

2024 SANTA CRUZ FORESTRY CHALLENGE

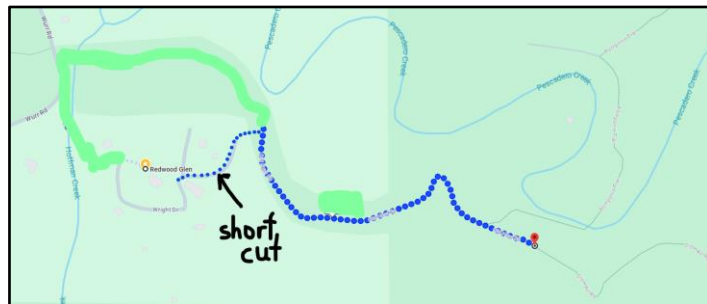
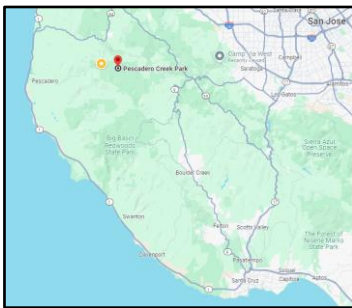
FOCUS TOPIC QUESTION

Introduction:

The focus topic is ***Habitat Resiliency at Pescadero Creek County Park***. Students will determine the forest type in a portion of Pescadero Creek County Park and, with restoration goals as outlined in the Park's Climate and Habitat Resilience Plan (CHRP) in mind, specify a treatment to promote the development of functional old growth habitat characteristics observed in late-successional stands.

Location:

Pescadero Creek County Park (PCCP) in San Mateo County, California is a publicly accessible, 5,943-acre park located in the north-central region of the Santa Cruz Mountains. PCCP is used for general recreational purposes throughout the year such as hiking, camping, backpacking, horseback riding, cycling, and wildlife viewing. Our focus will be Unit 1 of the CHRP at the park, a 75.4 acre area east of Redwood Glen that we will access from the Park's Old Haul Road. By using a short cut through the camp, it is a ½ mile walk from Redwood Glen.



Background Information:

History of PCCP Area

Pescadero Creek and its estuary served as a key source of food for indigenous groups that lived in the area. As European settlers and post-California gold rush developments emerged in the area by the early 1860s, the town of Pescadero became a major transportation hub. Early logging companies were quick to take to the forests surrounding new towns and settlements and harvest expansive tracts of old-growth redwood. If any logging did occur in the area that is now PCCP prior to 1923 it was relatively low production. Sometime after 1930, a railroad line was extended three

miles down Pescadero Creek, through what is now PCCP, and was the primary method for moving logs to a mill east of the park until 1950. In 1950, the railroad was abandoned, the tracks were removed, and a road was constructed which became the main artery for logging trucks. San Mateo County purchased the land now known as PCCP from the Santa Cruz Lumber Company in 1968, but the Company retained logging rights to harvest large trees and continued to log the property until 1971. The county originally planned for the Army Corps of Engineers to construct a 400-foot-high dam blocking Pescadero Creek that would have created a lake containing 60,000-acre feet of water. It was a massive plan that never happened due to opposition of conservationist and anti-development factions. The dam and lake plan were abandoned after a series of public hearings which ultimately made way for a new county park instead.

Current Conditions

PCCP is widely made up of second-growth redwood, a term referring to redwood forest communities that have developed as resprouts from former old-growth stands. Dense second-growth redwood stands occupy much of the south portion of the property, including Unit 1. The intensive logging that occurred within the park during the early to mid-20th century have directly resulted in overly dense tree and shrub regeneration that prevent light penetration to the forest floor and promote high levels of competition. The absence of frequent, low-intensity disturbance has encouraged unhealthy forest conditions, horizontal and vertical fuel loading, and public safety hazards where dead, dying, or diseased trees pose a threat to park visitors and staff.

Creation and Goals of the Climate and Habitat Resiliency Plan (CHRP)

After the CZU Lightning Complex Fire burned over 2,800 acres of PCCP in 2020, San Mateo County Parks partnered with Auten Resource Consulting to comprehensively assess post-fire conditions and develop a plan to manage the park's forest ecosystems going forward. The CHRP focuses on cultivating a forest that is more resilient to climate change and landscape events such as disease and fire. The Plan outlines forest restoration and management approaches that will guide the Department in achieving its goals. The goal we will focus on is *restoring ecosystems and promoting old-growth forest habitat characteristics*. These habitat conditions can be restored by reducing forest density to allow the remaining second-growth trees to thrive. The CHRP is intended to be in place as a "living document" capable of being amended by San Mateo County Parks over the long term or as environmental, social, or regulatory conditions change.

Implementation of the CHRP

The Climate & Habitat Resiliency Plan is designed to help San Mateo County Parks address environmental change in PCCP over time with a toolkit of adaptable natural resource approaches. Adaptive landscape management means restoring the forest with the future in mind and adjusting the approach as needed. A project begins by assessing the conditions, objectives, and possible outcomes that will determine the treatment design. Work will proceed under professional supervision to ensure that scope and protection measures are observed, and expectations met. Monitoring to assess the project's effects on the landscape may begin before the project starts and will continue throughout. Possibly the most important part of adaptive management is the monitoring that occurs after the work is completed, where the results of the project, both immediate and ongoing, are evaluated against the intended goals and are used to inform future projects. Because there's no one-size-fits-all solution to restoring an entire forest ecosystem, the most effective projects will be those with a multi-pronged approach, performing site-specific treatment based on previous observation.

Silviculture, Treatment (THP vs FFPE), and Revenue

Silviculture is the practice of managing forest composition, structure, and growth. Silvicultural prescriptions depend on the goals of a forest management project. To promote the succession to a forest with old-growth characteristics, second-growth trees can be removed to create more growing space for the remaining trees and lessen the limitations of available resources.

At this location, only uneven-aged management shall be used, and any density reduction treatments will maintain minimum basal area standards for Site Class II and III lands of 180 and 150 square feet of basal area per acre, respectively. In addition, silvicultural treatment will also meet the following standards:

- After a commercial harvest, the stand cannot be harvested again for 10 years.
- Density reduction treatments will retain 50% or more of trees >18" DBH.
- For second-growth trees >38" DBH, a minimum retention average of 10 trees per acre shall be maintained across a treatment area when existing stand conditions allow for it.
- During any re-entry harvest, no more than 33% of second-growth trees >38" DBH may be removed within any treatment area.

Because the removal of trees in Unit 1 has the potential to generate revenue, a harvest would need to be done under a CalFire permit such as a Timber Harvest Plan (THP) or Forest Fire Prevention Exemption (FFPE). All revenue generated from a commercial harvest will be utilized for additional ecologically restorative treatments in San Mateo County parks.

Fieldtrip:

On the afternoon of Thursday, October 10, your team will be assigned a plot for data collection, and you will determine:

- The number of trees in the plot with a diameter at breast height (DBH) of 12 inches or greater, and their species, and the DBH of each tree
- The number of trees in the plot with a DBH of 2 to 12 inches
- The basal area for the plot measured with an angle gauge
- Growth rate of the most dominant tree for the most recent 10 years compared to the 10 years before that

Items to be Addressed in Your Presentation:

- The property and logging history of PCCP
- The development of the CHRP and how it will be used to restore old-growth forest characteristics
- Data collection procedure and a summary of the data, including a determination of the forest type and site class in Unit 1
- Your recommended prescription for restoration and the best permit to use
- A plan to monitor Unit 1 post-treatment

Resources:

On Thursday 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 field trip and statements from foresters you work with and interviews during Ask a Forester.

Final Product:

Your goal is to produce a 15-minute PowerPoint presentation that outlines your recommendation on how to restore old-growth characteristics in Unit 1. 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.