



**Central Sierra Environmental Resource Center**  
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June 23, 2009

Attn: Forest Practice  
CA Department of Forestry and Fire Protection  
1234 East Shaw Avenue  
Fresno, CA 93710-7899

**McKee Hill THP**  
**4-08-20/CAL-4**

To Mike Baca and other staff:

Thank you for the revised information concerning the McKee Hill THP. CSERC provides the following input in response to those alterations of the THP. Our previous comments, except for topics discussed here, remain as our legal arguments for this proposed project.

**Background summary of previous general concern**

As we have repeatedly shared in previous comments letters, CSERC opposes the proposed even-age treatment of so many acres (in this case 424 acres) due to the environmental impacts caused by removing 90-98% of the tree cover in the even-age cut units, from skidding logs, bulldozing the units to pile slash, applying herbicides, and undertaking other actions to convert the site for planting – all of which will result in exposing extensive areas of bare soil in a steep, mountainous forest watershed that has already been heavily logged, bulldozed, roaded, sprayed with chemicals, and altered from its natural watershed condition. The general Griswold Creek area and neighboring Skull Creek are an overall portion of the local forests that exhibit some of the most degraded streams, streambanks, road conditions, and bare soil in the region.

Based on the consistent responses of the Director to repeated written input and concerns raised by our Center and other representatives of conservation organizations, it is clear that CDF does not intend to alter its practice of approving widespread even-age logging and site preparation in our local region. It is clear that the Director does not recognize a need for more accurate, more expansive analysis of cumulative effects from the widespread impacts of even-age management, road construction and reconstruction, and herbicide treatments. It is clear that the Director does not feel a need to expand buffers along streams to better protect aquatic resources or amphibian species. It is clear that the Director does not agree that raptors such as the goshawk or CA spotted owl are negatively affected by SPI's conversion of multi-layered, closed canopy forest stands into openings that slowly, gradually become even-age (mostly monoculture) tree plantations over 10-20 years of growth. It is clear that the Director does not agree that the bulldozing of units and follow-up applications of herbicides cause negative impacts for deer. And it is also clear from the Official Response text from previous THP's that the Director does not agree that the requirement to retain 10 sq. ft. of basal area of oaks is actually a requirement or that the intent of that wording is to retain the highest possible level of oaks. (Our comments will speak further to the issue of oaks below in this letter.)

Accordingly, based on the previous Responses from the Director, it would appear that the Director is not going to agree with and require changes in the THP based upon the broad range of concerns that CSERC has for this and similar THP's. Thus, CSERC will briefly re-state those concerns to provide a legal context for potential further action, but we will not waste CDF's staff time or our CSERC staff time to once again go into detail on issues that CDF repeatedly discounts as valid or important.

### **CSERC continues to believe that despite revisions for oak retention, CDF is failing to adequately protect oaks as required by State regulations**

The revisions for this THP now state on page 27 that black oak, where present within the logging area, shall be retained to at least a minimum 50% preharvest level (basal area). Page 175 of the revised THP goes further to spell out that "within the evenage units, black oak where present shall be retained to at least a minimum 50% preharvest level (basal area). CSERC SUPPORTS THIS MINIMUM STANDARD THAT WOULD APPEAR TO LEAD TO RETENTION OF A MINIMUM OF AT LEAST 50% OF THE BASAL AREA OF OAKS WITHIN THE LOGGED PORTION OF EVENAGE UNITS.

However, as the THP is currently worded, this "promise" or "target" is basically meaningless. There is no actual preharvest inventory for each evenage unit on which to base this claim. There is nothing in the THP that assures that any neutral consultant, CA DFG representative, botanist, or other neutral party will walk the 600 acres of evenage units to count and measure oak stumps and compare the cut/bulldozed basal

area with the basal area of oaks retained. CEQA and CEQA-equivalent mitigation requires a feasible mitigation measure to be adopted to reduce the significant of an impact. The current language does not produce a feasible, measurable mitigation.

**CSERC specifically asks State staff to spell out how the 50% minimum basal area of preharvest oaks will be measured, monitored, and calculated.**

**Is it sufficient for the THP to contain a standard that will never be measured nor quantified for each evenage unit? How can SPI promise to retain 50% preharvest oaks averaged across the total of 600 acres of evenage units if they do not provide the clear information as to how much basal area of oaks now exists in each evenage unit preharvest?**

**CSERC urges that this minimum standard be tied to (a) preharvest inventory of oaks in each evenage unit PRIOR to any State approval of the THP, (b) inventory postharvest to assess exactly how many basal feet of oaks are retained after logging, and (c) some requirement for a neutral party to randomly monitor some sampling of SPI's claimed retention to validate the accuracy of any SPI inventory.**

A second major issue ties to the oaks and SPI's THP text. CEQA requires that information in a document be accurate so as to provide necessary information to the decision-maker and to the interested public.

Yet on page 27 in the revised THP, the text states: "Black Oak basal area from the most recent inventory was estimated to be less than 1 sq. ft. per acre within the proposed THP area." In direct contradiction to that inventory claim, page 175 of the THP states: "There are scattered hardwood trees (5.48 sq. ft. BA) within the WAA on SPI owned lands. This equates to a figure of 219 sq. feet of basal area per 40 acres. This is approximately half of the recommended quantity and includes the hardwood component in riparian zones (alder, willow, & oak). Thus the actual oak component per 40 acres is somewhat less than 219 sq. ft. This figure is a product of inventory data."

Even if oak only makes up only 160 sq. ft. of the 219 sq. ft. per 40 acres, that would be 4 sq. ft. of oak per acre on average, compared to the claim on page 25 that there is only 1 sq. ft. on average per acre. THIS IS A MAJOR DIFFERENCE IN STATISTICAL INFORMATION AND FURTHER UNDERSCORES THE NEED FOR AN ACTUAL NEUTRAL, UNBIASED PREHARVEST INVENTORY AND FOLLOW-UP POSTHARVEST INVENTORY.

Given that within this revised document page 25 can suggest that there may be only @40 square feet of basal area of oaks in evenage units per 40 acres and then page 175 suggests that there may be closer to 200 square feet of basal area of oaks per 40 acres, it

is essential for the State to figure out which is the accurate preharvest information, to have accurate postharvest inventory information, and to actively monitor to see if the mitigation measure is or isn't met.

Finally, on this issue there is simply no consequence for failing to meet the 50% oak basal area postharvest standard. There is no language or requirement if the State finds that only 37% or 28% of preharvest oak basal area is actually retained. So what if the target isn't met? SPI can shrug it off. For a condition to have meaning, it needs to not only have clarity and accurate baseline information, but it needs to be clear what will happen if the standard is not met.

Furthermore, the original THP at least provided some clarity that scattered young/mature oaks of 16" dbh or greater would be retained across the evenage units. The THP originally spelled out the condition that one such oak will be retained per each three acres of even-age unit. Now that the 50% preharvest oak basal area standard is being proposed, it is not clear that there will be any spatial retention of valuable oaks. Instead, the boundary of a unit can be drawn to include a block of oaks and because there is no "per three acre" retention requirement, the basal area total of that block of oaks can be justified as supposedly providing mitigation for the removal of all the mature oaks across three or four different evenage units.

CSERC URGES THAT THE FINAL OAK LANGUAGE NOT ONLY REQUIRE CLEARLY INVENTORIED STATISTICAL INFORMATION OF PREHARVEST OAKS AND POSTHARVEST OAKS (BASAL AREA), BUT THAT THE STATE REQUIRE THAT, WHERE EXISTING, NO LESS THAN ONE MATURE OAK (16" DBH OR GREATER) BE RETAINED PER EACH THREE ACRES OF EVENAGE UNITS.

## **Biological impacts from the loss of large green trees are not mitigated**

One of the revisions of the THP is shown on the bottom of page 27, where the THP states: "Where present, at least 2 green wildlife trees > 30" dbh and 2 hardwood trees > 22" dbh will be retained that contain cavities, basal hollows, reformed tops, obvious signs of heart rot, or a number of large diameter branches within each regeneration unit. These may be retained within WLPZ's, ELZ's, wildlife retention areas, or left singly."

First of all, CSERC does strongly support SPI being required or volunteering to retain large green trees for all of the species that rely upon large trees for some stage of their life, movement, shelter, or other purpose.

However, this mitigation is so inconsequential as to be nearly worthless. In each 20-acre on average evenage logging unit, two (2) trees over 30" dbh would be required to

be left. Both of the could be left in the WLPZ zone (where scattered mature trees are already left for various purposes). Both of the two large 30" dbh trees could be left in a wildlife retention area where SPI is already taking credit for the cumulative impacts on wildlife by retaining up to 5% of the habitat area within an evenage cut unit.

For the retention of large green trees to have any spatial value or true benefit for wildlife, there clearly needs to be a threshold set that is far more than one large green tree 30" > in diameter per each 10 acres. CSERC STRONGLY URGES THE STATE AND SPI TO AGREE ON LEAVING A MINIMUM OF ONE LARGE TREE PER ACRE WITHIN EVENAGE LOGGING UNITS.

### **Biological values of late-seral characteristics are misleadingly discounted**

One of the revisions of the THP is new assertions on page 176 that stands within the proposed project do not qualify as late-seral forest stands. "...no remnant patches of late-seral forest are present." Furthermore, the THP states below in reference to the continuity of late-seral stage forests that the project will have no cumulative impact on late-seral continuity because the landowner retains the function habitat for many of the species which utilize late-seral forest stands along watercourses on their ownership.

This claim is illogical and untrue.

First, while the stands may not qualify as late-seral forest stands as per the Board rules, the text openly acknowledges that functional characteristics of late-seral stage forests include large, decadent trees, snags, and large down logs. SPI certainly has large snags, large down logs, and a scattering of large, decadent trees within the 600 acres of evenage units targeted by this particular project.

It is both feasible and desirable for SPI to retain all or as many of these functional characteristics as possible in order to mitigate for the cumulative effects of timber management on these private timberlands where the overwhelming majority of large trees, large snags, and large down logs have been removed again and again through logging entries, site preparation, road construction, and other treatments.

It is incorrect for the text to suggest that just because SOME wildlife species that make use of late-seral forest stands may be able to move through WLPZ areas along some stream or river corridors, that SPI then has no responsibility to mitigate for the loss of late-seral forest conditions of functional habitat characteristics on the vast majority of the project acres outside of WLPZ acres. Just because 35 acres of WLPZ may contain some scattered late-seral stage characteristics, that does not mitigate in any way for the loss of any such values across the 600+ acres of evenage units.

CSERC STRONGLY URGES THE STATE TO REQUIRE SPI TO RETAIN A SPECIFIC NUMBER, WHERE PRESENT PREHARVEST, OF LARGE DIAMETER GREEN TREES (30" > DBH, LARGE SNAGS (30" > DBH), AND LARGE DOWN LOGS (24" DBH AND GREATER). CSERC SUGGESTS A MINIMUM OF AT LEAST ONE SUCH GREEN TREEM ONE SUCH SNAG, AND ONE SUCH DOWN LOG ON AVERAGE PER ACRE ABOVE AND BEYOND THE NORMAL TARGETS FOR SNAGS AND DOWN LOGS.

### **This THP completely fails to provide essential protection for suitable habitat for the Pacific Fisher that will be lost if the project is approved**

The THP proposes to remove all mature forest cover from 600 acres and to further open up adjacent brush fields or low stocked stands so as to further exacerbate the loss of canopy cover, shade, and adequate habitat for fisher. The THP fails to provide mitigation to reduce the impacts of further fragmentation of suitable fisher habitat, further loss of large trees and down logs important to fishers, and further alteration of the landscape in such a fashion to make it more difficult for fishers to move across expansive home ranges without being forced to cross openings or young tree plantations.

In Yosemite on May 13, 2009, researchers studying fishers joined at a workshop to discuss study results and mortality factors affecting fisher populations. Again and again information was provided showing that fishers spend the majority of their time moving through, resting in, breeding, denning, and hunting in conifer stands with large diameter trees, numerous snags and down logs, and a general average canopy cover of 65% or greater. Wayne Spencer in particular reviewed how his studies and computer modeling showed the correlation of use with large trees and a substantial canopy cover.

Yet SPI proposes to open up and completely eliminate the majority of canopy cover across the bulk of 600 acres in forest that is moving towards suitability for fisher. While some portions of the evenage units may not now be fully suitable, a large percentage of the uncut stands do contain adequate canopy cover and scattered large diameter trees.

Thus, for SPI to further eliminate suitable fisher habitat and to claim that it is not a significant impact to the fisher is a huge error of fact. That claim is underscored as being specious by the claim on page 153 that fisher natal and maternal den trees are somehow tied to an average diameter of 33" dbh that "usually occur in stands of small sawtimber" and that "trees of this size are common on SPI's private forestland" -- averaging about 19 per acre.

This is extremely misleading, because the natal and maternal den trees that fishers use are almost always trees with rot, broken limbs and corresponding holes, cavities, or other physical features

that only occur in mature to old-growth trees. No matter whether the trees average 33" dbh or 25" or 40" dbh, the reason they are utilized by fishers is because they have holes/cavities suitable for hiding/protecting juveniles. Fast-growing plantation trees in evenage tree farm units not only do not have these characteristics at 33" dbh, but based on a 50-80 year rotation age, SPI will NEVER have the bulk of trees on a site ever reach decadence/old enough to feature the necessary physical attributes needed by the fisher.

Furthermore, new research over the past 18 months by Sweitzer and Barrett as well as Thompson show that fisher faces lethal risk from sources not previously established as factors in fisher mortality. Disease and road-kill mortality are both factors that add to predation, loss of suitable habitat, drowning, and other factors that put fisher at risk.

In addition, modeling from Spencer reaffirms that for the fisher to repopulate the bulk of its currently unoccupied range north through the Sierra Nevada it will be essential for the fisher to expand into suitable habitat within the boundaries of the Stanislaus National Forest. This project lies within that boundary and will drive another wedge into the dearth of suitable habitat for the fisher if the project is approved without appropriate mitigation.

(On top of the new comments provided in this section, please see our previous comments on the fisher that are attached at the end of this letter.)

**CSERC URGES THE STATE TO REQUIRE THAT SPI PRODUCE A MAP FOR THE ENTIRE PROJECT AREA AND SHOW THAT SUITABLE HABITAT WILL REMAIN UNDEGRADED INTO THE FUTURE FOR AT LEAST THE NEXT 50 YEARS IN FISHER MOVEMENT CORRIDORS AND SUBSTANTIAL BLOCKS OF SUITABLE FISHER FOREST HABITAT WITHOUT THIS PROJECT CREATING ANY NEW OPENINGS OR LOSSES OF ISLANDS OF SUITABLE HABITAT SUCH THAT MOVEMENT BY AN EXPANDING POPULATION WOULD NOT BE THWARTED BY THE PROJECT'S CUMULATIVE AND DIRECT IMPACTS ON SUITABLE HABITAT.**

**CSERC also urges the Director to require SPI to retain (for the life span of the new plantation) existing large diameter trees in each and every clearcut unit at a minimum of one living, green conifer tree 24" dbh or larger per acre in order to assure that in future decades, there will be decadent conifers providing essential fisher habitat value.**

**CSERC ALSO URGES THAT THE STATE RECOGNIZE THAT LISTING OF THE FISHER IS ALMOST CERTAIN TO OCCUR IF THE DEPARTMENT OF FORESTRY AND FIRE PROTECTION CONTINUES BUSINESS AS USUAL IN RELATION TO THE FISHER AND SUITABLE HABITAT. THE COURTS CAN EITHER TAKE AWAY THE FLEXIBILITY THAT THE STATE AGENCY WOULD PREFER TO WIELD OR CDF CAN RECOGNIZE THE TIME IS NOW TO INSIST UPON GREATER RETENTION OF SUITABLE STRUCTURE AND CANOPY COVER FOR FISHER BENEFITS.**

**Just because there are no proven detections of fisher within the project area, the agency cannot even begin to consider SPI's claims alleging a lack of presence!** The opposite is true. Until such time that professional protocol-based surveys have been carefully and fully completed with the grid patterns utilized by researchers in the southern Sierra Nevada, there can only be an assumption by the State that fisher is, indeed, present in the project acres.

AT THE VERY LEAST, THE STATE MUST ASSUME PRESENCE SINCE NO PROFESSIONAL PROTOCOL-BASED SURVEYS FOR FURBEARERS WERE COMPLETED SYSTEMATICALLY ACROSS THE PROJECT AREA. ACCORDINGLY, THE STATE HAS AN OBLIGATION TO MITIGATE FOR THE LOSS OF SUITABLE HABITAT THAT WOULD OCCUR IF THE PROJECT IS IMPLEMENTED.

CSERC ASKS THAT SUCH MITIGATION BE SPELLED OUT, QUANTIFIED, MONITORED FOR COMPLIANCE, AND MONITORED AGAIN WITH PROFESSIONAL SURVEYS POSTHARVEST TO DETERMINE THE ACCURACY OF ANY SUCH MITIGATION.

### **Rodenticides - strychnine should not be approved**

Page 178.1 of the revised THP now proposes the use of strychnine baits for gophers within the evenage plantation units of the project. CSERC strongly opposes any such approval of use.

The THP falsely claims that strychnine "poses minimal risk to other animals such as predators and raptors." Just two sentences later, the text fully acknowledges that poisoned gophers may pose a secondary risk to predators that consume the contents of their stomach or cheek pouches.

I have personally been around strychnine poisoning done of Forest Service lands over a decade ago. There is absolutely no way to verify that poisoned gophers all stay in their burrows or tunnels before dying. The truth is that there is no way to locate all of the gophers that may die out on the surface of the ground, especially when having convulsions, seizures, and a lack of caution about being out in the open. Furthermore, the truth is that there is no way to validate whether or not dead gophers are picked up by owls, hawks, or ground-based predators, since such animals routinely fly away with their prey to a perch to feed or carry the animal back to their young at a den.

With so much suitable habitat for CA spotted owl and the northern goshawk within and adjacent to the project boundaries, any use of strychnine would pose a significant risk to these species. And for the fisher and any other scavenging predator that is opportunistic about finding food, secondary poisoning would pose further risk.

CSERC URGES THE STATE TO REJECT THE APPLICATION BY SPI IN THIS REVISED THP TO UTILIZE STRYCHNINE IN ANY OF THE PROJECT'S EVENAGE UNITS.

Respectfully submitted,

John Buckley, executive director

Lindsey Myers, staff biologist

**Attachment of previous CSERC comments related to science and the need to protect suitable habitat of the Pacific fisher:**

In 2008, researchers Gregory A. Green of Tetra Tech EC, Inc. along with Lori A. Campbell and Diane C. Macfarlane of the Pacific Southwest Region, USDA Forest Service, produced the most up-to-date, science-based conservation assessment of fishers in the Sierra Nevada, which was titled: **A CONSERVATION ASSESSMENT FOR FISHERS (*MARTES PENNANTI*) IN THE SIERRA NEVADA OF CALIFORNIA.**

In contrast to claims made in the THP, the following scientific information in the Conservation Assessment points out that fisher populations have been extirpated from significant portions of the Sierra Nevada region over recent decades. The following section begins on page 8 of the Conservation Assessment:

**“Distribution**

Fishers are found in forests and woodlands of North America, from the mountainous areas in the southern Yukon and Labrador provinces of Canada southward to central California, Wyoming, the Great Lakes and Appalachian regions, and New England (Nowak and Paradiso 1983). The Pacific subspecies (*M. p.*

*pacifica*) was historically distributed throughout coniferous forest landscapes from British Columbia south to California. Currently, in California, *M. p. pacifica* occurs in the northern Coast Ranges and Klamath Province at elevations near sea level to about 1,700 m (5,600 ft) (Golightly et al. 2006) and occurs sympatrically with the marten in the southern Sierra Nevada (Stanislaus, Sierra, and Sequoia National Forests; Yosemite and Sequoia/Kings Canyon National Parks; and Giant Sequoia National Monument), at elevations of 1,500 to 2,130 m (4,900 to 7,000 ft) in mixed conifer forests (Zielinski et al. 1997a), although they do occur alone to 1,000 m (3,280 ft; Golightly et al. 2006). Fishers historically occurred in the northern and central Sierra Nevada (Lassen, Plumas, Tahoe, Lake Tahoe Basin, Eldorado National Forests) (Grinnell et al. 1937), but were not known to occur in the far eastern limits of the Sierra Nevada (Inyo or Humboldt-Toiyabe National Forests) or the Modoc Plateau (Grinnell et al. 1937; Figure 2).”

“Over-trapping and habitat alteration have led to population declines and extirpation throughout much of their range in the Pacific states (Douglas and Strickland 1987; Zielinski et al. 1995, 2005; Lewis and Stinson 1998), although predator and rodent control programs also played a role (Aubry and Lewis 2003, Wild and Roessler 2004). Fishers appear to be extirpated from central and northern Oregon and all of Washington (Aubry and Lewis 2003). From the 1960s to the 1980s, a series of reintroductions were attempted in Oregon, with mixed success, using fishers from British Columbia and Minnesota (Aubry and Lewis 2003). Extant populations of fishers in southern Oregon appear to persist in two disjunct populations, one in the southern Cascades and one in the northern Siskiyou Mountains (Aubry and Lewis 2003, Aubry et al. 2004). Genetic analysis has demonstrated that the population in the southern Oregon Cascades was the likely result of reintroductions from British Columbia and Minnesota (Drew et al. 2003), while the Siskiyou Mountains population is the northern extension of the indigenous population centered in the Klamath province of California (Aubry et al. 2004, Wisely et al. 2004).

California fishers also have experienced a dramatic range contraction (Zielinski et al. 1995, 2005). Although they historically occurred throughout the Sierra Nevada, the current distribution of fishers in California consists of two distinct populations separated by more than 400 kilometers (km): the combined coastal and inland population of northwestern California and the southern Sierra Nevada population (Zielinski et al. 1995). **Recent systematic surveys (Figure 3) indicate that fishers are absent from their former range in the central and northern Sierra Nevada, northward of Yosemite National Park to the southern Cascade Range (Zielinski et al. 1995, 2005), and now occupy less than half their historical Sierra Nevada range.** (underlining and bold added) This gap in distribution effectively isolates the existing southern Sierra Nevada population from extant populations in northern California and southern Oregon. A regional monitoring program (Zielinski and Mori 2001) continues to monitor for the presence of fishers throughout the Sierra Nevada. Annual reports from 2002 to present are available through the Forest Service Regional Office or any Forest Service office in the Sierra Nevada.”

Within the Conservation Assessment, there are many points that refute erroneous claims about fishers that are alleged by SPI in this and other THPs. For example, the false claim is made on page 102 of this THP that that there is nothing in Federal or State documents that would lead SPI to conclude that the project (which would create 600 acres of clearcut units) and other private land management activities on SPI’s private lands will have an adverse impact on fisher or its habitat. This is directly contradicted by the Conservation Assessment, which emphasizes that suitable fisher habitat is not open areas such as clearcuts or young pine plantations, but is instead denser mid-seral stage or older conifer forest stands with adequate canopy cover, with large trees, snags, and downed logs. SPI does not propose to leave any of its clearcut units with large trees or with adequate canopy cover to benefit fishers. Accordingly, SPI will convert a

large percentage of the 600 acres from suitable fisher habitat to unsuitable habitat... further adding to the consistent destruction of suitable fisher habitat that has taken place for more than a decade in surrounding and adjacent SPI lands where suitable fisher habitat has been made unsuitable by even-age logging treatments, bulldozing, herbicides, and site preparation.

The Conservation Assessment states:

**“In general, fishers use forest or woodland landscape mosaics that include conifer-dominated stands, and they avoid entering open areas that have no overstory or shrub cover (Buskirk and Powell 1994). They select forests with fairly dense canopies at all spatial scales, and large trees, snags, and downed logs.** A vegetated understory and large woody debris appear to be important for their prey species. In the eastern U.S., late-successional coniferous or mixed forests are believed to provide the most suitable fisher habitat because they provide an abundance of potential den sites and preferred prey species (Allen 1987), although managed forests with large trees, dense canopies, and understory structure are also used in California (Klug 1997, Self and Kerns 1992). Riparian areas may be important to fishers because they often provide concentrations of important rest site elements, such as trees with broken tops, snags, and coarse woody debris, as well as habitat corridors for movement (Seglund 1995), although the value of riparian as compared to upland habitats is incompletely understood. The potential value of forested riparian habitat varies in the west, but seems high in the relatively dry Sierra Nevada.

In California, several studies have investigated habitat use by fishers. Studies in the southern Sierra Nevada (e.g., Mazzoni 2002, Zielinski et al. 2004a) showed that a significant, although not large, percentage of home range area was composed of stands of large trees generally greater than 61 cm diameter breast height (dbh) and relatively dense canopy coverage (>50 percent). Forest stands with intermediate tree size (21-61 cm dbh) combined with dense canopy coverage were the dominant forest structure in both studies.

It should be noted that most studies used concave spherical densimeters to measure “over-fisher” (looking upward) canopy cover at specific points of interest such as rest or den sites. Canopy cover measured by this technique differs in a yet-to-be-quantified manner from canopy cover as measured by aerial photointerpretation or geographic information system (GIS) interpretation of satellite imagery (looking downward).

The fact that fishers select structural elements for denning and resting that are commonly found in old forest habitat but may be lacking in heavily managed landscapes or younger forests has led to an inaccurate perception that fishers *require* late-successional forests in the west. Fishers occur in landscapes with little to no late-seral forest. In northern California, fishers have been detected more often in mid-seral forests. Slauson et al. (2003) found that even in coastal areas with high amounts of old-growth habitat, second-growth redwood forests were most often used. Zielinski et al. (2004a) also found mid-seral conifer forest to dominate home ranges in coastal northern California, and Carroll et al. (1999) found the distribution of fishers in northern California was strongly associated with high levels of canopy closure. In studies of fisher habitat use on industrial timberlands, Self and Kerns (1992) and Klug (1997) found that mid-seral stands with denser canopies were most often used by fishers. Self and Kerns (1992) also found fishers selecting older-aged stands with relatively sparse canopy closures, but where an associated heavy shrub component contributed to the overall canopy closure.

Stands with continuous dense canopy coverage are important to fishers probably because they provide protection from avian predators and intercept snow. Fishers have been reportedly killed by

hawks, eagles, and great horned owls (*Bubo virginianus*) (Douglas and Strickland 1987, Roy 1991). Dense canopy coverage may also protect preferred fisher prey from avian predators as well. Fishers reportedly avoid deep snow because it inhibits their mobility (Raine 1983), and winter snow depth may limit fisher distributions (Krohn et al. 1995, 1997). Both Self and Kerns (1992) and Jones and Garton (1994) noted a shift towards use of younger age stands in the winter, which may reflect both an increased prey availability and greater snow interception. Despite the reason for selecting stands with higher canopy coverage, many studies have shown that fishers avoid areas with little forest cover (Powell 1977, Jones 1991, Arthur et al. 1989a, Weir and Harestad 2003)."

(Above taken from pages 15 and 16 of the Conservation Assessment)

Also important is the information provided on page 24 of the Conservation Assessment, where the scientists lay out what is essential for fisher habitat:

"Habitat elements important to fishers at the landscape, home range, and rest/den site level include:

1. Dense over-fisher canopy cover (Buck et al. 1994, Buskirk and Powell 1994, Dark 1997, Carroll et al. 1999, Zielinski et al. 2004a, Zielinski et al. 2004b, Yeager 2005),
2. Presence of large-diameter snags (Allen 1987, Powell and Zielinski 1994, Mazzoni 2002, Aubry and Raley 2006, Higley and Matthews 2006) distributed across the landscape,
3. Large downed logs (Buskirk and Powell 1994, Self and Kerns 2001, Slauson et al. 2003, Aubry and Raley 2006) distributed across the landscape, which seem to play a larger role from northwestern California northward,
4. Large-diameter greater than 61 cm (or 24 in) dbh live conifer and hardwood trees with decadence such as broken tops or cavities (Zielinski et al. 2004a,b; Yeager 2005; Aubry and Raley 2006; Higley and Matthews 2006),
5. Complex structure near the ground (e.g., downed logs, large downed branches, root masses, live branches, and other coarse woody debris) (Buskirk and Powell 1994, Weir and Harestad 2003),
6. Multi-layered vegetation (vertical within-stand diversity) (Banci 1989),
7. Low road density (Dark 1997),
8. Mistletoe platforms (Arthur et al. 1989b, Jones, 1991, Self and Kerns 2001, Weir and Harestad 2003), and connectivity between suitable habitat patches (Coulter 1966, Earle 1978)."

(page 24 of the Conservation Assessment)

**CSERC urges the Director to discuss why the Director should not take action to protect suitable fisher habitat by requiring SPI to provide connectivity, appropriate large trees, adequate snags and downed logs, and adequate dense middle to late-seral stage habitat within all treated stands across the project**

**site and especially within the even-age treatment units of this project.** Past SPI and Forest Service clearcuts, visual retention logging treatments, shelterwood treatments, and road construction have all reduced suitable fisher habitat within the biological assessment area and within surrounding biological habitat areas that are of value for fisher.

**CSERC also urges the Director to require SPI to acknowledge that it is not large trees that are planned to be grown at some point decades in the future that is the question for CEQA equivalent analysis of this project, but it is the direct loss of suitable fisher habitat that will now be lost if this project is approved as proposed.** Claiming that large trees decades in the future will somehow benefit fisher does nothing for the next 20 years to compensate for the direct loss of suitable habitat caused by this project and past and planned projects.

CSERC also re-states once again that the Conservation Assessment, based on the literature listed below, emphasizes that the presence of large diameter snags and large diameter downed logs are important, but when it comes to live large trees, it is the presence of decadence, with broken tops and cavities, that makes large trees important to fishers, not just the size of the tree. Growing fast-growing plantation trees that are expected to grow to 36" dbh or larger and then harvesting those trees at 55-80 years will do little or nothing to provide fishers with the broken tops or cavities that are only created when mature trees become decadent, usually at 150 years or older.

**CSERC urges the Director to require SPI to retain (for the life span of the new plantation) existing large diameter trees in each and every clearcut unit at a minimum of one living, green conifer tree 24" dbh or larger per acre in order to assure that in future decades, there will be decadent conifers providing essential fisher habitat value.**

**CSERC urges that protocol consistent surveys be done in May or June of the year prior to logging of all even-age units, and that all suitable habitat be surveyed and searched.**

**We also specifically ask that the Director require SPI to retain at least one large diameter conifer per acre on average to provide for the long-term habitat value of the site for raptors, especially when it has been converted mostly into young, even-age tree plantation units.**

End of attachment...