South Fork American River Watershed Cohesive Fire Strategy Wildlife Surveys and Habitat Restoration Project

U.S.D.A. Forest Service, Placerville Ranger District
Eldorado National Forest

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WRI Internship: 06/02/18-07/30/18

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Submission Date: 07/30/2018

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Acknowledgements

I would like to thank the WRI program in association with California State University, San Bernardino for allowing me to attain this internship opportunity. I would also like to thank Susan Yasuda, Stephanie Ellsworth, and the entire wildlife crew for creating a safe and educational environment. I am exceptionally grateful to my advisor, Christina Rodriguez, for always offering her availability and support. In addition, I thank the USDA and the US Forest Service for their initiative to educate students on the career opportunities available through field experience. This project was supported by Hispanic-Serving Institution's Education Program Grant no. 2015-38422- 24058 from the USDA National Institute of Food and Agriculture.

Executive Summary

For my internship project in Eldorado National Forest, I got the opportunity to conduct wildlife surveys on California spotted owls (Strix occidentalis occidentalis), or "STOCs". STOCs are a Forest Service Region 5 sensitive raptor species found in the Sierra Nevadas and can benefit from residing in more densely forested areas. Because of this, forest thinning may have adverse effects on the spotted owl population.

In order to protect the sensitive species, there are protocols established by the U.S. Forest Service that require wildlife surveys to be conducted in areas where commercial thinning plans are taking place. It is only when the benefits of thinning, such as reduced fire risk, are high and the risk of disturbance to sensitive species is low that the commercial thinning will be performed.

By conducting these wildlife surveys, data that determines the effect on activity of STOCs can be assembled. This data can help prevent the implementation of forest thinning techniques in areas where there is substantial STOC activity as well as monitor areas already thinned that had historical STOC activity nearby to help measure the long-term effects. This information can help to improve the processes already in place to better protect both the forest and the wildlife in the future.

Project Objectives

California spotted owls (Strix occidentalis occidentalis), or "STOCs", are a Forest Service Region 5 sensitive raptor species found in the Sierra Nevadas, where established forests play a significant role in the success of the species by providing an ideal habitat (Solis & Gutiérrez, 1990). STOCs rely on the density of forest regions to help protect them from predators. Since they have the ability to navigate successfully through dark and compact units, areas where the forest is dense offers them an advantage over other species. The increased practice of commercial thinning of forest areas, although proven to be beneficial in reducing fire risk, has raised the question of what effects such practices have on wildlife. To help protect wildlife, protocols and policies established by the Forest Service help ensure that commercial thinning is conducted with minimal risk to sensitive species, and only when the benefits of thinning are far greater than the any long-term negative consequences (Odion, Hanson, Dellasala, Baker, & Bond, 2014). In order to thoroughly monitor the presence of wildlife in potential project areas, surveys are necessary.

The goal of conducting wildlife surveys during the project for spotted owls is to assemble data to help determine if commercial thinning of forests has a significant effect on the activity of STOCs and their populations. This data reduces the negative impact on spotted owls by supporting the planning of the locations of future project areas and eliminating project disturbance in ranges with substantial STOC activity.

My goal is to become a biologist with a focus on conservation and restoration within the US Forest Service. I hope to be able to provide quality service and protection to the National Forests through passion and dedication. I strive to educate others about what I have learned about Eldorado National Forest along with general field safety in hopes of spreading awareness.

Project Approach

In order to collect data on STOCs, predetermined routes were driven and "hooted" along at marked areas referred to as "callpoints" during evening hours. "Hooting" is the act of imitating spotted owl vocalizations in order to get an individual to respond. Callpoints were coordinated to correspond to the areas around historical STOC presence and/or the boundaries of a project area. At each callpoint, there was a procedure to be followed. If there was a response from an owl, a bearing was taken with a compass, and noted on a map and outing form, along with the estimated distance of the owl. In response to this event, there would be a follow-up of 4 hours involving an intensive search of the area for signs of the STOC (including nests, feathers, whitewash, or the STOC, itself). Multiple

visits are made to an area to detect spotted owl presence.

Along with follow-ups, "mousing" could be practiced. This method of gathering information on a STOC included hiking into an area where a detection of spotted owl presence had been made, and locating the detected spotted owl. Once the STOC was located, a mouse could be offered to the individual on the end of a stick. If the STOC picked up the mouse, the raptor could then be followed to its nest, or further observed to see where it decided to roost. This would be beneficial in marking nest locations, identifying pairs of owls if the mouse had been delivered to a mate, and recording data on preferences of nesting conifers.

Mapping was a fundamental component to the research being conducted. Maps were used to note locations, incidental events, and navigate to different regions where callpoints were located. Marking bearings taken in the field onto working maps was crucial to planning the areas to be covered for follow-ups and intensive searches after receiving a detection. This method could also be used strategically to triangulate, gain bearings from multiple locations and physically mark on a map, revealing the location the STOC call had called from to allow for more accurate and productive follow-ups and intensive searches.

Project Outcomes

The results of conducting the wildlife surveys were that they successfully detected the presence of spotted owls either in or around project areas. The intensive searches confirmed whether the STOCs were nesting within the project areas, or if most of their activity was occurring outside the perimeter of the zone to be thinned. If the STOCs were exhibiting activity outside of the project area, it had to be determined what distance of buffer from the zone could be tolerated without disturbing the habitat of the spotted owls located.

However, some of the spotted owls detected during evening surveys were not able to be physically located during daytime follow-ups and intensive searches. A solution to this could be to schedule the night surveys in the later hours of the night so there would be daytime hours allotted to locate the spotted owls immediately after detection during night surveying.

There were several occasions where it was most advantageous to alter the plan to adapt to the conditions of the day. For example, a driving route would need to be altered due to the conditions of the intended road, or a driving point would need to become a point hiked to during daytime hours due to a fallen tree across the road. Initiative was developed by allowing individuals on the crew to look at a map and generate a logical plan to maximize productivity and reach goals.

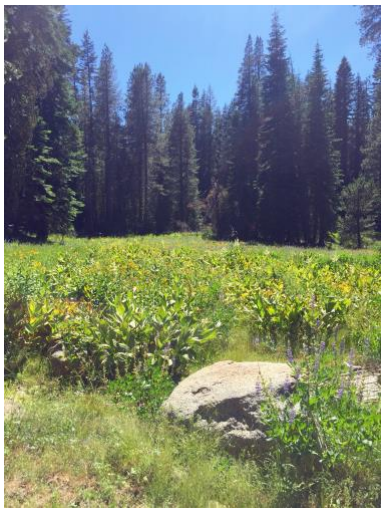
Adaptability became a key element of productivity in the field. Because field conditions and often roads conditions were unknown, the ability to acclimate to an ever-shifting situation was essential to reaching daily goals. Because there is little casual communication outside of the crew present within the field, original plans were often discussed and modified to most logically achieve predetermined goals. Also, goals revised to maintain a level of productivity if it were apparent that the original goal was unattainable at that time.

Conclusion

There was a significant amount of data collected on STOC presence and activity in and near project areas with potential plans for commercial thinning. This data will help determine which areas will be thinned, and which areas will be protected in order to minimize disturbance to spotted owls.

Through this wonderful opportunity, I have successfully taken the first step to becoming a contributing member of the US Forest Service. My bachelor's degree in Biology in combination with this field experience puts me in a better position to move forward with my career goals. With the knowledge that this was a step in the right direction, I hope to have the opportunity to accept more internship positions in the future and continue to actively seek both education and experience in this field. I learned how to successfully navigate through the forest, how to conduct wildlife surveys based on protocols, how to minimize safety risks in the field, and how to work successfully as part of a team to achieve a common goal.

Due to the fact that commercial thinning does have great benefits in reducing fire risk, this project is being analyzed for implementation. The project areas surveyed will be regularly changing as new areas are proposed for thinning projects.



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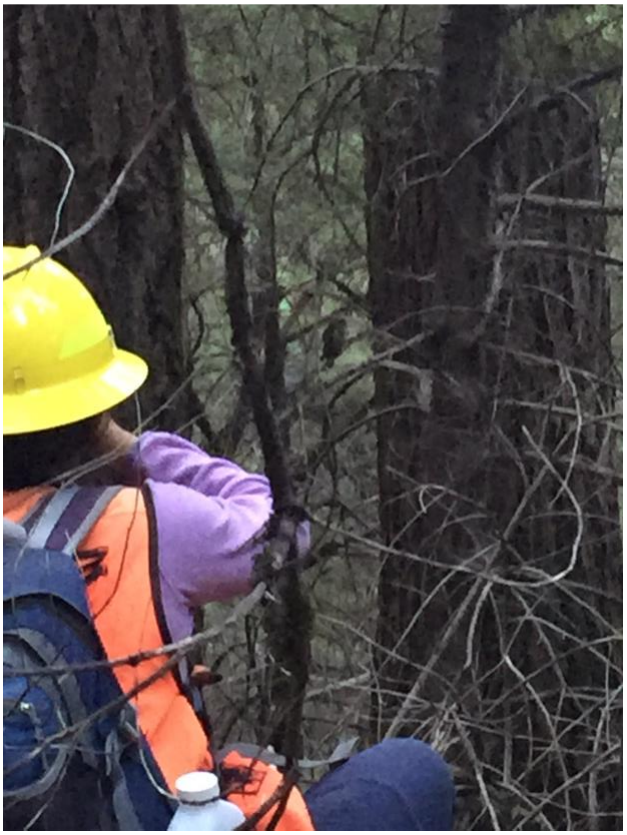
Appendix

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Fresh Pond
Cedar Grove
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Camino
Sly Park
Darlington
Bryants
Morrison
Sierra Springs
Pleasant Valley
Happy Valley
Pilliken
Bonetti
Voss
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Grizzly Flats
Meiss