

Q: What Is a Watershed?

A: The term *watershed* is often used today, but not all of us know what it truly describes. A watershed is an area of land in which all water drains to a common location or waterway. In some parts of a watershed, water flows. In other parts of a watershed, water is stored, at least temporarily. Water moves from one place to another by streams and rivers both above and below ground. Small watersheds make up larger watersheds, which in turn make up even larger watersheds.

Lay of the Land

Gravity, topography, and surface cover play important roles in watersheds. Gravity causes water to travel to the lowest elevation available. *Topography*, the relief and physical features of an area, affects the direction and speed of water flow.

Surface cover in a watershed determines to what degree water infiltrates, accumulates, or flows. Precipitation that does not evaporate back to the atmosphere or run off over land may percolate through the Earth's soil and rock layers (infiltration), where it may be stored as groundwater or taken up by vegetation.

For example, when rain hits the canopy of a forest, the vegetation intercepts much of

it. Rain flows down tree branches and drips off leaves onto the ground, where it is likely to infiltrate the soil relatively quickly.

Compare the surface cover of a forest to that of a parking lot. Water accumulates in a parking lot in puddles or runs off it. Runoff over land without significant vegetation growing on it can cause erosion and carry sediment and pollution into waterways.

With the Flow

The force of flowing water that makes whitewater rafting so much fun also picks up and suspends material, carrying everything from soil to gravel to trash and pollutants. Sediment, trash, and even biological organisms are transported until they are deposited in slower-moving sections of a watershed.

In addition to its ability to transport materials, water—often called the “universal solvent”—dissolves more substances than any other. As water flows over and through land—whether it is a cornfield, a forest, a parking lot, or an underground channel—it dissolves many of the substances with which it comes into contact. This includes soil nutrients and fertilizers. As watersheds combine to form larger watersheds, the materials, chemicals, and organisms in each one are concentrated downstream.



Ellen McCallie, tropical ecologist.

Water, Water Everywhere

Healthy watersheds are critical to life on Earth as well as our enjoyment of it. People make good use of the benefits of watersheds, and not just for necessities such as homes, agriculture, and industry. We seek out places in watersheds for outdoor adventure and pleasure—swimming in lakes, hiking in the woods, splashing in puddles and creeks, climbing mountains, surfing, or just lying on the sand of a beautiful beach.

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Send your questions to
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