

Alder Creek Project

Tahoe National Forest · Truckee Ranger District
Nevada County

Proposed Action, Purpose and Need, Decision To Be Made

Proposed Action

Who: The Forest Service, Tahoe National Forest, Truckee Ranger District proposes to:

What: Use a combination of service contracts, commercial timber sales, and Forest Service personnel to improve forest health, reduce hazardous fuels, and improve watershed conditions on approximately 778 acres of National Forest Land. The project area is designated as a Wildland Urban Interface Zone, and lies partially within the northern limits of the Town of Truckee, California, adjacent to or within close proximity to the Tahoe Donner, Stony Creek Ridge and Prosser Lakeview Estates Subdivisions. (See attached project map). The proposed action would:

1. Apply the following silvicultural prescriptions. See project map for unit location. Treatments are summarized in Table 1.1:
 - a. **Thinning.** Thin conifer stands from below, and retain all live trees greater than or equal to 30 inches diameter at breast height (dbh), except as needed for equipment operability and safety.
 - b. **Release.** Thin conifers and reduce shrubs to improve growth and vigor of young conifer stands.
 - c. **Borax treatment.** Apply borax (tradename Sporax®) by hand to cut stumps of all conifer species greater than or equal to (\geq)14 inches stump diameter to minimize the spread of annosus root disease caused by the fungus *Heterobasidion annosum*. Apply Sporax® within 4 hours of felling, at a rate of 1 pound per 50 square feet of stump surface (approximately 1 pound/acre on average, though up to 2 pounds/acre could occur).

Silvicultural Treatment	Approximate Diameter Limit	Approximate Tree Spacing	Approximate Acres	Unit Number
Thinning in upland units	3-29.9" dbh	17' to 20' \pm 25% (13'-25')	360	2a, 2b, 3, 4, 5, 8a, 8b, 11, 12
Thinning in units along Alder Creek and Tributaries	0.1"-29.9" dbh	17' \pm 25% (13'-21')	217	1a,1b,1c,6a,6b,6d
Thinning/Release-Mastication	0.1"-10" dbh	17' \pm 25% (13'-21')	201	6c,6e,7, 9, 10
Borax Treatment in thinning units	\geq 14" at stump	NA	515	1a, 1c, 2a, 2b, 3, 4, 5, 6a, 6b, 8b, 11, 12

2. Apply the following measures to reduce hazardous fuels. During thinning, cut and remove ladder fuels and all snags less than or equal to 15 inches DBH. After thinning, assess fuel loading to determine the need for followup fuels management. Include pre-existing ground fuels in fuels treatment prescriptions to achieve fuel reduction objectives. Implement the following fuels treatments, or combination of treatments, as needed:
 - a. Mastication - Reduce ladder fuels and change ground fuel configuration, by grinding and spreading material on site. This method is generally limited to slopes less than 30%, with the exception of short pitches of no more than 35%, or where an evaluation by the District Hydrologist indicates that these limits can be exceeded, based on site conditions.
 - b. Underburning – Utilize prescribed fire to reduce hazardous fuels.
 1. Roadside Underburning - Clear fuels through burning in a 200’ roadside strip along the Alder Creek Road.
 2. Mosaic Underburning - Reduce fuels, but retain some material in a mosaic pattern to provide habitat diversity. Construct firelines, as needed, and decommission after use with slash or waterbars to minimize overland water flow.
 - c. Handpiling and burning- Reduce fuels by hand piling material and burning piles, where access is difficult by other methods.
 - d. Chipping - Reduce ladder fuels and change ground fuel configuration, by chipping and spreading material on site. Hand rake chips, as needed to avoid accumulation of chips in excess of 4” in the floodplain.

Fuels treatments are summarized in Table 1.2. Note that totals exceed project area acreage, as more than one fuels treatment option is available, and may be prescribed, as needed to reduce fuels.

Treatment Method	Unit Number	Approximate Acres
Mastication	1a, 1c, 6a, 6b, 6d	204
Underburning, Including Mosaic Underburning	All acres, except historic sites	758
Roadside Underburn	2a, 3, 5, 6c, 8a	57
Handpiling and Burning	1a, 1b, 3, 4, 6a and an option in all other units*	18 (*740)
Chipping	1a, 6a	40

3. Restore aspen stands on approximately 22 acres in units where risk of loss are the highest, i.e. stands that are overtopped by conifers, have a higher percentage of conifers than aspen, and have very little regeneration of aspens, due to shading and/or animal consumption or damage. The primary action in aspen stand restoration is to selectively remove conifers, and if needed, protect aspen regeneration from animals. The District Wildlife Biologist will determine the conifers to be removed on a site-specific basis, considering size, proximity to aspens, and the condition of the aspen stand. Conifers 30 inches DBH and greater will not be removed to maintain stand diversity. All thinning methods listed below in #4 may be used to accomplish the restoration objectives. Aspen recovery would be monitored, and options to further protect aspens from animal damage would be pursued, if needed. These options could include, but are not limited to exclosures or caging aspens.
4. Implement a combination of thinning methods to meet resource and Riparian Conservation Objectives (RCO), and the requirements of the Lahontan Regional Water Quality Control Board Basin Plan. Though a given treatment unit may have more than one method available to meet resource needs, selection would be based on equipment availability and economic considerations. Thinning methods are summarized in Table 1.3.
 - a. **Non ground-based methods** are intended to minimize soil disturbance within the Alder Creek floodplain, on slopes exceeding 25% in Riparian Conservation Areas (RCAs), and within associated historic sites.
 - skyline systems - This method is limited to areas where suitable anchors can be located on the northside of Alder Creek.
 - helicopter systems - Though this method is an option in all project units, its use may be restricted to areas with limited access or watershed concerns, due to economic considerations.
 - b. **Mechanical thinning over the snow** with feller buncher and skidder is another method intended to minimize ground disturbance within historic sites, and the Alder Creek floodplain and RCAs. This method is limited to side slopes less than or equal to 25%, unless an evaluation by the district hydrologist and contract administrator indicates that these limits can be exceeded based on site conditions, while meeting water quality objectives.
 - c. **Mechanical thinning** with feller buncher and skidder is intended to treat units outside perennial RCAs. This method is generally limited to slopes less than 30%, with the exception of short pitches of no more than 35%, or where an evaluation by the district hydrologist and contract administrator indicates that these limits can be exceeded based on site conditions, while meeting water quality objectives.
 - d. **Mastication** would be implemented to thin conifers and reduce shrubs in units with young trees that regenerated naturally, or were planted after the Donner Ridge Fire.
 - e. **Hand Treatment and chipping** would be used to treat sensitive sites. Though this method is an option in all project units, its use may be restricted by economic

considerations to only historic sites, or areas where other methods are not feasible due to lack of access.

Table 1.3 – Thinning Method Summary*		
Unit Number	Thinning Methods	Approximate Acres
1a	Skyline, Helicopter, Mechanical Over the Snow and/or Hand (historic sites)	80
1b	Hand	13
1c	Mechanical Over the Snow and Hand (historic sites)	5
2a	Mechanical	89
2b	Helicopter	21
3	Mechanical and Hand (historic sites)	98
4	Mechanical	48
5	Mechanical	31
6a	Skyline, Helicopter, Mechanical Over the Snow and/or Hand (historic sites)	89
6b	Mechanical Over the Snow, Hand (historic sites)	16
6c	Mastication	20
6d	Mechanical Over the Snow	14
6e	Mastication	3
7	Mastication	20
8a	Hand	35
8b	Mechanical	17
9	Mastication	16
10	Mastication	142
11	Mechanical	7
12	Mechanical	14

*some units require more than one thinning method, or have more than one option available to meet project objectives

5. Comply with all applicable state and federal regulations for the safe use of pesticides, including the Sporax® label requirements, e.g., applicators will be adequately trained, medical aid will be available, wash water and eye wash water will be on site or nearby, and personal protective equipment will be used (eye protection, gloves, long-sleeved shirt, and long pants).

6. Close portions of the project area during operations to provide for public safety. A temporary Forest Order would be in effect, and publicized in the local newspaper, describing the areas closed to public access. These areas would be reopened, as soon as operations are completed.
7. Implement traffic control along Alder Creek Road to ensure public safety, if logging activities are required above or adjacent to the roadway, or if logging systems require the use of the roadway.
8. Construct approximately 1 mile of temporary road off of the Alder Creek Road, after obtaining the necessary permits from the Town of Truckee, to provide access to Units 2a and 3, which are currently not accessible by existing roads. Decommission road after operations are completed.
9. Construct up to approximately 1 mile of temporary road to provide access to Units 1a and 6a, which are currently not accessible by existing roads, if skyline yarding methods are used. Decommission road after operations are completed.
10. Maintain approximately 2 miles of existing National Forest System roads to provide access to treatment areas, provide for public and contractor safety, and improve watershed conditions through erosion control and road surface protection.
11. Walk mastication equipment into Unit 6e on the old road adjacent to the Tahoe Donner Association (TDA) Campground.
12. Apply Standards and Guidelines from the 1990 Tahoe National Forest Land and Resource Management Plan (LRMP), as amended by the 2004 Sierra Nevada Forest Plan Amendment (SNFPA) FSEIS Record of Decision (ROD), including Standards and Guidelines outlined in the SNFPA FSEIS for Riparian Conservation Areas (RCAs).

Resource Protection Measures

13. Implement the following measures to protect sensitive resources, meet Riparian Conservation Objectives and meet the requirements of the Lahontan Regional Water Quality Control Board Basin Plan during thinning:
 - a. **Non-ground based methods**
 - Skyline system:
 - Utilize only where anchors are available on the northside of Alder Creek.
 - Require a yarder that is capable of lateral yarding to minimize the number of skyline corridors needed.
 - Require whole-tree removal to minimize ground fuel accumulation.
 - Require full suspension of material across the Alder Creek floodplain to avoid ground disturbance and deposition of material in the floodplain.
 - Require at minimum, one-end suspension of material outside floodplain to minimize ground disturbance.

- Space skyline corridors approximately 150' apart at the back end, to limit the number of corridors needed, while minimizing lateral yarding distances.
- Minimize corridor width to meet Visual Quality Objectives.
- Restore slope stability in corridors by raking to the natural contour, mulching, and installing waterbars, as needed.

Helicopter system:

- Require whole-tree removal to minimize ground fuel accumulation.
- Strategically locate landings so that helicopters do not fly with payload across private property, or the Alder Creek, Schussing, and Carpenter Valley Roads.

b. Mechanical thinning over the snow with feller buncher and skidder

- Require whole-tree removal to minimize ground fuel accumulation.
- Apply *Outside Normal Operating Season Standards (2/21/02)* to protect sensitive resources.
- Implement skidding distances up to ½ mile long in Unit 6b to avoid the need for additional landings.

c. Mechanical thinning with feller buncher and skidder during the normal operating season (non-winter)

- Require whole-tree removal to minimize ground fuel accumulations.
- Implement long skidding distances on designated skid trails of up to 3/4 mile to minimize the need for temporary road and landing construction in Units 2a, and 4.
- Construct a designated skid trail in the RCA in Unit 6b to access portions of Unit 4, and thus avoid the need for additional road construction. The skid trail would be located and approved by the District Hydrologist and Soil Scientist prior to skidding operations, and decommissioned after use.
- Stabilize soils in designated skid trails by back blading to restore the natural contour, providing drainage, and mulching, where needed.

d. Mastication

- Exclude equipment from wet areas, but permit equipment to reach into these areas to remove trees, as needed.

e. Hand treatment methods/chipping

- Hand fall trees and remove as firewood, where access is available.

14. Apply Best Management Practices (BMPs) for water quality protection, and implement contingency measures, if BMP monitoring outlined in the Water Quality Monitoring Plan determines that additional measures are needed to stabilize soil.

15. Minimize risks to water quality when using Sporax® as follows:

- a. Implement Best Management Practices (BMPs) for pesticide application, including a spill contingency plan.

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- b. Do not apply Sporax® within 25 feet of live streams, or riparian vegetation, whichever distance is greater.
16. Protect residual trees from damage during thinning and fuels treatment activities, especially logging damage to white fir, which provides points of entry for *Heterobasidion annosum*, by implementing practices e.g. directionally falling trees, and using bumper trees and lateral yarding when skyline systems are used.
 17. Minimize landing construction by utilizing existing landings, where practicable. After use, mulch landings to stabilize soil. Till landings where soil scientist determines that such measures would provide additional stabilization.
 18. Remove only downed woody material in the Alder Creek floodplain that has been designated for removal by the East Zone Fish Biologist, East Zone Soil Scientist, District Hydrologist and District Wildlife Biologist, to minimize ground disturbance.
 19. Mulch bareground created by logging activities by October 15th, or concurrent with operations after October 15th.
 20. Close the following non-system roads to protect historic trail features and/or improve watershed conditions. Currently these roads are a source of overland flow and sedimentation.
 - a. Decommission the road paralleling the south side of Alder Creek in Unit 6a by ripping the 1st 200 feet of road and installing barriers at the intersection with Schussing Road, and at the intersection with Road 780-3-3. Construct waterbars, as needed to reduce sedimentation.
 - b. Decommission the road in Unit 2a from the Alder Creek Road eastward to the private property line, by ripping the first 200 feet of road and installing barriers at the intersection with Alder Creek Road.
 - c. Decommission the old skid trail in Unit 8b, which is being used as a road and is actively eroding. After thinning operations, install a barrier at the intersection with Road 780-12-2, and waterbar.
 21. Remove only trees with overlapping crowns, where the District Hydrologist and East Zone Fisheries Biologist identify a need to maintain shade within the first 100 feet of the Alder Creek RCA. Within the remaining 200 feet of the RCA, retain approximately 40% canopy closure.
 22. Plant willows along Alder Creek, where needed to enhance stream shading.
 23. Flag and avoid the known occurrence of the sensitive plant *Meesia uliginosa* during project activities in Unit 6a. Sporax® would not be applied within habitat for this species (See streamside buffer described under #15b).
 24. Maintain a mosaic of vegetation to maintain suitable habitat in the Goshawk PAC in Units 1a, 1b, 2a, 2b, 10 and 12. This will be accomplished by having a tighter conifer spacing in some areas, leaving some clumps of conifers untreated, and feathering treatments so heavier treatment is closer to roads, as designated by the District Wildlife Biologist.

25. Retain at least 3 large logs per acre greater than 12 inches at midpoint, when available to provide wildlife habitat.
26. Retain at least 3 of the largest available snags per acre greater than or equal to 15 inches diameter at breast height (DBH) to provide wildlife habitat. Snags may be clumped or irregularly distributed across treatment units, and need not be located within 200 feet of the Alder Creek Road.
27. Minimize impacts to the Commemorative Emigrant Trail as follows:
 - a. Cross trail with mechanical equipment at a 90-degree angle.
 - b. Permit only low impact vehicles on trail when needed to remove fuels, e.g. pickup trucks, mobile chipper.
 - c. Restore trails following silvicultural and fuels reduction activities to original state, if damaged.
28. Protect Historic Emigrant Trail and trail markers as follows:
 - a. Cross trail with equipment at locations designated by the District Archaeologist.
 - b. Do not cut trees that are historic trail markers, i.e. trees with marker signs or blazes
 - c. Protect trail markers from fire, where underburning is prescribed.
 - d. Restore any damage to trail following silvicultural and fuels reduction activities to original state.
29. Protect known archaeological (historic) sites in Units 1a, 1b and 1c, 3, 6a and 6b by implementing the following fuel reduction measures, as needed:
 - a. hand removal of fuels from sites
 - b. piling and burning fuels outside of sites
30. Minimize scenery impacts to users/travelers along the Alder Creek Road to meet Tahoe National Forest LRMP Visual Quality Objectives by screening landings and skid trails from view; and applying project design features previously described e.g. minimal corridor widths, lateral yarding, full suspension across Alder Creek when using skyline systems, retention of 40% crown closure in thinning prescriptions, and slash treatment.
31. Apply standard management requirements and contract clauses to protect resources during project activities.

Where: The proposed project area is located in Nevada County in the northern portion of the Truckee Ranger District, west of State Route 89. Proposed treatment units are located along the north and south sides of Alder Creek Road in T18N, R16E in Sections 32, 33 and 34.

When: A decision on this project will be made by the winter of 2005. Implementation could begin as early as the summer of 2006. Most proposed treatments would be implemented within the next five (5) years.

Purpose and Need

1. To improve the health of conifer stands by reducing stand density.

Much of the Alder Creek watershed was burned in 1960 by the Donner Ridge Fire. Currently, the vegetation is characterized by relatively young conifer stands and brush fields dispersed among residual trees that survived the fire, or stands that did not burn. Fire suppression since the Donner Ridge Fire has allowed areas to become overstocked with white fir, and lodgepole, ponderosa and Jeffrey pine. Overstocking coupled with periodic years of drought have reduced conifer growth and vigor and left conifers highly susceptible to attack from insects and disease. Mountain pine beetle, Jeffrey pine beetle and fir engraver beetle have caused extensive conifer mortality, and continue to be active pests. Annosus root disease, which is caused by the fungus *Heterobasidion annosum* is present in the project area. This disease affects all western conifers, and is a particularly serious problem in the eastside pine type of northern California. The disease weakens trees and further increases susceptibility to bark beetle attack.

The Alder Creek Timber Sale (1999-2001) thinned saw timber and large non-merchantable timber in upland areas and areas south of Alder Creek, but left a dense understory of smaller natural regeneration that now poses a future forest health risk. The timber sale also avoided treatment in the Alder Creek stream zone. Consequently, the riparian corridor is now heavily overstocked, and displays poor forest health, and increasing conifer mortality. Reducing conifer density throughout the project area through thinning is needed to improve conifer growth and vigor, and help prevent further spread of insects and disease.

2. To reduce hazardous fuels that threaten private land and the local community.

The project area has not experienced a large fire, since the Donner Ridge Fire. Heavy tree mortality in dense conifer stands in the project area has created both hazardous standing and ground fuel accumulations, similar to the conditions before the Donner Ridge Fire. Understory vegetation, such as shrubs and natural conifer regeneration create hazardous ladder fuels conditions. Current levels of dead, dying and downed wood pose an extreme threat to the Tahoe Donner, Stony Creek and Prosser Lakeview Estates Subdivisions. These subdivisions border or lie in close proximity to the project area and consist of over 6,500 residences. The Tahoe Donner Association Forester, California Department of Forestry and Fire Protection, the Chief of the Truckee Fire Protection District, and concerned citizens have asked the USFS to take action to remedy the forest health and fuels problem in the project area.

The 2004 Record of Decision for the Sierra Nevada Forest Plan Amendment Final Supplemental Environmental Impact Statement (SNFPZ FSEIS ROD) designates the entire project area as Wildland Urban Interface (WUI). This is a zone where human habitation is mixed with areas of flammable wildland vegetation. The portion of the project area south of Alder Creek lies within Truckee town limits, and is designated as a WUI Defense Zone, in which fuels management objectives are to create defensible space near communities, and provide a safe and effective area for suppressing fire. The northern portion of the project area is designated as a Threat Zone, in which fuels management objectives are to establish and maintain a pattern of area treatments that is effective in modifying wildfire behavior

The Alder Creek Project would respond to public concern over the threat of wildfire, comply with management direction in the WUI, and provide a cooperative landscape effort with the Tahoe Donner Association to protect the community. Specifically, the project would:

- a. Augment past USFS efforts to reduce hazardous fuels on National Forest Lands
- b. Augment the Tahoe Donner Association's past and planned efforts to protect the homes in their subdivision, by reducing hazardous fuels in the project area

3. To reduce hazardous fuels to help protect sensitive resources on National Forest land

The project area contains approximately 3 miles of perennial streams, a Goshawk Protected Activity Center, numerous historic and prehistoric sites, and a heavily used recreational trail. The project area is highly visible from the Alder Creek Road. If the current fuel conditions are not reduced, a wildfire ignition could lead to a high energy fire that would adversely impact soils, water quality, riparian vegetation, wildlife habitat, archaeology sites, vegetation diversity, recreation use and visual quality. The project would help protect these resources by improving the chances that suppression efforts would be successful in the event of a large wildfire.

4. To improve watershed conditions

Riparian vegetation along Alder Creek shows signs of deterioration. For example, aspen stands have greatly decreased in size, vigor and extent along Alder Creek. This decline is attributed in part to the absence of fire, which has permitted conifers to encroach into riparian habitat and replace aspens. The stands at highest risk of loss are generally overtopped and suppressed by conifers, have a higher percentage of conifers than aspen, and have very little regeneration of aspens, due to shading. Beaver activity has contributed to the decline in the numbers of large aspens. Concurrently, beavers and deer are restricting the development of aspen sprouts. Removal of conifers on selected sites along Alder Creek is needed to allow aspen stands to regenerate and expand to reoccupy former habitat. Restoring aspen stands and planting willows along Alder Creek would help restore riparian vegetation, thereby increasing shade, and improving hydrologic function of the floodplain.

The project area contains non-system and Forest Service system roads. Currently portions of these roads are sources of overland flow and sedimentation. The project would help reduce overland flow and sedimentation by maintaining system roads and decommissioning some non-system roads.

Decision To Be Made

The decision to be made is whether to implement the proposed action as described above, to vary the location or design of the project, while still meeting the purpose and need, or to take no action at this time.