



# Floodplains by Design

• REDUCING RISK, RESTORING RIVERS •

# Newsletter

September 2023



Lower Canyon Creek Project. Photo Credit: John Thompson

## By the Numbers: Lower Canyon Creek Integrated Fish & Flood Project

Canyon Creek, a North Fork Nooksack River tributary, suffered major debris floods in 1989 and 1990, damaging homes, a resort, a road, and salmon habitat near Glacier Springs. To address this, Whatcom County constructed a 3,000-foot levee in 1994 to protect the area, but the 1995 flood damaged it. This damage revealed the levee constrained the creek's flow, causing scouring and habitat disruption for threatened salmon species.

To manage floods and restore vital salmon habitats, the 15-year Lower Canyon Creek Fish and Flood Project was initiated. Analysis in 2003 improved risk understanding, leading to the acquisition of high-risk properties for habitat-enhancing purposes. This involved acquiring 29 parcels, over 80 acres, from willing landowners along Glacier Springs' eastern side. The project also included constructing a new flood protection structure farther from the stream, following thorough alternatives analysis and design across three phases.

**1,800**

linear feet  
of damaged  
levee  
removed

**1,800**

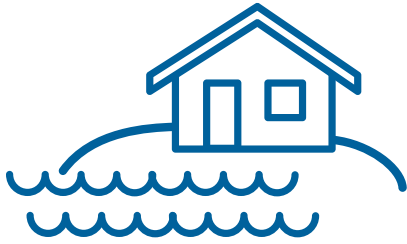
foot-long  
new setback  
structure  
constructed

**1,180**

cubic yards  
of bark  
mulch as soil  
amendment

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**10.6 acres**

planted

**7,110**

trees and shrubs planted

**23**

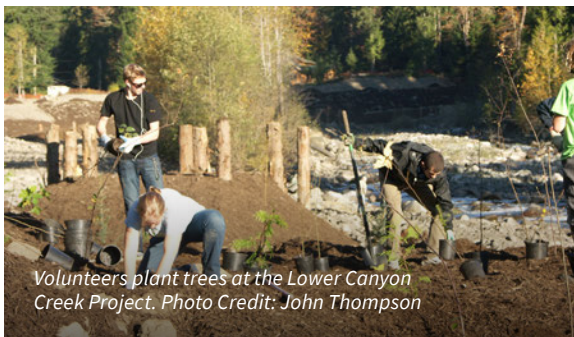
engineered log jams

**~12 acres**

acres floodplain reconnected

**12 acres**

of straw mulch



**PAULA HARRIS,**  
River and Flood Manager

“I remember going out to check on flood projects with my husband, Ken, during the first big flood one Thanksgiving after we finished the Canyon Creek project. Ken, who had about 90% hearing loss, asked me, ‘What’s that noise?’ as we stood at the edge of the creek with 3’ standing waves feet away. I told him, “That is the sound of boulders bouncing downstream!” Minutes later, we saw a large salmon holding in a calm pool in one of the log jams we had created, safe from the high water and rolling boulders. Not a bad way to spend Thanksgiving.”





**GARY GOODALL**  
River and Flood  
Engineer, who was the  
construction manager  
for the 2013 and 2014  
fish/flood “big” project

“We were finishing the last of the instream work at the tail end of the 2013 in-water work window; this was right at the very beginning of the pink salmon run. I remember seeing the first pinks moving in to spawn on freshly exposed gravel only minutes after the machine pulled the last of the old levee toe rock out.”



*Volunteers spread straw as a part of Make a Difference Day. Photo Credit: John Thompson*



**Make a Difference Day 2013:**

**1,250**

trees and shrubs planted

**3 acres**

straw mulched

**in 3 hours**

**by ~125  
volunteers**

**34**

jobs provided

**1**

full-color project outreach  
kiosk installed



## Ten-Year Reflections on the Lower Canyon Creek Integrated Fish & Flood Project

A CONVERSATION BETWEEN JOHN THOMPSON AND HANNAH BUEHLER

*John is the Senior Salmon Recovery Planner for Whatcom County Public Works — Natural Resources Division. He works at the confluence of local planning and projects that integrate the needs of salmon, flood risk reduction, and agriculture while respecting broader community values. His technical background in geomorphology is complemented by experience in public policy and treaty rights gained working for Lummi Nation and Whatcom County. He currently represents WRIA 1 on the Puget Sound Salmon Recovery Council and is a licensed engineering geologist in the State of Washington.*

**HANNAH BUEHLER:** Can you introduce yourself and give a brief description of your background and current role?

**JOHN THOMPSON:** I'm a geomorphologist working for Whatcom County Public Works in the natural resource division. My background is in geomorphology and hillslope processes, specifically looking at landslides, how rivers work, and how sediment moves through a river. I've been working in northwest Washington since 1985, first as a graduate student, then working for Lummi Nation's natural resource division for almost 12 years in resource protection. I've been at Whatcom

County since the fall of '99 doing salmon recovery planning and projects.

**HB:** Could you provide some background information on the Lower Canyon Creek Integrated Fish & Flood Project, including why the project was needed and the different phases that went into making the project happen?

**JT:** With Canyon Creek, there are kind of two stories. One is the fish piece and the historic early Chinook use, and the other is the flood piece. Lummi Nation, The Nooksack Tribe, and federal and state agencies, including the U.S. Forest Service and Department of Fish and Wildlife (DFW), recognized how important Canyon Creek was for the North Fork population of spring Chinook dating back to the 1970s and 80s. Canyon Creek was important because it provided a good chunk of the available quality habitat for Chinook in the North Fork Nooksack. It provided a large stream with the right size gravel and cool waters in the summertime.

The flood piece came in when we had back-to-back flooding with one flood in November 1989 and two in



Lower Canyon Creek Project Photo.  
Credit: John Thompson

November 1990. Those three floods damaged multiple homes in the Glacier Springs subdivision, which is a rural recreational subdivision along Canyon Creek in the North Fork of the Nooksack. There was also a small resort that had a half dozen cabins and a swimming pool that incurred damage, mostly when the swimming pool filled with gravel when the creek overflowed its banks. In the 1990 event, Canyon Creek eroded several hundred feet laterally towards the subdivision and ate half of a county road, coming really close to overtopping a high terrace and flowing towards the Mount Baker Highway where catastrophic damage could have occurred.

When we had the November '90 floods, the '89 floods had already brought down huge amounts of sediment from two big landslides that sit about three miles upstream. A landslide's toe can fail during these events, creating a dam in the creek. Those dams will back water up and then release, sending a dam-break flood downstream that can scour the channel to bedrock. So in '89, the alluvial fan was filled part way with all that sediment causing the channel to shift and erode its west bank. The former Soil Conservation Service (SCS) armored the west bank during the summer of 1990 in an attempt to prevent further erosion. Unfortunately, the 1990 floods brought down even more material, caused even more damage, and pretty much wiped out the SCS project.

At that point, the community was really concerned about losing more homes, increased road damage, and the possibility of losing the Mt. Baker Highway, which is the only road access to the community of Glacier and to the Mt. Baker Ski Area. Over the course of the next three

to four years, the county designed and then built a big levee project in 1994 to protect both Glacier Springs and the highway.

We later learned that, since the '94 levee was designed to keep the creek as far away from the subdivision as it could, it really confined the channel to the east side of the alluvial fan. That was great for keeping it away from the subdivision, but it also concentrated the stream's energy. The stream proceeded to downcut and expose the toe armor rock on the levee, and many enormous rocks were being exposed and moved by the stream. So, we knew that the levee was going to be in need of major repair.

What we also found was that a section of exposed bedrock had been drilled and blasted to sort of "lock" the stream against the east bank and away from the subdivision. That initially was fine for fish passage but, over time, the fractured rock eroded, and a series of bedrock cascades developed and became a partial barrier to salmon. We explored options to repair the existing levee in place, but it was going to be really hard to do from a construction standpoint and provide any engineering certainty that a repair would hold up. Permitting would have been harder too, as the ESA listing for Chinook had occurred by the time we were seriously considering repairs.

This kicked off the assessment and design work for a project that would replace the '94 levee with a setback structure and log jams, which would be more effective at reducing flood risk while providing positive benefits to salmon habitat and fish passage. We began with a



Construction at the Lower Canyon Creek Project.  
Photo Credit: John Thompson



detailed alluvial fan risk assessment done by Kerr Wood Leidel in 2003 to understand the risks created by the big alluvial fan events. This was followed by geomorphic assessment, hydraulic, and engineering work by Herrera Environmental Consultants to define potential project alternatives. We settled on a plan to remove all but the upstream 140 feet or so of the 2800 feet that remained of the '94 levee and then set the new structure back, anywhere from 150 to 300 feet farther west from the creek, basically to where the river had eroded during the 1990 events. This would let us restore what had been the historic floodplain area, plus a bit more in certain places, to give the creek a place to spread out during floods. This would also spread the hydraulics out and help retain more spawnable-sized gravel for salmon since the channel confinement had resulted in high velocities and very large boulders armoring the channel. Finally, the setback would allow us to reestablish a functional riparian zone. Once we had designs, we had to figure out how to fund it because it was going to be a big project.

We partnered with the Whatcom Land Trust to buy what had been the small resort with Salmon Recovery Funding Board money, and we also used FEMA money that came out of the Nisqually earthquake disaster declaration, which was kind of an interesting connection of hazards.

The County bought the buildings and helped the owners move many of the buildings to other sites that were in a safer location. Whatcom Land Trust bought the property, and then they worked on buying the developed and undeveloped lots along the eastern edge of the subdivision closest to the stream. Between the county and Whatcom Land Trust, we were able to purchase the

vast majority of lots. Our strategy was: if there's not a cabin there to begin with, then you're not trying to get people out during a flood, you're not having a house damaged, and you're avoiding future risk.

We were able to obtain construction funding, and construction happened in three phases. In 2009, we pulled out the first 500 feet of the downstream end of the old levee. We opened up the constriction at that bedrock cascade, making it more easily passable for Chinook to reach spawning habitat. In 2013, we contracted with Trimax, out of the Skagit County area, to do the major work where they removed the remaining 1,800 feet of the old levee and set it back along the old bank. It's a massive flood structure that is better able to handle slugs of sediment from the landslides and channel lowering as the creek processes that sediment. They installed 12 or 13 logjams of the total of 23 we had planned to provide fish habitat and roughen the floodplain to maintain stable forested islands. In the summer of 2014, we finished the project, working with Jansen Incorporated, and they installed the remainder of the log jams and did final site stabilization.

**HB:** You mentioned some of the kinds of diverse and slightly unusual funding streams that went into funding the project. Can you speak a little to what it was like accessing those different funding streams and then managing diverse funding streams for the project?

**JT:** We felt like we had put together a really integrated project, so we went after every type of funding we could find. At a staffing level, we were able to manage it all by dividing up the grant management and contractor management responsibilities. One of the things that worked in our favor was that we had the luxury of having staff that were around long enough to kind of see the project through. Frankly, that allowed us to hang onto the project long enough that some additional funding showed up at opportune times. We received NOAA funds, routed through DFW, that were targeting fish passage, which tied back to us thinking to put this project and the fish passage problem into our 2005 salmon recovery plan. So, like six years after the recovery plan was done, this opportunity popped up. A bit of serendipity happened, too, when we were close to having enough funding through other sources, but weren't quite there. Floodplains by Design stepped in and pushed us over the top.

**HB:** Was there anything you found particularly surprising throughout the project lifespan or anything that came up that was a big challenge to getting the project completed?

**JT:** I think about the project lifespan; from start to finish it took 15 years, and more than that if you include the maintenance work managing riparian plantings and noxious weeds that we're still doing up there. What was

really important is that we had a core team pretty much able to see the project through from start to finish. Maintaining that institutional knowledge, so there were folks available when a new person came on and they wouldn't have to dig through files or try to pick people's brains to figure out what's happening, allowed us to just keep things moving. That happened both here at the county and with some of our partner entities.

**HB:** I'm curious to hear about how the project performed during the 2021 floods. Were there any notable impacts of the project that mitigated potential devastating outcomes during the flood event?

**JT:** This is a little bit cliché, but it took a licking and kept on ticking during the November floods. During the flood, the creek sounded almost like a bowling alley, with two- to three-foot boulders rolling down the channel when we were out there the Sunday before things really kicked off. We had sustained rain and high water for about four days, so that was mobilizing a lot of sediment and breaking up that boulder armor layer and putting it into motion. We were also getting landslides upstream. One of the neighbors was telling me that you have to go to sleep with one ear open when you live next to that creek. He said in the middle of the night it got really quiet, so he went out to check on things and then suddenly it got noisy again. What probably happened is that one or more landslide dams formed and then failed. These surges helped push water up onto a new floodplain that had been constructed but hadn't yet been occupied. It was actually about six feet above the channel before the event. The water was deep enough to roll three-foot boulders across the floodplain. There was some erosion of the toe of the terrace of alluvium that we built on the streamside of the setback structure, but the erosion didn't get back into the rock. The terrace acted like a shock absorber to absorb some of the stream's energy.

We lost some plantings, but some of that area we hadn't planted as densely with conifers because we knew they could get wiped out when the stream moved in.

By and large, I'd say it did extremely well. We had some channel movement; the river reoccupied some old channels, and the energy got spread out. We had room to absorb that slug of sediment from those upstream landslides. I'm pretty convinced that, if we'd left that old levee in, it would have failed with significant impacts to lives, homes, county roads, and the state highway.

**HB:** You said construction on the project ended in 2014. What are your reflections on the project nearly a decade after project completion?

**JT:** I think the continued community outreach is really important. The site gets a lot of public use, so we set up an informational kiosk that has the death and destruction information about living on an alluvial fan, the salmon information, and the project history so we can help residents and visitors maintain those connections. It's really important to maintain an understanding of the lively landscape we live in and the relationships with both your project partners and the community.

The second takeaway is we have to learn from these things as we build them. Getting out there just a week or so after the November 2021 floods was really important so we could see how these projects performed. If something failed, why did it fail? Was it because of poor design? Or did you just have a really big event? And in this case, we had a bloody big event and things still performed really well. I'd say in this case, it wasn't luck, it was good design. I think the self analysis and criticism of what we did and what we would do differently the next time is so important.



Lower Canyon Creek. Photo Credit: John Thompson

## Summer Site Tour Photo Gallery

Summertime is our favorite time to get out into the field and see the incredible projects local partners are leading across the state and their impact on communities. Following a busy summer of site tours and connecting with Floodplains by Design partners, we wanted to share a virtual photo gallery to highlight some of these great efforts.



*Joel Freudenthal of Yakima County (left) led a wonderful tour of the recently completed Nelson Dam Removal Project. Pictured here from left to right are Nicole Czarnomski from DFW, Kas Guillozet from BEF, Bobbak Talebi from Ecology, and Kathleen Berger from Pierce County SWM.*







Matthew Baerwalde of the Snoqualmie Tribe discusses the importance of restoring the upper watershed to also benefit flood, fish, and farm concerns downstream as part of the Snoqualmie Watershed Tour. Representatives Bill Ramos and Keith Goehner were part of 40+ people on the tour.



(Top) Representative Peter Abbarno joined the Lower Columbia Estuary Partnership for a hands on and immersive site tour of the Lower East Fork Lewis River project that Rep. Abbarno fought hard for funding for this last session. (Right) Rep. Abbarno is seen here helping with a lamprey survey.

Photo Credit: Lower Columbia Estuary Partnership



(Left) The Nooksack Watershed partners hosted Senator Cantwell's NW Washington Outreach Director, Cameron Caldwell, seen here discussing some issues on federal funding and permitting constraints with Ned Currence from the Nooksack Tribe and Paula Harris from Whatcom County. (Top) The group photo here is at Nooksack Tribe's Homesteader Project, which unfortunately has been delayed until 2024 due to permitting delays.

Photo Credit: Skippy Shaw, The Nature Conservancy



## An Interview with Amanda Richardson

*Amanda Richardson started on June 20 as the Department of Ecology's new Senior Floodplain Management Planner. Her work will largely focus on coordinating Ecology's work on the National Flood Insurance Program. Amanda has worked on watershed health and regulatory stormwater and floodplain issues for 14 years at the state and local government levels, as well as with nonprofit organizations.*

*For the past five years, she worked in Ecology's Water Quality Program, partnering with communities and stakeholders in eastern Washington to address critical water quality issues. Prior to that, she worked for two local governments in northern and central Arizona. She is originally from southern Idaho, has lived and worked all over the western U.S., and spent time overseas as a Peace Corps Volunteer in Nepal and as an English teacher in Thailand. She currently resides in Spokane.*

**AMELIA PETERSEN:** Would you please give a brief overview of your past work on watershed health, stormwater, and floodplain issues?

**AMANDA RICHARDSON:** After graduate school, I started my career working for a nonprofit organization in central Arizona where I led a watershed planning project, which involved assisting a multi-agency stakeholder group in identifying and prioritizing projects and citizen science volunteers to collect water quality and physical data

about local streams and riparian areas. I started learning about stormwater and developed a passion for green infrastructure and low impact development to manage stormwater, improve water quality, mitigate flooding, and beautify urban areas. After completing the planning project, I stepped into the role of Environmental Coordinator for the City of Prescott. I developed the City's stormwater program and advised leadership on the state's water cleanup plans for local creeks and lakes and how those would affect water quality permits.

A few years later, I moved to Flagstaff to begin working for the city as a stormwater project manager. I ensured development and redevelopment projects met low impact development and floodplain requirements. Flagstaff is a complicated setting with most of downtown in the special flood hazard area, historic buildings, and a growing population, so the work was interesting and challenging. I also worked with local groups and City departments on watershed health, water conservation, low impact development, and drainage and flood mitigation projects. In 2018, I moved to Spokane to work for Ecology's Water Quality program



in the eastern region office. I worked with stakeholders and communities across eastern Washington to plan and implement projects to improve surface water quality and prevent nonpoint source pollution.

**AP:** What are you most excited about in your new role at Ecology?

**AR:** I am excited to be in a role that builds on my prior work to protect and restore our state's waters to include floodplains. I'm interested in the suite of regulatory and policy tools we have available, and how we apply those tools, to protect and restore the critical ecosystem functions of floodplains while reducing flood risk. I believe Washington is a leader in this realm and can help inform how federal programs evolve and respond to the changing needs of communities (i.e., ESA-listed species, climate change, etc.).

**AP:** What else do you want the FbD community to know about you?

**AR:** As a Peace Corps Volunteer in Nepal, trying to develop conservation programs in rural, subsistence-based agricultural communities changed the way I thought about communities and the environment. It inspired me to go to graduate school to study conservation through the economic and social lenses. I studied ecological economics and innovative mechanisms to fund conservation through payments for ecosystem services.

**AP:** What are your interests outside of work?

**AR:** I live in Spokane with my husband and dog. We own a cool, old house that was built in 1900. I converted a weedy patch in my backyard to a large garden a few years back. Last year we learned some interesting history about our home — the original owner's father served under George Washington during the Revolutionary War (in case you are questioning the math, she was born when he was in his 70s). I love being outside, both relaxing and recreating on land and water. I enjoy cooking, especially in the summer when I have herbs and produce from my garden, CSA, and local farmers' market. I'm a lover of dogs and supporter of animal rescues. After losing both of my dogs last year at ages 13 and 14, we fostered and adopted a puppy in February, so now I guess I need to add "dog training" to my list of interests! I also like to read, see live music, knit, and other crafty pursuits.



# Department of Ecology Funds All FCAAP 2023-25 Competitive Planning Grant Projects

The Department of Ecology (Ecology) has funded all five applications for 2023-25 Competitive Planning Grant projects under the Flood Control Assistance Account Program (FCAAP).

Ecology designs these grants to help communities develop comprehensive flood hazard management plans (CFHMPs) that will reduce the risk of flooding and protect lives and property.

Established in 1984, the FCAAP is a state-funded program that provides grants to local governments, Tribes, and other organizations to help them develop CFHMPs. These plans identify flood hazards, assess risks, and develop strategies to reduce those risks. CFHMPs are essential tools for communities that want and need to prepare for flooding events.

**“Preparing for and avoiding flood damages is so important because storms are increasing in strength and frequency while sea levels are rising due to climate change. Responding to a flood emergency often costs four to seven times more than investing in preventative measures, which saves \$7 for every \$1 spent.”**

– Amelia Petersen, Ecology Floodplain Planner

Some of the advantages of developing a CFHMP include:

- Reduces the risk of flooding and protects lives and property.
- Helps communities understand, prepare for, and respond to flooding events.
- Improves public safety and resilience.
- Creates jobs and economic opportunities.

The FCAAP planning grants application includes areas focusing on the benefits of funding to overburdened or underserved communities.

Ecology asked applicants to describe project benefits to overburdened or underserved communities in flood risk areas and provide a narrative and supporting documentation on how underserved or overburdened communities in the floodplain area are currently supported, among several other related questions.

For over 10 years, Ecology didn't have sufficient FCAAP funding to help local partners develop flood hazard management plans. This lack of funds disproportionately affected economically distressed rural communities.

Research shows that Latino and Tribal communities are more exposed to flooding. Research estimates that while Latino residents make up 8% of Washington's total population, they comprise 16% of those living in flood zones.

Tribal governments employ more than 37,000 people and generate \$5.7 billion to Washington's economy. They represent Tribes occupying flood-risk areas that would directly benefit from flood planning. Updated flood plans sustaining and enhancing salmon habitat also help address Tribal treaty rights.

## The 2025-27 FbD Funding Round Opens Soon!

We are excited to announce that the 2025-27 FbD funding round will be opening soon. Our team is currently in the final stages of editing the Funding Guidelines and application.

The pre-application period is scheduled to begin on November 1, and both the pre-application and updated Funding Guidelines will be made available on Ecology's website.

In order to provide assistance and guidance to applicants, we will be hosting applicant webinars in early November. To register for these webinars, please click on the links provided below:

- [New applicants](#): Tuesday, November 7 from 10:00 to 11:30 a.m.
- [Returning applicants](#): Wednesday, November 8 from 1:00 to 2:30 p.m.

### We have also outlined some key dates for the 2025-27 funding round:

November 1st, 2023: RFP released & pre-application opens

January 12, 2024: Pre-application period closes

February 12-16, 2024: Applicants will present to the Evaluation Team

May 1, 2024: EAGL grant application period closes

August 2024: Final ranked project list disseminated

May-June 2025: FbD Grant Program Coordinator sends applicants a funding decision notice

## Engaging Underserved and Vulnerable Populations in Post-Fire Community Care

*In September 2020, Oregon’s central Cascade region experienced the most destructive wildfires on record for the state. Within the heart of the Holiday Farm Fire lay the rural town of Blue River, which all but burned to the ground. Many people lost their homes, and many without homes fled to Eugene for respite. Eugene and Springfield, engulfed in thick wildfire smoke, were barely safer for unhoused residents without many options for indoor spaces to escape to. In response, several Eugene community organizations banded together to address the dire need for respite: Black Thistle Street Aid (BTSA), McKenzie River Trust, and CORE.*

*While the FbD newsletter is primarily flood focused, lessons learned from other communities surviving and supporting each other through emergency events provides a valuable parallel to flood-related work in Washington State.*

**JULIA JAQUERY:** Can you give an overview of what your program does and how you responded specifically to a fire-related emergency?

**MACKENZIE NÍ FLAINN:** Black Thistle Street Aid is a medical collective that does direct humanitarian aid outreach and medical outreach, primarily to unhoused individuals in the Eugene and Springfield area. We started that work in 2020, prior to the fires.

We employ multiple tactics for our work. We have phones that people can call if they need help in a non-emergency fashion or to refer other people within

their own community or encampment for medical care. We also accept referrals from other community organizations.

We do once-weekly, walk-about style street medicine outreach. We carry survival supplies and hygiene supplies, and we always roll with at least one medical provider of some licensure status, preferably also a prescriber status. Herbalist harm reductionists and community health workers, basically people who know the system and how it works, can make referrals and help people who are falling through the gaps. We have a once-monthly Street Clinic in a central location where people can find us if they need to.

**JJ:** What was important about what happened in the 2020 Holiday Farm Fire was we had already been doing that work. We already had community connections, and we were already integrated. In responding to that wildfire, we simply shifted tactics slightly.

**MNF:** We started doing outreach to look for the people who are what we call “medically fragile,” as in, people who are already on the edge of not being able to survive. There are people with really severe chronic health conditions everywhere on the street — like missing limbs, really bad open wounds, people with severe respiratory distress, people with cancer, et cetera. If I had to pick the most frequent identity intersection that I see on the street, it’s actually being alter-abled or disabled in some capacity. Having a mental illness or a medical emergency that results in permanent disability is often what starts people on the road to losing housing.

We started going out and targeting folks who we knew of, and those who were referred to us, as being too vulnerable to take the preparations necessary to deal with really severe wildfire smoke, and we started putting them in hotels. There was no evacuation plan. Initially, there was no clean air shelter. When it did come, it was only open from nine to five. That sort of tactic doesn’t really work for people whose entire existence is in a camp by the river; they can’t pick up and check in and out on a nine-to-five schedule.

**JJ:** That’s a really important point to make about pre-existing connections — we can’t wait until these emergencies happen to expect to reach hard-to-reach communities. It takes continuous investment, year-



Photo Credit: Black Thistle Street Aid



Photo Credit: Black Thistle Street Aid

round support, and relationship building to understand the scope of the challenges they face and how to address them.

**MNF:** You can look at it through the lens of disaster preparedness if you want, or **you can look at it through the lens of promoting autonomy within underserved communities — if you are serving them year-round then they're going to be able to respond better themselves.**

If you are listening to what they're asking for just to survive regular society, under the white heteropatriarchal collapse that we're in, then they're going to be more prepared to serve themselves in a disaster.

**JJ:** Did you work with other organizations closer to the epicenter of the Holiday Farm Fire? Did you end up going out towards Blue River and other communities on Highway 126?

**MNF:** No, we never went to Blue River ourselves. We didn't need to — the survivors flooded into Eugene. We had whole communities shift into RV encampments around the area, and not all of those were safe spaces that were provided — some of those people just happened to have an RV and fled, and landed on the street in Eugene.

There were a lot of people from rural communities that were in nebulous housing situations. They lived on someone else's land, and if those people didn't have a deed or a piece of mail or if they were in some alternative living situation like trading help on a farm, they couldn't get any aid from the Red Cross, which required proof of address.

Our team is very small. There's a core of six individuals, and at the time we were responding then, we had maybe 10 really active members going out multiple times a week. We were connected with the county, but at that time, almost all the county's funding had been diverted to COVID relief. We were able to step in and provide a more dynamic medical response for people who experienced things like injuries or burns because the county was limited to only being able to provide COVID-related care. Funding from government institutions tends to be tied up in a more concrete structure that they provide, and it limits everyone in the system. It's such a barrier.

Luckily, we had some good friends at the McKenzie River Trust, and they stepped in to manage the massive donations the community provided. People showed up and said, "Here's seven unmatched socks and three blankets; I just really need to help." There really has to be someone managing the mutual aid. With the Trust's help, we were able to just show up at the donation hub and say, we need this and that, and they would have it ready to go.

Because McKenzie River Trust is a land project, they were also really integrated into the recovery project long term and were able to give us a heads-up when they encountered survivors, so then we could go and see if anybody needed help. Those were all informal, already-established community connections. The people who helped us and showed up were people we already had deep relationships with. It became much harder to make sense of the other structures — everything else became so opaque that we weren't able to make new connections. Even with the disaster preparedness coalition of organizations, we were only able to get as deep as big donations of water.

We also worked with an organization called CORE: Community Outreach through Radical Empowerment, which took over feeding people. They are a youth-specific organization that serves folks between the ages of roughly 12 and 30 — young people who are on the street or managing addiction. Youth, especially street youth, are hard to build trust with and hard to keep a hold of. We really needed help, especially trying to navigate services for young folks that are unhoused.

They were also strong leaders for us around how to move a harm reduction model into individualized shelter care. That's different from helping people manage their own care — picking someone up and putting them in an isolated situation like a hotel room could be a dangerous shift to make. But, at that point, it was either the smoke or a hotel room, so they helped model how to shift our support tactics to still keep people safe around their substance use if that was an issue for them.

Our relationship with CORE was literally forged in fire. We really needed each other's community connections that were already established. They had food and harm reduction connections; we had medical connections and different types of survival supplies.

**JJ:** What relationships or partnerships do you think could have been helpful in that time, or could be helpful now?

**MNF:** At this point we need large buildings whose purpose is to respond to community needs. We need physical spaces that are integrated into emergency response and an understanding that their primary function is to serve the community. If that space needs to activate for use because the conditions have reached the point that they are life and death, then that's just what it does. We don't have to do a bunch of arguing about it.

We ended up leaning a lot on privately-owned hotels in order to both create a safe container for people in terms of the pandemic — as in, individualized shelter — and also provide them with clean air. There were only certain privately-owned hotels that were willing to rent to people who were perceived as being unhoused. We ended up managing 44 people for over two weeks in a hotel with our team and our partner organization CORE, which, luckily, took over feeding people.

Still to this day, we keep going to community meetings that are centered around county-level or state-level work, and they're supposed to inform a coalition to do community-level work. But what happens is a bunch of representatives from the big name organizations show up who aren't actually doing community-level work. And then we have this theoretical discussion about what a community disaster preparedness plan looks like, but no one actually ever makes the disaster preparedness community plan for the city of Eugene, much less a culturally-specific one for the Latinx population or the unhoused population.

What we saw during the Holiday Farm Fire happens on a smaller scale every single year. We're watching people have burns in the summer, get heatstroke, lack access to water — life-or-death crises happen every single year. As we deal with climate change, things like heat respite in the summer and warming shelters in the winter become increasingly necessary.

There is still no mobilization based on any climate criteria; like when the air index or the temperature reaches "this," we will mobilize certain resources, and you can direct people to certain places. Maybe that criteria has to shift from year to year, but we need to be ahead of the season. We can't be dealing with what we already know is going to happen, framed as disaster response — it's not a disaster, it's the climate that we live

in right now. We can at least prepare for that.

**We need to save disaster for when disaster comes — we need to make our communities integrated, for the level of fluctuation we have on a yearly basis,** and be able to put in place very simple guidelines that people can follow.

*Mackenzie Ní Flainn (she/they) is the executive co-director and co-founder of [Black Thistle Street Aid](#), a radical, anti-capitalist, abolitionist, harm-reductionist and femme/queer led healthcare collective on the land of the Kalapua people in Eugene, Oregon. BTSA primarily serves the community via free, outdoor walk-in clinics and direct medical outreach to unhoused communities in the Eugene/Springfield area. BTSA provides access to prescriber-level providers for prescription assistance and renewal, wound care, wellness assessments, medical advocacy and case management, full spectrum harm reduction services, reproductive and sexual health care and referral, as well as free herbal medicine and integrative consultation with clinical herbalists.*

*Mackenzie is a trained street medic, clinical herbalist, full spectrum doula, teacher, midwife's assistant, community health worker, and certified massage therapist. She is also the host of a small health justice podcast, [We Take Care of Us](#), where you can hear more about the experience of working as a frontline healthcare worker serving the unhoused during the COVID-19 pandemic and the 2020 wildfires.*



Photo Credit: Black Thistle Street Aid

# Building Resilient Communities: A Place-Based Approach to the Need for a Conservation Workforce

INTERVIEW WITH 10,000 YEARS INSTITUTE'S JILL SILVER  
CONDUCTED BY BEF'S JULIA JAQUERY

*As agencies work to conserve more land throughout Washington State, the need for a restoration-focused workforce is increasing. Some limited-term work crew models exist, including AmeriCorps, which provides opportunities to work outside and stemmed from the New Deal's Civilian Conservation Corps. However, given the need for long-term engagement with ecosystem management for restoration to be effective, some organizations are developing year-round programs centered on place-based, localized relationships to the landscape.*

*One such organization is the 10,000 Years Institute (10KYI), based in Forks, WA. We interviewed the director, Jill Silver, to learn more about the year-round restoration program that she helped develop and find out how this model might be replicated in other places.*

**JULIA JAQUERY:** We're here to discuss the year-round Pulling Together in Restoration program, which you developed to provide a locally-based workforce for conservation, restoration, and resiliency projects on the Olympic Peninsula. Can you share a bit about how the program came to be and what it looks like today?

**JILL SILVER:** The Pulling Together in Restoration (PTIR) program is a locally-based conservation corps, except that it's year-round, without term limits, and hires locally to support stewardship practices in traditional natural resource-based industries. We're working on a federal or state proposal for \$30 million per biennium for the Olympic Coast. That's still a drop in the bucket in terms of the hands, eyes, and effort that need to be invested in the variety of different projects in forests, rivers, and coastlines across our rural coastal landscapes.

We first proposed the idea for PTIR in 2013 at the request of The Nature Conservancy. I had been looking for a way to grow the invasive species projects on the Hoh River that had been struggling for very scarce funding for almost two decades. Because invasive plants know no boundaries and don't disappear after two years of treatment, I wrote a proposal for a conservation corps-style, year-round, locally staffed, cross-boundary, multiple watershed based, multiple landowner, continuous invasive species project.

We've built the program into a service and local 'field college' conducting invasive species surveys, developing methods and protocols, and providing preventative treatments for restoration projects, roads, in forestry, and in rural communities.



PTIR crew at Elk Creek harvest unit.  
Photo Credit: 10,000 Years Institute

## Looking Forward: Expanding the Vision for the PTIR Program

**Current Budget & Capacity:** \$1.4 million per biennium; up to 25 local jobs

**Funding Source:** Washington Coast Restoration and Resiliency Initiative (WCRI) — funded by State capital budget with a focus on creating jobs, resiliency, and addressing climate change impacts

**Types of projects funded:** Flood risk reduction, forest restoration thinning, nearshore restoration

**Projected Budget & Capacity:** \$30 million per biennium; up to 120 crew jobs + 20 supervisor positions



## Comparing Models

Current Capacity	10,000 Years Institute’s Pulling Together in Restoration Program	AmeriCorps 10-Month Crew Work Model
Time scale	Year-round; indefinite	10-month cycles; 2 term limits
Age limits?	No	Yes; 18-25 years old
Jobs	Up to 25	6 per crew
Region served	Olympic Peninsula	Washington State

We ranked number 1 out of 14 projects this year, so we’re funded again through 2025, and by 2025, I’m focused on establishing the CCC and achieving the \$30 million investment in communities, 140 jobs, and resilient watersheds. All of the millions of dollars of restoration projects that occur on the coast every year typically involve disturbing the dirt — woody debris movement, riparian enhancement, fish passage barrier removal and replacement, and habitat enhancement projects; as such, they’re almost all working in places where invasive plants exist or can be introduced. It’s taken several years of encouragement, but in the restoration grants, there’s now an addendum that asks, “Do you have invasive species? What are your plans for dealing with them?” We have this funding, trained staff, a track record, and relationships with agency and program managers and most landowners. So, we just offer to do the [invasive species removal] work for restoration sponsors and to teach them and their staff at the same time. Many are turning to us to provide the work that will support success in restoration over the long term.

We hire locally. Forks is a hard place to get people under 30 to come and stay. To be able to do the kind of evaluation and response at the level that we do it, we take data everywhere we are, and we develop management strategies around it. We do adaptive management and applied science. That’s really what our mission is. And we do invasives because we are focused on protecting ecosystem services and native biodiversity. Native plants form the foundation of all the habitats, industries, and services we rely on for clean water, air, carbon storage, fish, food, soil, and climate — and invasive plants arrest the succession and health of native plant communities.

**JJ:** How long do field staff typically stick around? Does it make a big difference in the crew’s perspective of the landscape to have locals doing the work?

**JS:** We have some folks who’ve been with us as long as eight years, which is wonderful. We take everybody who walks in the door who is in physical shape to be able to make it out in the field, who hopefully has some experience hunting, fishing, hiking, boating,

landscaping, or even helping their grandmother in the garden. We work to give them the knowledge to understand the watersheds they live in — to know who else is living there, know which way the winds come from, where the water flows from, and what has happened to the landscape, as well as about native plants and their functions in the places they grow.

We have a fair amount of turnover because we’re taking everybody, and there are a lot of people who either don’t like it or can’t show up for work for one reason or another. We work for a long time with each other to get through issues. Other folks really love the work. They all know each other. Their families all know each other: Tribal logging and fishing communities, folks whose parents work in the local prisons, people whose parents work for the agencies like DNR, or who operate heavy equipment for roads or mining gravel. We hire retired foresters and loggers who help with logistics and setting up projects and programs. I have a 78-year-old support staff — retired from the Coast Guard, volunteering as the president of the Pacific Coast Salmon Coalition — who goes out and cuts fallen trees in the road for us on routes that we need to get into, and takes us out in his drift boat or canoe if we need to get across a channel and the river is too high. He’s been training his granddaughter, taking her with him all over the area, and I’m hoping to hire her! She knows all the roads and everything he does with fish, beavers, and habitats, and she loves to pull Scotch broom. We’re hiring families, grandparents down to grandkids, locally.

**JJ:** The Washington Conservation Corps (WCC) crews are on a 10-month cycle. Do you find that’s a good program to hire from?

**JS:** Oh, my goodness, they are so good. They go to WCC looking for this kind of work. They know what they want, and they know the jobs they’re going to be offered when they get out, and they have the educational background to support them in the jobs.

As I was looking for support to build the CCC, I had meetings with the lead of the WCC program and asked if they’d consider the year-round conservation corps concept with \$30 million per biennium; the answer was no, it’s not their model. The problem for everyone out

here on the coast, and perhaps statewide, is there aren't enough WCC crews to meet the needs and not enough housing for them either, and their commutes are long and carbon heavy. In order to reduce the time and carbon for travel, I request crews that are based in Port Angeles to work from Port Angeles through the Sol Duc to Forks, so they only have an hour drive. The crew from Elma works on our South Coast areas. We need people who are local.

Really, what I want is to be able to inculcate what we know and what we do, and expand the model so that stewardship is the platform from which all communities are functioning. Yes, they're doing timber harvest. Yes, they're fishing. Yes, they're doing recreational tourism. But they're doing it with an understanding of how it all connects.

**JJ:** Right. Operating more from resource consciousness, rather than resource extraction.

**JS:** Exactly. I mean, they'd be doing both, but they'd be extracting within the bounds of what they can protect in ecosystem services. Most people I've worked with out here didn't believe in climate change, and many still don't. Some are starting to — if they're open-minded enough to check into the heat domes, atmospheric river events, the disruption of rain events, rapidly melting glaciers, and increased flooding — if they're really paying attention. One thing folks comment on and observe are shifts in timing for berries and bees, and in species.

I've discovered that if you don't have the language for what you're seeing — who the plants, the birds, the insects are — and if you don't have the concepts or the curiosity, you don't see what is there. My goal is to keep planting the seeds and dropping the pebbles in the pond so the ripples go out and come back again, and to stay patient. I'm not a natural teacher, really; I want to be alone out in the woods, watching American dippers, watch the river flow and change — that's what I want to be doing. Hopefully, the ripples are going to keep radiating out.

*Jill Silver conducts applied ecology in the coastal watersheds of Washington State in which she grew up, with a passion for developing projects and research that build locally-sourced knowledge into locally-based solutions to resolve challenging and interrelated issues. Building on a foundation of environmental studies and sciences coursework at The Evergreen State College, she has been the director of the non-profit organization 10,000 Years Institute for the past two decades, where her focus is assessing and addressing the intersections between climate change, forested and aquatic ecosystems, ecosystem services, and the negative impacts of invasive plants.*

### About 10,000 Years Institute

Working with diverse partners and local communities from timber to tribes, 10KYI identifies needs and opportunities for education and jobs in research and restoration, and innovates methods that increase restoration success while decreasing cost and impact over time. Working from the foundational principle that people will steward what they know and love, 10KYI's Pulling Together in Restoration (PTIR) project is entering its fifth biennium, training and employing local crews in projects to protect native biodiversity and ecosystem services in the watersheds where their communities work and live. With proactive investment, this model can grow into a local watershed-based and permanent year-round conservation corps that invests in people and develops the skills needed to grow and support resilience into an uncertain climatic future.



Beaver dam clump at Lower Lindner 2021.  
Photo Credit: 10,000 Years Institute



Jill and Leo trenching along old tree bole. Photo Credit: 10,000 Years Institute

## Events, Opportunities & Resources

### We're hiring a new Watersheds Project Manager at BEF!

This position will support our efforts to create a new Carbon Credit Regional Operator program to support long-term stewardship of restoration sites, work with us on an exciting new EPA-funded Climate Resilient Riparian Systems Lead program, and also be part of our Floodplains by Design team.

It'll be a pretty exciting new role, so if you know anyone that would be a good fit, please share it: <https://www.b-e-f.org/careers/>.

While it's not an FbD-specific role, this work overlaps significantly with our efforts to support integrated floodplain management throughout the state and will be providing technical assistance to a number of FbD partners who are coalition partners on other grants that are helping fund the position. We're excited to bring someone new onto the team and truly appreciate your support in helping find someone great for the role!

The FbD Backbone team is hosting a fall round of our discussion group to go through the Emergency Readiness and Response training module as a small cohort.

This training module and discussion group works to understand the physical and neurobiological impact of emergency events on individuals, communities, and organizations. Assisting in rescues during floods, witnessing fish die-offs, and engaging with community members that have lost their homes or loved ones is emotionally taxing work during an already challenging time.

The aim of this training module and discussion group is to better understand:

- The emotional timeline of the recovery process.
- Caring for oneself and community during emergency events.
- Building adaptive teams and organizations to respond to crises.
- Practices to bring your brain back online when undergoing stressful or emotionally challenging circumstances.
- Equity and accessibility considerations in planning and response.
- Cultivating compassion satisfaction, conviviality, and meaning throughout the recovery timeline.

**“This group opened my eyes to how all manner of agencies need to be trauma-informed, both for the communities they serve and for the wellbeing of their own staff. I no longer feel like my focus on self-care, trauma-informed practice, and emotional support are out of place in the Emergency Management world.”**

*– Testimonial from summer cohort participant*

### THE FALL COHORT WILL CONVENE:

**Orientation:** Monday, September 25th 4-5pm

**Session 1:** Monday, October 2nd 3:30-5pm

**Session 2:** Monday, October 23rd 3:30-5pm

**Session 1:** Monday, November 13th 3:30-5pm

Participants will be asked to spend 45 minutes to an hour completing the sections of the modules between sessions. If you have any questions or if you'd like to participate in our fall cohort, please contact Hannah Buehler at [hbuehler@b-e-f.org](mailto:hbuehler@b-e-f.org).