

Fuels



The fuels assessment layer is valuable for explaining much of the local situation. This layer can help focus attention on solutions.

The fuels assessment considers current flammability of wildland fuels, given location on the slope, average bad weather conditions, ladder fuels, and crown density.

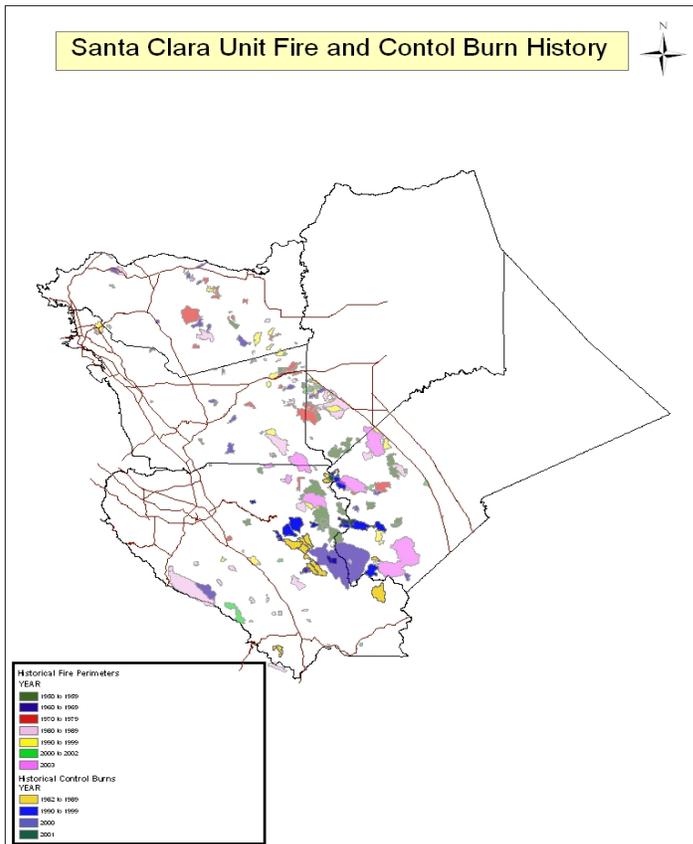
Fuel, in the context of wildland fire, refers to all combustible material available to burn on an area of land. Grass, brush and timber are the most common fuels found in our mountain ecosystem.

Hazardous Fuels Assessment

Arrangement is critical in wildland fire behavior, for it dictates how a fire spreads. Un-compacted fuels, such as grass, spread fire rapidly since more of its surface can be heated at one time. Compacted fuels, such as pine litter, burn slower because heat and air only reaches the top of the fuel. Vertical arrangement refers to a fuel's ability to spread upward into treetops. These are called ladder fuels and are influential factors on fire spread. The ignition of ladder fuels allows the fire to spread from the ground into the treetops. Crown or canopy refers to the tops of trees and is very important in stands of burning timber. A fire once introduced by ladder fuels to the tops of dry conifers can spread as rapidly as a grass fire from treetop to treetop.

The current fuels layer is a product of a GIS mapping project and a fuel survey and cataloging program using aerial photography and ground survey of the areas completed in the mid 1990's. While this data is still somewhat current it is need of updating. Other areas that have been identified within the fuels category are; the lack of a definitive fuel type representing housing or buildings as a fire carrying fuel type, the narrowness of the crown score rankings. When the crown score is factored into the assessments it is only for one fuel type, Interior Conifer (Pine trees), and the percentage of time when that given fuel type will promote and sustain a running crown fire. While this type of fire is very rare in the Santa Clara Unit, as well as much of the rest of the state, the fact remains that while not producing the same visual image as a running timber crown fire other fuel types also can, and do on a much more common basis, a type of crown fire. Given these facts, and the lack of money to accomplish the needed updates of the fuels layers by the Fire and Resource Assessment Program, the unit's Pre Fire Engineer has been trying to secure a stable funding source to accomplish these goals.

Fire History



Wildfire history is a significant factor of the pre-fire management planning process. The fire plan assessment framework incorporates detailed information for determining the most beneficial locations for pre-fire management projects, an idea of the level of service on SRA for the unit and various assets at risk information. Fire history is a piece of the puzzle that allows unit personnel to learn from our past and make an attempt to prepare for future fire behavior. Having knowledge of fire history provides an account of historic fire travel in a particular area. Armed with knowledge of historic fire spreads, fire suppression

forces are better equipped to predict fire spread potentials. Identifying where the largest and most damaging fires have occurred is a necessary step in preparing for future wildfire. The most significant aspect of fire history in Santa Clara Unit is that personnel are able to compare the relationship between identified assets at risk and the historic burning patterns of wildfire which allows for a more informed decision making processes when preparing fire planning documents and procedures. Below is the wildfire history for Santa Clara Unit between 1900 and 2008. The maps display significant patterns that are used in pre-fire planning process.