



United States
Department of
Agriculture

Forest
Service

American River
Ranger
District

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File Code: 1950-1

Date: August 11, 2005

Dear Interested Party:

The American River Ranger District of the Tahoe National Forest is preparing an Environmental Assessment that will analyze the effects of thinning overcrowded trees in the Dolly Creek area east of French Meadows Reservoir. The interdisciplinary team and Responsible Official are seeking meaningful input during project planning and prior to making a decision. The stand is part of a California Spotted Owl Home Range Core Area (HRCA) and the purpose of the thinning is to provide a study site to evaluate how canopy cover modifications affect the owls. The researchers selected the Dolly HRCA and a brief outline of the study is enclosed for your interest. Timing is critical, as this study is based on the assumption that the planning process and treatments can occur within one year.

The action that is being analyzed is to participate in the study by thinning approximately 300 acres (see attached map) with ground-based equipment. The standards and guidelines identified in the Sierra Nevada Forest Plan Amendment (2004) will be followed. The thinning will retain all live conifers 24 inches in diameter at breast height or larger and 50 percent canopy cover will also be retained. Ladder fuel and tree densities will be reduced by removing understory trees greater than 8 inches in diameter and up to 24 inches in diameter and retaining the largest and healthiest tree roughly every 20 feet. The designated trees will be felled by hand or with mechanized equipment, yarded to a designated landing location and offered under a timber sale contract for removal and utilization. The HRCA will be thinned on slopes less than 25% with ground-based equipment including chainsaws and mechanical harvesters. Short pitches less than 150 feet long and up to 30% in slope will also be included. Trees will be whole tree yarded (limbs and tops attached to the bole) and a borate compound will be applied to cut stumps to avoid the spread of Annosus root disease. Follow-up fuels reduction work, including machine piling and underburning, will occur when the study is complete.

Management requirements that would be built into the project standards include protecting the streams, cultural and historical sites and wildlife habitat. The management requirements are enclosed for your consideration.

TO	DATE	INFO	ACTION
Gnl. Mgr. <i>DP</i>	<i>8-17</i>		
Directors			
Attorney	<i>8-23</i>	<i>X</i>	
Brd. Clerk			
Resource Dev.	<i>8-23</i>	<i>X</i>	
Dept. Heads			
Mgt. Team			
Admin. Serv. Dir.			
Cust. Serv. Dir.			
Field Serv. Dir.			
Finance Dir.			
Pwr. Sys. Mgr.	<i>8-23</i>	<i>X</i>	
Stg. Aff. Dir.	<i>8-23</i>	<i>X</i>	
Tech. Serv. Dir.			
<i>Ed Horton</i>	<i>8-23</i>	<i>X</i>	

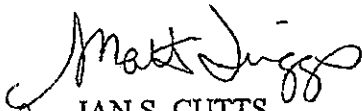


Caring for the Land and Serving People

The resource specialists are completing their evaluation of the environmental consequences and they have determined that these actions will not have significant environmental effects. The project is located within five sub-watersheds. Past timber harvest activities in and around this project area included harvesting pockets of blown down timber in 1984 with follow-up reforestation and timber stand improvement activities. Also, the French EA and the follow-up French Helicopter timber sale thinned approximately 500 acres in 2002.

The decision maker and interdisciplinary team of resource specialists are seeking meaningful input on this proposal prior to the decision. The opportunity to comment ends 30 days following the publication date of this legal notice in the Auburn Journal. Only those who submit timely and substantive comments will be accepted as appellants. Appeal eligibility also requires each individual or representative from each organization submitting substantive comments to either sign the comments or verify their identity upon request. Comments should be sent to Jan Cutts, District Ranger, 22830 Foresthill Rd., Foresthill, CA 95631, phone: 530-478-6254, facsimile: 530-367-2992, email: jcutts@fs.fed.us. Hand delivered comments will be accepted. District office hours are 8:00 AM to 5:00 PM, Monday through Friday.

Sincerely,

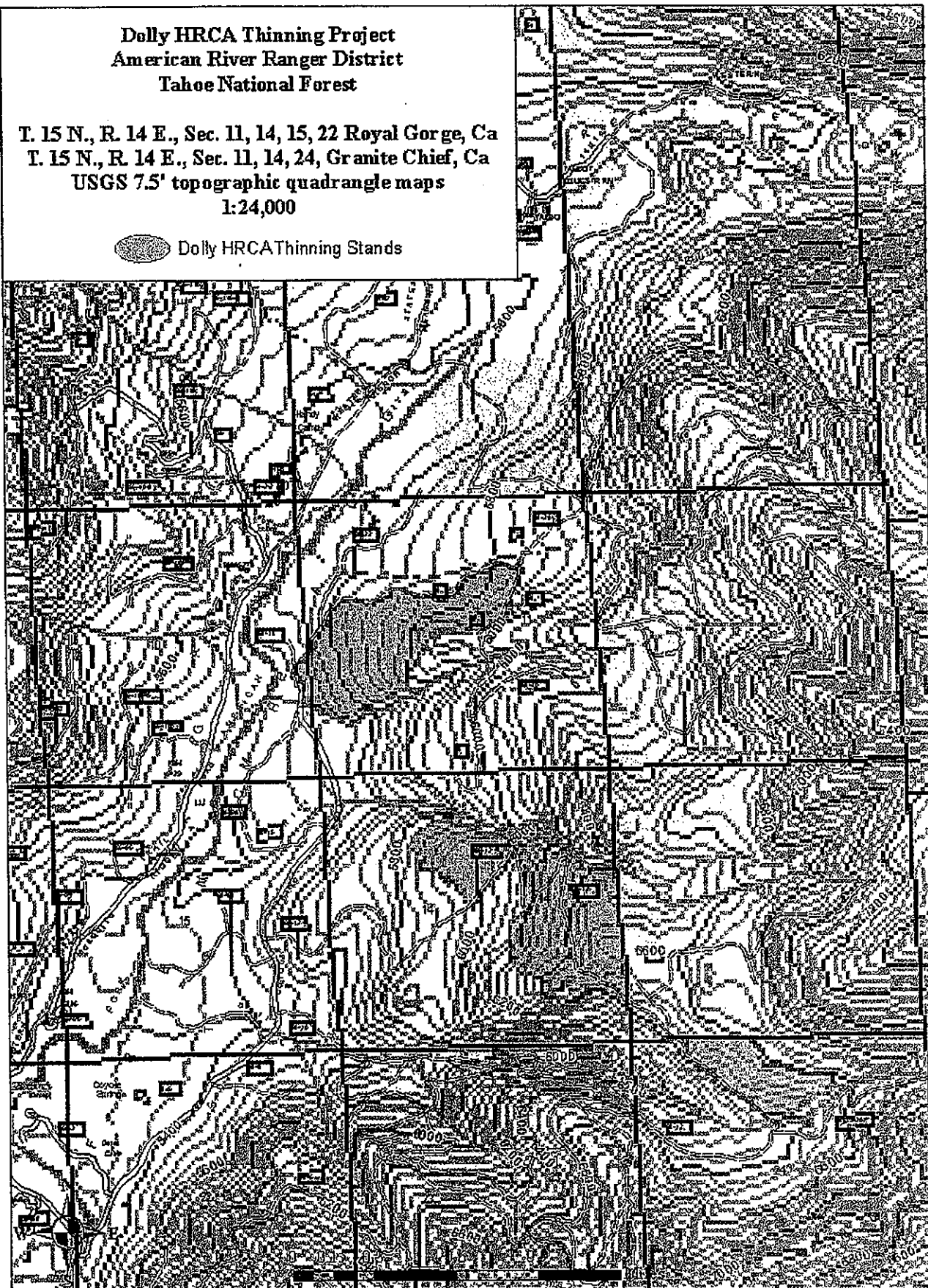

JAN S. CUTTS
District Ranger

Enclosure 1

Dolly HRCAThinning Project
American River Ranger District
Tahoe National Forest

T. 15 N., R. 14 E., Sec. 11, 14, 15, 22 Royal Gorge, Ca
T. 15 N., R. 14 E., Sec. 11, 14, 24, Granite Chief, Ca
USGS 7.5' topographic quadrangle maps
1:24,000

 Dolly HRCAThinning Stands



Effect of Canopy Cover Reduction on Spotted Owls in the Sierra Nevada
(Proposal presented by Dr. R. Gutierrez, Mark Siemens, and Dr. Peter Stein)

The Sierra Nevada Forest Plan Amendment (SNFPA) sets forth a strategy for vegetation management to reduce the risk of wildfire to communities and change wildfire behavior on the landscape. Management prescriptions include thinning forests surrounding communities and strategically placing fuel breaks throughout the landscape. The SNFPA will modify habitat within and around spotted owl sites. Further, the SNFPA acknowledges there is a risk to spotted owls, and some other species, associated with the proposed strategies. However, there is uncertainty regarding the magnitude of the effect on spotted owls. Moreover, it is unclear how these strategies could be modified to reduce the risk to these species. Monitoring of canopy reduction effects on owls provides the best approach to reducing this risk, and will support the adaptive management approach prescribed in the SNFPA.

California spotted owls are associated with mature forest (Gutiérrez et al. 1992). One of the key uncertainties and a priority management question from the SNFPA (Vol. 1 pg 73):

"How do individuals and/or pairs of California spotted owls respond to reductions in canopy cover over some portion of their home range core area (HRCA)? Mechanical thinning of forests to reduce fuels hazards will address some ladder fuels and crown fuels in order to reduce the fuels condition class to acceptable conditions. This will reduce the number of trees by some amount (depending on pre-treatment stand conditions) with no trees greater than or equal to 30 inches removed and will reduce crown closure by as much as 30% and down to as low as 40% average within a stand."

The SNFPA also notes the uncertainty regarding how spotted owls respond to mechanical treatments within protected activity centers (PACs).

Under SNFPA, canopy reduction within owl habitat is allowed only in wildland-urban interface (WUI) zones and in the land outside of spotted owl PACs. Prescribed fire is the only allowed treatment in PACs. The general rules outside WUIs and PACs will be to maintain all trees <30", strive to maintain >50% canopy cover (but retain >40%), and do not reduce canopy cover >30% per treatment. A third area of

treatment, defense zones, prescriptions should maintain all trees >30". Therefore, we propose to monitor the effects of canopy reduction in strategically placed land allocation treatments (SPLATS) within owl territories following the general guidelines in SNFPA. Spotted owls can respond to canopy reduction treatments in an acute (immediate) manner by moving away from the treatments, changing the size and shape of their home range, abandoning their territory, and/or stop using the treatment area. They can respond in a chronic manner by having lower survival or reproduction than either they had before the treatment, relative to other owls. Thus, we propose to monitor both acute (this proposal) and chronic (long-term) owl responses to canopy cover reduction.

STUDY AREA

The study area will be on the Georgetown and Pacific Rangers Districts of the Eldorado National Forest, and the Foresthill Ranger District of the Tahoe National Forest. This geographic area encompasses the long-term spotted owl monitoring study conducted by the University of Minnesota. We will monitor treatment effects on owls occupying the regional study area rather than the density study area.

METHODS

We will use radio telemetry to monitor owl responses to treatments. We believe that this method provides the only reliable mechanism to assess acute responses of the owl to canopy reduction. We would solicit input for the transmitter attachment procedure from Drs. Eric Forsman or Robert Anthony who have the most experience with these transmitters.

Experimental Design. We will randomly select owls from 12 territories (12 owls in treatment territories and 12 owls control territories [owls on the density study area will serve as quasi-controls as well as serving as the baseline for long-term treatment effects]) from among the 45 owl territories on the Eldorado regional study area (36 of these territories were occupied in 2004). We chose owls as the treatment unit because the acute response (i.e., change in home range size and shape or change in habitat use) occurs at the territory scale (an individual's response within its territory). Simple random placements of treatments in owl territories may not provide a treatment effect in a location such that it would be expected to result in an owl response. We rejected territory as a treatment because

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Research Proposal
Dolly HRCAs Thinning Project

it is the birds that will respond to treatments. In addition, it is possible that we may not be able to capture some owls or some owls or radios may die. Thus, in addition, selection of watersheds as treatments was rejected because of the same problems as well as the complexity of generating sufficient treatments over such a large scale in such a short time frame.

We anticipate loss of birds or transmitters as a result of natural causes or events. Therefore, we will strive for a sample of 10 owl pairs (5 treatments and 5 controls), a sample we feel is large enough to provide useful information. In addition, since the sample unit is the territory, it is possible that we may not be able to capture and radio mark both members of each pair. However, if one member of the pair is marked, we can still achieve an adequate sample except that inferences about differential responses by the sexes will be reduced.

Birds will be captured as above, banded (if not already banded), color-marked (if not already color-marked), and marked with radio transmitters. We will use tail-mounted transmitters (company and model not yet determined) that fall within the specified mass guidelines of the U.S. Fish and Wildlife Service for this species. We anticipate using transmitters that are programmed to turn off and on at specified times. It is possible that this transmitter feature will not be available for use due to technical or mass limitations. If programable transmitters are not available we will use standard spotted owl transmitters, but we will have to recapture birds to replace them when necessary.

There are several technical difficulties that we may encounter with spotted owl transmitters. First, transmitters or batteries may fail, which would require replacement. Second, birds may spontaneously molt if transmitters cause irritation. Third, birds may move or die, which would require capturing and marking replacement birds. Fourth, adult birds naturally molt approximately every two years. All of these factors have been encountered and dealt with throughout the history of spotted owl monitoring and research. With the advent of snare poles, it is much easier to capture birds that are wise to previous capture. Historically, once captured with a mist net or noose pole, spotted owls were much more difficult to capture a second time. Snare poles do not seem to invoke the same evasive response by the owls. In addition, backpack-type radio transmitter attachment seemed to make birds much more evasive to recapture. Tail mounts do not invoke the same response. Thus, despite the technical difficulties, advances in telemetry,

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capture, and marking make this project technically feasible (Forsman et al. 2002).

Once captured, birds will be monitored on a randomly selected schedule. That is, the order of sampling will be random with respect to the bird although we may modify this by randomly selecting groups of birds in close proximity. Monitoring of birds will be during the three hours post sunset and pre-sunrise, which are the most active foraging times of spotted owls. Unlike previous spotted owl home range estimation studies, our main objective will not be to estimate home range per se (although we will estimate their home range size). Rather our primary objective will be to identify key foraging areas, particularly those outside of PACs. Because our sample size is small, to constrain costs we propose that treatment areas be placed in areas that are actively used by owls for foraging. This will be necessary to enhance the probability of detecting a response. That is, placing a treatment in an area not used by owls may not result in a noticeable effect, whereas monitoring the response of owls to canopy cover reduction within their known foraging areas would be more informative both in the short-term and the long-term.

Once owl foraging areas have been identified, we will coordinate with ranger districts to plan canopy cover reduction treatments in the appropriate areas. To the extent possible the treatments will be randomly selected with respect to the identified foraging areas. However, this may have to be a quasi random selection if the selected areas are remote and would require prohibitive road building costs.

The sampling frame we propose will begin in April or May, depending on the breeding season (i.e., if it is a high year of reproduction, capture will begin in late May to allow females to successfully nest). Birds will be monitored for two months to identify current key foraging areas. These areas will then be presented to ranger districts with the intent of creating sale units for canopy cover reduction treatments. The speed at which these treatments can be marked, offered for sale, and harvest completed will determine the acute response monitoring phase of the project. That is, it is theoretically possible for the entire project to occur between April and October if sales can be completed by mid September. However, if sales cannot be completed in the current project year (FY2005), we would have to complete the monitoring in FY 2006. This longer time frame seems more realistic given the complexity of delineating and offering timber sales. Thus, if the longer scenario is more likely, we would attempt to use transmitters that will cease transmitting during the winter and that will become active immediately prior

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to canopy cover reduction treatment to save battery life.

Habitat Assessment: Concomitant to telemetry monitoring and treatment layout, we will sample each treatment area with respect to structural features known to be important to owls. That is, we will sample percent canopy closure, shrub cover, coarse woody debris, tree density and sizes, diameter distribution etc. before and after treatments at the each site in order to evaluate the degree to which the habitat was modified. This will allow us to examine if a treatment effect only occurs at or beyond some threshold value of canopy closure in relation to other habitat metrics. Sampling will follow standard protocols for spotted owls except that canopy closure will be sample in several ways (spherical densimeter, densitometer, moose horn, aerial photography, and digital photographs) because this is the central theme of the treatment.

Potential owl response to treatments: Response parameters of interest in the acute phase of the study would be the owl behavioral response to treatment (avoidance or attraction to treatment), change in home range shape, change in home range size, and intensity of use of treatment or alternative areas, and mortality. In addition, we will use night vision goggles in an exploratory sampling manner to observe owl behavior during harvest. We will also collect fecal samples before, during, and after harvest to assess their response to a major disturbance stimulus in their territories.

Data Analysis: Data will be analyzed in a model selection framework, with the above response parameters. A model selection approach will allow us to examine multiple responses related to treatment. However, we will also test treatment effects in a more classical manner such as *F* tests or by examining the breadth of confidence intervals around treatment coefficients use standard statistical models.

Planning and Coordination: This aspect of the canopy reduction monitoring project will be critical to its success. The biological responses of the owl are dependent on treatments occurring in a time frame and manner consistent with the objectives of observing the response of the owls to the treatment. Thus, we envision at least 3 major planning workshops with the ranger districts cooperating in the project. We would begin our planning with a conference call in early January to organize the timing of workshops as well as to evaluate the feasibility of completing the entire project by October or November. The first workshop would occur in February,

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which would provide details of selection of owl territories to be treated. The second workshop would occur in early April to organize the sale process. The third would occur in late June to provide the Forest Service with telemetry data on owl use areas, and to determine the distribution of SPLATS within the owl territories relative to intensive use areas. Following the third meeting, we would continue monitoring owls until, during, and post treatment. If the treatments would not occur until the following year, we would complete vegetation analysis and allow transmitters to shut down. However, if we cannot find a suitable transmitter with a shut down feature, we will continue to monitor the owls through the end of the summer.

Acute vs. Chronic Responses. As noted above, the canopy reduction study will monitor acute responses by owls at three levels: changes in behavior, stress, and immediate mortality. In addition to the acute responses, the treatment owls may respond in a more chronic fashion by exhibiting lower reproduction and survival than control owls. These chronic effects would be noted during continued monitoring of these birds in the mark-recapture design that we have implemented since 1986 on the Eldorado study area. In addition, this project should provide the information necessary to modify treatments or SLAT layout in order to provide a more general assessment of a landscape-scale treatment across the entire Eldorado study area. That is, in an adaptive framework context advocated by the SNFPA, the results of this short term canopy reduction study should provide the basis for implementing a landscape scale SPLAT treatment on the Eldorado study area where chronic effects could be monitored prior to SPLATS being implemented across the entire Sierra Nevada.

Enclosure 3**Management Requirements****Dolly HRCAs Thinning Project**

The thinning proposal is designed to include these Management Requirements:

Potential Undesirable Effects	Measures Designed to reduce or Prevent Undesirable Effects	Responsible Person
Watershed, Soils, and Aquatic Resources	Establish a 100-foot "riparian buffer" zone along each side of perennial streams, 50-foot "riparian buffer" along each side of intermittent streams and establish a 25-foot "riparian buffer" zone along each side of ephemeral streams. These zones provide for coarse large woody debris (CWD) to the stream channel and adjacent land and provide shading.	Planning Forester, Prep Forester, Sale Administrator
Watershed	Fall and leave safety hazard trees within 50' or 100' "riparian buffer", unless otherwise agreed by a hydrologist or aquatic biologist.	Sale Administrator and Hydrologist
Watershed, Soils, and Aquatic Resources	Limit ground-based equipment (tractors and masticators) to slopes generally less than 25% outside of RCAs. Field review tractor unit boundaries by a hydrologist or soil scientist. Limit low ground pressure equipment to slopes less than 20% within all RCAs.	Planning and Prep Forester, Hydrologist, Soil Scientist.
Watershed, Soils, and Aquatic Resources	Locate skid trails at least 75 feet apart except where they converge near a landing. Trees would be directionally felled in tractor units to minimize the number of skid trails and associated ground disturbance. Use end-lining to designated skid trails. No end-lining within RCAs.	Planning Forester, Prep Forester, Sale Administrator.
Watershed, Soils, and Aquatic Resources	Allow skidding operations only when soil moisture conditions are such that compaction, gulling, and/or rutting will be minimal. Equipment may operate on designated skid trails when soils are dry to a minimum of 4 inches. Low-ground-pressure equipment may operate off of designated skid trails when soils are dry to a depth of 4 inches. High-ground-	Planning Forester, Prep Forester, Sale Administrator, Soil Scientist, CORs, Hydrologist.

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Potential Undesirable Effects	Measures Designed to reduce or Prevent Undesirable Effects	Responsible Person
	pressure equipment may operate off of designated skid trails when soils are dry to a minimum depth of 10 inches. Off of designated skid trails, limit all equipment passes over the same piece of ground to reduce the potential for adverse soil compaction. Outside normal operating season (NOS) or during wet periods within the NOS, utilize the TNF Wet Weather Operations Guidelines.	
Watershed, Soils, and Aquatic Resources	Deep till temporary roads, landings, and portions of skid trails within 100' of landings.	Planning Forester, Prep Forester, SA, Soil Scientist, Hydrologist
Watershed, Soils, and Aquatic Resources	No new construction of landings in RCAs. Consult with hydrologist or aquatic biologist before using an existing landing located in a RCA	Planning Forester, Prep Forester, SA, Hydrologist, Aquatic Biologist.
Watershed, Soils, and Aquatic Resources	Place rock on roads at stream crossings and segments within identified RCAs to reduce the impact of sediment delivery to associated stream courses. Place rock, slash, or certified weed-free rice straw at the outlets of rolling dips and/or waterbars to dissipate water where identified by road engineer and soil scientist, and/or hydrologist.	Design Engineer, Soil Scientist, SA, Hydrologist.
Watershed, Soils, and Aquatic Resources	Waterbar spacing: use moderate or high Erosion Hazard Rating for spacing guidelines based on site conditions and residual slash amounts. Pull berms back on skid trails where ground conditions are appropriate.	Design Engineer, Soil Scientist, SA, Hydrologist.
Watershed, Soils, and Aquatic	Establish Riparian Conservation Areas (RCA) for all streamcourses. Ensure RCOs are met within RCAs. Follow "RCA Guidelines" for	Planning and Prep Forester, SA, Hydrologist, Soil

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Management Requirements
Dolly HRCA Thinning Project

Potential Undesirable Effects	Measures Designed to reduce or Prevent Undesirable Effects	Responsible Person										
Resources	<p>activities within RCAs. Only low-ground-pressure equipment may enter the RCA unless otherwise agreed by a hydrologist, soil scientist, or aquatic biologist. The RCA widths are as follows:</p> <table><tr><th>Stream Type</th><th>Width of the Riparian Conservation Area</th></tr><tr><td>Perennial Streams</td><td>300 feet each side, measured from bank full edge</td></tr><tr><td>Seasonal Flowing Streams</td><td>150 feet each side, measured from bank full edge</td></tr><tr><td>Streams In Inner Gorge</td><td>Top of inner gorge</td></tr><tr><td>Meadows, Lakes, and Springs</td><td>300 feet from edge of feature or riparian vegetation, whichever is greater</td></tr></table>	Stream Type	Width of the Riparian Conservation Area	Perennial Streams	300 feet each side, measured from bank full edge	Seasonal Flowing Streams	150 feet each side, measured from bank full edge	Streams In Inner Gorge	Top of inner gorge	Meadows, Lakes, and Springs	300 feet from edge of feature or riparian vegetation, whichever is greater	Scientist, Aquatic Biologist.
Stream Type	Width of the Riparian Conservation Area											
Perennial Streams	300 feet each side, measured from bank full edge											
Seasonal Flowing Streams	150 feet each side, measured from bank full edge											
Streams In Inner Gorge	Top of inner gorge											
Meadows, Lakes, and Springs	300 feet from edge of feature or riparian vegetation, whichever is greater											
Recreation and Public Use	Keep open all major roads (level 5, 4 and 3).	Layout/contract Specialist, Sale Administrator and Fuels Implementation Team										
Scenery Resources	Emphasize varying the spacing guidelines so the thinning treatment has natural diversity rather	Silviculturist, Landscape										

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Management Requirements
Dolly HRC Thinning Project

Potential Undesirable Effects	Measures Designed to reduce or Prevent Undesirable Effects	Responsible Person
	than a uniform appearance. The present guidelines allow for 25% variability. Use this variability to provide diversity in spacing. Some areas should look open and park like while other stands will look closer together. Emphasize leave clumps right on the roadside edge. Favor clumps that are healthy and isolated from other stands to avoid ladder fuel situations.	Architect, Layout/contract Specialist
Scenery Resources	Flush cut stumps that are visible at eye level along the edge of the roadway. Stumps shall be as close to the ground as possible and no higher than 6 inches except where ground conditions and rocks make this requirement impossible. In these cases stump height will be as low as possible considering obstacles and safety.	Layout/contract Specialist, Sale Administrator and Fuels Implementation Team
Scenery Resources	Locate landings and temporary road construction out of view within the immediate foreground (300') of the road. For the occasional exception where a landing must be located within view of the roadway, utilize existing or planned openings. Graded areas should be regraded to natural contours and revegetated.	Layout/contract Specialist, Sale Administrator and Fuels Implementation Team
Noxious Weeds	Clean all equipment that operates off roads before it enters the project area if it is coming from areas infested with noxious/invasive-exotic weeds (see TNF Weed S&G booklet-FY 2001). Clean equipment that is operating off roads before it moves from an infested area within the project to another area (within or outside the project area). Monitor project area for invasion of new noxious weeds.	District Botanist, Layout/contract Specialist and Fuels Implementation Team
Noxious Weeds	Ensure that all plant material used for erosion control and/or road maintenance is weed free (including straw and mulches as well as	District Botanist, Layout/contract Specialist and

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Management Requirements
Dolly HRCAs Thinning Project

Potential Undesirable Effects	Measures Designed to reduce or Prevent Undesirable Effects	Responsible Person
	propagative parts such as seed).	Fuels Implementation Team
Forest Vegetation	Protect residual live trees from damage during falling, masticating, and underburn operations. Silviculturist to prepare input for Burn Plan identifying short and long-term objectives, acceptable mortality, condition of the desired vegetation. (Crown base height, etc.)	Silviculturist, Layout/contract Specialist and Fuels Implementation Team
Heritage Resources	Management of Sites: Protect heritage resources with posted and/or flagged control areas. Utilize directional felling methods as appropriate to protect resources. Designate control areas on the ground prior to work. Sale Administrator and/or Archaeologist will walk all sites with purchaser prior to start of felling activities.	District Archaeologist, Layout/contract Specialist, Sale Administrator and Fuels Implementation Team
Heritage Resources	Felling and removal of trees within sites: Only hazard or wind throw trees will be removed from sites. Implement on-site tree removal only upon written approval of the Forest Heritage Resource Manager (HRM). All trees will be directionally felled and fully suspended during removal from site. Removal of trees will follow the guidelines established in the First Amended Regional Programmatic Agreement Regarding Compliance with Section 106 of the National Historic Preservation Act. An Archaeologist will be present during felling and removal of trees.	District Archaeologist, Layout/contract Specialist, Sale Administrator and Fuels Implementation Team
Transportation System, Road Maintenance and Safety	Abate dust caused by commercial vehicle traffic on native and aggregate surfaced roads. Use dust palliatives such as lignin sulfonate or magnesium chloride to reduce the need for	Maintenance Engineer, Layout/contract Specialist, Sale

Enclosure 3
Management Requirements
Dolly HRCAs Thinning Project

Potential Undesirable Effects	Measures Designed to reduce or Prevent Undesirable Effects	Responsible Person
	water, unless otherwise agreed. Include C (T) 5.4 and C (T) 5.411.	Administrator and Fuels Implementation Team
Transportation System, Road Maintenance and Safety	Maintain haul roads before, during, and after use. Place emphasis on post haul maintenance of road surface, and the surface drainage crossings to reduce erosion potential. Clean all activity debris from ditches and culvert inlets. Use Timber Sale contract road maintenance specifications T-802, T-803, T-805, and T-809.	Maintenance Engineer, Layout/contract Specialist, Sale Administrator and Fuels Implementation Team
Wildlife	No vegetation treatments will occur within California spotted owl and Northern goshawk Protected Activity Centers (PACs). Maintain a LOP prohibiting vegetation treatments within $\frac{1}{4}$ mile of the activity center during the breeding season March 1, through August 31.	Wildlife Biologist, Layout/contract Specialist and Fuels Implementation Team
Wildlife	Leave two to four of the largest snags per acre in the threat zone except along system roads. In Westside mixed conifer retain four of the largest snags. Where snags are deficient, retain live decadent trees. (Refer to SNFPA FSEIS S&G #11)	Biologist, Layout/contract Specialist and Fuels Implementation Team
Wildlife	Develop thermal cover, songbird habitat and structural diversity in plantations by clumping un-thinned trees in $\frac{1}{4}$ acre patch per 20 acres.	Biologist to flag, Layout/contract Specialist and Fuels Implementation Team
Wildlife	Retain 10 to 20 tons of down woody material in the largest size classes and in decay classes 1, 2, and 3. (Refer to SNFPA FSEIS S&G #10)	Biologist, Layout/contract Specialist and

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Potential Undesirable Effects	Measures Designed to reduce or Prevent Undesirable Effects	Responsible Person
		Fuels Implementation Team
Wildlife/ rare plants	Protect threatened, endangered and sensitive (TES) plants encountered during project implementation by flagging and avoiding the occurrence. If any sensitive animals, plants, newly listed TES species or noxious weeds are discovered, notify the Biologist.	Biologist, Layout/contract Specialist and Fuels Implementation Team
Fuels	Place all handpiles at least 10 feet away from the boles of retention trees to avoid damage. Utilize openings where they exist.	Layout/contract Specialist, Sale Administrator, Fuels Implementation Team
Fuels	Yard unutilized material (YUM) developed by purchaser's operations and deck for subsequent removal or burning	Layout/contract Specialist, Sale Administrator, Fuels Implementation Team
Fuels	Handpile activity generated slash within 100 feet of primary roads (#68) and within 50 feet of secondary roads (#60-12).	Layout/contract Specialist, Sale Administrator, Fuels Implementation Team
Fuels	Locate landing Piles near the center of landings to reduce damage to residual trees during burn operations.	Layout/contract Specialist, Sale Administrator, Fuels Implementation Team
Fuels	Lop and scatter activity generated slash to a depth no greater than 18 inches.	Layout/contract Specialist, Sale

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Potential Undesirable Effects	Measures Designed to reduce or Prevent Undesirable Effects	Responsible Person
		Administrator, Fuels Implementation Team