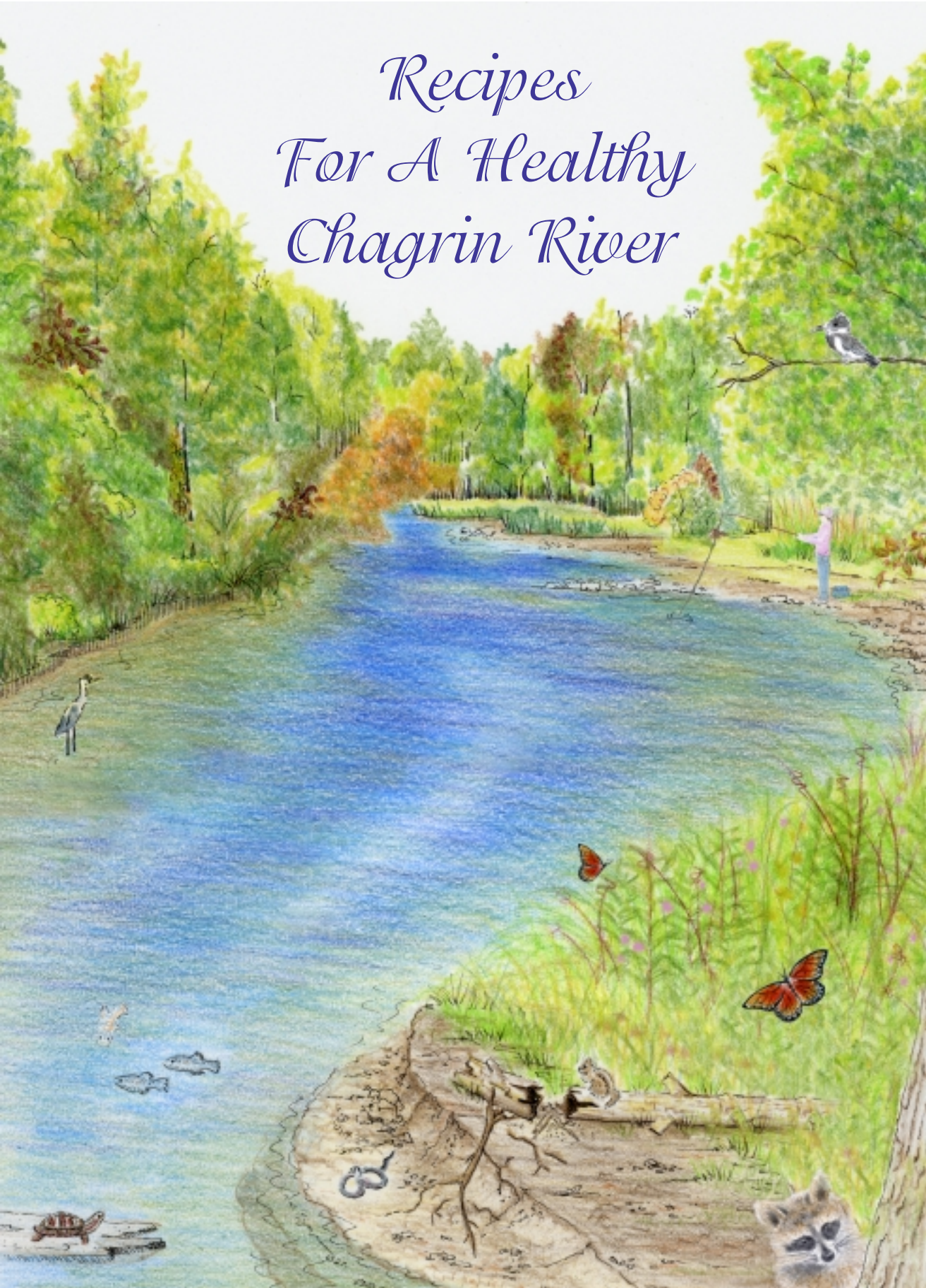
Recipes For A Healthy Chagrin River



Clean Waterways Begin With You!

Take A Minute

In just sixty seconds, you can pick up a tip to help improve water quality in the Chagrin River Watershed.

Make A Change

Take an idea from our recipe book, make a change, then repeat the cycle.

Spread The Word

Spread the word . . .
at home, at work, in school. Plant an idea with a friend and watch your efforts grow.

Recipes For A Healthy Chagrin River Watershed

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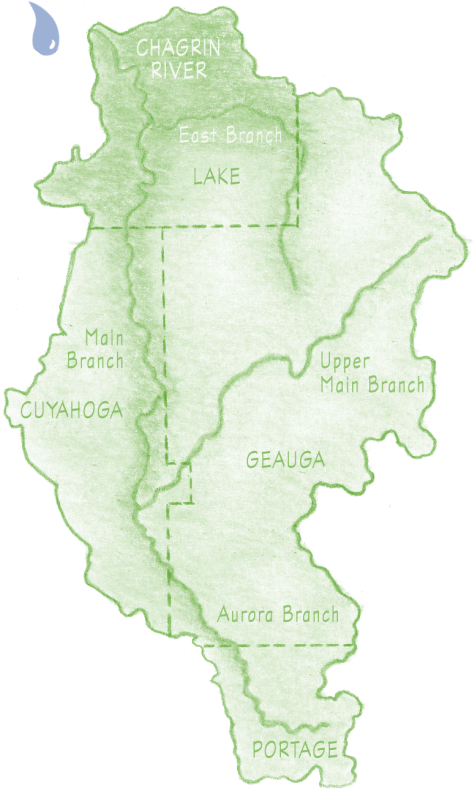

Chagrin River Watershed

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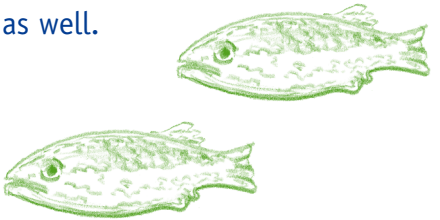
Covering an area of 264 square miles, the Chagrin River drains approximately 264 square miles in north-eastern Ohio, including portions of Cuyahoga, Geauga, Lake and Portage Counties to Lake Erie. It borders the Cleveland metropolitan area, and flows through thirty-nine municipalities and townships, yet has retained its scenic characteristics.

First called the Elk River in the 1700's. Later named the Shaguin to memorialize a French trader named Sieur de Saguin. The Chagrin was designated as a State Scenic River in 1979. The original designation of 49 miles includes the Aurora Branch from S.R. 82 to its confluence with the main stem of the Chagrin, main stem of the Chagrin downstream to US Rt. 6, and the East Branch from Heath Road Bridge down-

stream to its confluence with the main stem. An additional 22-mile Scenic designation was extended in November 2002 to include the headwaters of the Chagrin, also known as the Upper Chagrin. **A total of 71 miles is now designated as Scenic.**

The Chagrin River watershed was shaped by glacial activity thousands of years ago. The resulting soils and geologic deposits contribute to the high quality and varied habitats within the watershed. The river valley offers a diversity of terrestrial and aquatic plant communities, wildlife, unique rock outcroppings, and extensive headwater wetlands. The Chagrin is one of only a few streams in Ohio known to support the American Brook Lamprey, a nonparasitic lamprey species and is also home to the native Ohio brook trout.

Land use has been changing in the Chagrin River valley since the settlers first arrived in the 1700's. These families cleared forests and drained wetlands to build farms and villages. The Chagrin River, particularly in the area of Chagrin Falls, was used for mills in these early days as well. In spite of massive clearing and continued farming, residential, commercial and industrial development, the Chagrin River has maintained high water quality and natural beauty.



Stormwater

Walk the dog. Wash the car. Change the oil. Add some anti-freeze. Kill some weeds. Fertilize the lawn. Certainly nothing illegal about any of it. But quietly, our most common household chores are having an unhealthy impact on our waterways. Each time it rains everything we leave on our streets, driveways, and lawns washes untreated through our ditches and storm drains and into our streams, rivers, and lakes. These pollutants threaten the health and beauty of the Chagrin River. What's so hard about stopping pollutants streaming into our local waters? Not a thing. We've cooked up some easy solutions to help.

* *If you choose to use chemical fertilizers, pesticides or herbicides, use them sparingly and follow label directions carefully. Never apply fertilizers or pesticides when rain is forecast.*
* *Remember, chemicals are not the only way to control pests and grow a nice lawn. For better ways to control pests and landscape your yard, contact your County Soil and Water Conservation District or local Ohio State University Extension Office.*
* *Recycle or properly dispose of used motor oil and other hazardous wastes. One quart of motor oil can contaminate up to 2 million gallons of water. Call your local Solid Waste Management District for proper recycle/disposal information. Also consider having your car's oil changed at an auto repair shop where proper disposal is ensured.*

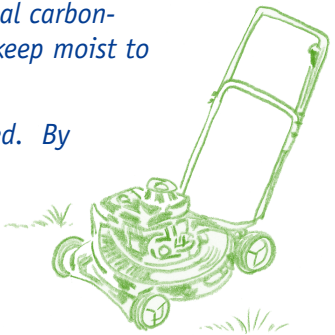
* *Consider taking the car to a commercial car wash, where wastewater is managed to protect our waterways. Or consider washing the car on the grass with a mild biodegradable soap.*
* *Reduce the amount of paved surfaces around your home. Using bricks, stones, or pea gravel for driveways, walkways and patios can reduce the amount of rainwater flowing into storm drains as well as help to filter pollutants.*
* *Be sure that gutters and roof spouts empty onto the grass or into a covered rain barrel, where rainwater can soak into the ground or be used later for watering plants rather than rush over asphalt and concrete. Be sure to check with your local drainage codes and community officials to ensure your disconnection will not impact other property owners.*
* *Keep leaves, grass clippings, fertilizers, soaps, litter and harmful chemicals away from streets, ditches, storm drains and waterways. These waste products feed our waterways with added nutrients and toxins that contribute to harmful algae blooms and fish kills.*
* *Bag pet waste and place it in the trash. Pet waste contains harmful bacterial pollutants and nutrients which imperil waterway ecosystems. Pathogens from pet waste and combined sewer overflows contaminate Lake Erie beaches.*

Landscaping and Lawn Care

Each of the roughly 69,000 lawns growing in the Chagrin River Watershed has an impact on the health of our waterways. Landscaping with native plants is one of the best ways to improve the health of the Chagrin River and Lake Erie. Such landscaping uses less water, reduces dependence on pesticides and fertilizers and pares down water bills. Best of all, designing and planting a native landscape is fun because you are planting species suited to Ohio's climate and soils. Here are some tips for an eco-friendly lawn:

* *Choose plants, shrubs, trees and ground covers that do well in your area with little or no watering. Properly selected native plants are adapted to our soils and climate, and require less watering than introduced species. Your County Soil and Water Conservation District or Ohio State Extension can help you to select native plant species.*
* *Native plant species also provide valuable wildlife habitat with available cover and food.*
* *Grouping plants by water needs makes watering more efficient.*
* *Trickle and drip irrigation systems can reduce water use by as much as 50 percent.*
* *Proper mowing and fertilizing techniques help conserve moisture and reduce water uses.*
* *Organic mulches also help retain moisture and reduce water use.*
* *Reduce the amount of actively mowed lawn and create a meadow in your yard.*

* *Mow lawns to the proper height, 3" for most lawns with a sharp blade, and never cut more than one third of the existing grass height at one time. Cutting too low leaves the lawn vulnerable to stress and disease.*
* *Use a mulching mower and leave clippings on the lawn.*
* *Nitrogen and phosphorous in fertilizers help grass grow. But used improperly or excessively and if allowed to run into our waterways, they spur oxygen-depleting algae blooms that kill fish and block sunlight from reaching underwater plant habitats.*
* *Before fertilizing, test the soil to see if fertilizer is needed. Information on where to get soil test kits is available from local OSU Extension offices and your County Soil and Water Conservation District. Be sure you are using the right type and amount of fertilizer at the right time of year.*
* *Build a backyard compost pile of leaves and grass clippings to create a naturally rich fertilizer and mulch. Mix two parts grass to one part leaves for the ideal carbon-nitrogen ratio needed to "cook" the pile. Stir the pile frequently and keep moist to quicken decomposition.*
* *Mulch the leaves by running a mower over the lawn with the vent closed. By leaving clippings on the lawn after mowing, you can reduce the need for additional nitrogen with fertilizers by as much as one third.*



Winter Stormwater

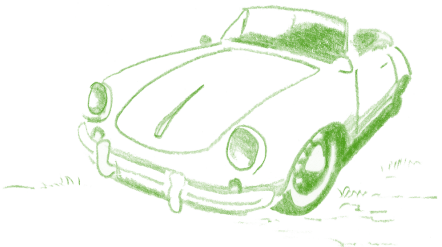
In the winter, the frozen soil conditions do not allow stormwater to filter through the ground. While runoff may not occur due to frozen conditions, when the snow melts, the pollutants are quickly carried to our stormwater system, rivers, and Lake Erie. There are a number of ways you can help prevent storm water pollution throughout the winter months:

* ***Road Salt Alternatives**: Potassium Acetate (KA) is an alternative to road salt and is just as effective yet less harmful to our native flora and fauna. While KA is not a feasible alternative for de-icing extensive amounts of roadway due to its cost, it is a feasible alternative to de-ice front walkways or driveways. This is readily available at your local hardware store.*
* ***No Garage Rinsing:** While it is tempting to take out the hose and spray the gray sludge and salt off of your car and out of your garage on a relatively warm winter day, this is not a good idea. Along with the residue left from de-icing materials, oil, gas, and a plethora of other pollutants ooze from your car and often end up on the garage floor. Instead, take your car to a car wash and sweep your garage and properly dispose of the waste.*
* ***Don't Spread Manure.** Manure does not break down during cold weather; it simply sits on top of the soil and is vulnerable to being washed away by the rain into our stormwater systems. Additionally, when the ground is frozen, manure does not decompose and its nutrients are not absorbed into the soil; therefore, it does nothing to benefit your soil. Composting manure over the winter months will also help you prepare for spring planting season.*

From Driveways to Waterways

The best recipe to reduce water pollution, of course, is to prevent it. And around the home, the driveway is a good place to start. Take those cars of ours. Vehicle fluids such as oil, gas, antifreeze and brake fluids are among the nation's leading water polluters. Here are some easy steps to reduce these pollutants.

* *Washing the car on the street or driveway on a sunny day may be as American as baseball. But car washing detergents are toxic to fish and other aquatic animals and may contain nutrients that cause algae blooms. The runoff also carries heavy metals, sediments, oil and grease that are washed off the vehicle. Consider taking the car to a commercial car wash. Or, try washing the car on the grass to filter pollutants. Using a nozzle on the hose limits water use and runoff.*
* *If you spill engine degreaser, tire cleaner, brake fluid, antifreeze or oil on the driveway, do not hose it off. Instead, sprinkle cornmeal, sawdust, cat litter or a commercial absorbent product over the spill, let it soak a few hours, then sweep it up and properly dispose.*
* *Fix that leak! Most of us wouldn't think of pouring a quart of oil in the river or lake. Yet we allow our cars to leak oil, gas, and antifreeze onto our streets, roads, and parking lots and eventually into our waterways.*



Drop by Drop

Rain isn't the only ingredient to water pollution. We water our yards to satisfy non-native plants, wash our cars, and even spray down our sidewalks and driveways to make them look nice. Too often, we are needlessly using water. The less water we use the less polluted runoff we will be sending to our waterways. You can reduce your water use by:

* *Growing indigenous plants. Plants that are native to the area and properly selected, can save more than 50 percent of the water we use to maintain our home landscapes.*
* *Putting a spray nozzle on your hose can save hundreds of gallons of water with each use.*
* *Using less water inside the house can also improve water quality. The more tap water we use the more treated water we are adding to our streams, rivers and lakes.*
* *Washing a driveway or sidewalk with a hose uses about 50 gallons of water every 5 minutes. Consider using a broom and dust pan.*
* *Use drip irrigation systems or sweating or drip hoses.*
* *Adjust the automatic irrigation systems to prevent their use when it rains and to minimize spraying water onto non-vegetated areas.*

Clean Living

The slightest lifestyle change can have a big impact on the health of the Chagrin River and Lake Erie.

* *Remember, only rainwater belongs in a storm drain.*
* *Opt for water-based latex paints over oil-based paints, and avoid thinners and strippers that contain chlorinated solvents.*
* *Ask painters, carpet cleaners and other contractors how they keep pollutants from entering storm drains and the groundwater system. If you're not satisfied, choose someone else.*
* *Dispose household chemicals properly. Improper disposal of hazardous household chemicals can pollute the air, water and ground. Call your local community for proper disposal information.*
* *Keep fertilizer, pesticides, automotive fluids, and other products away from paved areas where they can run off more easily.*
* *Even biodegradable soaps are highly toxic to fish and aquatic wildlife.*
* *Before draining your swimming pool, let pool water sit until testing no longer identifies chlorine or other sanitizers.*

Grandma Knows Best...

Turns out that Grandma was doing more to protect our rivers and lakes than we do. All she was trying to do was clean the house. Her time-honored cleaning recipes relied on the likes of baking soda, borax, vinegar, club soda and lemon juice, products far less harmful to people and the environment than those hazardous household cleaners we buy from the grocery stores today. Here are a few of Grandma's best recipes.

Window Cleaner: *¼ cup vinegar, ½ teaspoon dish soap and 2 cups to 1 quart of water. A good quality squeegee makes the windows streak free. Others swear by 2 tablespoons of Borax for every three cups of water. Still others rely on mixing a tablespoon of lemon juice in 1 quart of water. Wipe dry with a crumpled newspaper.*

All purpose cleaner: *Mixed together, vinegar and salt make a good surface cleaner. Dissolving four tablespoons of baking soda in a quart of warm water also makes for a good general cleanser, as well as straight baking soda on a damp sponge.*

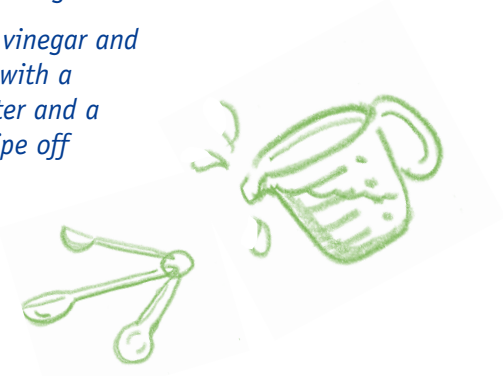
Drain Cleaner: *Pour ½ cup of baking soda down the drain and follow with ½ cup of vinegar. Cover the opening if possible. Let it sit for a few minutes, then pour a kettle full of boiling water down the drain. This method is not to be used if you have already tried commercial drain opener. Another option: try pouring a can of soda down the drain.*

Disinfectant: *Mix ½ cup Borax in a gallon of hot water and clean or dilute vinegar with water and use in a spray bottle.*

Decals and adhesives: *In one word, vinegar. Saturate a sponge with hot vinegar and squeeze over no slip decals on the bathtub floor. Squeeze behind adhesive-backed hooks to pry them loose. Vinegar also removes decals, stickers and price tags from china, glass and wood. Just paint with coats of white vinegar, let it sit for a few minutes, and then rub off the sticker or decal.*

Cleaning and degreasing auto or boat parts: *Use commercially sold soy-based or citrus-based cleaners. They are less toxic and they biodegrade.*

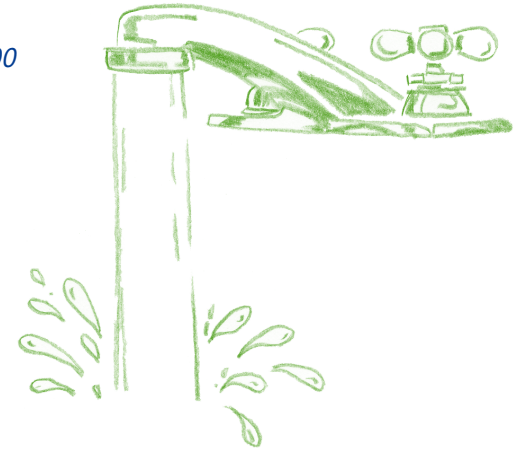
Polishing copper and silver: *Use equal amounts of vinegar and salt to clean copper pots and pans. Boil your silver with a teaspoon of salt in a pot with about 3 inches of water and a sheet of aluminum foil for several minutes. Then wipe off tarnish with a clean cloth.*



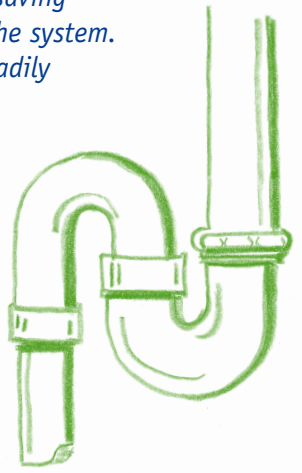
Septic Systems

Over 30,000 homes in the Chagrin River watershed rely on underground septic systems to dispose of household wastewater. The U.S. Environmental Protection Agency estimates that one quarter of all American homes depend on home sewage treatment systems such as septic tanks. If not installed or maintained properly, underground septic systems could contaminate groundwater and surface water with dangerous nutrients and disease causing bacteria. Here are some helpful tips to maintain your system:

* *The U.S. EPA recommends pumping out septic tanks every three years for a three bedroom home with a 1,000 gallon tank. Smaller tanks should be pumped more often. Many communities and local health departments have mandatory pumping and point of sale inspection requirements. Check with your local community for pump-out requirements.*
* *Do not use chemicals for cleaning out the tank. They can do more harm than good because chemicals can kill beneficial bacteria that break down raw sewage.*



* *Fix dripping faucets and install low-flow, water saving toilets and shower heads to avoid overloading the system. These fixtures, particularly shower heads, are readily available in this area and easy to install.*
* *Commercial septic tank additives have been shown to be ineffective and are not recommended.*
* *Install new septic systems as far away from water bodies as possible.*
* *Do not add grease, diapers, paper, plastics and cigarette butts to the system. These materials do not decompose and can clog the system, increasing maintenance need while threatening area waterways and groundwater.*
* *Contact your local health department for more information about septic system maintenance.*



"Do not use chemicals for cleaning out the tank. They can do more harm than good..."

Boating and Marinas

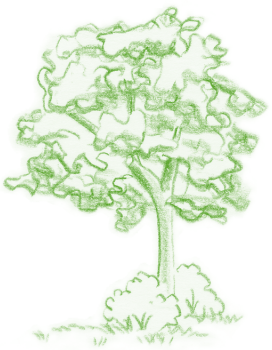
The small amount of raw sewage, litter and used oil or cleaning products dumped off your boat might not seem like much to you. But multiplied by the thousands of recreational and commercial boaters who think the same, the impact swells. Clean boating means clean healthy waters. Follow these simple steps to make a difference:

* *Clean and maintain boats away from the water. Use a drop cloth. Vacuum paint chips and dust. Use legal bottom paints; avoid toxic TBT paints.*
* *Fuel-up carefully. Recycle used oil. Keep motors well tuned to prevent fuel and lubrication leaks.*
* *Empty sewage into shoreline wastewater facilities and never throw litter overboard. Not only does litter look bad, it injures and even kills aquatic life.*
* *Observe "no wake" zones. Boat wakes contribute to shoreline erosion and stir up bottom sediments that block sunlight from reaching underwater vegetation.*
* *Flush winterizing agents and antifreeze from the engine prior to launch each season.*
* *Use environmentally friendly products on your boat, e.g., non-phosphate detergents, biodegradable products, and a scrub brush.*
* *Secure trash in a garbage receptacle on board and dispose of it properly on shore. If disposing at a marina, follow their recycling rules.*

Streams and Rivers

The river valley and Lake Erie are defining features of the communities in the Chagrin River watershed, providing a variety of topography, fishing, boating, and scenic vistas. Many people who live in or visit the area do so because of our greatest asset – the water. There are a variety of things property owners can do to protect our streams and ultimately Lake Erie:

* *Plant native trees, shrubs and grasses. Such plantings have a greater success rate than non-native species. OSU Extension offices or your County Soil and Water Conservation District can offer advice on plant selection and placement. Establish a no mow zone of native plants between your lawn and the streambank – 30 feet or more is best. If access to the stream is desired, keep a small area mowed for picnic and seating areas. Natural buffers not only protect streambanks from storms, but also provide food and shelter for fish and wildlife, and protect your home from erosion and flooding.*
* *Trees are especially important to streambank stability. Tree roots not only stabilize banks, but also assist in removal of excess nutrients and sediments. By providing shade, trees decrease water temperature and create a much happier and healthier place for fish and other aquatic wildlife.*
* *Keep livestock away from streambanks and provide them a water source away from waterbodies.*



Wetlands

Over 80 percent of the original wetlands in the Chagrin River watershed have been filled or drained. Our remaining wetlands provide valuable flood control, erosion control, habitat, and pollution reduction. We need to protect our remaining wetlands and, where possible, restore wetlands.

* *Establish areas of native plants at least 30 feet around the wetland or simply avoid mowing within 30 feet of the wetland.*
* *Restore wetlands. Contact the Chagrin River Watershed Partners, Inc. or your County Soil and Water Conservation District for additional information on steps you can take to create or restore wetlands on your property.*
* ***What about mosquitos?*** *Many concerns have been raised regarding wetlands and West Nile Virus (WNV). In fact, healthy wetlands contain many predators of mosquito larvae and regular water level fluctuations deter and control mosquitoes.* ***It is much more likely that you will find mosquitoes carrying WNV in standing water such as gutters, bird baths, old tires, and buckets, than in wetlands.***

Preserving Your Property

One of the best ways to protect the Chagrin River Watershed is to maintain functioning open space. Over the years many property owners have chosen to preserve their properties with no or limited development. Individual landowners can preserve their property through several mechanisms. Among the most common are land donation and conservation easements. The conservation easement is the tool most often used because it allows landowners to achieve their land protection goals while maintaining ownership and a high degree of control over their property. A conservation easement is a deed restriction on a piece of property to protect natural resources on the property while leaving it in private ownership. The easement guides future use of the property regardless of ownership, time, or other factors such as zoning. Easements provide numerous benefits, including:

* *Property owner maintains ownership of the property and can live on it, sell it, or pass it on to heirs, knowing that it will always be protected according to their wishes.*
* *Easements can be tailored to each individual property depending on the land's natural resources and the landowners wishes, as long as those uses do not harm the natural resources on the property.*
* *Easements do not require public use of the land.*
* *Easements can provide income tax, estate tax and property tax benefits.*

Getting Your Hands Wet

OK, so you have done everything around your home you can think of to reduce the amount of storm water pollutants entering our waterways, but you still want to do more. Volunteer efforts– from picking up litter to doing stream sampling – abound in our area. Check with your local government, Park District, Soil and Water Conservation District, and Ohio State Extension for details.

In addition to volunteering, you can also keep a look-out for "recipes for disaster" in your community and contact your local zoning inspector or Soil and Water Conservation District if you think you see one. Such recipes include:

* *Improper erosion and sediment controls on a construction site such as failing silt fences, mud tracked onto the road by construction vehicles, and soil left exposed for long periods.*
* *Dumping cut trees into streams.*
* *Grading machinery in a stream or wetland.*
* *Open dumping, including tires, trash and waste oil.*
* *Follow your nose…report bad odors and discolored runoff to your local community and Health Department.*

Where Do I Go From Here?

The following local and state organizations assisted greatly in the production of Recipes and can help you with your questions about stormwater management and water pollution in your neighborhood:

Cuyahoga County

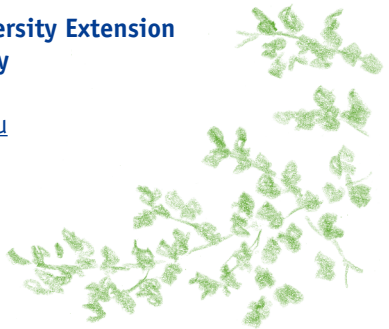
Cuyahoga County Soil and Water Conservation District
(216) 524-6580
www.cuyahogaswcd.org

Cuyahoga County Health Department
(216) 201-2000
www.ccbh.net

Cuyahoga County Solid Waste District
(216) 443-3749
www.cuyahogaswd.org

Cleveland Metroparks
(216) 351-6300
www.clemetparks.com

Ohio State University Extension Cuyahoga County
(216) 397-6000
cuyahoga.osu.edu



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Geauga County

Geauga County Soil and Water Conservation District
(440) 834-1122
www.geaugaswcd.com

Geauga County Health Department
(440) 564-7131
www.co.geauga.oh.us/departments/healthdistrict.htm

Geauga Trumbull Solid Waste Management Districts
1-800-707-2673
www.onecom.net/gtswmd

Geauga Park District
(440) 286-9516
www.geaugaparkdistrict.org

Ohio State University Extension
Geauga County
(440) 834-4656
geauga.osu.edu

Lake County

Lake County Soil and Water Conservation District
(440) 350-2730
www.lakecountyohio.org/soil

Lake County Health Department
(440) 350-2543
www.lcghd.org

Lake County Solid Waste District
(440) 350-2582
www.lakecountyohio.org/solidwaste

Lake Metroparks
(440) 639-7275
www.lakemetroparks.com

Ohio State University Extension
Lake County
(440) 350-2582
lake.osu.edu

Portage County

Portage County Soil and Water Conservation District
(330) 297-7633
www.portageswcd.org

Portage County Health Department
(330) 296-9919
www.portageworkforce.org/portagecountydirectory/departments/health.htm

Portage County Solid Waste Management
(330) 678-8808
www.portageworkforce.org/portagecountydirectory/departments/solidwaste.htm

Portage Park District
(330) 673-9404
www.portageworkforce.org/portagecountydirectory/boardsandcommissions/parkdistrict.htm

Ohio State University Extension
Portage County
(330) 296-6432
portage.osu.edu

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Regional

Chagrin River Watershed Partners, Inc.
(440) 975-3870
www.crwp.org

Chagrin River Land Conservancy
(440) 729-9621
www.crlc.cc

The Cleveland Museum of Natural History
(216) 231-4600
www.cmnh.org

The Holden Arboretum
(440) 946-4400
www.holdenarb.org

State

Ohio EPA - Northeast District Office
(330) 963-1200
www.epa.state.oh.us/nedo

Ohio Sea Grant College Program
(614) 292-8949
www.sg.ohio-state.edu

Ohio Department of Natural Resources
Division of Natural Areas and Preserves
(330) 527-4184
www.ohiodnr.com/dnap

Division of Soil and Water Conservation
(419) 609-4102
www.ohiodnr.com/soilandwater/coastalnonpointprogram.htm

Office of Coastal Management
(419) 626-7980
www.ohiodnr.com/coastal

Ohio Clean Marinas Program
(614) 292-3548
www.sg.ohio-state.edu/HIGHLIGHTS/CLEANMARINAS/

The Chagrin River Watershed Partners, Inc. (CRWP) is a non-profit educational and technical organization formed in 1996 by 16 watershed communities to support their efforts to protect their natural resources as land uses continue to become more intense. Today CRWP represents 33 cities, villages, townships, counties, and park districts - 90% of the watershed. With offices in Willoughby, CRWP works with members across the watershed on zoning and land use tools to address current, and to minimize new, flooding, erosion, and water quality problems.

This publication is made possible by the generous financial support of the Coastal Zone Management Act, administered by the Office of Ocean and Coastal Resource Management, National Oceanic and Atmospheric Administration through the Ohio Coastal Management Program, administered by the Department of Natural Resources, Office of Coastal Management.

Note: Information for all contacts mentioned is provided on page 24.

Chagrin River Watershed Partners, Inc.
4145 Erie Street, Willoughby, Ohio 44096
440-975-3870
www.crwp.org

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