

Dungeness Bay Water Cleanup

Partnerships Build Success



Credit: Olympic Game Farm

Introduction

Washington State Department of Ecology (Ecology) scientist Debby Sargeant saw trouble coming. She was the lead investigator for the water cleanup study for the tributaries to Dungeness Bay, and she was out on Matriotti Creek collecting samples. The creek ran through the Olympic Game Farm, and earlier she had gone to meet the owner Lloyd Beebe to get permission to sample. She knew this project would be special when she entered Lloyd's kitchen and met his three grizzly bear cubs. Now, as she worked on the creek, several buffalo started heading her way. She kept one eye on her work and one on the buffalo, but they were making her very nervous. This was not in the safety manual. Luckily, the buffalo kept their distance and she got the work done.

This happened more than a decade ago. In the 1990s, Dungeness Bay was also in trouble. Bacteria levels kept climbing in the bay, and the Washington State Department of Health (DOH, or Health) was poised to close the shellfish beds to prevent shellfish-borne illness. The Jamestown S'Klallam tribe turned to Ecology for help.

Problem

Hansi Hals, the Tribe's environmental planning manager, tells the story: "In 1999, we asked Ecology to conduct a TMDL water cleanup study for the bay and its tributaries. We saw the problems getting worse, and sure enough, the Health's first closure of shellfish beds in Dungeness Bay happened in 2001. Then Health closed more of the bay in 2003. But something good happened too. A group coalesced around the problem and got to work fixing it."

TMDL stands for total maximum daily load, and it's a term from the federal Clean Water Act. What it means is this: the TMDL is a water cleanup plan, based on a scientific study, which identifies how to reduce the pollution to a safe level. It is needed because a stream or bay is not meeting state standards for clean water. In the case of bacteria, the DOH has standards to prevent the harvest of contaminated shellfish, while Ecology has standards for shellfish harvest, swimming, and other human contact.

With pollution closing shellfish beds and threatening the health of the community, Ecology joined hands with the Tribe and local governments to start the cleanup. The first step was the TMDL study Debby Sargeant conducted. Hansi comments: "The study gave us reach-specific data to help target the cleanup. It showed land owners the freshwater-marine connection, which encouraged their active involvement. And it gave legitimacy to what we were trying to accomplish and the status of statewide importance."



Credit: www.marlimillerphoto.com

Project Goals

In response to DOH's shellfish bed closures, the Tribe and Ecology got together with Clallam County, the Clallam Conservation District, and the Clallam County Streamkeepers (a county-sponsored group of local volunteers) to create the Dungeness Clean Water



Workgroup. The Workgroup got to work educating elected officials and seeking grants for the cleanup. Coordination at Ecology initially came from Jeannette Barrecca and then Christine Hempleman (both now retired), in Ecology's Southwest Regional Office. After collecting data for a year, the TMDL study was published. Christine developed a Water Cleanup Plan for submittal to the U.S. Environmental Protection Agency, packaging the study results with the Workgroup's ideas for cleanup actions. Then the real work began.

Milestones and Outcomes

Hansi describes the accomplishments of the past ten years. "We had a little community near the mouth of the Dungeness where there were opportunities to both fix failing on-site septic systems and provide salmon habitat enhancements. With the help of the Tribe and a Salmon Recovery Fund grant, the county bought out lots and decommissioned septics. The county also started looking closely at septics in areas with water quality problems and began educating landowners and providing incentives for cleanup."

Septic systems were not the only waste management problems. "We worked with Ecology to develop a DNA source-tracking survey that would provide some useful information. One thing we found was a big dog signature" says Hansi. "We did a dog-pile survey, and found a wide-spread problem in sensitive areas. The TMDL helped us get a Centennial grant for the source tracking study and for a pet waste education and disposal program. A follow-up dog-pile survey showed a huge improvement."

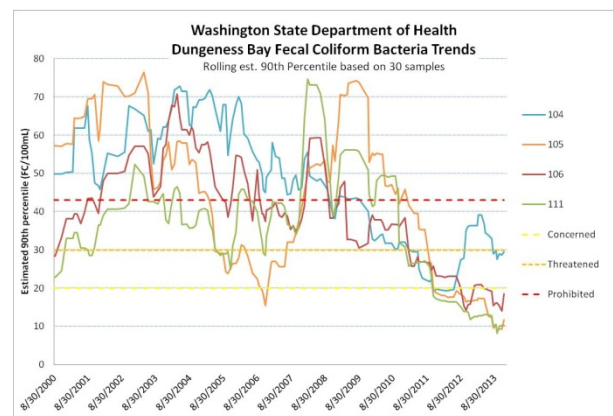
The TMDL also confirmed a major source. Irrigation pipes running into Dungeness Bay showed high levels of bacteria. Hansi explains: "It looked like animals were getting into the irrigation ditch. At the same time, there were huge efforts to reduce water use and restore flows in the Dungeness River. So the Clallam Conservation District obtained funding through Ecology, the Salmon Recovery Board, and the Conservation Commission. Working with irrigation districts and companies, they replaced the ditches with tight-line pipes. The pollution discharges to the bay are capped, and water efficiency is improved."

Many other efforts contributed. The county mounted a septic education program. The Conservation District worked with farm operators, including the Olympic Game Farm, to develop farm plans and carry out best management practices. The Tribe and the Streamkeepers have on-going monitoring programs.

All this work started to pay off. Bacteria levels peaked in 2004 and then started a steady decline. By 2007 they were close to 1999 levels. Then the real pay-off occurred. In 2011, the DOH upgraded parts of Dungeness Bay, allowing shellfish harvest for the first time in ten years. In addition, many of the creeks began to show improvement, and some are now meeting water quality standards.

Project highlights

This tremendous success is the result of years of hard work and millions of dollars spent. And the work goes on. Seasonal shellfish closures are still in place and some shoreline areas are still in DOH's "Prohibited" status. Many streams are still not meeting standards.



But the Clean Water Workgroup is still on task, now with the help of Ecology's Lydia Wagner. The Tribe, Clallam County, DOH, and Ecology, monitor water quality, including a special study of seeps and ditches around the bay. The county continues hunting for failing on-site septic systems and educating homeowners about septic system maintenance.

Partners and Funding

- Jamestown S’Klallam Tribe: Hansi Hals
- Clallam County Health and Human Services: Andy Brastad
- Clallam Conservation District: Joe Holthrop
- Clallam Streamkeepers: Ed Chadd
- Washington State Department of Health: Amy Georgeson



Credit: Dungeness River Management Team

Recipient	Project Title	Water Quality Improvement Activities	Grant Source (Year Awarded)
Clallam County (with Jamestown S’Klallam Tribe, WA Department of Fish and Wildlife)	Rivers End Restoration Project	<ul style="list-style-type: none"> • Conservation easements and restoration, including decommissioning septic tanks, cattle exclusion, and vegetation planting 	Salmon Recovery Funding Board (2002)
Jamestown S’Klallam Tribe	Dungeness River Targeted Watershed Initiative	<ul style="list-style-type: none"> • Microbial Source Tracking Study • BMP demonstrations and incentives for septic, stormwater, and irrigation • Effectiveness Monitoring 	EPA Targeted Watershed Grant (2004)
Jamestown S’Klallam Tribe	Dungeness Clean Water Strategy Implementation	<ul style="list-style-type: none"> • Microbial Source Tracking Study • Pet waste program • Effectiveness Monitoring 	Section 319 (2006)
Clallam County	On-Site Septic System Plan Implementation - Educating the Homeowner	<ul style="list-style-type: none"> • Homeowners education on septic system self-inspection • Septic system inspections and repair • Monthly Septic 101 classes • Quarterly septic system newsletters 	Section 319 (2009)
Clallam County	Clallam Marine Recovery Area Septic Solutions	<ul style="list-style-type: none"> • Assessment and monitoring program to address “Septics of Concern” • Monthly water quality monitoring 	Centennial (2011)
Clallam County	Strait Water Quality Partnership	<ul style="list-style-type: none"> • Pet and human waste stations during heavy use months • Survey recreational shellfish harvesters and park visitors • Outreach regarding shellfish and water quality protection • Source identification monitoring to build water quality baseline 	Centennial (2014)
Clallam County Health and Human Services	Onsite Sewage System Management Awards	<ul style="list-style-type: none"> • Mobile home park O &M • Septic system owner behavior survey, incentives, and database • Increase field visit enforcement • Hold septic 101 classes & outreach • Improve quality of O&M inspections 	Puget Sound National Estuary Program Pathogens Grant (2011 -2014)
Clallam County Conservation District	Pollution Identification and Correction Planning Award	<ul style="list-style-type: none"> • Work with partners to develop a PIC plan for the Sequim-Dungeness Clean Water District 	Puget Sound National Estuary Program Pathogens Grant (2013 and 2014)

For more information

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