

# 2010 Charlie Blumenstein Water and Wildlife Conservation Internship

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As my third year at Colorado College came to a close, I realized I had no summer plans. Having decided to major in environmental science only months before, I started looking for a related job or internship. Beginning my search on the CC Career Center website, I immediately stumbled across The Charlie Blumenstein Water and Wildlife Conservation Internship. The more I read, the more excited I became as I realized how well my background fit the position: I had just taken several classes on gathering and analyzing different aspects of the environment; here was a chance to apply this knowledge and develop a real world feel for it.

Still, the internship description was only a page long; I had no idea what “habitat restoration” and “participating in scientific research and monitoring” entailed. Looking back now, I am so glad I applied and was allowed the amazing opportunity to experience and participate in the front lines of nature conservation.

As I began the twenty four hour drive from my home in Fort Worth, Texas, my mind raced with anticipation and curiosity. When I arrived at the preserve the next evening, my expectations proved completely wrong. Being a Texan, I assumed anything as far north as Idaho must be cold until late summer. Instead I was greeted with a lush green valley between beautiful purple and blue mountains. Just past the Preserve was the town of Picabo, even smaller than I had expected.

The Preserve manager, Dayna Gross, told me to come to the office to get acquainted with the place before the fly fishing season began in two days and the place was overrun. Though I didn’t understand at the time how 883 acres of preserve could be overrun, I soon learned. More than eighty fishermen showed up that Sunday for the annual barbeque celebrating the opening of fishing season. For the next three months, the quiet

preserve was filled with men and women of all ages and from across the world focused intently on figuring out exactly what fly each famously picky trout was or wasn't interested in. Though I hadn't realized it beforehand, Silver Creek is a sort of fly fishing Mecca, world renowned for its unbelievable amounts of huge brown and rainbow trout. Because of this reputation, as well as the vibrant range of wildlife present, the Preserve draws flocks of fishermen, birders and nature enthusiasts alike, all summer long.

With all this foot traffic on the preserve, it takes some serious behind the scenes work to keep the preserve as undisturbed and pristine as it is. Preserve staff work tirelessly year round to keep invasive weeds at bay, harmful snails out of the creek, water conditions just right for the famous fish, and habitats inviting to migratory and year round birds, deer, bats, insects, and many other plants and animals. Preserve responsibilities can be broken down into several categories: monitoring, maintenance, and public relations.

### **Monitoring**

The majority of the work I helped with this summer falls under the category of monitoring. The first type of monitoring was the Preserve's bi-monthly transect water monitoring. This full-day job consists of visiting five points on the Preserve, two in the main current, and three in tributary creeks just before they meet Silver Creek. At each point channel width and flow readings are taken. In addition to flow measurements, we took water temperature, and dissolved oxygen and pH levels. It was truly amazing watching the water levels rise and flow speeds increase as the spring turned to summer, especially since Silver Creek is entirely spring fed. This means there is no snow melt to raise water levels; instead aquatic vegetation grows so dense and high that it literally pushes the water up and out. This plant life is also partially responsible for the booming fish population, since the trout feed primarily on insects that hatch in droves from the vegetation all spring and rise to the surface to mate, after which they fall into waiting mouths.

I also was introduced to temperature logger collection, downloading, and replacement. Essentially a small plastic device records temperature every few hours while submerged. On a monthly basis, I would collect these loggers, download the data they had collected to the Preserve's computer, restart them, and place them back in the stream. This data gives not only a sense of temperature change with the seasons, but also on a larger time scale, showing yearly trends and fluctuations. These loggers are also useful in showing whether or not projects such as water cooling through streamside willow planting are truly effective. This summer a local group known as Idaho Water Engineering (IWE) began a project to map the entire aquifer system for the area in order to revise water rights as debate rises between groups with agricultural, residential, and conservation interests. I was able to help install anchor stations for their monitors on and off the Preserve. In my last two weeks on the Preserve, I was lucky to help a graduate student from Denmark check these stations and install a few more of her own. I also helped Maria gather several more transects to better understand the exchange between tributaries and Silver Creek itself.



The next type of monitoring was by far my favorite: electroshocking. When I first heard the term, I admit I pictured sticking electrified probes in the stream and counting the fish that floated up unconscious, but realistically I knew The Nature Conservancy would not allow anything of the sort. Nonetheless, my expectations weren't too far off. Daytime shocking took place in sections where the water was shallow enough to walk through. It consisted of several people with nets walking alongside a Fish and Wildlife Service (FWS) raft that carried a generator which sent a current between chains it dragged and probes two FWS interns kept underwater ahead of the raft. Fish are naturally drawn to the current they can feel in the water, and when they enter the current between the probes and the chain, they briefly stop swimming. It is in these few short seconds that we would scoop up the fish and drop them in large collection bins to be counted. This collection gives the Preserve and the FWS the best estimate of overall fish populations in the stream.

I was also able to help another intern map local stream sediment and vegetation types and levels. Because there is no springtime snowmelt to wash sediments downstream, silt and vegetation can build up, slowing the water's flow, and in turn warming the stream. Since Silver Creek's trout prefer the constant cold temperatures of the spring fed system, increasing temperature can be a serious threat since it allows better suited brown trout to take over rainbow trout habitat. For the entire month of June, Matt spent each day measuring bank vegetation type, stream width, depth, sediment depth, and sediment type. I was happy to help by heading out across the valley following creeks and measuring preset GPS points. This monitoring allowed me some of the best time to explore the region and its plethora of beautiful and complex habitats. Some days the deep water and sticky mud turned out to be quite adventurous as well.

## **Maintenance**

As I mentioned above, it takes a lot of work to keep the Preserve running smoothly. As temperatures rose and constant spring showers soaked the valley, the Preserve's trails quickly became overgrown with grasses and branches. Though the work was thankfully divided between the four interns, there was plenty of grass to weed whack and branches to trim. Some trails were no longer even visible, and had to be repeatedly

cleared over the summer. As I became acquainted with the flora of the Preserve, it became increasingly obvious that several invasive species such as Canadian Thistle, Houndstongue, and Yellow Iris were outcompeting native species, and needed to be stopped. Luckily the Preserve hosted several volunteer spray days where people on foot and ATVs covered the nasty invaders with herbicides targeting the specific species. Though these days were certainly invaluable, weed spraying was a constant. Fishermen frequently reported new patches of thistle to spray, and interns would respond in Tyvec suits and three gallon backpacks of herbicide.

Other summer-long projects included pulling up and disassembling (think sledgehammer) old wooden and barbed wire fences on the Preserve and at other Nature Conservancy properties such as the Flat Ranch and Soldier Preserves. For two days I designed a stencil and painted The Nature Conservancy logo on the side of the Preserve's several canoes. Other routine maintenance duties included cleaning the office, Visitor Center, and Stalker Cabin, which is reserved for VIP donors and the like. Once a week interns cleaned the three preserve outhouses, which generally weren't as bad as expected. Daily responsibilities included cleaning and refilling snail wash stations with natural citrus soap to keep invasive Zebra Snails out of Silver Creek.

One of the messiest and most hilarious projects I have ever worked on took place over the course of three days, in which three other interns and I dug up underwater patches of reeds and marsh grasses and transplanted them by the truckload to edges of the creek where the channel widens and heats up. By the end of each day we were completely drenched in mud and exhausted beyond caring about appearances, but we felt proud to have helped narrow the stream and hopefully better conditions for the wildlife.



## **Public Relations**

The aspect of the internship I most dreaded at the beginning of the summer, public relations, turned out to be one of the most fun. I greatly enjoyed accompanying different groups on canoe floats down the creek, from children with disabilities to Nature Conservancy employees from across the country. I was also able to help with staff retreat work days and a ladies' appreciation day held at Stalker Cabin. It was at the Visitor Center that I met the most fishermen, learned the most about the local wildlife, and heard wild stories of moose sightings, midnight fishing, and canoe mishaps. These interactions

really gave me a sense of the Preserve's importance to several diverse groups throughout the state.

## **Conclusion**

This summer was one of the best and most educational of my life. Working with Dayna and the interns, as well as the volunteers and in-town office members, was the best work experience I have encountered thus far in my developing environmental science career. Though I regret to say I never got around to fly fishing, I feel like I more than made up for it with bird watching enthusiasm. Never before have I seen such numbers and variety of birds as I did at Silver Creek, from tiny Sora and hummingbirds to massive Great Horned Owls, Harriers, and Swainson's hawks.

Most of all I would like to thank Jack and Sara Blumenstein for setting up and continuing to support the internship. The opportunity to spend a summer so imbedded in nature is the perfect way to introduce people to Charlie's passion. I am extremely grateful to the Blumenstein family for funding this amazing opportunity, and would strongly recommend the internship to anyone interested in working on the beautiful preserve and meeting so many great people.

