

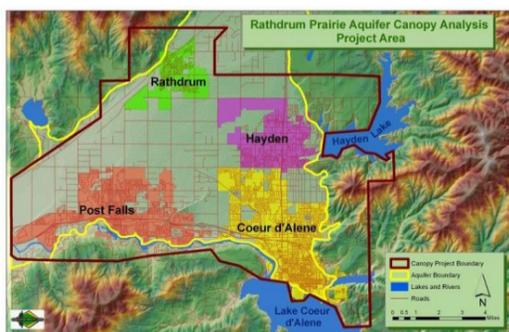


## Using trees to improve water quality in North Idaho and Spokane Valley

July 15, 2013

**A five-year project that uses trees to improve water quality in the Spokane Valley-Rathdrum Prairie Aquifer has reached completion.**

The aquifer has long been identified as a high priority for water quality protection. The aquifer flows east to west from Idaho into Washington, **covers more than 300 square miles**, and is the **primary source of water for more than half a million people** in Idaho and Washington - a statistic that's expected to grow over time as the area continues to develop.



Map of the project area

So in 2008 the Idaho Department of Lands (IDL) conducted an analysis to determine how trees could be used to protect water quality and bring other benefits to this increasingly urbanized area.

Using funds from the U.S. Forest Service, in 2009 the IDL collaborated with the Washington Department of Natural Resources and several other organizations to improve and maintain water quality in the Rathdrum Prairie Critical Aquifer Recharge Area (CARA) by:

- **promoting forestry practices that enhance forest health** and
- **planting and managing trees** in urban areas **to protect surface water quality**, encourage water filtration, and aid in retaining water in these recharge areas.

## From analysis to action

The study enables city and county planners to use trees as a tool for water protection and other benefits in their communities.

The study was made possible by grant funds from the U.S. Forest Service State and Private Forestry and partnerships with the cities of Coeur d'Alene, Post Falls, and Hayden, Kootenai County, the Panhandle Lakes Resource Conservation and Development, and Avista.

The study indicated:

- Tree canopies cover about **14 percent of Coeur d'Alene**, **7 percent of Hayden**, and **6 percent of Rathdrum and Post Falls**.
- Urban areas in Kootenai County have **room for at least 600,000 more trees**.
- Urban trees' role in local **storm water management** is valued at **\$8.5 million annually**.
- The county's existing urban trees **filter out about 125,000 tons of air pollutants** each year, including carbon monoxide. The **reduction in pollutants is valued at \$3 million per year**.
- Planting 76,000 new trees around homes and commercial buildings in Kootenai County could cut energy bills by **\$98 million over the next 40 years**.



*Cooler temperatures prolong asphalt's life. Shading asphalt can lower its surface temperature by 50 degrees during the hottest summer days. Existing trees also capture rain and snow, reducing the storm water runoff from streets and other hard surfaces. Less storm water means that fewer chemicals and other pollutants reach the aquifer.*

**Here are some examples of how the information from the analysis and subsequent collaborative efforts are improving water quality in the aquifer.**

For more detailed information about project highlights [click here](#).

**Water Filtration:** The City of Hayden protects the aquifer by applying wastewater (treated effluent) for uptake by the poplars.

Photo at right - IDL foresters inspect the plantation to determine insect damage. When an infestation of the poplar sawfly threatened the plantation, the IDL provided funds for treatments to protect the poplars.



**Managing Root Disease:** Fir trees are susceptible to root disease.

As shown in the photo at left below, infected fir trees often die. This is a permanent disease found in many forests over the aquifer. To keep forests healthy so they can help protect water quality, the solution is to grow trees that are not susceptible to root disease, such as ponderosa pine.

As shown in the photo at right below, infected fir trees were harvested in a demonstration site showing proper forest management. Left to grow is healthy ponderosa pine.



**Education:** The IDL and partners conducted education sessions for forest landowners and teachers, and worked to put up signs along trails explaining the importance of healthy, managed forests.

For instance, nearly 200 forestland owners attended a Forest to Faucet field day to learn how to keep their woods healthy and protect water quality. Also, teachers attend a Forest to Faucet workshop to learn new ways to teach students about the relationships between forests and drinking water.



*A popular spot for rock climbers, a family stops to read a sign at Q'emiln Park in Post Falls. Signs posted along the trails explain the importance of maintaining healthy forests and tell visitors what steps are taken to manage forests infected with root disease.*

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