

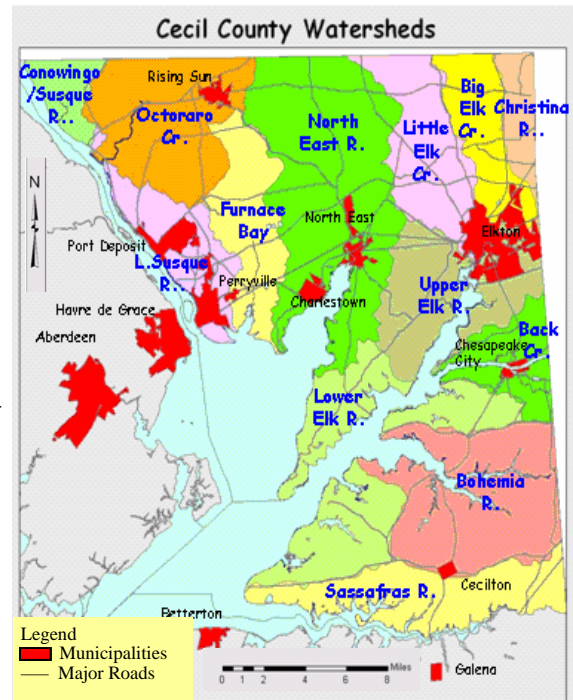
Environmental Issues In Your Community

Protecting Your Water Supply

Whether your water comes from a well drilled on your property or from the local public water system, what you do in your house and yard has an impact on water quality and quantity. This booklet includes simple actions that you can adopt in your home and yard that will help to protect both your own local groundwater supplies and regional reservoirs.

What Is A Watershed?

A watershed is all the land area that drains to a given body of water. Topography (the elevation and the contour of the land) and land use determine the velocity and direction of stormwater runoff and its eventual drainage to a surface water body. The watershed of a small stream, which may include hundreds or thousands of acres, is a sub-unit of a larger watershed of the river system that the stream flows into. Most residents of Cecil County live in a watershed that drains to a major tributary of the Chesapeake Bay or to a reservoir of the water supply system.



Where To Get Help for watershed information

- Maryland Surf Your Watershed
<http://www.dnr.state.md.us/watersheds/surf/index.html>
- Cecil County Government Geographic Information Systems
<http://cecilmaps.ccdps.org/public/>
- Cecil Soil Conservation District <http://www.cecilscd.com>; 410-398-4411 ext. 3
- Center for Watershed Protection <http://www.cwp.org>; 410-461-8323
- Elk Creeks Watershed Association <http://www.elkwatershed.org>; 610-998-9900
- Octoraro Watershed Association <http://www.theowa.org>; 717-529-2132
- Sassafras River Association <http://www.sassafrasriver.org>; 717-529-2132
- Welcome to Your Watershed
http://www.mda.state.md.us/resource_conservation/environmental_education/start.html

Everything Flows to the Bay

The entire Chesapeake Bay Watershed encompasses 64,000 square miles, the largest watershed on the eastern seaboard. The District of Columbia and parts of including New York, Pennsylvania, Delaware, Maryland, Virginia, and West Virginia drain to the Bay. The contribution of each source may be small, but the collective effect of millions of small contributions can create the potential for serious environmental problems for the Bay. Each of us can help minimize the potential for such problems.

The responsibility of all landowners, large and small, is to understand the concept of living in a watershed, where **everyone's contribution has an impact**. That impact can be either positive or negative. Two common examples of attitudes that can contribute to negative impacts are: "The little bit of pollution from my property won't make a difference"; or, "Those other guys (developers, farmers, industry, etc.) are causing all the problems." In order to make a positive difference, all landowners must accept responsibility for proper and sustainable management of their land, even if it is just a small backyard.

Through the efforts of thousands of people and the expenditure of several billion dollars over the last quarter century, the condition of the Bay has begun to slowly improve from its critically degraded state. However, much more needs to be done by everyone in order to continue our progress toward a healthy, stable ecosystem. Every resident in the Chesapeake Bay watershed can do something to help.



Image credit:
Chesapeake Bay Watershed
<http://www.acb-online.org/about.cfm>

How Do Pollutants Get In the Water?

Water bodies become polluted through two sources: point sources and non-point sources. A point source is a concentrated discharge. For example, point sources include pollution through a pipe from an industrial operation or a sewage treatment plant. A non-point source is stormwater runoff from non-specific sources such as parking lots, lawns, and agricultural fields. Over the last 30 years, many advances have been made in technology to reduce and control point source pollution. Point sources are easier to monitor because they come from identified sources. Polluted runoff, however, can result from stormwater flowing over large areas, making it substantially more difficult to locate and control the source of the pollutants picked up by runoff.

Hydrologic Cycle

Water is one of the most important natural resources on Earth. Seventy-five percent of the earth's surface is covered by water. Most of the water, however, is sea water. Sea water becomes usable, safe for drinking, and free of harmful salt and minerals through the hydrologic cycle.

The hydrologic cycle begins with the sun. Energy from the sun turns water from the oceans, rivers, and land into water vapor. Air masses move the water vapor over land, where it condenses and becomes precipitation. Rain, sleet, snow, and hail are all forms of precipitation. Some precipitation evaporates while falling toward the earth, while some is intercepted by plants, buildings, and cars and evaporates. Most of the precipitation soaks into the soil and eventually returns to rivers and oceans.

People can survive on 1 gallon of clean water per day for drinking and cooking. Each American uses approximately 1500 gallons of water per day. This number was found by dividing the total water use in the United States by the population in the United States. These numbers are based on 2000 United States Geological Survey and United States Census data, which are the most accurate and up to date available. It is important to remember that water is a natural resource. What we put into our water and how we use the water today will affect the quality and availability of water in the future. Check out NRCS, Conservation and the Water Cycle for more information on the hydrologic cycle at <http://www.wcc.nrcs.usda.gov/factpub/aib326.html>.

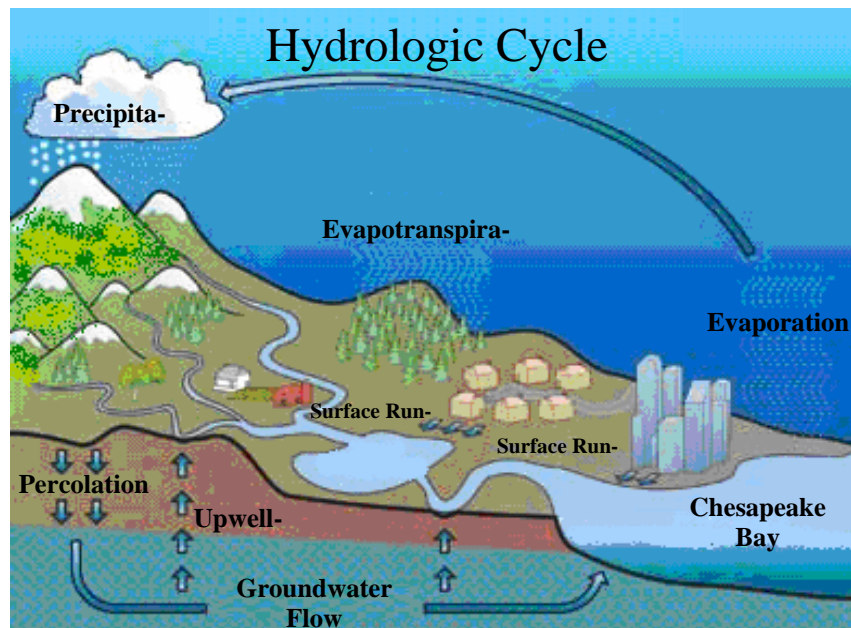


Image credit: Hydrologic Cycle

<http://www.metrokc.gov/shorelines/hydrologic-cycle.aspx>

U.S. Population

http://factfinder.census.gov/servlet/GCTTable?_bm=y&-geo_id=01000US&-_box_head_nbr=GCT-PH1-R&-ds_name=DEC_2000_SF1_U&-format=US-9S

U.S. Water Use

<http://pubs.usgs.gov/circ/2004/circ1268/htdocs/text-total.html>

Living Above or Below the Fall Line

The Fall Line runs from New Jersey to Georgia. This imaginary line separates the Piedmont Plateau from the Coastal Plain. The Piedmont Plateau is a region composed of hard metamorphic rocks and forms the foot of the Appalachian Mountain chain. The Coastal Plain is made up of softer sedimentary rocks washed down from the mountains and deposited along the coast.

The Fall Line is the break in slope where the rivers flow off the plateau and down onto the plain through a series of waterfalls. The Fall Line was one of the factors in determining the location of the East Coast's major cities. The waterfalls acted both as physical barriers and logical locations for water-wheel powered industries. Cities including Baltimore, Philadelphia, Richmond, and Washington, D.C. are located along the Fall Line. Cecil County is split by the Fall Line, roughly along I-95, with the hilly woodlands of the Piedmont Plateau to the northwest and the flat farmlands and wetlands of the Coastal Plain to the southeast.



Image credit: *The Fall Line* <http://geology.er.usgs.gov/espteam/Atlantic/maps.htm>

Where To Get Help for Fall Line information

- 2005 Cecil County Orthophotography, Topography, and Planimetrics Data http://www.ccgov.org/dept_planning/gis/2005data.cfm
- Fall Line Information <http://tapestry.usgs.gov/features/14fallline.html>
- Cecil County's Topography <http://www.dnr.state.md.us/greenways/counties/cecil.htm>

Soil Is More Than Just Dirt

Soil is a valuable natural resource. The Cecil County Soil Survey displays maps and describes the different soil types found in the county. Each soil map unit has a unique set of characteristics relating to its structure, texture, tendency to erode, depth to bedrock and subsurface layers. This information is used to prepare charts that show each distinct soil's strengths and limitations for certain land uses such as farming, forestry, wildlife habitat, recreation, development and even home gardens.

You can make an appointment with the Cecil Soil Conservation District to find your property on an aerial photograph with the soil types superimposed. The soil descriptions list characteristics of the soil types on your property and how to use those soils to their best advantage. An online version of Cecil County's Soil Survey will soon be available for public use at <http://websoilsurvey.nrcs.usda.gov/app/>.

Soil Profile

O horizon: layers of organic matter at the surface.

A horizon: layers close to the surface, dominated by mineral particles and darkened by the accumulation of organic matter.

B horizon: accumulated materials washed down from the layers above or materials formed in place through the weathering process.

C horizon: least weathered horizon, influenced little by soil forming processes.

R horizon: bedrock

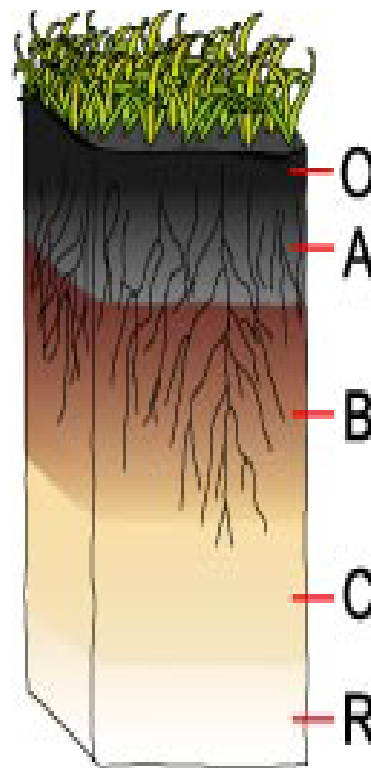


Image credit: Soil Profile

http://www.westone.wa.gov.au/toolbox6/hort6/html/resources/visitor_centre/fact_sheets/sc2.htm