What is a watershed?

BY CHARLES ROGERS

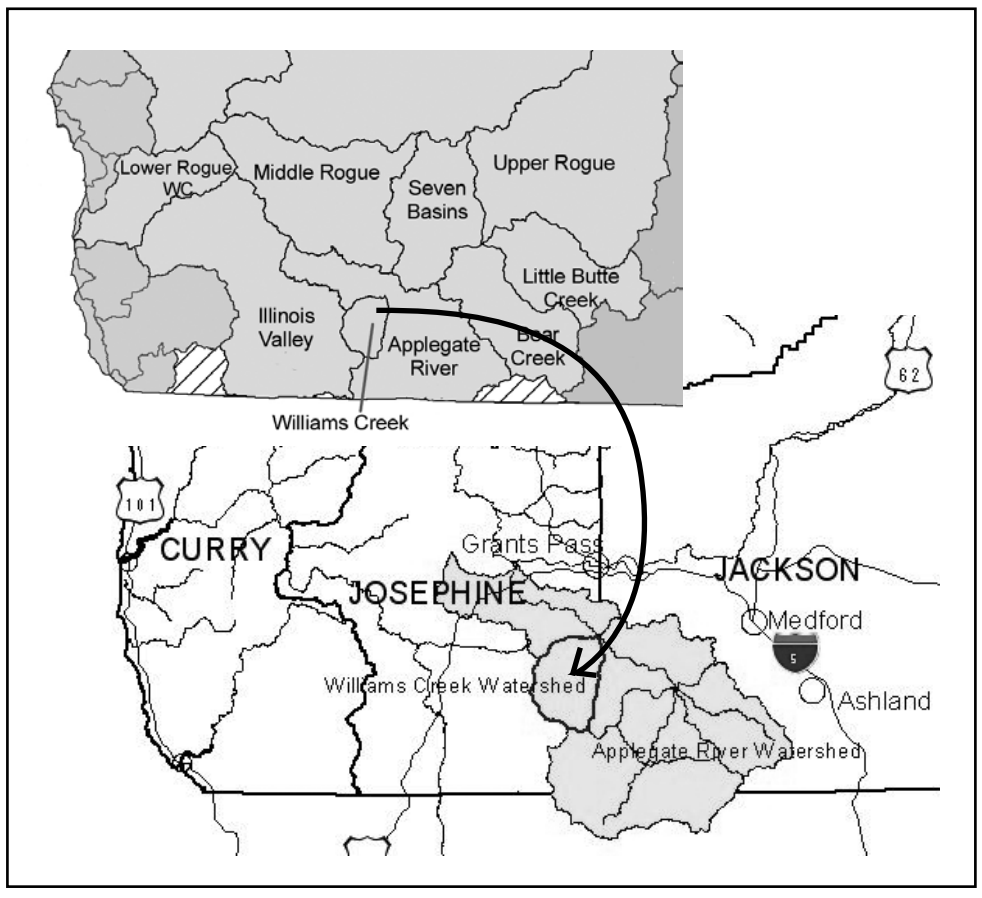
We are asked many times to explain, what is a watershed? Why are watersheds important?

A watershed is the area encompassed within a geographic boundary where all the water that falls within that boundary flows downstream through creeks and groundwater and out of the area through the mouth of a single stream channel. This stream can flow into another stream system, a river, or large body of water such as a lake, or even into the ocean. Generally, a watershed is bounded by a ridge system that separates it from adjacent watersheds. This can be a sharp division or a gently sloping one, but the geography determines the direction that the water flows within that area. Rainfall, snowfall, surface water, and groundwater within a watershed are all hydrologically connected. This hydrologic connectivity is the most important reason to consider aquatic health on a watershed level.

Watersheds, as a method of defining a geographic area, are useful when addressing social and environmental issues such as population, demographics, fish and wildlife usage, forestry and agriculture, climate, economics, human water use, pollution, access, and social lifestyles. These all can be effectively analyzed within the watershed context.

Since water flows downstream, any activity that affects water quality, quantity, or velocity at one site can have an impact on locations downstream. Some watersheds flow into larger watersheds. For instance, the Williams Creek Watershed flows directly into the Applegate River Watershed. Other watersheds, like the Lower Rogue River Watershed, flow directly into the Pacific Ocean at Gold Beach. Some watersheds have no outlet and drain internally. An example is the Malheur Basin in eastern Oregon that empties into the wetlands of desert lakes and ponds that expand and shrink seasonally with rainfall and snowmelt.

Watershed boundaries are often used to assign a physical place and connection to an area where people live and interact with each other. Within watersheds, people develop connections with the land and streams. We also find human connections to riparian areas and aquatic wildlife in the streams and rivers. Watersheds are found delineated within watersheds and constitute a mosaic of drainage basins that connect within the stream systems that make up the landscape. The watershed perspective allows us to recognize the many water uses within its boundaries and to evaluate and improve the stream system.



Watersheds are used to assess environmental characteristics of specific areas within a larger region. For instance, an assessment of the Williams Creek Watershed shows it to be 52,000 acres in size. It has approximately 3000 people in the unincorporated rural community of Williams. It is one of the largest tributaries to the Applegate River, and has some of the best native fish habitat in the Rogue Basin. The watershed contains spawning grounds of several species of anadromous fish, including coho, steelhead and Chinook salmon, Pacific lamprey as well as resident cutthroat trout. Over 150 miles of potential fish habitat exist in Williams Creek and its tributaries, including five miles of 'core' coho habitat, one of three such areas in the greater Applegate River Watershed. Using the watershed approach for environmental assessments reveals that the Williams Creek Watershed has a high potential for helping restore healthy salmon runs in the Applegate River system.

When reviewing conditions within a given watershed, we search for ideas to make it a healthier place. This involved process seeks to identify the ideal natural habitats within a watershed. The health of a watershed refers to a sustainable balance of the functions of water, land, air, flora and fauna. Human activities such as dam building, mining, and stream cleaning have often changed this natural balance in an unhealthy way. Today, however, environmental organizations such as watershed councils and the public have joined forces with fishermen to insure salmon survival by enacting policies and programs that help fish and the watershed in general. Other organizations such as the Oregon Watershed Enhancement Board and the National Marine Fisheries Service support watershed councils in their work.

Working for environmental health, from a watershed perspective, places a major part of the responsibility on the people who live within the watershed. As community members become more aware of watershed issues, they often become actively involved in decision-making as well as environmental restoration efforts. Through local participation, watershed restoration work builds a sense of community, increases local interest in finding solutions, and improves the probability of success for environmental programs.

Watersheds, rather than arbitrary politically defined areas, will continue to be the most useful land unit to use for managing environmental issues as well as social and economic ones. For more information about your watershed, or how you can help with restoration efforts, contact your local watershed council.

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