

## 2003-2024 FORESTRY CHALLENGE CHAMPIONSHIP FOCUS TOPIC QUESTION

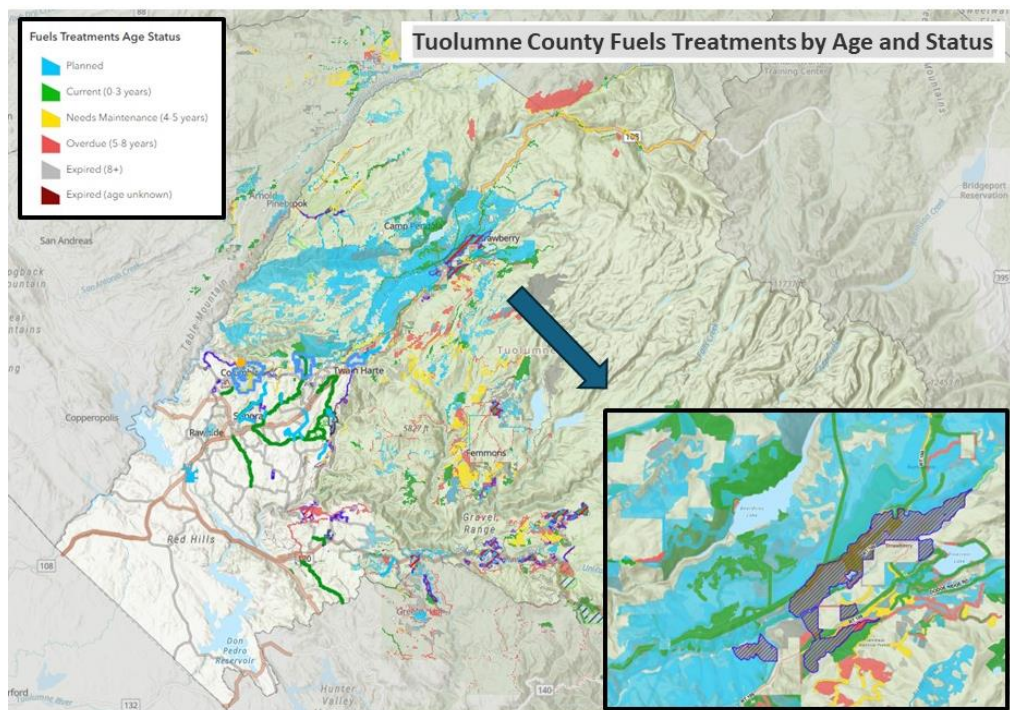
### Introduction:

The focus topic is **Fuelbreak Maintenance**. Students will identify the various methods used to treat existing fuelbreaks to maintain them and create a “mini-manual” with a flowchart that will help land managers determine which method works best for specific locations and situations.

### Location:

In 2021, the U.S. Forest Service announced the Wildfire Crisis Strategy and identified 10 initial landscapes targeted with additional funding for fuels reduction work through the Bipartisan Infrastructure Law and the Inflation Reduction Act. The Stanislaus Landscape Project was one of these ten. Within the Stanislaus Landscape, work was already underway on the Social and Ecological Resilience Across the Landscape Project (SERAL), and the treatment area grew to more than 300,000 acres.

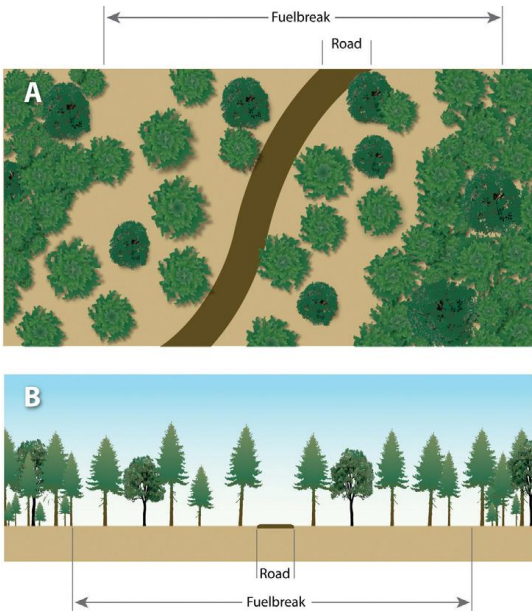
Primarily focused along California’s Highway 108, the Stanislaus Landscape’s 305,000-acre planning area is a mix of federal, state, and private land with plans to treat up to 120,000



acres of national forest. Of the landscape total, nearly 127,000 acres within the landscape are privately held. At this time, thousands of acres of fuelbreaks have already been created within the Stanislaus Landscape Project area.

## Background Information:

### Shaded Fuelbreak

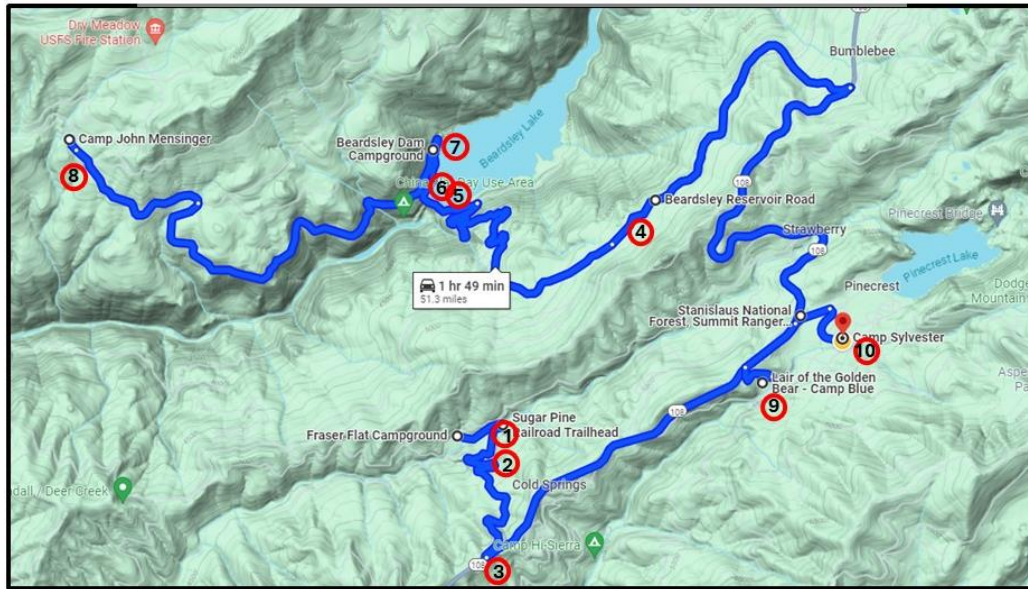


A shaded fuelbreak is a strip of land where fuel (for example, living trees and brush, and dead branches, needles, or downed logs) has been modified or reduced to limit a fire's ability to spread rapidly. Within the shaded fuelbreak, overstory trees are thinned to reduce crown-to-crown overlap (crown bulk density). In addition, within the shaded fuelbreak, understory trees and combustible shrubs (e.g., ladder fuels), heavy ground fuels, and snags are reduced or removed.

### Maintenance Treatment Options

Once a fuelbreak is established and vegetation is reduced, the system will immediately start to fill in the gaps by growing brush and trees. The rate of growth is dependent on the site class, or ability of the landscape to grow vegetation. Within 10 years, the site will need one or more maintenance treatments. Without retreatment, the fuelbreak will no longer be effective. Here are some of the options and their attributes:

<b>Treatment</b>	<b>Resources Needed</b>	<b>Risk</b>	<b>Relative cost per acre</b>
Mastication	Equipment	Moderate	High
Hand Piling	Labor	Low	High
Machine Piling	Equipment	Low	Moderate
Pile Burning	Labor, burn window	Moderate	Low
Broadcast Burn	Labor, burn window	High	Low
Herbicides	PCA, labor	Low	Moderate
Grazing	Livestock	Low	Moderate



**Fieldtrip:** On Thursday, April 18, we will visit several existing fuelbreaks and managed forests where one or more of the following treatment options has been applied:

Stop 1: Hand cut and piled, piles not yet burned. Relatively light fuels piled loosely for easy ignition. Some material left on ground may consume as the burn piles creep.

Stop 2: Masticated and machine piled, piles not yet burned. Dense overstory because tree removal diameter limit was 10". Lighter materials masticated, leaving the heavy material to pile in dense piles. More difficult ignition and consumption than stop 1.

Stop 3: Masticated and machine piled, piles burned. Open stand because the treatment was recently completed.

Stop 4: Broadcast burned in north facing mixed conifer. (Not sure about treatment prior to burning.). A good example of a broadcast understory burn with appropriate consumption of small conifers and minimal damage to larger conifers. North-facing slope so conditions wetter than nearby south-facing slopes.

Stop 5: Looking at broadcast burn on northern canyon wall, south-facing slope of Ponderosa Pine/Canyon Live Oak dominated stand. A good example of a large-scale, broadcast understory burn with appropriate consumption of surface fuels and mortality of brush and smaller trees with acceptable level of damage to larger oaks and conifers. South-facing slope so conditions relatively dry.

Stops 6 and 7: Stop 6 is a group photo at the dam and Stop 7 is a bathroom break at Beardsley Dam Campground.

Stop 8: SPI clearcut and fuelbreaks where herbicides have been used. Clearcut unit designated as a future fuelbreak where stocking will be kept at levels low enough to create horizontal separation. Treatment designed to reduce brush competition to allow seedlings to flourish. We will be able to make a loop at the far end of the field trip route to see fuelbreaks with herbicide treatment in the understory.

Stop 9: Established fuelbreak in need of re-treatment. This area was harvested, mechanically treated, and then broadcast burned about 10 years ago and needs re-treatment. Moderate understory of mixed conifer species and mixed brush species. Mature overstory with wide spacing and high basal area.

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

1. Location, size, and purpose of the Stanislaus Landscape Project (SLP)
2. Description of a fuelbreak and its use in the SLP
3. Options for maintaining existing fuelbreaks and their pros and cons
4. Landscape and ecological features to consider when choosing maintenance options
5. An explanation of a flowchart used to make decisions and the application of the flowchart to the example fuelbreak in need of maintenance

### **Resources:**

On Wednesday evening, 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 PowerPoint presentation that describes the need for fuelbreak maintenance, treatment options, a flowchart to guide decision-making, and the application of the flowchart to a specific location. You are encouraged to use photos and information collected on the fieldtrip, interviews with resource professionals during the Challenge, and the 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.