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Washington Conservation Corps

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Student Name: Annalise Hill

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STUDENT SIGNATURE: Annalise Hill
DATE: 09/08/2022
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Internship Search and My Background

When I began looking for a summer internship, I only had a few requirements. The internship had to be within an hour's drive of my home, so I was not spending more than a couple of hours driving every day. Secondly, the internship had to be paid so I would not have to juggle an internship with a secondary job. Lastly and most importantly, I was looking for a summer internship where I could make a difference in the environment and the community. When I stumbled upon the Washington Conservation Corps (WCC) job posting, it was perfect. I genuinely admired WCC’s goal to conserve and enhance the natural resources of Washington. My mission in life is to help restore and preserve our natural habitats while also educating others about the environment. I grew up in the wetlands of Redmond Washington full of beautiful biodiverse stormwater ponds. Every day my friends and I would visit these ponds fascinated by the frogs going through metamorphous and discovering how much life there can be in a small pocket of a pond. Unfortunately, if you were to visit my hometown you would find storage facilities, housing, and offices in the place of the lush stormwater ponds. It breaks my heart to walk around and see concrete buildings instead of vast ecosystems. The children in my neighborhood are now denied the same opportunity I had to discover their passions for the environment. I am devoted to helping preserve and restore the natural environment and wildlife for future generations. I thought being a part of WCC would be a big step toward achieving these goals.

Before starting at the Washington Conservation Corps, I had some fieldwork experience and a background in environmental science. I volunteered for Skagit Conservation District as a marine biotoxin volunteer supporting the Skagit County Health Department in monitoring local recreational shellfish harvesting beaches for Paralytic Shellfish Poisoning and Diarrhetic Shellfish Poisoning. I coordinated with a team weekly to ensure the efficient collection of samples during harmful algae bloom season. Together we accurately harvested and identified dozens of butter clams while following appropriate local, state, and federal regulations. Additionally, a lecture and lab water quality course I attended at Western Washington University gave me experience in
assessing water quality parameters including temperature, dissolved oxygen, pH, conductivity, flow, and turbidity. Further, I had experience in scientific writing and communication. I had written many reports for biology, chemistry, and water quality lab courses at Western Washington University and received exceptional marks. I was a part of an interdisciplinary team to create an environmental impact assessment (EIA) on the removal of the Bagley dam on Mount Baker. We worked individually focusing on our strengths and met weekly to check in and assist other team members with any questions or concerns. We presented our EIA at Western Washington University to the community. Moreover, I attended a field-based forest ecology lecture lab class and an ethnobotany class to further my knowledge of the uses for plants and the interactions of ecosystem components, specifically soil, plant, and animal processes.

Thank you

I want to thank my Washington Conservation Corps supervisor Frida Isaken-Swensen for leading by example and teaching me how to be a good leader. I truly admire her ability to receive criticism and make any necessary changes. I hope to be as respectable and adaptable as Frida in my professional life. Secondly, I want to thank the Snohomish Conservation District habitat staff Ariana Winkler, Mariah Thomson, Thomas Bulthuis, and Carson Moscoso for taking the time to listen to my concerns and give thoughtful advice I can use throughout my career. I also want to thank Ariana Bennetti from the Snohomish County crew for sharing a lockup with our crew and always having a bright positive attitude. Lastly, I want to thank my fellow crew members, Al Fitzpatrick, Deanna Ern, Pavi Chance, and Zach Doherty-Smith for welcoming me into the crew with open arms. I feel very fortunate to have been able to work with all of you. Thank you everyone for making the summer of 2022 an unforgettable one.
Learning Objectives

In preparation for the internship, I wrote down some learning objectives and educational goals to strive for throughout the summer. Most importantly, I wanted to learn how restoration techniques and practices are implemented in the field. Further, I aimed to learn the physical skills necessary for restoration by working hands-on to enhance critical areas in Snohomish County. Additionally, one passion I desired to strengthen was my knowledge and identification of native and invasive species in Washington. Lastly, I strived to advance my problem-solving and interpersonal skills by working closely in a team of six individuals. Overall, I hoped the internship would expand my fieldwork experience and be an important stepping stone in my environmental science career.
Over the summer of 2022, I worked for Washington Conservation Corps (WCC) with Snohomish Conservation District (SCD) as a sponsor. I worked forty hours a week Monday through Thursday on a team of five crew members and a supervisor. On a typical day, I would get to work at the lock-up in Lake Stevens around seven am. My crew would huddle up under a pavilion and our supervisor Frida would review what we were going to do for the day. Then the crew would load up the necessary tools and gear into the truck and we would drive to the project site in Snohomish County anywhere between five and forty-five minutes away. In the summer season, most of the work was maintaining plantings from the previous winters. Consequently, most of the work I did throughout the summer was brush-cutting life circles around plantings, stomping reed canary grass in life circles around willow steaks, and spraying herbicide on knotweed and Himalayan blackberry.

All the sites the WCC crew worked on from October 2021 through September 2022.

Outcomes

Throughout the summer, I achieved my internship objectives and learned far more. I worked on and learned about a variety of different types of restoration projects the Snohomish
Conservation District implemented throughout Snohomish County. Most of the sites we worked on were DOE, meaning the Department of Ecology grant funded the restoration site. Another common type of site was CREP projects meaning the site was part of the Conservation Reserve Enhancement Program. I learned early on how constricting and sometimes impractical the project regulations can be. For instance, CREP projects require a certain number of conifers to be planted because buffers with conifers are more beneficial to salmon. Conifers have a longer life span than most deciduous trees and therefore give denser, longer-lasting shade to streams. However, as I saw on the project sites, the environment was often too wet for conifers to survive. The willow steaks and twin berries would thrive but the conifers like Douglas fir and western red cedar would barely be hanging on. My crew and I discussed at one of our more frustrating sites, Jenning's memorial park, and concluded that if the conifers were planted later when plants like willows and twinberries were established, the conifers would have drier soil and better conditions to grow in. This example also illustrates why I think it's important to work in the field before going into the office or furthering education. I want to continue to learn what does and does not work in restoration once implemented in the real world.
Jenning's memorial park site with over 15,000 live willow steaks planted and maintained.

One of easy to practice my learning objectives was to strengthen my knowledge and identification of native and invasive species in Washington. I challenged myself every day to identify plants I saw while brush cutting, spraying herbicides, or stomping life circles around plantings. If I could not identify the plant, I would often ask one of my crew members or take a quick picture of it to identify later. I had attended an ethnobotany class at Western Washington University right before the internship started so I was fresh with knowledge of ethnobotanical uses for many native plants. One of my crew mates, Deanna, was also interested in ethnobotany so we would often trade knowledge with each other. I can learn and remember information far better if I can teach or discuss the subject with others. I remember one day while spraying herbicide, I was telling Deanna about the healing properties stinging nettle can have on arthritis when I accidentally stuck my hand into a bunch of nettle. It was a great opportunity to see if the spores on sword ferns helped relieve the pain of the stinging nettle. Unfortunately, it did not. Today, I look back on that memory and my foolishness with fondness. Every day working with Washington Conservation Corp was an adventure.

One unexpected lesson I learned over the summer of 2022 was how flexible you must be to work in restoration. Often, the plans would change the day of or midway through the day either due to weather constraints, absent crew members, potential fire risk, or not having property owners' permission. For example, during midsummer when fire risk was high, we were only allowed to use brush cutters until 1 pm and required to do a fire watch for one hour afterward because hoot-owl restrictions had been put into place to prevent fires from being started. I had never been a person who can easily go with the flow but working at Washington Conservation Corps helped me stretch out of my comfort zone and become more flexible with sudden changes.

Another simply achieved learning objective was learning the physical skills necessary for restoration by working hands-on to enhance critical areas in Snohomish County. I learned a
multitude of new skills over the summer including how to brush cutting, stomp reed canary grass, spray herbicide, construct uphill drains, structure rock work, build a fence, and create post-assisted log structures. Through learning each of these skills I furthered my knowledge of the amount of effort and time required to finish each task. At the beginning of the summer, I naively thought stomping reed canary grass would not be taxing or time intensive. However, I quickly learned in my second week how stomping in uneven and wet terrain can cause you to slip and sprain your knee. Reading about the restoration techniques in textbooks or on PowerPoints is very different from physically doing the work yourself.

An additional unexpected learning outcome was how I enhanced my knowledge of pesticides. Going into the summer my view of pesticides was negative. From a toxicology class at Western Washington University, I learned how harmful pesticides can be to humans and pollinators. I thought the reasoning behind the application of pesticides was a lazy excuse. Although, after working in forests of knotweed and struggling to move past walls of Himalayan blackberry, I see their appeal. I still strongly believe most pesticides are toxic to the environment and threaten our ecosystems, but I understand why they are used. Without pesticides, restoration projects would take many more years, cost more, and have a lower success rate. Invasive species like Himalayan blackberry and knotweed are excellent at surviving. My supervisor, Frida, and I even tested to get our pesticide applicator licenses from the Washington State Department of Agriculture. Studying for the exam furthered my knowledge of the laws and regulations applied to pesticide applications. I am very thankful the Snohomish Conservation District provided me with the opportunity to test for my pesticide applicators license.

While on a spike with my crew, I worked on another learning objective, to advance my problem-solving and interpersonal skills. The spike was an eight-day camping trip at Olallie State Park wherein we worked on the Twin falls trail. We worked ten-hour days for eight days straight learning how to build uphill drains, decommission trails, add stabilization rocks, remove downed trees using a chainsaw, add height to a high-traffic step, and clear the trail of encroaching vegetation without harming the plants. Within the eight-day trip we faced multiple challenges. One
of the crew members, Zach, had the sole of his work boots come off on the first day. Although we were able to get shoe glue and tape from a local store to repair them, the soles kept coming off. On day five another crew member, Pavi, got food poisoning and spent the night throwing up. Day six was my turn. I got a UTI and had to use the restroom every thirty minutes and only got three hours of sleep. Despite the challenges, we helped each other out and were able to power through the next few days of rigorous labor. I pushed myself out of my comfort zone and discovered my limits. I learned I am physically and mentally stronger than I previously believed. In the end the crew grew stronger and closer to each other.

Imaged above was work conducted while on a spike including a fence removal, rock work to encourage hikers to follow the path, and a decommission of the corner to ensure the path was going to be followed.
The image above was an uphill drain I helped constructed during a spike.

An extra learning objective I created in the middle of the summer was to ask my peers and supervisors for advice on how I should move forward after finishing the internship and my bachelor's degree. This objective led me to one of the most beneficial days I had at Washington Conservation Corps. I spent the day shadowing members of the Snohomish Conservation District habitat team. At the time I was panicking thinking about my impending graduation and how I did not have a plan. My goals going into that day were to learn the different career paths people took, if they recommend going to graduate school, what organizations people recommend working for in the Pacific Northwest, and if there was anything they wished they had done differently. I got amazing advice from everyone that made me feel more at peace. I was on a good path to fulfilling the future I was hoping for, similar to those at the Snohomish Conservation District. Further, I was recommended to not pursue graduate school until I knew what specific area I was passionate about and wanted to follow for the rest of my career. An easy mistake people have made in the
environmental science field is following the simplest path and pin-holing themself into a specialty without exploring their other options first. I wanted to work in a field that challenges me and brings me joy instead of following what is easy. Additionally, I was advised to volunteer at multiple organizations to get to know them better and network. Many organizations hire people they already know. Most of the Snohomish Conservation District staff either worked on the Washington Conservation Corps staff first or were friends with someone who worked at the district.

The last learning objective I strived for was to expand my fieldwork experience. I completed the objective throughout the summer by physically learning restoration skills. My favorite restoration project I had the privilege of working on was constructing post-assisted log structures also known as PALS. Before the PALS could be built, I spent two days lugging out and staging dozens of posts and hundreds of dead saplings in a fire line across a muddy wetland. The project was a great teamwork exercise and test of strength. Once all the material was finally staged, we could begin the best part, forming the PALS. Firstly, the posts had to be pounded into the stream and then the saplings were weaved between them to form a sort of dam. I remember this day so fondly because we were all soaking wet with sweat in our waders, but we got to stand in the cool stream and talk with one another. Everyone was miserable but we were miserable together. This is one of the main reasons I love fieldwork and wanted to expand my experience. I enjoy the comradery of facing challenges together.
One of five Pilchuck tree farm’s post-assisted log structure (PALS) I helped build.

Reflection and Conclusion

Being a member of the Washington Conservation Corps taught me many lessons about myself and the environmental science field that I can use throughout my life. I am stronger both mentally and physically than at the beginning of the term. I can continue my career more confident in my knowledge and ability to conduct fieldwork. I am truly grateful for my time at Washington Conservation Corps. Furthermore, I have taken the advice given to me by the members of the Snohomish Conservation District. I am planning on exploring the different fields I am interested in and traveling before deciding on a master's program to commit myself to. Additionally, I have been volunteering at multiple organizations to learn how they operate and make connections with the employees. So far, I have attended work parties with the Skagit Fisheries Enhancement Group, Nooksack Salmon Enhancement Association, Bellingham Parks and Recreation, and Sound Salmon Solutions. I have been strengthening the planting skills I missed out on by not working Winter season at Washington Conservation Corps and further knowledge of how the different
organizations implement restoration projects.