



Virginia Association of Soil and Water Conservation Districts
Living In Your Watershed
A Patch Program for Virginia Students



VA Association of Soil & Water Conservation Districts
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The Conservation Poster Contest Patch Program was developed by the Virginia Association of Soil and Water Conservation Districts and Lindy Durham from Henricopolis Soil and Water Conservation District.

Thanks also to Karen Fetty from Hanover/Caroline SWCD.

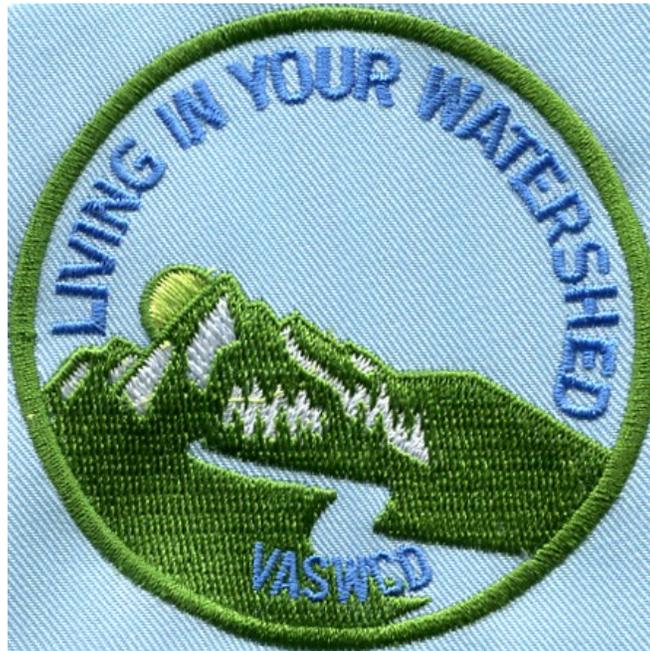


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Soil and Water Conservation Districts

The VASWCD Educational Foundation Mission

The Virginia Association of Soil and Water Conservation Districts Educational Foundation is nonprofit and classified as a 501(c)(3) organization that was established in 1990. The VASWCD Educational Foundation provides and promotes leadership in the conservation of natural resources through stewardship and education programs. Funding for activities such as Envirothon is provided through donations made by individuals, corporations, organizations and other foundations as well as fundraising efforts. Contributions to the VASWCD Educational Foundation are used to support educational efforts within the Commonwealth.

There are 47 Soil and Water Conservation Districts serving localities throughout the Commonwealth of Virginia. Governed by a board of directors of local citizens, districts work hand-in-hand with state, federal and county agencies, other conservation organizations, schools, and many community partners to achieve their conservation objectives.

Districts offer many educational programs which target a variety of audiences. Emphasis is on education programs based on the VA Standards of Learning. Resources include activities, games, models, videos, skits, and more. Many districts also have a variety of resources available to teachers and scout leaders.

Contact information for the Soil and Water Conservation Districts (SWCD) throughout Virginia are on the following pages. If you are not able to find your local SWCD please contact Bonnie Mahl bonnie.mahl@vaswcd.org

Soil and Water Conservation Districts



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Soil and Water Conservation Districts

Soil & Water Conservation Districts Listed by County/City ...

County/City	SWCD
Accomack Co.	Eastern Shore SWCD
Albemarle Co.	Thomas Jefferson SWCD
Alleghany Co.	Mountain SWCD
Amelia Co.	Piedmont SWCD
Amherst Co.	Robert E. Lee SWCD
Appomattox Co.	Robert E. Lee SWCD
Augusta Co.	Headwaters SWCD
Bath Co.	Mountain SWCD
Bedford Co.	Peaks of Otter SWCD
Bedford, City of	Peaks of Otter SWCD
Bland Co.	Big Walker SWCD
Botetourt Co.	Mountain Castles SWCD
Brunswick Co.	Lake Country SWCD
Buchanan Co.	Big Sandy SWCD
Buckingham Co.	Peter Francisco SWCD
Buena Vista, City of	Natural Bridge SWCD
Campbell Co.	Robert E. Lee SWCD
Caroline Co.	Hanover-Caroline SWCD
Carroll Co.	New River SWCD
Charles City Co.	Colonial SWCD
Charlotte Co.	Southside SWCD
Chesapeake, City of	Virginia Dare SWCD
Chesterfield Co.	James River SWCD
Clarke Co.	Lord Fairfax SWCD
Covington, City of	Mountain SWCD
Craig Co.	Mountain Castles SWCD
Culpeper Co.	Culpeper SWCD
Cumberland Co.	Peter Francisco SWCD
Dickenson Co.	Lonesome Pine SWCD
Dinwiddie Co.	Appomattox SWCD
Essex Co.	Three Rivers SWCD

County/City	SWCD
Fairfax Co.	Northern Virginia SWCD
Fauquier Co.	John Marshall SWCD
Floyd Co.	Skyline SWCD
Fluvanna Co.	Thomas Jefferson SWCD
Franklin Co.	Blue Ridge SWCD
Frederick Co.	Lord Fairfax SWCD
Fredericksburg, City of	Tri-County/City SWCD
Galax, City of	New River SWCD
Giles Co.	Skyline SWCD
Gloucester Co.	Tidewater SWCD
Goochland Co.	Monacan SWCD
Grayson Co.	New River SWCD
Greene Co.	Culpeper SWCD
Greenville Co.	Chowan Basin SWCD
Halifax Co.	Halifax SWCD
Hanover Co.	Hanover-Caroline SWCD
Harrisonburg, City of	Shenandoah Valley SWCD
Henrico Co.	Henricopolis SWCD
Henry Co.	Blue Ridge SWCD
Highland Co.	Mountain SWCD
Isle of Wight Co.	Peanut SWCD
James City Co.	Colonial SWCD
King George Co.	Tri-County/City SWCD
King & Queen Co.	Three Rivers SWCD
King William Co.	Three Rivers SWCD
Lancaster Co.	Northern Neck SWCD
Lee Co.	Daniel Boone SWCD
Lexington, City of	Natural Bridge SWCD
Loudoun Co.	Loudoun SWCD
Louisa Co.	Thomas Jefferson SWCD



Soil and Water Conservation Districts

Soil & Water Conservation Districts Listed by County/City

County/City	SWCD
Lunenburg Co.	Southside SWCD
Lynchburg, City of	Robert E. Lee SWCD
Madison Co.	Culpeper SWCD
Mathews Co.	Tidewater SWCD
Mecklenburg Co.	Lake Country SWCD
Middlesex Co.	Tidewater SWCD
Montgomery Co.	Skyline SWCD
Nelson Co.	Thomas Jefferson SWCD
New Kent Co.	Colonial SWCD
Northampton Co.	Eastern Shore SWCD
Northumberland Co.	Northern Neck SWCD
Nottoway Co.	Piedmont SWCD
Orange Co.	Culpeper SWCD
Page Co.	Shenandoah Valley SWCD
Patrick Co.	Patrick SWCD
Petersburg, City of	Appomattox River SWCD
Pittsylvania Co.	Pittsylvania SWCD
Powhatan Co.	Monacan SWCD
Prince Edward Co.	Piedmont SWCD
Prince George Co.	James River SWCD
Prince William Co.	Prince William SWCD
Pulaski Co.	Skyline SWCD
Rappahannock Co.	Culpeper SWCD
Richmond Co.	Northern Neck SWCD
Roanoke, City of	Blue Ridge SWCD
Roanoke Co.	Blue Ridge SWCD
Rockbridge Co.	Natural Bridge SWCD
Rockingham Co.	Shenandoah Valley SWCD
Russell Co.	Clinch Valley SWCD
Scott Co.	Scott County SWCD
Shenandoah Co.	Lord Fairfax SWCD

County/City	SWCD
Smyth Co.	Evergreen SWCD
Southampton Co.	Chowan Basin SWCD
Spotsylvania Co.	Tri-County/City SWCD
Stafford Co.	Tri-County/City SWCD
Staunton, City of	Headwaters SWCD
Suffolk, City of	Peanut SWCD
Surry Co.	Peanut SWCD
Sussex Co.	Chowan Basin SWCD
Tazewell Co.	Tazewell SWCD
Virginia Beach, City of	Virginia Dare SWCD
Warren Co.	Lord Fairfax SWCD
Washington Co.	Holston River SWCD
Waynesboro, City of	Headwaters SWCD
Westmoreland Co.	Northern Neck SWCD
Williamsburg, City of	Colonial SWCD
Winchester, City of	Lord Fairfax SWCD
Wise Co.	Lonesome Pine SWCD
Wythe Co.	Big Walker SWCD
York Co.	Colonial SWCD

Earning the Patch

The Living In Your Watershed patch is designed for Virginia students 4 grade and above. Students must answer questions 1-15, to earn the patch. On pages 7-13, there is background information to assist you in completing this patch. You can access the resource information at the end of this book for more information too. To earn the patch [click here](#) to visit the site to fill out the google form to answer the questions about watershed to show that you know about Living in Your Watershed.

1. Rivers, lakes and bays are waterways that can be found in our watershed. Find out the characteristics of each one. Is there a river, lake or bay near your home?
2. Water is a natural resource. Name another natural resource
3. Name a man-made resource.
4. How do these two resources differ?
5. What is a watershed?
6. What is your watershed address? [Click Here](#) to find out your watershed address. (After you enter your address, click on other water information to learn your watershed) You can also work with your local SWCD to learn what your watershed address is.
7. What is water pollution?
8. What is point source pollution and give an example?
9. What is non-point source pollution and give an example?
10. Why is non-point source pollution such a threat to our watersheds?
11. There are some very simple ways to reduce the pollution that travels from our neighborhoods to our waterways. What are 4 ways to reduce non-point source pollution.
- 12*. What is your local Soil & Water Conservation District(SWCD)?
- 13*. Who did you speak to at your local SWCD and what is their job title?
- 14.* What type of work do they do that involves water?
15. What type of jobs depend on knowing about water?

Optional– If you are able to go on a Watershed Investigation Walk with your family, Learn more [here](#)

*These are questions to answer with your local Soil & Water Conservation District.



Waterways



A body of water is any significant accumulation of water on a planet's surface. A body of water doesn't have to be still. Sometimes water moves from one place to another. Below are the most common bodies of water:

Bay - an area of water bordered by land on three sides, similar to, but smaller than a gulf.

Brook - the smallest body of water, found above ground and is often called a creek.

Creek - a small stream.

Gulf - a part of a lake or ocean that extends so that it is surrounded by land on three sides, similar to, but larger than a bay.

Lake - a body of water, usually freshwater, of relatively large size contained on a body of land.

Ocean - a major body of salty water that, in totality, covers about 71% of the Earth's surface.

River - a natural waterway that flows above ground in a particular direction and usually has a large volume of water in it.

Stream - a body of water with a detectable current, confined within a bed and banks.

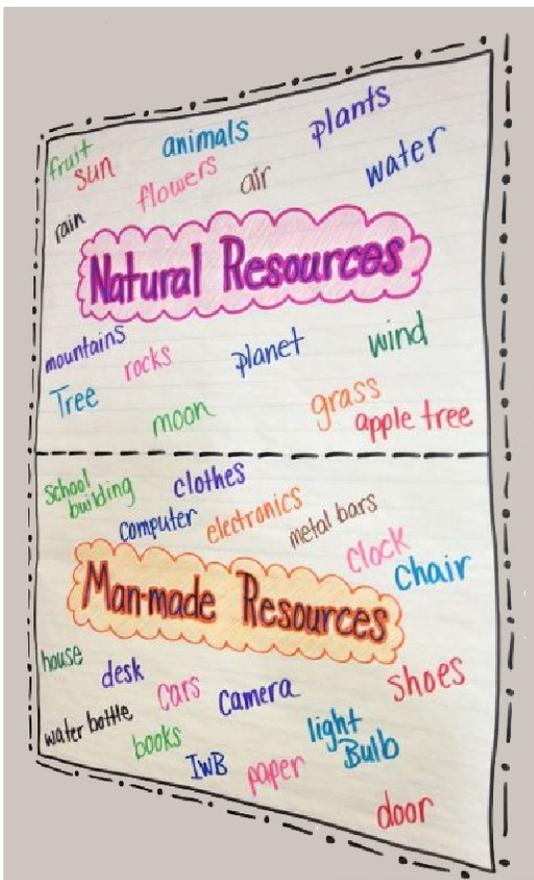
Natural vs. Manmade Resources



A man-made resource is a resource that has been created through the acts of humans. For example, bleach is a man-made resource. It does not exist in nature (in any significant quantity), and is produced and consumed by humans.

A natural resource is a resource that exists naturally. It might also be defined as a resource which man did not create (i.e. not man-made). For example, coal is a natural resource. It only exists in nature, and it is consumed by humans.

Some resources are both. For example, forests can be both natural and man-made resources. Forests that were planted by humans are man-made resources, while forests that were not planted by humans are natural resources. Baking soda is another example of a man-made or natural resource. Most baking soda is made by humans from other materials, but baking soda can also be mined from the ground in certain locations.



Examples of Natural Resources::

1. Water resources like oceans, lakes and rainwater.
2. Food resources (vegetarian and non-vegetarian)
3. Forest resources which includes all the forest cover on Earth.
4. Land resources which includes all the land cover on Earth.
5. Mineral ores like Iron.
6. Energy resources like coal, fossil fuels and petroleum.
7. Earth, Sun, Moons and all the Stars.

Examples of Man-made Resources::

1. Chemicals like fertilizers and pesticides.
2. Electricity.
3. Nuclear power.
4. Drugs and medicines.
5. Plastics.
6. Alloys like Brass.
7. Man-made elements having high atomic weights like Plutonium



What is a Watershed?

A watershed is the area of land that water flows across or under on its way to a river, lake or wetland.

When rain falls to earth, it will either soak into earth and become part of the “ground water” that plants and animals use, or it will run over the soil and collect in the lakes and rivers.

When land is developed, it changes from a surface that allows water to soak into the soil to a hard surface over which water runs quickly.

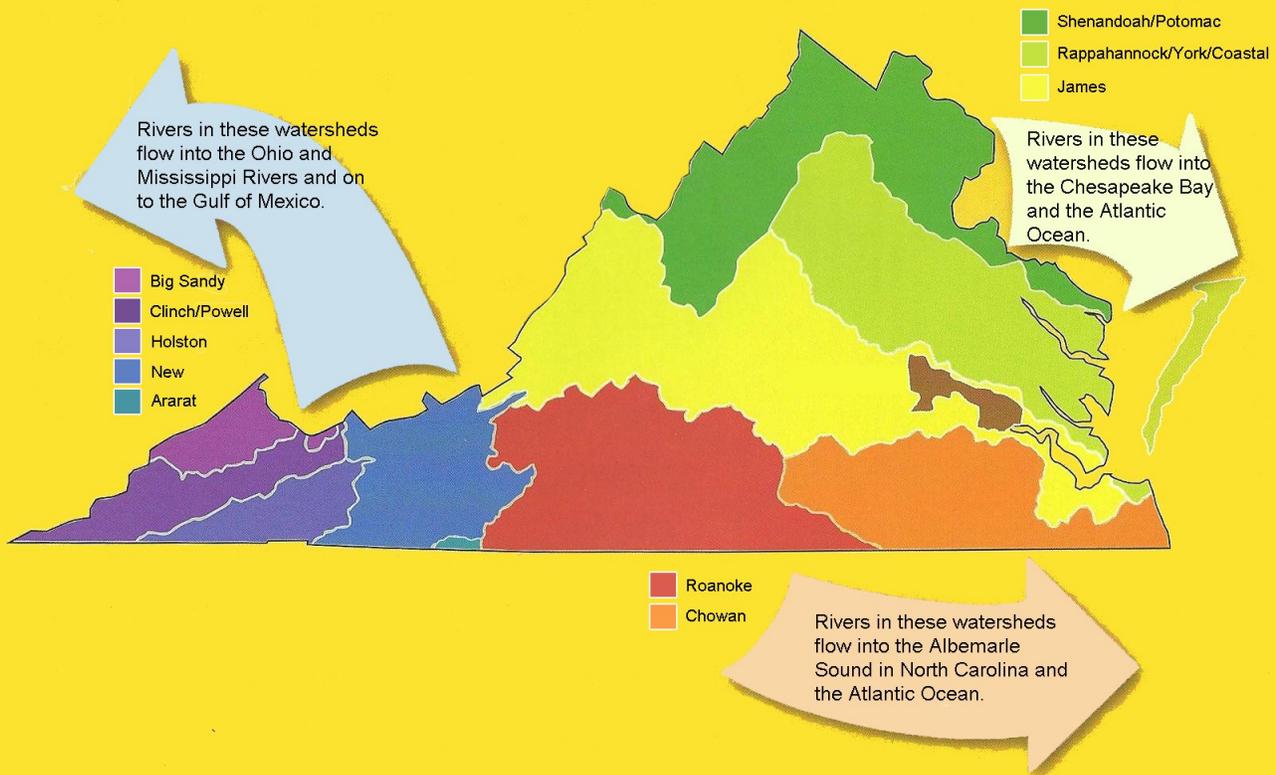
Pollutants on the hard surfaces get washed down the storm drain and into streams



Your Watershed Address



VIRGINIA'S MAJOR WATERSHEDS



Above is a map of the major watersheds in Virginia. Most of the state falls within the Chesapeake Bay Watershed. Your watershed address is the path that water takes from your location to the ultimate collection point. Using a topographic map, find your location and the closest body of water. Trace the waterways toward your collection point, noting each waterway. The watershed address for Pamunkey Ridge Girl Scout Camp is **“Pamunkey River—York River—Chesapeake Bay”**.



Water Pollution

There are three types of water pollution.

Physical pollution is all the stuff we see along the roads and highways, as well as dirt and soil that is washed into the water. **Chemical pollution** is fertilizers from our lawns and gardens and oil from roads, driveways and parking lots. **Biological pollution** is animal waste.



Water pollution is also described by its source. **Point source water pollution** flows from pipes or specific places such as industrial plants and goes directly into the waterway. **Non-point source water pollution** is carried down the storm drain and into the nearest waterway. Non-point source pollution is a threat to our waterways because it comes from everywhere in the watershed every day. It's very difficult to isolate and manage.



Preventing Water Pollution



Here are some very simple things we can do to reduce or prevent non-point source pollution:



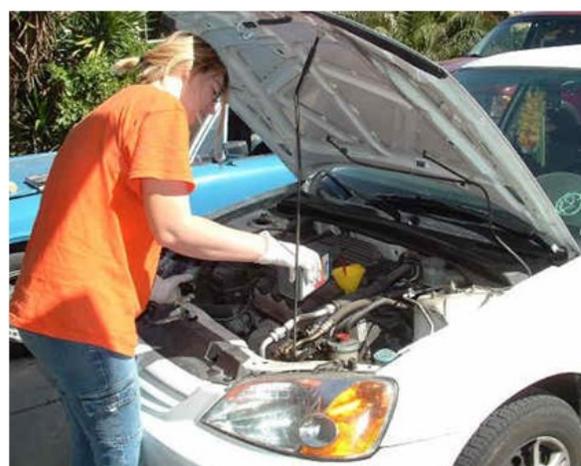
Pick up after your pet.



Put trash in the trash can.



Have your soil tested.



Keep your car in good shape.

Online Resources



What is Watershed (you tube video)

[Click here](#)

Virginia Major Watersheds Map

[Click here](#)

Virtual Watershed Demonstration

[Click here](#)

Project Wet Interactive Water Cycle

[Click here](#)

Project Wet– Discover the Role of Water in our lives

[Click here](#)

USDA-NRCS – Water Page – Water landscape interactive and New Water Cycle Poster

<http://www.nrcs.usda.gov/wps/portal/nrcs/main/national/water>

EPA Watershed Information

[Click here](#)

USGS– Science in Your Watershed

[Click here](#)

Water Pollution (You Tube Video)

[Click here](#)

Chesapeake Bay Foundation Watershed You Tube Video

[Click here](#)