Los Padres National Forest: Santa Barbara Ranger District

Water Resources Projects Final Report

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Executive Summary

Our first major water project involved scouting out ten potential data logger sites that ran through the springs which involved rigorous hiking in a remote mountainous location for miles near Matilija Lake by Ojai, CA. The project, if successful, would allow Casitas Municipal Water District (CMWD) to use the water available in cases of emergencies such as a drought and on the off-years water levels would be allowed to refill so as to not completely drain the source. Our other major water project had us searching for rain, weather, and repeater gauges in order to renew Santa Barbara County Flood Control District's (FCD) permit to use the gauges on federal land. Locating the gauges was an important task as they play a key role in the Automated Local Evaluation in Real Time (ALERT) system which is a critical component in detecting signs of an approaching flood in order to provide timely warnings.

Project Objectives

The original goal of the water projects previously mentioned was to acquire permission from the United States Forest Service to allow entities such as the CMWD and FCD to have access to areas of federal land for their own projects. With the CMWD project, we were also aiming to compile photographs of any sensitive animal and plant life in the area so as to make note of that when returning our results for the potential data logger locations. Unfortunately, we had a major setback that did not allow for us to continue the project until further notice. Sadly, we did not receive news about the status of the project again and were instead tasked to locate rain gauges for the FCD in order to renew the county's permits to use gauges on federal land. The goal for the FCD was to have continued access for their gauges as it is critical for their ALERT system to perform optimally. Our personal goal in the matter was to ensure that the gauges were undamaged, to make sure there was no nearby obstructions, and to see if the gauges were still active. My future objectives include obtaining a career in the Forest Service as a Wildlife Biologist as well.

Project Approach

Initially, in order to begin our first major project with the CWMD data loggers, we drove to the closest site off the road, but were met with a locked gate that had no Forest Service lock leaving us empty-handed. After returning to the station we realized we needed to contact individuals over the phone about getting access to that gate since would take us closer to the desired sites. We were just about ready to get a key to the gate, however upon closer inspection my colleague and I realized that there was a pull off on the road where we could park our vehicle and travel to the sites from there. Though it did require more walking, it saved time as we did not need to wait to get the key that opened the previously mentioned gate. For our second project, my colleague and I once again began on our own without any outside help and successfully located many gauges, though we eventually hit some roadblocks. The coordinates provided to us by the FCD for some of the points were fairly precise, however some coordinates were highly inaccurate such as leading us into the middle of the ocean on two occasions. I then decided to call the FCD to receive better guidance on reaching some of these ambiguous sites. Shortly after coming into contact with Mr. Shawn Johnson of the FCD things became much clearer. He and his colleague, Mr. Alex Doran, provided us with updated coordinates, Google Earth paths, and more pictures to aid us in our ventures.

Project Outcomes

We are unfortunately unable to discuss our results due to the fact that my colleague and I were unable to complete our projects due to unexpected circumstances such as time constraints and unforeseen events. Though we were able to locate two sites for the CMWD project, eight other sites still remained. Our other project with the FCD was more successful as we located many gauges, however we were unable to locate the remaining gauges in time as they were spread out across all three districts in the Los Padres National Forest. What we could have done differently was contact Mr. Johnson immediately after being given the FCD project rather than waiting until we hit a problem.

One major lesson I learned involved dangerous misjudgments made during the CMWD project. Naïve to the amount of work it would take to get to the sites, I packed an insufficient amount of water and no electrolytes. Near the end of our time there I continued feeling sharp pains in my lower half, but this was ignored since I hadn't gotten over the mountain yet. Once near the top, I slowly climbed along the mountainside I felt excruciating pain via cramps all over my thighs, calves, and feet. I immediately fell to the ground and lost my vision only seeing a bright white. I was terrified as I had no idea what was happening, but my partner Chris was very patient and helpful during this situation as he provided me with the remainder of his water and some snacks to rejuvenate me. After some time, I slowly regained my vision and was able to muster

enough energy to get back up and carefully descend the mountain back to our vehicle safely. This mistake could have been avoided with better preparation in terms more hydration and electrolytes to balance it and being smarter about where I expended my energy during hikes. Though mistakes were made, I have become more knowledgeable because of them and also in skills that have aided me during my time with the Forest Service such as using a GPS, handling a four wheel drive vehicle, using a long-distance radio, and the list goes on. I also learned crucial things such as: communication is key in order to be successful, second: things do not always go as planned so being flexible is of utmost importance, and lastly: it is always better to come over prepared than under prepared.

Conclusion

My time with the Forest Service has been memorable as it provided me with unforgettable experiences, knowledge, and connections to others. Although my partner and I were not able to complete our water projects as we originally had in mind, we learned how to adapt and became knowledgeable in areas we never would have expected. I plan to use the knowledge I acquired with my time with the Forest Service in my future internships and/or career with the USDA as a future Wildlife Biologist.

Appendices

Appendix A. Photograph taken near Matilija Lake, showcasing how remote the areas we hiked into really were.

Appendix A.1. This location is near one of the proposed data logger sites only a few hundreds of meters down the mouth of the mountain.

Appendix B. Typical rain gauges that were located by my partner and I in order to aid in the renewal of their permit on federal land so as to keep the ALERT system up to date.