



Ebbetts Pass Forest Watch

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July 9, 2007

State of California
The Resources Agency
Department of Forestry and Fire Protection
Southern Region
Tuolumne-Calaveras Unit
1234 East Shaw Avenue
Fresno, CA 93701

VIA: EMAIL TO FRESNOPUBLICCOMMENT@FIRE.CA.GOV AND CERTIFIED MAIL
RETURN RECEIPT REQUESTED

SUBJECT: TIMBER HARVESTING PLAN, SOUTH RIM, THP NO. 4-06-
42/CAL 7, COMMENTS

Dear Sir or Madam:

Ebbetts Pass Forest Watch (EPFW) hereby submits comments regarding the subject Timber Harvest Plan (THP) pursuant to Public Resources Code (PRC) §§4582.6(a) and 21080.5(d)(3)(B), and Title 14 of the California Code of Regulations (CCR), §§1037.3, 1090.17 and 1092.18. EPFW supports the group selection silviculture method chosen by the applicant. We are, however, concerned about the even-age prescriptions, such as clearcutting and shelterwood removal, proposed in the plan. We are also discouraged by the fact that after careful review of the THP we must conclude that the plan is inadequate, in that it fails to adequately consider and/or adequately mitigate the following potentially significant impacts of the proposed action:

- effects on plant and animal species;
- watershed effects;
- increase in traffic;
- increase in noise generated by helicopters and trucks, and
- cumulative impacts on California's public trust resources.

Furthermore, we find the analysis of alternatives does not conform to the intent of the requirements of California Environmental Quality Act (CEQA). Our detailed comments are enclosed.

It is the intent of the Legislature to create and maintain an effective and comprehensive system of regulation and use of all timberlands so as to assure that, where feasible, the productivity of timberlands is restored, enhanced and maintained. The goal of maximum sustained production of high-quality timber products is to be achieved while giving consideration to recreation, watershed, wildlife, range and forage, fisheries, regional economic vitality, employment and aesthetic enjoyment.

It is the duty of the California Department of Forestry (CDF) to ensure that each THP submitted to it for approval contains an evaluation of all potentially significant impacts of the proposed project, and that it communicates this information honestly, fully and clearly to the public and the agency. Identified or potential significant impacts of each proposed project must be mitigated or the agency must find that there are overriding considerations that allow for the proposed plan to be approved despite unmitigated significant impacts. The subject THP does not meet the standard of analysis required by CEQA and Forest Practice Rules and should not be approved without additional analysis.

EPFW hereby incorporates any and all relevant comments on the subject THP submitted by the Central Sierra Environmental Resource Center and the Foothill Conservancy.

Sincerely,



Agata A. Sulczynski, Esq.
Ebbetts Pass Forest Watch Advisory Committee

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Required Analysis

Both the California Environmental Quality Act (CEQA) and the Forest Practice Rules (FPRs) require that all potentially significant adverse impact on the environment of activities proposed under the THP be identified and analyzed (14 CCR 896(a), 897 (a), PRC 21002, 21002.1(a), 21080.5(d)(2)(A), (B) and 21080.5(d)(3)(A)). This requires identification and analysis of impacts to all animal and plant species, including threatened, endangered and special status (listed) species and the species' habitat in general. Significant impact is defined to mean: "substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project including: land, air, water, minerals, flora, fauna, ambient noise, and objects of historic or aesthetic significance" (Forest Practice Rules, 895.1). Sufficiently clear and detailed information must be provided to permit adequate and effective review to assure that significant adverse individual and cumulative impacts are avoided or reduced to insignificance (14 CCR 897(b)(3)). CDF must disapprove a plan that is incomplete (14 CCR 898.1(c)(3)).

The subject THP does not adequately identify or analyze the impacts to species or their habitats. Likewise, analysis of impacts to land, air, water, noise and aesthetic significance is lacking or inadequate.

Plant Species

The applicant has failed to evaluate species identified as potentially occurring in the project area and fails to consider plant species known to occur in the vicinity of the THP and in habitat types likely to be present within the plan area. The following species with potential to occur at the site should have been considered in the plan but have been omitted contrary to the recommendation of the California Department of Fish and Game (DFG):

- *Allium tribracteatum*
- *Arctostaphylos myrtifolia*
- *Eryngium pinnatisectum*
- *Helianthemum suffrutescens*
- *Horkelia parryi*
- *Iris hartwegii ssp columbiana*
- *Mimulus pulchellus*
- *Sphenopholis obtusata*

It is not clear whether surveys of the area for *Chlorogalum grandiflorum* and *Calochortus clavatus var avius* that are reported to have been conducted, were performed in accordance with applicable protocols.

On pages 19 and 81 of the THP, the applicant lists a number of additional plants species that were identified during an initial scoping and surveyed. These species are listed in the Natural Diversity Database (NDDB) and include rare, threatened, and endangered plants, not necessarily limited to those species that have been "listed" by state and federal agencies.¹

¹ A species, subspecies, or variety of plant is "endangered" when the prospects of its survival and reproduction are in immediate jeopardy from one or more causes, including loss of habitat, change in habitat, over-exploitation,

Several of these species are threatened by logging practices (California Native Plant Society [CNPS] 2001). It is not clear from the information provided in the THP how the applicant determined that the plant species were not present in the plan area.

There is no analysis in the plan of the impact of the proposed activities on any of these plant species: *Cypripedium fasciculatum*, *Cypripedium montanum*, *Lilium humboldtii* ssp *humboldtii*, *Stellaria longifolia*, *Sphenopholis obtusata*. Surveys of the area to determine the presence or absence of these plant species are proposed for later dates, after the presumed approval of the THP. In order to provide full disclosure and allow for meaningful review, the impact of the proposed operations on plant species must be evaluated in the THP; it cannot be deferred to a later date. Plant surveys must be conducted by a trained botanist knowledgeable in applicable survey protocols. Without an appropriate field inventory, a meaningful analysis cannot be provided.

According to the DFG botanical surveys are conducted in order to determine the environmental effects of proposed projects on all rare, threatened, and endangered plants and plant communities, when:

- Natural vegetation occurs on the site, it is unknown if rare, threatened, or endangered plants or habitats occur on the site, and the project has the potential for direct or indirect effects on vegetation; or
- Rare plants have historically been identified on the project site, but adequate information for impact assessment is lacking.

The proposed THP activities will clearly occur in an area with natural vegetation and the THP clearly points to the potential for rare, threatened, and endangered plants included in the NDDDB to occur in the area. A field survey is appropriate in this instance and should have been included in the THP. As recommended by the DFG, the report of the botanical field survey(s) containing, among other items:

- the results of field survey including detailed maps and specific location data for each plant population found,
- a list of all plants observed on the project area. Plants should be identified to the taxonomic level necessary to determine whether or not they are rare, threatened or endangered; and
- description of reference site(s) visited and phenological development of rare, threatened, or endangered plant(s)

should have been included in the THP (California Department of Fish and Game, Natural Diversity Database. January 2006, *Special Vascular Plants, Bryophytes, and Lichens List*, Quarterly publication, Mimeo. 97). The THP is lacking this information. This lack of data

predation, competition, or disease. A plant is "threatened" when it is likely to become endangered in the foreseeable future in the absence of protection measures. A plant is "rare" when, although not presently threatened with extinction, the species, subspecies, or variety is found in such small numbers throughout its range that it may be endangered if its environment worsens. Rare natural communities are those communities that are of highly limited distribution. These communities may or may not contain rare, threatened, or endangered species. The most current version of the California Natural Diversity Database's List of California Terrestrial Natural Communities may be used as a guide to the names and status of communities.

contravenes the CEQA requirement to identify, analyze and mitigate all significant impacts of the proposed activities before a decision to approve a THP is made (See *Citizens of Goleta Valley v. Bd. of Supervisors* (1990) 52 Cal. 3d 553, 564 [the purpose of an EIR is to inform the public and agency officials “of the environmental consequences of their decisions before they are made”] emphasis in original). THPs that do not include adequate information regarding the presence of sensitive species (including those on the DFG’s Special Plans List or included in the CNPS Inventory) in the area that may be significantly affected, directly or indirectly, by the proposed timber operations necessarily contain insufficient information for evaluation of the plan’s potential significant impacts and for development of adequate mitigation measures and alternatives. Such plans must be denied (See *Sierra Club v. Board of Forestry*, 7 Cal. 4th 1215).

Oaks

The THP states that “California black oak and to a lesser extent canyon live oak, comprise approximately 19% of the average basal area over the plan area. That translates to approximately 28 square feet per acre. This estimate is approaching the desired level by the California Oak Foundation (COF).

The COF recommends a basal area per acre (BAPA) of 35 square feet per acre as opposed to the CDF standard of 10 square feet per acre. EPFW concurs with the COF recommendation. It is particularly important to emphasize the need to include seedlings and saplings in BAPA assessments because of their higher value as forage for deer at certain times of the year and for fawns and other immature deer which may not be able to reach the leaves of taller deciduous and live oaks. We agree that the abundance of oaks in the applicant’s survey of the plan area constitutes a unique habitat opportunity that justifies retention. It would be very useful if these areas were mapped and identified. The retention of mature oaks is lauded for its ecological as well as its value for mast production as deer and other wildlife food sources. However the plan overlooks the value of smaller oak trees which are an indispensable component within a healthy “mixed conifer/hardwood forest” in the Sierra.

Additionally, the United States Forest Service (USFS) recommends that to maintain the oak habitat, buffers around existing oak trees should be retained by not planting conifers within 20 feet of the edge of hardwood tree crowns (United States Forest Service, *2004 Sierra Nevada Forest Plan Amendment, Lower Westside Hardwood Forest Ecosystems, Record of Decision* at page 53). We urge the applicant to include this consideration in the plan.

Animal Species

The applicant fails to meet the standard of review required under CEQA and the FPRs in its analysis of potential impacts of its activities on animal species in the proposed project area. CEQA requires full disclosure of potential impacts. The applicant relies on a record search for its species (NDDDB, Sierra Pacific Industries [SPI] records and Federal Energy Regulatory Commission’s [FERC] Environmental Impact Statement) and has not conducted protocol surveys for many of the species that are noted to occur at the site or in the vicinity.

Amphibians

The discussion of the red-legged and yellow-legged frogs does not provide any reference or facts to support the conclusion that the species do not occur within the project area. The THP does not indicate that site-specific protocol surveys were conducted. It suggests that

personnel, such as RFPs who are not necessarily trained in biological sciences and protocol-level surveys, made the determinations of absence or presence of this and other species. While EPFW is aware that SPI does retain the services of a UC Berkeley biologist to review documents and suggest where and when surveys should be conducted, there is nothing in the THP that provides sufficiently clear and detailed information to permit adequate and effective review to assure that significant adverse individual and cumulative impacts are avoided or reduced to insignificance.

Habitat for the red-legged frog does exist in the general project location. In September of 1997, a California red-legged frog habitat assessment was conducted within portions of the Pacific Gas and Electric Company Mokelumne River Project area (FERC 137) by Ibis Environmental Services. Sixty-five sites were identified in their project area. (Pacific Gas and Electric Company, Technical and Ecological Services, San Ramon, California, *Habitat Assessment for the California red-legged frog [Rana aurora draytonii] within Portions of the PG&E Mokelumne River Project Area*, 1997)

During the Pre-harvest Inspection (PHI), the California Department of Fish and Game recommended that a site survey of the red-legged frog and its habitat be conducted utilizing a defined site assessment protocol.

Raptors

As with amphibians, the discussion of raptors in the THP does not provide any reference or facts to support the conclusions that are made about the listed and non-listed species within the project area. The THP does not indicate that site-specific protocol surveys were conducted. It suggests that personnel such as RFPs, who are not necessarily trained in biological sciences or protocol-level surveys, made the determinations of absence or presence of raptor species. In the case of the California Spotted Owl (CSO), the discussion is very general, and relies on surveys conducted in 2005 and 2006. It is not clear how and by whom these surveys were conducted. The CSO occurrence noted by the CFG is not discussed in the THP, contrary to the agency's request.

The applicant relies on a study of Northern Spotted Owls in the analysis of the potential impacts of the proposed THP on the California Spotted Owl by suggesting that there are genetic similarities between the two species. This approach is not supported by any evidence that genetic similarity will result in the same response to environmental stressors by both species. The THP must provide a review of the species that is of concern, not a related species that may or may not exhibit the same behaviors under stress, especially if the species is considered to be threatened by logging. The California Spotted Owl has been deemed by the California Department of Fish and Game and the USFWS as subject to cumulative impacts, a major one of which is timber harvesting on private land (THP p.63 quoting United States Department of Interior on the Sierra Nevada Framework).

The plan indicates that a Cooper's hawk nest was identified in the plan area by chance. The THP does not document any other surveys for this species to determine whether additional nests or birds may occur in the plan area.

Peregrine Falcons have been known to occur in the vicinity of the plan area. The THP does not address this species and provides no protections for them. For the Peregrine Falcon, helicopter yarding is prohibited within one-half mile of the nest.

Mule Deer

The THP alleges that mule deer will not be impacted by the proposed logging operation based on the fact that forbs, grasses, herbaceous shrubs and increased edge habitat will increase food values for this species. While this may become true over time, it is EPFW's experience that many areas that have been managed with a clearcut silviculture method, and subsequently treated with herbicides to control unwanted re-growth do not regenerate forbs, grasses, and herbaceous shrubs for multiple years, which results in loss of food value to this species. A portion of the plan area is in the critical range of the Railroad Flat deer herd that may be affected by the lack of vegetation after the harvest and prior to regenerations of new tender growth.

A report by the University of California Integrated Hardwood Range Program found that many deer herds depend on the mast produced by oaks (including black and interior live oaks) particularly in the fall and winter (transition and winter ranges). The report points out that the leaves and stem of oaks contribute to forage for deer in the spring and summer along with other broad leafed trees, shrubs, grasses and forbs. This is important for fawns and other immature deer that cannot reach browse further up the canopy. Oaks provide an indispensable protein source when the deer need it most. Studies indicate use of oaks is greatest in coniferous forests and is directly related to the level of oak trees found within the transitional ranges. "Recently, biomass harvesting has affected some important deer habitat. In these operations almost all of the understory vegetation and lower canopy trees are mechanically removed as the stand is harvested, oak removal reduces mast and browse that would be available to deer. The California Department of Fish and Game (CDFG) has recently begun to ask timber landowners and operators to retain the mast producing trees when biomass harvesting" (B. Garrison, *California Oaks and Deer*, 2000).

The effects of the proposed plan are not adequately analyzed in the THP.

Pacific Fisher

The Pacific fisher is discussed in the cumulative impacts section. Unlike the spotted owl, it is not identified in other sections of the THP, although both are sensitive species and the Pacific fisher is a candidate species under the federal Endangered Species Act (ESA)². The implication seems to be that the Pacific fisher is not identified as present at the site, yet there is no biological survey to support this implication. The discussion, in the THP, of impacts of the proposed activity on the Pacific fisher is mostly irrelevant to impacts of the operation at the THP site. The applicant cites a 1995 study in Klamath province without providing rationale for its relevance to the THP site. No site-specific information is provided.

Herbicide Application

EPFW is encouraged that the applicant has included herbicide information in its plan. However, the information provided in the THP is inadequate to meet the analysis and disclosure requirements of CEQA. While it may be the case that precise application of pesticides cannot be determined at this point, the applicant has many years of data on which to draw to provide meaningful analysis of the likely scenarios and their likely impacts. The

² This species is a candidate species under the federal ESA and is considered sensitive by US Forest Service and BLM and DFG (CSC).

applicant instead maintains that it is impossible to determine what course of action will be taken.

The applicant indicates that aerial spraying of herbicides may be employed. It is not clear how the applicant would prevent the spraying of herbicides into water-bodies. There is only a statement that buffers near watercourses and wetlands will be observed. Aerial spraying of herbicides is controversial. In a recent settlement involving the U.S. Environmental Protection Agency's regulation of pesticides, a court approved a settlement agreement requires the EPA to prohibit the interim use of the pesticides the applicant proposes to use, including atrazine, glyphosate; hexazinone and imazapyr, triclopyr, and others, within and adjacent to red-legged frog habitats, specifically designated critical habitat areas, and aquatic features and upland habitats occupied by the frog. The court-approved settlement also mandated pesticide-free buffer zones adjoining frog habitats of 200 feet for aerial pesticide applications to prevent drift and 60 feet for ground applications to prevent runoff (settlement agreement between the Center for Biological Diversity and the EPA, 2006). It is not clear from the plan if a sufficient buffer would be provided for aerial spraying to protect red-legged frogs and/or their habitat that may be present in the project area (see discussion of red-legged frogs above).

Additionally, data indicates that dispersion of herbicides to unintended areas has occurred and impacted sensitive receptors. Research by the U.S. Geological Survey since 1997 has revealed dangerous levels of pesticides in both the bodies of frogs and in their aquatic habitat in pristine areas of the Sierra Nevada. Entire populations of native frogs have vanished, and research has pinpointed pesticide sprays that have drifted hundreds of miles from the Central Valley to settle in wilderness areas. Recent research indicates that declines of amphibians in the Sierra Nevada are likely to be due to multi-factorial causes, including the now documented sublethal effects of many commonly used herbicides and pesticides (Carlos Davidson, Roland A. Knapp, *Multiple Stressors and Amphibian Declines: Dual Impacts of Pesticides and Fish on Yellow-Legged Frogs*, *Ecological Applications*, 17(2), 2007, Pp. 587–597).

Furthermore, numerous studies have definitively linked pesticide use with significant developmental, neurological and reproductive effects on amphibians. Pesticide contamination can cause deformities, abnormal immune system functions, diseases, injury, and death of red-legged frogs and other amphibians. Red-legged frog tadpoles are likely to be killed or paralyzed by some herbicides such as triclopyr proposed for use in the plan area. Recent studies by Dr. Tyrone Hayes at the University of California have strengthened the case for banning atrazine, the most common contaminant of ground, surface and drinking water. Dr. Hayes demonstrated that atrazine is an endocrine disruptor that interferes with reproduction by chemically castrating and feminizing male amphibians. Atrazine has been linked to increased prostate cancer and decreased sperm count in men and high risk of breast cancer in women.

The plan area includes listed and/or sensitive plant and animal species and habitat for such species that may be affected by aerial or ground spraying of herbicides such as atrazine, triclopyr and others. Impacts of the proposed herbicides application on site-specific species and habitat are not discussed. Impacts of hexazinone on oak species within the plan area are not disclosed.

The applicant fails to adequately evaluate the significant adverse effects of the herbicide application, including impacts upon special status and other plant populations, non-perennial tributaries, vegetation conversion and the spread of noxious weeds, effects on soils and

erosion, and impacts upon wildlife and fisheries. Additional information that would allow the public to evaluate the proposed spraying and its impact on human and ecological receptors is required for meaningful analysis.

Although not discussed in the THP, the applicant has used strychnine in many of its prior timber harvests. Information from The California Department of Pesticide Regulation's California Pesticide Information Portal indicates that the applicant has been using Wilco Gopher Bait containing strychnine as the active ingredient. Given the past use of this pesticide by the applicant, EPFW suspects that strychnine use is planned for this area and such use should have been disclosed and evaluated.

Watershed Effects

The plan area is located in the Mokelumne River Basin, which is a relatively narrow and steep watershed. Annual precipitation and stream flow in the Mokelumne River Basin are extremely variable from month to month and from year to year. Most precipitation normally falls between November and May and very little falls between late spring and late fall. Peak flows in the Mokelumne River normally occur during winter storms or during the spring snowmelt season from March through June. Flows taper off to a minimum in late summer or fall. Snowmelt from parts of Alpine, Amador, and Calaveras counties contribute to the Mokelumne River. The North Fork tributary drains over 80 percent of the Mokelumne watershed.

In 1997, a flood event occurred on the North Fork Mokelumne River, which damaged resources values such as creek slopes, caused increased sedimentation of the watershed and jammed waterbodies with large woody debris. There is discussion of a watershed assessment conducted nearly a decade ago (THP, p. 74-75) where the applicant's consultant analyzed certain existing conditions (e.g., road interactions with erodible soils) and ignored others (e.g., the relationship between riparian vegetation and temperature) to come up with a ranking for susceptibility of sub-watersheds to disturbance. This ranking was used to develop management recommendations for the development of timber harvest plans under the California Forest Practices Rules. The assessment found the Lower Panther Creek watershed to have the highest relative susceptibility to disturbances with respect to six factors considered.

The applicant discloses the information from the assessment in the THP and lists the recommended mitigation measures, but fails to analyze the site-specific implications of the proposed plan on this watershed or how the mitigation measures adopted for implementation were chosen and how they will mitigate specific impacts (THP pp. 77-78). It is possible that additional disturbance causing changes to soil permeability in the watershed will have a significant effect on the watershed health.

Increase In Traffic

The plan fails to provide any data to show that no substantial increase in traffic in relation to the existing traffic load and capacity of the street and road system (i.e., result in a substantial increase in either the number of vehicle trips, the volume to capacity ratio on roads, or congestion at intersections) will occur. The statement that haul routes have historically supported logging traffic is not equivalent to analysis (THP p. 97). Traffic on roads leading into and out of the plan area is likely to increase especially during summer months during which tourism-related traffic is also at its peak. The plan fails to provide the number of additional vehicles, such as passenger cars, logging truck, debris trucks, trucks hauling

equipment, that will use the road system and determine whether the increase is potentially significant.

The increase in population in Amador, Calaveras and Tuolumne Counties has already put pressure on the road system resulting in a decrease in the of level of services on many of the road proposed to be used for the timber harvest, including state Highways 49 and 26 (Fehr & Peers Associate). The Amador County Transportation Commission identified that significant travel occurs on SR 49 between the two counties. Road improvements are necessary from Jackson to the Calaveras County line but are un-fundable at this time. Trucks represent a significant proportion of traffic on SR 49 in Angels Camp (9.0 percent). The Level of Service (LOS) standard for intersections and roadways in Calaveras the county is LOS "C." The SR 4 South and SR 49 (southern intersection) exceed this threshold for existing condition (LSC Transportation Consultants, Inc. Calaveras County 2005 Regional Transportation Plan). Locations with high truck traffic volumes include SR 49 at the junction with SR 12, SR 12 in San Andreas at the junction of SR 49 and on SR 49 at Mountain Ranch Road (LSC Transportation Consultants, Inc., *Calaveras County 2007 Regional Transportation Plan, Public Draft*, Prepared for the Calaveras Council of Governments, June 19, 2007).

State Route 4, 12, and 26 are links between San Joaquin County and Calaveras County. The San Joaquin Council of Governments (SJCOG) noted that many Calaveras County residents commute to jobs in the Central Valley and the East Bay, thereby causing congested roadways. This problem is expected to increase as job and population growth continue to occur. As the existing roadways and facilities were not designed to carry large amounts of traffic, roadway improvements will be required to keep up with this growth (LSC Transportation Consultants, Inc., *Calaveras County 2005 Regional Transportation Plan, Technical Memorandum One*, Prepared for the Calaveras Council of Governments, August 11, 2005)

The THP also fails to evaluate any potential changes in air traffic patterns, due to the use of helicopter use in the plan area including an increase in traffic levels or a change in location of air traffic that may result in substantial safety risks.

Increase In Noise Generated By Helicopters and Trucks

No helicopter routes are discussed in the THP. There is one subdivision south of the plan area and there may be other sensitive receptors in the flight path of the helicopters. There is no analysis of the potential for helicopter noise or vibration.

The plan does not address the likely substantial temporary and periodic increase in ambient noise levels in the project vicinity above levels existing without the project. Logging trucks often fail to meet the required noise standards. The plan fails to provide the days and hours of operations and the specific truck and helicopter routes to be used in the timber harvesting activities, which is crucial in determining the noise impacts. No evaluation of impact of truck or helicopter noise on recreational areas in the vicinity of the plan is conducted.

EPFW members have experienced noise impacts associated with timber hauling operations in the Sierra. Trucks entering and leaving timber harvest areas begin operating at early morning hours (often as early as 3am) and when these trucks pass residential and retail locations, the noise they generate exceeds the ambient (and often the legally-mandated) noise levels and generates a nuisance for the affected community. The failure to analyze the noise impact and identify appropriate mitigation measures violates the full disclosure required under CEQA .

FIRE

The applicant fails to adequately assess the fire impacts of the proposed plan. There is a discussion in the THP about prior fires in the vicinity of the proposed plan, however fire risk in the plan area is not evaluated. The plan proposes to add plantations to 20% of the plan areas, replacing mature forests with young trees. There is emerging concern about the behaviour of clusters of younger trees in a fire and the increase in mortality in plantation stands during a fire. Recently an interdisciplinary team analyzed the effects of the record-setting 2002 fires on the Umpqua National Forest in Oregon and found that young vegetation, including plantations, experienced a disproportionately high amount of stand-replacement mortality caused by crown fires as compared to older, unmanaged forests. Seventy-four percent of the plantations that were less than 20 years old were lost. Plantations had a tendency to increase the rate of fire spread and increased the overall area of stand-replacement fire effects by spreading fire to neighboring stands. (US Forest Service, *Wildfire Effects Evaluation Project, Umpqua National Forest*, April 2003)

Similarly, in California, the CDF has recently found that younger forests are more susceptible to mortality from fires. According to CDF's report supporting the adoption of emergency regulations to prevent fires around Lake Tahoe, this is due to the lower height and size of small trees. Their bark is thinner, and their crowns are lower to the ground, making them more susceptible to lethal heating by flames of a low height. With much of the Basin in a younger state, a large proportion of it could burn severely, with high rates of mortality. Two human activities—creating younger forests by harvesting older trees and suppressing fires that otherwise would have burned off accumulated fuel—have increased the likelihood of severe fire in the Basin. (California Board of Forestry and Fire Protection, *Findings Pursuant to Government Code Section 11346.1(b) in Support of Adoption of Emergency Rules to Implement Lake Tahoe Region Exemption Emergency Rule*, 2005, June 13, 2005) The Sierra Nevada forest subject to the proposed plan is not much different in composition from that found in the Lake Tahoe Basin, hence it is reasonable to suspect that similar concerns about fire would apply to the area in which the proposed plan would be implemented. The potentially significant impact of a young plantation fire in the area of the proposed THP is not evaluated.

Additionally, increased temperatures resulting from greenhouse gas emissions-related climate change are likely to increase fire risk. This impact also requires a through evaluation in the THP, which is not provided.

Cumulative Impacts

The area subject to the South Rim THP is within the boundaries of the Lower Panther Creek watershed. The area is adjacent to previously logged areas that have not reached visible regeneration and is south-west of a major burn area (Power fire and Lower Panther Creek fire). Figure 1 shows the area of the South Rim timber harvest, including the clearcuts at its southern boundary.

Figure 2 illustrates the relationship of the proposed THPs units to the burn area located to the Northeast of the harvest area. With the exception of limited parcels, the entire watershed has been subject to timber harvesting, with a substantial area comprised of clearcutting.

Any harvesting that will occur as a result of implementation of the South Rim THP will add further modifications to this already heavily modified landscape.

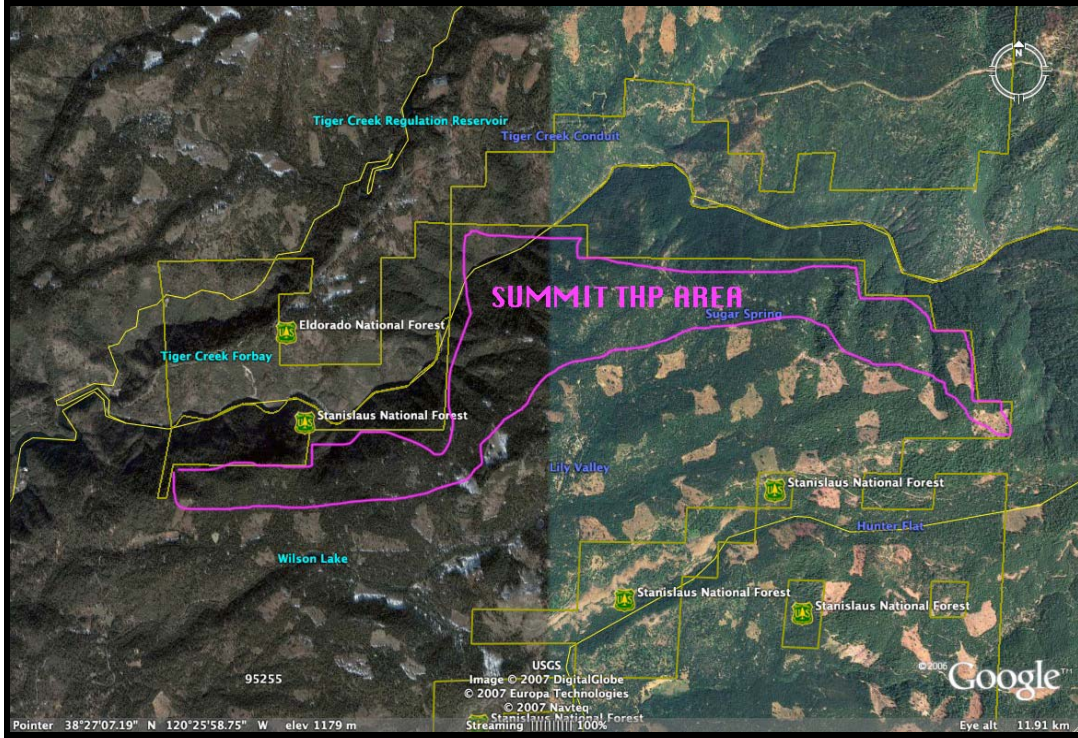


Figure 1. South Rim THP location (boundary is approximate)

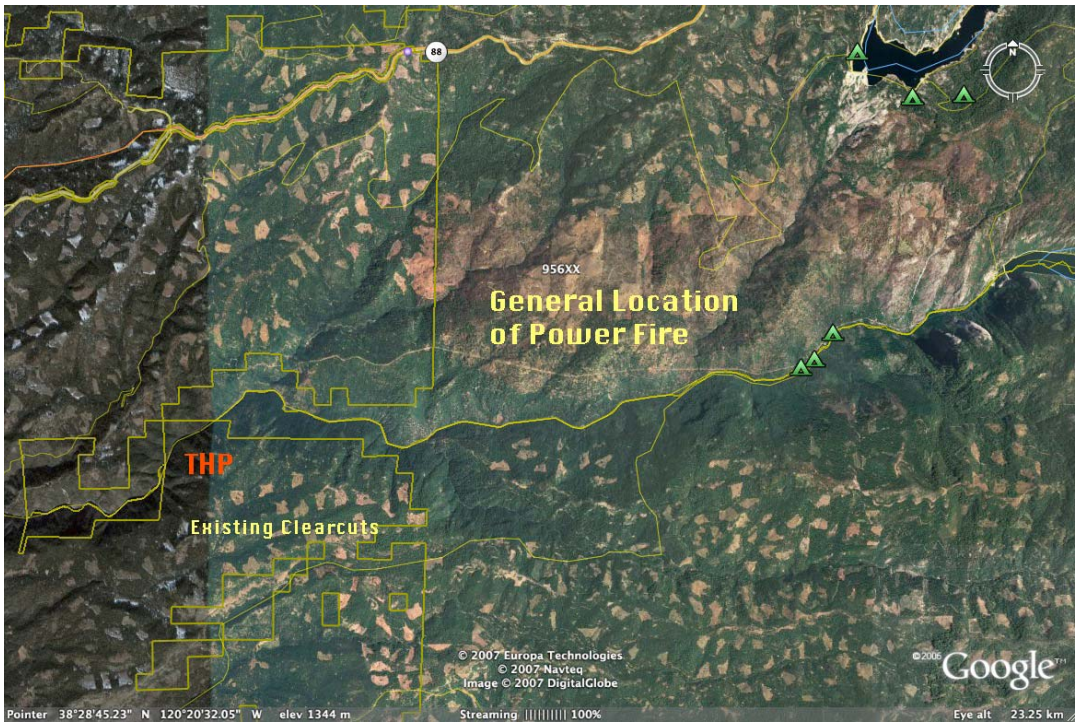


Figure 2. South Rim THP area and Power Fire area

The cumulative impacts of the prior, proposed and future plans are not adequately addressed in the THP. The USFS actions on the burned area in the same watershed are mentioned but not analyzed. No meaningful analysis of the effects of continued landscape and habitat modification is provided in the THP.

Cumulative Impacts on Plant Species

The information on plant species contained in Section III Cumulative Impacts Analysis (pages 81-82) is general in nature and does not provide a meaningful site-specific analysis of the effects of the proposed plan coupled with effects of other past, and future projects. It fails to identify the plant species actually present and evaluate how the plant species may actually be affected by the activities such as felling trees, yarding, road building, etc. conducted and other activities conducted on adjacent parcels.

The applicant uses a Watershed Assessment Area defined as the Lower Panther Creek Planning Watershed as the physical extent of the area where cumulative impacts on plant species may result from its activities. According to DFG, when plant species are known to occur in the type(s) of habitat present in the project area, nearby accessible occurrences of the plants (reference sites) should be observed to determine that the species are identifiable at the time of the survey (California Department of Fish and Game, Natural Diversity Database, January 2006, *Special Vascular Plants, Bryophytes, and Lichens List*, Quarterly publication, Mimeo. 97 pp.). Nearby areas to the south are located outside the watershed boundary and have been subject to clear-cut logging which is still visible in aerial photographs of the area. Impacts of invasive species, shading effects, new clearings opened by logging may affect the total inventory of plant species in the plan area and vicinity.

Cumulative Impacts on Animal Species

The applicant asserts that continued harvesting will provide improved habitat for the bird species by growing larger trees. This assertion fails to recognize that the habitat the applicant intends to create in the clear-cut parcels, instead of improving the species' habitat, destroys it, at least for the near term. The proposition that growing plots of larger trees (which alone may improve the species' viability) surrounded by clear-cut parcels improves the habitat for the Pacific fisher, fails to recognize the impacts of habitat fragmentation and the associated stress to the species. The applicant also dismisses the conclusions of the USFS regarding cumulative impacts of timber harvesting on the California spotted owl without providing any site specific data to refute the notion the *greatest cumulative threat to this species is timber harvesting on private lands*.

The cumulative effects analysis for aquatic and aquatic-dependent species such as the California red-legged frog and yellow-legged frog does not consider the effects of the proposed project combined with past, present, and foreseeable future actions and events. Past land disturbances within the project area and vicinity include prior timber harvests that are listed on page 67 of the THP, other timber management actions in vicinity, such as the salvage logging after the Lower Panther Creek and Power Fires, the fire events themselves, and flooding event in 1997. While flooding is discussed and the fire is mentioned briefly (page 68), there is no evaluation of the effects of either of these events on the amphibian species. Post-fire species population dynamics, in-channel large woody debris changes, and/or changes in sediment delivery to streams as a result of these events should have been considered in conjunction with the proposed plan.

The biological assessment area reviewed in the THP is the watershed assessment area. This may be a reasonable assessment area for plants and less mobile species. However, for wider ranging species, such as deer, it is inadequate. The impact of clear-cut harvesting proposed for a portion of the area of the THPs coupled with the loss of habitat in the Power fire area and clear-cut parcels to the south of the plan area may impact the amount of food available to the Railroad Flat deer herd that has a portion of its critical range within the plan extent. The effect is not analyzed. This analysis must be provided to comply with the requirements of CEQA and the FPRs.

Cumulative Impacts on Visual Resources

Setting the assessment area as the THP area with a 3-mile buffer is inadequate. Assessment of visual impacts from the past, proposed and future harvests should be conducted on a view-shed basis that includes reasonable vantage points. The standard that is applied -- a significant number of people will not be affected -- is inappropriate. Impacts to residents and those who access the area for recreation, not just the impacts to the largest number of people, must be considered. The impacts to even a few people recreating in the proximity of the proposed project may be significant and must be evaluated. Highway 88, a state scenic byway provides access to the general vicinity of the plan area and views from the Highway are of great importance to the community and those who use it for recreation. There is no meaningful analysis of the effects of the proposed project on these views and the project's effect on them. Views from the river and hiking trails may be impacted. The landscape modifications are likely to produce significant adverse effects on the viewshed.

Cumulative Impacts on Watershed Resources

The discussion of impacts on the watershed resources in the THP is inadequate. The watershed is a source of water supply to the parts of the Bay Area. Historic impacts to the watershed include gold mining, deforestation, and livestock grazing. Current impacts include logging, grazing, deliberate and incidental toxic substance dumping, loss of wildlife habitat, low flow water quality, recreation, roadways, residential development, domestic wastes, and more. The major land use in the upper watershed, owned both privately and publicly, is timber management. The cumulative effects of timber harvest on the beneficial downstream uses of water in this area have developed into an issue of growing importance. Recently, a grant was awarded to the Upper Mokelumne River Watershed Authority (UMRWA) for a watershed assessment and watershed plan development within the Upper Mokelumne River watershed. This is the most current project involved in improving water quality and overall management of the Upper Mokelumne River Watershed (Stephen Harding Blake, *An Unsteady Hydraulic Surface Water Model of the Lower Cosumnes River, California, for the Investigation of Floodplain Dynamics*, University Of California, Davis, 2001).

None of the watershed uses and their effects described above are mentioned in the plan. The watershed analysis is limited to the CALWATER planning watershed, and fails to consider upstream and downstream impacts that may be exacerbated by the proposed plan.

Flooding

With the history of flooding on the North Fork of the Mokelumne, the fair condition (as opposed to "good") of the watershed reported by Foster Wheeler, recent fire damage and clearcutting to the south of the area, and the susceptibility of the watershed to disturbance, analysis of the impacts of additional clearcuts on the watershed is required to determine that the timber harvest methods proposed will not have a significant impact on watershed health and values. It is possible that additional disturbance and changes to soil permeability in the watershed will have a significant effect on the flooding potential of the river.

Studies demonstrate that areas that are clearcut have resulting faster rates of snowmelt with potentially negative water and other environmental impacts. Work in Oregon suggests that similar effects may occur where removal of forest canopies accelerates snowmelt when warm water falls onto a snowpack (Dr. Leslie M. Reed, letter to Hon Fred Keeley, Speaker pro Tem, Assembly of the California Legislature, *Forest Practice Rules and Cumulative Watershed Impacts in California*, May 24, 1999).

The potential for increased snowmelt rate and consequent changes in water retention water and flooding associated with the proposed plan and the existing large number of existing clearcuts found currently in the Mokelumne watershed are not addressed in the THP.

Analysis of Alternatives

In the THP, the applicant *screens* and rejects a number of alternatives, and fails to evaluate in detail any alternative to the proposed project. Section 15126.6 of the CEQA Guidelines provides direction for the discussion of alternatives to a proposed project. The use of an alternative screening analysis to reject alternatives from further analysis is acceptable; however, alternatives that could feasibly attain most of the basic objectives of the project must be examined in detail. (14 CCR, Section 15126.6)

The discussion of alternatives shall focus on alternatives to the project or its location which are capable of avoiding or substantially lessening any significant effects of the project, even if these alternatives would impede to some degree the attainment of the project objectives, or would be more costly. It shall *include sufficient information about each alternative to allow meaningful evaluation, analysis, and comparison with the proposed project*. The range of feasible alternatives shall be selected and discussed in a manner to foster meaningful public participation and informed decision-making. (14 CCR, Section 15126.6)

The applicant's analysis of alternatives is inadequate. None of the "alternatives" are evaluated in sufficient detail to allow for meaningful comparison with the proposed project. Each alternative is treated with one paragraph of conclusory statements that do not cite any sources to support the conclusions. Statements regarding the alternatives reducing stand vigor, increasing mortality, etc. are made for each of the alternatives without any explanation of how or why these effects would occur, much less any references to studies or analyses to support these impacts. The discussion of different silviculture prescriptions is not a detailed discussion of feasible alternatives to the proposed plan. It is a general dissertation on the applicant's longer term management practices and cannot be viewed as a meaningful alternative to the proposed plan.

It is rather likely that silviculture prescriptions other than those proposed in the THP would attain the applicant's goals of maintaining a sustained yield without the need to reduce the post-harvest restocking levels. It may be that the less frequent entry into the stands offsets the reduced stocking levels proposed in the plan. An obvious alternative to the proposed plan is one in which the applicant removes fewer trees today and reenters the stands in 10 years to conduct additional harvesting in order to prevent the decrease in post-harvest stocking levels that are proposed in the plan. The difference between these two alternatives is likely to be economic. Reentry into the stands in 10 years is feasible and should be evaluated.

As it stands, the discussion of alternatives is not adequate to meet the requirements of 14 CCR, 15126.6.