

Rock Creek Watershed



Welcome to the Rock Creek Watershed! The Watershed Alliance of Adams County (WAAC) is involved in the monitoring, protection and restoration of this watershed, one of several watersheds that originate in, or flow through Adams County. This site is designed to provide you with information on the watershed including its history, natural history, threats to the watershed's health, information on what you can do to protect the waters of Rock Creek, and who else is working to protect and restore its waters.

What is a Watershed?

A watershed is the area of land from which surface and groundwater drain to the lowest point. This point could be another stream, a lake, a river, a bay, or an ocean. Synonyms for a watershed include drainage basin or catchment basin.

Everyone lives in a watershed!

Watersheds can be large or small. Every stream, tributary, or river has an associated watershed, and small watersheds join to become larger watersheds. It is relatively easy to delineate watersheds using a topographic map that shows stream channels. Watershed boundaries generally follow major ridgelines around channels and meet at the bottom, where water flows out of the watershed, a point commonly referred to as a stream or river.

Why is the concept of a watershed important?

The idea of a watershed is important because it connects the water in a stream, lake, or river with the land that surrounds it. Water moves from the land into a waterway and activity that impacts the water quality or quantity in a watershed can affect all the locations downstream of this point. Because we all live in a watershed, we all need to do our part to protect our watershed's health!



Citizens monitoring the health of the watershed.

Rock Creek Watershed Profile



Rock Creek, one stream in the 64,000 square mile Chesapeake Bay watershed.

Rock Creek is a 65 square mile watershed in Adams County, PA. At the confluence with Marsh Creek, Rock Creek becomes the Monocacy River, which then drains to the Potomac River and finally to the Chesapeake Bay. The RCW is a headwaters drainage area because no stream flows into it. Tributaries flow into Rock Creek include Whites Run, Littles Run, Stevens Run, Chicken Run, Plum Run, and Lousy Run. The Rock Creek and its tributaries flow through a variety of landscapes: farmland, villages, the Gettysburg National Military Park, commercial and industrial centers, and woodlands. Rock Creek serves as the eastern boundary of Cumberland Township and separates it from both Straban and Mt. Joy townships. The watershed includes all of Bonneauville, a portion of Gettysburg, and parts of Straban, Mt. Joy, Cumberland, and Mt. Pleasant townships. Communities such as Lake Heritage, Twin Oaks, Hunter's Crossing and the Links are also located within the watershed.

While the health and function of the Chesapeake Bay may not be of obvious concern to Rock Creek Watershed municipal governments and citizens because it is so geographically far away and comprises a very different ecosystem, the function and health of the Bay ecosystem is a direct reflection of the health and function of each of its tributary watersheds, including the Rock Creek Watershed.

Watershed Natural History

The first known reference to Rock Creek by its current name is shown on a survey draft of the Manor of Mask for the William Penn family in 1766. Following this reference, Rock Creek was referred to as Rock Run. It was named for the large boulders that are still commonly found in the watershed. These boulders, known locally as Gettysburg granite or trap rock, were formed 180 million years ago during the Triassic Period, when the continents were separating from Pangea and the Atlantic Ocean was forming. Molten rock was forced into the cracks of the existing shale, siltstone, and sandstone. The molten rock cooled to form the boulders we now see in areas like Devel's Den, Culp's Hill, and Big and Little Round Tops.



Streams with healthy forest buffers, unlike what is shown here, help reduce erosion of valuable soil.

Watershed Human History



The sound of cannon fire once echoed through Rock Creek watershed.

Before the Rock Creek watershed became a tourist epicenter for Civil War interests, Rock Creek was used by several tribes of early Native Americans as fishing and hunting grounds. There are no known early settlements, but only campsites as groups passed through. One of the first mills serving the area was built along Rock Creek. It later became known as McAllister Mill. McAllister Mill was one of the first stops on the Underground Railroad for slaves escaping North. Ironically, during the Civil War, the mill served as a Confederate Hospital. Located between White Run and Rock Creek was the largest Civil War field hospital. Sadly, wounded

soldiers, who were laid along the banks of Rock Creek were swept to their deaths from high waters when a major storm in July, 1863 hit.

At the present, Rock Creek is in the middle of a burgeoning area. According to the 2000 US Census, Adams County is the fourth fastest growing county in Pennsylvania. The Adams County Water Supply Plan (2001) makes an adjusted mid-range projection for a 2010 County population of 114,895, up from 78,274 in 1990. Naturally, the development of this once quiet watershed of farm fields and hallowed ground is accompanied by difficult watershed-health challenges.

Threats and Problems: Watershed Health

A growing population within the Rock Creek region has caused problems within the watershed to escalate. Such problems include both point and non-point source pollution, excessive stormwater discharge, lacking riparian buffers, loss of groundwater flow in certain areas, turbid waters, silted streambeds, riparian tree loss, and significant bank erosion. In areas that benefit from thick riparian buffers, ecological diversity is rich; however, many areas bordering agricultural or residential areas do not have the proper buffer needed to protect this diversity. Many of the tributaries have additional problems that affect in-stream life, such as too warm water, high nutrient concentrations, algae blooms, no base flow in late summer, and streambeds buried in thick layers of silt. Some may not support any in-stream animal life.

The municipal and organizational representatives to the Rock Creek Working Group (RCWG) have identified numerous areas of concern about water resources in the Rock Creek Watershed. In a RCWG meeting on June 18, 2003, participants identified and discussed a number of watershed problems. The list of problems has been reproduced below.

Water quality and quantity:

- Large withdrawals of water from the watershed by Reliant Energy
- Improper herbicide application
- Old farm and household dumps
- Non-migratory geese population
- Groundwater pumping by Valley Quarry
- Presence of unmitigated Superfund sites
- Former Krouse dump

Surface water impacts:

- Erosion and sedimentation best management practices not being implemented
- Streambed sedimentation
- Nutrient runoff
- Livestock in creeks and livestock-caused streambank erosion
- Cloudy, turbid stream water
- Fill in floodplains
- Fill in drainage paths
- Loss of riparian buffer

Groundwater recharge impacts:

- Dry wells and loss of groundwater recharge
- High nitrates in groundwater
- Loss of hedgerows
- Road embankments stripped of vegetation through cutting and overly aggressive roadside mowing



Loss of farmland to commercial and residential development is one of the threats to the health of Rock Creek.

What You Can Do For the Watershed

Protecting and Restoring the Health of the Rock Creek Watershed:

The Watershed Alliance of Adams County (WAAC) is a member based non-profit organization whose mission is to improve and protect water resources in Adams County. WAAC does this through educational programming, promoting a sustainable watershed resource through sound water management and land use practices, establishing a county-wide volunteer water quality monitoring program and database, and identifying and sponsoring watershed improvement projects with diverse funding sources.



Planting trees helps reduce runoff and nutrients flowing into streams and rivers.

All volunteers undergo special training in chemical and biological sampling. WAAC is committed to good science and sharing the results of its work with anyone interested in the quality of their local streams. Through educational programs, WAAC volunteers work to foster appreciation of the value of these streams. WAAC hopes that its work will ensure the preservation of the waters of Adams County for generations to come.

How You Can Help Protect the Watershed:

- Make your voice heard. Support local land use plans that allow for compatible growth and that protect ground water and wetlands.
- Reduce the use of fertilizer and pesticides on your lawn.
- Use Best Management Practices (BMPs) on agricultural and timer land.
- Plant trees and shrubs along stream banks to reduce erosion and absorb nutrients and sediment runoff.
- Make sure your home septic system is routinely cleaned.
- Recycle paper, newspaper, glass, tin aluminum, cardboard, plastics, used motor oil and safely dispose of toxic materials.
- Install effective anti-siltation devices to keep exposed soil from washing into streams during construction.
- Use phosphate-free detergents.



Creating compost using composter such as these is a great way to reduce your need for fertilizers.

Protect and Restore: Contact Information

Watershed Alliance of Adams County

670 Old Harrisburg Road, Suite 201
Gettysburg, PA 17325
email: amclain@adamscounty.us
website: <http://www.adamswatersheds.org/>

Adams County Conservation District

670 Old Harrisburg Road, Suite 201
Gettysburg, PA 17325
email: amclain@adamscounty.us

The Interstate Commission on the Potomac River Basin

51 Monroe Street, Suite PE-8
Rockville, MD 20850
Phone: 301-984-8110
Fax: 301-984-5841
email: alew@icprb.org
website: <http://www.potomacriver.org>

Gettysburg National Military Park

97 Taneytown Road
Gettysburg, PA 17325
Phone: (717) 334-1124
Fax: (717) 334-1891
website: <http://www.nps.gov/gett/index.htm>

Michaux State Forest

Bureau of Forestry
Forest District #1
10099 Lincoln Way East
Fayetteville, PA 17222
Phone: (717) 352-2211
email: <http://www.dcnr.state.pa.us/forestry/email.aspx>
website: <http://www.dcnr.state.pa.us/forestry/stateforests/michaux/index.htm>