



## Section 319

# NONPOINT SOURCE PROGRAM SUCCESS STORY

## *Washington and Jamestown S'Klallam Tribe*

### Dungeness River Tributary Achieves Bacteria Target Levels at Several Monitoring Sites

#### Waterbody Improved

Failing septic systems and inadequate management of livestock and pet wastes contribute high levels of bacteria to the Dungeness watershed, resulting in shellfish bed closures and causing the state to place the Dungeness River and Matriotti Creek (a tributary of the Dungeness) on its 303(d) list of impaired waters for fecal coliform contamination. Piping of irrigation ditches, pasture management, manure storage, investigation and repair of on-site septic systems, and outreach and education efforts with area residents are some of the practices implemented that have resulted in achieving bacteria target levels set forth in the total maximum daily load (TMDL) at several monitoring sites.

#### Problem

The Dungeness River and Matriotti Creek are located in the northeast corner of the Olympic Peninsula, ultimately flowing into the Dungeness Bay. Bacterial waste from failing septic systems, inadequately maintained livestock (cows and horses), pet waste, and wildlife caused the state to add the Dungeness River and Matriotti Creek to its 303(d) list of impaired waters in 1996 for fecal coliform contamination. In 1997 the Washington State Department of Health (DOH) reported increased levels of fecal coliform bacteria in Dungeness Bay near the mouth of the Dungeness River. In 2000 the DOH closed 300 intertidal acres of Dungeness Bay to commercial shellfish harvesting (e.g., oysters and clams) due to fecal coliform bacteria levels exceeding the standard for safe human consumption. The closure area was expanded by 100 acres in 2001 and again in 2003. In 2002 EPA approved fecal coliform TMDLs for several streams in the Dungeness River basin, including the Dungeness River and Matriotti Creek, and a TMDL was approved for Dungeness Bay in 2004.

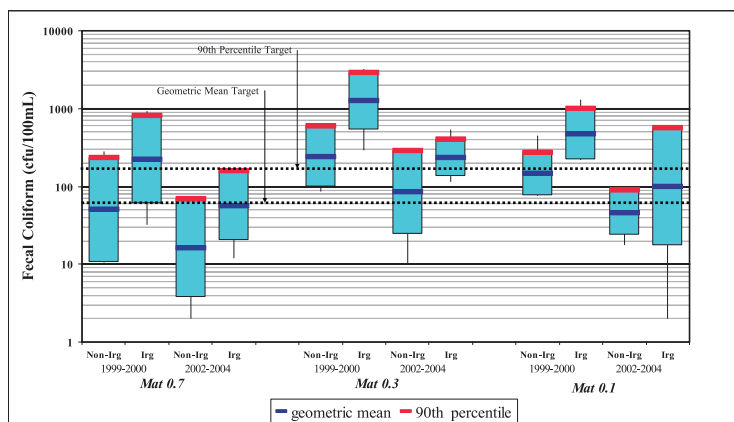
The bacteria levels were of direct concern to the Jamestown S'Klallam Tribe, which operates an oyster farm in Dungeness Bay and whose members harvest clams there. It was also of grave concern to Clallam County and local citizens since Dungeness Bay is a premier internationally known tourist destination. Elevated bacteria levels in the watershed's streams and extensive irrigation systems were also a public health concern.

#### Project Highlights

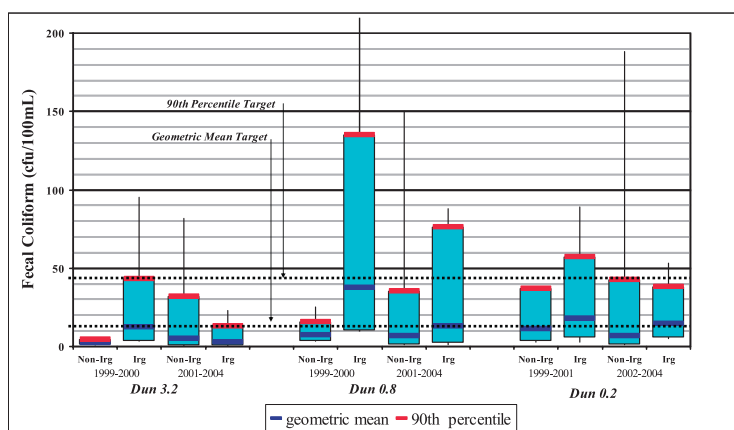
In response to these concerns, a consortium of local and state entities and interested individuals began meeting to coordinate resources and efforts to address the problem. When the first shellfish harvest downgrade happened in 2000, this group became the Shellfish Response Committee, and when the Clallam County commissioners formed the Clean Water District in 2001, this group became the Clean Water Work Group. The Work Group helped to coordinate efforts to identify bacterial sources and solutions and begin cleanup actions in advance of the TMDL.

The Clallam Conservation District worked one-on-one with farm operators to develop conservation plans for individual facilities. Agricultural best management practices implemented include fencing, riparian restoration, pasture management, and manure storage. Outreach efforts, including newsletters, workshops, and presentations, were also implemented to educate livestock operators about the impacts of livestock on water quality.

There is an ongoing effort to pipe many of the irrigation ditches and eliminate tailwaters in the extensive irrigation network in the watershed. Ditches selected for piping were those deemed high-priority by the Clallam Conservation District based on bacterial monitoring results. In addition to improving water quality, these activities helped to achieve important water conservation goals as well.



Lower Matriotti Creek irrigation and non-irrigation season fecal coliform data for the TMDL and most recent 2 years of data.



Dungeness River irrigation and non-irrigation season fecal coliform data for the TMDL and the most recent 2-year period of data (2002–2004).

To address failing septic systems, Clallam County Environmental Health identified systems of concern that were near waterbodies and were old, undocumented, or had a history of repairs. This formed the basis of an operations and maintenance (O&M) plan to perform site evaluations, dye testing of suspected failures, and repair and installation inspections. Educational materials about proper septic tank maintenance were also distributed to the public, and a basic septic maintenance class—Septics 101—has been conducted over 40 times, reaching more than 1,000 septic tank owners.

The Tribe coordinated post-TMDL monitoring and used 319 grants to help fund cleanup tasks and sponsor a variety of public outreach projects.

## Results

In the Matriotti Creek, all sites monitored by the Washington State Department of Ecology (Ecology) for fecal coliform levels have shown dramatic improvement, and several sites are now meeting the bacteria target levels that were set for the creek in the TMDL. The mouth of Matriotti Creek now needs only a 38 percent reduction in bacteria levels, which is a significant improvement from the 78 percent reduction that was needed in 2000. Fecal coliform levels in the Dungeness River have slightly improved along certain sections of the river during the irrigation season.

A target date of 2007 has been set for achieving the bacterial reduction for the TMDLs for the Dungeness River and Matriotti Creek. Due to implementation efforts, partners are expected to achieve a 65 percent reduction by December 2005.

Despite improvements for freshwater, shellfish harvest restrictions still remain. The area near the mouth of the bay remains closed to shellfish harvesting year-round. The inner bay is open for harvest from February through October and closed November through January, but water quality testing indicates the bacteria are still near closure levels.

## Partners and Funding

Project partners include the Jamestown S'Klallam Tribe, Clallam County, Clallam Conservation District, Sequim-Dungeness Water Users, Dungeness River Management Team, DOH, Battelle, U.S. Fish and Wildlife Service, Puget Sound Action Team, and Ecology. Since 2000 the state has allocated approximately \$1.5 million, \$73,000 of which was section 319 funding, for monitoring and TMDL-related projects designed to resolve bacteria problems in the Dungeness area. The Jamestown S'Klallam Tribe received approximately \$250,000 in section 319 funding and other grants, and a 2004 Targeted Watershed Grant to the Tribe of almost \$1 million helped leverage local funds to implement the O&M plan. Additional funding was provided by the U.S. Department of Agriculture Natural Resources Conservation Service's Environmental Quality Incentive Program, the Conservation Reserve Enhancement Program, Salmon Recovery Funding Board, and Washington Conservation Commission funds.



U.S. Environmental Protection Agency  
Office of Water  
Washington, DC

EPA 841-F-05-004Z  
October 2005

## For additional information contact:

**Christine Hempleman**  
Washington State Department of Ecology  
360-407-6329  
[chem461@ecy.wa.gov](mailto:chem461@ecy.wa.gov)