

We believe that salmon are an essential part of our environment, culture and economy.

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# FISH TALES

THE NEWSLETTER OF THE NOOKSACK SALMON ENHANCEMENT ASSOCIATION

## River Stewards Empower People to Care for Salmon



River Steward, Tori Wood, stops along guided River Walk to teach community members about the five Pacific salmon the reside in the Nooksack River.

**By Annitra Peck  
Program Director**

Imagine yourself walking along a small trail on a warm summer afternoon. You are surrounded by a beautiful hemlock

forest and follow behind a smart, chipper guide in a brightly colored NSEA T-shirt. The guide leads you through the forest that bends and twists along the raging North Fork Nooksack River.

Every few meters, the guide stops to pull another trinket from a backpack: life-size cutouts of every Pacific salmon, a vial containing preserved juvenile salmon, a plant identification book. An hour later, you've explored water chemistry, identified aquatic insects and discovered how to protect salmon while recreating on or around the Nooksack River.

Since 2005, NSEA's Nooksack River Stewards Program has sought new ways to provide salmon-focused education and cultivate environmental stewardship in recreational users of the Nooksack River. This summer being no exception, NSEA rolled out a variety of changes to the program, including improvements to many well-loved events and some new opportunities.

Of course, none of these changes could be made without the support of NSEA's Future Leaders of Whatcom Waters (FLOW) interns.

### Restoration Projects

This summer, eight FLOW interns were hired as River Stewards to host outreach booths, hold events, foster partnerships, remove trash and invasive vegetation, and



Mt. Baker-Snoqualmie National Forest Botanist, Shauna Hee, teaches River Stewards about the phenology project along Horseshoe Bend Trail.

provide other educational opportunities for thousands of recreators of the Nooksack River.

In partnership with Whatcom Land Trust and Rifugio's Italian Country Cuisine, River Stewards hosted their first ever Salmon Restoration Luncheon. Volunteers removed invasive vegetation to promote the growth of native trees and shrubs lining Bell Creek, a tributary of the North Fork Nooksack River. Afterwards, the FLOW interns hosted a salmon presentation at Rifugio's while volunteers were treated to a full-spread Italian lunch.

Through a partnership with Mt. Baker-Snoqualmie National Forest, NSEA hosted a second restoration work party along Horseshoe Bend Trail, which is riddled with invasive Herb Robert. Volunteers removed 350 lbs. of this noxious weed from along this trail that borders essential spawning habitat in the Nooksack River.

The Forest Service also partnered with NSEA to offer a new opportunity for residents and visitors of the Nooksack River to

get involved in the collection of phenology data. Phenology is the study of cyclic and seasonal natural phenomena in relation to climate, plants and animals.

Native plants play an essential role in salmon habitat. By collecting these data with citizens, NSEA was able to engage the public on the impacts climate change has on native plants and salmon. Nearly 20 volunteers helped to collect these data over the course of the summer.

### New Spin on Fishtival

As a final hooray to the River Stewards season, FLOW interns hosted NSEA's annual Fishtival, this time with a twist. After years of hosting Fishtival at Silver Lake as a way to engage youth with games, crafts and music, they decided to take a new approach.

One of the biggest impacts on fish in the Nooksack River is summer fishing. What better way to engage with anglers than to host an event specifically geared

*Please continue on page 8*



During a Saturday River Walk, Savannah McGhee collects benthic macroinvertebrates to demonstrate the water quality of the Nooksack River.



River Steward, Joe Dobell, teaches River Walk attendees about Dissolved Oxygen (DO) and how it impacts salmon in the Nooksack River.

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## FISH TALES

*Fish Tales* is a biannual newsletter of the Nooksack Salmon Enhancement Association (NSEA).

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### WCC Crew:

Chelsea Blank, *Asst. Supervisor*  
Seth Cavin  
Andrew Fallabella  
Devin Soliday  
David Stein  
James van der Voort, *Supervisor*

### Fish Tales Production:

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## From the Director:

# Today, Leaves Are Falling from the Tree That Changed My Life

Back then it was a scrawny twig that I planted carefully in a mowed field along the banks of a small creek that was unhealthy for salmon. During the summer, the water got so warm that the young salmon were dying. We netted them out of the hot pools and moved them downstream to cooler water, saving some fish but not enough.

Slowly my tree grew, along with the other twigs that volunteers like me planted that day. Now my tree, a red alder, is more than 50 feet tall and provides shade to keep water cool in the summer months. Though I probably planted at least 20 trees that day, that one tree will always stand out to me, as it was the first one that I planted with the intention to improve stream habitat.

I worked that day alongside a dozen or so other volunteers. We all had different backgrounds. We were different ages, had different levels of education and different socio-economic status. We had different religious and political beliefs, but we came together that day to plant trees to help salmon. And as we worked together, we shared stories that deepened our appreciation for each other and our connection as community members.

Volunteering together that day to help improve our environment and our

community was fulfilling and it deepened our connections to each other, which builds our shared community. The trees we planted are now a forest – a healthy riparian area – along that little creek. In summer the water is cool, and the young salmon are able to stay in the creek throughout the hottest part of the summer, eating insects and growing, while hiding from predators under logs. These trees are making a difference for salmon in this one creek and they are making a difference in the landscape of our community.

Our population is growing, and climate change models indicate that our summers will likely get hotter and drier. This is not good news for people, for agriculture, or for wildlife, including salmon. The trees we plant each year help keep our streams cool, so that we can all thrive in the face of these changes. And every tree we plant along a local creek helps us ensure that salmon can be a sustainable part of our future.

Do you have a tree like mine? NSEA strives to engage our community in the process of salmon recovery through restoration, education and stewardship. During the fall and the spring, you and other community members are invited to join us and to plant a tree, which, by work-



Rachel Vasak and her son at a tree planting.

ing alongside other community members, multiplies into thousands of trees along local creeks. These trees will make a difference, just like mine has.

As the leaves fall from “my” tree, and deciduous trees all across our landscape, the salmon are returning to spawn. I hope you will join us so that we can work together, to help our community and our salmon. We can all do things to help. We can turn off the lights more and drive less. We can donate to NSEA’s fall fundraising campaign, and we can plant trees at stream steward work parties. I hope you will join us in our mission to ensure sustainable salmon because together we can accomplish far more than we could imagine otherwise.

Visit our website at [www.n-sea.org](http://www.n-sea.org) to see upcoming events, make a donation or volunteer.

– Rachel Vasak  
NSEA Executive Director

## Meet the New Washington Conservation Corps Crew

### By James van der Voort WCC Crew Supervisor

Last October, we welcomed a new Washington Conservation Corps crew to NSEA, and I’m excited to see how this crew tackles our diverse project scope.

In its first month, the crew removed noxious weeds, cut brush around past plantings, prepared and staged new plantings for work parties, notched beaver dams, planted native vegetation and helped with instream restoration on 10 different bodies of water around Whatcom County.

As I welcome the new crewmembers, I find it difficult saying goodbye to the old ones after spending a full year with them, but the tree does not weep for its leaves as they fall. The tree must harden itself for the coming winter and prepare for new growth next season.

Similarly, I am excited for the growth of our new crewmembers, especially my new assistant, Chelsea Blank, who will get a chance to lead restoration projects on her own. After going on a disaster deployment to the U.S. Virgin Islands last year with

the WCC, she came back stronger and more motivated than ever, making her the perfect choice to lead this crew in my absence.

So, without further ado, I invite you to meet NSEA’s new WCC crew:

### Chelsea Blank

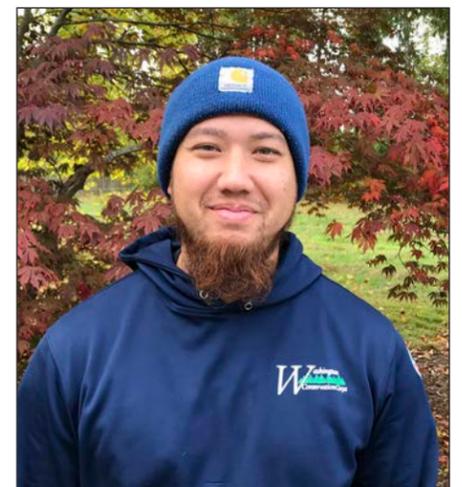
I have lived in Bellingham for about five years and this will be my second term on this WCC crew. I have enjoyed improving the community’s beautiful habitat and natural resources. In my spare time, I love hiking, biking, baking and drawing. I am excited to get better acquainted with NSEA’s projects and dedicated team as the WCC crew assistant this year.

### Seth Cavin

I grew up in Snohomish County and recently moved to Bellingham to serve my second WCC term on this crew. I’m here to help preserve salmon fishing for years to come. I enjoy hunting, fishing and playing basketball in my off time.

### Andrew Falabella

I grew up in Livermore, Calif., before



James van der Voort Washington Conservation Corps Supervisor

moving to Bellingham to earn a degree in environmental science. My professional interests are in wetlands and restoration ecology, including protection of salmon habitat. In my free time, I enjoy partner dances, hiking and yogurt-covered pretzels.

### Devin Soliday

I’m from Woodinville, Wash., and moved to Bellingham to attend Western Washington University. After graduating, I volunteered and worked for NSEA as a seasonal field technician. I enjoyed the organization and work so much that I decided to apply for the WCC crew. In my free time, I enjoy being with friends and family, playing games, reading and cooking.

### David Stein

I am a recent graduate from Fairhaven College with an emphasis in Ethnobotany. My goal is to one day own a medicinal herb farm of my own. I am thrilled to be working for WCC and explore Whatcom County through project work.

Check NSEA’s Facebook and Instagram pages for weekly updates on what our crew is up to. We look forward to seeing you at the work parties!



2018-19 WCC Crew: Drew Fabella, David Stein, Chelsea Blank, Seth Cavin, Devin Soliday

# The Salmon Recovery Conundrum Continues



By Dr. Dave Beatty  
Retired NSEA Board President

In October of 2013, Robert T. Lackey, of the Department of Fisheries and Wildlife at Oregon State University, presented his paper "Saving wild salmon: a 165 year policy conundrum" at the workshop "Science and Scientists in the Contemporary Policy Process," held in Portland Ore.

A conundrum is an intricate – often confusing and complicated, but without a doubt difficult – problem. It can be appropriately applied to the recovery of the populations of Pacific salmon and steelhead and for their continued existence as sustainable runs of wild (natural origin) fish.

It is not a play on words, such as "Salmon else can solve this problem because I'm not" and "What do fish learn on their first day of school? That the end of a fishing hook is the point of no return." Moreover, "Some problems are so complex that you have to be highly intelligent and well informed just to be undecided about them," noted Laurence J. Peter.

## Worldwide Decline

From the Gulf of Alaska to California, the populations of Pacific salmon and of steelhead (I'll use the word salmon for both) in many watersheds have been extirpated, and natural origin fish (produced in the wild) of numerous populations have been in decline for decades when compared to their historical abundances of the late 1800s and early 1900s.

The extinctions and the depressed abundances of remaining populations are not solely an eastern Pacific Ocean phenomenon. It has occurred or is occurring in the western Pacific Ocean, notably Korea and Japan, but farther north along the Asian coast as well.

Elsewhere, natural origin Atlantic salmon have been in decline in Norway

for years; at all time lows in the British Isles; and near extinction, if not extinct, in mainland Europe.

Atlantic salmon populations in eastern North America are also at all-time lows and some populations in the southern part of salmon's European and North American range are extinct.

The offset to the extirpations of Pacific salmon, steelhead and Atlantic salmon populations and their abundance declines has been through ramped-up hatchery production (hatchery origin fish) to provide for harvest.

Moreover, Atlantic salmon aquaculture in Norway, Scotland, Ireland and Iceland has developed to be the major supplier of Atlantic salmon to the market. Primarily based on the technology developed in Norway and Norwegian investment, Atlantic salmon aquaculture expanded to Chile, Washington and British Columbia (the native range of Pacific salmon and steelhead for the latter two areas). The significant social, cultural, economic, biological and ecological issues related to salmon aquaculture on our coast are substantial and ongoing.

## More Than 4 H's

The declining salmon runs have coincided with the demands of an increasing human population, both for food and for space; the attendant changes in land use practices; and with climate change within the native ranges of these species.

We are familiar with the four H's (Habitat, Harvest, Hatcheries and Hydropower), which are associated with the declines in the abundance, productivity, genetic diversity and spatial distribution of salmon. Three additional H's (Humans, History and Hydrology) should be added to the previous four because these three are intimately woven into the other four.

Even though we continue to increase our understanding of salmon biology and ecology and are expected to apply the "best available science" in pursuing salmon recovery, the route to recovery has been problematic and inconsistent and continues to be controversial among stakeholders, including federal, state and local agencies, tribes, private landowners, businesses, elected officials, and commercial and recreational fishers.

We see this throughout any of the first four H's. For example, there is advocacy for harvest to be place based. Place-based harvest occurs as a terminal harvest where the homing instinct of these fish brings most back to the stream of origin where harvest could occur to minimize the taking of a weak stock, as can occur when a commingling of stocks occurs



Photo credit Wikimedia

during harvest away from the terminal area. However, this greatly restricts where harvest can occur, which is an economic disadvantage for harvesters.

Hatcheries mitigate for dams, overharvest of natural origin (wild) fish and the loss of suitable habitat due to land use practices that progressively reduced the required spawning and juvenile rearing reaches in streams.

Hydropower has a long history of controversy whether on the Snake River, the Columbia River or on other salmon-bearing streams (can't include the diversion dam on the Nooksack's Middle Fork, but that is another story of an inappropriate decision affecting migratory fish). Now the state is enmeshed in the four Snake River dams as they may pertain to Southern Resident Orca recovery and the importance of their principal winter food source, Chinook salmon.

Habitat issues go directly to land use practices and the extent to which the natural landscape has been altered primarily by human actions throughout history.

## Key Considerations

1) For at least the last half of the 20th Century and since, scientists, agencies, elected officials and the public have recognized the significant decrease in the runs of natural origin salmon and steelhead. We also know that none of the five species of Pacific salmon (Chinook, coho, chum, pink and sockeye) and steelhead is in danger of extinction. However, many locally adapted populations throughout a species' natural range have been extirpated and hundreds more are at risk.

2) The declines in salmon abundance and productivity have occurred concurrently with the expansion of knowledge of salmon biology and ecology attained by an

increased number of scientists and technologists. Even though most people seem generally in favor of the recovery of salmon populations, politicians and the public are reluctant to make the hard choices required for effective salmon recovery policies and actions. Therefore, we've had difficulty in reaching an overarching regional recovery policy for each species that is agreeable to the wide range of stakeholders.

3) The downward trajectories among the species have continued even though billions of dollars have been expended statewide to reverse this trend.

4) In Washington, Idaho, Oregon and California, there are 28 Distinct Population Segments (DPSs) of salmonids listed as threatened or endangered under the Endangered Species Act (ESA). Evolutionarily Significant Unit (ESU) is commonly used for Pacific salmon instead of DPS. In Washington, there are 18 DPSs (or ESUs) listed as either threatened (16) or endangered (2). Locally, the Puget Sound Chinook ESU, the Puget Sound Steelhead DPS and the Coastal-Puget Sound Bull Trout DPS are listed as threatened. Fifteen of the state's listings occurred in the 1990s and the other three in the first decade of the 21st Century.

5) The ESA has dictated the local development and federal approval of a recovery plan for each of the listed species (each DPS or ESU). The federal authority of the ESA has been the major force in directing recovery efforts. However, with all the research, planning, implementation and enormous expenditures, no species has met the federal Viable Salmonid Population Criteria of Abundance, Productivity, Genetic Diversity and Geographical Distribution for ESA de-listing.

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## High Creek Fish Passage Project



**BEFORE**



**AFTER**

Upper High Creek post project, removal of barrier and regrading of channel allows fish passage for first time in many years.



**BEFORE**



**AFTER**

Lower High Creek post project: no out fall drop allows for increased adult and Juvenile fish passage at low and high flows.

### By Darrell Gray Project Manager

This summer, NSEA worked with the Whatcom Conservation District (WCD), the Natural Resource Conservation Service (NRCS), and Washington Department of Fish and Wildlife (WDFW) to remove four consecutive fish passage barriers on High Creek, a tributary of Kendall Creek in the North Fork Nooksack Watershed.

These barriers had been identified by WDFW during a previous assessment and the WCD was able to secure funding through the NRCS Environmental Quality

Improvement Program to complete the multiple barrier removal project in 2018. WDFW provided the project design and engineering, and NSEA completed the project permitting and implementation.

Because there were substantial artificial drops at three of the sites, it was necessary to regrade approximately 1000 feet of stream channel. This was accomplished by the placement of larger cobble and Logs to create a stream gradient more in line with upstream and downstream reference reaches.

Working with four consecutive land-

owners made the movement of equipment and materials more efficient, reducing construction time to three weeks. We were also able to work around much of the existing vegetation and only removed trees when it was absolutely necessary.

NSEA returned this fall to improve the riparian buffer along the entire project reach. Having large established alder, maple and cottonwood trees already present will provide shade while the new plants get established and greatly increase natural native plant regeneration.

This project provides fish passage

to 3.2 miles of upstream habitat. NSEA, its project partners and the landowners are anxiously awaiting the return of adult salmon this fall. We will be conducting spawner surveys within and above the project reach annually for the next 3 years to document the project's success.

In addition to this project, NSEA worked with the same partners during the summer to remove six more fish passage barriers in the Kam, Deer, Scott and Squalicum Creek watersheds, and looks forward to working in summer 2019 to remove at least four more barriers.

## NSEA Welcomes New Staff Members

In 2018, NSEA received a grant from the Sustainable Whatcom Fund of the Whatcom Community Foundation to support our Riparian Restoration Program in Whatcom County. With this funding, we were able to hire two new crewmembers and increase our riparian restoration efforts. I would like to introduce you to Molly Adshead and Benjamin Smith. They will be joining our Project Coordinator Eli Dewitt to do site preparation, planting, maintenance and monitoring at multiple sites throughout the county. Both are great additions to our NSEA staff and we are excited to have them.

### Molly Adshead

I hail from the great northwest and now reside in Whatcom County. I am eager to

serve the community and enhance salmon habitat. Last year I completed a year with



Molly Adshead

the WA Conservation Corps on the NSEA crew, and I'm excited to continue aiding in



Benjamin Smith

the well-being of our ecosystems as a part of NSEA.

### Benjamin Smith

I am a former NSEA restoration and habitat monitoring intern that joined the staff in July 2018. I am originally from Spokane, Washington and moved to Bellingham in 2014 to go to WWU for the Environmental Science program. My hobbies outside of work include sewing, bicycling, playing percussion, and skateboarding. I am excited for what NSEA does in the community and am looking forward to seeing how our projects mature over the next few years.



## Gearing Up for Second Teacher Training Series



Sehome HS students study robotics and light outside.

**By Annitra Peck  
Program Director**

NSEA hosted a teacher training series last spring to help Whatcom County educators bring some “fresh air” into their classrooms.

This professional development series built the confidence and skills needed to increase teachers’ propensity to incorporate the outdoors into their everyday teaching lessons.

NSEA was so impressed with the results that it is hosting this series again, with more partners and bigger goals, to continue to build a strong community of educators in Whatcom County who are comfortable with and committed to taking

their students outdoors.

The 2018 Washington State Legislature heard Gov. Jay Inslee when he said, “We’re the first generation to feel the impact of climate change and the last generation that can do something about it.” Part of that “something” is \$4,000,00 of the general fund to be spent before June of 2019 by the Educational Service Districts and community-based organizations to train teachers in the 2013 Washington State Science Learning Standards, also known as the Next Generation Science Standards, which include standards around climate science.

Last spring, NSEA collaborated on a proposal with five other community-based organizations (North Cascades Institute,



Geneva 5th graders walk to Euclid Park.

RE Sources for Sustainable Communities, Wild Whatcom, Common Threads and Garden of the Salish Sea Curriculum) to host another four-part teacher training series, and were awarded \$70,000 to do this spring.

Working directly with teachers not only enhances their understanding of the Next Generation Science Standards and climate science, but also gives them a broader view of experiential education opportunities in the community.

For information about this professional development series, contact Program Director Annitra Peck at [apect@n-sea.org](mailto:apect@n-sea.org).

### Proven Success

After the first training series, NSEA heard stories of success from several awesome educators in Whatcom County. Immedi-

ately following the training, two teachers tried out their new skills and brought their students outside for lessons they otherwise would have done in the classroom.

Sarah Neyman from Geneva Elementary walked her fifth-grade class to Euclid Park and had students conduct a sound map, imagining what it would be like if they were colonists and Lake Whatcom was the James River. Students did a writing activity from the colonists’ perspective while they were in the woods, all while it was pouring rain!

Chuck Schelle, a science teacher from Sehome High school, took his students outdoors to conduct an experiment about robotics, detecting light outside with blindfolds on.

## New AmeriCorps Members Bring Passion for Stewardship

Meet Megan Madamba and Zack Pattek, NSEA’s new environmental education coordinators. These two AmeriCorps volunteers work together to implement NSEA’s community outreach and education programs, specifically focusing on the Students for Salmon Program. They provide the building blocks for an improved environment, new partnerships and increased community knowledge of local watersheds.

### Megan Madamba

I love working and learning in the natural environment and received a Bachelor of Science in Environmental Science from Western Washington University. I have worked with kids in childcare, as a substitute paraprofessional and as an assistant preschool teacher, watching them learn

curiously and imaginatively. I hope to inspire younger generations to become better stewards of their environment. In my free time, I love hiking, outrigger canoe paddling, going to the movies with friends and cooking my favorite comfort foods from Hawaii.

### Zack Pattek

I have always worked hard to be a steward of the environment. After growing up in Connecticut, I attended Eckerd College in St. Petersburg, Fla., where I attained a bachelor’s degree in marine science with a minor in coastal management. Since moving to Bellingham in 2017, I have fallen in love with the Pacific Northwest and couldn’t be more excited to work with NSEA on outdoor education and restoration projects.



Megan Madamba - Environmental Education Coordinator.



Zack Pattek - Environmental Education Coordinator.

## Monitoring Tracks Successes of NSEA’s Projects

**By Eli DeWitt  
Project Coordinator**

Monitoring season is upon us. This is the time of year when vegetation monitoring, spawner surveys and habitat assessments really get rolling at NSEA.

Instream season, the time frame when staff is allowed by law to work in creeks, runs from July through September. When this ends, NSEA ramps up its monitoring program, which happens to coincide with salmon spawning runs.

While salmon are returning to the rivers and streams to spawn, staff members perform spawner surveys, where they walk up stream channels to count live salmon, salmon carcasses and redds. They generally perform these surveys at fish passage barrier removal and habitat enhancement sites. This helps to determine if fish can now get past a site that they previously could not and to see if enhanced habitat is being utilized.

Vegetation surveys, pre- and post-project, are also in full swing to support NSEA’s fall planting season work parties. Vegetation mapping is done prior to a project and then yearly

afterward to track the progress of new plantings, along with the status of invasive species at sites. NSEA also performs a random sampling survival survey on its plantings for at least three years.

Habitat assessments are dependent on specific flows and are usually performed in the spring. During a habitat assessment, staff members walk a stream and note habitat features in that reach, such as pool and riffle sizes and depths, substrate size and presence of large woody debris. An assessment is performed before a project for a baseline and after to determine effectiveness.

This year, NSEA was fortunate to add two waterproof tablets to its monitoring program, thanks to past AmeriCorps volunteer Katie Storrs who secured funding for them through a grant source. The tablets should streamline NSEA’s protocol and be more efficient, with less data entry, less paper and less hassle.

NSEA is looking forward to another season of monitoring to see its successes in and along rivers and streams in Whatcom County.

## Landowner's Visit to NSEA Leads to Large Restoration Project

By Darrell Gray  
Project Manager

In 2017, a landowner dropped by NSEA to see if they could buy some trees for their property on Squalicum Creek in the Dewey Valley. This would be the start of the largest riparian restoration project NSEA has attempted in the Squalicum Creek Watershed.

Chad Clark introduced NSEA to his sister Leah Clark, who owned the adjacent property on Squalicum Creek, and gave NSEA the name of their upstream neighbors, Ron and Cindee Roybal. After a couple of site visits, all three landowners were on board with restoring riparian habitat along approximately 3,000 feet of the creek cumulatively.

Historically, the property had been part of a larger farm that had been subdivided a while ago but still consisted largely of pasture for hay production or livestock grazing. The riparian buffer was narrow and mostly made up of mature decaying red alder, Himalayan blackberry and reed canary grass.

In 2017, NSEA applied for and received funding from the Washington Department of Fish and Wildlife's Aquatic Lands Enhancement Program to work with volunteers and the Washington Conservation Corps (WCC) to restore riparian habitat at this and other sites in Whatcom County.

The first step at this site was to remove the Himalayan blackberry, often 8 feet high and 25 feet deep, along both banks of the creek using an excavator. Both Clark properties had old livestock fencing buried in the blackberry that was removed at the same time. The WCC crew installed new



Clark - Roybal Squalicum Creek Riparian Restoration Site

fencing with Chad's help, set back about 40 feet from the creek.

NSEA has since held four volunteer work parties at the site, planting about 1,200 plants along 600 feet of stream. The Clark families allowed NSEA to set up volunteer shelters, displays and other staging materials in their backyards and

regularly attended the plantings.

NSEA plans to hold two Saturday volunteer work parties a year at this site. It has also had help from students and other groups at the site looking for work party opportunities at other times of the year.

NSEA has received funding to commence long-term monitoring at this

site, which it hopes to continue over the next 10 years. NSEA staff is appreciative of the Clarks and Roybal's support and access to their properties to complete this exciting project. Hopefully, you can join NSEA at one of the upcoming work parties and thank them in person for their stewardship.



Raena Anderson, Environmental Stewardship Coordinator, talking about water quality to intern Sean Gilluy and property owner Chad Clark.



Volunteers planting native vegetation this November.



WCC crew installs livestock fencing.

## New AmeriCorps Members Foster Community Support

Meet Raena Anderson and Sarah Brown, NSEA's new environmental stewardship coordinators. These AmeriCorps volunteers work together to plan, organize and implement salmon habitat restoration projects for the community, focusing on NSEA's work parties. They help to recruit, train and report, increasing NSEA's volunteer capacity. Additionally, they are responsible for community outreach and engagement in NSEA's salmon recovery efforts, including advertising and hosting various events.

### Raena Anderson

Originally from Hawaii, I grew up in Arizona and believe protecting and improving freshwater ecosystems is important. I studied environmental science at Western Washington University. I'm passionate about community engagement and restoring local habitats, so I volunteered at

NSEA as a stream restoration intern before becoming a stewardship coordinator. In my free time, I love to go trail running and camping with my husband and two dogs.



Raena Anderson - Environmental Stewardship Coordinator.

Grateful for the amazing people and abundance of outdoor activities in Whatcom County, I'm committed to help build a strong community and resilient environment.

### Sarah Brown

Growing up in Texas, I always knew I wanted to pursue marine biology. While earning my bachelor's degree in marine and freshwater science at the University of Texas, I studied estuarine ecology on the Gulf of Mexico coast. I conducted research on seagrass beds abroad in Mexico and interned at NOAA in Seattle. After spending 22 years in Texas, I decided on a change of scenery and moved to Washington after graduating in 2017. I immediately fell in love with the Pacific Northwest's weather and ecology. After learning about the importance of salmon to this region, I knew I wanted

to work in habitat restoration. When not working, I love to read, hike and practice plant identification.



Sarah Brown - Environmental Stewardship Coordinator.

# Gratitude

*“What lies behind us and what lies before us are tiny matters compared to what lies within us.”*

—RALPH WALDO EMERSON—

## Partner Spotlight: Bellingham Cold Storage



### How did the relationship between NSEA and Bellingham Cold Storage start?

NSEA had office space here at BCS when NSEA was in its infancy. The partnership and support of the seedling that was NSEA back then was organic and logical from the beginning.

### What is Bellingham Cold Storage?

We are a full-service public refrigerated warehousing company. Founded in 1946, BCS is the largest portside cold storage on the West Coast. We help people – the local farmers, fishermen and food processors of the Pacific Northwest in the U.S. and Canada – feed the world by taking care of their frozen, chilled and dry food products until they are sold to distributors and supermarkets everywhere. Cold storage facilities like ours prevent food loss and waste around the world. It's meaningful work that I'm proud to be involved in.

### Why does BCS partner with NSEA?

Partnering with NSEA is the right thing to do for so many reasons. Being a portside cold storage means we get a lot of seafood coming through our facility. Financially, it makes sense to help feed that hand that feeds us. A large portion of what we do supports local fishermen and custom seafood processors as tenants in our facility where we store seafood.

Moreover, as a multi-generational, family-owned company that employs and supports many families in the Pacific Northwest, the people here feel a great love for maintaining the environment for salmon in this magical corner of the world. Rebuilding a robust local fishery simply makes cents and sense for all of us at every level.

NSEA is the boots on the ground, taking real tangible action with measurable results. Also, it's a joy to get our hands into the earth and plant some native trees. NSEA sets the bar for making volunteering fun, easy and accessible for a lot of people who have not volunteered before. BCS has done a great job of nurturing volunteerism within our company culture.



Odin, Cassia and Ian Bakke 2011.

### Ian Bakke, do you have a personal memory of working with NSEA?

Yes, I remember bringing my very young son to NSEA work parties. The first time we brought him, my wife and I took turns carrying him on our backs.

When he was 2, I recall a gorgeous, sunny spring day but still cool and wet with rain from the day before. My son was barely walking, but we gave him a garbage bag and helped him fill it. Then, we dug in the dirt together, planting trees at the BCS-sponsored site on the corner of Squaquicum Parkway and the Guide.

His joy of helping and being involved was quite apparent and contagious. It is something we continue to nurture in our children.

My wife helped, too, and she was eight months pregnant with our daughter. I tell my daughter that she was helping to restore salmon habitat since before she was born.

## Volunteer Spotlight: The Dynamic Watering Duo

New plantings take roughly three years of care before they thrive on their own. Penny McGinty and Donna Halwe dedicate time each week to tend to the thirsty needs of NSEA's young garden.

Planted in 2016, the Native Plant Garden was designed to show off the beauty and diversity of native vegetation that supports healthy habitats for salmon and other wildlife. Native plants are adapted to local environmental conditions, require less time to thrive and need less water, making them ideal for landscaping.

Thank you, Penny and Donna, for taking such good care of NSEA's young garden last summer. Because of you – your dedication, time and effort – the garden looks great and NSEA was able to focus on the business of salmon recovery.

### How did you first hear about NSEA?

**Donna:** As a member of the Birchwood Garden Club, I was introduced to NSEA when it was chosen as a field outing for a monthly meeting. We got to hear about the mission of NSEA and take a tour of this wonderful facility. Sorry for the pun, but I was hooked.

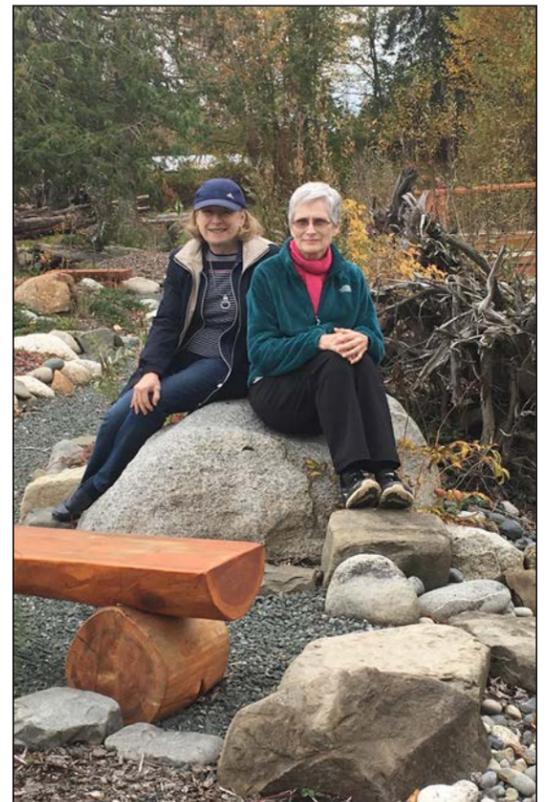
**Penny:** I moved to Whatcom County in 2014 and have joined NSEA and City of Bellingham work parties because I like being outside and taking care of the special places in this area. Plus, I am a member of the Birchwood Garden Club and the Koma Kulshan chapter of the Washington Native Plant Society.

### What motivated you to volunteer with NSEA?

**Penny:** The Koma Kulshan chapter of the Washington Native Plant Society helped to install and maintain the native plant

garden at NSEA's headquarters in 2016, so watering newly installed plants this past hot and dry summer seemed like a natural fit.

**Donna:** NSEA is a truly special place with an important environmental mission. Staff is very accommodating of our individual



Donna Halwe and Penny McGinty in the Native Plant Garden.

schedules and always cheerfully grateful for the assistance of volunteers like us.

### What is your favorite memory of volunteering with NSEA?

**Penny:** I enjoyed hearing eagles call and the breezes in the trees on the mornings I was watering.

**Donna:** I got to expand my knowledge of native plants that support salmon habitat and learn more about my new home.

## Community Partner Spotlight: Whatcom Community Foundation



### What do you want our readers to know about the Whatcom Community Foundation?

The Community Foundation is working toward a vision in which everyone who lives here thrives. That may sound like a vague idea. To us, it means everyone in Whatcom County has a safe, stable place to live. Parents feel as hopeful about their kid's future when they are fifteen as the day they are born. When you pass someone on a rural road or a city the street, you see them as a neighbor. We are putting all our resources – people, ideas and dollars – to work in all kinds of ways to make that vision a reality. You can make a difference toward that vision and we can help.

### In what ways does Whatcom Community Foundation work cooperatively with NSEA?

NSEA is a great partner whether we are imagining possibilities or problem solving. When we need an organization to help put a great idea (that aligns with NSEA's mission) into action, NSEA is our first call. The

NSEA team has made it possible for valuable hands-on and other learning experiences that need a vital, welcoming home to become viable.

### What does NSEA do that the WCF thinks is of particular value/importance in our community?

NSEA invites everyone to be a part of making the place we share better while making education fun. It sets aside all the things we humans do to complicate the world and asks, “Will you join us in making it easier for salmon to do what they to do so that we humans can do what we do?” The NSEA approach gives people of all ages and stripes a tangible way to connect with their neighbors and our place. (It's hard to see stripes when you're covered in dirt!)

NSEA's work in the schools is a great

example of its community value. NSEA understands that lots of organizations want to partner with the schools and they make it easy for them. Similarly, everyone's lives are busy. NSEA makes it easy to attend a work party and make a difference. You make the right thing the easy thing.

### Why does the Whatcom Community Foundation value a connection with NSEA?

We share values: relationships, stewardship and community. It's that fundamental alignment that is the basis for any solid relationship. We all need to start by understanding what we share, starting with our place in the world.

### Is there anything else you want our readers to know about WCF's work?

In addition to sharing NSEA's passion for Whatcom County's incredible natural environment, the Community

Foundation also works in other important arenas that affect you: food & agriculture, housing, health & wellness, arts & culture and education. We work to connect people, ideas and resources so that our communities flourish. We know that whatever you care about, giving here matters.



## River Stewards Empower People to Care for Salmon

Continued from page 1

toward them on their own turf – Nugents Corner in Deming, Wash., a well-known fishing hole.

The community, both seasoned anglers and new, were invited to spend the day learning proper fish-handling techniques with DRYFT, tying flies with the Fourth Corner Fly Fishers, casting with North Sound Trout Unlimited and learning about natural history and water quality with NSEA. Attendees were given a BINGO card and encouraged to collect stamps at each station – folks with a BINGO or total blackout walked away with a memento.

### Thank You!

Imagine, once again, that you're attending one of the weekly walks with the River Stewards. You're enjoying the forest, learn-

ing about salmon and seeing the Nooksack River from a new angle, one that puts salmon and stewardship first. You now have the tools to protect the river, recreate without impact and enjoy the last moments of a perfect summer walk.

Thank you to all who supported, attended and participated in any and all River Stewards events. Check the NSEA website in June for the 2019 calendar of events!

Thank you as well to the community partners and FLOW Interns who made it such a fun and successful summer, as well as the Whatcom Community Foundation and the Rose Foundation for their generous funding of the Nooksack River Stewards Program.



River Steward, Joe Dobell, hosts a fish printing art booth at NSEA's annual Fishtival.



## The Salmon Recovery Conundrum Continues

Continued from page 3

6) Populations of threatened or endangered salmon are distinct in being ESA-listed animals for which harvest is permitted, even though the ESA prescribes a limit on a taking.

7) Hatchery programs (federal, state and tribal) have been ramped up to supplement runs for harvest; however, hatchery programs may weaken runs of wild fish.

8) Federal and state agencies have the mandate to protect and restore runs of natural origin salmon while promoting and providing fish for harvest, yet the increase in hatchery origin fish can be counterproductive.

9) The state has tribal cultural and treaty obligations.

10) Salmon are keystone species in an ecosystem (species on which other species depend), as well as being an indicator species in fresh water (their requirement for high water quality and sufficient water quantity [i.e., a measure of the health of the ecosystem]).

### Tough Questions

If the downward trajectories of wild populations are to be reversed, a broad set of interrelated public policies, questions and lessons learned must be considered.

1) How shall land use be regulated as to where people can reside? How much living space is acceptable? How shall the land be used, and what is the extent of personal choice regarding property rights for private lands? Who decides these policies?

2) How do we create and maintain a wide range of economic opportunities today and in the future without adversely affecting wild salmon recovery? Does the growth in international trade have implications related to salmon recovery?

3) How do we determine the appropriate uses of water in relation to the requirements of salmon throughout the freshwater stages of their life cycles? As population increases in critical areas, there will be greater competition for natural resources, especially water.

4) To what extent is society willing to adjust its use of hydroelectric energy such that the operation of dams, or their removal, will facilitate juvenile and adult wild salmon survival during migration?

5) Is society willing to increase hatchery production and its costs as a substitute for wild salmon production, recognizing this may be at odds with the ESA?

6) In the face of the political reality, the large expenditures to date and the uncertainty of meeting the Viable Salmonid Criteria for recovery, will society continue to support the costs and the actions necessary for restoring or enhancing habitat that is required to have sustainable runs of wild salmon?

7) Should the ESA be modified such that the planning and expenditures for recovery occur in those watersheds with the greatest chance for success?

8) With a warming climate and its ecological reality, are recovery goals biologically and ecologically realistic?

9) Should the federal Marine Mammal Protection Act be evaluated in light of the growth of pinniped populations and their possible role in affecting salmon recovery?

10) We must listen to the advice of fisheries scientists, managers and analysts, who, too often, are placed in the position of accepting a compromise when informing the public, senior bureaucrats and elected officials. However, being overly optimistic or pessimistic is to be avoided by everyone involved in recovery.

11) If salmon recovery is to occur, to what extent is society willing to adjust its lifestyle to the biological, cultural, economic, ecological and demographic realities going forward.

*This article does not necessarily include any opinions of the Nooksack Salmon Enhancement Association but are those of the author, who used the Robert T. Lackey paper as the principal reference. The paper can be viewed at: <http://blogs.oregonstate.edu/lackey/files/2017/07/Saving-Wild-Salmon-A-165-Year-Policy-Conundrum.pdf>.*



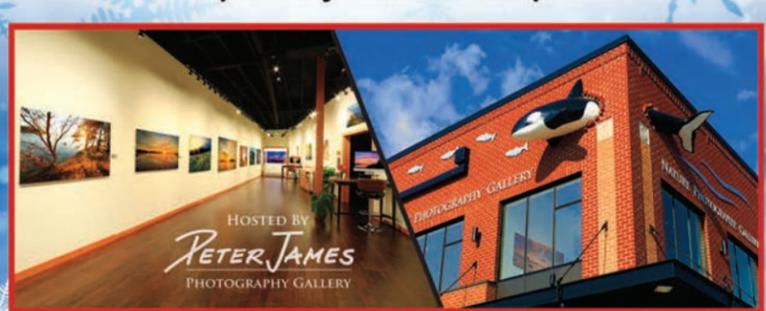
### FAIRHAVEN WINTERFEST BALL

A BENEFIT FOR SALMON AND ORCAS

SATURDAY, DECEMBER 8<sup>TH</sup> 7-11PM

Celebrate the holiday season and nature's beauty with an evening full of holiday dancing, catered drinks & delights, and more. Dress your best to dance the night away at Fairhaven's newest landmark, the Orca Building. Tickets are \$100 and all profits go to the Nooksack Salmon Enhancement Association, to help provide the local Orca Whales the gift of more salmon.

**EVENT LOCATION:**  
**Peter James Photography Gallery**  
 In Fairhaven's Orca Building at 1211 Mill Ave  
 Open Daily 11:30am - 7:00pm



**PURCHASE TICKETS ONLINE:**  
[www.PeterJamesPhotoGallery.com/winterfestball](http://www.PeterJamesPhotoGallery.com/winterfestball)

You can also buy a "Virtual Ticket" on the website to make a donation directly to NSEA.

### NSEA Mission Statement

Nooksack Salmon Enhancement Association strives to recover salmon by engaging our community in restoration, education and stewardship.

NSEA is an independent nonprofit organization (501c3) and is one of fourteen Regional Fisheries Enhancement Groups (RFEs) in Washington State. Base funding for the RFE program comes from a grant from the U.S. Fish & Wildlife Service's *Partners for Fish and Wildlife Program*, a portion of state commercial and recreational fishing license fees, and excess egg and carcass sales administered by the Washington Department of Fish & Wildlife.

