

# Who Owns Washington's Forestlands? A Spatial Database for Analyzing Land-Use Patterns and Trends

BY LUKE ROGERS

To better understand the spatial distribution, demographics and economics associated with Washington state's family forestlands, the University of Washington and the Family Forest Foundation—with funding from the USDA Forest Service—are creating a seamless statewide parcel-based database. This database will further the understanding of statewide land use issues by spatially locating specific land uses and the relationship of those lands to other geographic features. Previous work has suggested that many small forestland parcels are located in the wildland-urban interface, which has implications for fish habitat, fire risk, land-use conversion and environmental services.

It is estimated that there are between 22,000 (1.6 million acres) and 96,000 (4.2 million acres) family forest landowners in Washington state<sup>1,2</sup>. These ownerships are disproportionately vulnerable to impacts that can



result from “broad brush” or “one-size-fits-all” regulatory approaches due to their small scale and location<sup>3,4</sup>. Family forests also face challenges in restricted markets and pressure to convert to often more profitable non-forestland uses. When these lands are converted, the public values they provide such as clean air and water, fish and wildlife habitat, biodiversity, flood control, carbon sequestration and contributions to local cultures and economies are lost forever.

The Washington State Family Forest Database project will set the foundation for analysis of the family forest demographic through the development of an interactive spatial database of all small private forest ownerships within the state. Such a dataset will facilitate the assessment of family forest impacts on local and state economies, and provide information on potential challenges and opportunities that family forest owners face in marketing their forest products and environmental services. The database project will make it practical to assess the costs and benefits of alternative long-term manage-

ment plans toward identification of policy options that protect environmental values while keeping family forests economically viable.

In 2001, the Rural Technology Initiative (RTI) began this work by assembling the Washington State Department of Natural Resources Small Forest Landowner Database from county tax records to create the first spatially explicit database of family forest parcel information. At the time, very few of Washington's counties had Geographic Information Systems (GIS), making spatial location of the parcels problematic and labor-intensive. Legal description information from the county assessors was used to geo-locate each individual parcel from the tabular tax records to a specific township, range and section. Although this information was very coarse, it presented us for the first time with a picture of the unique spatial distribution and geographic relevance of family forests in Washington state.

For example, while the 2001 database had limitations, it demonstrated the significance of family forests in relation to salmon habitat zones and the wildland-urban interface. On the westside, family forests are almost exclusively located in the critical salmon habitat zone below 1,500 feet elevation, and on the eastside, family forests are often found along major transportation corridors where working forests border rural residences.

In the past few years, most of Washington state's 39 counties have acquired software for managing spatial information and are choosing to manage their counties parcel data in a GIS. With this proliferation of GIS-based parcel data, a new opportunity exists to create a seamless statewide parcel database to look at statewide land use issues that will improve tremendously upon the 2001 database project. However, many challenges remain. Each county stores their GIS data in a unique way, across myriad data storage formats and with diverse sets of land use classifications



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and other attributes. Combining these individual county tax parcel databases into a single statewide dataset will mean dealing with county borders where parcels may not align, rectifying owners across county lines and normalizing county assessor tax classification schemes into a common format. This is a difficult, but worthy task, the success of which could influence future viability of family forests in Washington state.

The first phase of the project, which is expected to be completed in mid-2007, involves establishing relationships with each of Washington's 39 counties, developing protocols for integrating county data into the seamless database, and creating an access portal and mechanism for future updates. Once completed the new family forest database will help to better detail dynamic and evolving land-use challenges and facilitate a more explicit understanding of family forest relationships to surrounding geographic and cultural features. ♦

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