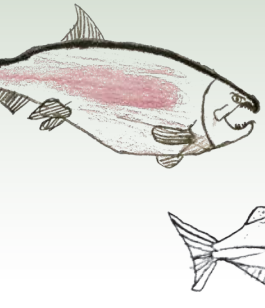


the REED

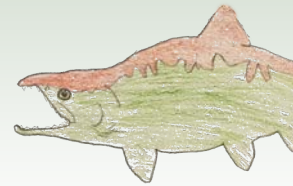


THE NEWSLETTER OF THE SKAGIT FISHERIES ENHANCEMENT GROUP

Dedicated to Restoring Salmon for Future Generations



Student Field Trips are Back!



By LUCY DEGRACE - Outreach Manager

Our staff are delighted to be back in classrooms and running field trips with students this school year. With student service-learning sharply curtailed for about a year and a half due to Covid-19 restrictions, our staff were getting a bit rusty! We're so pleased to be able to once again bring Salmon in Schools to elementary students, and Kids in Creeks to middle and high school students.

Salmon in Schools provides hands-on opportunities for kids to learn the salmon life cycle, and how we can all contribute to healthy habitat for salmon. This school year, 25 Skagit County classrooms, grades 3-6 participated. SFEG staff engaged students through a combination of classroom visits, virtual lessons, and field trips to local salmon

streams, to gain an introduction to the life cycle and habitat needs of salmon. After the winter holidays, schools received 300 coho eggs each, courtesy of the Marblemount Hatchery. This spring we've been very busy helping the kids release their coho fry. These field trips are fun for all involved! A few notes from the students, along with their artwork:

"Dear Megan and Lucy, Thank you for showing me how to safely use a shovel and clippers, and for showing me how to release salmon without hurting them."

"Dear Lucy and Megan, Thank you for showing me Hansen Creek! I really appreciate everything you taught us to do, especially pulling the blackberries out of the ground (I might start a fundraiser for removing them.)"

Our Kids in Creeks program began small this year with a masked group of about 60 7th graders from Conway, in early October, and has grown to include nearly 600 7th-12th grade students at 10 schools. We've had a fun time planting and potting hundreds of trees and removing tons of ivy and blackberry. It's been very gratifying to meet high school seniors who remember me from the 6th Grade Conservation Tour (sponsored by the Skagit Conservation District) or the salmon dissection in our middle school program. They are tying together what they've learned through these programs for a solid understanding of the worth and workings of our local ecosystems. At SFEG we are proud to help cultivate a stewardship ethic in these leaders of the next generation!



IN THIS ISSUE:

- 2 Wins for Salmon
- 3 Volunteer of the Year
- 4 It Takes a Village
- 7 Give Big
- 8 Events and Volunteer Opportunities

the REDD

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 and the resulting nest is called a redd.

MISSION

Our mission is to educate and engage the community in habitat restoration and watershed stewardship to enhance wild salmonids.

BOARD OF DIRECTORS

Doug Davidson, *President*

Bob Everitt, *Vice President*

Rick Haley, *Treasurer*

Erik Young, *Secretary*

Allison Andrews

Dan Berentson

Bob Everitt

Chad Fisher

Steve Ranten

Pat Stevenson

STAFF

Alison Studley, *Executive Director*

Kristin Murray, *Restoration Ecologist*

Lucy DeGrace, *Outreach Manager*

Melody Meyers, *Finance & Operations Manager*

Adam Airoidi, *Riparian Restoration Manager*

Bengt Miller, *Stewardship Coordinator*

Erin Matthews, *Habitat Restoration Coordinator*

Joe George, *Senior Restoration Technician*

Nate White, *Restoration Technician*

Megan Cahill, *AmeriCorps Education Associate*

Casey Hart, *AmeriCorps Restoration Associate*

Sam Mackin, *AmeriCorps Community Engagement Associate*

CONTACT US

360.336.0172

sfeg@skagitfisheries.org

P.O. Box 2497

Mount Vernon, WA 98273

Wins for Salmon

By ALISON STUDLEY - Executive Director

It's springtime and how wonderful to see the hustle and bustle of conservation activity thrive around Skagit Fisheries again! Flowers are blooming, birds are singing, volunteers are working, and kids are learning in person again. Our staff has been crazy busy meeting with landowners, developing new projects, getting fish passage projects ready for construction this summer, and writing many grants for future restoration work. Community members have been coming out in force to plant thousands of trees along the Skagit River as well as pot young plants at our nursery for future restoration projects. We are thrilled to see the excited faces of students as they learn about salmon growing bigger in their school aquariums, and even more delighted to work on stewardship projects with students in the field as they release salmon in local streams.

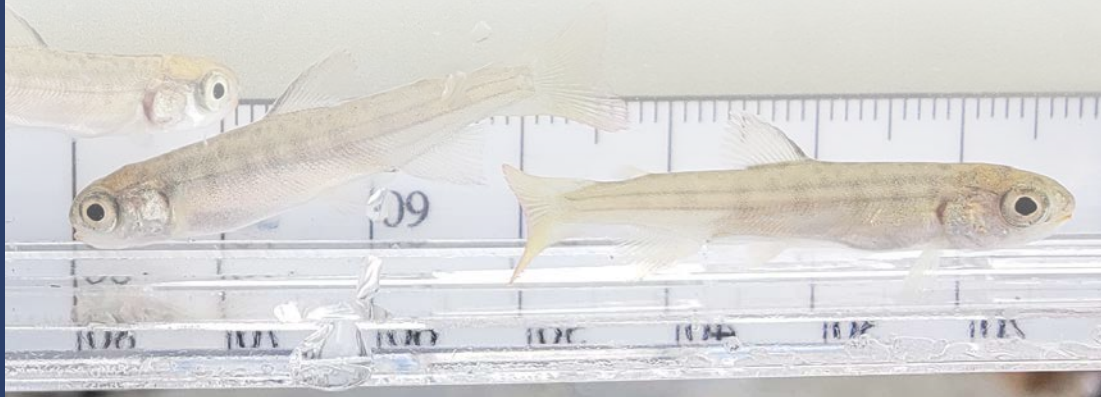
The Salmon in Schools program expanded this year, as the Office of the Superintendent of Public Instruction desired to work with one entity to provide this salmon education program to underserved students throughout the state. The Regional Fisheries Enhancement Group Program easily responded to this request. As a Program with 14 organizations located across the state engaging our communities in salmon restoration, we were well suited to take on this challenge and excited to offer this great program to more students in our communities.

Another big win for the Skagit occurred earlier this year, when the British Columbia government announced a settlement to halt mining in the headwaters of the Skagit River. After years of controversy, an agreement was reached between the BC Government, Imperial Metals, and the Skagit Environmental Endowment Commission (SEEC) to

buy out all the mining rights within an unprotected 14,000 acre area known as the "donut hole" in the Upper Skagit watershed. Surrounding this unprotected donut hole are Manning and Skagit Provincial Parks, both major outdoor recreation destinations.

In 2019 when Imperial Metals filed a request for a mining exploration permit from the B.C. Ministry of Mines, fears were expressed by those downstream and an international coalition of local governments, tribal nations, businesses, nonprofits, and individuals spent the next several years expressing their concerns for how mining and its exploration would harm the Skagit River and surrounding communities. Fears were warranted, as Imperial Metals was responsible for the Mount Polley mine disaster of 2014, which spilled more than 2.6 billion gallons of toxic sludge into the Fraser River watershed, one of the biggest environmental disasters in Canadian history. This agreement to halt mining in the Upper Skagit ensures the preservation and protection of natural and cultural resources, as well as recreational opportunities throughout the entire Skagit River watershed and is a major win for all of us who love the Skagit.

There are big and small wins happening all around us and it's incredibly gratifying to have so much support for salmon restoration in the Skagit. At the State and Federal levels there are new funds being dedicated to habitat restoration for salmon. In particular, we are excited to see new funding from the Federal Infrastructure and Jobs Act which has created a new grant program for Culvert Removal, Replacement and Restoration. We look forward to tapping into new funding sources to continue to open more habitat for salmon throughout the Skagit watershed.



Volunteer *of the* Year

Anja Roozen

By SAM MACKIN - Washington Service Corps Community Engagement Associate

Volunteers are the backbone of our restoration efforts. For every plant potted or planted at a work party, there is a dedicated person who cares deeply about our watersheds and environment. Sometimes, a volunteer will go above and beyond what we ask of them, taking initiative in ways that support our organization tremendously. One such volunteer is high school student Anja Roozen, who started volunteering with us during the pandemic. Anja has done a little bit of everything: weeding, watering, potting, and planting, and she's even brought in many of her peers to volunteer. Because of her work and effort, we're happy to announce that Anja is Skagit Fisheries Enhancement Group's Volunteer of the Year for 2021!

Curious about her work ethic, and the fact that she's managed to have an excellent volunteering track record all while keeping up with classes at school, I reached out to Anja to ask her a couple questions. Here's what she had to say:

TELL US A BIT ABOUT YOURSELF, ANJA!

I'm 18, a senior at Sedro Woolley High School and I do full time Running Start at SVC. When I am not studying and overwhelmed by schoolwork, I like going on walks in the beautiful nature in Skagit Valley, as well as reading, watching movies, drinking tea, and cuddling with my cats.

HOW AND WHY DID YOU GET INTO VOLUNTEERING?

I got into volunteering in 2020 after I took part in a really amazing program called the Salish Sea School, where I learned a lot about the Salish Sea and the many problems it is faced with due to climate change, pollution and more. One

of the other main issues I learned of was how little salmon there are left. I knew I wanted to do something to try and help not just the salmon but also all the other animals that depend on salmon as well, including the Southern Resident Orcas who primarily eat salmon, and our whole ecosystem here in the Pacific Northwest.

WHY DID YOU CHOOSE SFEG TO VOLUNTEER WITH?

Skagit Fisheries Enhancement Group seemed like the perfect way to help salmon, restore our ecosystem, make a difference, and also have fun! Planting native plants and trees is a great way to help restore parts of our ecosystem that have been damaged as well as creating habitat and improving water quality in the Skagit, all of which helps not just salmon, but all life here in Skagit Valley.

WHAT IS YOUR FAVORITE VOLUNTEER EVENT?

I love all the ones I have been to! But if I had to choose, the ivy pull on Samish Island might be my favorite! The presentation and song by one of the Samish Tribe members was really beautiful and there were eagles flying above us and a bunch of adorable goats helping eat the ivy! I went with my friend, and we had a really great time!

HOW HAS VOLUNTEERING AFFECTED YOU?

Volunteering has impacted me in so many ways. As a young person I often feel stressed, anxious and at times hopeless about both the climate crisis and the biodiversity crisis/mass extinction we are currently facing and my future on this planet. Volunteering with Skagit Fisheries Enhancement Group really helps me

feel more hopeful and gives me a way to actively help make a more livable future, because not only am I helping plant trees and plants that store carbon helping combat the climate crisis, I am also helping create more habitat and improve existing habitat for all types of animals, including salmon, and plants, which helps promote biodiversity.

DO YOU HAVE ANY ADVICE FOR PEOPLE THINKING ABOUT GETTING INTO VOLUNTEERING?

I would say, if you are interested in volunteering for SFEG just go for it! You won't regret it, even in the rain and cold, volunteering events are really fun! The people there are always really kind and interesting, and it is a great excuse to be outside and help salmon, orcas, the Skagit River and our whole planet in the process.

Anja has already attended our first planting event of this spring, bringing a whole host of new volunteers with her in typical Anja fashion. Skagit Fisheries is thankful to her and volunteers like her who do their part in helping us to restore the salmon populations of the Samish and Skagit Watersheds. Thank you, Anja, and congratulations!



Anja Roozen with her one of a kind SFEG Volunteer of the Year water bottle

It Takes a Village

How a Community Restores a Riparian Zone

By ZOLMAN SPIVAK - WCC Member

Situated on 12 acres of flat grassy lawn between the treatment center and the Skagit River, the aptly named Mount Vernon Wastewater Treatment Plant (MVWTP) site has been under Skagit Fisheries Enhancement Group (SFEG) purview since Spring 2021. It's not a particularly interesting site to look at. Much of the acreage consists of flat lawn below Skagit County's dike, with a narrow dirt access road separating the lawn from a steep red alder-studded embankment which drops precipitously towards the Skagit River. The lawn is broken into uneven halves by a circular island of English Ivy-choked cottonwoods, which groan in the wind and threaten those underneath with massive limbs ready to fall fifty feet to the ground at the right gust. The cottonwood island is ringed by a snarl of invasive Himalayan blackberries that reach heights of more than ten feet. To the east, the lawn is broken by the access road on its way to the dike. Beyond that is a veritable jungle of native snowberry thickets entangled with even more invasive blackberry. To transform this ecological wasteland into a diverse riparian buffer system, SFEG

had their work cut out for them; this wasn't a project that the non-profit could tackle alone. The story of the site is one of cooperation, community outreach, and several generations of Washington Conservation Corps (WCC) crews working together to transform the tract of land into something more; something closer to what it might have looked like decades prior to colonization flattened it into its current shape.

Financial support for the site is public, part of which comes from the state-funded Salmon Recovery Funding Board, a grant committee established in 1999 to finance salmon recovery efforts across Washington. As with all SFEG efforts available funds need to be judiciously applied for maximum efficiency, so enter the WCC. Each crew is staffed by AmeriCorps members who are in it for the nature of the work, not the financial benefits. These crews of young environmentalists can be highly cost-effective; a motivated group of five twenty-somethings can get a lot done in a few days. After receiving training from an archaeologist to identify any signs of protected indigenous cultural works, a WCC crew began restoration work in Spring 2021. They used brush-cutters to

rip through blackberries at the base of the cottonwood island. After that short week, work would not resume on the site for a year.

The current crew for the 2021-2022 service year first encountered the MVWTP site for an intense week of further brush cutting. They followed up on the past crew's efforts, knocking back burgeoning blackberry sprouts under the cottonwoods while avoiding the low carrot-like stems of poison hemlock. The next day they moved on to the Eastern portion of the site, battling through rain and blackberry to shred the tangled invasive vines. With the first phase of weed control finished, it was time to prep the site for plants.

When SFEG takes on a restoration project, they must take into consideration guidelines put forth by the landowners. In this case the site is owned by the City of Mount Vernon, and there were two main requests that SFEG needed to work into their restoration plan: that deciduous trees be planted far away from the dike to minimize extra leaf litter maintenance at the treatment plant during Autumn, and that all plants between the dike and North access road be planted in rows for ease of grass maintenance. With these guidelines





in mind, WCC spent a day meticulously placing flagging in evenly spaced rows perpendicular to the dike. Then, SFEG employees used a tractor to till the soil into rows. Afterwards, SFEG and WCC worked together to transport thousands of native trees and shrubs to the site, which meant it was finally time to plant.

Due to the high sunlight environment, SFEG's restoration plan called for shrub species to be planted on the south side of Western Hemlock and Red Cedars, trees that prefer less direct light. Meanwhile, Douglas Fir and Shore Pine were planted solo as the species enjoy ample light. This initial stock of around 3,600 plants would have taken the WCC crew at least a week to finish if they were working alone, but fortunately they had back-up. SFEG proudly enlists passionate members of the community to assist in planting. Volunteer events see participation from people living within walking distance of the site, high school clubs, seasoned regulars, and more. Over the course of two events on March 12th and 19th of 2022, a total of 42 volunteers planted trees and marked them with bamboo stakes (so that they could be spotted during maintenance). A group of students from Immaculate

Conception Regional School led by SFEG Educational Outreach also spent a few hours planting at the site. School groups are important to SFEG's mission of salmon habitat restoration as the field trips allow kids to get their hands dirty while learning about their local ecosystem. The rest of the planting was left to WCC. The crew was personally responsible for putting half of the plants in the ground. With a total of 8,800 native trees and shrubs slated for planting, there's more to be done at this site. But in just a couple total weeks of work, SFEG, WCC, and the larger community in Mount Vernon have already transformed the flat lawn into the start of a native riparian forest.

Beyond volunteer groups, SFEG and WCC regularly interact with members of the community at the site. The dike is a popular spot for people to walk, often with their dogs, and the access road provides views of the Skagit River. While prepping and planting, WCC often had the opportunity to chat with people who were out for a stroll. These interactions are important as it allows locals to understand what they're investing in with local and state taxes; after all, WCC and the MVWTP site are publicly funded. Many WCC members have scientific education,

so it's rewarding to be able to share that knowledge with the public. People are often surprised by how effective a relatively slim riparian buffer can be for improving river habitat. WCC members are also an important point of contact for individuals to voice desires for community improvement. As often the most visible part of restoration efforts, WCC can get locals in contact with SFEG and other groups so that more restoration work can begin in the future. In this way WCC can act as a bridge between people and local environmental efforts.

Once planting is done, SFEG shifts into monitoring and maintenance mode. It will be up to the city to mow grass, but SFEG will continue blackberry control. Plant surveys will be carried out by SFEG employees or future WCC crews, and replanting will be scheduled if deemed necessary.

SFEG plans to establish a diverse riparian buffer system which will enhance salmon habitat for years to come. When that vision becomes reality, it will be due to community effort and coordination. And across many other SFEG sites like this one, a similar interplay of planning and action will lead to a better environment for people and salmon alike.





■ Volunteers helping pot plants at SFEG nursery

Biochar

Encouraging Native Plant Growth in the Face of Climate Change

By CASEY HART - Washington Service Corps Riparian Restoration Associate

Spring is in the air and staff and volunteers are working hard to pot 15,765 native trees and shrubs that will live at the SFEG nursery until they are ready to be planted at restoration sites. But there is a difference from previous years of potting. Mixed in with the 60 cubic yards of potting soil, is 6 cubic yards of a fertilizer substitute called biochar. The use of biochar is an upcoming technique that people in the restoration, farming, and academia world are ecstatic for. Modeled after a 2000-year-old practice from the Amazonian Basin that was used by indigenous people to create rich soils called “terra preta”, biochar may be a successful alternative to fertilizer that encourages plant growth while combating climate change.

Biochar is a carbon-based substance made by burning organic material such as woody debris, crop straw, animal manure, food waste, or sewage sludge in the absence of oxygen. The materials are burned at very high temperatures in a controlled process called pyrolysis where extremely minimal oxygen is present and very little fumes are produced. The result is an organic charcoal material that stores carbon from the waste for hundreds to thousands of years.

Not only does biochar trap carbon that would otherwise become carbon dioxide emissions, it has the ability to improve soil quality to stimulate plant growth. With its unique structure, it binds to nutrients such as nitrogen in the soil, retaining them and providing easy access

for plant roots to use the nutrients when needed. Biochar also creates good air flow and long-lasting water retention. Plants need this water access in dry summers that are becoming more extreme with our changing climate. Along with retaining water particles, biochar can trap pollutants that might otherwise runoff into our waterways.

Beyond using biochar to help plants at the nursery, SFEG and partner organizations hope to use biochar at restoration sites during future plantings. SFEG restores land that has been depleted of nutrients from decades of farming and land use. Plant survival can be hindered when the land is stripped of nutrients. Soil amendments including biochar could help combat this struggle.

Although biochar is not a fertilizer itself, its unique properties present a potential alternative or supplement to help limit use of fertilizers. Fertilizers are relied on in the restoration world to grow plants quickly and in superb conditions to meet the needs of large-scale plantings. Yet fertilizers pose drawbacks that cannot be ignored. They take an extreme amount of fossil fuels to produce and are commonly wasted through soil leaching. Plants often cannot use fertilizers completely before they break down in the soil, releasing a greenhouse gas called nitrous oxide. Or, excess fertilizers become runoff that pollutes our waterways. Nitrogen in the runoff causes algae to bloom, which depletes water of oxygen and causes the very salmon we strive to enhance, to instead die.

While the widespread use of biochar in restoration is still developing, its promising characteristics may provide solutions to lowering harmful effects of fertilizers while helping young plants grow strong. Native plants must be resilient to face consequences of climate change and restore overused land. Perhaps, just maybe, biochar will play a key role in the future of restoration.

SOURCES

(2022). Biochar’s Role in Offsetting GHGs, Reclaiming Soils, Filtering & Protecting Water. *Biochar Supreme*. <https://www.biocharsupreme.com/pages/biochar-s-role-in-offsetting-ghgs>

Joseph, S. et al. (2021, June 18). How biochar works, and when it doesn’t: A review of mechanisms controlling soil and plant responses to biochar. *GGB Bioenergy*, 13(1731–1764). DOI: 10.1111/gcbb.12885

Manthiram, K., & Gribkoff, E. (2021, July 15). Fertilizer and Climate Change. *Climate Portal* <https://climate.mit.edu/explainers/fertilizer-and-climate-change#:~:text=Fertilizers%20also%20product%20greenhouse%20gases%20after%20farmers%20apply%20them%20to%20their%20fields.text=Although%20nitrous%20oxide%20accounts%20for,as%20much%20as%20carbon%20dioxide.>

Spears, S. (2018, May 16). What is Biochar? *Regeneration International*. <https://regenerationinternational.org/2018/05/16/what-is-biochar>

GIVE BIG



Interns and AmeriCorps are vital to Skagit Fisheries

These young adults are passionate about learning and making a difference for the future of salmon. More funds are needed to increase the number of opportunities and the diversity of participating individuals. Unpaid internships can only attract those who can afford unpaid positions. With your help, we can create more opportunities for all those interested.

Donate now to support future conservation leaders.

MAY 3-4, 2022



www.skagitfisheries.org/ways-to-give

WAYS TO GIVE

Scan the QR code above to explore options, visit www.skagitfisheries.org/ways-to-give or call the office at 360-336-0172



BECOME A MEMBER

Members make salmon recovery possible. Help ensure successful salmon restoration efforts continue by becoming a member today.



DONATE

Show your commitment to the future stewardship of our local watersheds by making a donation today. Consider a recurring donation!



VOLUNTEER

We recruit and train volunteers to achieve our goal of increased public awareness for salmon habitat restoration. All volunteer projects are based on learning through hands-on activities.



STOCK / IRA GIFTS

Make your gift an investment in the future of Salmon.



LEGACY GIVING

Make a lasting impact on the future of Salmon.



PLAN A FACEBOOK FUNDRAISER

Organize a Facebook Birthday Fundraiser in support of Skagit Fisheries.



DONATE A USED CAR

Vehicle pickup and transportation are free. Fill out the form and we do the rest.



AMAZON SMILE / FREDMEYER

Shop through Amazon Smiles and FredMeyer Community Rewards.



Skagit Fisheries Enhancement Group is a 501(c)(3) nonprofit organization. All contributions are tax deductible to the extent that the law allows. Tax ID#: 94-3165939





SKAGIT FISHERIES ENHANCEMENT GROUP

PO Box 2497
Mount Vernon, WA 98273

NONPROFIT ORG
U.S. POSTAGE
PAID
MT. VERNON, WA
PERMIT #26

RETURN SERVICE REQUESTED

Events and Volunteer Opportunities

Bears and Salmon Presentation

May 12 (Thursday) 6:00-7:30pm

Check out SFEG's Zoom webinar with Oregon State University professor Taal Levi, who specializes in a wide range of studies, including quantitative wildlife ecology and conservation, community ecology, disease ecology, and tropical wildlife ecology. Dr. Levi will be presenting the findings from his study on the relationship between bears and salmon. Check our website for more info and a link.

Salmon Day at the Children's Museum

May 14 (Saturday) 10am-2pm

Join us for fun games and activities for kids of all ages, free outside the Children's Museum of Skagit County. COHO-sted by SFEG and Skagit Conservation District. Meet the coho fry in the museum's aquarium, and join us afterward for a **salmon release at Hansen Creek at Northern State Recreation Area, 3:30pm**

World Fish Migration Day

May 21 (Saturday) 9am-2pm

In honor of World Fish Migration Day, SFEG will host a table at the Mount Vernon Farmer's Market, highlighting our fish passage projects. Stop by for a visit!

Pressentin County Park Ribbon Cutting Ceremony

June 10 (Friday) 1pm

The official opening of the new facilities and habitat restoration at Pressentin County Park, in honor of Orca Action Month!



*Contact us to
volunteer today!*