Cleaning up Salmon Creek

Stakeholder Commitment Makes a Difference

A Clark Public Utilities streambank restoration project

Introduction

A 1995 Ecology study showed that Salmon Creek, north of Vancouver in Clark County, failed water quality standards for fecal coliform bacteria, turbidity, dissolved oxygen, pH, and temperature. That meant the water in Salmon Creek could harm people and pets, as well as salmon and other aquatic life.

The challenge of cleaning up the creek seemed overwhelming. Salmon Creek and its tributaries drain a large watershed with a checkerboard pattern of forestry, agricultural, industrial, and residential use. Data showed there had been water quality problems in the creek for years. To top it off, the watershed was undergoing rapid development. How could we hope to keep the water from getting more polluted, let alone clean it up? Thanks to the optimism, enthusiasm, and commitment of stakeholders, Salmon Creek is significantly cleaner today than it was in the early 1990s.

Problem

Following the release of the 1995 report, Ecology worked with a stakeholder group consisting of local agencies, organizations, and private citizens to develop a cleanup plan for the Salmon Creek watershed. The cleanup plan, also known as a total maximum daily load or TMDL, was approved by the U.S. Environmental Protection Agency in 2001. The plan focused on the fecal coliform bacteria and turbidity problems in the watershed, with the intention of addressing the remaining water quality issues at a later date. The plan described the pollution reductions that would be required to meet water quality standards and outlined the actions stakeholders would take to achieve those reductions.

Project goals

Even before the ink on the plan was dry, stakeholders rolled up their sleeves and got to work. Four agencies, in particular, have worked diligently to clean up Salmon Creek. Those agencies are Clark County Clean Water Program, Clark County Public Health, Clark Public Utilities, and Clark Conservation District. In addition to successfully competing for more than $2.8 million in Ecology grants to fund projects such as water quality monitoring, riparian restoration, and public outreach and education, the agencies contributed their own resources to cleanup efforts. A discussion of stakeholder accomplishments in Salmon Creek can be found on Ecology's Salmon Creek TMDL website. The list is too long to include here, but some of the highlights are as follows:

Clark County Clean Water Program:

- Conducted monthly water quality monitoring at eight sites.
- Spent $1.8 million on stormwater-related capital improvements between 2002 and 2007.
- Conducted a stormwater needs assessment to look for illegal discharges and other water quality problems.

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DEPARTMENT OF ECOLOGY
State of Washington

Clark County Public Health:

- In a focused effort to find and correct failing on-site septic systems in the Salmon Creek watershed, mailed educational material to over 7,000 homeowners and ensured that 36 failing septic systems were fixed.
- Strengthened countywide regulations related to on-site septic system operation and maintenance.
- Secured a Community Development Block Grant to provide zero percent loans for on-site sewage repairs for low-income homeowners.

Water quality sampling by Clark County Clean Water Program

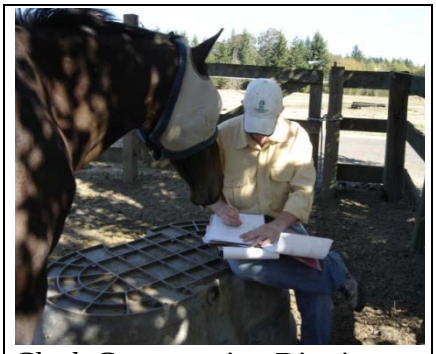
Clark Public Utilities:

- As of May 2009, completed 133 habitat restoration projects.
- Planted more than 120,000 trees in riparian areas, for a total of 146 acres restored.
- Reconnected 2,500 feet of stream to the main channel of the creek.

Clark Conservation District:

- Installed 1,851 feet of fence to keep livestock out of the creek.
- Developed 30 Small Farm Management and Resource Conservation Plans.
- Held 83 educational workshops and farm tours.

In addition to their individual activities, the stakeholders have done a great job working together on projects of mutual interest.



Clark Conservation District staff developing a farm plan

Results

As part of each cleanup process, Ecology conducts a study to find out if the pollution reductions described in the cleanup plan have been achieved and if water quality standards have been met. This step is very important as it tells us if the cleanup plan is on track and provides an opportunity to make corrections if it is not. This assessment was recently completed for Salmon Creek and the results were published in an August 2009 report entitled *Salmon Creek Nonpoint Source Pollution Total Maximum Daily Load: Water Quality Effectiveness Monitoring Report*.

The results are encouraging. Data indicate all monitoring sites in the Salmon Creek watershed now meet water quality standards for turbidity. While standards for fecal coliform bacteria have not yet been met at some locations, concentrations have decreased significantly at all sample sites since the 1995 study. The analysis shows pH and dissolved oxygen levels may be naturally low in Salmon Creek, meaning it may not be possible to meet those water quality standards. Further pH and dissolved oxygen monitoring is needed to confirm this. Finally, because the stakeholders have already been taking actions, such as planting trees, to address the temperature problems in Salmon Creek, we will be able to develop a temperature cleanup plan using a new, faster, and less-expensive, process.

Partners

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Salmon Creek TMDL website: http://www.ecy.wa.gov/programs/wq/tmdl/SalmonCr/SalmonCr.html
Salmon Creek August 2009 report: http://www.ecy.wa.gov/biblio/0903042.html