

# Evaluating the Impact of Native Vegetation Disturbance on Fire Risk in San Diego County

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## **Background**

In December 2020, I was approached by a local land conservancy to do a literature review on the effects of native vegetation disturbance on fire risk in San Diego County. I was incredibly excited about this project as I plan to apply to graduate school, for biogeography, in the coming year. I was curious to see what literature has been published on this topic specific to San Diego County. I knew right from the start that I would use the Kellogg Library's online database to search for peer-reviewed scholarly articles.

## **Search Methodology**

As I began my review processes, my faculty advisor, Christina Simokat, and I discussed the formation of my research question and where to begin searching for materials. While the land conservancy suggested that we could design an experiment using their preserves, Ms Simokat and I recommended that we consider a meta-analysis, as we were already familiar with several scholars working on related topics. In addition, by first researching what work had already been done in this area, we could avoid losing any further habitat, and avoid any possible fire risk in experimentation.

I started to do some preliminary research to see what literature has been published and if we would need to alter our question. I primarily used OneSearch to search a multitude of databases. I was worried there would not be enough published articles that pertained directly to my research question, and I would have to broaden my search parameters. However, I was

pleasantly surprised to see the vast number of articles that are specific to San Diego County. I did, in turn, broaden my search parameters for a few articles but managed to keep them contained within the region.

One part of my research process where the library resources proved exceptionally helpful was being able to directly reach out to my librarian, Lalitha Nataraj, for help on background information pertaining to my project. I found it challenging to locate specific government documents on fire ordinances in the county, and she was able to point me in the right direction. Lalitha sent me a list of different articles that helped give me a background into what procedures are being used in the county to assess fire risk and manage hazard zones.

I examined 25 documents in total; 22 of which are original investigations from scholarly journals accessed in online databases (One Search, EBSCOhost, Science Direct, JSTOR, Springer Link, etc.). The other three are government documents from the County of San Diego. These studies were grouped into four subtopics that examine different elements of the effect of native vegetation removal on fire risk. My subtopics consist of the effect of removal of native vegetation through controlled burns or unintentional fires, effects of removal of native vegetation through mechanical disturbance, effects of the presence of non-native grasses on fire risk, and the relationship between mature chaparral and coastal sage scrub stands and fire risk. Separating the literature into subtopics gave me a well-rounded approach that I used to construct recommendations for the land conservancy.

The recommendations pertain directly to the literature discussed – shifting the current paradigm away from removing habitat and towards hardening homes against fire and creating

development in safer parts of the county. My recommendations are centered on preserving the native vegetation for the benefit of San Diego County residents and habitats.

This project was able to excel due to the availability of library resources and the expertise of the CSUSM librarians. Without these resources, this review would not have been possible. I hope my research can provide grounds for safer practices throughout the county and the preservation of lives, homes, and our native habitats. As I continue to graduate school, I hope to continue to study human-fire dynamics.