

Tualatin River Watershed Information System and Analysis CD-ROM

client:

The Tualatin River Watershed Council
(Washington County Soil and Water Conservation District)



- + Ecotrust developed a comprehensive geographic information system of the Tualatin River watershed from a broad array of physical, biological and social data.
- + Ecotrust published 500 copies of the Tualatin River Watershed Information System CD-ROM with full data documentation and a stand-alone user-friendly map viewer; providing access for both the Tualatin River Watershed Council and the general public to information about conditions of the watershed.
- + Ecotrust performed extensive watershed analyses and created maps and other graphics in support of the Gales Creek watershed and Dairy-McKay watershed assessments.
- + Ecotrust developed maps and associated data for an update of the Tualatin River Watershed Council's action plan.

Like many citizen-based watershed councils, the Tualatin River Watershed Council once lacked access to the information and analysis tools needed to develop even a basic inventory of physical, biological and social conditions and forces within the watershed, hampering their ability to develop and convey a more complete understanding of watershed function and relationships. Working closely with the Watershed Council and an advisory committee of other agency partners and contributors, *Ecotrust* conducted a needs assessment and designed a comprehensive geographic information system database for the Tualatin River watershed; the Tualatin River Watershed Information System.

In developing the watershed information system *Ecotrust's* GIS analysts first compiled and synthesized relevant watershed data from a number of disparate public sources. These "base data" include such diverse spatial map layers as roads, streams, soils, topography, vegetation, and fish habitat. *Ecotrust* also created a new sixth-field watershed layer from analysis of digital terrain models and input and advice from members of the advisory group familiar with the hydrology of the Tualatin basin. The new sixth-field map layer includes 113 sub-watersheds within the Tualatin, averaging about 4,000 acres in size. This layer greatly enhances the analysis and display of variation in sub-watershed conditions and characteristics. Additional data layers were created from spatial analyses of multiple base data.

Ecotrust's analysts also conducted GIS-based watershed analyses in support of separate watershed assessments of the Gales Creek and Dairy-McKay watersheds; adjacent sub-watersheds within the Tualatin. The analyses for the Gales Creek assessment were conducted using the State of Oregon watershed assessment guidelines while the analyses for the Dairy-McKay watershed were based on federal watershed assessment standards. *Ecotrust* created a variety of maps and other graphics for both assessments, displaying analysis results and other watershed characteristics.

Geographic information systems link maps (location data) to databases that describe the attributes of particular locations. This technology greatly facilitates the analysis of complex ideas underlying ecosystem management and assessment because a single user can quickly search, display, analyze and model a variety of spatial information.

The final Tualatin River Watershed Information System CD-ROM consists of a robust set of 100 geographic data layers for the Tualatin River watershed; a comprehensive hyper-linked data dictionary linking users to detailed information about each data layer; and *Ecotrust's* own stand-alone mapper software -- specifically tailored to the Tualatin system - allowing users to simultaneously create maps, perform simple queries of geographic data, see "quick" views of each data layer, and access detailed data documentation. *Ecotrust* published 500 copies of the CD-ROM.

The Tualatin River Watershed Council is a voluntary, non-regulatory group that unites diverse interests to improve the condition of the Tualatin Basin. The Council consists of 21 representatives of key stakeholders including citizens and citizen participation organizations, local government, agriculture, forestry, business and industry, environmental and friends groups, developers, commercial and recreational fisheries, water and sewer districts, and educators.



Sample Map: Dairy-McKay Watershed sub-watershed of the Tualatin River Watershed

