



In the Flow

www.clallam.net/streamkeepers

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Volunteer Editor, Jean Sigmar



2008 VOLUNTEER TRAINING

Volunteers are VIP's for us—we couldn't do what we do without them. Spread the word: Training will be starting soon. This is an opportunity to learn and contribute in many important ways. Please help us with our recruiting efforts.

STREAMKEEPERS 2008 VOLUNTEER TRAINING SCHEDULE

DAY/DATE	TIME	SUBJECT	PLACE
Tues., June 17	6-9:00 pm	Streamkeepers Intro	EOC Courthouse Basement.
Thurs., June 19	6-9:00 pm	Streamkeepers In Depth Intro to Clallam Streams	EOC Courthouse Basement.
Mon., June 23	6-9:00 pm	Volunteer Orientation And Team Sign-Ups	EOC Courthouse Basement.
Thurs., June 26	6-9:00 pm	Field Procedures and Noxious Weeds	EOC Courthouse Basement.
Sat., June 28	9 am—4 pm	First Aid Training	5th St. Fire Station
Sat., July TBA	9 am-4:30 pm	Field Day	To Be Announced
Sat., July TBA	4:30-8:00 pm	BBQ/Potluck	To Be Announced
Sat., Sept. 13	9 am-1:00 pm	Bug Training	Commissioners' Mtg. Room

CALLING ALL CONTINUING VOLUNTEERS!

ALL CONTINUING VOLUNTEERS ARE URGED TO ATTEND THE FIRST AID COURSE AND FIELD DAY (EITHER TO UPDATE YOUR SKILLS OR TO HELP AS A TEACHING ASSISTANT), AND OF COURSE THE BBQ/POTLUCK—RSVP. VOLUNTEERS TRAINED PRIOR TO 2004 ARE PARTICULARLY URGED TO ATTEND THE FIELD-DAY TRAINING. TEAM LEADERS, PLEASE COME ON 6/19 (OR SEND A REPRESENTATIVE) TO RECRUIT NEW VOLUNTEERS FOR YOUR TEAMS.



Streamkeepers on the Stump and at the Table

When asked to do outreach to community organizations about our upcoming training, **Gayle Baker** went the next step and became our booking agent! We've already given talks to Kiwanis, Master Gardeners, and Retired & Active Federal Employees; coming up are Sequim Prairie Grange, Klahhane Club, and more. Thanks to **BettyLou Doern**, **Sam Fox**, **Donna Hendrix**, and **Janet Oja** for helping to prepare and deliver these talks. **Sam** and **Janet** have volunteered to give "basic" PowerPoint shows themselves—any others interested? Thanks also go to **Carolyn Wilcox**, **Heather Delplain**, and **Lindsey Schromen-Wawrin**, who staffed SK booths at the "Making It Last!" and "Mountain Music" events. Let us know if you'd like to help staff SK booths at upcoming events such as the Lavender Festival, County Fair, Streamfest, or Dungeness River Festival.

Program and Related News



Streamkeepers Receive WDFW-ALEA Volunteer Cooperative Grant

More bright news on the funding front! We'll be receiving \$16,900 from the WDFW-ALEA Volunteer Cooperative Grant Program to help support the Streamkeepers volunteer program from 7/1/08 - 6/30/09. These funds will help us perform the following tasks:

- Fecal coliform lab fees
- Benthic macroinvertebrate identification and QC-lab confirmation, for assessment of stream health using the Benthic Index of Biological Integrity (B-IBI)
- Monitoring equipment maintenance and calibration
- First Aid training for our volunteers
- Advertising for volunteer recruitment
- Refreshments for volunteer trainings and events
- Continuation of our land-cover analysis project, in which we're attempting to correlate upland disturbances to impacts in the streams.

One factor in the success of our application was the sophisticated, multi-faceted effort of our volunteers, ranging from field sampling to data entry/checking to statistical analysis to public outreach, generating a projected value of \$100,000 during the grant period. So, to those of you involved in this effort, our hats are off to you!

NOAA B-WET Grant— Better Luck Next Time!

Because of its success in other parts of the country, the NOAA B-Wet Watershed Education Grant was expanded this year to the Pacific Northwest. On short notice, we put together a proposal to provide local elementary students a chance for hands-on involvement in learning about the watershed in the neighborhood of their own school, thus avoiding the problem of field-trip buses. In spite of broad support from educators and help from **Carolyn Wilcox, Donna Hendrix, Diane Wheeler, Jean Sigmar, and Gayle Baker**, we experienced technical problems and were not able to successfully submit all the required online forms by the grant deadline. But we have a great head-start for next year! The proposal may be viewed at: <http://www.clallam.net/streamkeepers/assets/applets/ProjectDescrSKWalkWatershed.pdf>



Physical Habitat Summary Report Update, by Mike McClean

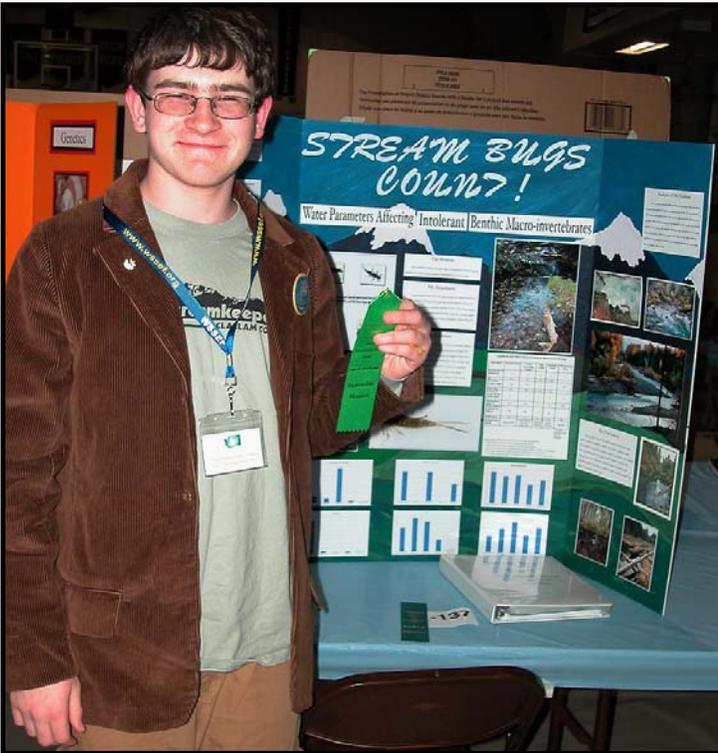
The biologic health of streams is influenced by patterns of watershed land use, water quality, and the physical condition of the stream and riparian habitat. Streamkeepers now has extensive datasets on each of these general factors for a number of stream sites in Clallam County. Streamkeepers stopped taking physical habitat measures in 2005, because of questions about the measures employed and how to interpret the data. However, in an attempt to interpret the data, Streamkeepers in 2003 produced a draft physical habitat index (PHI), which incorporated scores based on large woody debris, pools, winter and summer canopy cover, conifer stem counts, bed substrate stability, percentage of fine sediment, and change in bankfull cross-sectional area. This draft PHI is described on the Streamkeeper website at: http://www.clallam.net/streamkeepers/html/physical_habitat_index.htm

Since then, Streamkeepers staff have not had the time to further refine this PHI, and in 2006 I began familiarizing myself with the physical habitat measures and related scientific literature. I've also been working with Ed and **Walt Johnson** to produce a single spreadsheet containing all of the relevant physical habitat data at 45 monitoring sites. In addition to the original PHI measures, the spreadsheet will incorporate measures of pebble embeddedness, invasive weeds, bank stability class, and relation of bankfull area to watershed size. Once the spreadsheet is completed, **Steve Obrebski** will help perform multivariate statistical procedures to address a variety of questions, including the relative strength of association of physical habitat measures with B-IBI and land use measures, and whether there are constellations of variables that reflect more general physical habitat variables or factors. Related results may lead to a more efficient set of field procedures and a PHI that better reflects the causal linkages with stream biology and land-use patterns. At the very least, we hope to produce a better summary of the physical habitat data that Streamkeepers collected from 1999-2005.

Program and Related News

Thank You, Zack Hovis!

Zack Hovis worked with Streamkeepers to create a science fair project that will become a valuable educational resource for SK's Education and Outreach work. Watch for its possible appearance at upcoming events.



In Zack's Words

I came up with the idea for my science fair project by my passion for entomology, and in my work with Streamkeepers, I learned about intolerant benthic macro-invertebrates. I decided to use that as my topic. I had also found out about stream bugs being affected by stream health and being used as biological stream health indicators. I attempted to find the parameters that affect these creatures. I found that fecal coliform doesn't seem to affect them, but the dissolved oxygen in the water does. I also noticed that the pH levels seemed to have little effect as well. As a result, I received an Honorable Mention for my project at the Washington State Science and Engineering Fair. I worked on my project for about five months. Thank you for your very valuable help and data for my board's statistics. Now that the fair is over, I have given the board to Streamkeepers in hopes that they can use it for their educational program. I feel that Streamkeepers plays an important role in the future of stream health on the Olympic Peninsula, and I am glad to be part of it. Thank you again.

Streamkeepers comments on the 2008 Draft State Water Quality Report

As you probably know, one of the most important end-users of our data is the State of Washington, which is delegated by the federal government to implement the Clean Water Act. Every two years, the state Department of Ecology (DOE) is to produce a Water Quality Report ["303(d)/305(b) list"] describing what's known about the condition of all water bodies statewide. Sometimes this task can get out of hand, and it has taken DOE till now to release a draft Report based on data submitted in 2006. They're proposing to call this the 2008 Report and prepare the next report in 2010.

This may seem like a bummer to those of you who've put in a lot of hard work since 2006...but here are a couple of facts might soften the blow:

- One reason for the hold-up is that DOE has been figuring out how to interpret and apply Streamkeepers' biological-integrity (a.k.a. B-IBI or "stream-bug") data, and in the end they've decided to follow all of our recommendations. We've established a precedent in the state that biological data can be used as a basis for labeling a site as Impaired and requiring restoration. Indeed, we're slowly making headway in establishing the primacy of biological data for any study that purports to summarize the state of our ecosystems.
- While corresponding with DOE on some of these matters, we were asked to submit updated data, so some of your newer data will indeed make it into the current Report.

DOE's first draft had some problems that we commented on; without going into details, suffice it to say that we're doing everything we can to make sure our data gets used to help protect and restore our watersheds.

Program and Related News

Partnering with DOE to Compare Monitoring Methods

The Dept. of Ecology has a new program in which they let local monitoring groups know when they'll be sampling in the local area, and those groups can then monitor side-by-side with Ecology, in order to compare results, troubleshoot problems, and assess the variability between different methods. Streamkeepers is one of only two groups in the state who have actually participated so far, and the one time we did this, our results were very close, even though the samples were separated by several hours' time. You can see DOE's plan at: http://www.ecy.wa.gov/programs/eap/fw_riv/SxSIndex.html

You may also view Streamkeeper's results at:

<http://www.ecy.wa.gov/apps/watersheds/riv/SxSResults.asp?OrgID=SKvol>

Projects Proposed in this Round to the Salmon Recovery Funding Board

See full descriptions at: <http://hws.ekosystem.us/Search.aspx?m=1&sid=180>



- (04-Dungeness(WRIA 18)) Meadowbrook Creek Restoration

Sponsor: Ducks Unlimited *Category:* Restoration Projects

The Meadowbrook Creek Restoration Project will influence approximately 50 acres of floodplain and estuarine habitat. The Dungeness River and its watershed is an extremely important and somewhat degraded watershed. The river itself and associated tributaries support many species of anadromous fish including fall Chinook, coho, pink, summer chum, steelhead, bull trout, and cutthroat as well as many species of migratory birds including shorebirds and waterfowl. Meadowbrook Creek is a small, low elevation watershed immediately east of the Dungeness River, that historically drained either into the river mouth or directly into Dungeness. The proj.....

- (06-Morse(WRIA 18)) Morse Creek Riverine Restoration Final Phase

Sponsor: North Olympic Salmon Coalition *Category:* Restoration Projects

Morse Creek is inhabited by multiple stocks of imperiled salmonids: Strait of Juan De Fuca summer chum, bull trout, pink salmon, coho salmon and winter steelhead. Puget Sound Chinook were recently extirpated in Morse Creek. Much of the stream reach within the recently purchased WDFW property (river mile 1.2 to 1.7) is severely degraded by human impacts. It is channelized, confined, over-steepened, diked and depleted of large wood, resulting in severe channel simplification. The channel is extremely energetic, paved with large cobbles and boulders, and lacks complexity. Fish habitat conditions are extremely poor.....

- (07-WA Harbor(WRIA 18)) Washington Harbor Restoration: Feasibility and Design

Sponsor: Jamestown S'Klallam Tribe *Category:* Non-Capital Projects

The 118-acre Bell Creek estuary, known as Washington Harbor, is located 5 miles along the marine migration corridor of Jimmycomelately summer chum salmon. This is the western stronghold population of ESA-listed Hood Canal/Strait of Juan de Fuca summer chum, and the estuary is considered an essential component of their ecosystem. Washington Harbor is also located 7.5 miles from the Dungeness River mouth and most likely provides habitat for Dungeness Chinook, bull trout, and summer chum. Many populations of juvenile salmonids originating from Discovery Bay, Hood Canal, and Puget Sound may also use the estuary. A 1,300-foot long roadway, eq.....

- (01-Salt Creek(WRIA 19)) Salt Creek LWD, Phase II

Sponsor: Lower Elwha Klallam Tribe *Category:* Restoration Projects

This project proposed LWD addition on the mainstem of Salt Creek between river mile 2-3. This section of Salt Creek exhibits channel incision of up to 1.5 m vertically and includes both pool-riffle and plane bed channel morphologies. This reach of Salt Creek includes historically heavily logged riparian areas and channels which were subjected to intentional LWD salvage in the 1950's by the State of Washington in an attempt to improve fish passage. All complex logjams were removed then and Salt Creek's riparian forests have been historically logged without buffers at least twice. Channel incision in portions of this reach have converted.....

☞ Sponsors of these projects will present their proposals to the North Olympic Peninsula Lead Entity Policy and Technical Review Groups on Tues., June 3rd at the Port Angeles Public Library; the public is invited; lunch will be provided. Call Cheryl Baumann at 417-2326 to RSVP and get details.

Program and Related News

**Stormwater Grant—
Can We Outrun (and soak up)
the Raindrops?**

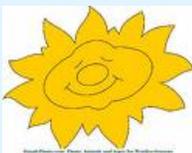


We spoke in the last newsletter of the \$145,000 that Streamkeepers will be receiving from EPA over the next three years to implement a stormwater-monitoring plan, as part of a \$536,000 grant for Clallam County to design and implement a comprehensive stormwater management plan. EPA officials came for their first meeting last month and have agreed to advance the grant schedule in order to better fit the stormwater season. Our plan is to:

- Revise Streamkeepers’ basic Quality Assurance Plan by June, and make appropriate revisions to our Field Procedures by July.
- Draft a pilot stormwater monitoring plan by the end of August, in order to begin pilot monitoring on October 1, the beginning of the “water year.” We’ll be forming a special **“Stormwater Stalwart”** team to perform new monitoring duties under this plan.
- Use data from the pilot study to draft a full-blown stormwater monitoring plan by August 2009, for sampling during the next two water years under the grant, and presumably on a continuing basis thereafter. This monitoring will enable us to evaluate how good a job Clallam County is doing of preventing and mitigating stormwater damage.

This project will present great challenges to both Streamkeepers staff and volunteers, but its potential value to the citizens and streams of Clallam County is equally great. So oil up your slicker and let us know if you’d like to join the **Stormwater Stalwarts!**

**Summer Nature Camps at
Dungeness River Audubon
Center at Railroad Bridge Park**



*Dates: 1st Session - Jul. 7 to 9; 2nd Session - Jul. 21 to 23; 3rd Session Aug. 4 to 6; 4th Session Aug. 18th -20th
Times: 9 a.m. to 3 p.m. daily*

Incredible fun for children entering 3rd through 5th grades, or ages 8 to 11! River Center staff leads children through adventures, games, and craft projects, using the river, bridge, and our wonderful RR Bridge Park. Sign up early – space limited to 20 children per camp; <http://www.dungenessrivercenter.org>

Water Footprint

“Forget Carbon: You Should Be Checking Your Water Footprint” by Amol Rajan, *Independent (UK)*. <http://www.alternet.org/water/83205/> ...Excerpts...

The concept of water footprints -- or "virtual water" -- will tell consumers the amount of precious H2O that has been used in the manufacture of products they buy. As with carbon footprints, a "virtual water" figure will indicate the extent to which a particular product has cost the earth. And, as with carbon footprints, the message is clear: less is better.

The results are striking. An apple weighing 100g has a water footprint of 70 litres, while a 125ml cup of coffee has a water footprint twice that size, 140 litres. But the water used in producing wheat or meat is much greater. A single kilogram of barley has a water footprint of 1,300 litres, while the industrial production of a kilogram of beef amasses a water footprint of 15,500 litres.

Poultry, meanwhile, has a smaller water footprint than red meat: producing a kilogram of chicken meat leaves a comparably much smaller water footprint of 3,900 litres.

A cotton shirt, for example, has a water footprint of 2,700 litres, tallying up the water evaporated in irrigating and growing the cotton, as well as the water needed to wash away fertilizers. Recycling such products, and thereby minimizing fresh production, could make the earth's water resources go much further.

A new website run by the University of Twente in the Netherlands: <http://www.waterfootprint.org/?page=files/home> gives consumers a chance to work out the hidden implications of their shopping habits. In each case, the water footprint covers both the manufacture and transport of the goods.

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Simplify Your Life**



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www.catalogchoice.org