

5. Narrative Descriptions

a. Detailed Project Description

The purpose and objective of the 125 acre North Grove Forest Restoration Project (NGP) at Calaveras Big Trees State Park (CBT) is to restore the North Grove giant sequoia forest into a crown fire resistant forest with an open stand structure. By selectively thinning the understory and removing surface and ladder fuels, this restoration project will reduce the high fuel loads in the North Grove that may lead to stand-replacing post-wildfire effects such as sediment delivery into the Big Tree Creek (BTC) watershed (Agee, J.K. 2003. The fallacy of passive management. Conservation Management 127:55-66). Big Tree Creek flows into White Pines Lake, a public water source. This project will additionally enhance native wildlife, fish and plant habitat and improve visitor enjoyment. For more than 155 years the North Grove area at CBT has been used primarily for diverse recreational purposes.

The NGP is a part of the larger goal of the Central Valley District's Natural Resource Program's active management of forest fuels to restore Calaveras Big Trees State Park's Sierra Nevada mixed conifer forest and multiple watersheds into historic-level functioning ecosystems resilient to catastrophic wildfires, disease and other natural or human-induced disturbances.

The following treatments and goals for the NGP will be applied:

1. Conduct pre-project surveys for California spotted owls and northern goshawks unless operations begin outside of the critical period for nesting raptors. Sensitive plant surveys have been completed for the NGP area. A population of *Lomatium stebbinsii* (California Native Plant Society rare plant rank 1B.1 and State rank S2) occurs on the volcanic slope above the North Grove and will not be impacted by the NGP.
2. In general, thinning from below to reduce ladder and canopy fuels, and to reduce overall stand density. Reduce basal area from >270 to <150. Reduce stems per acre from up to 400 per acre to 50 – 70 stems per acre (including pacific dogwoods).
3. Retain all giant sequoia, black oak, pacific yew and sugar pines. Retain quality downed logs and snags for wildlife habitat.
4. Retain all live trees > 8" diameter at breast height. Larger snags and trees may be removed if selected as hazardous to project work or future prescribed burning operations.
5. Remove or pile to burn, 60%-90% of total surface fuel load. Reduce surface woody debris from 35-80 tons/acre to less than 10 tons/acre (Brown, J.K. 1974. Handbook for inventorying downed woody material. U.S. Forest Service, General Technical Report

INT-16. 24p.) Clear all heavy fuels away from the trunks of giant sequoia, pacific yews and large diameter pines to reduce possibility of bark scorch or heat mortality.

6. Burn piles in the appropriate season and weather conditions with burn permits and smoke management permit from Cal Fire and Calaveras Air Pollution Control District.

All work will be accomplished by hand crews using chainsaws, loppers and other hand tools from both the California Conservation Corp (CCC) and inmates from the California Department of Corrections (CDC) Vallecito Conservation Camp. A State Park Environmental Scientist will be on site during all work hours for project coordination, daily oversight and public education.

Project Summary:

The goal of this project is to restore the North Grove forest and prepare the North Grove basin of mixed conifer-giant sequoia forest for the re-introduction of a frequent, low intensity fire regime by thinning and removal of surface and ladder fuels (Swetnam, T. W. 1993. Fire history and climate change in giant sequoia groves. *Science* 262:885-889). Over 150 years of fire suppression has converted the North Grove from an open forest with light surface fuel loads to one of overcrowded thickets which puts the North Grove and CBT at a high risk for stand replacing wildfires which affect soil, hydrology, wildlife, and vegetation communities with multiple negative effects (Bisson et al. 2003. Fire and aquatic ecosystems: current knowledge and key questions. *Forest Ecology and Management* 178:213-229.).

Environmental Setting Narrative:

Calaveras Big Trees State Park is an approximately 7,000 acre State Park unit located on the western slope of the Sierra Nevada in Calaveras and Tuolumne Counties. It includes two stands of giant sequoia, the North Grove, the South Grove Natural Preserve. The park is bordered by Sierra Pacific Industries, the United States Forest Service, and residential subdivisions. Sierra Pacific Industries is a private timber company that actively logs portions of its land near and adjacent to the park boundary.

b. Workplan and Schedule

The NGP will begin in August 2012 through September 2012 with outreach to staff, volunteers, local community and public through flyers, press releases, signage, and speaking arrangements, training of the CCC and CDC crews and staff, and the flagging of resources to protect and the marking of trees and shrubs for removal. Photo points will be selected and photos taken from each point. Plots for a line-plot inventory will be selected, marked and data recorded at each plot on fuel loads and vegetation. Surveys for raptors will precede all project work in field seasons. The actual removal can begin after this is accomplished and will continue until November 2012. Field work will continue May-November 2013, resuming May-November 2014 and the final field season May-November 2015. Six-month progress reports begin in

February and every six months thereafter. The final report, including the data related to the project performance measures, will be completed by February 2015.

DETAILED PROJECT DELIVERABLES	TIMELINE
Make, staff, volunteer, community and media contacts and inform public about the project. Post signs and print handouts for community boards. Select photo points of forest and historic sites. Take photos of forest and historic sites from selected photo points. Train staff and volunteers on public interpretation of project and how to tally numbers of public contacts.	August 2012
Flag boundaries of project, flag trees, snags, logs and shrubs for protection and mark trees for removal. Flag cultural and historic resources to be retained and protected. Set up fixed-radius plots and take measurements on fuels, stand density and species composition.	August -September, 2012
Set up CCC crews and train crews on work specifications for project	August -September 2012
Conduct raptor surveys. Begin North Grove Forest Restoration Project field work. Have staff present for operations, interpretation and count of visitors contacted during operations.	August, 2012- November, 2012
Complete 1st six-month report	February, 2013
Conduct raptor surveys. Resume North Grove Forest Restoration Project field work. Have staff present for operations, interpretation, and count of visitors contacted during operations. Burn piles when conditions are appropriate.	May-November, 2013
Complete 2nd six-month report	August, 2013
Complete 3 rd six-month report	February, 2014
Conduct raptor surveys. Resume North Grove Forest Restoration Project field work. Have staff present for operations, interpretation, and count of visitors contacted during operations. Burn piles when conditions are appropriate.	May-November, 2014
Complete 4 th six-month report	August, 2014
Conduct raptor surveys. Resume North Grove Forest Restoration Project field work. Have staff present for operations, interpretation and count of visitors contacted during operations. Burn piles when conditions are appropriate. Re-exam fixed-radius plots and take measurements on fuels, stand density and species composition after completion of field work. Take final photos from photo points.	May – November, 2015

Complete Final report including data related to the project performance measures.	February, 2015
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c. **Restrictions, Technical/Environmental Documents & Agreements**

Restrictions/Agreements: There are no property restrictions and/or encumbrances that would adversely impact completing this project.

Regulatory Requirements/Permits: A burn permit from the California Department of Forestry (Cal Fire) and a Smoke Management Plan and wildland vegetation management burn permit from the Calaveras County Air Pollution Control District (APCD) are required for this project.

Permits with the Department of Fish and Game are not required because project will not impact any rare plants, animals or waterway. Permits with the U.S. Fish and Wildlife Service and U.S. Army Corps of Engineers are not required because the NGP is not funded by a federal entity and will not take place on federal public lands. Permits with the State Historic Preservation Office are not applicable because there will not significant impacts to historic or cultural resources from the NGP.

CEQA: The North Grove Forest Restoration Project area has gone through the environmental review process and a Notice of Exemption has been filed with the State Clearinghouse. The State Clearinghouse number is 2010118195.

NEPA: This project will not be funded by a federal entity and will not take place on federal public lands therefore no NEPA review is necessary.

d. **Organizational Capacity**

The North Grove Forest Restoration Project is a cooperative project between the Department of Parks and Recreation, the California Conservation Corps (CCC), Cal Fire and the California Department of Corrections (CDC). The California Department of Parks and Recreation (DPR) have a 35-year history of fuel management and prescribed fire management at CBTSP. Patricia Raggio, Environmental Scientist at CBT, has 19 years of natural resource management experience working for State Parks and the U.S. Forest Service. The CCC crews provide a cost-effective labor crew for natural resource projects throughout California and have completed a number of trail building projects at CBTSP including the 2011 North Grove Meadow Boardwalk project. The CDC, operating in conjunction with Cal Fire, provide a trained work crew for conservation projects on public lands and have a twenty year relationship with CBT, and are the park's main workforce for fuel reduction projects and prescribed fire operations.

e. **Cooperation and Community Support**

The NGP will utilize a CCC crew, a CDC crew and CBT staff to conduct the project work. CBT has a long-standing relationship with the CCC and a 20 year working relationship with the CDC with a crew assigned to CBT year around to work on restoration projects, prescribed burns and conduct maintenance fuel reduction work for CBT. Patricia Raggio, Environmental Scientist at CBT has worked with the CDC crews for over 14 years at the park. CBT is considered one of the most important historic and ecologically unique parks in California. CBT receives a great deal of support, from the local community and from visitors around the world. That support is reflected in the letters of support offered as part of this proposal:

1. Sierra Pacific Industries
2. Calaveras Big Trees Association
3. Calaveras County Supervisor for District 3
4. Cal Fire
5. Save the Redwoods League
6. Central Sierra Audubon Society
7. Calaveras Fire Safe Council
8. California Conservation Corps

f. Long Term Management and Sustainability

Fuel and fire effects monitoring is a critical component of any forest restoration project at CBT. CBT is committed to tracking the accumulation of fuels over time and to the continued use of prescribed fire. Fire history studies at CBT and in other giant sequoia dominated stands, set the historic fire return interval range from 2 to 30 years, with a mean of 10 years (Swetnam, T.W. 1993. Fire history and climate change in giant sequoia groves. Science 262:885-889). The NGP area will be a priority for CBT resource managers, with the maintenance of the project area through low intensity controlled burning in a ten year historic pattern of burning which will assure the long-term sustainability of this restoration project. The long-term management of the NGP may be funded in-house by the DPR Category H, On-Going Maintenance Program, DPR Stewardship Program or cooperative agreements with other State agencies.

g. Performance Measures

Performance Measures for All Categories:

1. Number and Diversity of People Reached:

Before field work begins in August of 2012, contacts will be made with the staff, volunteers, interpretive programs, the local community and media through printed handouts, posted signs at the project site, and personal communication. At all times during field work, staff will be posted at both entrances into the North Grove to educate the public.

Performance Measures Common to Site Improvement and Acquisition Projects:

1. Number of Significant Sites Protected or Preserved:

The historic 1854 Big Tree Wagon Road into the North Grove (CA-Cal-283H) will be avoided in the NGP. Forty-one logs, stumps and named living sequoias with historic status will be protected from project work as well as any subsurface cultural resources, including trash scatters. All significant resources will be protected from the effects of wild fire.

Performance Measures Common to Site Improvement:

1. Acres of Land Improved or Restored:

The NGP is on the Cal Fire “Fire Hazard Severity Zone Map as an area of “High Severity”. This high level of fire threatens not only the historic grove of giant sequoias, but a critical water source for adjacent communities to CBT. Pre-project forest measurements will be conducted for fuel loading and basal area using line-plot inventory with fixed-radius circular plots. Photo points will be used for before and after visual comparison.