Field analysis and treatment of invasive plant species in the Angeles National Forest, Southern California

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USDA Internship: May 18, 2014 – January 15, 2014
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December 18, 2014
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Acknowledgements

I would like to sincerely thank my supervisor Katie Vin Zant for all her support and guidance through this entire process. I would also like to thank my fellow field supervisors Andrew and John Leyva for the repeated guidance and expertise on identifying and treating invasive species in the Angeles National Forest. Lastly I would like to thank the Water Resources Institute for affording me the opportunity to carry out this research with the United States Forest Department: This project was supported by Agriculture and Food Research Initiative Competitive Grant no. 2011-38422-31204 from the U.S. Department of Agriculture (USDA) National Institute of Food and Agriculture.
Executive Summary

This project aimed at surveying various target locations throughout the Angeles National Forest in efforts to locate and eradicate non-native invasive species in an effort to preserve the natural balance of fauna in the many diverse ecosystems of the Angeles National Forest. The over abundance of non-native species upsets the delicate balance of the many ecosystems in the national forest by altering the natural processes of competition between the diverse native species within those ecosystems. This disruption takes the form of unbalanced nutrient distribution and unnatural water distribution, which in a desert climate such as Southern California can prove costly to the watershed within the national forest and costly to residence and Forest Service personnel.

We are currently approaching the problem in sections through the use of 4 or more man crews. Initial efforts are targeted in certain areas within a designated quadrangle of the Angeles National Forest. These areas of the national Forest include, areas of the transverse mountain ranges adjacent to San Bernardino, Rancho Cucamonga, Monrovia, Arcadia, Santa Clarita and San Fernando. Various locations in these target areas are then surveyed and those that require attention are marked; the list of invasive species that are being sought out for identification and removal totals number more than a hundred. With such an extensive list and a large area to cover this project is ongoing on an annual basis.

Information gathered about the different types of invasive species are then plotted on a GPS while in the field and are then transferred into a U.S. Forest data base at one of the various Forest District Offices in Los Angeles County. In this particular case information was downloaded at the U.S. Forest Service Supervisors Office in Arcadia, California.
Project Objectives

The project aimed at studying the effect of invasive species on the local ecosystem and the impact various species had on local watersheds included those that reached residential, commercial, and Forest designated zones.

The project used U.S. Forest vehicles to transport the crew to various locations throughout the forest with our progress being documented on series of extensive maps provided to us by Botanist Katie Vin Zant. Each field supervisor was provided with a map of the designated area for each project and a GPS to ensure that the most accurate route was followed and surveyed. In addition each filed supervisor was supplied with a GPS that stored and documented each area where targeted invasive species were found. Once the crew, including myself, found one of the targeted invasive species, we were then to catalogue it in the GPS and remove it.

It is to my understanding that the U.S. Forest Service invasive species removal project has being ongoing for the last 5 years and continues to do so on an annual basis. The importance of this is in resurveying already surveyed areas to assess the success rate of invasive species removal.

The best way to assess the success of the Invasive Species removal project is to document the numbers of thriving invasive species after initial removals and to assess the numbers of thriving non-invasive species. In addition to monitoring the health of local ecosystems one can monitor the quality of local watersheds.

Local watershed quality can be monitored by the health of local fauna in the many areas that have been surveyed and annual water levels in those same areas.
Project Approach

This project required an initial period of study. The list of invasive species being targeted was very extensive and required dedication to identifying the subtle differences between related families and genera. After an initial period of study and review I was able to join one of the crews in the field. We focused on particular areas of the forest designated by our supervisor. We were given a list of invasive known to be prevalent in those specific areas and we then sent in to plot them and remove them accordingly.

Many of the areas in which we were send were subject to fires both prescribed and non-prescribed. Our goal was to survey as best we could and mark the areas, which needed the most attention. We marked our progress on a physical map as well as in a GPS. That information was given to our Supervisor Katie Vin Zant who then would give us our next area on which to focus.

The general approach to our work was to gather information from previous years hotspot and then proceed to re-monitor them and branch out into neighboring areas to survey and document. Once the initial surveying was complete we would then proceed to the next step of removal, which would be then followed up by recording our data and then transmitting it to the Forest service.
**Project Outcomes**

At this time of the report the crew I was working with was focusing on the Angeles National Forest in various areas between San Fernando and San Clemente. We are currently removing invasive species Spanish Broom from the surrounding areas and have not been able to go back as of yet and monitor the other sites we have worked on throughout the course of the last 7 months. We have removed a large volume of invasive species from the various sites within the Forest including Spanish Broom, Tocalote, Russian thistle, yellow Star Thistle, Fountain Grass, Poison Hemlock, Castor Bean, Tree Tobacco and Tree of Heaven.

At the time of this report, the project is still in progress. The crew I was with is continuing its work on removing invasive species Spanish Broom and will move on to the next area of the Forest and next target species when they are done.
Conclusion

At this time there is no way for me to prove if our work was successful. The best way to follow up would be to do work in the same areas that we have been working in over the last 7 months and document the growth and health of both the invasive and non-invasive species in those areas. While I cannot do this myself self I am confident that the crew will continue to work under the careful direction of Katie Vin Zant.

In spite of finishing my project with the Forest Service I would very much like to keep in contact with the crew and my supervisor and find out the progress of the work we have done and see if its effects can be seen. This will require me to reach out on my own and visit the Supervisors Office in order to look at updated data on the survey areas in which we were focused.
Images

Spanish Broom.

Spanish Broom in Bloom.

Telegraph Peak, Cucamonga Wilderness.