



# A Homeowner's Guide to Protecting Our Watershed

**3 Rivers**  
**Wet Weather**  
*Demonstration Program*



*Improving our region's water quality*

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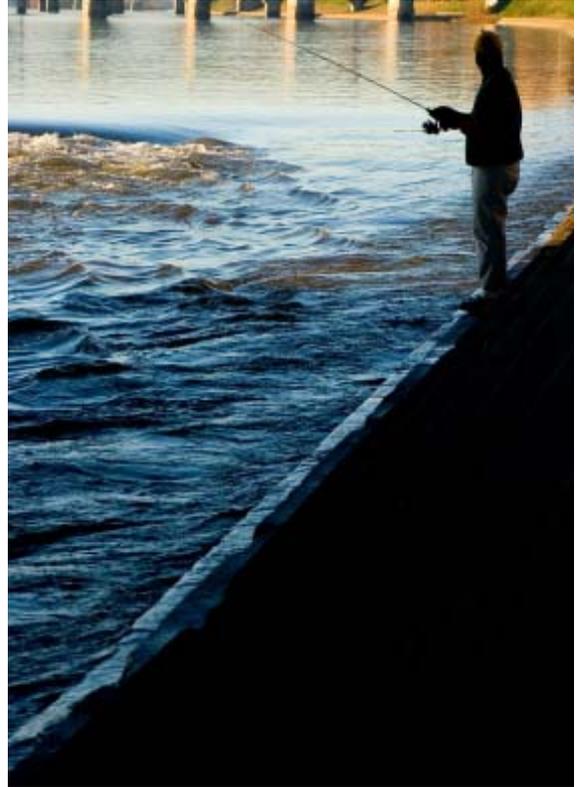
# A Homeowner's Guide to Protecting Our Watershed

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**T**hank you for your interest in helping to protect our watershed. Nearly each time it rains in Southwestern Pennsylvania, our rivers and streams are overwhelmed with polluted stormwater and untreated sewage. This problem is widespread and complex—it crosses all geographic boundaries affecting city neighborhoods and suburban communities alike. But by working together and making positive



changes in our own backyards, we can help to safeguard our water resources and protect our watershed for generations to come.

# Understanding the Problem

When it rains or snow melts, extra stormwater gets into our sewage collection system through direct connections or through leaky, cracked pipes. This extra volume of water overloads the sewage system pipes causing raw sewage to overflow at hundreds of locations before ever reaching the treatment plant. Untreated sewage streams into waterways, overflows from manholes and backs up into homeowners' basements.



Untreated sewage isn't the only problem.

Polluted stormwater runoff carries pollutants such as pet waste, oil, dirt and litter, chemicals and lawn fertilizers directly to the streams and rivers, where they can harm the water quality. Even if your home is not near a stream or river, the runoff flows down the street into a ditch or storm drain

that eventually empties into a stream or lake, carrying pollutants with it.

And the effects of wet weather can last for days. During the recreational boating season, May 15-September 30, Allegheny County issues river advisories to warn individuals using the rivers to limit water contact when sewage overflows have likely contaminated the rivers with bacteria and viruses. Each time a river advisory is issued, it could last for several days after a rainfall. On average, river advisories are in effect at least half of the recreational season.



*Pittsburgh's rivers serve as the main source of drinking water for 90% of Allegheny County residents.*

# Solving the Problem

The good news is municipal officials across Allegheny County have begun working cooperatively to solve the sewage and stormwater overflow problem. Communities in the ALCOSAN (Allegheny County Sanitary Authority) service area are working to comply with administrative consent orders signed in 2004 that require municipalities to map and assess the condition of 4,000 miles of sewer collection system, monitor the system's sewage (and stormwater) flow during dry and wet weather conditions and make critical repairs that will prevent raw sewage from overflowing into our waterways or backing up in homeowners' basements. These overflows violate the federal Clean Water Act.

By 2010, ALCOSAN communities will likely spend \$500 million collectively to comply with the current administrative consent orders. With the help of 3 Rivers Wet Weather, the region already has saved up to \$20 million dollars by tackling compliance activities cooperatively.

System-wide projects coordinated (and partially funded) by 3RWW, such as mapping the



collection system using global positioning satellite technology and developing a regional flow monitoring plan, have been more cost-effective when developed and implemented on a watershed basis. These projects also will give municipalities access to standardized, consistent data to develop an effective long-term plan for operating and maintaining the region's sewage collection system in the decades to come.

In addition to complying with municipal consent orders, communities must also follow stormwater regulations that require them to reduce and manage stormwater runoff in their communities.

It's critical that we all take an active role in protecting our watershed. This guide is meant to provide homeowners with simple, yet effective ways to help manage stormwater beginning in our own backyards.

For more information on the wet weather issue, updates on local progress, and educational materials, visit [www.3riverswetweather.org](http://www.3riverswetweather.org).

# Lawn and Garden Care

- Use herbicides, pesticides and fertilizers sparingly. Lawns and many plants often do not need much fertilizer, if any at all. Inexpensive soil testing (under \$10) can help determine whether fertilization is even needed. Visit the Penn State Cooperative Extension web site for information on their soil fertility testing program ([www.aasl.psu.edu/SSFT.HTM](http://www.aasl.psu.edu/SSFT.HTM))\*\*



- Never fertilize before a rainstorm as the stormwater will carry pollutants down into the storm drains and into our waterways.
- Be sure fertilizer stays on the lawn. If it falls on paved surfaces (sidewalks, driveways, etc.), it will be picked up by stormwater during wet weather.
- Mix compost with your soil to reduce the amount of fertilizer necessary.
- Use environmentally friendly garden products. Organic fertilizers release nutrients more slowly.

Visit [www.TheGreenGuide.com](http://www.TheGreenGuide.com)\*\* for more information. (Issue #107 of the newsletter includes an article on non-toxic lawn care.)

- Mow your lawn at the proper height. Grass thrives at three inches—it slows runoff, resists drought and needs less fertilizer. Mowing too close creates favorable conditions for weeds.
- Don't bag grass clippings. Leave them on the lawn as a natural fertilizer.
- Clean your lawn mower and/or spreader equipment on the lawn or other vegetated area, so chemicals and excess fertilizer can be absorbed into the ground. Never wash your equipment over a storm drain.

*70 million pounds of active pesticide ingredients are applied to lawns in our country each year.\**



*Over 50% of lawn owners fertilize their lawns, yet only 10-20% perform soil tests to determine the necessity.\**

# Landscaping

• Plant trees and other vegetation on your property. Depending on the species, a single tree can absorb hundreds of gallons of rainfall during a single storm. As a bonus, well-placed trees around your home can reduce air conditioning and winter heating bills. For guidelines on planting trees, visit [www.arborday.org](http://www.arborday.org) or [www.americanforests.org](http://www.americanforests.org).\*\*



• Use contained planters for flowers, shrubs, and ground cover. They can be used to absorb stormwater on sidewalks, parking areas, backyards and other impenetrable surfaces. Choose native drought and saturation-tolerant plants for containers. For more information on container gardening or creating your own planters, visit [www.taunton.com](http://www.taunton.com), [www.hgtv.com](http://www.hgtv.com) or [www.diynetwork.com](http://www.diynetwork.com).\*\*

## Did you know...

- Planting a tree within 50 feet of a house can increase its sale price by 10-15%. (University of PA)
- Just three well-placed trees around a home can lower air conditioning bills by up to 50 percent, and windbreak trees can reduce winter heating bills by up to 30 percent.
- Trees absorb stormwater. A city's urban forest can reduce peak storm runoff by 10 to 20 percent. (USDA Forest Service)
- One inch of rain on a 1,000 square foot roof results in 625 gallons of stormwater.
- 27,200 gallons of water fall on a one-acre yard during a one-inch rainfall.\*
- 16 times more stormwater runoff is produced by a one-acre parking lot compared to a one-acre meadow.\*

# Rainspouts

- Check with your municipality to see if you need to disconnect your rainspouts from the sewer system. You may live in a community with a separate sanitary sewer system designed



to carry sewage in a separate set of pipes from stormwater. It is illegal for rainspouts (or any stormwater drain) to be connected to a separate

sanitary sewer system. Some communities have a combined system, which transports sewage and stormwater in the same set of pipes.

- Install a rain barrel. Whether you live in a community with a combined sewer system or a separate sanitary sewer system, rain barrels can help to reduce sewage overflows by capturing stormwater runoff from your roof. (You are collecting water that might normally get into and overwhelm the sewer system.) As an added bonus, you save money on your water bills and you have ready access to the perfect water source for your

garden during dry weather. You may be able to purchase a rain barrel at your local nursery, home improvement store or online. (While there are many online rain barrel distributors, here are a few we found: [www.cleanaingardening.com](http://www.cleanaingardening.com), [www.composters.com](http://www.composters.com) and [www.riversides.com](http://www.riversides.com).\*\*



# Vehicle Maintenance and Washing

- Keep your vehicle tuned to reduce oil use.

Check it regularly for drips or oil leaks and fix them promptly.

- When changing oil or performing engine work, use a drip pan or drop cloth to capture solvents or oil.

- Use as little water as possible to clean spills, leaks and drips. Use rags and dry absorbent materials such as kitty litter.

- Recycle used motor oil. Many auto supply stores, car care centers and gas stations will accept used oil. Motor oil can also be taken to one of Southwestern Pennsylvania's household hazardous waste collection sites. Visit

[www.prc.org](http://www.prc.org) for dates and locations.

- Never dump motor oil, antifreeze, transmission fluid or any other chemical on the ground, down a storm drain, catch basin or road ditch. It can be carried by stormwater runoff directly into our waterways.



- Take your vehicle to a commercial car wash to be cleaned, especially if you plan to clean the bottom of the car. Most car washes reuse water several times before sending it for treatment to the sewage treatment plant. Since the water is

treated, it prevents harmful phosphates (from the soap) and other pollutants (grease, oil) from getting into our waterways.

- If you wash your car at home, do it on gravel, grass or another penetrable surface, so the ground can filter the dirty wash water naturally.

- Use a hose that turns off when unattended to save water.

- Use soap sparingly and try to use non-phosphate detergents. When you're done, empty the bucket of soapy water down the

sink, not on the pavement.



*Recycling one gallon of used oil can generate enough electricity to run the average household for almost 24 hours.*

*180 million gallons of used oil is disposed of improperly each year.\**



*One quart of oil can pollute 250,000 gallons of a drinking water source.\**

# Pet Waste and Trash

- Scoop the poop. When taking your dog for a walk, carry a small bag and scoop for collecting pet waste to prevent it from being washed into our waterways during a rainstorm.



- When possible, flush the pet waste down the toilet, so it will be treated at a sewage treatment plant.

- Dig a small trench in your yard, toss the waste in the trench, and cover it with a layer of leaves, grass clippings and dirt.

- Don't litter. Everything thrown on the ground—



gum and gum wrappers, cups, cigarette butts, etc.—can be carried by stormwater runoff directly into our streams and rivers. This type of pollution is one of the most easily prevented.

- Carry a small bag for trash in your vehicle to eliminate the temptation to throw litter out the window.

- Dispose properly of household hazardous products, typically found in the kitchen, bathroom, garage, workshop and garden.

- Contact the Pennsylvania Resources Council ([www.prc.com](http://www.prc.com)) for dates and locations of the

Southwestern Pennsylvania Household Hazardous Collection Days. The following materials are accepted: aerosol cans; automotive fluids (motor oil, transmission fluid, antifreeze, kerosene, brake fluid); batteries (household, automotive); chemistry sets; cleaners (ammonia, drain openers, acid cleaners, oven

cleaners); mercury thermometers; paint products (latex, oil based, alkyd based, arts/crafts chemicals, rust preservatives, creosote, water sealers, paint thinners, furniture strippers); pesticides/garden (rodent killers, insecticides, weed killers, mothballs, fertilizer); photo chemicals; pool chemicals.



*According to the U.S. Environmental Protection Agency, an average home can easily accumulate 100 pounds of household hazardous waste.*

# About 3 Rivers Wet Weather

3 Rivers Wet Weather (3RWW) was created in 1998 to support municipalities in Allegheny County in tackling the region's wet weather problem. Founded jointly by the Allegheny County Health Department (ACHD) and the Allegheny County Sanitary Authority (ALCOSAN), 3 Rivers Wet Weather is funded by federal, state and local resources.

The nonprofit organization is committed to improving the quality of Allegheny County's water resources by helping communities address untreated sewage and stormwater overflowing into the region's waterways. To promote the most cost-effective, long-term, sustainable solutions, 3RWW provides financial grants, advocates inter-municipal partnerships, coordinates regional, system-wide projects and educates the public.

In 2001, 3RWW organized municipal officials from each of the ALCOSAN communities into three basin groups east, north and south of Pittsburgh's three rivers. The Eastern, Northern and Southern Basin Groups has since met regularly to learn about new regulations, share resources and begin developing strategies for cost-effective basin-wide solutions to sewer system rehabilitation. The Basin Groups are also charged with exploring regionalization options for managing and operating the municipal collection system in the future.

In early 2004, communities signed an Administrative Consent Order from the Environmental Protection Agency identifying initial activities for correcting the sewage overflow problem. 3 Rivers Wet Weather helped facilitate the communication and process between these municipalities and the regulatory agencies, and will continue to help communities coordinate the assessment and evaluation activities outlined in the orders.

With the cooperation and involvement of communities throughout the ALCOSAN service area, 3 Rivers Wet Weather is committed to finding and implementing a regional solution to the wet weather overflow problem.

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*\* Facts throughout this guide provided by the Center for Watershed Protection. [www.cwp.org](http://www.cwp.org)*

*\*\* Web site references should not be considered a comprehensive list, nor are they an endorsement by 3RWW of the company/organization associated with the web site. These web sites are simply provided as reference for homeowners in their effort to help protect our watershed.*