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Trees can save some green

Study quantifies benefits of Kootenai County's canopy

[Becky Kramer](#) The Spokesman-Review



kathypl@spokesman.com A shopper adds to the reflection of one of the many trees in downtown Coeur d'Alene on Wednesday. A recent inventory of Coeur d'Alene, Hayden, Post Falls and Rathdrum shows that there is room for nearly 600,000 more urban trees.

Urban areas in Kootenai County have room for at least 600,000 more trees, according to a recent study that touts the benefits of leafy neighborhoods and shaded roadways.

City trees are more than eye candy on the landscape, the study says. They're versatile performers – saving energy, filtering air pollution, soaking up storm water and protecting the purity of the Spokane Valley/Rathdrum Prairie Aquifer.

"Intuitively, we know it. You stand under a tree on a hot summer day and it is cooler," said David Stephenson, who works in community forestry for the Idaho Department of Lands.

But the dollars-and-cents benefits aren't always so obvious. The \$248,000 study, paid for by the U.S. Forest Service, attempts to quantify the trees' contributions.

The study covered 118 square miles of Kootenai County, using aerial photos from Avista Utilities as a starting point. From there, a consultant developed a detailed database that shows more than 50,000 buildings plus tree cover, including whether the trees are evergreens or deciduous species. Paved surfaces, agricultural fields and residential lots also show up in the database.

The database points out suitable planting sites for new trees, and shows if existing trees provide shade for buildings and roads. The study is the first of its kind in Idaho, and among the most comprehensive surveys of urban trees in the West, Stephenson said.

Among the study's findings:

- Tree canopies cover about 14 percent of Coeur d'Alene, 7 percent of Hayden and 6 percent of Rathdrum and Post Falls. The cities' goals are to increase tree canopies to 30 percent.
- 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.
- 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, based on modeling developed by American Forests, a nonprofit group in Washington, D.C.
- 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. Urban trees' role in local storm water management is valued at \$8.5 million annually.

"The study shows the benefits of having a tree canopy. ... It's not just beautification," said Debbie Frisbie, the city of Coeur d'Alene's geographic information systems coordinator.

Aquifer protection was one of the primary reasons for undertaking the study, Stephenson said. As Kootenai County's population grows, the miles of streets and other paved surfaces will also increase. Urban trees will become even more important in keeping contaminants out of the aquifer, which provides drinking water to about 500,000 people, Stephenson said.

Trees also play a crucial role along roadways and in parking lots. Shading asphalt can lower its surface temperature by 50 degrees during the hottest summer days, Stephenson said.

Cooler temperatures prolong the asphalt's life. Shade trees also reduce the formation of ozone pollution during the summer months.

Eventually, cities will be able to use the database as a predictive tool, said Karen Haskew, Coeur d'Alene's urban forester. If a big residential or commercial development is on the drawing board, city officials will be able to run models on storm water from new roads or parking lots. They'll know more about how planting trees can lessen negative impacts, she said.

Cities can also use the data to better care for their existing trees, and promote the growth of bigger, long-lived urban trees, Stephenson said. A small, flowering cherry provides benefits, he said. But a 70-year-old maple provides more benefits.