



# THE REDD

The Newsletter of the Skagit Fisheries Enhancement Group  
*Dedicated to Restoring Wild Salmon for Future Generations*

Volume 17, Issue 2 • Summer 2011

## Lower Day Creek Instream Habitat Enhancement Project

*By Sue Madsen*

The Skagit Fisheries Enhancement Group completed a major instream habitat enhancement project on Day Creek in July 2011. The objective of the Lower Day Creek Large Woody Debris (LWD) Project is to create more natural stream conditions. Groups of logs cabled to boulders were placed in approximately ¾ miles of stream downstream from the South Skagit Highway Bridge. Over time these structures will become embedded in the streambed, and collect smaller pieces of floating wood, eventually coming to resemble natural log jams. Wood structures increase roughness and channel complexity, create pools and maximize habitat values, and mimic natural habitat features.

A total of 31 log structures were constructed. Work was initiated in late July when a Vertrol 107-II helicopter from Columbia Helicopters was used to transport large logs (weighing 5,000 to 9,000 lbs each) and boulders (weighing 7,000 to 10,000 lbs each) to designated placement sites. Following helicopter placement, Harkness Contracting assembled the wood structures using an excavator. SFEG staff and volunteers worked with contracts to cable the logs to the boulders.

SFEG identified areas of Day Creek where existing habitat was degraded by a lack of channel complexity and large woody debris by completing a Feasibility Study in 2004. Based on the results of that study, fisheries biologists and engineers from the USFS, NPS and SFEG walked the stream to identify locations where wood structures could be used to improve habitat conditions. Once preliminary placement locations were identified, SFEG contracted with a professional engineering company that specializes in fish habitat enhancement to evaluate the structure designs and determine whether or not they would remain in place during flood events without increasing flood elevations or exacerbating erosion. Structure



Cabling logs together



Helicopter lifting logs and boulders

dimensions, ballast requirements and final placement locations were specified based on that analysis.

The Day Creek LWD placement project was constructed on private land. We have been working with landowners in the Day Creek area to develop restoration projects since 2003. Supporters of the current project include the U.S. Forest Service, Longview Timber, who provided some of the logs used for the project, and six private landowners, who allowed access and construction staging areas as well as agreeing to plant native riparian trees on their land along Day Creek. SFEG engaged landowners throughout the project planning process, obtaining permission to apply for the grant, survey the stream channel, investigate potential structure placement locations and ultimately

[Continued On Page 2](#)

### INSIDE THIS ISSUE:

From The Director ~ Alison Studley.....	page 2
Farewell to Two More AmeriCorps Volunteers.....	page 3
Volunteer Appreciation Picnic.....	page 4

Salmocelium: Why Salmon Love Fungi.....	page 6
New Grant Funds Samish Watershed Knotweed Program.....	page 7
Calendar of Events.....	page 8

## From the DIRECTOR

### What is a Redd?

A female salmon uses her tail to dig a nest in the gravel. After she deposits her eggs the male fertilizes them. The female then covers the fertilized eggs with gravel from upstream and the resulting nest is called redd.

**Our mission** is to build partnerships that educate and engage the community in habitat restoration and watershed stewardship in order to enhance salmonid populations.

### Board of Directors:

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### BOARD MEETINGS

The SFEG Board meets the 4th Tuesday of each month. The public is welcome to attend.

### Staff:

**Alison Studley**, Executive Director  
**Sue Madsen**, Restoration Ecologist  
**Lucy DeGrace**, Outreach Coordinator  
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**John Rohde**, Restoration Technician  
**Anna Mostovetsky**, WA Conservation Corps Restoration Assistant  
**Carolyn Feffer**, WA Service Corps Outreach Assistant

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 Mount Vernon, WA 98273



**Alison Studley**  
*Executive Director*

Out with the old, in with the new! SFEG has undergone a major "spring" cleaning this summer. After over 15 years at 407 Main Street, SFEG has moved its offices to a new location. You can now find our offices at: 1202 South Second Street, Suite C. We are still located in Mount Vernon just a few blocks south of the downtown core. Our phone number and post office box remain the same. It's an exciting change for us and we are all very happy with our new building.

SFEG initially opened an office at 407 Main Street when we received our first large Jobs for the Environment grant back in 1995. At that time there was one part-time grant administrator and three field technicians who were all dislocated natural resource workers. Over time our one office grew to four offices and a conference room for 12 full time staff members.

In 2008, the City of Mount Vernon purchased our Main Street building as part of their flood protection project with the intention of demolishing all the buildings on the river side of Main Street and redeveloping the revetment for public use. For the last 3 years SFEG's diligent relocation committee has been searching for a new home for our offices and shop. It has been no easy task! After searching in seemingly every community in Skagit County, our former landlord approached us with the proposition to remodel to suit the Second Street location. After months of planning, designing, constructing, packing, purging, and surplus; the movers finally came on August 16th and in a few short hours Main Street was empty and Second Street was full of life... and boxes needing to be unpacked.

In September we will also be moving our Sedro Woolley shop to the new Mount Vernon location. While we are sad to leave our river front location, we are all excited about our new building and to be under one roof together finally.

As with everything we do, we are most grateful to all the volunteers and board members who have helped us plan for and execute this ambitious move. We couldn't have done it without you!

Please stop in for a visit if you are in the neighborhood.

**Save the Date!**  
 Open House  
 At SFEG's new location  
 1202 South Second Street, Suite C  
 Thursday, October 20th 4-7 pm

### Lower Day Creek continued from Page 1

to construct the project. As for any construction project that affects instream habitat, we were also required to obtain permits from the Washington Departments of Fish and Wildlife and Ecology, U.S. Army Corps of Engineers, U.S. Fish and Wildlife Service and the State Historic Preservation Office. Funding for the Day Creek Instream Habitat Enhancement Project was provided by the Washington State Department of Ecology and the Salmon Recovery Funding Board.

SFEG will monitor the effects of this project on habitat conditions and salmonids. Staff and volunteers will survey post-construction channel cross-sections annually following the flood season, document plant survival and changes in riparian shade levels, measure water temperatures, and count spawning salmonids. Many of these activities are undertaken by SFEG volunteers, who are provided with training in measurement techniques each year. Members of the public are invited to tour the project and observe spawning salmon in Day Creek at our Day Creek Humpy Tour on September 24, 2011. See our Calendar of Events at the back of this newsletter for more information.

If you are interested in learning more about the project contact Sue Madsen, SFEG's Restoration Ecologist at 360-770-8386 (smadsen@skagitfisheries.org)

## Farewell to Two More Great AmeriCorps Volunteers

*We're saying goodbye to another great pair of AmeriCorps volunteers as this summer comes to a close. We thank Anna and Carolyn for their great work; below are their parting words:*



Anna finding treasures during Channel Creek surveys

I can hardly believe that my term with Skagit Fisheries is almost over. It has been an incredible year, full of monitoring, plant care-taking, dirty clothes, rain, laughs and late afternoon deliriums after 10-hour field days. I'll never forget the special opportunities that arose throughout the year, like surveying sockeye at Baker Lake, seining on a sunny day in Dugualla Bay, working with school groups in beautiful North Cascades National Park and rafting the Sauk's rapids while doing

knotweed surveys. There are countless others, and I could likely utilize all the available space in the newsletter for my accounts, but Lucy might be disgruntled with me.

There are all sorts of interesting perks that come with field work. For instance, how often does one see a pair of copulating otters while doing a flow measurement? Or, a bear snatching a sockeye while surveying a creek? These encounters will be forever etched into my memory, meaning Skagit Fisheries has already won the 'Organization to Be Mentioned in Stories to My Grandchildren' award. Some of my experiences have been truly extravagant, but sometimes it's also the simple delights that make the experience rewarding. For instance, a cold ice cream cone on a scorching day after planting at Hansen Creek, and a warm slice of pizza after building a fence in the snow/sleet/hail/rain at the Skagit Mainstem. I swear that pizza and ice cream never tasted so good. Showers are also way more enjoyable.

But, these rewards and challenges wouldn't be the same if I didn't have the right people to share them with. So, more than anything I am fortunate to have worked with some of the most interesting, dynamic and fun volunteers, interns and staff. I never cease to be impressed by everyone's hard work and good-hearted nature. The organization wouldn't be what it is today if it wasn't for its members' strong character traits. So, I would like to thank Skagit Fisheries for granting me the honor to work with you all, even though I am still referred to as free.

I suppose you're all wondering what is next for me. I wonder that all the time too. In the short term, I will be doing some travel in South America. In the long-term, like any adult in their mid-20's interested in the environmental sciences, I hope to either continue my studies in graduate school, find a

nice field job, travel more or retire and do lots of gardening, while learning how to play the mandolin. In other words I'm not sure what I'm doing, but whatever it is, I hope that it is as rich as my last year has been.

~ Anna Mostovetsky



Carolyn and Ahmree

How do you sum up an experience as a Washington Service Corps (WSC) Volunteer at Skagit Fisheries Enhancement Group? Well, you begin with the goal of completing 1700 hours of service in 10.5 months. I spent 490 hours with mostly middle school students, but also some elementary and high school aged students; 160 hours coordinating volunteers; and 159 hours working on habitat restoration. I spent over 100 hours volunteering

outside of my service at Skagit Fisheries with amazing groups like Bellingham Books for Prisoners and Washington Trails Association. What do all of these numbers mean? I have spent a lot of time this past 10.5 months doing some pretty fun things! Some of my most memorable experiences include:

Dissecting salmon—fun? ...let's call it educational.

Showing 4th graders how to carefully place a young salmon egg in a fish tank

Helping 7th graders reconnect with soil while planting trees (important!)

Playing with ice on a spawner survey with my trusty sidekick

Getting a new view of one of my favorite places, the Sauk River, while surveying for Knotweed and learning the river's history from our rafting guide

What will I miss most? The people! It has been such a pleasure for me to learn from all these bright, intelligent and unique people that I have met during my WSC term. A very helpful thing for me has been learning about different peoples' careers during my time at Skagit Fisheries; the staff here, the teachers, the volunteers. I thank you all for all the perspective, support, knowledge, trust, experience and good times you have shared with me. This has certainly been a valuable experience for me that I would recommend to anyone. As a wise volunteer once told me, Salm On! With love, Carolyn (and Ahmree)

# Volunteer Appreciation Picnic Enjoyed by All *By Carolyn Feffer*

Thank you to all those who helped make the July 9 Volunteer Appreciation Picnic possible! Without support from our generous community sponsors the day would have been a lot different! Please visit and support these businesses who are behind the scenes supporting volunteerism, Skagit Fisheries Enhancement Group, and watershed restoration in Skagit Valley. Thank you to Quadrant Homes, Pat Rimmer Les Schwab Tire Center of Sedro Woolley, Skagit State Bank, and Wholesale Sports for your generous support. Thank you to the following businesses who donated items for volunteer appreciation gifts: Pacific Northwest Float Trips, Azusa Farm and Garden, Skagit River Brewery, Taylor Shellfish Farms, and Birdsvie Brewery. Check out our awesome musicians who played music for us. You can find Matney Cook of Mount Vernon

on Facebook and Dan Duggin and his friends Jessi and Dean of Bow on Sundays at the Edison Inn. Hats off to the Edelson family for graciously welcoming us to throw a party on their property and being so accommodating along the way. Visit the Adelman family of The Lunch Box in Mount Vernon for delicious sandwiches and salads, or join them for grilled burgers in Pine Square Fridays in the summer. Most importantly, thank you to all the volunteers who are so awesome we just had to throw you a party. The work that you do for Skagit Fisheries not only enhances our watershed, but also the community at large. Last but not least, just so you know, we paid extra for the sun so I am glad it showed up!



Bill and Cathy Adelman from The Lunch Box serving burgers



Restoration site tour



The "Thank you Volunteers" cake



Volunteers Cindy Bjorklund and Pete Haase



Property owners Elizabeth and Peter Edelson



Musicians Dan, Dean and Jessi

## In Memoriam

It is with sadness that we mark the passing of two volunteers this summer.

Patrick Hurley, who planted thousands of trees with us at habitat restoration sites, passed away in June.

George Miller, who helped monitor benthic macroinvertebrates with our Skagit River Stewards program several years ago, passed away in August.

Both these men were fixtures in their respective volunteer projects. George was one of those guys who kept the group laughing and with whom



Pat Hurley planting trees at Marblemount Boat Launch



George Miller (left) helps collect macroinvertebrate

everyone wanted to work. He always had a smile and a joke.

Patrick was ever-present at spring and fall planting parties in the last few years. If his goal was to quietly plant more trees than anyone else, then he surely succeeded each time!

We send our condolences to the families of both men, and we admire their dedication to service in the goal of restoring wild salmon habitat for future generations. We miss you guys!

# Salmocelium: Why Salmon Love Fungi

By Anna Mostovetsky

Once upon a time there lived a tiny little spore that fell into the wind and got carried far far away. After its long and turbulent journey Mr. Spore landed on the ground, very conveniently next to Miss Spore. Mr. and Miss Spore lay dormant for a while until just the right moisture and temperature conditions triggered their germination. As they started to grow into cells called hyphae, they decided that they liked each other very much and will spend their sweet microscopic life together. Then all sorts of crazy things started to happen like fusion of hyphae, transfers of nuclei and the growth of mycelium, the vegetative part of a fungus, which is basically a large cluster of hyphal cells. I won't go into much more detail and just let you use your imaginations. From this sprouted a mushroom, the gills of the cap released more spores and my beautiful story started all over again. There you have it: a basic example of a fungus life cycle.

Now, what many of us don't realize is that mycelium, that big mess of hyphae I mentioned a paragraph ago, is always present in the soil, even during those dark, dreary winter months when there are no mushrooms to be seen and it seems unlikely for anything in the vicinity to be living. And though it may not seem like there's much life above-ground, there is an immensely complex network of fungal wonder below. Ever take a peek under a decomposing log and find an odd array of white strands? Mycelium! My mycology professor, a knowledgeable researcher, great teacher and ironically a fun guy used to boast (someone has to boast for fungi) that the soil under one human footprint could contain miles of mycelium. In fact the largest organism in the world, *Armillaria ostoyae*, located in Eastern Oregon happens to be a fungus. It is said to span almost 10 square kilometers of forest floor!

Alright, these are fun and playful little facts, but why in the world am I writing about this for a Salmon Enhancement Newsletter? How do salmon benefit from fungi? Well, as many of you know from volunteering, working or reading about us, Skagit Fisheries dedicates a lot of its time and energy to riparian planting. Plants provide fish with shade, lower water temperatures, higher oxygen levels, prevent erosion by stabilizing soil, and create large woody debris jams and pool formations for fish habitat. We order native species from various local sources and manage our own nursery, so we have plants that are established in nutrient rich soil to bring out to the field. The soil that we use to pot our plants is inoculated

with mycorrhizae. For those not familiar with the term, a mycorrhizal relationship is a symbiosis that exists between a fungus and a plant. The fungus makes nutrients available to the plant and in exchange loads up on delicious carbohydrates provided generously by its partner. The plant is healthier and more productive because of this exchange and therefore has a far better advantage of getting established in the field. It is estimated that 95% of all plants are mycorrhizal.

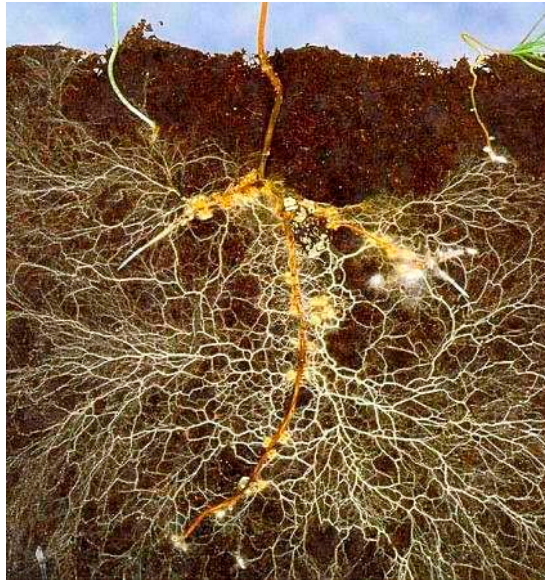
Salmon benefit from fungi in other ways. Much like tree and plant roots, mycelium stabilizes the soil and prevents erosion. This keeps too much fine sediment out of the water, and more gravel exposed to maintain those nice, high oxygen levels for eggs. Fungi are also accomplished decomposers. They will masterfully break down organic matter like forest litter, logs, animal carcasses (including salmon of course), and redistribute nutrients back into the soil. These nutrients are utilized once

more by ecosystem players such as plants, which ultimately benefit salmon. Without fungi the salmon cycle wouldn't be possible.

Fungi are used more and more these days for restoration purposes. Some projects include: erosion control after logging, fecal coliform management, clean up of soils containing heavy metals and more. I believe that perhaps we could even find a bigger place for these elegant organisms in the fisheries restoration world. If anyone is terribly excited about YouTube or TED Talks, grab your loved one in the evening and watch the Paul Stamets video entitled, "6 Ways Mushrooms Can Save the World." Paul Stamets is a leading

figure in mycological bioremediation. His book, *Mycelium Running* has much more information on the topic. Another great source for basic mushroom identification, if you're into that sort of thing, is David Arora's *Mushrooms Demystified* and *All the Rain Promises*. There are lots of other great materials I can recommend, so you can find me sometime in the nursery or at one of our restoration sites, and I'll be happy to chat your head off about fungus all morning and/or afternoon.

So, when you see a morel mushroom popping up this spring, you can first give me the coordinates of your finding, because who doesn't love morel quiche in the springtime? And secondly I encourage you to reflect upon the five paragraphs I've delighted you with and consider the important connections this fruiting body has not only to salmon, but the whole ecosystem in which we live.



Mycorrhizae

# Become a Member

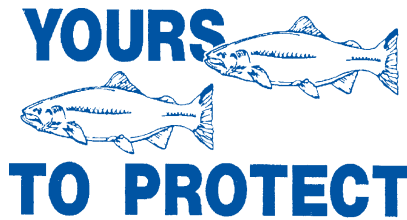
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## MEMBERSHIP LEVEL:

- Individual \$20
- Family/Household \$35
- Supporter \$100
- Benefactor \$500
- Other \$ \_\_\_\_\_

Please make checks payable to S.F.E.G and send to P.O. Box 2497, Mount Vernon, WA 98273  
SFEG is a non-profit 501 c(3) organization. All contributions are tax deductible.

\* OR give online at [www.skagitfisheries.org](http://www.skagitfisheries.org) using a secure server \*

You may have recently received a membership renewal letter in the mail. **Your membership** contribution will ensure that valuable projects and programs continue to exist in our community to keep our watersheds healthy and clean for salmon and people.

Becoming a member of SFEG helps **support unique education programs** such as Junior Stream Stewards as well

as **volunteer monitoring efforts** vital to understanding the impact of our restoration efforts. Becoming a member supplies **critical funding to these important efforts** and links you with like-minded individuals working to ensure the future of salmon and the health of our watersheds.

**We hope you will consider becoming a member or updating your membership today.**

## New Grant Funds Samish Watershed Knotweed Revegetation Program

*By Alison Studley*

The Department of Ecology has awarded SFEG nearly \$250,000 to support revegetating waterways in the Samish Basin where knotweed removal is taking place. The Samish River has extensive infestations of invasive knotweed species (*Polygonum spp.*). Many sections of the river also face serious water quality issues for fecal coliform, temperature, and dissolved oxygen. This project supports and extends the Samish Indian Tribe's effort, which began in 2010, to systematically control knotweed throughout the basin. SFEG and the Tribe will collaborate on efforts to control knotweed and revegetate prioritized riparian areas over the next 5 years. The project goal is to curtail the devastation that knotweed is inflicting on the river system and help to address water quality issues through planting of native riparian vegetation on knotweed treatment sites in the Samish basin. The project intends to improve water quality and salmonid habitat throughout the Samish by filtering runoff, improving shade, and eventually providing for increased recruitment of large woody debris. The project complements the efforts of the Clean Samish Initiative, headed by Skagit County and involving many other stakeholders. Grant funds will also augment SFEG's efforts for community outreach

and education programs in the Samish Watershed. If you own property in the Samish and are concerned with knotweed in the riparian area, please give us a call for more information.



Knotweed



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## Calendar of Events & Volunteer Opportunities

**September 24: Day Creek Humpy Tour:** Join us 10am-noon for a tour of the logjam placement project on Day Creek and an opportunity to view and learn about spawning pink salmon (humpies).

**October 1: SFEG Spawner Survey Workshop** 9am-3pm at Cascades Job Corps in Sedro Woolley

**October 8: Samish River Family Fest** 11am-3pm at Donovan County Park in Alger; Join us for a day of free family fun learning about the natural history of the Samish watershed. Enjoy Sammy the Salmon, FIN the giant migrating salmon, miniature train rides, music, food, and educational crafts and activities.

**October 20: SFEG Open House:** Join us from 4-7pm at our new office location: 1202 South Second St, Suite C, downtown Mount Vernon.

**November 5, 12, and 19: Fall Planting Parties:** 10am-1pm at sites throughout the Skagit Watershed (see insert)

**December 3: Hatchery Tour Guide Workshop** at Marblemount Hatchery; learn from hatchery staff how the hatchery operates, all the frequently asked questions that visitors want to know, and where the good steelhead fishing is! After training sign up to lead tours for visitors on weekends through January.

**Volunteer today! Call 360-336-0172**  
**or visit [www.skagitfisheries.org/opportunities.html](http://www.skagitfisheries.org/opportunities.html)**