



Public Scoping Information on Proposal to Reforest Board Camp Sequoia Grove in Sequoia National Park

The National Park Service (NPS) is seeking public comment on a project to plant giant sequoia (*Sequoiadendron giganteum*) seedlings within areas which burned at high intensity and severity during the 2020 Castle Fire in Sequoia National Park.

Purpose and Need for Action

The 2020 Castle Fire burned through 22 giant sequoia groves and burned 9.7% of the entire range of giant sequoias at high severity. Three giant sequoia groves: Board Camp, Upper Dillonwood, and Homer's Nose lost a significant amount of monarch sequoia trees, inhibiting their ability to naturally regenerate without intervention.

The Castle Fire burned through 22 sequoia groves in 2020, including 12 on NPS property. Of these 12 NPS groves, three groves (including Board Camp) sustained large (over ten acres) contiguous patches of high severity fire where 75-100% of overstory tree cover was lost. Because giant sequoias depend on living trees to produce seeds to create the next generation of sequoias, if the majority of living sequoias are lost in a grove—due to high severity fire or other catastrophic events--these areas, which have been home to sequoias for centuries, are potentially subject to loss of sequoias forever. If seeds from the sequoias that were present prior to the fire survive, germinate, and seedlings survive at high enough densities, no restoration may be necessary. However, in Board Camp grove, based on two post-fire field visits (April 2021 and October 2021) by Dr. Christy Brigham and field survey work by the Sequoia and Kings Canyon National Parks Fire Effects Crew, data indicate that seedling presence in the high severity area is very low (less than 100 seedlings per acre), restricted to small areas in drainages, and that few to no overhead living sequoias remain.

The purpose of this project is to attempt to establish sequoia seedlings over a 2-5 year period in order to restore potential future sequoia seed sources that were lost to high severity fire. The goal is not to restore and maintain unchanging sequoia groves, but rather to improve site conditions in an effort to encourage resilience and allow natural processes to act on those conditions.

Board Camp giant sequoia grove is in steep, remote wilderness within Sequoia National Park. It was rarely visited by the public due to its difficult and inaccessible terrain, but it included approximately 48 acres of giant sequoia mixed conifer forest.

Proposed Action

The proposed project would plant seedlings in the approximately 48 acres of Board Camp Grove in the South Fork area of Sequoia National Park that was damaged by high severity wildfire during the 2020 Castle Fire.

This project proposes the following actions to restore sequoias to this area:

1. Collect cones from Board Camp, Cedar Flat, and Garfield Grove (This was completed in fall 2021).
2. Propagate sequoia seedlings through partnerships with professional tree growers (1/2 from Placerville USFS nursery and 1/2 from Jonsteen Co. in McKinleyville, CA.).
3. Install monitoring plots and equipment to track survivorship (as a percentage, not individually).

4. Conduct targeted cultural resource surveys in high probability areas in order to identify historic properties and limit planting impacts to cultural resources.
5. Grow and plant 12,000 sequoia seedlings annually for 1-3 years to restore sequoias to the high severity fire footprint (40 acres).
6. Perform monitoring and adjust numbers (and potentially methods and/or planting locations) based on survivorship.
7. Use data in an adaptive management framework to inform future post-fire sequoia management efforts.

This project would use hand tools to plant approximately 12,000 sequoia seedlings ranging in size from Styro 6 plugs (150 mm deep x 40 mm wide) to Styro 15 plugs (151mm deep x 51mm wide), selected by park staff and nursery managers.

Soil disturbance would consist of up to 24,000 holes (12,000 seedlings will be planted in 2022 and an additional 12,000 could be planted in 2023 if needed) over approximately 40 acres, with a target planting density of 250 seedlings per acre. Holes would be approximately 6-8 inches in diameter, 10-14 inches in depth, with a shallow basin dug around them to channel and capture precipitation. Seedlings would be planted in clusters for tracking and better survivorship. Some burned standing dead trees (snags) would need to be felled to create the helicopter drop zone for seedlings and equipment.

Approximately 75 percent of seed would be collected from local sources (Board Camp, Cedar Flat, Garfield Grove). 25 percent of seed would be collected from non-local groves selected for possible drought adaptation combined with geography to increase genetic diversity. Seedlings would be grown by Jonsteen Co. in northern California and United States Forest Service (USFS) Placerville nursery, prepared in sterilized soil. All imported materials and their sources would be approved by the NPS. Imported materials would be required to be free of any invasive seeds and plants. No known hazardous materials would be used or removed. Some waste would be generated by planting containers, but they would be removed from the site and if possible, they would be returned to the nurseries for re-use.

Seedlings would be trucked to Sequoia National Park and transported by helicopter with supplies to the site. Due to the remote location, there is a possible need to temporarily stage seedlings and supplies either at Ash Mountain helibase, at South Fork campground, and/or at a base camp near Board Camp.

Seedlings would be planted in October by approximately 20 people and is expected to take two weeks. Jonsteen Co. would supply a planting crew along with NPS staff. Volunteers and/or youth crews may assist.

Resources of Concern

Giant Sequoias and Other Vegetation

Several burned dead tree snags would be felled to create the helicopter drop zone for seedlings and equipment. No live trees would be felled. The NPS has identified mitigation measures to reduce the potential for introduction of non-native seed.

Wilderness

The NPS is in the process of completing a Minimum Requirements Analysis (MRA) to minimize potential impacts on wilderness character.

Fisher

The Sierra Nevada Distinct Population Segment of fisher (*Pekania pennanti*) was listed as endangered in 2020. Due to the high severity of the fire, it is unknown whether the grove remains habitable in its current state. Crew and helicopter noise disturbance would occur during the project and would occur outside the fisher Limited Operating Period (LOP) of March 1 through June 30 to ensure the minimum possible disturbance. No detrimental impacts on fisher are expected. Long term, the project may benefit the species by improving future habitat if the seedlings survive.

Join Us

Interested parties can participate in a virtual webinar on Tuesday, March 1 at 4:00 p.m. (PST). For additional information on the webinar, visit the project website, listed below. Materials from the webinar will be posted to the project website following the event.

How to Comment

Public comments on the proposed action will be accepted via the project website from February 22nd until midnight, March 25th, 2022. Comments that provide insights about the current proposed action and potential mitigations are particularly helpful.

Next Steps

Following the public comment period, the NPS will analyze and consider all feedback, will modify and evaluate the proposed action as appropriate, and will move toward finalizing environmental reviews in compliance with the National Environmental Policy Act, the National Historic Preservation Act, and other applicable laws and policies.

The NPS will not make a decision on the proposed action until after the analysis of the proposed action and its potential impacts has been completed.

Project Website

<https://parkplanning.nps.gov/SEKIBoardCampSequoiaRestoration2022>