

# 2022 SHASTA FORESTRY CHALLENGE

## FOCUS TOPIC QUESTION

### Introduction:

The focus topic is ***Post Treatment Monitoring of the North 49 Forest Health Recovery Project***. Students will collect data on two units of the Project that have been treated according to the Project specifications and will determine if the treatment meets the Project objectives.

### Location:

The North 49 Project boundary encompasses 42,400 acres and is located to the northwest of Lassen Volcanic National Park, on the Hat Creek Ranger District (HCRD) of the Lassen National Forest. Within the 42,400 acres, 16,093 acres have been or will be treated, including units 71 and 72, which is the site of our data collection.



### Background Information:

#### Historical Forest Conditions

Historical references that describe forest structure, composition, and function provide a baseline for understanding desired conditions. Quantitative data on tree species, size, and density is very limited prior to fire suppression and logging activities occurring in the North 49 project area. The only available data to provide quantitative comparison was derived from survey notes taken from the General Land Office. Here is a comparison of 1883 forest conditions as compared to the present day:

Forest Component:	Status from 1883 GLO survey	Present Day stand exams*
Tree densities	Average of 79 trees per acre	Average over 400 trees per acre
Prevalence of pine species	Pine account for 50% of tree species	Pine represent less than 15% of all tree species
Prevalence of white fir and cedar	White fir and cedar account for 36% of tree species	White fir and cedar represent 75% of all tree species
Number of large trees	Roughly 18% of trees are 30" dbh or larger	Roughly 7% of all trees are 30" dbh or larger

## History Of the North 49 Project

2004: The North 49 Forest Health Recovery Project was first listed in the Schedule of Proposed Actions (SOPA) as an environmental assessment (EA) in February 2004. Comments on the Purpose and Need and Proposed Action were requested from the public and other agencies during scoping in March 2004. In August of 2004, an EA and Finding of No Significant Impact were released to the public. The decision was appealed and later litigated, resulting in an injunction.

2005: A Notice of Intent (NOI) to prepare an Environmental Impact Statement was published in the Federal Register. Public input was requested on the Purpose and Need, and Proposed Action for the North 49 Project. A Draft Environmental Impact Statement (DEIS) was prepared and provided to the public for a 30 day comment period in April of 2006.

2006 to 2008: Three field trips were conducted into the project area with commenters concerned about the project environmental and socio-economic impacts, to assure their comments were clearly understood. Alternative 7, the Preferred Alternative, was developed to address the information, issues and concerns that were brought up in written comments and during field trips. New data was incorporated into Alternative 7 and was used to develop actions that more effectively achieved the project's purpose and better addressed resource issues and concerns such as late seral stage habitat for California spotted owls and American marten by creating a multi-age forest with structural and species diversity.

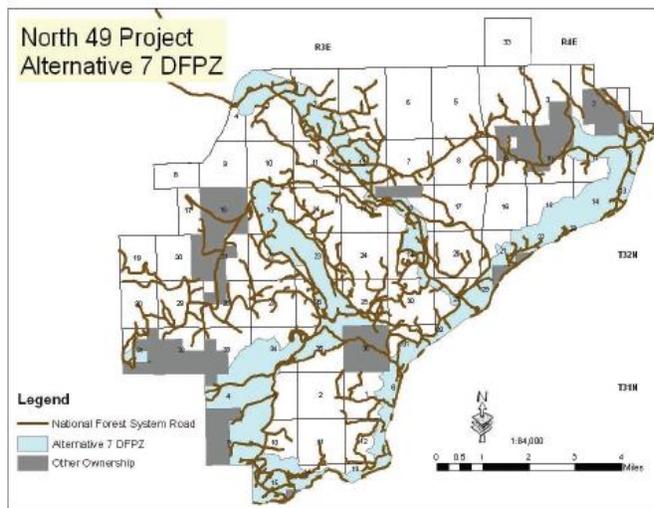
2008: The project was finalized by the Lassen National Forest Supervisor by filing a Record of Decision (ROD) in April 2008. An appeal was filed in June 2008 by Sierra Forest Legacy. A response was issued in August 2008 recommending the decision be affirmed or upheld. Sierra Forest Legacy did not file suit and the project began.

2008 to 2022: Timber sales were created and implemented on several parts of the Project, including the Shooter Timber Sale, which includes units 71 and 72. Operations on the Shooter Timber Sale were conducted between 2015 and 2016.

## North 49 Project Summary

The purpose of the North 49 Project is to begin restoring fire-adapted ecosystems by creating an all-age, multistoried, more fire-resilient forest that approximates pre-settlement conditions within the 42,400-acre project area. Desired conditions include establishing:

- open forested areas that act as fuelbreaks characterized by fire-resilient tree species, reduced surface fuel loads and ladder fuels where periodic low-intensity surface fires can be safely reintroduced and where wildfires can be safely fought
- sustainable forested areas dominated by fire-resilient tree species with supportable tree densities that decrease the risk of mortality from insects, drought and disease, and exhibit multistory structure that provides habitat for late seral species such as California spotted owls, American marten and northern goshawks.



One factor that determined the placement of the treated acres is the directive to establish a Defensible Fuel Profile Zone (DFPZ) network. The DFPZ network was designed to limit the size of large scale wildfires on the landscape and to provide a safe place for firefighters to initiate direct fire suppression by providing fuel breaks. Here is a map of the DFPZs for Alt 7.

Alternative 7 treats 16,093 acres (approximately 38% of the project area) and includes the following activities:

- thin from below in Defensible Fuel Profile Zones – 4,602 acres
- diversity thin – 5,222 acres
- group selection – 484 groups for 978 acres
- pine restoration – 70 acres
- aspen release – 55 acres
- release thin in pine plantation – 3,591 acres
- underburn only – 1,131 acres
- broadcast burn – 131 acres

Units 71 and 72 had the “thin from below” treatment. The projected average tree diameter is 9 to 22 inches, the desired canopy cover is 45 percent, and the basal area is 160 to 200 square feet per acre. The goal is to thin to a density that would effectively reduce inter-tree competition for approximately 20 years. At the same time, white fir was targeted for harvest and pines were retained to increase species diversity and help restore species composition to historic proportions.

**Fieldtrip:** On the afternoon of Monday, September 26, your team will be assigned one or two 1/10 acre plots for data collection, and you will determine:

- Number of trees in the plot with a diameter at breast height (dbh) of 2” or greater, and their species
- Number of snags and their size
- Number of seedlings in the plot over 12” tall and under 2” dbh
- Basal area using an angle gauge, which will be compared to the raw data of each tree’s dbh
- Canopy cover using a densitometer
- Amount of woody debris, in relative terms (low, medium, or high)

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

Your presentation should address the following topics:

1. The location, size, and purpose of the North 49 Project
2. Treatment completed in units 71 and 72
3. A summary of the data collected
4. A comparison of those results to the Project objectives and historical data
5. Your determination of whether the treatment met the project objectives

**Resources:**

On Monday evening, you will be given resources on a flash drive to load onto your team’s computer, including the results of the cruise. Additionally, you can use photos you take during the data collection 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, post-treatment conditions in units 71 and 72 and a determination of whether or not the treatment meets the project objectives. 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.