



California State Parks, Sierra District

Donner Aspen Restoration Project

7/27/2022 (Draft)

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1 SUMMARY

Aspen stands at Donner Memorial State Park are declining, likely due to conifer overtopping. Thinning stands in Summit would provide multidisciplinary benefits, including improved wildlife habitat, increased recreational viewing opportunities and forest stand resilience to wildfire.

2 PROBLEM STATEMENT

Aspens are highly valued ecological, cultural and aesthetic landscapes in the Eastern Sierra. Aspens are widely prized for their beauty and recreational fall viewing is a large tourist draw. Ecologically, despite being a relatively rare plant community (% of watershed / CA classed as aspen), aspens are disproportionately used by nesting birds, cavity-nesting mammals and other wildlife as they often represent transitional habitat between meadows and forests. Hydrologically, aspens are common building materials for beavers whose structures increase groundwater recharge and mediate flood events. Carvings on aspen trees have been used for centuries by herders and game hunters to navigate and establish boundaries, giving them exceptional cultural value as well.

In 2020, aspen stands in Donner Memorial State Park were mapped and assessed using the Aspen Delineate Project protocol (ADP 2009). The ADP protocol assigns a risk of loss category—Low, Moderate, High, Highest—to each stand which is the probability that an aspen stand may not persist on the landscape based on a wide range of stand conditions factors (e.g. low density of suckers and saplings, conifer overtopping, hydrologic alternation, herbivory / beaver damage, etc.). The stands in Summit Canyon were rated as being at the highest risk for loss.

Then in December 2021, approximately 120" (10 feet) of snow fell at Donner Summit during just 6 days. This significant snow-loading event damaged many pole (~5-12" dbh) and mature (>12" dbh) aspen trees but not the surrounding conifers, resulting in conditions less than favorable for aspen regeneration. Aspens can successfully regenerate after snow damage, if they have sufficient sunlight as well as stored resources to produce new suckers. However, if conifer canopy cannot be reduced within the next 2-3 years to facilitate regeneration, these stands could be lost entirely.

In addition, at the current tree density and fuel loading, these stands are highly susceptible to high severity wildfire; thinning would increase their wildfire resilience.

3 PROJECT SCOPE

The project encompasses approximately 30 acres of aspen stands and adjacent conifer forest as well as access routes in Summit and Coldstream Canyon. Within this area, the following actions are proposed.

- Mechanical thin
- Hand thin
- Dispose of slash (pile and burn; chip onsite; haul and chip)
- Improve existing access roads
- Improve low water crossing at Donner Creek
- Construct temporary skid and haul routes

Stand	Treatment Acres
Summit	20
Lower Coldstream	8
Railroad	2

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3.1 MECHANICAL THIN

3.2 HAND THIN

3.3 SLASH DISPOSAL (PILE AND BURN; CHIP ONSITE; HAUL AND CHIP)

3.4 IMPROVE EXISTING ACCESS ROADS

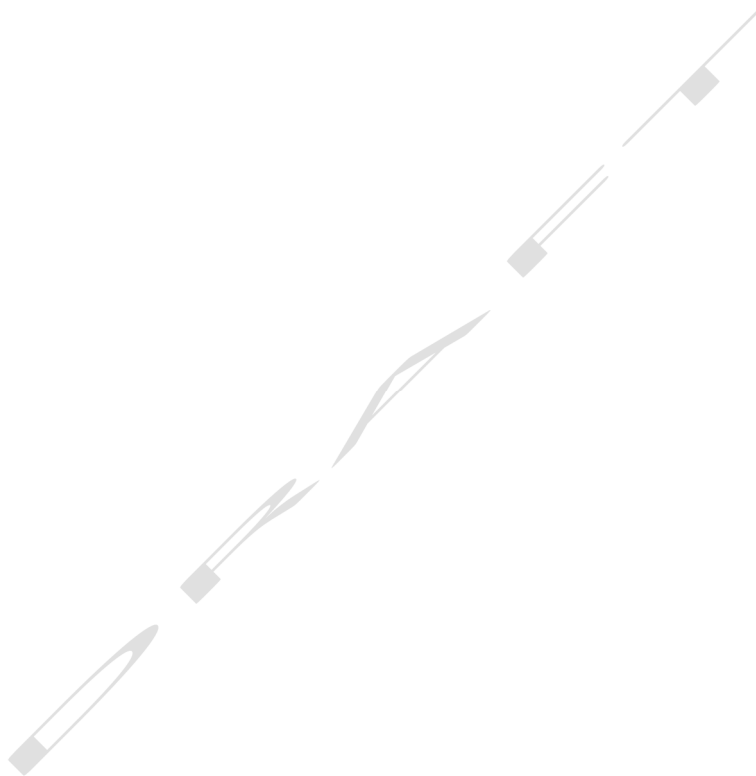
3.5 IMPROVE LOW WATER CROSSING AT DONNER CREEK

3.6 CONSTRUCT TEMPORARY ACCESS AND HAUL ROUTES

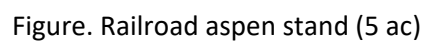
3.7 ACCESS, DISTURBANCE AND TIMING

APPENDIX 1. MAPS

Figure .Overview Map







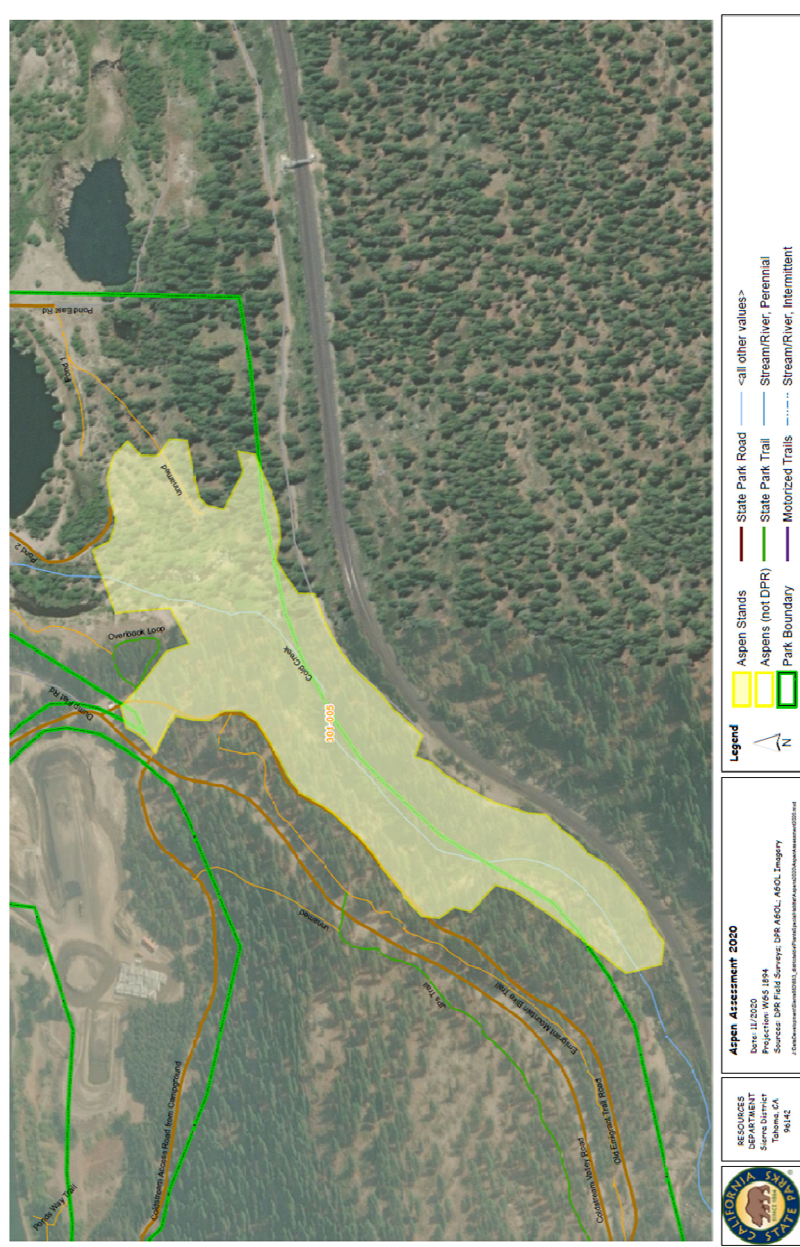


Figure. Lower Coldstream aspen stand (

APPENDIX 2. SITE PHOTOS



Photo 1: Large-diameter aspen (>24" dbh) in Summit Canyon

APPENDIX 3. TYPICAL TREATMENTS (DIAGRAMS + PHOTOS)

Thinning density



Pre-treatment stand density & canopy cover (Photo: USDA Forest Service)



Post-treatment stand density & canopy cover (Photo: USDA Forest Service)

Examples of possible mechanized logging equipment



Feller buncher: Feller bunchers are used to clear land by cutting and bunching trees. Since the feller buncher does not have processing capabilities, the whole tree is usually extracted to the landing.



A skidder drags material from the woods to a landing or roadside.



Harvester: Machines are self-propelled cutting machines. They are able to both fell and process stems. Wheeled or tracked, they feature a cutting head that fells, delimbs, and bucks trees to specific lengths. Harvesters work well in conjunction with forwarders and self-loading trucks.



A forwarder moves large felled logs from the stump to a roadside landing. It differs from a skidder by lifting logs at least two feet above the ground, which reduces soil impact. Forwarders usually work with machines in logging operations that require cut-to-length results.

APPENDIX 4. PROPOSED BUDGET

Phase / Item	Cost	Notes
Planning	\$56,000	
Cultural surveys	\$20,000	Phase 1 & 2
Wildlife surveys	\$10,000	NOGO, CASPO, SNYLF
Botanical surveys	\$4,000	Special status spp & invasives
Stakeholder coordination	\$2,000	ATT, NV Energy, TDLT, HOA/neighbors; Caltrans
Environmental compliance	\$5,000	CEQA; DPR internal review
Permits / regulatory compliance	\$10,000	LRWQCB; CDFW; USACOE
Logistics	\$5,000	
Preparation	\$87,000	
Road improvement	\$5,000	~1 mi brush & haz tree removal
Lower water XC	\$75,000	Materials & install
Layout	\$5,000	
Signage / outreach	\$2,000	
Implementation	\$140,000	
Mech thin	\$50,000	25 ac @ \$2K
Hand thin	\$20,000	10 ac @ \$2K
Slash disposal	\$30,000	Highly variable based on method
Decom routes; road drainage	\$30,000	
Contract admin	\$10,000	
Monitoring	\$20,000	
Compliance	\$10,000	Cultural, bio, hydro monitor
Effectiveness	\$10,000	CSE, regen & fuels; baseline, 2 yr post
TOTAL	\$303,000	