

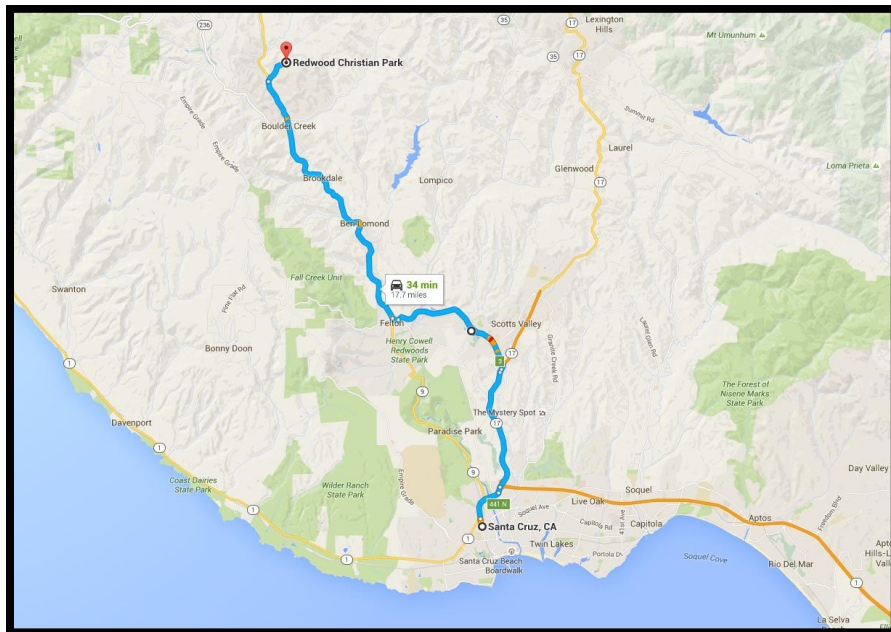
# **2016 SANTA CRUZ FORESTRY CHALLENGE** **FOCUS TOPIC QUESTION**

## **Introduction:**

The focus topic for 2016 is ***Post-Harvest Growth and Sustainability.*** Students will do an inventory of a unit harvested at Redwood Christian Park in 2015 and report on the current stocking level and predicted future growth of the unit.

## **Location:**

Redwood Christian Park (RCP) is a few miles north of Boulder Creek off Highway 9, in Santa Cruz County. Maps of the property are provided on the flash drive.



## **Focus Topic Fieldtrip Location:**

We will be walking to an undeveloped area of the RCP property that was harvested in 2015. There will be a demonstration of the data collecting procedure, then the teams will go to their assigned plots to collect data. After teams collect data at the unit, we compile the information and deliver it back to you, explaining how to use it to answer the focus topic question.

## **Background Information:**

### Logging History of the Santa Cruz Mountains

This area of Santa Cruz County was clear cut between 1884 and 1887. The California gold rush of 1849 created a high demand for lumber in San Francisco, and the Santa Cruz mountains were relatively close by. Oxen were used to drag the heavy logs to small sawmills that were all over the area. The cut boards were transported by ship to San Francisco.

### Redwood Christian Park (RCP)

RCP first opened in 1950 as a retreat center dedicated to Christian fellowship and growth. The forested land, excluding the developed area, is approximately 130 acres. The elevation of the forested areas is between 560 and 1,120 feet above sea level. Coastal redwood comprises 99% of the conifer population, while Douglas-fir makes up the remaining 1%. Hardwoods are scattered throughout the conifer stand and include tanoak, Pacific madrone, California bay, and coast live oak.

### Nonindustrial Timber Management Plan (NTMP)

In California, all timber harvesting on State and private lands is subject to the State's Forest Practice Act and Rules. In 1991, the State Legislature amended the Forest Practices Act to create the Nonindustrial Timber Management Plan (NTMP). The purpose of the NTMP is to allow "nonindustrial" landowners; that is, those who own less than 2,500 acres and are not "primarily engaged" in the manufacture of forest products, to create a "forever" forest management plan which allows for the periodic harvest of trees without going through the environmental review process for each harvest.

RCP hired the professional forestry staff at Big Creek Lumber Company to write an NTMP in the late 1990's. The plan was approved in July 1999.

### Sustainability

Sustainability is "development that meets the needs of the present without compromising the ability of future generations to meet their own needs." Forests managed for timber production are considered sustainable when, over the long run, harvest does not exceed growth. NTMP's must show that management and harvest activities will be done in a sustainable manner.

**Fieldtrip:** On Thursday, November 17, you will visit one of the units at RCP that was harvested in 2015 to conduct a quantitative analysis of the stand that remains after the harvest.

Topics: RCP 2015 harvest details, how to collect data, maintaining a sustainable condition

Activity: Collect data on pre-marked plots in one harvested unit: trees per acre, basal area, average diameter at breast height, and recent growth rates.

### **Landowner Stand Management Objectives:**

The NTMP states 11 objectives, which include:

- Maintain the health and integrity of the forest resource
- Enhance stand productivity in terms of projected growth rate while maintaining appropriate stocking levels
- Continue stand transition from even-aged composition to uneven-aged composition
- Increase average tree diameter within the stand over time
- Maintain economic viability of management activities through periodic selective harvests

### **RCP NTMP Harvest Schedule**

When the NTMP was originally written, the projection was that there would be a harvest every 14 years. The goal was to increase the residual volume, even though there were harvests planned on regular intervals. The initial harvest was in 2000, but the second harvest was two years behind, as it was projected for 2013, but happened in 2015. There was more harvested than planned in 2000, but less in 2015, so the numbers balance out.

Projected Year	Harvest Volume Schedule (Projected)	Actual Year	Harvested Volume (Actual)
2000	668,114	2000	787,390
2013	677,167	2015	539,260
TOTAL	1,345,281		1,326,650

The original plan, as projected through 2111, is on page 66 of the NTMP.

## **Your Task:**

Using data provided about the actual volume removed from the units in 2015, and extrapolating from the data you will collect in the field, we will determine the following:

- Current standing volume
- How fast the trees are growing
- The volume that is growing on the trees each year
- Whether the stand is sustainable, that is, if it is growing more than is being cut

## **Resources:**

You will be given resources on a flash drive to load onto your team's computer. Use these resources, plus anything you download from the internet, to help you answer the questions to be addressed in your presentation.

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

1. The history and current use of the RCP property
2. The definition of sustainability as it relates to timber management
3. RCP's NTMP and the harvest cycle projected when the plan was originally written
4. The actual harvest dates and volumes, and how they differed from the planned harvest entries
5. Current stand volume, and projections for future growth
6. Long term sustainability of the stand

## **Final Product:**

Your goal is to produce a PowerPoint presentation up to 15 minutes in length that outlines the growth cycles for RCP's timber stands and whether the projected growth and harvest cycles are sustainable.

You are encouraged to use photos and information collected on the fieldtrip, interviews with resource professionals, and the information on the flash drive. Additionally, use the presentation score sheet as a checklist, to make sure you cover the items on which you will be scored.