

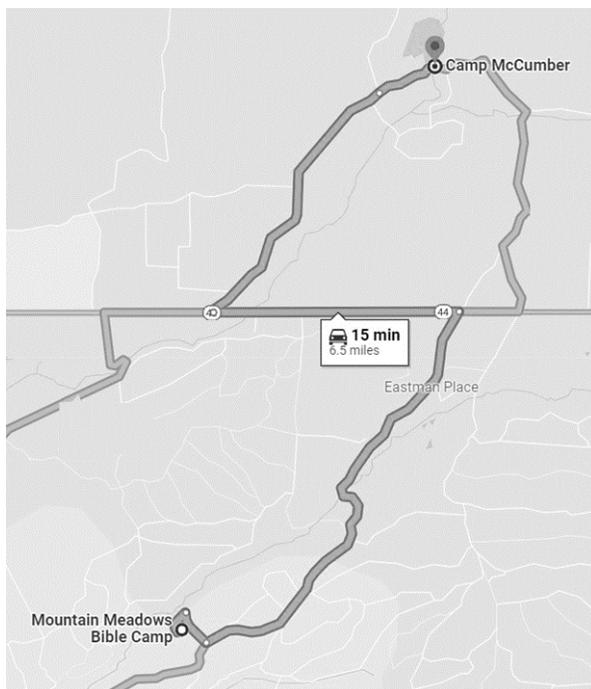
# 2021 SHASTA FORESTRY CHALLENGE

## FOCUS TOPIC QUESTION

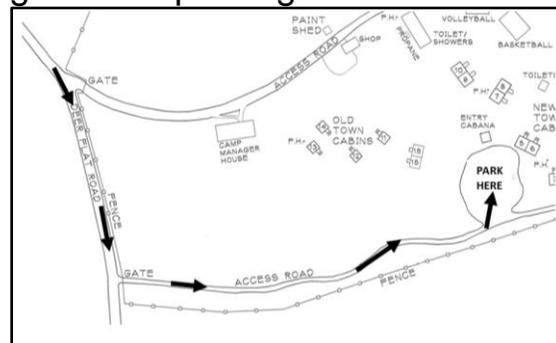
### Introduction:

The focus topic is ***Creating a Firesafe Landscape at Camp McCumber***. Students will collect data at Camp McCumber to create a comprehensive data set on the status of the forest and will recommend a prescription for harvest that creates a more firesafe landscape while continuing to provide a forested camp experience.

### Location:



Camp McCumber is approximately 10 miles east of the town of Shingletown in eastern Shasta County at an elevation of 4,000 feet. It is a mixed conifer forest type. It is a 15 minute drive from Mountain Meadows Camp. Upon arrival, use the second gate to get to the parking lot.



### Background Information:

#### Camp McCumber

Camp McCumber Corporation is a 501(c)3 non-profit organization managed by two non-profit member organizations, the Shasta Family YMCA and the Lions Club. These organizations assign volunteers from their organizations to serve on the Camp McCumber Board of Directors. Camp McCumber is located on a 40 acre parcel owned by Pacific Gas and Electric (PG&E). PG&E leases the land to the Camp McCumber Corporation, which owns the buildings. The member organizations run youth camps in the summer and the facilities are available for rent for meetings, weddings, and retreats.

## California Fire History

This region has experienced many large and damaging fires in the last century. In recent years the average size of wildland fires has increased significantly. Twelve of the 20 largest fires in California history have occurred in the last 5 years with 8 of those at the top of the list. Not only has the size of fires increased, so has their intensity and the number of structures destroyed. The edge of the Dixie Fire, which is still burning and currently at 963,276 acres, is only 7 miles from Camp McCumber. It is in the Camp McCumber board's best interest to manage their forest to reduce the risk of high intensity fire when a fire burns through the area.

## Fire Behavior



Above are diagrams of the Fire Triangle and the Fire Behavior Triangle. You will notice that the one element common to both triangles and the one we can most directly influence is Fuel.

When fuels (small trees & brush) are present and connected, such as from the ground to the treetops or crowns, a fuel ladder exists that can carry a surface fire up into the crowns, where the fire becomes far more dangerous and difficult to control. A crown fire can sustain itself when trees are too close to each other such that their crowns (branches) once ignited can spread fire crown to crown. Therefore, to reduce the chances of a crown fire, it is necessary to disconnect both vertical and horizontal fuels.

## Fire Hazard Severity Zones

The Fire Hazard Severity Zone maps are developed using a science-based and field-tested model that assigns a hazard score based on the factors that influence fire likelihood and fire behavior. Many factors are considered such as fire history, existing and potential fuel (natural vegetation), predicted flame length, blowing embers, terrain, and typical fire weather for the area. There are three levels of hazard in the State Responsibility Areas: moderate, high and very high. The entire area between Redding and Lassen National Forest, including Camp McCumber, is rated "very high".

## Wildland Fire Risk Assessment

Risk assessment is a scientific approach to quantifying risk and serves as a decision support tool that can guide decision making on where to focus fire prevention efforts as well as to inform insurance companies on the risk of issuing policies in fire-prone areas. Fire and fuel managers assemble information on where fires are likely to occur, the intensity at which they might occur, and likely impacts to highly valued resources and assets (such as the buildings at Camp McCumber) and assign a relative risk value from 0 to 100.

Recently, Camp McCumber underwent a wildland risk analysis, and its score is a “perfect” 100 out of 100. While Camp McCumber cannot control where fires are likely to occur or their intensity when approaching, they could potentially lessen the impact to their buildings if their property was firesafe, with trees spaced apart and defensible space around buildings.

## Fire Insurance

As the number and severity of wildfires increase, insurers are increasingly reluctant to renew policies and even if they do, premiums often double or triple. If a property owner cannot obtain regular coverage, they are forced into the insurer of last resort, FAIR, that has very high premiums and limits on coverage. The FAIR Plan is a syndicated fire insurance pool comprised of all insurers licensed to conduct property/casualty business in California. The FAIR Plan was established in August 1968 as an insurance replacement option.

Camp McCumber has been insured by Scotsdale Indemnity for \$25,000 per year. Scotsdale recently informed Camp McCumber that the current policy, which expires at the end of October, will not be renewed. If Camp McCumber is forced to use the FAIR plan it will cost \$113,000 per year.

## Forest Inventory

An inventory is a cornerstone of forest stewardship planning. It quantifies the forest and helps managers identify actions to be taken to meet management objectives. An inventory provides information on species composition, tree density, basal area, and volume, and helps document change (growth and mortality) in the forest over time. A current inventory is required for any harvest to occur and is the basis for the harvest prescription. Camp McCumber does not have a current forest inventory.

**Fieldtrip:** On the afternoon of Thursday, September 30, your team will be assigned two 1/10 acre plots for data collection, and you will determine:

- The diameter at breast height (dbh) and total height of trees with a dbh of 10" or greater, and their species
- For each of those trees, the distance to the next closest tree
- The number of trees between 1" and 9.0" dbh
- The percentage canopy cover
- The amount of growth of the tree for the last 10 years as compared to the 10 years before that
- Basal area using an angle gauge, which will be compared to the raw data of each tree's dbh

### **Items to be Addressed in Your Presentation:**

Your presentation should address the following topics:

1. The location, size, and current use of Camp McCumber
2. Camp McCumber's fire hazard severity zone and current wildfire risk
3. The current situation with insurance
4. The method of data collection and a summary of the data
5. A harvest prescription that will reduce the wildfire risk and a financial analysis of the plan

### **Resources:**

You will be given resources on a flash drive to load onto your team's computer. Additionally, you can use photos you take during the fieldtrip and statements from foresters you work with and interview during Ask a Forester.

### **Final Product:**

Your goal is to produce a 15-minute PowerPoint presentation that describes, in detail, the current forest conditions at Camp Mc Cumber and your economically feasible harvest plan that will reduce fire risk. You are encouraged to use photos and information collected on the fieldtrip, interviews with resource professionals during the Challenge, and the maps, tables, and information in the resources provided. Additionally, use the judges' score sheet as a checklist, to make sure you cover the items on which you will be scored.