

Reforestation of Board Camp Grove After High Severity Fire

Project Proposal Virtual Public Meeting

March 1st, 2022

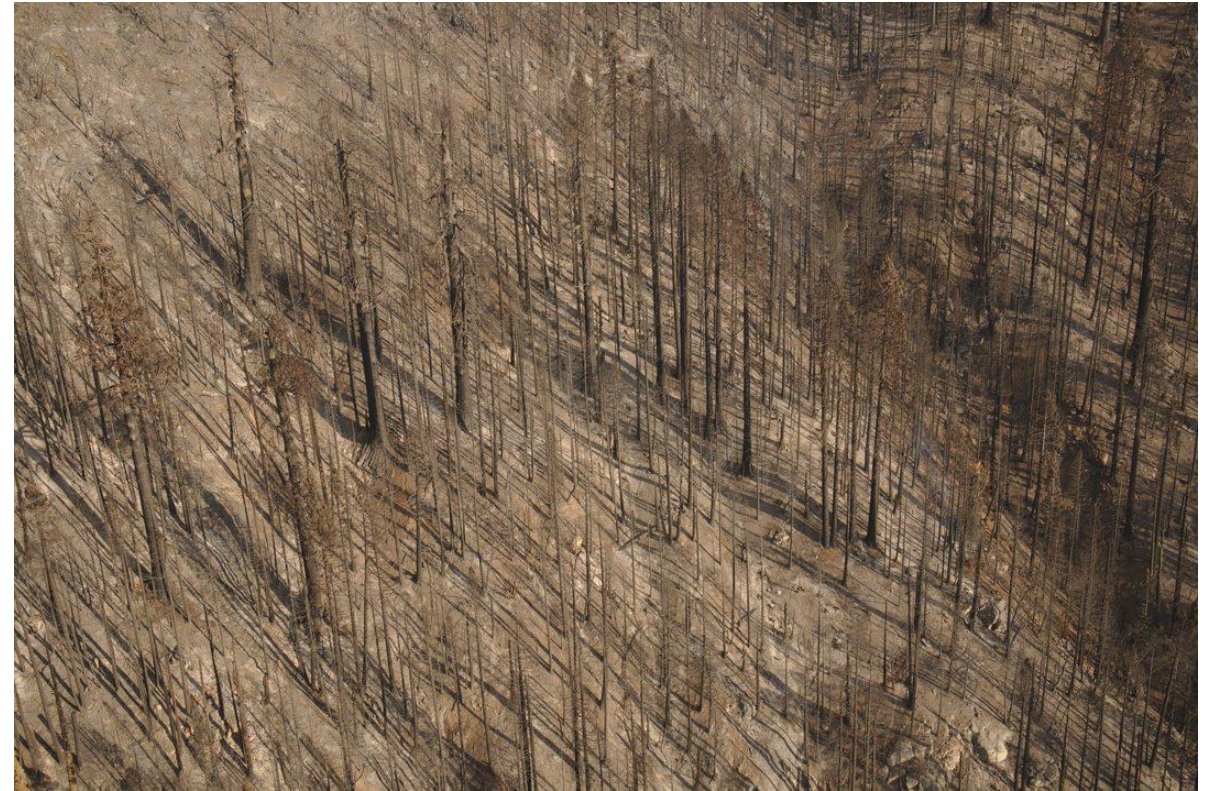
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Sequoia and Kings Canyon National Parks

Purpose and Need

- Primary purpose is to restore sequoia presence to 48 acres of Board Camp Grove burned at high severity in the Castle Fire of 2020
- Conserve giant sequoia groves
- Improve forest resilience to wildfire and climate change
- Protect natural and cultural resources



Board Camp Grove Immediately Post-Fire

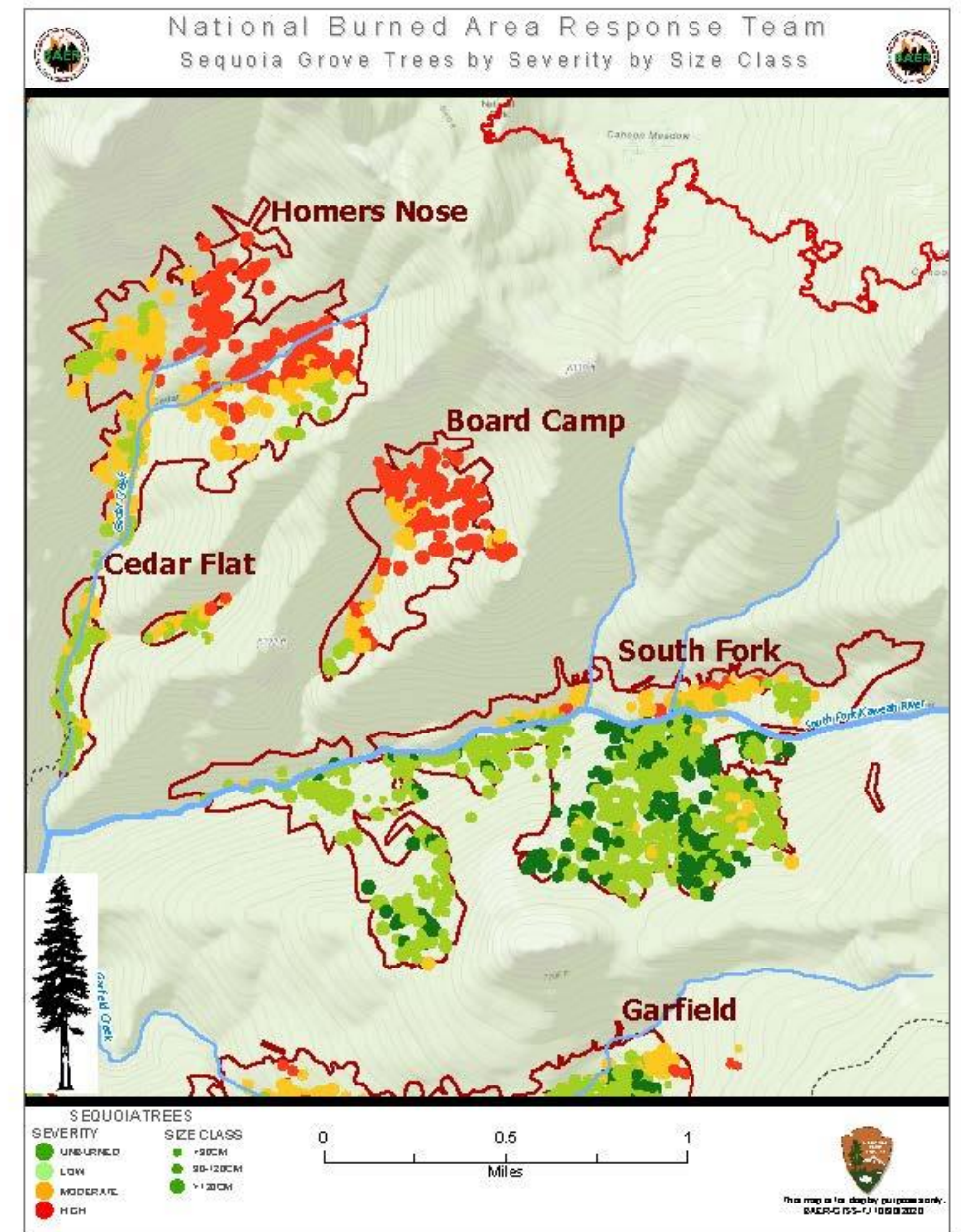
Purpose and Need Continued

- Giant sequoias typically seed extensively after fire
- Seedlings mainly occur first year post-fire
- Mortality of first year seedlings is very high (over 90%)
- Very few seedlings seen in Board Camp
- Without living adult trees to make more cones, sequoias will be lost from the site without intervention



Why Is Action Needed?

- Over a century of fire suppression
- Overly dense forests
- Climate change-driven hotter droughts
- Unnatural, unprecedented fire effects
- Near total removal of trees including sequoias in over 70% of grove area
- Approximately 40 acres of Board Camp burned at high severity
- Almost no seedlings present in Board Camp high severity areas



UAS Aerial Footage (Link)



Board Camp from field
visit April 2022
Upper Grove















Proposed Actions

- Collect seed from Board Camp, Cedar Flat, Garfield Grove
- Grow and plant 12,000 seedlings per year
- Planting planned in October of 2022 with follow up planting in 2023 if needed
- No site prep beyond hole and basin
- No aftercare beyond monitoring
- Planting density is approximately 250 seedlings/acre
- Adjust numbers based on survivorship
- Seedlings installed in different areas along contours (not in rows)
- 25% of total planting will be from seeds from outside Board Camp to increase genetic diversity and possibly improve response to climate change

Seeds and Seedlings Details

- 75% of seed from local sources (Board Camp, Cedar Flat, Garfield Grove)
- 25% from non-local groves selected based on possible drought adaptation combined with geography – increase genetic diversity (proposed):
 - Giant Forest, Packsaddle, Black Mountain, Big Stump, Peyrone, Long Meadow, Redwood Mountain, Mountain Home
- Seedling size between Styro 15 and Styro 6
- 6-8 inch seedling with a 6 ml root plug by Oct 1
- 12000 seedlings total in October 2022



Planting Details

- October before snow
- Plant in clusters for tracking and better survivorship
- Crew of 20 or so to plant
- Helicopter in seedlings
- Base camp near Board Camp (out of South Fork Campground)
- Small shovels for installation



Monitoring

- Track survivorship percentage (not individual trees)
- Planting density right now set at 250 trees per acre
- Density will be updated based on updated analysis
- Track non-local genotypes so they can be removed prior to cone production if desired

What If?

- What if seedlings do not establish successfully?
 - Try for a couple of years based on weather
 - Goal is to attempt to reestablish sequoias in damaged areas, we may not succeed
- What if non-local genotypes show odd growth forms or other unplanned outcomes?





Other Possible Work Outside of but Associated with This Project

- Scientific studies of seedling environment
- Analysis of climate change adapted planting sites (KNP)
- Assessment of fuel loads and threat of high severity reburn
- Possible Redwood Mountain Grove restoration post KNP fire (350 acres)
- Possible Mixed conifer restoration (500 acres)

Questions? Concerns? Areas of Analysis?

