

Pollution Study Nears Completion

The Ultimate Goal Of The Envvest Project Will Be To Clean Up Sinclair And Dyes Inlets.

By Christopher Dunagan

Bremerton -- Computer experts are putting the finishing touches on a computer model that simulates pollution problems in Sinclair and Dyes inlets.

The model, being developed by the Navy, will soon spit out basic information to help the Washington Department of Ecology establish numerical cleanup goals for bacterial pollution. The model is based on vast numbers of water samples taken from streams, stormwater outfalls and shorelines over the past three years.

The Kitsap County Health District is in the midst of a major investigation into the causes of pollution in the two waterways, and the computer model could help water-quality inspectors identify unexpected problems and begin cleanup even before local goals are established.

"They are one of the most proactive county health agencies in the state," said Sally Lawrence of Ecology. "I would be very happy if they beat us to the punch."

The computer model has been used as a tool in reopening commercial and recreational shellfish harvesting on some beaches in Dyes Inlet where no harvesting had been allowed for 40 years. The model showed that the risks of contamination are normally low in the central part of the inlet.

Lawrence encourages interested people to get involved in the Envvest project, which was started by the Environmental Protection Agency in cooperation with the Navy and Ecology. A public meeting is scheduled for 7 p.m. Thursday at Karcher Creek Sewer District Office, 2924 SE Lund Ave., Port Orchard.

In addition to an update on the technical studies, participants will hear about innovative new systems being installed at Karcher Creek's sewage-treatment plant and water-quality issues involving the Suquamish Tribe.

Bacterial pollution in Sinclair and Dyes inlets results from point sources, such as sewage overflows and stormwater discharges, and nonpoint sources, including failing septic systems, animal wastes, leaking sewer pipes and road runoff.

Ecology's pollution cleanup plan will divide the inlets into sections and set pollution limits for each area. The limits are known as total maximum daily loads, or TMDLs. The overall goal will be to clean up saltwater beaches to a standard that will allow shellfish harvesting, although officials acknowledge that some areas may have trouble meeting that standard.

"What the Navy has been able to do," Lawrence said, "is look at different intensities of land development in an area and predict the amount of bacteria likely to be present. They can show, in a general sense, that there will be more bacteria coming out of outfalls that originate in the center of a city."

The final step will be to run the computer model to cover all rainfall events for a full year. Then experts will check to see how closely the predicted bacterial levels match water-quality samples collected from throughout the region. That will help to identify so-called "critical conditions" that produce peak levels of bacteria.

In some areas, sewer and stormwater systems are expected to play a role in the cleanup. The key will be to trace the pollution to a variety of sources, from leaking sewer pipes to road runoff to dog feces in someone's yard. In other areas, septic systems could be a critical factor.

Local health officials are investigating pollution around Dyes Inlet, including Barker, Clear, Chico, Ostrich Bay and Phinney creeks. In Sinclair Inlet, a "mini-investigation" is under way in the Annapolis and Karcher creeks areas.

The Navy's computer model is so detailed that it probably can be used to predict pollution levels in similar locations elsewhere in Puget Sound, Lawrence said.

"Nobody anywhere in Puget Sound, that I know of, has this much information on stormwater," she said. "The data set is fantastic. You will be able to say this level of development in Burien or Everett, for example, could be expected to produce this amount of fecals (bacteria) coming out of this particular outfall."

Promising Solutions For Local Pollution

Envest — Environmental Investing — was launched here several years ago as an experimental, computer-modeling program by the Navy, in cooperation with the federal Environmental Protection Agency, the Washington Department of Ecology and other federal, state and local agencies. It's an approach that has the potential to change the way governments clean up urban bays and harbors throughout the United States. In its infancy, it is being used here to identify, analyze and predict pollution in Sinclair and Dyes inlets.

The program originated in the 1990s, when Puget Sound Naval Shipyard was having environmental compliance problems. Navy officials decided to move toward beyond that goal by bringing in environmental scientists to design programs for protecting adjacent marine waters. The approach was submitted to the EPA under its new Envest project, which allows an agency, such as the Navy, some regulatory relief if it undertakes an alternative program that results in a greater environmental improvement.

Now, the Navy's program has evolved to a state-of-the-science computer modeling program that will depict how a waterway works, including major streams, tidal forces, currents, sewage and stormwater pipes, surface runoff and more. It can tell, for instance, how much pollution would be discharged from individual sources under different tidal conditions, which shellfish areas it would reach and what bacteria levels would be. Ultimately, the computer model may be able to track any type of pollutant, regardless of whether it's floating, is suspended sub-surface or is sinking sediment.

The model is based on three years' worth of water samples taken from streams, stormwater outfalls and shorelines in the area. So far, results are promising. Thanks to the Envest technology, commercial and recreational shellfish harvesting was reopened on some beaches in Dyes Inlet where no harvesting had been allowed for 40 years.

The Envest modeling will be used by the Department of Ecology in establishing numerical cleanup goals for bacterial pollution, aimed establishing standards that will allow more widespread shellfish harvesting in the area.

At the same time, the Kitsap County Health District is doing an investigation to identify the causes of pollution in Sinclair and Dyes inlets. Quite possibly, the Navy's computer model could help the county's water-quality inspectors identify problem areas and begin cleanup efforts even before the state establishes bacteria-level goals for those areas. An Ecology official said the Kitsap health district is "one of the most proactive county health agencies in the state."

We salute the Navy for its innovative, holistic approach and the major investments it's making into restoring and protecting our environment. Likewise, we commend the Kitsap County Health District for its uncompromising environmental standards and, at the same time, cooperative approach to working with residents.

If this keeps up, Kitsap County may have some of the cleanest waterways in the state — or know how to get them.