

WATERSHEDS

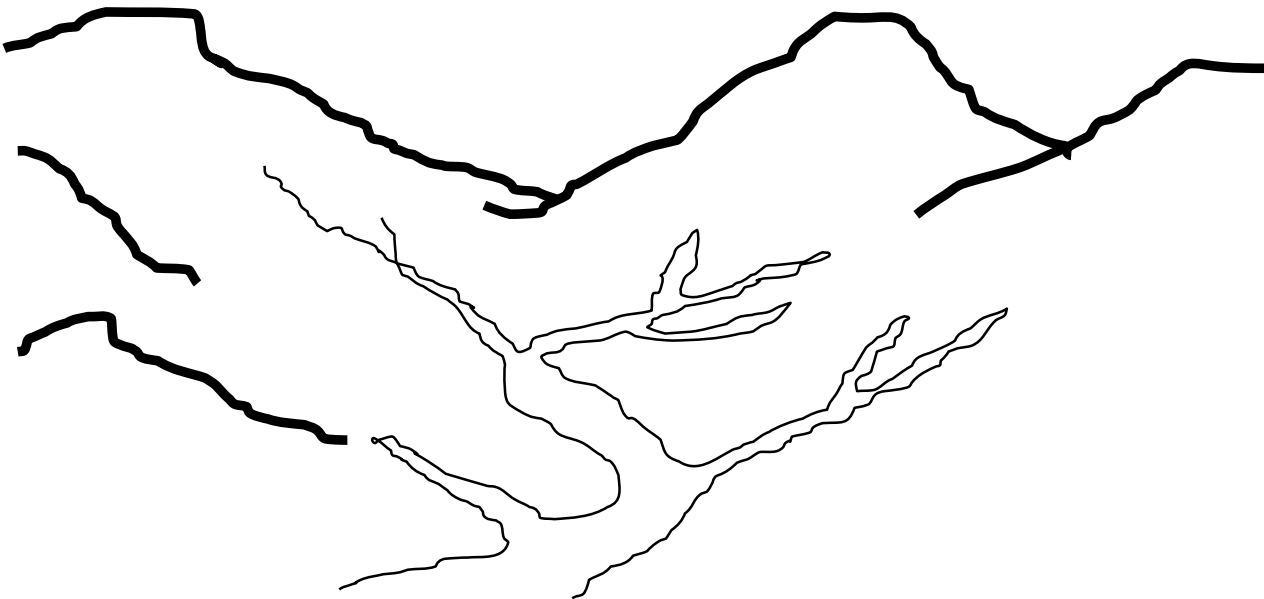
Most of the houses in Portland get their water from land that is called a **watershed**. A watershed is an area of land where water drains to a common point such as ditches, streams, ponds, lakes, ground water, or rivers. Since land is the entire solid surface of the Earth, anywhere you are...you are in a watershed.

The area of land around the rivers is the watershed. Watersheds are often named after the river. Can you think of two main watersheds in the Portland area? Precipitation, surface run-off and ground water in the area will drain into the river and are all a part of the watershed.

Hills, mountains and ridges separate two watersheds. These hills, mountains and ridges are called a **divide**. A divide is an elevated area of land that separates two watersheds because it causes water to drain down one side or the other of the hill, mountain, or ridge.

A **tributary** is a stream, creek or river that flows into a larger stream or river. A **confluence** is the point where two rivers or streams join together.

Look at the illustration below. Why is it a watershed? Work with a partner to label the parts of the watershed: tributary, confluence, and divide.



Watersheds can be very small areas of land or they can be quite large. A small watershed would be the land area that drained water into a small stream; this may be only a few acres. That small stream flows into a larger stream and eventually into a river, just like the

rivers in your watershed picture have smaller streams running into them. The land areas drained by the small streams make up the watershed of the river.

If you live in Portland, Gresham, or in Washington County, your water comes from the Bull Run watershed and backup underground wells along the Columbia River. If you live outside of those areas, your water may come from a different watershed or from wells.

The Bull Run Watershed has been the City of Portland's primary water resource since 1895. The watershed is about 5 miles west of Mt. Hood and about 26 miles east of downtown Portland; it covers 102 square miles. Elevations range between 750 and 4,150 feet above sea level. The water quality is exceptional, and remains close to the chemical makeup of rainfall.

Water from the Bull Run flows from the watershed to the Portland metropolitan area. Because the water travels through the pipes by gravity feed, it saves money for water users because it does not require expensive energy to pump the water from the watershed.

Water is stored in large terminal storage **reservoirs** around the Portland area. These reservoirs hold three days worth of water to ensure adequate supply and fire fighting capabilities. The reservoirs include the Powell Butte Reservoir and five reservoirs located at Mt. Tabor and Washington Park.

Pump stations are used to serve areas that cannot be served by gravity feed. Much of SW Portland is served by these pump stations. There are 30 pump stations operated by the City of Portland Bureau of Water Works. One of the oldest pumps at the Washington Park Pump stations is Pump 1 and is known as Thumper. It was installed in 1894 and is the oldest operating piece of machinery in the water system.

Resource to Portland's watersheds

<http://www.portlandonline.com/Bes/index.cfm?c=32197>

A resource to Oregon's watersheds

http://www.oregon.gov/OWEB/WSHEDS/wsheds_councils_list.shtml