below to avoid fines and make sure that your end of season pool maintenance does not harm our local waterways.

Step 1: Rest water. Let water sit for two weeks after the last chemical treatment to allow chlorine to break down and leave the water. Allow suspended solids to settle out of the water by keeping swimmers out of the pool for a week prior to draining. The water should not appear murky once suspended solids are settled out. Skim all leaves and algae from the water's surface.

Step 2: Test water. Before draining, water should be near neutral (pH6.5-8.5) and free of chlorine, bromine and algaecides before discharging. Test kits are available at pool supply stores.

Step 3: Use water for irrigation. As much as you can, allow water to infiltrate through grass, gardens, or other permeable surfaces. You can use a hose to evenly distribute and direct water. Stop draining when lawn and vegetation are saturated and water begins to pond. Do not allow water to drain onto your neighbor's property.

Step 4: Drain remaining water. After saturating grass and other vegetation, the remaining de-chlorinated pool water can be drained directly to the storm drain. To prevent soil erosion, make sure that water does not flow over bare soil. Only clear water should be flowing into storm drain. Settled solid materials should be properly disposed of in regular trash or compost and should not be discharged with pool water.

Step 5: Properly store chemicals. To avoid stormwater pollution and injury all chemicals should be sealed and stored off the ground away from potential moisture and water. Follow all storage instructions provided on bottles. When time comes to dispose of chemicals, contact your county hazardous waste disposal facility.

STORMWATER COALITION

June 2014

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Outdoor Car Washing

During warm summer months, many of us enjoy hand washing our vehicles at home. However, when a car is washed on a paved surface like in a driveway or in a parking lot the soap, detergent, automotive fluids, oil, and roadway dirt that gets rinsed from the vehicle flow straight into nearby storm drains. These storm drains lead directly to streams, rivers, Maumee Bay, and ultimately Lake Erie, where car wash water flows untreated. This polluted runoff can cause significant harm to aquatic plant life, fish, and other animals.

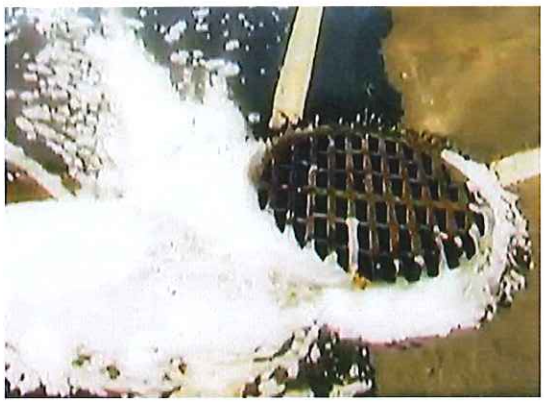


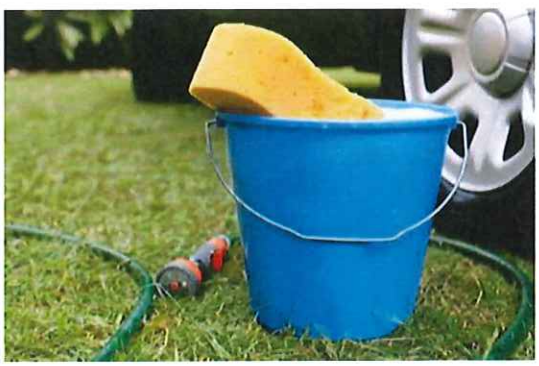
Photo Courtesy of City of Roseville, CA

Since commercial car wash water is treated through the sanitary sewer system, using a commercial car wash is the best way to avoid pollution while keeping your car clean. Most car washes offer low-cost basic car wash options for those on a budget.

If you still prefer to wash your car at home, following a few simple rules will help to minimize harm to our valuable water resources.

1) Never wash your car on a driveway or parking lot. Instead, wash your car on grass or gravel to allow the soapy, dirty water to infiltrate into the soil rather than run it directly to storm drains.

2) Minimize soap usage. Large amounts of soap are not necessary for a clean car and using too much soap requires more water to rinse it clean. Mix a mild solution of biodegradable soap and water in a bucket to sponge scrub your vehicle.



3) Minimize water usage. Rinse your car clean with a hose fitted with a nozzle that will shut off when not in use.

4) Don't wash often. Let the summer rains do most of the washing. Save the car washing for winter months when cars accumulate salts and road debris.

See the next page for guidance on fundraiser car washes.

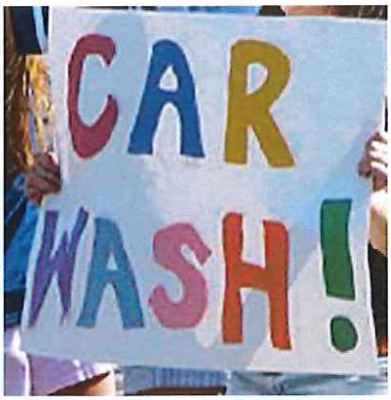


Photo Courtesy of Sacramento Stormwater Quality Partnership

Car Wash Fundraising

While charity car washes are a popular way for organizations such as scout troops, schools, and sports teams to raise funds, most organizations are unaware of their impact on local water resources. A single fundraising event can dump thousands of gallons of soapy, oily, and gritty water into local streams. Consider holding your fundraiser at a local car wash or selling car wash vouchers. If you do choose to host your own hand car wash event, please follow this guidance from the Maryland Department of Environment:

- Selecting the site for your car wash is very important. When talking to property owners of shopping centers, schools, or churches where you are considering holding the event, ask them where the water flows from the storm drains on the property. The best locations will have some stormwater management controls in place. These controls include grass swales, sand filters, oil and grit separators, stormwater management ponds, and wetlands that treat stormwater before it is discharged to a stream.
- If there are no stormwater management controls in place, choose a site where the wash water can soak into grass, gravel, or be diverted to nearby landscaping. This will allow the wash water to filter through the vegetation and/or soil instead of flowing directly into a storm drain. Absorbent pads, which can be purchased at automotive shops, can also be placed in the curb or grass swale to catch oils and other chemicals.
- Remove all trash and debris from the car washing area.
- Do not use acid-based wheel cleaners or engine degreasers.
- A soap-free wash is best for the environment. If you do use soaps, use cleaners or detergents labeled "non-toxic," "chlorine-free", "phosphate- free," or "biodegradable." The safest products for the environment are vegetable or citrus-based products. Using biodegradable soap does not lessen its immediate environmental impact – it simply means that the soap will degrade in time. A flush of "biodegradable" soap suds will still harm fish or invertebrates in your local stream.
- Hold a meeting with car wash volunteers to explain the following methods for reducing environmental impact:
  - Use a bucket of soapy water to re-soap rags or sponges throughout the wash rather than adding soap directly to rags or sponges.
  - Wring sponges and washrags into buckets, not the ground.
  - Conserve water by using a spray nozzle with an automatic shut-off.
  - Always empty buckets into the sanitary sewer system (e.g. sinks or toilets), NOT down the storm drain.
  - Remember to clean up after the car wash fundraiser. Have a volunteer walk the perimeter of the site to pick up trash and debris and dispose of it properly.

Source: Maryland Department of Environment.

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February **2014**

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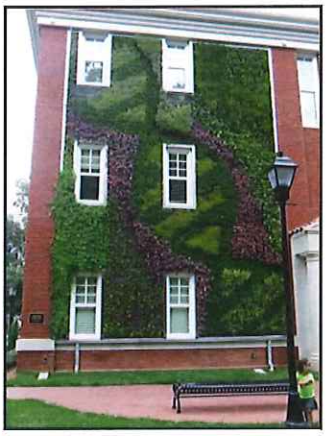
Using "Green Infrastructure" in Neighborhoods

As the snow melts this spring, take time and observe where the water goes. Does it soak into the soil or run across the pavement down a storm drain? When rain falls on hard surfaces like roofs, streets, and parking lots (called "impervious surfaces"), it doesn't soak into the soil as it would naturally. Instead, rain water runs quickly into storm drains and streams, carrying pollutants from roofs and paved surfaces. This runoff also contributes to street flooding and combined sewer overflows, causing raw sewage to discharge into rivers and streams. Cities with more hard surfaces have more flooding and dirtier rivers than cities with more green spaces.



A green wall in Charlotte, NC captures roof runoff.

Native plants, trees, and other landscaping can be used to naturally soak up rain water and keep pollution from waterways. This practice is termed "green infrastructure." Not only can green infrastructure alleviate flooding and clean the water, it is also a way to beautify and green communities. Creating green space and planting trees also supports neighborhood revitalization efforts by turning vacant land into usable recreation areas and making a neighborhood more attractive to potential homeowners, businesses, and shoppers. In fact, studies have shown that people will pay up to 12% more for items in businesses located in tree-lined shopping areas.

Green infrastructure creates beautiful spaces and reduces impervious surfaces.

Green Infrastructure on Reynolds Rd, Toledo

Many jurisdictions in northwest Ohio and across the country have begun using green infrastructure to manage stormwater runoff and reduce pollution in rivers and streams. Green infrastructure can be seen throughout the cities of Toledo and Oregon, on campus at the University of Toledo, at the Metroparks of the Toledo Area, retail developments, and on privately owned property. This spring, look for landscaping features that are doing the work of stormwater management. You may be surprised to find that you are looking at green infrastructure.

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Preparing Gardens for Spring Rains

As the snow melts and spring rains begin, our lawns, gardens, and parking lots are flooded with stormwater. Have you ever wondered where all of that water goes? While some of this rain water lands on soil where it soaks in and helps grass, gardens and trees grow, much of it falls on impervious surfaces (roofs, driveways, roads, and parking lots) and flows directly into storm drains. Storm drains carry the water – and the pollutants the water picks up – directly to nearby rivers and streams. Fortunately, there are things you can do to control stormwater and reduce pollution.

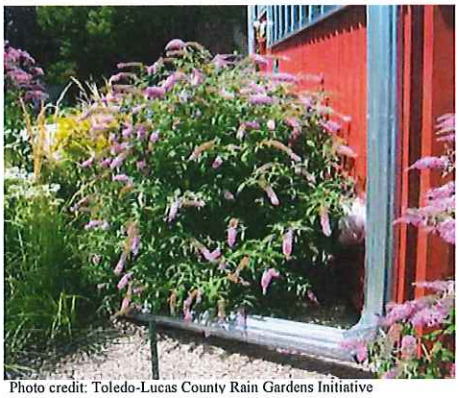

Photo credit: Toledo-Lucas County Rain Gardens Initiative

Recycle Rainwater. A rainwater harvesting system collects the rainwater that runs off your roof and prevents it from ever entering a storm drain. Consider purchasing or making a rain barrel to collect water during wet weather. You can direct your downspouts to drain into a barrel or two. The collected water can then be used to irrigate your lawn and garden during dry weather. Using stored rainwater has the added benefit of saving you money on your water and sewer bill.

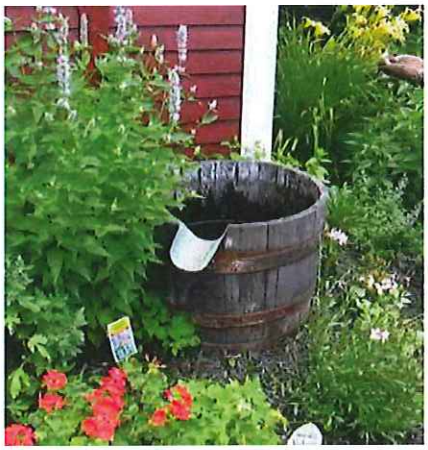

Photo credit: Toledo-Lucas County Rain Gardens Initiative

Another option for water recycling is a rain garden. Rainwater can be directed from downspouts or driveways to a low-lying garden area. Pooled rainwater will slowly percolate through the soil, rather than running off into a storm sewer. Rain gardens are a beautiful addition to any property, help to purify water of contaminants, improve soil quality, and provide habitat for butterflies.

If you are not yet ready for a rain garden or rain barrel, consider routing your downspouts away from paved areas to an existing garden or grassy area. Contact the Toledo-Lucas County Rain Garden Initiative for more information on recycling rainwater. http://www.raingardeninitiative.org/

Be mindful of what you apply to your lawn and gardens. The fertilizers we use on our lawns contain the same nutrients that algae thrive on. After rains, fertilizers can wash into storm sewers, travel downstream to Lake Erie, and contribute to the Harmful Algal Blooms (HAB) that have plagued Maumee Bay and Lake Erie in recent years. Cutting back on fertilizer will not only help improve water quality, it will also save time and money. Most lawns need very little fertilizer to be healthy.

Pesticides that kill troublesome bugs and weeds in your yard can also be toxic to aquatic life, killing beneficial fish, insects, and crustaceans. There are many alternatives to spraying chemicals on your property. Removing weeds by hand is better for your garden plants, keeps chemical contaminants from ever touching your food plants, and is also good exercise. If you must use pesticides, use sparingly by spot treating weeds and insects and never spray near waterways or just before rain.

See the Give Water a Hand tip card for more information:
http://www.tmacog.org/Environment/Stormwater/GWAH_tipcard_2.pdf

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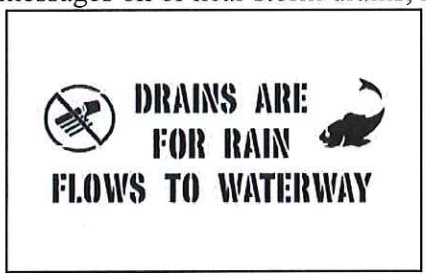
Storm Drain Stenciling

Both youth and adults around the world recently participated in Global Youth Services Day (GYSD), a day designed for young people to volunteer in their communities. This year the focus of GYSD was the environment. Working with Partners for Clean Streams and with funding from the TMACOG Stormwater Coalition, communities in Lucas and Wood counties chose to do storm drain stenciling.

What is storm drain stenciling?

Storm drain stenciling projects use plastic stencils, like the one shown below, to paint messages on or near storm drains, reminding people not to dump anything in the drain.



Storm drains lead directly to streams and stormwater is not treated. So anything dumped in storm drains gets carried along with rain water including pollution and trash! Dumping anything in the storm drain besides stormwater is known as an illicit discharge. Many jurisdictions in our area are required to have ordinances against illicit discharges and to educate the public about stormwater issues.

What can I do in my neighborhood?

The best practices that you can do to prevent stormwater pollution are to not dump anything down the storm drain and to reduce the amount of runoff going to sewers. You can also help by hosting a storm drain stenciling event if your jurisdiction allows it. During the event, groups of 6-10 children and adult chaperones stencil storm drains down a neighborhood street and hang flyers on residents' doors informing them of storm drain stenciling. Storm drain stenciling programs can provide youth groups with the opportunity to help their community.

There are efforts to make the storm drain stenciling program an annual event (the next Global Youth Service Days are April 15-17 in 2011). If you are interested in organizing a storm drain stenciling program, please contact Kristina Patterson, Executive Director for Partners for Clean Streams at (419) 874-0727.

STORMWATER COALITION

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Ohio Department of
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(419.373.4433)

Winter Snow and Ice Removal

With winter weather already here, many of us will be hauling out the boots, gloves, and snow shovels to remove snow and ice from our driveways. But not all approaches to snow removal are stormwater-friendly. Snow- and ice-melting products, known as deicers, can have negative environmental impacts, including fish and vegetation kills, if melted snow and ice carrying the chemicals end up in streams. Some de-icers can release cyanide (used as an anti-caking agent) after they enter streams.

Overuse of certain de-icing products, such as salts, can damage driveways and vehicles and can also be a hazard for pets. Lawns and landscape plants are also at risk for damage from overuse of salts that includes browning of leaves or needles and preventing trees, shrubs, and other plants from getting water. Limiting the use of salt-based de-icers on driveways and sidewalks will help reduce these negative effects.

What you can do to help protect stormwater in winter:

- Shovel or plow your driveway and sidewalks before spreading de-icer. De-icer will not work on deep piles of snow anyway, and shoveling does not require chemicals that could harm streams.
- Limit the use of de-icers, especially those with the most environmental impacts.
- Only use as much de-icer as you need. Large snow piles and thick ice will not melt faster with more de-icer. You can always reapply if you used too little.
- Do not use fertilizer for snow and ice removal. Fertilizers are very poor at snow removal and increase nitrogen in streams when the snow melts.
- Only use sand for traction. Kitty litter and ash become clumpy and are difficult to clean up after use.
- Pets can be harmed by some de-icers. Wipe your pet's paws if they walk on any salts or chemicals. This helps prevent ingestion and damage to their paws.

Not all de-icing products are equal in terms of cost, environmental impact, or effectiveness.

De-icer	Lowest Temperature	Cost*	Environmental Impact
Calcium Chloride	-25 degrees F	3 times more than rock salt	Less salt required No cyanide Contains chlorine
Magnesium Chloride	5 degrees F	Comparable to other salts	Least toxic deicing salt May cause tracking or discoloration
Sodium Chloride ("rock salt")	15 degrees F	Around 5 dollars per 50 lb bag	May contain cyanide Contains chlorine
Urea (fertilizer)	20 to 25 degrees F	5 times more than rock salt	Contains excess nutrients Less Corrosive
Calcium Magnesium Acetate (CMA)	22 to 25 degrees F	20 times more than rock salt	Less toxic
Sand	Does not melt snow/ice	Around 3 dollars per 50lb bag	Accumulates in streets and streams Needs to be swept

*Source: *Snow, Road, Salt and the Chesapeake Bay* by Tom Shuler, Center for Watershed Protection

Advantages of Pervious Pavement for Winter

The three types of pervious pavement (pavement that allows water to pass through): permeable interlocking concrete (concrete pavers separated by joints), pervious concrete, and porous asphalt, have advantages in winter compared to conventional pavements. Snow melts faster on pervious pavements than on conventional pavements. Pervious pavements immediately drain the melted snow, reducing the risk of ice formation and hazards. Permeable interlocking concrete and porous asphalt are also highly resistant to freeze-thaw cycles and require less de-icing materials.

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Don't Let Your Pet Pollute

Pet waste left on the street or lawn does not just go away. It is often washed into storm drains, ditches, streams, rivers, and then into Lake Erie. Kitty litter dumped outside can also be washed into drains and end up in the lake. Since stormwater is not treated, bacteria in pet waste can end up in rivers and Lake Erie from which we get our drinking water.

Why You Should Pick Up After Your Pet

- Cleaning up after a cat or dog is something we can all do to keep our water safe for fishing and swimming.
- Pet waste is not good lawn fertilizer; the bacteria in waste does more harm than good.
- Proper disposal of waste can prevent the spread of harmful bacteria and viruses from animals to humans.
- Organic matter in pet waste can degrade water quality. The decay of waste uses up dissolved oxygen and releases ammonia. This process can kill fish and other aquatic life.

What You Can Do

- Pick up pet waste from your yard. No one wants to play or eat outside in a yard fouled with pet waste. Simple scooping tools make this job easy.
- Carry disposable bags while walking your dog so you can pick up and dispose of waste properly.
- Encourage your neighbors and other pet owners to be responsible. Support projects that share information about pet waste and make pet waste pick up easier.

How Do You Dispose of Pet Waste Properly

- The ideal solution is to pick up after your dog and flush the waste in a toilet. That way the waste is treated before water returns to rivers and lakes.
- You can also put animal waste in your trash bin. Dispose of waste in the bag you collect it in. Just tie the bag tightly to avoid a spill.

What You Should Not Do

- Do not put pet waste in a catch basin, storm drain, or in the street.
- Do not add pet waste to a compost bin. The compost pile will not get warm enough to kill disease-causing organisms.
- Do not use pet waste as lawn or garden fertilizer.

Remember, stormwater is not treated and goes directly into ditches, rivers, and lakes. We can all help protect our water supply by being careful about what gets in the stormwater system.

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What Lucas County Residents Should Know about FEMA and Flood Risk

The Federal Emergency Management Agency (FEMA) is currently reviewing floodplains in all coastal areas of the United States, which includes Lucas County. The purpose of the review is to better define flood-prone areas using the most accurate data and modern mapping technology. The FEMA review and the maps the agency is producing will enable Lucas County residents to better evaluate the risk of flood damage to their property.

Many people with property in an area that is a floodplain are required to have flood insurance. Specifically, any federally backed mortgage (which includes mortgages from FDIC banks) requires flood insurance on property that is located in a floodplain. The revised maps that will be issued by FEMA will more accurately define floodplains and flood-prone areas. It's possible that some areas previously considered in a high-risk area will no longer be considered so and that other areas will now be shown within floodplain boundaries. Even if it's not required by terms of a mortgage, this more accurate information about the risk of flooding will help homeowners make decisions about whether to purchase insurance.

Flood Insurance Discounts to Lucas County Residents

Lucas County and the Lucas County Engineer's Office are taking steps to reduce flooding and the damage caused by floods. If Lucas County is successful in establishing a Community Rating System, then Lucas County residents may receive a discount on flood insurance rates.

FEMA projects a release date for initial draft maps by the end of this summer. The maps will show the more accurately delineated floodplain area as an overlay on aerial photographs. Individual properties should be visible. Release of the maps will be followed by a public review period where citizens can see updates to the floodplain area and learn about the mapping methodology used to determine floodplain areas. Households in or near a flood-prone region will also be notified by letter. When they become available, the draft maps will be posted on www.co.lucas.oh.us/Engineer/FloodNews.asp. After public review and comment, FEMA will revise and finalize the floodplain maps. FEMA's timeline for new floodplain delineations anticipates completion in 2009.

Those who find their property shown in a floodplain on the preliminary FEMA maps should purchase insurance before the maps become final in 2009. If a new FEMA map shows a property in the floodplain that was not in the floodplain before, then the property owner may be able to purchase insurance based on the earlier, out-of-floodplain delineation. A household that has been in a floodplain and is still in the floodplain on the new maps may keep rates lower by keeping their policy current. Homeowners who have received a federal grant for previous flood losses must have a flood policy to qualify for future aid. Note that sewer backups are not covered in flood insurance policies and are not part of a standard homeowners policy. Most household policies do not cover flooding in basements or areas below grade (below ground level).

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Why flooding is a Problem in Lucas County

Lucas County is very flat and has a lot of water close to the surface. When everything is the same level and wet already, it is hard to drain away excess water. Properties in Lucas County are subject to three flood problems: overbank flooding, local drainage, and sewer backup. In an effort to drain Lucas County, we have lots of ditches, all draining eventually to Lake Erie. If water in the lake is high due to wind or rain, ditch water will not flow into it. If we have a big storm or several days of rain, the ditches fill and the water has nowhere to go but to overflow the banks and spread out. In urban areas, storm sewers have been built to carry water away from streets. Storm sewers drain the streets by funneling water to the ditches. When those ditches are full, local drainage is overloaded and water backs up in the sewers. Your property probably drains into storm sewers. When ditches are overfull, and storm sewers are full, water will seek its level which may be your basement.

Floodplains are Necessary

Floodplains should be seen in their natural context. Open and natural areas absorb much more stormwater than pavement or even lawns, reducing flood flows on downstream properties. Wetland plants also filter stormwater and flood runoff reducing water pollution in rivers and lakes. Wetlands are habitat for frogs, butterflies, and increasingly rare plants. The best way to manage stormwater is to treat it as close to where it falls as possible, to allow water to slowly subside into soil, to store it naturally rather than let it run across parking lots carrying chemicals and debris to the nearest ditch. Wetlands are one of our area's most important natural resources. When we live in a low, swampy area, we need to learn how to live with and appreciate our wetlands and floodplains.

For more information on FEMA's mapping program and the Lucas County Engineer's Office, research Community Rating System (CRS). Also see National Flood Insurance Program (NFIP), and Digital Flood Insurance Rate Maps (DFIRMs).
www.co.lucas.oh.us/Engineer/FloodNews.asp

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Property Rights Coalition
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Great Ditches Make Great Lakes

People living near the Great Lakes may not have the sunshine of Arizona or the climate of California, but we do have the most important natural resource on the planet: we have 20 percent of the earth's fresh water at our doorstep. As neighbors of the Great Lakes, one way we can keep their waters clean is by keeping pollutants out of the ditches and streams that drain into Lake Erie. The Stormwater Coalition recommends that people in the region adopt a simple strategy of maintaining a border of vegetation around our streams and ditches. Vegetated riparian buffers are strips of land adjacent to rivers and streams where grasses, shrubs, and trees are planted or allowed to grow naturally. These small strips of land have a substantial impact on a community's ecology and economy.

Improve Water Quality

Riparian buffers enhance water quality primarily through a process called biofiltration. Biofiltration uses leaves and roots to capture the silt and pollutants carried by stormwater runoff. The stormwater filters through the vegetated buffer and eventually seeps into the stream cleaner than it was when it came off the road, parking lot, or farm field. Living materials doesn't just trap and hold pollutants; petroleum products, nitrates and other products that affect water quality actually degrade into innocuous substances.

Prevent Erosion

In addition to improving water quality, a riparian buffer also stabilizes stream banks, protects habitat, and helps prevent floods. Even streams that have been channelized can be improved by planting or otherwise creating vegetated riparian area. The roots of trees and plants growing on stream banks hold that earth together and resist erosion from water flow. Erosion is a significant issue in flat northwest Ohio. The resulting downstream sedimentation has a direct effect on the quality of water in the Maumee Bay and Lake Erie.

Improve Habitat

Riparian buffers and their plant life provide high quality habitats for wildlife - increasing biodiversity and producing forage for wildlife and livestock. Uninterrupted river miles of riparian buffers form corridors that enable fish, birds, crustaceans, and small mammals to move along river systems. Shade provided by riparian buffers moderates water temperature, enabling a healthier aquatic food web and reducing the presence of aquatic nuisance species.

Help Prevent Flooding
Riparian buffers reduce the likelihood of flooding in three ways. First, riparian buffers encourage the natural meandering of the waterway. This slows the velocity of water during major rain events. Second, riparian buffers prevent sedimentation of the waterway so the stream can hold more water during larger storm events. Finally, riparian buffers also lessen the damage from flooding by holding water, enabling water to soak slowly into the ground, and by absorbing excess flow during flood events.

Economic Benefits
Implementing natural stormwater management techniques produces cost savings in technology and infrastructure over the long term. Water that stays clean does not have to be treated later. Natural habitat also adds to the aesthetic value of the surrounding area and increases property values. A home with a naturally vegetated clean stream in the back yard will be in higher demand than a house with a polluted drainage ditch behind it.

How to Establish Useful Riparian Setbacks
The value produced by the riparian buffer increases with the amount of uninterrupted vegetated land in a continuous riparian corridor. A patchwork of riparian buffers does not produce the same high quality benefits as a continuous vegetated riparian corridor. To establish riparian buffers consistently across property lines, public zoning is practical and efficient. The area of a natural or planted riparian setback can be described in zoning codes just as are other setbacks - such as front, rear, or side setbacks - that are common in zoning codes. The Stormwater Coalition has established model language that townships, counties and other jurisdictions can adopt for their regulations.

To protect water quality in the Great Lakes, start with protecting water quality in the streams and ditches in your own backyard. Smaller streams are in the most need of protection because they are the easiest to modify to the detriment of the drainage system and the easiest to overlook. Support establishment of riparian setbacks in your local zoning regulations. Although long stretches of riparian areas is best, every little bit helps. Private owners can act to preserve riparian lands on their own property by establishing a conservation easement. Private landowners are also generally eligible for tax benefits when dedicating their land to conservation.

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Storm Drains are for Rain, Not Paint

Spring cleaning season is upon us. As you go through your basement hauling out items that you want to dispose of, separate things that can go in the regular trash (landfill) from materials that should go to a hazardous waste facility. And don't throw or wash anything down a storm drain.

Items that need special handling include electronic waste, household hazardous waste, and tires. Examples of electronic waste are any kind of batteries and any appliances with circuit boards including phones, cameras, computers and accessories, and also CDs, and cassette and VHS tapes. Household hazardous waste includes gasoline, all vehicle fluids, fertilizer, fire extinguishers, fluorescent bulbs, and oil-based paints and stains.

For a more complete list of hazardous waste products, go to your county website. The Lucas County Sustainability Commission (http://www.lucascountygreen.com/recycling.html) provides recycling links to county and city programs, as well as nonprofits that accept recyclables. It includes Keep Toledo/Lucas County Beautiful, which provides a detailed recycling guide. Also see these frequently asked question links:

- http://www.lucascountygreen.com/recyclingfaq.html
- http://www.lucascountygreen.com/hazardousfaq.html

In Wood County, go to http://www.wcswmd.org/newreycling.htm or call 419.354.9297. The Wood County website has a household recycling directory, including hazardous and electronic waste and also a calendar showing recycling events in different communities.

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Change in the Weather, Change Stormwater Strategies

Leaf Collection & Management

Keep leaves out of storm drains and do something useful with them. Several options are available:

- Spread leaves like mulch in your planting beds or around trees. The leaves will decompose providing excellent fertilizer for your plants in the spring.
- Compost them.
- If you must dispose of leaves, use a community compost or yard waste facilities.
- Participate in a residential leaf pick-up program. Most Stormwater Coalition member jurisdictions offer fall leaf collection (be sure to check with your jurisdiction for collection days in your area).

Most residential leaf collection programs ask residents to rake leaves close to the streets, but not in them. Leaves raked into the streets can wash into storm drains and clog them. Excess organic matter in drains is never a good idea. Note that some jurisdictions do request that leaves are collected into the streets. If you live in one of these communities, wait to rake them into the street until the day or week of collection and keep piles away from drains.

Gutters

Fall is a good time to clean out roof gutters and while you are up there, think about gutter protection. Gutter protectors work the way storm drain grates do by preventing leaves and debris from entering the gutter in the first place. Improperly maintained roof gutters can harbor bacteria (from decaying plant leaves and plant matter), which can be carried with the runoff. Gutter overflows from blockages can cause soil erosion below the overflow site causing excess sediment in the stormwater runoff.

Example of a roof gutter requiring cleaning.

Winterizing Rain Barrels

Rain barrels can be damaged if they are not properly maintained for the winter. The best option to winterize a rain barrel is to disconnect it completely.

- Disconnect the rain barrel from your downspout and install a downspout extension to redirect water away from your house.
- Drain your rain barrel completely. Water remaining in the rain barrel may freeze.
- Store your rain barrel indoors for the winter or flip it upside-down to keep out precipitation that may freeze and damage your rain barrel.

If you plan to keep your rain barrel connected for the winter, be sure to disconnect any hoses from the rain barrel valves. These valves can be damaged by expansion and contraction of metal due to temperature changes. Insulating your rain barrel is another option.