



Rivers for Life

A Newsletter of the WRIA 16 Planning Unit

News from the Watershed

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Early winter's day at the Dosewallips estuary

Shoreline Projects Near Hoodspport

by Donna Simmons

With the arrival of the first of the winter storms, Hoodspport residents are anxiously watching shoreline stabilization projects along flood-prone Finch Creek. A total of seven major projects were completed during the spring and summer of last year to repair

property damages incurred during the December 2007 storm. Most consist of riprap and backfill to restore lost land and to minimize further erosion from future flooding events.

These projects are the result of a collaborative effort by county and state governments, fisheries managers, engineers and contractors, and wetlands experts. Under the terms of Mason County's Resource Ordinance and Washington State's Joint Aquatic Resources Permit Application (JARPA) process, affected property owners were allowed to pursue emergency repairs before the necessary permits were in hand.

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A Growing Water Quality Concern: Pharmaceuticals and Personal Care Products

Pharmaceuticals and personal care products (PPCPs) are often found in surface and groundwater and have been detected in soils, fish, birds, livestock, pets and humans including newborns. The Puget Sound Partnership, EPA and Washington State Department of Ecology (Ecology), are collaborating to study PPCP contaminant levels in wastewater entering into and exiting from four different types of wastewater treatment systems in southern Puget Sound. This information will be used to compare the effectiveness of four different wastewater treatment technologies in removing contaminants linked to personal care products and pharmaceuticals.

Environmental agencies estimate that the average person in the U.S. uses 10.8 prescriptions per year, and in Washington State, the average person uses 8.5 prescriptions per year. Many PPCP compounds do not readily break down in the environment. Active ingredients in pharmaceuticals that we



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Water Quality

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ingest are excreted as the original compound or as a new compound created by our bodies through metabolism. A King County survey indicated that residents also flush an average of 29% of their pharmaceuticals directly into the sink or toilet in order to dispose of them. PPCP compounds then enter a municipal wastewater treatment facility, on-site sewage system or a reclaimed water treatment facility after they pass through the human body or are improperly disposed of down the drain. Ultimately the waters from these facilities are discharged to streams, lakes, estuaries and groundwater where they impact water quality and aquatic life.

Little is known about the effectiveness of different wastewater treatment processes in removing some common PPCP compounds. Some treatment processes are efficient in removing certain chemicals but ineffective at treating others. It

is unclear whether PPCPs are actually broken down or are simply settled out in the biosolids. The concern is that the sewage sludge might contain active untreated compounds which, when applied to the land, could be transported into surface and groundwater. One compound for which this is of particular concern is a common component of detergents, cosmetics and spermicides called nonylphenol. In 2003, a study by the University of London reported that nonylphenol, an endocrine disrupter now banned in the Europe Union, causes sexual deformities in oysters, producing large numbers of hermaphrodite animals. Oysters are known for their ability



to change sex from one season to the next, but they are either male or female, not bisexual. Recent studies have found that PPCPs can also cause feminization of fish and affect the behavior and migratory patterns of salmon. This study will provide much needed information on PPCP removal by municipal treatment plants.

Parts of this article is an adaptation of the Quality Assurance Program Plan for the study with additional information on the effects of nonylphenol on oysters from the National Environmental Research Council (www.nerc.ac.uk/press/releases/2003/13-oysters.asp). View the entire document at: <http://www.ecy.wa.gov/biblio/0803112.html>.

Let's Implement the Skokomish-Dosewallips Watershed Plan!

Detailed Implementation Plan Skokomish-Dosewallips Watershed Water Resource Inventory Areas 16 and 14b



June 19, 2008

Prepared by the WRIA 16 Planning Unit

With assistance from



Washington State Department of Ecology grant number G080033 provided funding for this project.

In June, the WRIA 16 Planning Unit approved the "DIP", our Detailed Implementation Plan. The DIP is a strategy for putting the WRIA 16 Watershed Management Plan into action. Both plans can be viewed online at: www.ecy.wa.gov/apps/watersheds/planning/16.html.

The DIP details who is responsible for each of our 84 recommendations and includes a timeline for accomplishing them. The recommendations are designed to protect water quality, water quantity, and

habitat. The DIP also identifies funding needs and sources, permits or legislative actions required, performance indicators, and strategies to provide sufficient water in the WRIA. Appendix A is a workplan for our implementation priorities in 2009-2010.

The Planning Unit welcomes your participation. Please contact Susan Gulick, project manager, to get added to our e-mail distribution list. Phone (206) 548-0469 or email: susan@soundresolutions.com.

PROPER DRUG DISPOSAL AT HOME: 1-2-3-4



Dispose of unwanted medications in four steps:

1. **Obscure**
2. **Modify**
3. **Seal and Conceal**
4. **Discard**

The best practice for protecting water resources is to keep harmful substances away from them. So, don't flush medicines down the toilet or sink. Instead, dispose of unused, unneeded, or expired medicines in the trash as instructed below.

1. Before throwing out a medicine container, **obscure** identifying information on the prescription label to make it unreadable. This will help protect your identity and the privacy of your personal health information.

2. **Modify** the medications to discourage consumption. Add a small amount of water to pills or capsules to dissolve them. Add something unappealing, such as kitty litter, coffee grounds, or sawdust.

3. **Seal and conceal.** Tape the container lid shut with tape, place in a leak-proof container such as a sealable bag, and then place in a non-transparent container to ensure that the contents cannot be seen.

4. **Discard.** Discard the container into the garbage away from kids or pets. Do not place in the recycling bin.

These same guidelines may also be applied to over-the-counter medications and health supplements.

Take special pains to ensure that mood-altering drugs like narcotics and tranquilizers, which have an increased risk of misuse, are rendered unusable and unrecognizable.

Reflections on the 2007 Floods

by G. Fisher

A friend of mine recently recalled events of the flooding of December 2007 after the heavy rainfall occurring in early November 2008. He said that on December 3, 2007 between 3:00 a.m. and 4:00 a.m. the hillside behind his home on Highway 101 let loose with a slide of mud and water powerful enough to fill his garage, moved his propane tank about fifteen feet from its location to the backside of his house and filled his backyard and driveway with more than three feet of mud. With the help of friends and neighbors he was able to rescue personal items from his home and remove all the insulation from under his house, which was saturated. He brought in equipment for clearing the mud from the driveway and

backyard.

It may be hard to know just what to do in a situation like this. His insurance agent advised him that he was not covered for the damage. The office of Emergency Services for Mason County offered assistance in tools and emergency supplies and FEMA, upon getting to the county, assisted in the compensation for the removal of trash and insulation. For example, the cost for removal of insulation from under the house was a covered expense in his case. Fortunately he had kept his receipts and he took a lot of photos documenting the damage.

My advice: We live in a very beautiful area but it's prone to weather-related problems. Learn

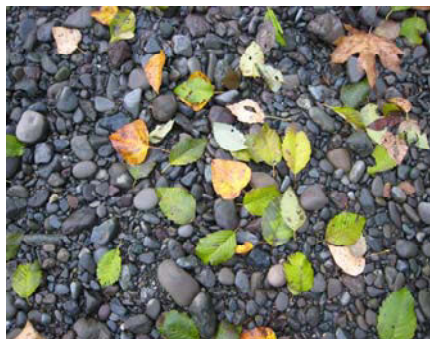


what options you have to reduce flood risks to your home and what to do if all else fails. Prepare for the worst by educating yourself before the next major weather event. A great first step is to contact your county's emergency management department for information, neighborhood organizing, and advice. Keep a card in your wallet with important emergency and other agency numbers.

The Hood Canal Clean Water Project

January of 2008 saw the start of a four-year Hood Canal Clean Water Project in Jefferson County. This project was initiated by Jefferson County Environmental Health to evaluate water quality and create data on pollution and nitrogen sources entering the Hood Canal. Health is working in cooperation with the Washington State Department of Ecology and local landowners. Ecology is providing 75% of the funding for the project.

Individuals and businesses in the Puget Sound region operate an estimated 472,000 septic systems. Septic systems are a potential source of illness-causing bacteria that has been linked to the closure of shellfish beds. The State Department of Health implements forced closures to protect consumers of shellfish, but closures may also create economic hardship for Washington growers. Annually, Washington growers sell over \$100 million worth of shellfish, making our state the largest producer of farmed shellfish in the country. Jefferson County plays an important role in this industry with numerous shellfish growing beds and hatchery operations. Clean water helps drive our local economy and keeps our



beaches open to the public for recreational opportunities.

Approximately 800 rural parcels are situated along the 80 miles

shoreline in our project area, and all of these parcels rely upon on-site systems (OSS) for sewage treatment and disposal. Since 1970, the county has required a permit for the construction of an OSS.

Many systems were put in before permits and soil evaluations were required and little is known about them. In our experience, some systems that appear to be doing a good job of disposing of waste actually may not be treating it adequately. Failing systems along the shoreline can

contribute both pathogenic bacteria and unwanted nitrogen to Hood Canal waters. An increase in nitrogen inputs has been implicated in exacerbating the low dissolved oxygen problem in Hood Canal which has led to fish kills.

A 20-mile section of the Hood Canal shoreline was the focus of a \$70,000 project in 2006 to collect water quality data and survey homeowners. The same project initiated a low interest loan program to assist homeowners with the cost of repairing an on-site system; public meetings and neighborhood-based OSS 101 classes were held. The project was brief and essentially served as a pilot program for our current efforts: to sample the entire 80 miles once during the wet season and once during the dry season between now

and 2012. Public outreach is still a high priority and emphasizes educating the public on operation and maintenance of their own septic systems.



Michael Radford of Jefferson County Environmental Health collecting a water sample.

With the project well underway now, staff members from Environmental Health have surveyed much of the Hood Canal shoreline within Jefferson County for surface waters entering the Canal. Every discharge is sampled and analyzed for the presence of E. coli, one of the most reliable bacterial indicators of impaired water quality. Selected streams are also sampled for nitrogen. After sampling resumed last January, numerous

streams have shown elevated levels of E. coli. Of these, over a dozen flows were well above Ecology's water quality standard for this bacterium.

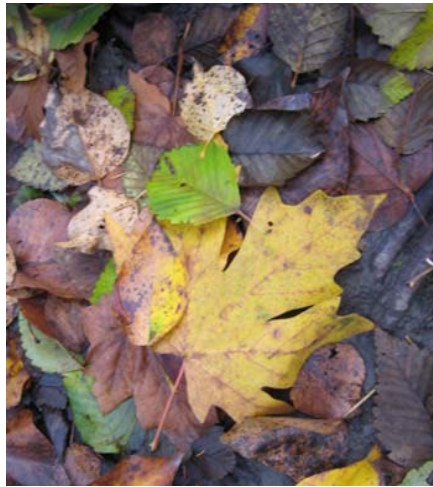
We're looking at this from a water quality perspective and, more broadly, from a public health perspective...

One of the major challenges related to the identification of E.coli in water is in determining the source of the bacteria, which could be from wildlife, domestic animals, improper sewage disposal or a malfunctioning septic system. In most instances the puzzle is

difficult to solve.

To help address this problem, staff are requesting voluntary participation in a questionnaire about on-site septic systems, especially those having no records or approaching the final stages of their useful life. Regardless of whether a system is old or new, keeping up on maintenance and inspections will

help everyone get the most out of their septic system. “We are working with home owners who need repairs to systems located along the shoreline and are examining several others,” said Michael Radford, an environmental health specialist for Jefferson County who leads the current effort in the field. “So far, three shoreline failures have been confirmed to date,” he said.



“We’re looking at this from a water quality perspective and, more broadly, from a public health perspective and our desire is to reduce health risks and keep the water clean. For example, norovirus infection of oysters can occur where there is fecal pollution from human sources,” said Dana Fickeisen who

conducted the study in 2006.

Outreach and education is essential to the success of the program. Staff members conduct outreach door to door in neighborhoods of homes within 500 feet of the shoreline. Where it appears the homes are occupied only seasonally, staff attempt to reach owners by mail. “Sanitary surveys” are performed in partnership with shoreline home-

owners. These surveys help identify existing and potential problems. It’s an opportunity for citizens to get to know their OSS better and to ask questions specific their system, needs, and lifestyle. The advice is intended to help maximize the lifespan of the OSS, keep costs down and, where problems are encountered, identify resources for repairs and funding.

Residents continue to be kept informed of the Hood Canal Clean Water project through public meetings, brochures, a newsletter and personal contact – all with the goal of improved water quality in surface waters and Hood Canal. For more information, contact Michael Radford at (360) 379-9301 or visit jeffersoncountypublichealth.org.

Rain, Snow or Shine WSDOT at Work on 101

Big storms affecting Hood Canal tend to have consequences for Hwy 101. Erosion and landslide hazards are an ongoing issue. At mile markers 327 and 329.5, federal funds were used to stabilize banks in recent years.



WSDOT has crews on the highway five days a week, day and night, through the winter. Funds and staff are limited however. Between Hoodspout and Quilcene two employees monitor and maintain the seventy lane miles. Crews look for signs of slides and erosion, and they’re usually aware of problems within minutes or hours.

WSDOT recommends that travelers pay particularly close attention to roadway conditions during the winter months. Be alert for downed trees. If you notice a problem, contact the state patrol or county sheriff.

Hood Canal Dissolved Oxygen Program Update

Last June, the preliminary conclusions from the Hood Canal Dissolved Oxygen Study were released by Dr. Jan Newton of the University of Washington. The study’s initial goal was to develop a clear understanding of the physical, biological, and chemical processes that characterize Hood Canal. Visit www.hoodcanal.washington.edu for more information.

Be Prepared:

Advice from the Mason County Department of Emergency Management

In rural areas such as Mason and Jefferson Counties we stress seven days of personal and family readiness. Be ready to be on your own during a winter storm for as long as seven days.

Being ready can be a major undertaking. But by taking it in small steps, it's not so overwhelming.

- Have enough non-perishable food and water to sustain you and your family for seven days. For those on low or fixed incomes, make arrangements with local service providers for assistance. Don't forget extra water for personal hygiene and flushing. (If you know a storm is coming, you might want to fill up your bathtub to provide extra water.)
- Have at least some cash handy. During the December 2006 windstorm many services including gas stations, were unable to process credit card payments. ATM machine will not be in service either.
- Have an "out-of-state" contact number for friends and family. Often when local phone service is out or overwhelmed, long distance services will continue to work. Have a number of a family member out of the area that everyone can call and check in with.
- If you rely on your computer for your phone services (Voice over Internet Protocol) or rely on cordless phones, make sure that you have an emergency phone that you can plug into a wall jack.
- If you are dependent on electrical power for medical equipment, consider getting a generator and learning how to operate it. Don't

forget to buy a gas can, too, and get it filled.

- Talk to your physician about extra medication; he or she can probably write your regular prescriptions for 35-40 days in place of the 30-days' supply or even 100 days rather than the 90-days' supply. Get an extra medication box, fill it, and put it with your grab-and-go bag. (Don't forget to rotate your supply periodically.)
- Put together a bag of warm clothing and sturdy shoes for every member of your family. Add in a game or two for the kids and that book you've been dying to read. This way if you have to head for a shelter, you're ready to go.
- Have warm blankets easily accessible.
- Check your insurance policy and talk to your agency to make sure of what your policy will cover in the event of a storm
- Check your rain gutters. Make sure they are cleaned out and that the down spouts channel the water away from your foundation.
- Prepare your car for winter, too. Check the tires, anti-freeze, and all those other little things that keep your car trustworthy for winter driving. It's also a good idea to keep at least a half tank of gas in your car so it's ready to go without having to stop and look for gas.
- Buy an extra bag of pet food and have a dry, warm place for your pets to get out of the weather.
- Watch out for your neighbors.
- Check your emergency source of fuel. Do you have enough wood, pellets, or propane to get you by?

Mason County Department of Emergency Management
www.co.mason.wa.us/dem/index.php

Normal business hours (7 am - 5 pm): 360-427-7535

Urgent contact (after hours): 360-426-4441 (MACECOM)

Jefferson County Department of Emergency Management
www.jeffcoec.org/

Business hours: 360-385-9368 or 360-385-3831, Ext. 7

Urgent contact (after hours): 360-385-3831, x 1 (JEFFCOM)



Shorelines

(Continued from page 1)

Further assistance was provided as Mason County waived permit fees in order to reduce the economic burden felt by landowners.

Since further shoreline armor-ing has the potential to adversely affect fish and wildlife habitat and critical area functions in a fish-bearing, Type F stream like Finch Creek, Habitat Management Plans were prepared for each property. These plans spell out each landowner's responsibility to mitigate any negative impacts, including enhancing habitats by planting natural vegetation in a ten-foot strip parallel to the stream. To ensure compliance, each site will be monitored by the Mason County Department of Community Development for three years after completion of the project.

Meet More WRIA 16 Planning Unit Members!

Dick Bergeron



Dick is a resident of the Duckabush River watershed in Jefferson County. “Water is essential for ecosystems and humans. Rural people have historically been good stewards

of their land and water. We live in an age of discoveries where opinions seem to flourish more than facts. I serve to protect the interests of responsible rural people.”



George Fisher

George Fisher, a resident of Lake Cushman since 1991, is an officer of Save The Lakes Coalition. They are interested in preserving Lake Cushman and Lake Kokanee. The community has worked hard in establishing the Fire District 18 Community/ Disaster Center on Standstill Drive. It was completed a few years

ago with donations from the community. The nationally recognized Lake Cushman Firewise Program is working to prevent fires by reducing fire fuels through education, and they established a ham radio network, especially for emergency use.

Bill Graham



Bill has worked for Jefferson County PUD as its water resource manager since 1998. He has BS and MS degrees in geology from Eastern Washington University. A longtime Olympic Peninsula resident, Bill has

lived in many communities on the Olympic Peninsula and has hiked much of its interior and wilderness coastline.

As a teenager, Bill climbed West Peak of Mount Anderson in the Dosewallips basin — the hydrographic apex of the Olympic Peninsula where a drop of water could split three ways draining to the Pacific Ocean, the Strait of Juan de Fuca and Hood Canal.

Now knowing what hydrographic apex means, that climb seemed to have presaged his involvement in

local water resources. Bill manages the PUD’s water rights, writes the annual consumer confidence reports and conservation letter for the PUD each year and maintains the PUD’s website as well as represents the PUD on the WRIA 16 and WRIA 17 planning units. This year Bill was invited to participate in developing the water quantity element within the Puget Sound Partnership’s Action Agenda and has worked diligently to produce a fair, reasonable and environmentally sound in-stream flow rule in WRIA 17.

Randy Lumper



Randy, a recent graduate of the Evergreen State College Masters of Environmental Studies Program, works for the Skokomish Tribe as an aquatic resources enhancement biologist. He grew up in Washington and spent many summers camping, hiking and enjoying the recreational opportunities of Hood Canal. He

feels that restoring and enhancing the Hood Canal is imperative so that future generations will be able to enjoy it. He also feels that this work is needed in order to maintain the livelihoods of the many individuals who live in, on or around Hood Canal.

You're Invited to Participate

The Planning Unit generally meets on the first and third Thursday of each month. Please call to confirm dates, times and locations. For more information and to correspond with the WRIA 16 Planning Unit contact:

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Who Speaks for Hood Canal?

WRIA 16's Video Newsletter

One part of the answer can be found in the WRIA 16 Video Newsletter, *Who Speaks for Hood Canal*. View the 13-minute video online at <http://hoodcanalwria16vide.blip.tv> or request a DVD from Jefferson County Water Quality Division (call 360/379-4498). *Who Speaks for Hood Canal* begins with a puzzle on the tideflats near Brinnon. What are the volunteers doing? The show then moves to the southern part of the WRIA for interviews with some of the wonderful teachers, students, tribal members, retirees and business people who reside in the Hood Canal watershed. On camera, they share their feelings about the Canal, its past and future and how we can join together to ensure that its gifts continue to enrich our lives and those to come. We invite you to listen in and speak out – for Hood Canal of course!



RIVERS FOR LIFE

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