

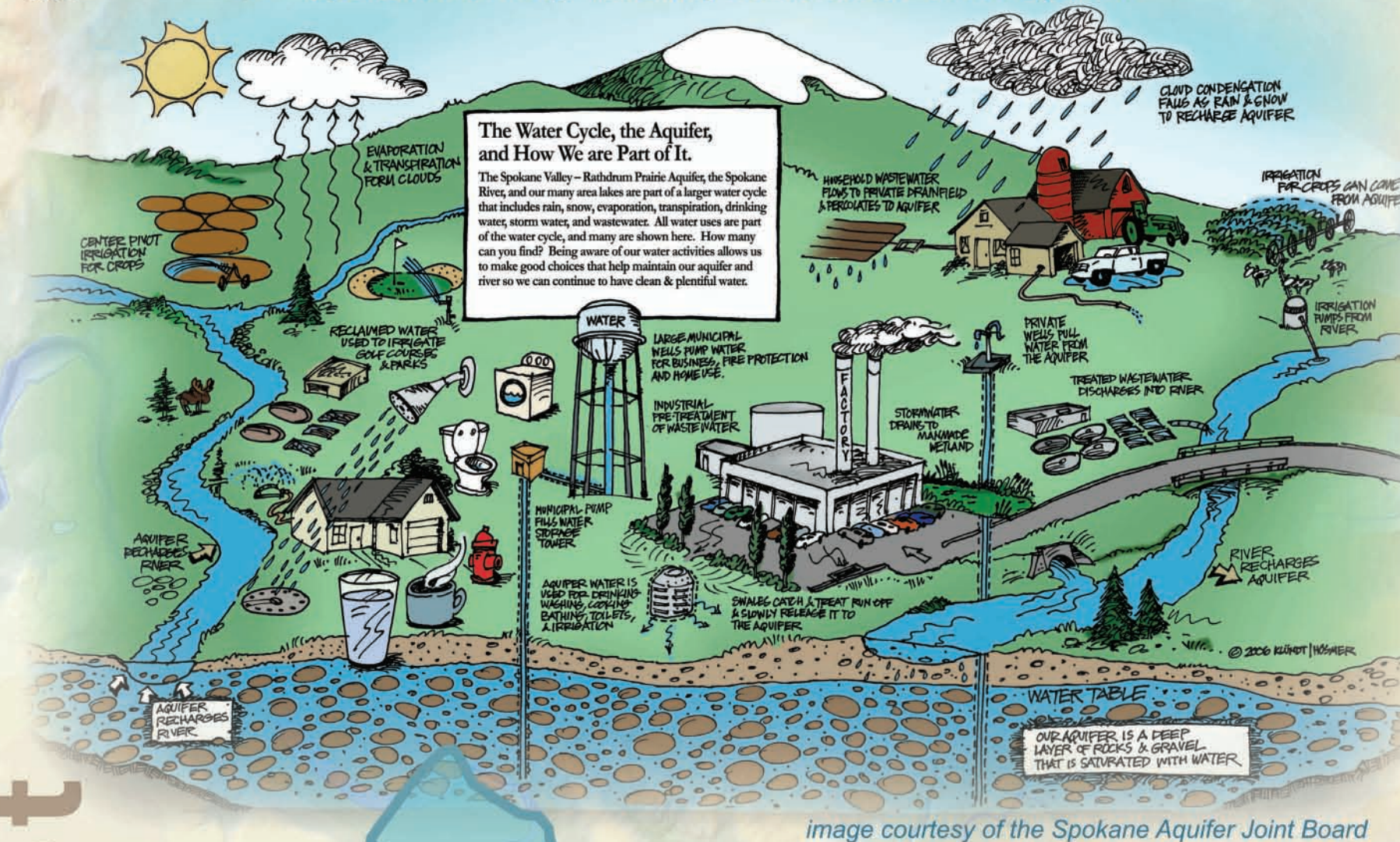
The Spokane Valley-Rathdrum Prairie Aquifer

atlas THE SOLE SOURCE OF WATER

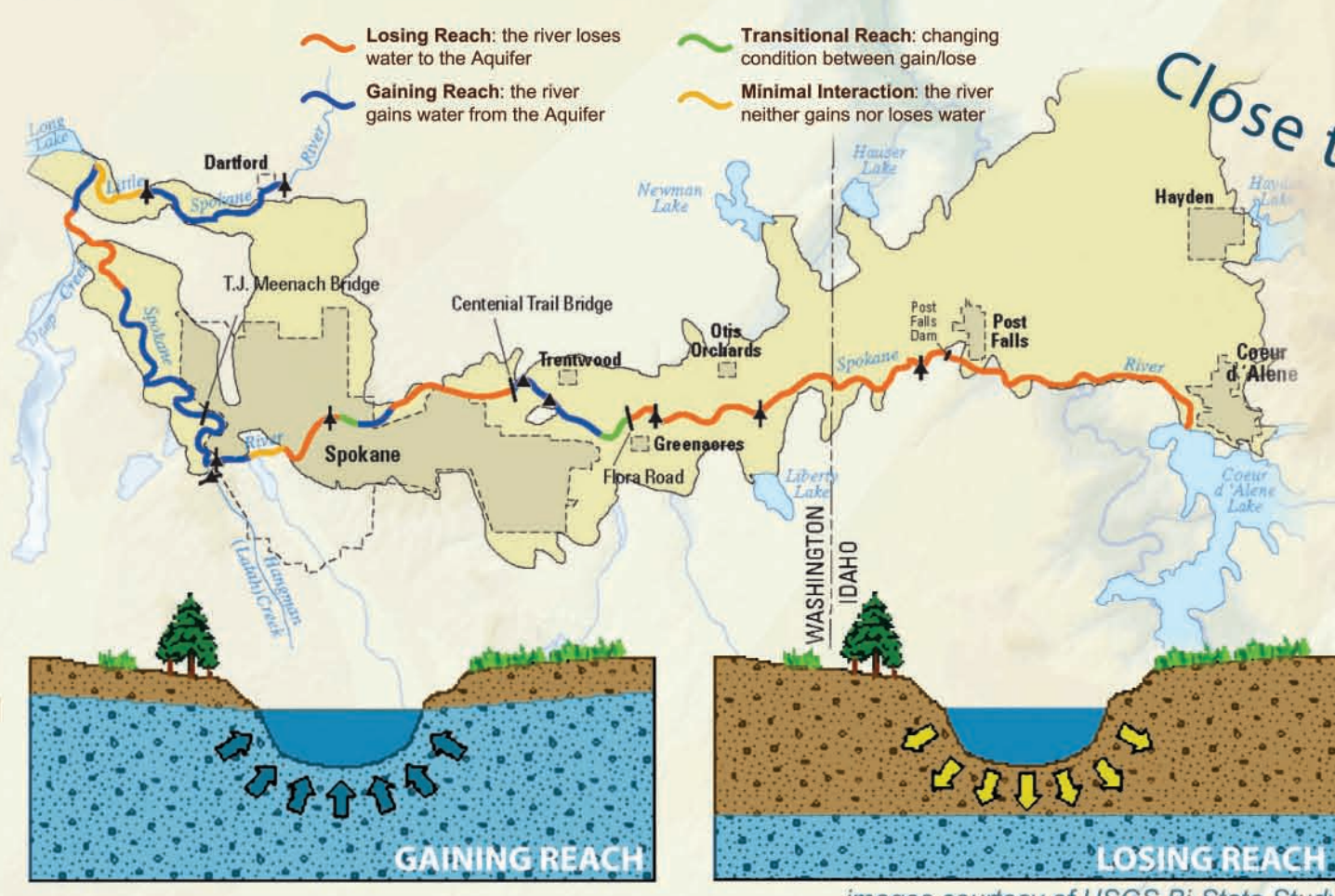
for most people in Spokane County, Washington and Kootenai County, Idaho, is a high-quality underground water body contained in a rock formation called the Spokane Valley-Rathdrum Prairie Aquifer, and it is also commonly known as the "Rathdrum-Spokane Aquifer". This Aquifer is one of the most important resources in the region, supplying drinking water to more than 500,000 people. Information about the Aquifer can be found in the Spokane Valley - Rathdrum Prairie Aquifer Atlas 2009 Update.

The Atlas is a joint effort by agencies in both Washington and Idaho to create a holistic representation of the Aquifer. Political boundaries are absent on the cover of the Atlas as well as this poster so that readers first view the Aquifer as a continuous natural feature. Agencies from both states also put together the 2007 USGS Bi-State Study of the Aquifer. Just as the Bi-State Study came out, it was time to update the Aquifer Atlas again. Perfect timing! Now the SVRP Aquifer Atlas has been revised using maps and findings from the USGS Bi-State Aquifer Study. This poster will tell you a little about the Aquifer, but you can find out a lot more in the 2009 Aquifer Atlas!

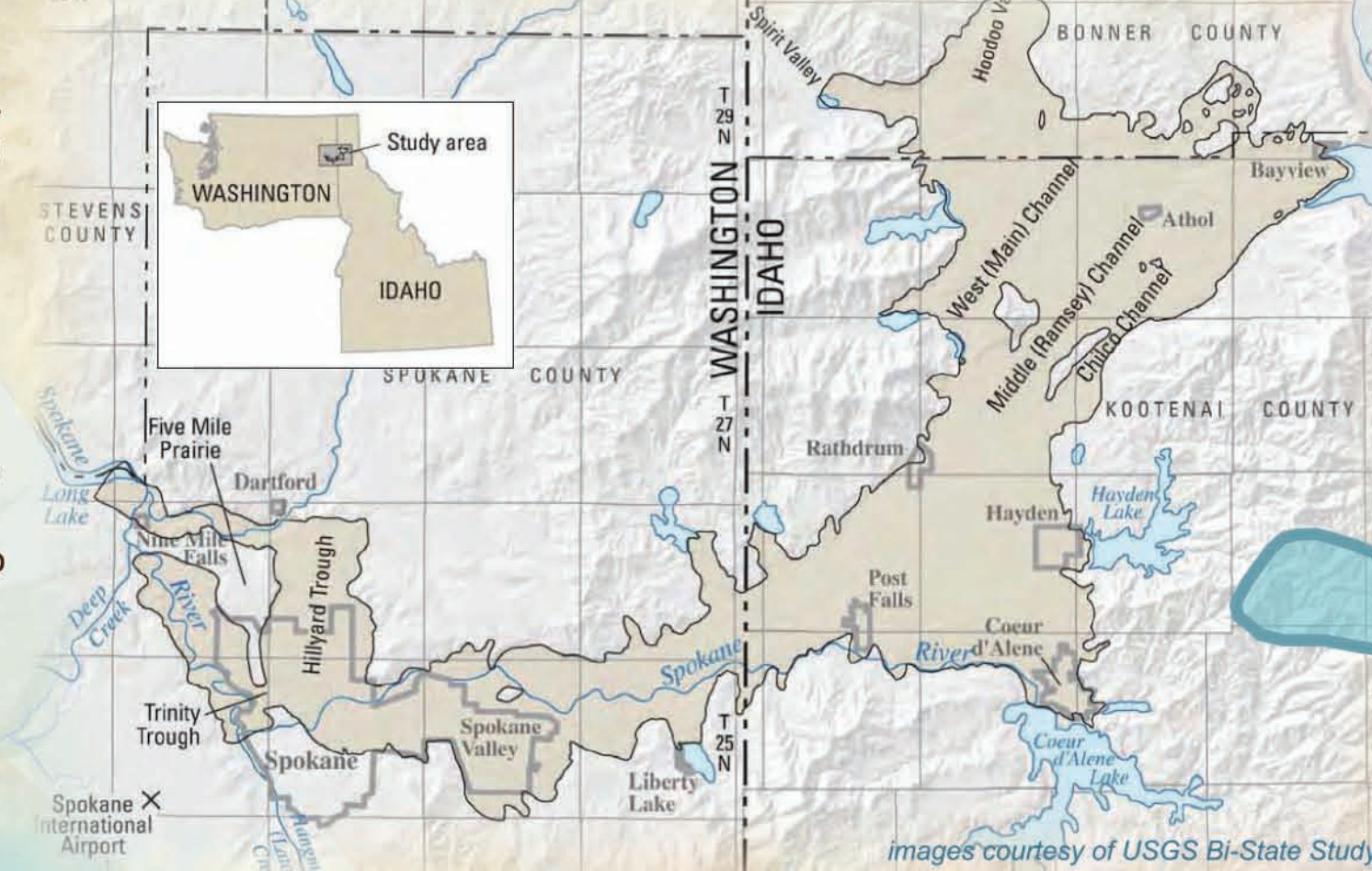
Buck wants to teach you about the Water Cycle and why it's important to the Aquifer!



In some locations, water seeps out of the Spokane River and recharges the Aquifer. In other places, water flows out of the Aquifer, and becomes river water. At its western extent, the gravels and cobbles that form the Aquifer taper out along the Spokane and Little Spokane Rivers. Here Aquifer water comes to the surface, bubbling up as springs that flow into these rivers.



location



The Aquifer covers approximately 250 square miles in Idaho, including the Rathdrum Prairie, and 120 square miles in Washington, including the Spokane Valley.

history

The Spokane Valley and Rathdrum Prairie are landforms that have been shaped over millions of years by water flowing from the western slopes of the Rocky Mountains to the Pacific Ocean. During the Ice Ages the Earth's climate underwent periods of alternate cooling and warming. When it got colder, huge ice sheets extended down from the North Pole, and some lobes reached as far south as northern Idaho and Washington.

Aqua Duck is here to teach you about the history of how the aquifer was formed!

1 ice dam

Many times an ice lobe would move south to plug the valley of the Clark Fork River near Sandpoint, Idaho. This created a massive ice dam across the valley, and completely covered the present-day Lake Pend Oreille. The ice dam was over 2,000 feet high!

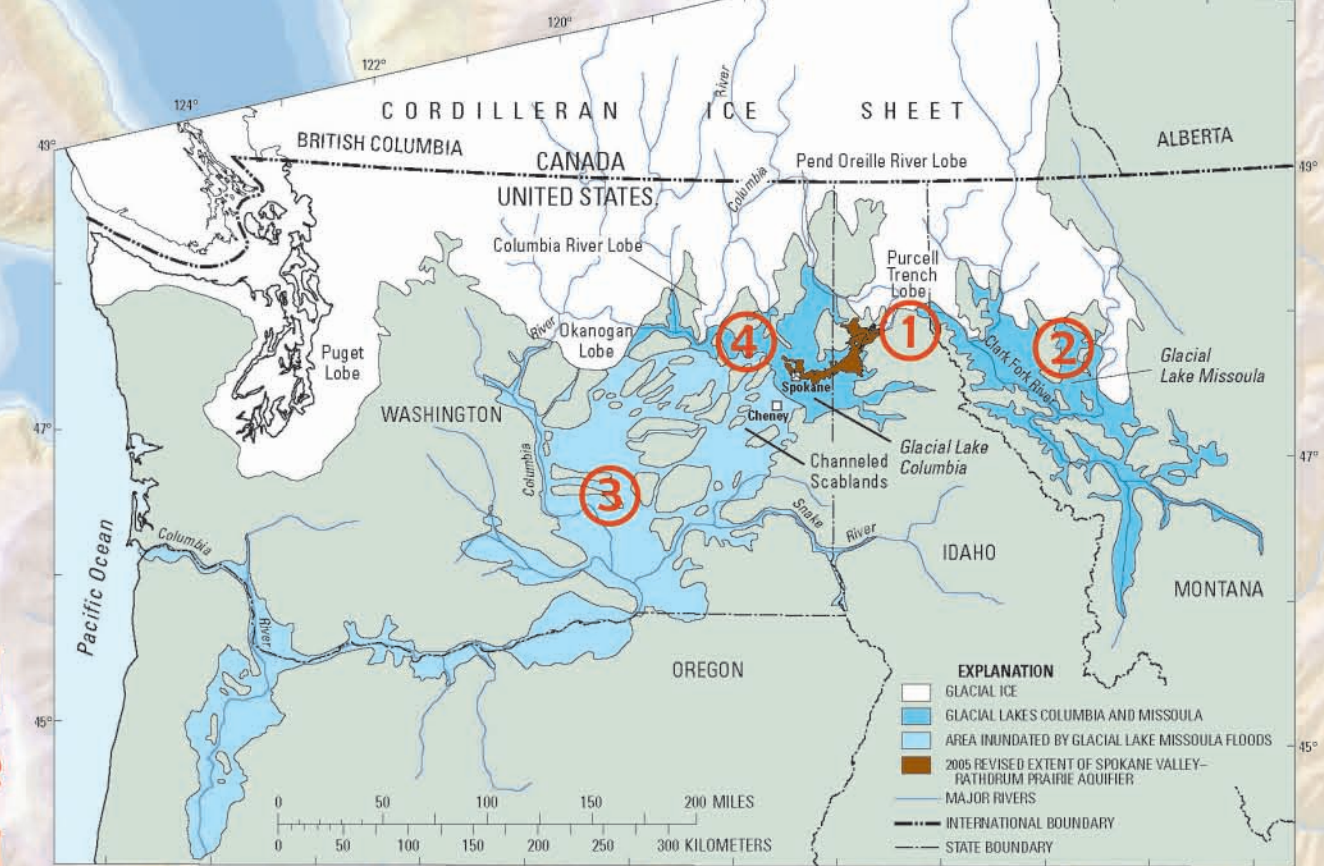


Image courtesy of USGS Bi-State Study

Our Aquifer underlies about 370 square miles in two states. It has one of the fastest flow rates in the United States, flowing as much as 60 feet per day in some areas. In comparison, a typical aquifer has a flow rate between 1/4-inch and five feet per day. The volume of the entire Aquifer is about 10 trillion gallons, making it one of the most productive aquifers in the country.

2 glacial lake missoula

Melt water from up the Clark Fork River drainage ponded behind the ice dam. Eventually this formed a vast lake, Glacial Lake Missoula, which covered present day Missoula, Montana, and a network of many other valleys in western Montana. At Glacial Lake Missoula's highest level, the lake covered an area of about 2,900 square miles and contained an estimated 500 cubic miles of water.

3 ice age flood

As the water deepened in Glacial Lake Missoula, the ice dams would fail, and the water in Glacial Lake Missoula "escaped" in enormous "outburst" floods. The flood wave swept down the Rathdrum Prairie, through the Spokane Valley and eventually flowed across the Columbia Plateau to the Pacific Ocean. The Glacial Lake Missoula floods are the largest documented floods that have ever been discovered! These floods deposited thick layers of gravels, cobbles, and boulders in the Rathdrum Prairie and Spokane Valley. Then, water from snow and rain flowed into these flood deposits, creating the Spokane Valley - Rathdrum Prairie Aquifer.



painting courtesy of Stev Ominski

4 glacial lake columbia

Glacial Lake Columbia existed during the same period as Glacial Lake Missoula. It was created when the Okanogan Ice Lobe advanced south and blocked the Columbia River. Glacial Lake Columbia was about 1,500 square miles at its greatest extent. The Rathdrum Prairie and the Spokane Valley were covered by Glacial Lake Columbia.

What is an aquifer? A body of saturated rock through which water can easily move.

AQUA DUCK and Friends

WANT TO TELL YOU ABOUT YOUR LOCAL AQUIFER ATLAS

Spokane Valley - Rathdrum Prairie Aquifer

aquifer protection

Mallory has some suggestions on how to protect our aquifer!

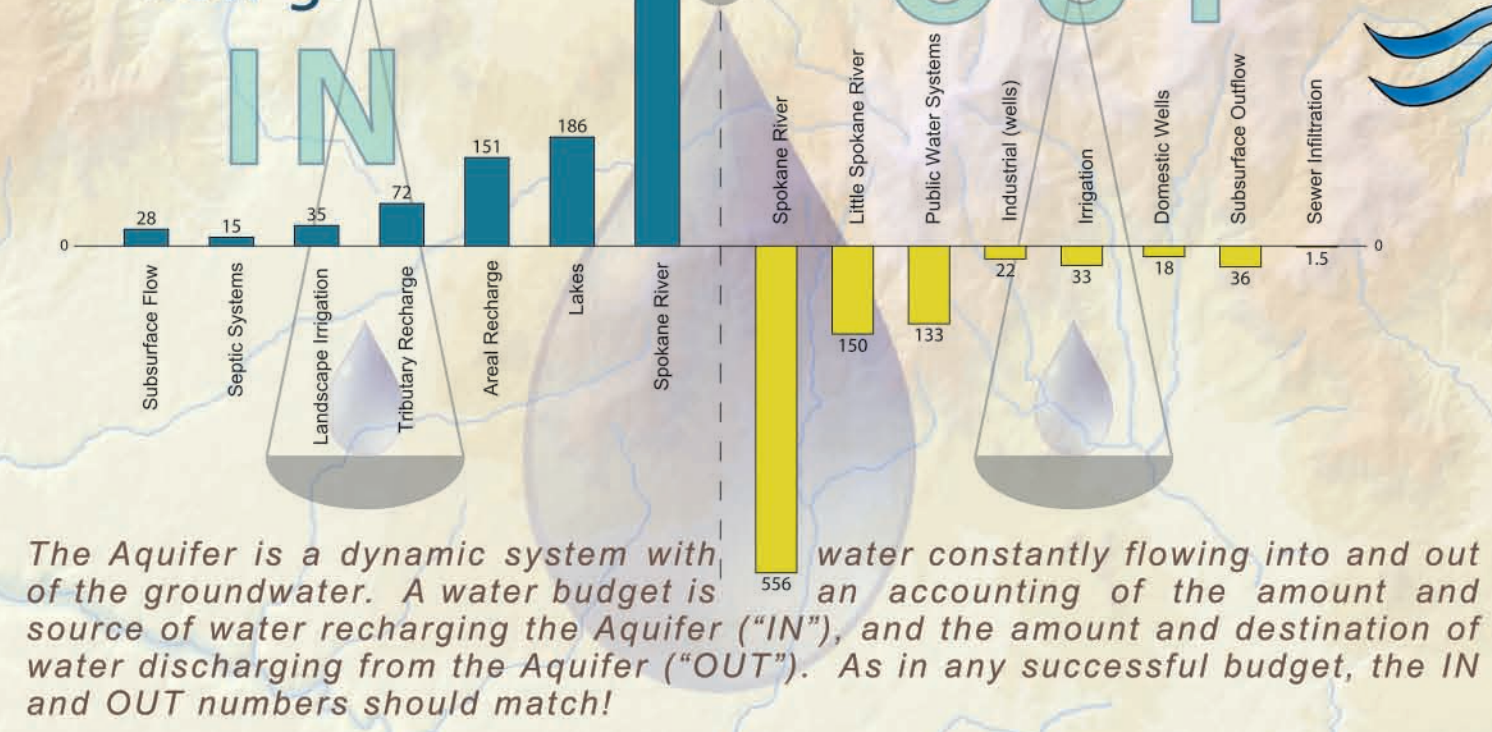
Sewer Installation - Sewers safely transport wastewater to treatment facilities before it is released back to land or the Spokane River. This prevents faulty septic tank wastewater contaminants from reaching the Aquifer.

Septic Tank Maintenance - If you have a septic system, it is important to keep it working properly.

Stormwater Treatment - Grass, plants and other vegetation are natural filters for contaminants. It is important to have ground cover like grass in areas where stormwater collects to remove many of the pollutants.

Household Chemical Management - Buy the least toxic product available. Use only the amount you need. Follow label directions - more is not necessarily better! Give leftovers to someone who can use them. And properly dispose or recycle waste or unused items.

Close to a billion gallons of water flows into and out of the Aquifer each day.



The Aquifer is a dynamic system with water constantly flowing into and out of the groundwater. A water budget is an accounting of the amount and source of water recharging the Aquifer ("IN"), and the amount and destination of water discharging from the Aquifer ("OUT"). As in any successful budget, the IN and OUT numbers should match!

Otto's here to tell you where to find your own copy of the Atlas!

If you would like to learn more about the Spokane Valley-Rathdrum Prairie Aquifer, you can get a copy of the SVRP Aquifer Atlas at the following locations:

- Waste Water Management, City of Spokane (509) 625-7900, call hours 8am - 4pm
- Water Department, City of Spokane (509) 625-7800
- Spokane County Utilities (509) 477-3604
- Spokane Aquifer Joint Board (SAJB) (509) 536-0121
- Department of Ecology (DOE) (509) 329-3400
- Panhandle Health District (PHD) (208) 415-5200
- Idaho Department of Environmental Quality (208) 769-1422
- Kootenai County Aquifer Protection District (use the above 2 phone numbers for contact info)

You can also find additional information in the USGS Bi-State Study at: http://www.ecy.wa.gov/programs/wr/ero/svvp_summit.html

National Color Graphics
Spokane, WA

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Aqua Duck and Friends characters - courtesy of the SAJB