

In the Flow

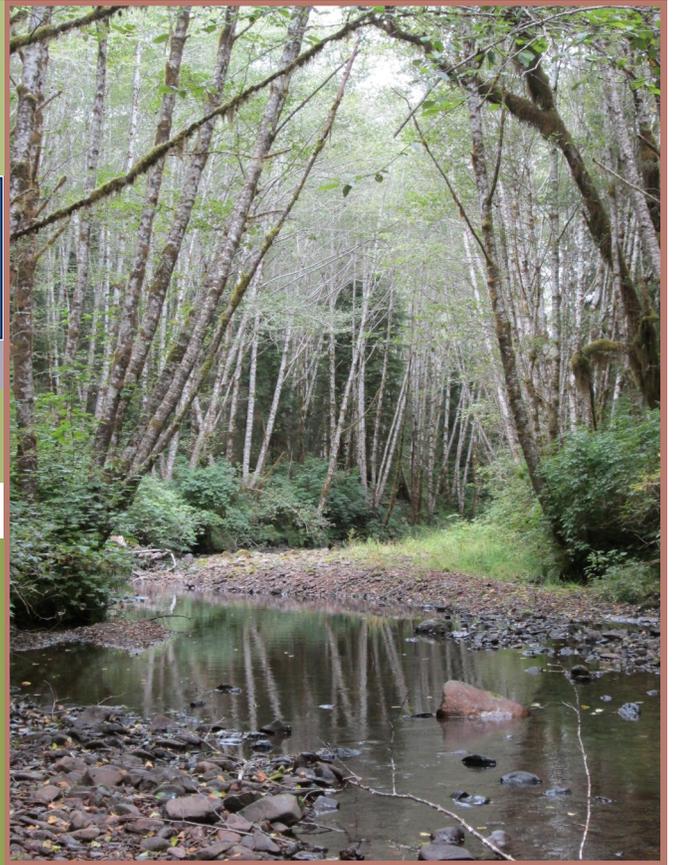


OCTOBER 2014 / Issue 69

(Produced with Volunteer Help) www.clallam.net/streamkeepers

IN THIS ISSUE

-  Ecology Grant for Updating SK Program!
-  Update on SK Project Planning
-  Welcome, Recently Trained, New Volunteers!
-  Welcome Assistant, Andy Perham
-  New SK Online Calendar Works Great
-  SK Data Entry Progress
-  Thanks to All Volunteers
-  Macroinvertebrate (bug) Collecting on West End
-  Clean Water District Update
-  1st Aid Certification up to date?
-  Peabody Creek News
-  Dungeness Bay Update
-  Sequim Stormwater Plan
-  Monitoring in Wet/Cold Weather
-  "Pale Blue Dot"



Beautiful Bug Collecting Site: Thunder Creek (tributary to the East Fork, Dickey River), close to Forks

If you are still receiving paper copies of this newsletter, please consider switching to our online version, published on the County website. Call our office and let us know. Thank you for helping us save both money & paper.

Streamkeepers Given \$30,000 to Revise our Ambient Monitoring Plan

We have just received a grant from the WA Dept. of Ecology to revise the Streamkeepers ambient monitoring program by 6/30/15. The grant comes out of watershed plan implementation funding for WRIA 18, but any program revisions are expected to cover all of Streamkeepers' ambient monitoring county-wide. The goal is to better enable us to provide credible data useful to decision-makers acting to protect and restore our local watersheds. **This is an ambitious project, and we will need help from all of you to make it a success. Our first meeting for this project will be Monday, Nov. 3, from 9-12 in the Health & Human Services conference room in the Courthouse basement, Room 042. Please attend if you can! See p.2 for a briefing paper about some of the issues we'll need to discuss.**

What are your ideas for updating the SK program?

Whether you can attend these meetings or not, we'd like your ideas on how to update our ambient monitoring program, which was devised by local scientists and volunteers in 1999 (for a basic description, see <http://www.clallam.net/SK/doc/PrgmOvervw.pdf>). How can we improve the program to better provide information to protect and restore our watersheds? Please read the briefing paper on p.2, think this over in the coming weeks, and share your thoughts with us.

Nine Months to “Birth” a Revised Streamkeepers Ambient Monitoring Program

Our grant (see p.1) requires us to discuss, adopt, and implement revisions to the Streamkeepers ambient monitoring program by 6/30/15. That’s a lot of work in a little time! Here are some thoughts to keep in mind as we consider program revisions:

Streamkeepers’ ambient monitoring program was essentially set in place in 1999. Meanwhile, standard practices and the needs of users have changed. For instance:

- While Streamkeepers’ ambient monitoring is done quarterly, most agencies in our region currently or plan to sample monthly, including the Dept. of Ecology, Clallam County Clean Water District, City of Port Angeles, and most Tribes.
- Streamkeepers’ last attempt to assess water-quality trends was unsuccessful because quarterly data hasn’t provided a rich enough data set to make statistically-valid conclusions.
- To gather a suite of standard WQ parameters (including temperature, dissolved oxygen, pH, conductivity/salinity, and turbidity), Streamkeepers deploys three pieces of equipment, each requiring its own in-field calibration and checking procedures, whereas most other jurisdictions sample all of their WQ parameters with a single piece of equipment with no in-field calibration or checks.
- Streamkeepers performs wade-across flow measurements simultaneously with its WQ sampling, whereas most other sampling programs do not.
- The Clean Water District has asked Streamkeepers to coordinate monthly sampling for fecal coliform and nutrients in the eastern part of the county as part of a new Pollution Identification and Correction plan, and opportunities exist for collaboration between the District and Streamkeepers’ own data-gathering needs.

Some basic questions we should pose along the way include:

- **What questions do we seek to answer?**
- **To what ends will the data be used?**
- **What and how much data will be needed to accomplish our goals?**
- **What resources are available for accomplishing our goals?**

The grant includes about \$11K for equipment/supplies, hopefully to purchase the equipment needed to implement the revised plan. One condition for revising the plan is that its ongoing expenses either remain expenditure-neutral or identify additional funding sources.

To get the discussion started, **here’s one proposal:** increase sampling frequency from quarterly to monthly, without increasing volunteer effort, by dramatically increasing sampling efficiency:

- Do all in-situ measurements with a single meter that does not need field calibration or checking.
- Separate WQ and Flow teams, where WQ teams only read staff gages.
- Flow teams perform sufficient annual sampling to keep staff gages calibrated.
- Where flows correlate well between multiple sites, install staff gages at only one site.

What do YOU think? Whether you attend our planning meetings or not, please let us know. We want to come up with a product that will best protect and restore our watersheds for many a year to come. Please help!

Welcome, New Volunteers/Trainees!

Trainees went through a county orientation, Bug field training, and a field training day at West Wind Farm on Salt Creek (Our special thanks to owners, Jane and Peter Vanderhoof for hosting us).

Trainers were: **Ed Chadd, Coleman Byrnes, Sue Nattinger, Adar Feller, Bob Lake, Roy Morris, Nancy Messmer**; and assistant trainers: **Jim McCullough and Sarah Miller**. The stations for field day were: **Water Chemistry:** Turbidity, Air Temp, pH, YSI-85 multi-meter; **Geomorphology/Habitat:** Flow, Gradient, Compass, Sketch Map; Camera use & Photos, Bank Stability; Safety, Etiquette, Fish & Wildlife, Plant ID. New volunteers are: **Alan Brackney, Glenn Browning, Nicole Harris, Megan Norling Alicia Poswald, Karen Robinson, Ethan Strahan, Chloe Troesper, Beth Waknitz, Carol Young, Bob Sextro.**



Sue Nattinger & Coleman Byrnes, "Fish & Wildlife, Plant ID"

"Thank You" to Nancy Messmer for her photography!



Adar feller, "Turbidity, Air Temp."



Ed Chadd, "Gradient, Compass, Camera"



Coleman Byrnes, "Using YSI Meter"



Adar Feller & Bob Lake, "Flow"



Fish Trap



Megan Norling



Linda DeWolf & Carol Young



Chloe Troesper



Alicia Potswald & Ethan Strahan



Roy Morris with Glenn Browning & Bob Phreaner



Alan Brackney



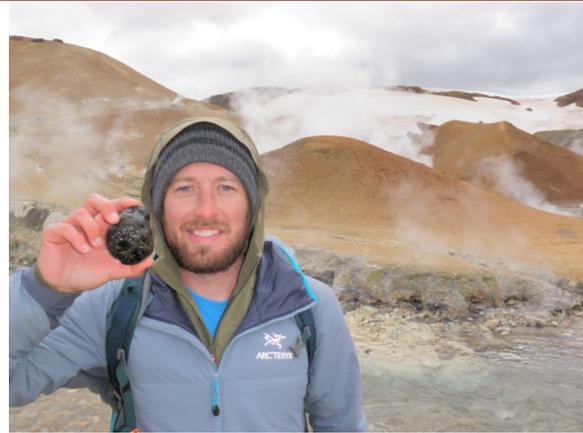
Beth Waknitz



Karen Robinson

Welcome, Andy Perham, Our New Streamkeeper Assistant

Andy has been hired to help with current SK projects. He grew up in Spokane, WA and went to Eastern Washington University where he received a B.S. degrees in Environmental Science and Geology (double major). In his words: "I have always loved the outdoors and enjoy backpacking, hiking, and fishing. I am very excited to work with Ed and the Streamkeepers and to help the Port Angeles community in any way I can."



Steve Belcher, Walt Johnson, Alan Brackney



Judy Gordon, Cammy Lauderback

SK Volunteers: Visit our new online calendar to sign up and help where help is needed! Visit Streamkeepers' online calendar: <http://pmorg.net/SKcal>. It was created by Phil Morgan-Ellis; it facilitates the work of team coordination; makes it easier for all of us. Features include:

- ~ No more keeping track of who's on which team and what their email addresses are; all lists will automatically update online, and you can easily send messages to your whole team, plus optionally the Any-Stream team.
- ~ Once you schedule an event on the calendar, a message automatically goes to your team (and the Any-Stream team if you desire).
- ~ If you cancel an event on the calendar, a message automatically goes to everyone. Reviewing how to access the new calendar are to the right: **Sue Nattinger, Jim McCullough, Phil Morgan-Ellis**



Thank You, to volunteers who help in the SK office with data entry and keeping our equipment organized !



Not all SK volunteers are out slogging through streams in all kinds of weather. Some are helping with the important work of entering Streamkeepers' quarterly stream-team data into the Clallam County Water Resources database. From left to right, a few of our office volunteers are: **Karen Robinson, Suzette Williams**, (that's **Ed Chadd**, our Coordinator, on the phone), **Judy Gordon, Mary Robson, Donna Spence**.

Karen Robinson is our new Equipment Wrangler. She spends a couple of days a week setting up the various kits so they are complete. This involves checking the contents against inventory sheets, filling in missing items, charging the instruments, packing the kits, etc. She's repaired a couple of zippers and straps on the bags already. She's also cleaning up the "Kitchen" a bit.... making progress on that! Thanks, Karen!

Why do we collect and identify the bugs (macroinvertebrates) that live in streams?

We do this because the kinds and numbers of bugs are a strong indicator of the health of the stream. The B-IBI (Benthic Index of Biological Integrity) was developed by Dr. James Karr at the University of WA. Streamkeepers uses a very specific protocol for collecting and then examining and identifying the “bugs” we collect. There are many opportunities for SK volunteers to help, from slogging through remotely located streams in chilly, wet weather to tedious lab work ☺. If you're interested in helping, let us know.



West End Bug Sampling with the Quileute Tribe

Photo was taken on Thunder Creek, one of 17 sampling sites on the West End with Nicole Rasmussen, Wildlife Biologist for the Quileute Tribe; Perry Black and Daryl Guerrero Penn, Technicians for the Tribe; **Sue Nattinger, Coleman Byrnes, and Jean Sigmar**, SK volunteers. 6 samples were also collected from the rest of the county with funding from Washington Department of Fish and Wildlife.

Good News for Dungeness Bay—report from WA Dept. of Ecology

In the 1990's Dungeness Bay was in trouble. Increasing bacterial levels led the Washington State Department of Health (WDOH) to close shellfish beds. With pollution closing shellfish beds and threatening the health of the surrounding community, Ecology, Jamestown S'Klallam tribe, Clallam County, the Clallam Conservation District, and the local Streamkeepers volunteer program came together to create the Dungeness Clean Water Workgroup to begin cleanup. The efforts of these groups began to pay off, leading to WDOH allowing conditional shellfish harvest for the first time in 2011.

Clean Water District (CWD) Update

The Sequim/Dungeness CWD, a shellfish protection district, was created by Clallam County under a state clean-up mandate, comprising all of the watersheds from the east County line to Bagley Creek (a.k.a. the focus area of the Dungeness River Management Team). Here's what they've been up to:

- Streamkeepers assisted with a pollution sampling project in 2013-14.
- All data has been entered into the Clallam County Water Resources Database and up loaded to Dept. of Ecology's database. (Thanks to our volunteers!)
- We're working with Carol Creasey, Clallam County Environmental Health, on a final draft of a 50+ pg. report which will be available on Streamkeepers' website once complete.
- Future monitoring in the CWD will be conducted as part of a long term Pollution Identification and Correction (PIC) Program, which will be coordinated by Clallam County Environmental Health along with Streamkeepers, the Clallam Conservation District (CCD), and the Jamestown S'Klallam Tribe. All PIC monitoring will be geared towards cleaning up pollution sources in the District, focusing on fecal coliform and also tracking nutrient pollution. Streamkeepers is writing the Quality Assurance Plan and will be leading the monitoring, scheduled to begin early next year.
- Streamkeepers also produced for the CCD a summary report of recent data for all streams in the CWD, in order to jumpstart the process of focusing on a priority watershed for clean-up in the first two years.

Volunteers: Is your 1st Aid Certification Up to Date?

Every team that goes out in the field should have at least one person certified on each of their outings. 1st aid classes are available through the Port Angeles Fire Dept. at either of these locations:

*102 E. 5th St., Port Angeles from **8:00 a.m. to 5:00 p.m. for \$45 on Oct. 25th and Nov. 22**. For more information call: 360-457-0411

*700 Power Plant Rd., Port Angeles **from 8:00 to 5:00 for \$40. on Nov. 8**, (360-417-4650).

For more information: www.clallamfire2.org



One Example of the Impact of our Data: \$150,000 DOE Grant for Filtration System for Port Angeles' Peabody Creek

Getting to the bottom of the lower Peabody Creek pollution problem began in 1999-2000 when SK collected samples from streams across the county, testing for bacteria. Sampling has continued and expanded to this day. In 2001 SK data pointed to a storm water drain that flowed from part of the county courthouse. One source to that drain is part of the courthouse roof, so birds were suspected to be the cause. Bird block spikes were erected and the roof cleaned. Streamkeepers sampling continued to show high bacterial counts from 2001-2013. The state, under the authority of the Clean Water Act's National Pollution Discharge Elimination System, required the city to have a formal stormwater-control plan. They received a \$150,000 grant from the state for water quality filtering units which will be installed this year to remove fecal coliform and other contamination. High readings continued to be found from the same drain coming from the courthouse. Lots of testing followed using smoke, dyes, and in-pipe cameras. Finally, this year, the county Facilities Dept. jack hammered open the jail lobby floor and found that a restroom had been cross-connected into the stormwater rather than the sewer system when the "new" part of the courthouse was built in 1979. The bathroom was shut down, the pipe cleaned, case closed. All the city's creeks are listed as impaired, including Tumwater, Dry, Valley, and Ennis/White. Understructures, "Filterra" units, will be installed to filter the water and remove the bacteria at several locations on Peabody Creek by Spring, 2015.



Exposed

Finally!

City of Sequim Looking for Help Monitoring Flows

The city of Sequim wants to contract with Streamkeepers to help with a project, grant-funded by the State Dept. of Ecology, to monitor flows in streams and ditches in Sequim and its UGA through 9-30-15. It involves monitoring at dozens of sites, both monthly and four times during storms. SK would train volunteers, help devise a monitoring and quality-assurance plan, calibrate and maintain equipment, organize and supervise monitoring, manage and report data, and upload data to Ecology.

Monitoring in Wet & Cold Weather Conditions

FREEZING TEMPERATURES AND YOU: Cold, wet conditions call for extra precaution against hypothermia; keep an eye on your teammates, particularly if it's wet. (And even if it's not raining, the vegetation will probably be wet enough to merit chest waders if you have them.) If you see someone with purple lips slurring their words, warm them up or send them home. Don't hesitate to use the space blanket in the first aid kit.

FREEZING TEMPERATURES AND EQUIPMENT: Don't leave the "clean bag" in your car or garage overnight if it looks like it will freeze. The turbidity standards can be ruined if they freeze, so if it's really cold, you might have to carry them in your pocket on monitoring day. The YSI meters will not function properly below 23°F (-5°C), and your teammates probably won't either, so if it's that cold, postpone till a warmer day.

WAYS TO MAKE MONITORING EASIER:

GLOVES: The big orange gloves (in the plastic tub) are the best way to keep your hands warm if you have to hold an electronic probe underwater for a while. Short of those, the other gloves in the kit will also help somewhat.

DRY WORK AREA: We have big beach umbrellas available, along with rebar anchors, if you want a dry space for people and/or equipment. And we have an extra tarp we can loan out.

WATER CHEMISTRY IN THE CAR: The page on Water Chemistry protocol has a box entitled "Alternative Water-Chemistry Procedures for Poor Conditions". Check it out!

FLOOD CHANGES: Due to flooding, many of your sites might have changed quite a bit or become hard to access. It would be a good idea to scout your sites beforehand, to make sure there aren't "issues" to be resolved. You might want to bring a hand saw, axe, etc. If the site has changed drastically and you have a detailed reach map of it, you might want to draw a new one. See the "Site Sketch Map" or "Reach Map" chapters for details.



“That's here. That's home. That's us. On it everyone you love, everyone you know, everyone you ever heard of, every human being who ever was, lived out their lives. The aggregate of our joy and suffering, thousands of confident religions, ideologies, and economic doctrines, every hunter and forager, every hero and coward, every creator and destroyer of civilization, every king and peasant, every young couple in love, every mother and father, hopeful child, inventor and explorer, every teacher of morals, every corrupt politician, every 'superstar,' every 'supreme leader,' every saint and sinner in the history of our species lived there - on a mote of dust suspended in a sunbeam.”

- Carl Sagan, from a lecture delivered at Cornell University: 10/13/94

The Pale Blue Dot is a photograph of planet Earth taken in 1990 by the *Voyager 1* space probe from a record distance of about 6 billion kilometers (3.7 billion miles, 40 AU) from Earth, as part of the solar system Family Portrait series of images. In the actual photograph, Earth is shown as a fraction of a pixel (0.12 pixel in size) against the vastness of space. The *Voyager 1* spacecraft, which had completed its primary mission and was leaving the Solar System, was commanded by NASA to turn its camera around and to take a photograph of Earth across a great expanse of space, at the request of Carl Sagan. He used the title of that photograph, for the title of his book written in 1994: **Pale Blue Dot: A Vision of the Human Future in Space.**