Cleaning up the Willapa River

To improve our understanding of water quality trends in the Willapa River, the Washington Department of Ecology is conducting an intensive study of the river. This work will help the community, local and state governments make informed, long-range decisions about infrastructure and capital-investment needs to protect the precious, natural richness and beauty that define the quality of life in the Willapa.

What is the process?

Ecology sets water quality standards to protect lakes, rivers, estuaries, and other surface or ground waters in Washington. Temperature, dissolved oxygen and bacteria are examples of measurements that need to meet these standards. Low levels of dissolved oxygen can harm salmon and other fish. A sudden, severe drop can cause a fish kill. High fecal coliform levels can contaminate shellfish, making them unsafe to eat, and can also threaten swimmers, boaters and anglers.

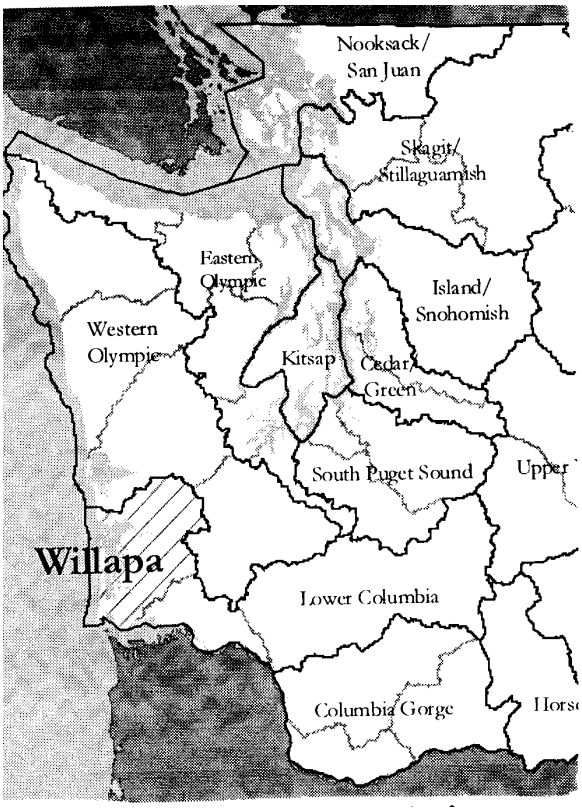
Both Ecology and the local community have keen interests in guiding the future of the Willapa, where shellfish, fisheries, tourism and other water-dependent resources rely on the quality of its waters.

An Ecology + local community partnership

The Department of Ecology (Ecology) is working with the local community to share information about the study. This partnership will continue after the study, when a cleanup plan is developed to protect water quality in the river.

The federal Clean Water Act requires Ecology to submit to the U.S. Environmental Protection Agency (EPA) a list of water bodies that do not meet state water-quality standards. Ecology is required to take steps, through water cleanup

plans, to improve the health of those polluted waters.



Water quality management areas in Western Washington

Why was the Willapa River selected for the study?

For more than 20 years, the Department of Ecology has monitored the Willapa River's water quality and has found that during certain times of the year, the river has levels of dissolved oxygen and fecal coliform bacteria that do not meet state standards. Frequent problems with dissolved oxygen have been found in the lower river near Raymond, and bacteria have repeatedly failed standards in the upper basin near Old Willapa and Lebam. Research and monitoring by government, tribal and industry groups found high water temperatures in the Willapa River through the cooperative Timber-Fish-Wildlife (TFW) process.

Because of this information, Ecology has listed the Willapa River as a water body that does not meet state water-quality standards. This was the catalyst for the water quality work now under way.

Benefits of water cleanup plans

Water cleanup plans are tools that help protect water-dependent resources. In the Willapa, these resources include salmon, oysters, boat-building and attracting tourism that depends on clean, cool water for a healthy watershed. The Willapa, like many Washington rivers, faces potential endangered species listings for salmon. Water quality will be a key component to salmon recovery in the Willapa.

When completed, the results of the water quality work will:

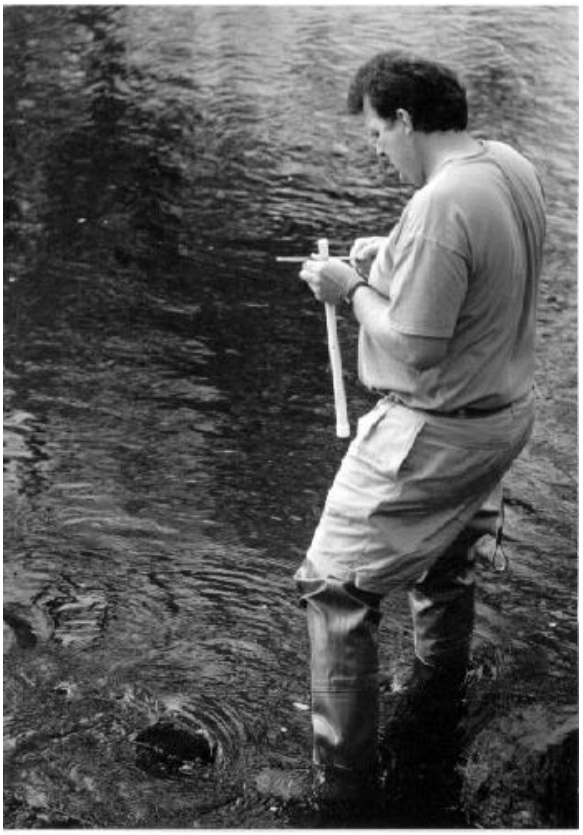
- provide local decision-makers and Ecology with information to protect environmental quality and guide economic development;
- pinpoint whether people or natural conditions are harming Willapa's water quality; and
- help establish water-use policies that will wisely serve current and future generations.

What is a water cleanup plan?

A water cleanup plan determines the largest amount of specific pollutants a particular stream, lake, bay or other water body can receive and still meet water quality standards. Ecology sets water quality standards to ensure that beneficial uses of the waters are met. Beneficial uses include water for industry, agriculture and recreation, as well as water for drinking and for fish habitat.

In basic terms, a water cleanup plan is a comprehensive, scientific water-quality study combined with a water-quality protection plan. Ecology has conducted many other water cleanup plans across the state. The main goals are to:

- identify the type, amount, and sources of water pollution;
- determine how much pollution a water body can receive and still remain healthy; and
- allocate the amount of pollution that can be discharged from each source.



Water-quality engineer Paul Pickett monitors the Willapa River. His work takes place at different sites, upstream and downstream of suspected pollution sources, to pinpoint problems. Myriad sources may be affecting Willapa River's water quality, such as municipal and industrial waste water, failing septic systems, urban stormwater runoff, boat and marina contaminants, livestock and wildlife waste, erosion from timber harvests, fertilizers and other unknown sources. Natural causes may also be affecting the water quality in the river.

How the water cleanup plan is working

Water cleanup planning begins with detailed monitoring that includes a schedule, monitoring locations, water quality parameters to be measured by field work or laboratory analysis, and procedures to ensure that the best possible quality of data is collected.

The Willapa River water cleanup plan called for 12 sampling surveys to be conducted from April through December 1998. The surveys counted fecal coliform bacteria levels, and larger surveys in May, August, September and November measured dissolved oxygen.

Water monitoring and sampling are scheduled for completion in December 1998. A final report on the dissolved oxygen portion of the plan is due in December 1999. A final report on the fecal-coliform bacteria sampling is scheduled for release in July 2000.

Statistical software is used to discover patterns and trends in the data. Computer models based on GIS (Geographic Information Systems) will be applied to the watershed to evaluate rainfall, runoff, river flow, and sources of polluted runoff. Another model will be used to analyze the tidal areas of the estuary.

The power of the models is that worst-case situations can be simulated and evaluated, even though those conditions may not have occurred when water quality samples were collected. The models also allow "what if?" situations to be considered, especially to determine the future success of pollution-reduction activities.

The plan will undergo extensive scientific review before it is published. Then, Ecology and the Willapa community will develop a plan with a schedule of steps to clean up pollution sources. As a part of this plan, pollution allocations -- how much of each kind of pollution the water can receive and still remain healthy -- will be set through a public process.

This will be done through discharge permits that control point sources of pollution (for example, industrial and municipal wastewater discharges) and nonpoint pollution sources (such as failing septic systems, urban stormwater runoff, boat and marina contaminants, and livestock waste).

Pollutant allocations usually include a reserve for future growth and for a margin of safety.

Local government, industry, environmental interests and Ecology are partnering through the North Pacific County Infrastructure Action Team to choose the best alternatives for reducing pollution to protect the health of the Willapa River. Pictured from the team (from left) are Al Bolinger, Ecology facility engineer; Rebecca Chaffee, Raymond city engineer; Jim Neva, Willapa Harbor port director; and Rocky Seaman, South Bend's wastewater-treatment plant manager.

Are other water quality studies under way in the Willapa River?

A similar but differently oriented study of the Willapa River by the University of Washington started four years ago. Sponsored by EPA, this study will predict broad-scale effects of land-use practices on the river during long periods of time.

Unlike Ecology's study, the UW study focuses strictly on nonpoint sources of pollution and land use. It will provide additional information to guide local decision-makers through future changes in the way lands of the Willapa River basin are used.

For more information about the UW study, contact Rick Edwards at 206-543-3507.

How you can participate

The community can participate in shaping solutions and schedules to reduce pollution in the Willapa River.

Ecology is eager to continue that process by meeting with local citizens and organizations to discuss the quality of the water in the river. Speakers are available to talk to large groups, and staff is available to meet with small groups or individuals. Ecology is also interested in providing assistance for water quality projects for students and volunteers.

How to get more information

Citizens are encouraged to ask questions, comment, receive Ecology mailings and request speakers for meetings about the Willapa River study. Draft reports will be made available for public comment as they are completed and public meetings will be scheduled in the coming months.

For more information about Ecology's work in the Willapa, contact Kahle Jennings, Department of Ecology, P.O. Box 47775, Olympia, WA 98504-7775. Phone: 360-407-6269. E-mail: kjen461@ecy.wa.gov Ecology's Internet homepage address is http://www.wa.gov/ecology

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