



Forest
Service

Sequoia National Forest and
Giant Sequoia National Monument
Kern River Ranger District

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File Code: 1950/2400
Route To:

Date: JUL 15 2019

Subject: Kern County Roadside Hazard Tree Removal Phase 2

To: Rachel Smith, Acting Forest Supervisor

From: Dionne Uzes, Deputy District Ranger *DU*

I have determined the Kern County Roadside Hazard Tree Removal Phase 2, allowing removal of dead and dying hazard trees, falls within a category of actions listed in the Forest Service Handbook (FSH) that may be excluded from environmental documentation. The particular category is found at FSH 1909.15, Chapter 32.12 (4) Categories Established by the Chief – *Repair and maintenance of roads* [36 CFR 220.6(d)(4)].

This category is appropriate because the project authorizes routine road maintenance by the removal of dead or dying trees along Piute Mountain and Jawbone Canyon Roads that threaten power lines, roads and other community infrastructure. Attached is a checklist completed in accordance with the National Environmental Policy Act (NEPA) documenting there are no extraordinary circumstances associated with the project necessitating preparing an environmental analysis or environmental impact statement.

enclosure



NEPA COMPLIANCE CHECKLIST

internal use only

**Sequoia National Forest
Kern River Ranger District**

Name of Project: Kern County Roadside Hazard Tree Removal Phase 2

Description of Project: Hazard Tree mitigation on National Forest Lands along about 12 miles of roads maintained by Kern County, including Breckenridge Road, Piute Mountain Road, and Jawbone Canyon Road (See Appendix A, Maps).

The purpose of the **Kern County Roadside Hazard Tree Removal Phase 2** project is to fell dead or dying trees on Sequoia National Forest lands that could pose a hazard to roads or facilities maintained by Kern County (See Appendix B, Table 1-Project Roads Information). The Project includes portions of Breckenridge Road on Breckenridge Mountain and Piute Mountain Road and Jawbone Canyon Road in the Piute Mountains. It is proposed for 2019 implementation. A current estimate is that about 2000 trees would be cut. Some would be skidded and decked at landings for later removal. In some of the steeper areas, trees would be felled, bucked, and left in place. Tree limbs and slash would be piled, chipped, removed, burned, masticated, or lopped and scattered, depending on location, desired conditions, and available resources. Some of the areas have had previous environmental analysis, such as with the Lucas Creek Project on the eastern Breckenridge Road area. These previous projects provide useful background information for this analysis. Project Design Features are included in Appendix C.

Purpose of Checklist: For projects categorically excluded under NEPA that do not require a decision memo, this checklist documents that there are no extraordinary circumstances related to the proposed action that warrant further analysis and documentation in an environmental assessment or environmental impact statement.

Applicable Categorical Exclusions for Projects Not Requiring a Decision Memo

For full description of each category and examples refer to FSH 1909.15, Chapter 30.

| 32.11 Categories Established by the Secretary 7 CFR 1b.3 | | 32.12 Categories Established by the Chief 36 CFR 220.6(d) | |
|--|---|---|--|
| | (1) Policy admin. development/planning | | (1) Prohibit for resource protection |
| | (2) Activities related to funding/money | | (2) Admin procedures, processes, instructions |
| | (3) Inventories, research activities, studies | | (3) Repair/maintain Admin. Sites |
| | (4) Educational and information activities | X | (4) Repair/maintain roads, trails, landlines |
| | (5) Law enforcement and investigation | | (5) Repair/maintain Rec. Sites/Facilities |
| | (6) Advisory or consultative activities | | (6) Acquisition of land or interest in land. |
| | (7) Trade /market development | | (7) Sale or exchange of land with same land use |
| | | | (8) Approve/modify/continue less than 1 year Special Use Permit |
| | | | (9) New Permit for existing ski area for administrative changes only |
| | | | (10) Amend/Replace existing Special Use Permit for administrative changes only |

31.4 Statutory NEPA Exception

| 16 USC 6236 – Organization Camp Special Use Authorization | | | | |
|--|-------------------|----|---|--|
| Determination of Extraordinary Circumstances for the Proposal 36 CFR 220.6(a) | | | | |
| Resource Conditions 36 CFR 220.6(b) | Resource Present? | | For Resource Conditions that are Present, the following Findings are made: | Reference material supporting finding of no extraordinary circumstance |
| | Yes | No | | |
| Federally listed or Proposed, Threatened, or Endangered Species or Designated or Proposed Critical habitat, or FS sensitive wildlife species | X | | The project may include sensitive plant and animal species and habitat, such as a spotted owl protected activity center near Jawbone Canyon Road. With implementation of project design features in Appendix C, no extraordinary circumstances exist for this resource condition. | Forest Aquatic Ecologist. See Appendix C, Project Design Features. |
| Floodplains, wetlands or municipal watersheds | X | | The project is within the Bakersfield Municipal Watershed and contains some wetlands. No watersheds are over or in danger of being over threshold for cumulative watershed effects. With implementation of project design features in Appendix C, no extraordinary circumstances exist for this resource condition. | District Hydrologist. See Appendix C, Project Design Features for Best Management practices. |
| Congressionally designated areas such as wilderness, wilderness study areas, or National Recreation Areas | | X | The activities authorized by this project are not in the vicinity of any congressionally designated areas. The Bright Star Wilderness is approximately 2 miles away from Piute Mountain Road, and outside the project area on BLM land. | District Recreation Officer. The activities authorized by the project will not impact these areas. |
| Inventoried Roadless Areas or potential wilderness areas | | X | The activities authorized by this project are outside of and will not adversely affect any inventoried roadless or potential wilderness areas. Portions of Breckenridge Road are near, but not within, the Mill Creek Roadless Area. Portions of Piute Mountain Road are near, but not within, the Woolstalf Roadless Area. | District Planner. The activities authorized by the project will not impact these areas. |

| | | | | |
|--|--|---|--|--|
| Research Natural Areas | | X | The activities authorized by this project are outside of and will not adversely affect any RNAs. No extraordinary circumstances exist for this resource condition. | District Planner. The activities authorized by the project will not impact these areas. |
| American Indians and Alaska Native religious or cultural sites | | X | Implementation of the Proposed Action would not <u>adversely</u> affect American Indian religious or cultural sites. With implementation of project design features in Appendix C, no extraordinary circumstances exist for this resource condition. | District Archeologist. Features identified in R2019051354013 will be flagged for avoidance during project implementation. See Appendix C, Project Design Features. |
| Archaeological sites, or historic properties or areas | | X | No archeological sites or sites eligible for National Historic Register listing will be <u>adversely</u> affected by this proposal. No extraordinary circumstances exist for this resource condition. | See (6) above. |

I have considered the above listed resource conditions and determined there are no extraordinary circumstances related to the proposed action that warrant further analysis and documentation in an EA or EIS. None of the extraordinary circumstances described in 36 CFR 220.6 (b) exist.

Signature 

Date 7/15/19

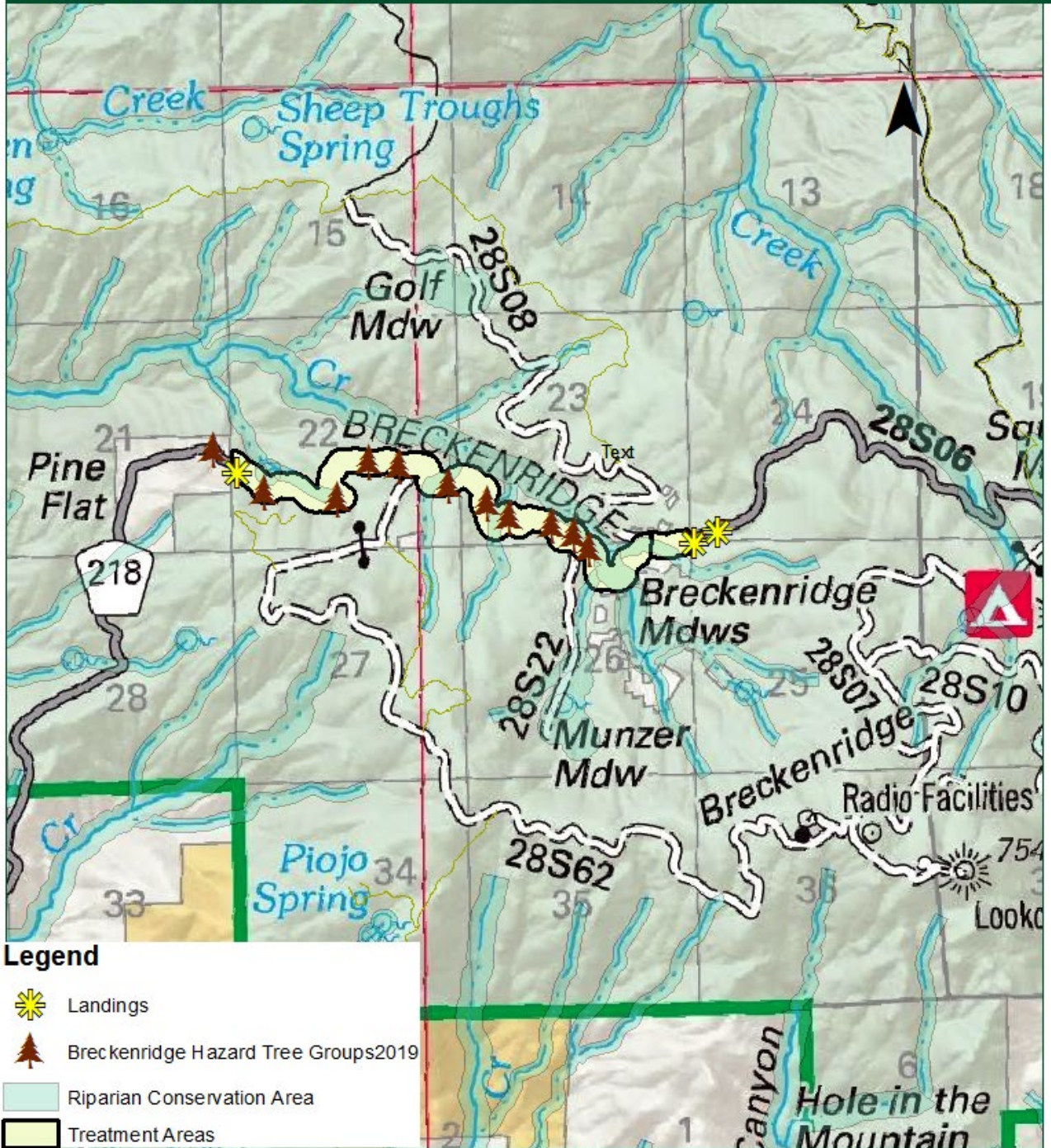
DIONNE UZES
Deputy District Ranger



Appendix A: Maps

United States Department of Agriculture

Kern County Roadside Hazard Tree Removal Phase 2, Map 1: Breckenridge

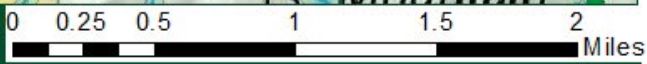


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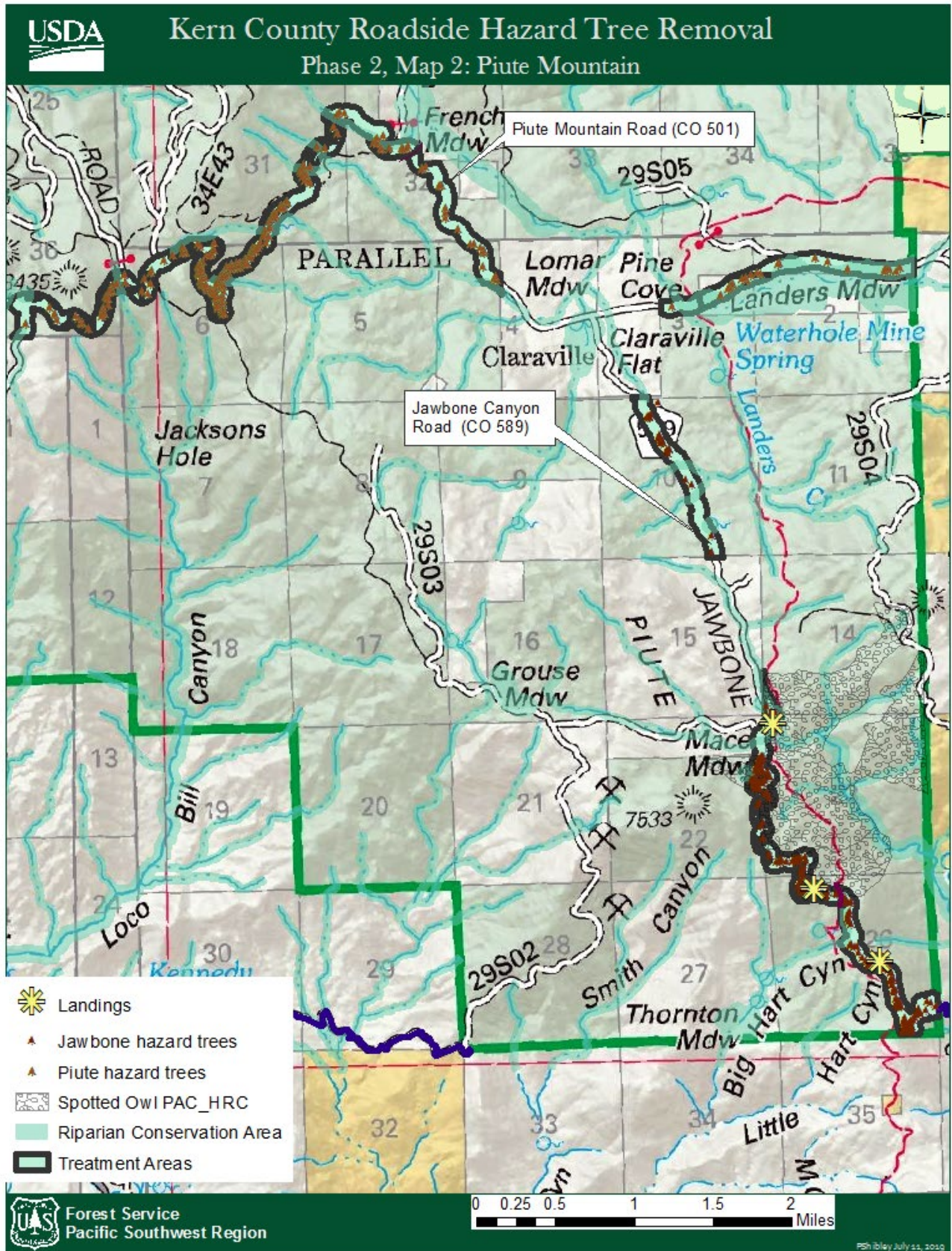
- Landings
- Breckenridge Hazard Tree Groups 2019
- Riparian Conservation Area
- Treatment Areas



Forest Service
Pacific Southwest Region



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APPENDIX B: TABLE 1- Project Roads Information

| Road/Area Name | FS Road # | County Road Number(s) | Location description; easements to County | Status of road easements, Book 5653, Page 2012, recorded March 20, 1984 |
|----------------------------|-----------|--|--|---|
| PHASE 2 | | | | |
| Breckenridge Road | 28S06 | Route 218; County Roads 708 & 3204 | Breckenridge subdivision at section 25/26 line, west to where the conifers end; T28S, R31E, Sections 22, 23, 26 & 28 | Easement #3; 100' wide easement to Kern County |
| Jawbone Canyon Road | n/a | Route 589; County Road 938 | from Claraville down to the FS boundary; T29S, R34E, Sections 10, 14, 22, 23 & 26 | Easement #1; 60' wide easement to Kern County |
| Piute Mt. Road | 27S02 | Route 501; County Roads 34, 887, 887A, and 938 | from where the conifers start above Weldon all the way to where they end below Buxton Mill; T28S, R33E, section 36; T28S, R34E, sections 31, 32 & 36; T29S, R33E, sec 2; T29S, R34E, Sections 2, 3, 4 & 6; | Easement #2; 60' wide easement to Kern County |

Appendix C: Project Design Features

Design Features to protect environmental resources are included in the project. These Design Features include the following:

1. Botanical Resources

- All equipment will be washed off-Forest and inspected by Forest Service personal onsite for noxious weeds prior to arrival at project area. If it goes through weed infestations it will be washed again prior to moving to non-infested areas of the project or infested areas will be worked last and cleaning will be done prior to departure.
- If noxious weed populations are identified, populations should be flagged and avoided for mechanized equipment. Any noxious weed occurrences found during project layout or implementation will be reported to the Forest botanist at 559-784-1500.
- Notwithstanding other provisions in this plan and unless otherwise agreed in writing, any hay, straw, or mulch used in this contract shall be State of California certified weed-free.
- All confirmed and newly discovered occurrences of Shirley Meadows star-tulip and Greenhorn fritillary within mechanical skidding units will be flagged by the Forest Service and avoided by all mechanical ground disturbing activities from snowmelt to July 15th. Beginning July 16th (till October 15th), units with known sites can be logged and skidded using soil and watershed Best Management Practices. Avoid locating temp roads, landings and primary skid-trails within occurrences.
- Hand and mechanical burn piles shall not be constructed within known sensitive plant populations.

2. Cultural Resources

- Archaeological site locations will be identified on the ground by the Forest Service and flagged for avoidance.
- The type of site and artifacts located there shall not be identified to the contractors or the workers in order to discourage artifact collection and site degradation. No items may be removed from a flagged site boundary.
- Felling and other treatments within flagged site boundaries will require the presence of an archaeological monitor. Fuels reduction within archaeological site boundaries will benefit the resource by reducing thermal impacts in the event of a wildland fire.
- Hand thinning within archaeological site boundaries and non-mechanized removal of woody debris including slash is permitted under stipulations in Appendix E (2.2) (Standard Protection Measures) of the Regional PA. Piling slash for future burning is not permitted within the boundaries of flagged Archaeological or Historic sites.
- Limited operation of rubber-tired equipment may occur within archaeological or historical site boundaries only with permission of an onsite archaeological monitor—all such use would require the presence of an archaeological monitor. Tracked equipment is not permitted within archaeological site boundaries.
- Limited ground-disturbing activities within the recreation residence tracts (historic districts) is permitted with the stipulation that an archaeological monitor must be present during said activities.
- Large (24" or larger) old or historic stumps should be avoided by ground-disturbing operations such as

skidding.

- For questions or to schedule monitoring contact the District Archeologist at 760-376-3781.

3. Wildlife

- No wildlife protected activity centers or denning sites have been identified in the project area, although some are located outside the project area. Should areas of known occupancy or highly suitable habitat be detected, limited operating periods (LOPs) may be put into place. A Limited Operating Period is a specified period of time during which identified activities are restricted or prohibited, shown in table below.
- Examine tree for any stick nests in limbs or near the bole of the tree.
- Use a mallet or hammer, hit tree once hard, watch for any birds to fly out of cavities, hit tree an second time and again watch tree for any birds flying out of cavities and listen for young birds chirping or begging in cavities.
- Look for pellets (owls) or whitewash (birds or bats), and evidence of carrion waste, around base of tree or on edge of tree.
- Look for any open cavities at the base of the tree for den sites for mammals, if tracks, scat or animal is seen leave tree.
- If an active nest tree or den site is identified, cease activities within one half (½) mile along the road in both directions of travel for 60 days or the nest or den is vacated, whichever comes later.
- For questions contact the district Wildlife Technician at 760-376-3781.
- The following table defines the LOPs for certain species:

| Species | Limited Operating Period |
|------------------------------------|--|
| Bald Eagle | January 1 st – August 31 st |
| Fisher | March 1 st – June 30 st |
| Goshawk | February 15 th – September 15 th |
| Great Gray Owl | March 1 st – August 15 th |
| Marten | May 1 st – July 31 st |
| Peregrine Falcon | April 1 st – July 31 st |
| Red Fox | January 1 st – June 30 th |
| Red-legged Frog | October 1 st – June 15 th |
| Mountain Yellow-Legged Frog | October 1 st – June 15 th |
| Spotted Owl | March 1 st – August 15 th |
| Willow Flycatcher | June 1 st – August 31 st |
| Wolverine | January 1 st – June 30 th |
| Yosemite Toad | October 1 st – June 15 th |

4. Silvicultural Treatments

Hazard Trees

Hazard Trees of any size will be felled if they are creating hazards to recreation residences, private homes, power lines, roads and other infrastructure, as defined by the *Hazard Tree Guidelines For Forest Service Facilities and Roads in the Pacific Southwest Region* (USFS 2012).

Falling

Fall trees when possible in directions and areas as to prevent excessive damage to other healthy or residual trees. Trees severely damaged by felling (broken tops, heavy scaring etc.) shall be taken down and treated along with hazard trees. These trees must be noted and measured by Forest representatives before skidding from the site. Trees that need to stay on site for operational purposes shall be limbed and made to lay flat on ground surface so as to prevent accidental slippage or rolling. No crisscrossing logs will be allowed. Stumps shall be cut no higher than 12" above ground level on the uphill side of the stump. Stumps within 50' of roads or trails and in campgrounds shall be cut no higher than 6" above ground level on the uphill side of the stump.

Any/all, archeological and historical sites shall be protected from falling (impact) sites.

Avoid falling trees into riparian areas. Do not fall trees into annual or perennial streams.

Bucking

Trees shall be bucked in various lengths to obtain the greatest protection for residual forest and resource values. Merchantable logs, shall be bucked into standard log lengths ranging from 10'6" to 33'. When Forest Service determines it is necessary to minimize damage to the residual stand during skidding, Contractors shall cut exposed limbs from products prior to skidding. Contractors may leave uncut those limbs that cannot be cut with reasonable safety.

Skidding

Insofar as ground conditions permit, products shall not be skidded against reserve trees or groups of reproduction and tractors shall be equipped with a winch to facilitate skidding. Logs should be skidded with the leading end suspended off the ground wherever conditions permit. The use of excavators, cranes, or other high lead systems will be permitted under agreement between the parties. The use of skidding tractors equipped with pull type arches or dozer blades wider than tractor width or C frame width, whichever is greater, shall not be used in residual timber authorized clearings, except on constructed tractor roads or landings, unless there is written agreement that residual timber will not be damaged materially by such use.

Skidding distances should be limited to the minimum length necessary to safely reach the road or access point to load onto trucks. Skid trails will be agreed upon in writing where safety concerns or operational constraints merit distances in excess of 1000 feet prior to skidding. No ground based heavy equipment shall be used on slopes exceeding 35% (19°) for skidding.

Location of all landings and tractor roads shall be agreed upon prior to their construction. Approved landings will generally consist of pre-existing landings and designated by the Sequoia.

All archaeological or Historic sites must be protected from damage during skidding and where they may be affected by landing operations. Skidding shall not occur within flagged archaeological or historical site boundaries. Landing operations shall be established in areas to avoid impacts to flagged archaeological or historical sites. Skidding shall not cross meadows, seeps, springs, sensitive plant population, nor down (along the length of) perennial nor intermittent streams. Locations of stream crossings, if necessary, shall be agreed upon between

representative of Kern County Fire Department and the Sequoia.

Slash

Slash generated from falling and skidding operations may be lopped and scattered or hand piled for burning. Piles created by Kern County Fire Department from felling operations will be identified on a project map or have ArcGIS shapefiles showing their location. Forest Service personnel will be responsible for burning of slash piles. Slash shall be lopped to no greater than 24 inches in length and distributed so as not to accumulate a depth of 12 inches or greater. Hand piled slash should be placed in openings clear of debris so that hand line down to mineral soil can be created around each pile and made in areas not to damage any other timber or residual trees when burned. Piles shall be twice their height away from residual vegetation and no more than 4 feet high and 6 feet in diameter. Piles shall be tightly made to insure full consumption when burned. Piles shall not be made on any historical or archeological sites, within any sensitive plant populations, in any annual stream beds or drainages, nor in roadside gutters.

Slash/Limbs if chipped, may be chipped and removed or chipped on site when desired and applicable in place of piling. Slash should be treated by chipping in all campgrounds unless otherwise agreed upon on a site by site basis. Do not chip into roadside gutters. Do not chip onto roadside cut banks so chips get washed down into roadside gutters and culverts. If chipping and spreading on the landscape, do not spread chips to depths exceeding 6 inches. Do not direct chipping at base of trees or into residual vegetation.

5. Protection of Improvements

Kern County Fire Department will be responsible for the protection of infrastructure items such as, but not limited to, forest administrative site improvements, recreation residence cabins, power lines, fences, water lines, troughs, cattle guards, culverts, over-side drainage structures, hardened water crossings, rolling dips, and water bars. Road surface damage will be repaired at the discretion of Kern County on county maintained roads. Road surface damage on Forest Service maintained roads shall be repaired by Kern County Fire or designated contractor at the completion of skidding operation or prior to any significant winter weather event; specifications are detailed in the hydrology best management practices. All signage and markers shall be protected or replaced including, but not limited to, roadside markers (e.g. drainage reflectors, culvert markers, mileage markers) traffic signs, road signs, trail signs, and information boards and signage.

6. Protection of Improvements Not Owned by Forest Service

Kern County Fire Department will be responsible for notification to all utility companies, or other parties affected, and make arrangements for all necessary adjustments of the public utility fixtures, pipelines, and other appurtenances likely to be affected by Kern County Fire Department operations. Kern County Fire Department shall cooperate with the owners of any underground or overhead utility lines in their removal and/or rearrangement operations in order that these operations may progress in a reasonable manner, and to ensure utility duplication or rearrangement work be reduced to a minimum, and services not be unnecessarily interrupted.

In the event of interruption to utility services because of accidental breakage or as a result of lines being exposed or unsupported, Kern County Fire Department shall promptly notify the proper authority and shall cooperate with that authority in the restoration of service until the service is restored. Notification of utility companies and Sequoia representatives shall occur simultaneously.

7. Protection of Land Survey Monuments

Sequoia shall appropriately designate on the ground all known survey monuments, section corners, and other corner accessories. Forest Service shall post identifying signs on two sides of each known bearing tree.

Kern County Fire Department shall protect all known survey monuments, witness corners, reference monuments, and bearing trees against avoidable destruction, obliteration, or damage during Contractors operations. If any known monuments, corners, or accessories are destroyed, obliterated, or damaged by Contractors operations, Kern County Fire Department shall provide a registered land surveyor to reestablish or restore at the same location the monuments, corners, or accessories. Such surveyors shall use procedures in accordance with the Bureau of Land Management "Manual of Instructions for the Survey of the Public Lands of the United States" for General Land Office surveys and in accordance with State law for others. Kern County Fire Department shall record such survey in appropriate county records.

Bearing trees, witness trees and many of the trees along the private property line are scarred and marked with red paint to designate them. These trees need to be protected from damage during all operations. In the event that a designated tree is a hazard tree that needs to be removed, the trees shall be cut above the red blaze and the stump left standing in place.

8. Recreation Resources

Protection of System Trails and Trailheads

Trails and trailheads shall be protected to maintain the trail system and use opportunities. Slash at trailheads should be removed or chipped and spread at parking locations. Burn piles shall not be constructed on trails in a way that blocks the use of the trail from use. All signs and information boards shall be protected at the trail heads and along the trail. Skidding along single track trails is prohibited unless otherwise agreed upon. Skidding on 4-wheel drive trails is permissible unless restricted by other resource protection measures, such as botanical, hydrological, or archaeological concerns. Trails shall be repaired to a condition similar to pre-project work unless otherwise agreed upon.

Protection of Campgrounds and Campsites

Kern County Fire Department is responsible for the protection of developed campgrounds and designated dispersed campsites. All improvements shall be protected within campgrounds such as, but not limited to, signs, information boards, campfire rings, barbeque grills, tables, latrines, and water systems. Markers designating campsite boundaries, such as logs and placed boulders should remain undisturbed or replaced when they interfere with the safe falling and skidding unless otherwise agreed upon with Forest Service recreation staff. Alteration of site boundaries or replacement shall be completed in agreement and cooperation with Forest Service recreation staff. Slash shall be removed or chipped and dispersed within the campsite no closer than 5 foot radius of campfire rings and barbeque grills.

9. Visual Quality

Landings and slash piles should be located so that they do not create visual quality impacts to Highway 155, residential neighborhoods of Alta Sierra, recreational residence tracts, or campgrounds. Location of landing must be approved by Forest Service.

10. Soil and Water Quality protection

Forest policy and regulations to protect water quality and ensure watershed health are detailed by Best

Management Practices (BMP's) described in the FSM 2509.22 - Soil and Water Conservation Handbook Chapter 10 - Water Quality Management Handbook, (USDA, 2011), the Riparian Conservation Objective Standards and Guides as set forth in the Sierra Nevada Forest Plan Amendment (USDA, 2004), and the Sequoia National Forest Land and Resource Management Plan (USDA, 1991) as amended by the Sequoia National Forest mediated settlement agreement. General project BMPs with their corresponding design features are listed at the end of Appendix C10.

Table 15. USFSRCA, SMZ, and RMA widths for the project. See Soils and Watershed Report for additional information.

| Feature Type | RCA Width | Stream Class | Stream Order | SMZ Width ¹ | RMA Width |
|--|--------------------|----------------|-------------------|--------------------------|-----------|
| Perennial Streams | 300 feet | I ² | ≥4 | At least 100 feet | 100 feet |
| Seasonally Flowing Streams | 150 feet | II | 3 | At least 75 feet | N/A |
| | | III | 2 | At least 50 feet | |
| | | IV | 1 | 0 - 25 feet ³ | |
| | | V | | | |
| Streams in Inner Gorge | Top of Inner Gorge | Varies | | | |
| Special Aquatic Features (fens, bogs, springs, seeps, lakes, ponds, wetlands, etc.) | 300 Feet | N/A | | N/A | 100 Feet |
| Perennial Streams with Riparian Conditions extending more than 150 feet from edge of stream bank | | I | At least 100 Feet | | |
| Seasonally Flowing streams with riparian conditions extending more than 50 feet from edge of stream bank | | | | | N/A |

Acronyms:

¹ All SMZ widths include an additional three feet for each percent slope above 30 percent. SMZs are applied to each side of streams, so if treatments are located on both sides of a perennial stream, there are 100 foot SMZs on both sides for a total mechanized exclusion area of 200 feet, plus any needed slope adjustments.

² Class I streams are not always perennial. Intermittent streams with certain characteristics can also be Class I.

³ Application of the Class IV-V SMZ buffer is left to the discretion of the TSA: ephemeral Class V swales would have no SMZ buffer; ephemeral Class IV-V drainages with defined bed-and banks would have a 25 foot buffer.

RCA- Riparian Conservation Areas

RMA- Riparian Management Areas

SMZ- Streamside Management Zone

USFS- United States Forest Service

Contractors operations shall be conducted to prevent slash and debris from entering stream courses. In the event Contractors causes debris to enter stream courses in amounts that may adversely affect the natural flow of the stream, water quality, or fishery resource, Contractors shall remove such debris as soon as practicable, but not to exceed 2 days, and in an agreed manner that will cause the least disturbance to stream courses.

Wheeled or tracklaying equipment shall not be operated in stream courses, except at crossings designated by the Sequoia. Flow in stream courses may be temporarily diverted only if such diversion is necessary for Contractors planned construction and Forest Service gives written authorization. Such flow shall be restored to the natural course as soon as practicable and, in any event, prior to a major storm runoff period or runoff season.

Contractors Operations shall be conducted reasonably to minimize soil erosion. Equipment shall not be operated when ground conditions are such that excessive damage will result. Contractors shall adjust the kinds and intensity of erosion control work done to ground and weather conditions and the need for controlling runoff. Erosion control work shall be kept current immediately preceding expected seasonal periods of precipitation or runoff.

Best Management Practices (BMPs), listed below, as defined in Water Quality Handbook, Forest Service Handbook 2509.22 will govern protection measures during hauling and skidding operations. Monitoring forms, supplied by the Forest Service, for implementation and effectiveness of BMPs are required to be filled out on no less than a weekly basis by Kern County contract administrators and provided to Kern River Ecosystem Manager unless agreed to otherwise, whereas the Sequoia will designate individuals to complete monitoring.

11. Best Management Practices for Water Quality Protection

(from R5 FSH 2509.22 Soils and Water Conservation Handbook, Chapter 10 – Water Quality Management Handbook, USDA Forest Service, 2011)

| BMP Name, Objective, and Direction | Application to the Project |
|--|---|
| <p>BMP 1.4 Use of Sale Area Maps (SAM) and/or Project Maps for Designating Water Quality Protection Needs: To ensure recognition and protection of areas related to water quality protection delineated on a SAM or project map.</p> | <p>The Project SAM would be reviewed by the IDT prior to being finalized.</p> <p>The sale administrator and contractor would review these areas on the ground prior to commencement of ground disturbing activities. Examples of water quality protection features that would be designated on the project map include:</p> <ol style="list-style-type: none"> 1) Location of streamcourses and riparian zones to be protected, including the width of the protection zone for each area. 2) Wetlands (meadows, lakes, springs, etc.) and other sensitive areas (such as shallow soils) to be protected. 3) Boundaries of harvest units, specified roads and roads where hauling activities are prohibited or restricted, areas of different skidding and/or yarding methods, including post-harvest fuels treatments, and water sources available for drafting. |
| <p>BMP 1.5 Limiting the Operating Period of Timber Sale Activities: To ensure that the contractor conducts their operations, including erosion control work, road maintenance, and so forth, in a timely manner, within the time frame specified in the contract.</p> | <p>The contract operation period would be limited to contract-specified periods when adverse environmental effects are not likely. The Sale Administrator would close down operations due to rainy periods, high water, or other adverse operating conditions in order to protect resources.</p> <p>Mechanical equipment operations (mechanical thinning and biomass removal equipment, log skidders and tractor-piling operations) would be conducted only when the soil is sufficiently dry in the top 12 inches to prevent unacceptable loss of soil porosity (soil compaction). “Maintain 90% of the soil porosity over 85% of an activity area (stand) found under natural conditions.” (FSM 2500 - Watershed and Air Management, Chapter 2550 - Soil Management).</p> |
| <p>BMP 1.8 Streamside Management Zone Designation: To designate a zone along riparian areas, streams and wetlands that will minimize potential for adverse effects from adjacent management activities. Management activities within these zones are designed to improve riparian values.</p> | <p>Streamside management zones (SMZs) and other riparian protection zones have been specified as described in Table 15, above.</p> <p>In SMZs, the constraints defined in Sequoia MSA (REF, 1989) apply. This includes no self-propelled ground based equipment.</p> <p>SMZs should be clearly delineated with flagging or other obvious markers that are easily discernable by field personnel and equipment operators.</p> <p>Modifications to these guidelines are possible where site-specific needs exist, if the action is reviewed by a hydrologist or aquatic species biologist.</p> |

| BMP Name, Objective, and Direction | Application to the Project |
|--|---|
| <p>BMP 1.9 Determining Tractor Loggable Ground: To minimize erosion and sedimentation resulting from ground disturbance of tractor logging systems.</p> | <ul style="list-style-type: none"> • Limit machine falling, ground-skidding and machine piling to sustained slopes less than 35%. • On short pitches >35%, limit soil erosion and reduce the risk of soil erosion by smoothing or water-barring any ruts or trenches exceeding 6 inches in depth and 25 feet in length (in SMZs, 10 feet in length). • End-lining could be used to remove logs from steeper slopes. Ground disturbance on areas of shallow soils, notably soils adjacent to and abutting rock outcrops, would be avoided. |
| <p>BMP 1.10 Tractor Skidding Design: By designing skidding patterns to best fit the terrain, the volume, velocity, concentration, and direction of runoff water can be controlled in a manner that will minimize erosion and sedimentation.</p> | <ul style="list-style-type: none"> • The sale administrator and contractor would designate all skid trails prior to ground disturbing activities. If uncertainty arises regarding potential resource impacts of skid trail location, an earth science specialist (i.e., hydrologist, aquatic biologist, or soil scientist) would be consulted. |

| BMP Name, Objective, and Direction | Application to the Project |
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| <p>BMP 1.12 Log Landing Location: To locate new landings in such a way as to avoid watershed impacts and associated water quality degradation</p> | <p>The following criteria are to be used by the Sale Administrator when evaluating landings:</p> <ul style="list-style-type: none"> a. The cleared or excavated size of landings will not exceed that needed for safe and efficient skidding and loading operations. Trees considered dangerous will be removed around landings to meet the safety requirements of OSHA. b. Selected landing locations will involve the least amount of excavation and fill possible. Landings must be located outside of SMZ/RMAs. c. Locate landings near ridges away from headwater swales in areas that will allow skidding without crossing stream channels, violating SMZs, or causing direct deposit of soil or debris to a stream. d. Locate landings where the least number of skid roads will be required, and sidescast can be stabilized without entering drainages or affecting other sensitive areas. Keep the number of skid trails entering a landing to a minimum. e. Position landings such that the skid road approach will be nearly level as feasible, to promote safety and to protect soil from erosion. f. Avoid excessive fills associated with landings constructed on old landslide benches. g. Construct stable landing fills or improve existing landings by using appropriate compaction and drainage specifications. <p>Landing locations would follow this order of preference: 1) outside RCAs; 2) existing landings inside RCAs but outside SMZs; 3) existing landings inside an SMZ or RMA – these are to be reviewed on the ground by a watershed specialist (hydrology, soils, or geology) prior to use and again prior to acceptance of erosion control work in the unit.</p> |

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| <p>BMP 1.13 Erosion Prevention and Control Measures during Timber Sale Operations: To ensure that the purchasers' operations will be conducted reasonably to minimize soil erosion.</p> | <p>Contractor responsibilities for erosion control will be set forth in the contract. Equipment will not be operated when ground conditions are such that excessive damage will result. The kinds and intensity of control work required of the purchaser will be adjusted by the sale administrator to ground and weather conditions with emphasis on controlling overland runoff, erosion, and sedimentation.</p> <p>Erosion control work required by the contract will be kept current. At certain times of the year this means daily, if precipitation is likely or weekly when precipitation is predicted for the weekend. Erosion prevention measures must be applied no later than October 1 and immediately upon completion of activity begun after November 1.</p> <p>If the purchaser fails to perform seasonal erosion control work prior to any seasonal period of precipitation or runoff, the Forest Service may temporarily assume responsibility, complete the work, and use any unencumbered deposits as payment for the work.</p> |
| <p>BMP 1.16 Log Landing Erosion Protection and Control: To reduce the impacts of erosion and subsequent sedimentation associated with log landings by use of mitigating measures.</p> | <p>The contract administrator is responsible for properly implementing this practice. Landings will be properly cross-ditched, ripped (if soils are compacted), re-contoured (as necessary), and mulched after use and before the winter precipitation period, whichever comes first. Excess material not needed for erosion control can be piled and burned.</p> <p>Prevent road drainage from reaching landings.</p> <p>The hydrologist would assist the contract administrator in the evaluation of this work in any areas where temp roads or landings in SMZs or RMAs were used.</p> |

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| <p>BMP 1.17 Erosion Control of Skid Trails: To protect water quality by minimizing erosion and sedimentation derived from skid trails.</p> | <p>Erosion control measures will be installed on all skid trails and temporary roads. These measures may include, but are not limited to, cross ditches (water bars), organic mulch, or ripping.</p> <p>Cross ditches will be spaced according to the guidelines below, maintained in a functioning condition, and placed in locations where drainage would naturally occur (i.e., swales). The level of maintenance will be contingent upon existing or predicted weather patterns as determined by the Sale Administrator (see BMP 1.13).</p> <table border="1" data-bbox="789 758 1406 968"> <thead> <tr> <th data-bbox="789 758 1065 831">% Slope</th> <th data-bbox="1065 758 1406 831">Maximum spacing</th> </tr> </thead> <tbody> <tr> <td data-bbox="789 831 1065 898">0 – 15</td> <td data-bbox="1065 831 1406 898">125 feet</td> </tr> <tr> <td data-bbox="789 898 1065 968">15 - 35</td> <td data-bbox="1065 898 1406 968">45 feet</td> </tr> </tbody> </table> | % Slope | Maximum spacing | 0 – 15 | 125 feet | 15 - 35 | 45 feet |
| % Slope | Maximum spacing | | | | | | |
| 0 – 15 | 125 feet | | | | | | |
| 15 - 35 | 45 feet | | | | | | |
| <p>BMP 1.18 Meadow Protection during Timber Harvesting: To avoid damage to the ground cover, soil, and hydrologic function of meadows.</p> | <p>Mechanical equipment is not permitted in meadows.</p> | | | | | | |

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| <p>BMP 1.19 Streamcourse and Aquatic Protection: The objectives of this BMP are:</p> <p>a. To conduct management actions within these areas in a manner that maintains or improves riparian and aquatic values.</p> <p>b. To provide unobstructed passage of stormflows.</p> <p>c. To control sediment and other pollutants entering streamcourses.</p> <p>d. To restore the natural course of any stream as soon as practicable, where diversion of the stream has resulted from timber management activities.</p> | <p>a. The location and method of crossings on Class IV and V streams must be agreed to by the sale administrator (SA) prior to construction. Also see BMP 2.8 for applicable direction on stream crossings.</p> <p>b. Stream crossings on Class I – III streams must be approved by the hydrologist.</p> <p>c. Damage to stream banks and channels will be repaired to the extent practicable.</p> <p>d. All sale-generated debris will be removed from streamcourses, unless otherwise agreed to by the SA, and in an agreed upon manner that will cause the least disturbance.</p> <p>e. Felled trees will not be pulled across perennial or intermittent stream channels without prior approval by the hydrologist.</p> <p>f. Methods for protecting water quality while utilizing tractor skid trail design in stream course areas where harvest is approved include: (1) end lining, (2) falling to the lead, and (3) Utilizing specialized equipment with low ground pressure such as feller buncher harvesters.</p> <p>g. Water bars or other erosion control structures will be located so as to disperse concentrated flows and filter out suspended sediments prior to entry into a streamcourse.</p> <p>h. Material from temporary road construction and skid trail stream crossings will be removed and streambanks restored to the extent practicable.</p> <p>i. Special slash treatment site preparation activities will be prescribed in sensitive areas to facilitate slash disposal without use of mechanized equipment (see BMP 1.22)</p> <p>j. Project-related bare soil areas (e.g. skid trails, landings, temporary roads, etc.) will be covered with existing native vegetation mulch, organic debris, or certified weed free straw to at least 50%, well distributed cover, and cross-ditched per BMP 1.17 requirements.</p> |
| <p>BMP 1.20 Erosion Control Structure Maintenance: To ensure that constructed erosion control structures are stabilized and working</p> | <p>During the period of the timber sale contract, the purchaser will provide maintenance of soil erosion control structures contracted by the purchaser until they become stabilized, but not more than one year after their construction. If the purchaser fails to do seasonal maintenance work, the Forest Service may assume the responsibility and charge the purchaser accordingly. The Forest Service sale administrator is responsible for ensuring erosion control maintenance work is completed.</p> |

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| <p>BMP 1.21 Acceptance of Timber Sale Erosion Control Measures before Sale Closure: To ensure the adequacy of required erosion control work on timber sales.</p> | <p>The sale administrator must inspect erosion control measures to ensure their adequacy prior to accepting closure on the unit and/or sale.</p> <p>The effectiveness of erosion control measures will be evaluated using BMPEP protocols after the sale area has been through one or more wet season. This evaluation is to ensure that erosion control treatments are in good repair and functioning as designed before releasing the purchaser from contract responsibility.</p> <p>The purchaser is responsible for repairing erosion control treatments that fail to meet criteria in the Timber Sale Contract, as determined by the Sale Administer, for up to one year past closure of the sale.</p> |
| <p>BMP 1.22 Slash Treatment in Sensitive Areas: To maintain or improve water quality by protecting sensitive areas from degradation which would likely result from using mechanized equipment for slash disposal.</p> | <p>There would be no mechanical piling in SMZs or RMAs.</p> |
| <p>BMP 2.5 Water Source Development and Utilization: To supply water for road construction, maintenance, dust abatement, fire protection, and other management activities while protecting and maintaining water quality.</p> | <p>Coordinate all water drafting with the hydrologist.</p> <p>Drafting sites would be located where vehicle approach and water removal have minimal effects on the stream. There are several existing developed drafting sites located in the project area.</p> <p>Where overflow may enter the stream, erosion control devices shall be installed. Water drafting vehicles must carry spill kits including petroleum-absorbent pads.</p> <p>Drafting vehicles would be inspected daily for leaks and repaired when needed to prevent petroleum leaks in the SMZ.</p> <p>For non-fish-bearing streams that are also not occupied by amphibians or reptiles, drafting is not permitted when bypass flows are less than 10 gallons per minute (FSH 2509.22- 2011-1).</p> <p>No more than 50% of the flow exceeding these minimum levels may be removed. Drafting pumps must be placed a minimum of 5 feet from the top of the stream bank, OR be placed in a spill containment tray. They must have a low entry velocity, and be fitted with a 2mm screen.</p> |

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| <p>BMP 2.8 Stream Crossings: To minimize water, aquatic and riparian resource disturbances and related sediment production when constructing, reconstructing, or maintaining temporary and permanent water crossings.</p> | <p>Coordinate with the hydrologist for construction or reconstruction of any temporary or permanent stream crossing.</p> <p>Installed and replaced crossings would not create barriers to aquatic organism passage (SNFPA S&G 101). In order to accomplish this, design should sustain bankfull dimensions of width, depth, and slope, and maintain streambed and bank resiliency.</p> <p>Vertical control would be established and preserved through the crossing structure. Crossings would be sized to accommodate the 100-yr flow, plus anticipated sediment and debris (SNFPA S&G 70).</p> <p>Streams would be diverted / dewatered during construction.</p> <p>Clean all equipment prior to it entering the water body. Inspect equipment daily for leaks and repair as needed. Fuel and service equipment according to BMP 2.11.</p> <p>Keep excavated materials outside of the channel and floodplain. Install erosion control if needed to prevent material from entering these areas.</p> <p>Construct diversion prevention dips if site has potential for flow diversion onto the road. <u>For crossings on temporary roads:</u> stabilize if the crossing must remain in place during high runoff seasons. Remove the crossing and restore the channel dimensions when the need has been met, even if it was previously left in place.</p> <p><u>For crossings on skid trails:</u> Mechanical equipment crossing of perennial and intermittent (generally class I – III) streams is not permitted unless approved by the district hydrologist. Ephemeral streams (stream class IV and V) may be crossed at designated locations agreed upon by the sale administrator and purchaser. Designate skid trails to avoid stream crossings and SMZs wherever possible. Designated crossings must be as perpendicular to the channel as possible and avoid sensitive soils and riparian vegetation damage. Stream banks must be repaired upon completion of the project.</p> |

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| <p>BMP 2.11 Equipment Refueling and Servicing: To prevent fuels, lubricants, cleaners, and other harmful materials from discharging into nearby surface waters or infiltrating through soils to contaminate groundwater resources.</p> | <p>Project personnel would be aware of the Forest Spill Plan, including who to contact and other steps to take in case of a spill. A spill kit would be kept on-site. All waste oil, containers, and other materials would be removed from NFS lands, and properly disposed of.</p> <p><u>For heavy equipment:</u> Storage of hazardous materials (including fuels) and servicing and refueling of equipment would be conducted at pre-designated locations outside of RCAs. If fueling and/or storage of hazardous materials are needed in these areas, sites must be reviewed and approved by the hydrologist or aquatic biologist prior to contractual agreements by the SA. Additional protection measures, such as containment devices, may be necessary.</p> <p><u>For chainsaws and other gas powered equipment:</u> Refueling may not occur in SMZs or RMAs. In the remainder of the RCA, refueling may occur with the use of an absorbent spill pad.</p> |
| <p>BMP 5.2 Slope Limitations for Mechanical Equipment Operations: To reduce gully and sheet erosion and associated sediment production by limiting tractor use.</p> | <p>Tractors would not be used on sustained slopes greater than 35%. See BMP 1.9. Masticators may be used on slopes up to 45%, provided that they are operating on a mat of masticated material that protects soils from disturbance. If disturbance with the potential to concentrate water occurs due to mastication, it would be mitigated by techniques such as raking, constructing waterbars, or increasing groundcover.</p> |
| <p>BMP 5.3 Tractor Operation Limitation in Wetlands and Meadows: To limit turbidity and sediment production resulting from compaction, rutting, runoff concentration, and subsequent erosion by excluding the use of mechanical equipment in wetlands and meadows except for the purpose of restoring wetland and meadow function.</p> | <p>These areas are protected from mechanical operations except when trained and qualified IDT personnel identify areas for treatment.</p> <p>The Project does not propose the use of heavy equipment in any meadow, wetland, or riparian area.</p> |
| <p>BMP 5.6 Soil Moisture Limitations for Mechanical Equipment Operations: To prevent compaction, rutting, and gully, with resultant sediment production and turbidity.</p> | <p>The soil moisture provisions described in BMP 1.5 would apply to mechanical operations conducted by any entity (contractor or USFS) for any treatment. Fuels clean-up, site preparation, or any other treatment utilizing mechanical equipment would occur only when soil moisture is within an appropriate range as determined by a soil scientist, if necessary.</p> <p>Mastication would be limited to time periods when soils are sufficiently dry to prevent rutting and/or compaction by a single pass of the equipment.</p> |

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| <p>BMP 7.3 Protection of Wetlands: To avoid adverse water quality impacts associated with destruction, disturbance, or modification of wetlands.</p> | <p>Ground disturbing activities would not occur in wetlands. Coordination with the Army Corps of Engineers is not necessary for the project.</p> |
| <p>BMP 7.4 Oil and Hazardous Substance Spill Contingency Plan and Spill Prevention Containment and Countermeasure (SPCC) Plan: To prevent contamination of water from accidental spills.</p> | <p>For small quantities of hazardous materials, the Forest Spill Plan would be used (see BMP 2.11)</p> <p>A spill contingency plan and spill prevention and countermeasure plan (SPCC) must be prepared if hazardous materials (including fuels and oils) stored on the Sierra National Forest exceed 1320 gallons, or if a single container exceeds 660 gallons.</p> <p>The plan will at a minimum include: the types and amounts of hazardous materials located in the project area, pre-project identified locations for hazardous materials storage and fueling/maintenance activities (must be located outside of RCA unless prior approval by District Hydrologist or Aquatic Biologist is obtained), methods for containment of hazardous materials and contents of on-site emergency spill kit, and a contingency plan (including contact names with phone numbers) to implement in the event of a spill.</p> <p>The SPCC plan must be approved by the Forest Service prior to project implementation.</p> |
| <p>BMP 7.8 Cumulative Off-Site Watershed Effects: To protect the identified beneficial uses of water from the combined effects of multiple management activities which individually may not create unacceptable effects, but collectively may result in degraded water quality conditions</p> | <p>CWEs for the Project were assessed using the Sequoia NF MSA ERA model, following Regional direction. The environmental analysis described the CWE results. The CWE analysis may provide the basis for the recommendation of additional site-specific watershed protection measures.</p> |