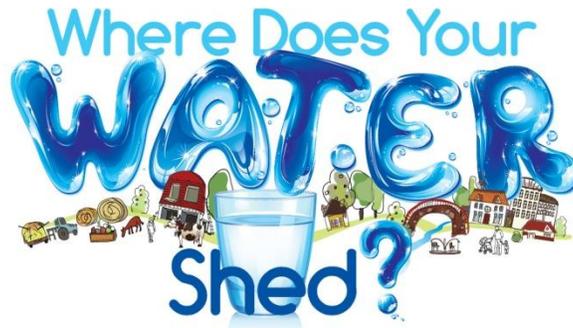


# Watershed Resources



A **watershed** is the land that water flows across or under on its way to a stream, river, or lake. Landscape is made up of many interconnected basins or watersheds. Within each watershed, all water runs to the lowest point such as a stream, river, or lake. On its way, water travels over the surface and across farms, fields, forest lands, suburban lawns, and city streets; or it seeps into the soil and travels as groundwater. Large watersheds like the ones for the Mississippi River, Columbia River, and Chesapeake Bay are made up of many smaller watersheds across several states.

Watersheds come in many different shapes and sizes. A watershed can be affected by many different activities and events. Construction of cities and towns, farming, logging, and the application and disposal of many garden and household chemicals can affect the quantity and quality of water flowing from a watershed.

Everyone lives in a watershed, and we are a part of a watershed community. The animals, birds and fish are, too! People influence what happens in watersheds, good or bad, by how the natural resources – the soil, water, air, plants, and animals – are treated. The quantity and quality of water draining from a watershed are dependent upon the climate, vegetation, soils, geology, and development of that watershed. Activities that change the vegetation and surface characteristics of some watersheds will affect the quantity and quality of water contributed to a stream. For example, a greater volume of water, perhaps of poorer quality, will flow from a parking lot than from a forest or pasture. This volume of water from a parking lot may result in increased flooding in a watershed because the greater volume exceeds the natural ability of the stream to transport the water. What happens in small watersheds, such as pollution, also affects the larger watersheds downstream.

There are three different types of watersheds:

***Underdeveloped watersheds*** are drainage basins that have no development affecting the quality of quantity of water in that watershed.

These watersheds are primarily on public-owned lands in national forests, national parks, and wilderness areas. Underdeveloped watersheds provide scientists with areas to study the natural processes of a watershed.

***Planned Watersheds*** are drainage basins that contain planned development.

Planning the development within a watershed requires consideration of the entire drainage basin. Planned actions consider the effect on the natural resources of the watershed and help preserve the quality and quantity of water flowing from the watershed. Actions such

as controlling surface runoff and protecting stream channels help preserve the quality and quantity of water flowing from a watershed. Limiting the number and type of structures on a flood plain is one method of preventing loss of property from floods. Placing parks, golf courses or farmland on a flood plain can reduce property loss caused by floods.

***Unplanned Watersheds*** are drainage basins that do not contain planned development.

Unplanned development within a watershed has the potential for degradation of water quality and increased loss of property from flooding. Runoff from city streets improper farms and logging techniques, poor residential and industrial chemical disposal practices can all affect water quality. Locating homes and businesses on flood plains greatly increases the chance of damage from flooding. Levees or dams may need to be put in place to protect development already located on the flood plain.

Source: <http://www.agintheclassroom.org/TeacherResources/InterestApproaches/Kansas%20Watershed%20Materials.pdf>

## Resources:

### Find what watershed you are in

<http://cfpub.epa.gov/surf/locate/index.cfm>

### Know Your Watershed

<http://www.ctic.purdue.edu/Know%20Your%20Watershed/>

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

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

### After the Storm

<http://water.epa.gov/action/weatherchannel/index.cfm>

### Watershed Management Resources - EPA

[http://water.epa.gov/type/watersheds/datait/watershedcentral/upload/WMR\\_factsheet\\_508.pdf](http://water.epa.gov/type/watersheds/datait/watershedcentral/upload/WMR_factsheet_508.pdf)

### Saratogo Lake Watershed Education Activities

[http://www.skidmore.edu/academics/wri/fletcher\\_mueller.pdf](http://www.skidmore.edu/academics/wri/fletcher_mueller.pdf)

### Nonpoint Source (NPS) Outreach Toolbox

<http://cfpub.epa.gov/npstbx/index.html>

### Watershed Management Resources

[http://water.epa.gov/type/watersheds/datait/watershedcentral/upload/WMR\\_factsheet\\_508.pdf](http://water.epa.gov/type/watersheds/datait/watershedcentral/upload/WMR_factsheet_508.pdf)

### Earth Gauge

<http://www.earthgauge.net/>

### Watershed Related Clip Art

<http://water.epa.gov/type/watersheds/outreach/outpixnonjs.cfm>

### Nutrient Pollution Outreach and Education Materials

<http://water.epa.gov/polwaste/nutrientoutreach.cfm>

## **ACTIVITIES:**

### **Watershed Excursion – SW FL Water Management District**

<http://www.swfwmd.state.fl.us/education/interactive/watershed/pdf/teachguide.pdf>

### **Activities, Coloring Pages and More Watershed Student Page**

[http://www.bouldercolorado.gov/index.php?option=com\\_content&view=article&id=5605&Itemid=2428](http://www.bouldercolorado.gov/index.php?option=com_content&view=article&id=5605&Itemid=2428)

### **Kansas Ag In The Classroom Watershed Activities**

<http://www.agintheclassroom.org/TeacherResources/InterestApproaches/Kansas%20Watershed%20Materials.pdf>

### **National Geographic Earths Watercycle**

[http://education.nationalgeographic.com/education/activity/earths-water-cycle/?ar\\_a=1](http://education.nationalgeographic.com/education/activity/earths-water-cycle/?ar_a=1)

### **National Geographic Project Fieldscope**

[http://education.nationalgeographic.com/education/program/fieldscope/?ar\\_a=1](http://education.nationalgeographic.com/education/program/fieldscope/?ar_a=1)

### **Watershed Model Activity**

[http://www.in.gov/dnr/nrec/files/Tarp\\_Activity.pdf](http://www.in.gov/dnr/nrec/files/Tarp_Activity.pdf)

### **CoCoRaHS "Rain gauge at every school" campaign**

<http://www.cocorahs.org>

Colorado State University Community Collaborative Rain, Hail and Snow Network

### **NACD Education**

<http://www.nacdnet.org/education/resources/>

### **How to: Rain Garden**

### **Arkansas Department of Environmental Quality**

<http://www.awaq.org/Brochures/Rain%20Garden.pdf>

### **North Carolina Cooperative Extension**

<http://www.bae.ncsu.edu/topic/raingarden/Building.htm>

### **How To: Stream Table**

#### **Arkansas**

[http://www.awaq.org/pdf/stream\\_table\\_plans.pdf](http://www.awaq.org/pdf/stream_table_plans.pdf)

#### **Missouri**

<http://www.dnr.mo.gov/education/bigriver/lesson%20plans/building%20a%20stream%20table.pdf>

#### **Iowa**

[http://www.iowadnr.gov/portals/idnr/uploads/education/strtbl\\_dir.pdf](http://www.iowadnr.gov/portals/idnr/uploads/education/strtbl_dir.pdf)

### **How a Stream Table Works**

<http://www.watersheds.org/earth/streamtable.htm>

Water Activities in the **Project WET** guide ([www.projectwet.org](http://www.projectwet.org)) Project WET's Discover a Watershed series and Watershed Managers Guide – Healthy Water Healthy People Guide, Conserve Water Guide **Project Learning Tree** (PLT) ([www.plt.org](http://www.plt.org)) educator's guide

*What is a Watershed? PA-420.*

USDA Publication <http://nrcspad.sc.egov.usda.gov/DistributionCenter/product.aspx?id=112>

### *What Is A Watershed?*

PA-420 defines a watershed, explains how they work and illustrates their importance to people and their communities. (2005)

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