

There are things we all can do to reduce that flow of contamination. Some, such as repair or replace broken sanitary sewer and stormwater lines, will be expensive and our municipalities within the watershed will need to budget and plan for those upgrades. Other activities, such as establishing vegetative "No Mow Zones" along the water's edge, putting rain barrels around your house, driving less, reducing the use of lawn care chemicals, using native plant species in your landscaping, public education, etc, all of which improve water quality, cost much less and are steps we can do in our towns and on our own property.

Camden County Parks, along with the Newton Creek Watershed Association and the Delaware Riverkeeper Network are looking for volunteers to help directly and indirectly improve the water quality of the Newton Creek and everyone's quality of life...including the critters that call the Newton Creek their home.

Volunteers are needed for:

- Water quality monitoring. Training and equipment provided,
- "Snakehead fish" fishing contest. Snakeheads are one of many invasive species in the Newton. Learn more about these and other invasive species,
- Participating in or even helping plan outdoor adventures along the Newton Creek so others learn more about the natural areas in our own backyards. Family friendly and no video games allowed,
- Learning what you can do on your own property, in the parks and in your towns to help improve the water quality,
- More volunteer opportunities are available. Let us know the expertise you have and we will work with you to help you apply your ex-

pertise to protecting and restoring Newton Creek.

For more information on how to become a volunteer and what you can do to help improve water quality in the Newton Creek, contact:

The Newton Creek Watershed Association
newtoncreekwatershed@gmail.com

The Delaware Riverkeeper Network
fred@delawareriverkeeper.org



Camden County Municipal Utilities Authority

1646 Ferry Ave.
 Camden, NJ 08104
 Phone: 856-541-3700
 Fax: 856-964-1829
 E-mail: mail@ccmua.org



Stormwater Runoff & the Health of Our Waterways

The Water Resources Problem

When rainfall runs off the land, it is called "stormwater" runoff. Our waterways face many problems due to stormwater runoff, including:

- **Pollution:** According to the 2010 New Jersey Water Quality Assessment Report, 90% of the assessed waters in New Jersey are impaired with urban-related stormwater runoff listed as the most probable source of impairment. As stormwater flows over the ground, it picks up pollutants, including animal waste, excess fertilizers, pesticides and other toxic substances. These pollutants are then able to enter the waterways.



- **Flooding:** Over the past decade, the state has seen an increase in flooding. Communities around the state have been affected by these floods. The amount of damage has also increased greatly, and cost billions of dollars.
- **Erosion:** Increased stormwater runoff causes an increase in the peak flow of waterways. The increased velocity after storm events erodes stream banks, degrading water quality. This erosion can damage local roads and bridges, cost tax payers money, and cause harm to wildlife.

Cause of the Problem

The primary cause of these problems is too many impervious surfaces draining directly to local waterways. Pervious surfaces are those which allow stormwater to soak readily into the soil and recharge groundwater. An impervious surface can be any material that has been placed over the soil preventing water from soaking into the ground. Impervious surfaces include paved roadways and parking lots, sidewalks, patios and rooftops. As impervious areas increase, so does stormwater runoff. New Jersey is one of the most developed states in the country. Currently, the state has the highest percent of impervious cover in the country at 12.1% of its total area. Many of these impervious surfaces are directly connected to local waterways. Every drop of rain that lands on these impervious surfaces ends up in our local rivers, lakes, or bays without any chance of being treated or soaking into the ground. To repair our waterways, reduce flooding, and stop erosion, stormwater runoff from impervious surfaces has to be better managed. We need to disconnect these areas to prevent stormwater runoff from flowing directly into our waterways.

How Can You Help?

Eliminate impervious surfaces that are not necessary. For example, a paved courtyard at a public school could be converted to a grassed area. Older, unused paved areas can be demolished and replaced with grass or gardens.

Reduce or convert impervious surfaces. A patio or walkway at your home could be made from permeable pavers instead of concrete or bricks. There may be surfaces that are required to be paved, such as roadways or parking lots, but could be made smaller and still be functional. A parking lot that has two-way traffic could be converted to one-way traffic reducing its size. There are new paving materials such as porous asphalt, pervious concrete or permeable paving stones that can be substituted for impervious paving materials at your home, school or business.

Disconnect impervious surfaces at your home, school, or business from flowing directly to local waterways. There are many ways to capture, treat, and infiltrate stormwater runoff from impervious surfaces. Opportunities may exist to reuse this captured water. Cost-effective ways to disconnect impervious surfaces at your home, school, or business, include:

- ***Simple Disconnection:*** This is the easiest and least costly way to reduce stormwater runoff. Instead of a rooftop downspout being piped to the street and sewer, a rooftop downspout can drain onto a grassed area to allow the water to be filtered by the grass and soak into the ground. A healthy lawn typically can absorb the first one to two inches of stormwater runoff from a rooftop. Simple disconnection also can be used on paved areas. Designing a parking lot or driveway to drain onto a grassed area, instead of the street can also reduce pollution and stormwater runoff volumes.



- ***Rain Gardens:*** Stormwater can be diverted into shallow landscaped depressed areas or rain gardens where vegetation cleans the water and allows it to soak into the ground. Rain gardens come in all shapes and sizes and can be designed to disconnect rooftops, driveways, patios, and parking areas.

- ***Rainwater Harvesting:*** Rainwater harvesting includes the use of rain barrels and cisterns. These can be placed below downspouts to collect rooftop runoff. The collected water has a variety of uses including watering plants and washing cars. This practice helps to conserve our valuable drinking water supply.

Many of these highly effective disconnection practices are inexpensive. The entire community can be engaged in implementing these disconnection practices.

CONTRIBUTION: We would like to thank our partner, the Rutgers Cooperative Extension Water Resources Program, for providing content for this document and their continued support.

Newton Creek Watershed Volunteers Needed!

Each summer's algal blooms in Newton Creek and Newton Lake are primarily the result of pollution flowing from our roads, parking lots, front yards and rooftops. Oil, antifreeze and gas from our cars' engines and contaminants from the tail pipes, the fertilizers we use on our yards, and silts and sediments carried off the land flow into underground stormwater piping and into the creek. This is made worse by aged and inadequate sanitary sewer lines that, during heavy rains, leak sewage into the creek. All of these contaminants are reducing the creek and lake's water quality and have already cost the taxpayers millions of dollars to dredge and will continue to do so until we address the source of the problem which is stormwater runoff. Furthermore, the algal blooms have made it difficult for people to really enjoy this beautiful Camden County park. Imagine what it does to the fish and other aquatic life that depend on healthy waterways to survive.