Community Forestry Assistant

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Northwest Management, Inc.

Idaho Department of Lands Seeks Grant To Evaluate Community Forest Canopy Effectiveness Over the Rathdrum Aquifer!

In the first attempt of its kind in Idaho, IDL (in cooperation with local governments) has applied for a grant from the US Forest Service to develop and implement a GIS analysis, using CityGreen software and high-resolution satellite imagery of tree canopy to address stormwater mitigation and water conservation and quality in both developed and rapidly developing areas of Kootenai County, Idaho, an area of approximately 100 square miles.

Ranking 20th nationally in the rate of population growth, this area sits atop a sole-source aquifer for more than a half-million people. The project will identify vegetative and impervious land cover down to property boundaries and categorized the entire area, local jurisdiction, and land use. The GIS analysis will determine existing and model future canopy benefits, provide information for planning, management and education, and will help guide forestry and develop activities to maximize public benefits from green infrastructure.

Flowing east to west from Idaho into Washington, the Rathdrum Prairie Aquifer covers more than 300 square miles with a recharge area of nearly 700 square miles. Numerous area lakes, streams, and drainages provide recharge to the aquifer and contribute to surface water in Lake Coeur d'Alene and the Spokane River. Maintaining water quality and a clean public water supply is identified as a priority within the comprehensive plans for Kootenai and Spokane Counties and the cites that lie over the aquifer and along the river including Coeur d'Alene, Post Falls, Hayden, Rathdrum and Spokane. Clean and abundant water is important not just for human water use, but for wildlife, recreation and overall livability, qualities on which the areas' economy depends.

CityGreen is a GIS tool that quantifies canopy benefits—including water quality, stormwater mitigation, energy conservation, air quality, and carbon sequestration using accepted research models. These assessments have been completed in a number of very large metropolitan areas around the country and have established the significant value of forest canopy on a large scale. None, however, have been completed in the Inland Northwest. This project will demonstrate this technology as a site-specific planning tool across governmental boundaries and quantify the functional value of forests and canopy to water quality, especially in developing areas.

One of the tremendous benefits of using GIS is the ability to model future scenarios. For example, what would happen if we increased canopy cover from 10% to 30% in a specific area? What would be the added value? What will happen if we remove existing canopy while adding more impervious surfaces? How can we accommodate growth and maximize benefits from functional green infrastructure? Through this type of modeling, site-specific canopy goals can be established and prioritized allowing cities and the county to target investments in planting, conservation, and infrastructure improvements for maximum benefit. The results of this project can be used as a template for other areas throughout the state and region on assessment technologies and the quantifiable ecosystem benefits of trees and forests in Idaho.

If you would like more information, please contact your local Idaho Department of Lands supported North Idaho Community Forestry Assistant, Jim Colla at Northwest Management, Inc. at 208-772-8554.