

USDA TRAILS STRATEGY PROGRAM



WRPI Program: English Peak Survey

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Acknowledgements

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USDA Trails Strategy Program

Executive Summary

Being a part of the Trails Strategy Program in the Klamath National Forest involved making plans for future trail development/maintenance, using GPS/GIS software, and doing trail work with watershed always in mind. To get an idea of what is involved in trail maintenance, I was sent out with a back country trails crew. Going out with a crew and doing work on a trail gave a really good perspective on estimating how long a project would take, what tools are needed, how many people are required for the job, and how long a job would take. Reports like these help the Forest Service estimate a trail crews' capabilities in a limited amount of time, and are also helpful for other agencies to see when contracting employees to estimate cost and workload. The trail reports are also very important for funding when proposals are made to the agency for money and materials. Another part of my job as an intern was to analyze trails and make a report on what things needed to be done to maintain the trail for future generations.

Project Objectives

Accompanied by a GPS, I was able to go on a trail ready to take pictures and make waypoints on a GIS created map to geo-locate points of interest. This included noting rare plant species, invasive plant species, and also points that require any kind of maintenance. My trip to survey English Peak was one of my most information packed surveys. Large gulley's are being formed by the water coming down a large slope that is a drainage bowl for rain and snowfall. The objectives of this project were to stay overnight at English Peak in order to GPS waypoint and track where some of the larger gulley's are forming. These gulley's start as small ruts and form large gulley's where the water has the potential to move fast and cause a lot of erosion. This is a high priority area due to the rare high mountain meadows of the Klamath, and because of an important trail to get to a fire lookout at English Peak. A new drainage plan is to be made with the information gathered from this survey in order to protect the trail and the meadow below the drainage. All the ruts and gulley's drain into a rare high mountain meadow near English Peak and is in danger of being destroyed by water running too rapidly, thus creating large ruts. Rare plant species' that live in symbiotic relationships are being wiped out in the Klamath due to over growth of conifers and watershed problems. These high mountain meadows of the Klamath are not only important because of the diversity of plants, but also for the ability of these meadows to spread water out over a large area. Spreading water as it comes down a mountain gives the soil some time to absorb the water coming down the mountain. When the water spreads out, it also loses velocity, causing less erosion to trails below. Erosion is a huge problem in the Klamath due to it's rugged, steep terrain so there is quite an effort being made to protect these meadows. The goals for this project was to gather information about the gulley's, mark where they are affecting trail, and try to come up with possible culprits for the erosion being done. All the goals were met in a two-day trip to English Peak since the drainage bowl watershed did not cover too much ground.

My major is in Forest Management and Protection, so learning about how the watershed affects the trails and surrounding landscape is critical to me. Watershed is especially important to me living in San Diego since there is not much thought put into watershed here in San Diego and I see it regularly as an avid mountain biker and member of the San Diego Mountain Bike Association. Since it does not rain often, people tend to think it never rains, but when it does, it really shows the trail who is boss out here; that is nature. I was interested in this internship due to these reasons of wanting to make forest protection a career, and trail building a hobby while mountain biking. These goals have only been strengthened with the knowledge I have learned during my time in the Klamath National Forest. I was able to do everything I was told I was going to do in my internship thanks to my great supervisor/advisor Sam Commarto. My goals were to learn how to build a good trail with watershed and future generations in mind and those goals were met. I still wish I could do some more surveying and do a little more report making though, just to see what doing paperwork for the Forest Service is like in a management type position.

Project Approach

In order to mark waypoints and make tracks of the ruts, my partner and I were given a tablet to record points of interest. Points of interest included areas of high erosion, fallen trees, rare trees/plant species, and most importantly, watershed. Watershed is one of the most important things in the Klamath National Forest due to its topography. My partner and I were always thinking about whether something is going to have an effect on the trail, and if so, how can we minimize that impact. After learning about the many different ways to minimize impact on the trail, and learning how to keep a trail a trail for many years, we were able to give comments and considerations for what could be done to help. My partner and I used a map generated by other interns in the recreation department and accessed the maps on an application called 'PDF Maps'. This application allowed my partner and I to take pictures and record descriptions of any waypoint we marked. We were also able to make tracks of where we go on the map. With that tool, we were able to find, and locate where the ruts/gulley's are starting near the ridge, all the way down to the end of the gulley where the water runs into a large meadow. As we got GPS tracks of the gulley's, a tape measure was used to measure the size of the gulley and we were able to mark where each measurement that was made on the GIS map. The size of the gulley's was very important in order to observe whether the check dams that were installed were a good idea, or just making matters worse.

Project Outcomes

The problems at English Peak were solely a problem of watershed. Throughout the internship I cut and moved logs, rebuilt tread, maintained water bars, and moved boulders. In my opinion, most problems that arise on the trail were due to unmaintained water bars, or misplaced water bars. Logs and rocks are less a problem because they usually do not destroy or erode trail like water does. My partner and I ended up tracking more than 8 large gulley's, favoring the large ones causing the most damage. While tracking one of the largest gulley's an old trail was found. This old trail or old watershed area had water bars placed forcing the water to go vertically down the hill instead of horizontally, or parallel to the trail. These badly placed water bars seemed to be causing large amounts of water and dirt to flow down the mountain causing the large amounts of erosion that was noted. Check dams were also seen in many gulley's and some seem to have created a waterfall. These check dams that were put as Band-Aid's, in my opinion, were causing the water to pick up speed by creating 1-2 foot waterfalls. These badly placed check dams and water bars are focusing water into specific areas causing large amounts of erosion. If the water were to spread out, like meadows help do, the erosion in this area would be much

less despite the bad soil. The mountain side that forms a bowl and the loose, grainy soil near English Peak calls for an erosion disaster. Small plants and grasses also help spread out water, but the water bars are leaving the drainage bowl almost naked due to lack of water on the slope and an excess of water in the gulley's.

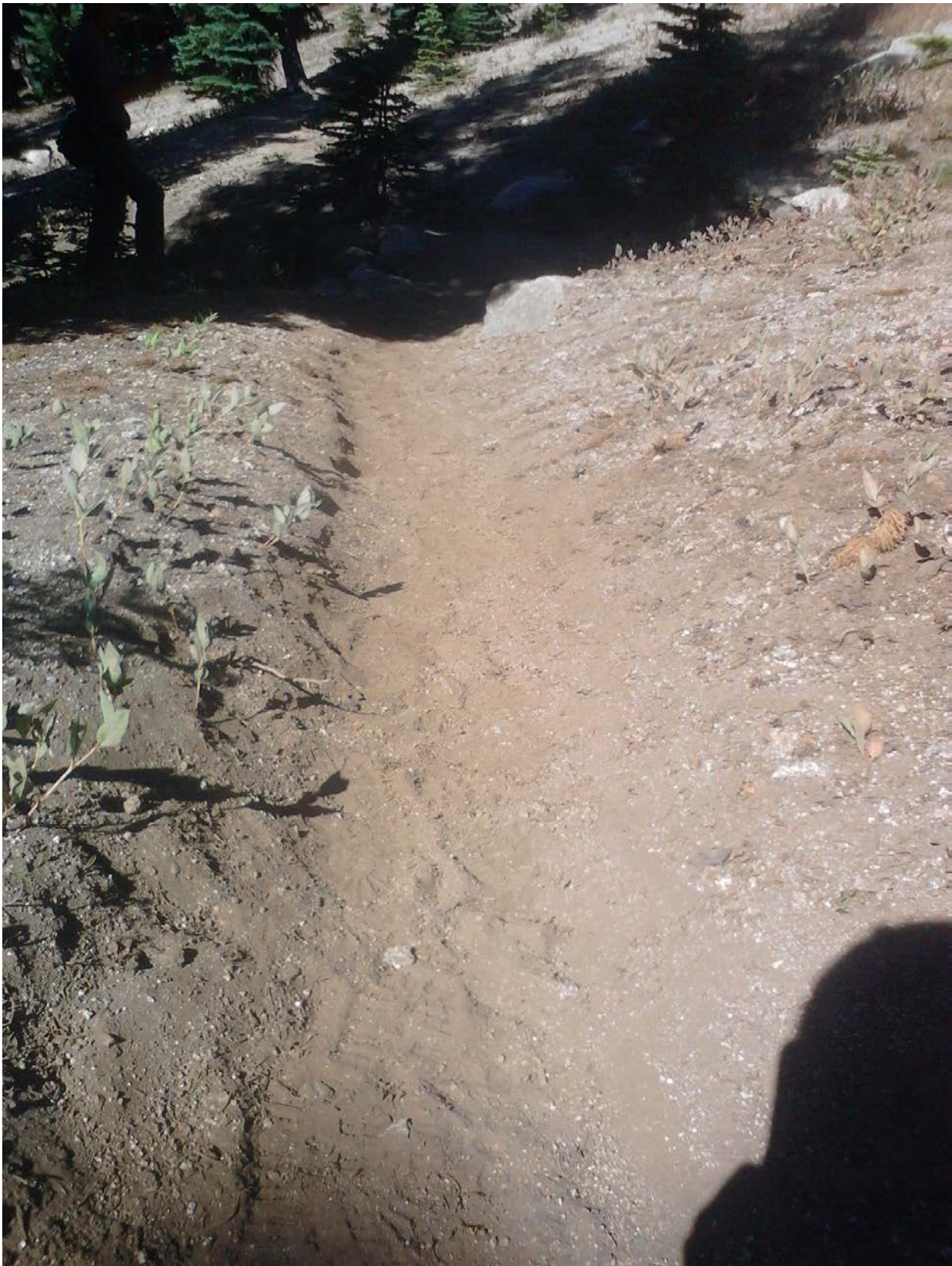
After all the information is gathered and the hitch is over, the information is uploaded onto a google map to see in real time. Every waypoint and comment is transferred over to a computer and then uploaded onto google maps. Using google maps, I was able to see mine and my partners' waypoints and GPS tracks on a satellite image map. This information is saved to be used for further analysis whether it be with a trail crew leader or a Biologist that works for the forest.

Conclusion

This internship experience really opened my eyes to all the hard work, planning, and research that is done in order to make sure our trails last a long time without regular maintenance. This project showed me how and what to observe when looking at any watershed area. Also, because I worked with the recreation department, we were also looking to see how the water affects the trail. There are many ways to maintain a trail with many different methods, but in my time with the Forest Service I learned that the mission is to look 10 or more years ahead while doing trail work. I was also able to talk to California Conservation Corp. back country trails crew, and they also had the same mission in mind while doing trail work. Band aids are not always the best option if you want something to be permanent.

The experience and knowledge that I gained while in the Klamath, no doubt, will take me to where I want to be with the help of my degree. Learning about trails and the watershed is not only a goal for my career but also my hobby in mountain biking. Before my internship started in the Klamath, my supervisor had me and my partner go to ranger academy where we got our official Leave No Trace Trainer Certificate. This training taught me about how to camp in the backcountry while minimizing impact. All the things I learned during the internship are very diverse things but I believe together, all these skills only help me be a good steward of the trails and the public lands that we share. Whether it be representing my local mountain bike association, a company, or any agency in the future, I now have the confidence in the skills I acquired to be able to step forward and be a leader for others. This knowledge does not come easy and I can say that I did not know almost anything about really being in the backcountry so I had a lot of questions. From the experience at ranger academy and seeing other experiences on the news, I noticed that we were all taught to recycle and things of that nature, but when was anyone taught basic wilderness ethics that protect the environment outside our homes? Funny thing is, most people are in the same situation because the majority of people live in or cities. Education is key when talking about protecting our forests because the forest is not just one persons, or one agencies forest, it is public land that belongs to everyone.

An example of a bad trail because of the berm causing water to run down the trail instead of off the trail



Pictures taken at the water bars that were found near the ridge that were placed along an old trail, or just a method to focus water off the mountain. Huge gulley's formed as a result of these water bars





One of the many gulley's that are relentlessly trying to destroy the trail below

