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Chairman Stan Dixon
Members
California Board of Forestry
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Draft EIR for Jackson Forest Management Plan

Dear Chairman Dixon and Members of the Board:

Thank you for the opportunity to review and comment on the draft Environmental Impact Report (dEIR) for the Jackson Forest Management Plan (FMP). These documents are milestones on the long and pot-holed road toward our common goal of the rejuvenation of management at Jackson Demonstration State Forest. By taking to heart the information provided by the public's comments you will be in a position to move forward with removing the large landslides that have been blocking the way forward all these years. And with luck, the actual roads at Jackson will also get the much-needed rehabilitation work all parties believe they need.

As several Board members have no way of knowing who I am, I offer the following by way of introduction. These comments are made from the backdrop of my experience in Mendocino County where Jackson Forest is located. I have lived here since 1971 and have been active on forest related issues off and on since 1976. In response to my concern about the unsustainable pace of logging in my area, in 1988 I helped found the organization Forests Forever. In 1990 I was on the state steering committee for Proposition 130, the Forests Forever voter initiative, which proposed a major reform of forest practice rules to provide sustained production of timber while protecting the environment. The Initiative also proposed a multi-million dollar bond for purchase of Headwaters Forest and other ancient forests throughout California. Unfortunately, in the face of a multi-million dollar campaign by the timber industry, the measure failed with a 48.7% yes vote.

In 1992, I began representing Sierra Club California regarding state-regulated forestry issues, and was until my "retirement" in 2001, the Forest Conservation Chair for California. In that position I was Sierra Club California's principle spokesperson regarding Headwaters Forest. I also represented Sierra Club at the Board of Forestry regarding Forest Practice Rules and other matters, and was appointed by former Resources Secretary Douglas Wheeler to the Coastal Salmon Initiative Policy Panel. I have presented testimony to the California Legislature on a number of occasions and have been the Sierra Club liaison regarding forest-related

litigation. I have reviewed and commented on numerous Timber Harvest Plans (THPs), including the two JDSF plans that are currently enjoined from operation by the court pending approval of the new FMP, and the other Jackson THP that has completed the review process but has not yet been approved.

In 1996, I began following management at Jackson when a series of protests and arrests brought the public's concerns to my attention. I advocated with former CDF Director Richard Wilson for the creation of the Citizens Advisory Committee that ultimately met for more than a year and produced a report and recommendations that are now being considered as Alternative D in the dEIR, an alternative that is not the preferred alternative. I was not a member of the CAC, but did attend many of its meetings. After the Davis administration failed to implement those recommendations and additional THPs continued to be proposed, in 1999 I sent a letter to CDF Director Andrea Tuttle on behalf of Sierra Club asking that THP approval be put on hold until a new management plan update was completed. I also raised this issue with the Board of Forestry. Director Tuttle created a State Forest Advisory Committee and appointed me as a member. However it was not until the newly formed Campaign to Restore Jackson Redwood Forest took CDF to court in 2001 that the draft Management Plan was released. The Campaign subsequently won an injunction prohibiting operation of any THP prior to approval of the new FMP. Although Sierra Club is not part of the Campaign organization, I believe their litigation was a key factor in CDF releasing the new management plan. Of course, in subsequent litigation, the court ruled that the previous EIR was inadequate and that you, the Board, rather than CDF, is the Lead Agency. Somehow it's gotten to be 2006, ten years since I first began seriously considering management at Jackson.

Throughout the course of my forest conservation activities I have been, and remain, a volunteer.

Because I believe this Board is serious about resolving the long-standing issues at Jackson, I expected to be really happy with the dEIR. However, I found this dEIR very, very difficult to review. I have to believe I am on the more skilled end of the spectrum when it comes to reviewing an EIR. I was Sierra Club's lead person in organizing the review of the Pacific Lumber Habitat Conservation Plan/Sustained Yield Plan Environmental Impact Statement/Environmental Impact Report (PL HCP/SYP EIS/EIR), a joint federal and state document that covered a complicated set of land management proposals for a 210,000-acre property. I reviewed and commented on the EIS for President Clinton's Northwest Forest Plan, which covered all National Forests in the coastal regions of California, Oregon, and Washington. I have reviewed and commented on numerous other EIS and EIR documents. I don't believe I have ever had a harder time wading through a document. Although size is definitely one issue, it is not the whole issue because the PL EIS/EIR was also voluminous. The best I can make out, the document suffered from a deadly combination of fear of the court and the desire to be thorough combined with ready

access to a ton of miscellaneous relevant and irrelevant information compounded by an in-house staff with serious computers who are used to churning out data-loaded documents using multiple modeling scenarios, some of which make sense, and some of which don't. Please don't get me wrong. I like it that the Fire and Resource Assessment Program (Is that what we call FRAP these days?) and CDF have technologically competent people on staff. But I think they may have forgotten that there's only so much that the layperson brain can absorb in 1400+ pages and an EIR is not supposed to be an exercise in the survival of the wonkiest.

That being said as general context, I was also troubled that the Alternatives were not spelled out in detail in text. I know staff believed that the charts were the most user-friendly way to present information, but I'd much rather read a few pages about the management proposed by each alternative than try to patch together a whole from multiple charts across a huge document. Even though staff was willing to work with us to improve the brief description of Alternative F, I continued to feel that the size constraints on how long the description could be were very limiting. This over-brevity on Alternative descriptions extended to all the alternatives, not just F. It was also depressing to discover that the improved description of Alternative F was not used in the Executive Summary. Given the size of the document, the Executive Summary was probably the one section most people actually looked at. It was irritating to have to say to everyone that they should not rely on the Executive Summary, but rather look at Section VI for the Alternative descriptions. I am also attaching a copy of my scoping comments and Senator Chesbro's SB 1648 on which Alternative F is based. Without reviewing these documents, I don't believe a reader can understand from the dEIR what was proposed as Alternative F.

Another disappointing feature of the dEIR was the information that was missing. Missing particularly was specific stand-level timber information and visualizations of stand change over time under the various alternatives.

And overall particularly missing was any sense that the welter of information, much of which was both relevant and interesting, actually supported the conclusion that Alternative C1 (or even C2) really causes no significant impact, either short or long term, at small scale or large. Nor did the information presented lead me to understand why Alternative C1 is the preferred alternative. I do not believe that the dEIR demonstrated that Alternative C1 is the best way to implement the legislative mandate, board policies, or the goals of the Forest Management Plan.

All that being said, I truly recognize the enormous undertaking that this dEIR represents, and the tremendous effort of the many, many people who contributed to it. Just because my role is to point out holes, does not mean that I don't appreciate how much work went into the document.

Following are specific issues that the final EIR should address:

Map K "Vegetation Habitat Classes" and its Source Database are so Muddled they Cause Map R and the Spatial Pattern Analysis to be Wrong.

- Map Figure K, "Vegetation Habitat Classes," or, more properly, the information on which it is based, is explained, barely, on pages VII.6.6-2 and VII.6.6-6. Unfortunately, in the dEIR text, the database on which Map K is built is called the "JDSF 2004 vegetation layer" while the map itself is titled "Vegetation Habitat Classes." Thus, no amount of Adobe searching for "Vegetation Habitat Classes" came up with the two sentences that refer to the "JDSF 2004 vegetation layer" in the text, nor the Tables on VII.6.6-6 that outline WHR vegetation codes in general. As far as I can tell, the text does not ever overtly refer to Map K. Having puzzled extensively over the information in Map K, I was happy to finally stumble onto the "JDSF 2004 vegetation layer" reference many weeks into the comment period. Pieces of the puzzle finally began to fall into place.

- Map Figure K, "Vegetation Habitat Classes," conglomerates two very dissimilar types of habitat as Redwood 6, leading to a lot of confusion.

- The Map K problems muddle the project baseline, the current habitat.

- Map K, and presumably the "JDSF 2004 vegetation layer" from which it seems to be built, characterizes an old stand of *closed overstory canopy* redwood with canopy layers *underneath it* as Redwood 6, multi-layered. It also calls a stand of *closed understory canopy* young regeneration redwood 3 with widely spaced residual old growth scattered around in something that can barely be considered an overstory as Redwood 6, multi-layered. These two stand types neither look like nor function like each other as either a timber stand or habitat. Yet they are called the same thing on Map K and presumably the JDSF 2004 vegetation layer.

- The conglomeration of distinctly different habitat types as Redwood 6 on Map K leads to incorrect assumptions about the extent and location of potential old forest habitat.

- This incorrect information is then used as the basis for the "Spatial Pattern Analysis for Species of Concern," VII.6.6-216-240.

- Neither the information generated from the "Spatial Pattern Analysis," nor map Figures N-T can be relied on to be correct at a minimum to the extent they rely on the Redwood 6 habitat category.

- In the spatial analysis and Map Figure R, Marbled Murrelets, the information is definitely wrong, identifying "fully suitable" marbled murrelet habitat where none exists.

- The Spatial Pattern Analysis then uses this incorrect information to extrapolate the effects of the various alternatives over time.

- This strikes me as an unfortunate example of the aphorism, "Garbage In, Garbage Out."

It took me a while to figure out what was going on here. That's my understatement for the year. I have spent a fair amount of time on the ground at Jackson and have spent a lot of time looking at various maps and satellite photos of the forest. I am also very familiar with the habitat needs of the marbled murrelet from my long years of work on Pacific Lumber-related issues. The minute I looked at the Spatial Analysis map regarding marbled murrelets, Map R, I knew it was wrong. There is simply no possibility that the area to the west of Road 100 along North James Creek is fully suitable marbled murrelet habitat. It's a stand of fairly dense young regeneration with widely spaced old growth residuals and a significant hardwood component. But Map K, built apparently from the "JDSF 2004 vegetation layer" characterizes this stand as Redwood 6, which one discovers back in the text of the dEIR, means "multi-layered." (The map key is not self-explanatory.) This stand is multi-layered but not in any way that murrelets can use because *the closed canopy is in the understory,* leaving the scattered residuals up there in the wind and open to any corvid predator that swoops by. Murrelets prefer a closed canopy of very old conifers to nest successfully, as your EIR correctly indicates: *"According to Ralph and Miller (1995), the most important factor in indicating occupied stands was density of the old-growth canopy cover."* (Page VII.6.6-75) There is no distinct roosting and foraging habitat with this bird as they live at sea when not nesting, and they forage at sea for food daily during nesting season. So nesting habitat is the habitat that matters for murrelets. The Redwood 6 to the west of North James Creek will not do, yet your "spatial analysis" calls this area "fully suitable" murrelet habitat.

Along with personal knowledge, there are several other pieces of evidence that demonstrate the erroneous nature of Map R ("Marbled Murrelet"), which seems to be based on Map K, Vegetation Habitat Classes. An inspection of JDSF Forest Management Plan (FMP) Map Figure 8, "Forest Vegetation" contradicts the information on Map K. Using the area west of Road 100 in the North James Creek area as an example, compare dEIR Map K and FMP Map Figure 8. Map Figure 8 clearly shows this area as "Mixed conifer/hardwoods size <18" dbh, density D" (i.e. mixed conifer/hardwoods size less than 18" diameter at breast height, density: dense). There is no way that trees less than 18" dbh in 2002 when the FMP was published will be murrelet nesting trees in 2005. Eighteen inch dbh limbs might be suitable, but not 18" tree diameters! I'm not sure whether or not the JDSF 2004 vegetation layer is meant to supplant the FMP Forest Vegetation Map Figure 8, but regardless, there is no way this area became murrelet habitat in the few short years between the data that led to Map Figure 8 and that which led to Map K.

The dEIR Photo Sequences also contradicts Map R. Although it only captures a corner of the James Creek area I have been using as an example, the dEIR Photo Sequence 6, page V-23, helps verify the absurdity of calling the James Creek area "fully suitable" for murrelets. This photo sequence is located on dEIR Map Figure C, "Aerial Photo Sequence Locator Map." Map Figure K (Habitat) calls out the central portion of this photo sequence as Redwood 6. Both the 1959 and the 1981 photo clearly show intensive recent logging. The logging definitely appears to continue north out of the frame of the photos. Although the regeneration is "multi-layered" because of the widely scattered residual old growth that was retained, there is no way one can remove most of the canopy in 1981 and, at the same location, have fully suitable murrelet habitat in 2006.

The muddled information on Map K has led to the mistaken spatial analysis represented on Map R. It is disappointing that CDF managers familiar with the forest either did not notice these errors, or were not listened to when they did. If anyone needed an example of why the public is skeptical that CDF is serious about managing for habitat, this is it.

The JDSF 2004 vegetation layer that muddles two completely different stand types as Redwood 6 brings to light a whole other problem. **A multi-layer stand with a closed canopy of dominant and co-dominant trees in the overstory is completely different from a multi-layer stand with a few residual dominants over a closed canopy of younger trees in the understory.** The former is often how a natural forest matures; the latter is how a managed stand sometimes ends up. With the advent of more and more variable retention and other sorts of logging that leaves some structure in the overstory, the continued used of Redwood 6 (or Doug fir 6) to represent both sorts of habitat can lead only toward more and more confusion. At a minimum, as a quick and dirty fix, we need to create a new WHR category: Redwood 7, to denote a stand with a closed understory and scattered residual trees in the overstory. In the long term, we need to get serious about a better habitat typing system, one that actually makes sense in the redwood region. [See additional discussion of WHR later.]

To illustrate the problem with Map K, the faulty "fully suitable" for murrelets problem, and the general problem of Redwood 6, attached as Exhibit A, please find two photos along with a copy of the eastern portion of dEIR Map K. Photo 1 shows a stand at Camp 20 designated by Map K as Redwood 6 with large old trees in the closed canopy overstory. Photo 2 shows a stand at James Creek near Highway 20 designated by Map K as Redwood 6 with a few residual overstory trees scattered above a closed-canopy stand of younger understory. The photos obviously depict significantly different habitat conditions that should not be clumped together if we wish to have a rational discussion of habitat at Jackson or anywhere else. (Photos by KB, taken February 23, 2006.)

Map K and the JDSF 2004 Vegetation Layer Contradict Other Information in the dEIR at Numerous Locations, Most Profoundly in the WHR Analysis by Alternative that Begins on VII.6.6-149 of Section VII.6.6, "Wildlife and Wildlife Habitat."

- The WHR Alternatives Analysis Uses a Different WHR Database than the JDSF 2004 Vegetation Layer, and Presents Information that Contradicts the Introduction to Section VII.6.6, Wildlife and Wildlife Habitat.

- There is completely contradictory WHR information from one section to the next that leads one to be dubious about the validity of the entire WHR Alternatives Analysis. This is in addition to the separate problem with the Spatial Pattern Analysis.

- The WHR analysis is a fundamental part of the dEIR and its questionable validity jeopardizes the validity of the entire dEIR.

At the beginning of the "Wildlife and Wildlife Habitat" section, Page VII.6.6-2 it says: "***All of the analyses involving vegetation found on the JDSF were done using the JDSF vegetation layer,*** whereas vegetation outside JDSF is derived from the FRAPVEG multi-source vegetation coverage…. ***The JDSF vegetation layer also uses a CWHR classification scheme***…." [emphasis added] I strongly believe this statement is in error. A second WHR database is also in use.

Table VII.6.6.1 beginning on page VII.6.6-3 presents, among other information, how many acres of each vegetation type exists at Jackson based on the JDSF 2004 vegetation layer. Tabulating the presented information, **it shows:**
all Doug fir: 13,996 acres
all Montane Hardwood Conifer: 1,887 acres
all Redwood: 31,305 acres

Yet, **Table VII.6.6.18** on Page VII.6.6-150 shows the ***"Estimated CWHR (California Wildlife Habitat Relationship) acres on Jackson Demonstration State Forest. Alternative A" to have completely different information.***
Alternative A is identified in many locations within the dEIR as the "baseline" against which the other alternatives are compared. This table breaks down habitat acres by WHR type. It shows that in 2004 (baseline) Jackson had a total of
all Doug fir: 3,579 acres,
all Montane Hardwood Conifer: 14,551 acres
all Redwood: 29,490 acres
In relation to Doug fir, just for example, that's a difference of 10,417 acres between the two tables. Considering the entire forest is only 49,000 acres, that's quite a significant difference.

Every alternative is then analyzed regarding the effect on habitat through time with, in addition to the baseline, charts with data presented for 2030 and 2060. Verbiage and charts galore from page VII.6.6-149-216. These analyses would certainly have been different if the starting point was the 1,887 acres of Montane Hardwood Conifer from the JDSF 2004 Vegetation Layer, as reflected in Map K and Table VII.6.6.1, instead of the 14,551 acres of Montane Hardwood Conifer listed on Table VII.6.6.18 (and Tables VII.6.6.20; 22; 24; 26; 28; and 30), a difference of 12,664 acres between databases. The database used for the Alternatives Analysis that yielded Table VII.6.6.18 and the other Tables in this section seems to correspond with the information from the never-released 1999 draft Habitat Conservation Plan, for which I still have the maps, thanks to a Public Records Act request. The WHR acreage presented in the alternatives analysis closely corresponds to the dHCP WHR maps, but is wildly dissimilar to the acreage presented in dEIR Table VII.6.6.1.

In addition to the internal problems with the JDSF 2004 vegetation layer, the undisclosed use of two separate WHR-type data sets within the dEIR without disclosing the significant material differences between the two data sets is impermissibly confusing. One or the other of these data sets is likely to be more accurate. Or worse still, each may be more accurate about some aspects of forest habitat at Jackson and less accurate about others. In any event, even a fairly experienced document reviewer such as myself was left completely bewildered. The average layperson reviewer would be completely flummoxed. This level of confusion is impermissible in an EIR.

The Relationship Between Timber Stands and Habitat Never Comes Together

- ***The timber is the keystone species of the habitat*** but timber and habitat are classified using different systems and these systems significantly contradict each other regarding how to characterize significant swaths of the forest.

- Within Section VII.6.3, the "Timber Resources" section, under the heading Forest Vegetation Classification on JDSF (page VII.6.3-13) it says: "Three general vegetation classification systems have been used to describe and map the vegetation and habitat types on JDSF. The timber sections of this analysis use the **JDSF Vegetation Classification System**, the wildlife section (VII.6.6 Wildlife and Wildlife Habitat) uses the California Wildlife Habitat Relationship (CWHR) system and the botanical section (VII.6.2 Botanical Resources) uses a system based on the series and associations developed by Sawyer and Keeler-Wolf (1995) and Holland (1986). Each system has been used for a specific purpose based on the strengths of the system. [For the purposes of this discussion, I am skipping altogether the series and associations developed by Sawyer and Keeler-Wolf (1995) and Holland (1986) used to analyze "botanical resources."]

- The character of the existing forest stands and their spatial relationship to one another are a fundamental starting point to understanding how Jackson

currently functions as habitat or in analyzing recreation potential. Or in understanding the timber production capability there.

- It is necessary to start from a relatively accurate characterization of current forest stand conditions to extrapolate the effects over time of the alternatives.

- Although it is not strictly necessary to use identical stand characterizing systems when analyzing timber and habitat, it would be a tremendous boon to the discussion to do so. ***The timber defines the habitat.*** And at a bare minimum, the timber stand and habitat classification systems must be consistent within themselves and with each other. In this dEIR, they are not.

- In the dEIR of FMP, there is no visualization of habitat or timber stand changes over time

Thanks to a Public Records Act request dating from 2000, I have in my possession the maps from CDF's unreleased draft Habitat Conservation Plan dated April 13, 1999. Map 11 is captioned "California Wildlife Habitat Relationships System (CWHR), Current Habitat Types." This information is at least as current as other information used in the dEIR, including the inventory information provided in the Appendix. A comparison of this map with both dEIR Map K and FMP Figure 8, "Forest Vegetation" show major differences in how vast swaths of forestland are characterized. Comparing, just for example, the area that stretches from the northern corner of the forest where the North Fork Noyo exits north and proceeding east from there to the headwaters of Brandon Gulch, one finds that the dHCP WHR map characterizes the habitat differently than does dEIR Map K; and both are different from, and materially inconsistent with, FMP Figure 8. The WHR map, except for tiny pockets of Doug fir 4.2P and D, characterizes this whole area as Redwood 6 (Multistory). DEIR Vegetation Habitat Classes Map K calls this area a complex mix of Redwood 2, 3, 6, Doug fir 3 and 6, with a little Montane Hardwood Conifer 3 thrown in for good measure. FMP Figure 8 characterizes one stand within this area as Redwood 18" density S (sparse), while Figure K calls it Redwood 6. Another stand within this same area that is called Redwood 18" S in FMP Figure 8 is called Doug fir 4 on the Figure K map. To make it even more confusing, the differences among these maps is not at all consistent. For instance on the far northeast part of the forest, the dHCP WHR map is at least somewhat consistent with FMP Figure 8, small Mixed Hardwood Conifer, but the darn Map K calls this whole area Redwood 4 and 6.

As noted above, even what the authors intend to portray by dEIR Map K is a matter of conjecture, as it is not explained anywhere in the entire EIR. Is this meant to supplant the old WHR map? How does it relate to the FMP Map Figure 8, Forest Vegetation? Who knows! Even if one ignores the dHCP maps, certainly the maps in the Forest Management Plan (FMP) should be consistent with, and not outright

contradictory to, the map provided in the dEIR, the document that is supposed analyze the FMP and compared it with other alternatives.

And what has Map K been used for? Every statement in the dEIR indicates that the extensive wildlife analyses were done using WHR. Is this WHR as represented by dHCP Map 11? I have come to the conclusion that the Alternatives Comparison used standard WHR as expressed in dHCP Map 11. And the Spatial Pattern Analysis used the Map Figure K data set. The Spatial Pattern Analysis starts in the middle of the same page that the WHR Alternative Comparison ends. No mention anywhere that two very different data sets were used to make these analyses. Only someone such as myself who has been deeply immersed in this stuff for a decade and is familiar with the forest would ever pick up on this mid-page shift in methodology. This lack of clarity is a significant failing.

Finally, there is no attempt to visualize the changes in timber stand and habitat over time. The old dHCP maps do this for WHR, and they very effectively convey how little of the forest will be maintained in old stands under CDF's preferred alternative C1, which is virtually identical to the never-released 1999 draft HCP. Even if the shortcomings of WHR mean it should not be used to map habitat changes over time, there should be some system in place to accomplish this. Otherwise it's very difficult to grasp how the effects of our actions will play out over time.

What does WHR tell us about the redwood forest anyway?

- **From Limitations of the Modeling Approach (VII.6.6-134):**
  "Vegetation typing for forest management often includes a more detailed classification scheme than is found in CWHR. [emphasis added] In order to utilize CWHR as a habitat evaluation and planning tool, forest vegetation typing systems must be converted to CWHR habitat types. The conversion process to CWHR tends to simplify the vegetation typing into the three criteria of forest type, average tree diameter, and average canopy cover. The amount of information lost in this process is largely unknown.

  "The CWHR habitat classification system was designed primarily for single-storied stands, i.e. stands that had one dominant canopy layer. The vast majority of forest types are categorized as single stored stands with all tree canopy contributing to a single level of canopy density. The CWHR habitat classification system includes only limited consideration of stands with multiple canopy layers, i.e., forest stands composed of large sized trees with small or pole sized trees in the understory (CWHR 6).

  "Projections of CWHR habitat classes over time are based on rule-based algorithms that tier off projections from growth and yield models. These CWHR projections have not been validated against independent data in the same way as the underlying growth models. While projections of CWHR habitat class distribution and changes over time is a widely accepted tool for scientific and applied analysis, it is important to temper interpretations of results with a recognition of the appropriate level of accuracy (landscape level, not stand

level) and context (comparisons of trends for different management alternatives, not absolute magnitude, point-in-time estimates). **Making projections for the complex structures of CWHR 6 are particularly difficult."**

- According to Table VII.6.6.18, "Estimated CWHR acres on [JDSF], Alternative A" there are currently 25,873 acres classified as Redwood 6 on the Forest. That is almost 53% of the forest. It also happens to be the 53% of the forest that generally includes the stands the public cares most about—the older ones. (If one uses the information provided by Table VII.6.6.1, Redwood 6 totals 11,833 acres or 24% of the forest.) Yet, according to the EIR, "The CWHR habitat classification system includes only limited consideration of stands with multiple canopy layers, i.e., forest stands composed of large sized trees with small or pole sized trees in the understory (CWHR 6)."

The state's premier research forest can't do better than WHR when analyzing the effect of the proposed management plan? I believe it's true to say that Mendocino Redwood Company has managed to develop a system that more accurately reflects on the ground habitat and stand conditions. They've existed as a company since 1998. CDF's been around how long? If understanding and planning for habitat was really a priority equal to timber harvesting at Jackson, wouldn't we have a habitat typing system that actually works for redwood? Wouldn't someone be out there ground-truthing the habitat information in the same way the timber inventory is checked? Can we please make this a demonstration priority if the forest ever gets operational?

On the upside, at least this problem of WHR applied to multiple canopy stands was disclosed in the dEIR. However, the problem leaves the analysis within the dEIR too imprecise to be meaningful on key issues.

Missing Information on Forest Stands Not Logged Since 1925 or Earlier

- Sierra Club has repeatedly asked that a map be produced showing the location of the forest stands at Jackson that have not been logged since 1925 or earlier, in some cases much earlier. This was done both orally and in writing in our scoping comments. The dEIR provides no information about the extent or location of these stands, which range in age from approximately 80 to 120 years old. Jackson staff has verbally indicated in the past that there is between 10,000 to 12,000 acres at Jackson that fits into this category.

- The pre-1925 stands are of interest because they are likely to be much further along the way to becoming "late seral," that is older forest stands, than are younger stands.

- Additionally, there are some very old stands that were thinned at some point in the past, and are now robust, very old second growth. The location of these

stands can only be surmised, yet they too may be much further along to being "late seral" than the younger forest stands.

- These old stands should be the first place to look for possible recruitment of marbled murrelet habitat.

- Although the dEIR discusses at length the importance of "late seral" forests as unique and regionally rare habitat, and makes a big show of identifying "late seral development areas" it fails to identify either the existence or the location of the oldest second-growth stands currently on the forest, some of which may already be exhibiting late seral characteristics.

- Based on personal knowledge, it appears that the 5-year Timber Harvest Projection Estimate printed in the draft Forest Management Plan as Map Figure 6, projects logging entries in the overwhelming majority of the old, Pre-1925 stands.

- Both of the enjoined Timber Harvest Plans are in these areas of old forest, and the characteristics of this old forest have led people to be interested in protecting the area around the main campgrounds at Camp One that includes the enjoined THPs for both recreation and habitat purposes.

- One of these enjoined THPs is adjacent to a CDF-designated late-seral "development" area but there is no acknowledgment of this or analysis of the effect on the designated late seral development area of logging adjacent to it in the old forest stand. Loss of existing old forest contiguity is one easily identifiable impact that the dEIR ignores.

- The dEIR should identify "fragmentation of existing older forest stands" as a potential impact to be analyzed. Alternatives B, C1, and C2, all would result in fragmentation. Neither Alternative E nor F would.

- Failure to identify the location and consider the short and long-term effects of logging in the old forest stands is a significant omission of information in the dEIR.

- The Impact analysis for Impact 2, "Protection of Late Seral/Successional Forest Characteristics" for the Preferred Alternative C1 as "Less than Significant and Beneficial" is in error because there has been no consideration of the effects of the plan on the forest stands most likely to develop late seral (old forest) characteristics soonest. There is no consideration of the effects of the 5-year Timber Harvest Schedule on these stands.

What does it take to get this information officially acknowledged? We've politely and not so politely asked for it for several years. SB 1648, the Chesbro bill that is a

component of Alternative F, focuses extensively on these stands, calling for a separate inventory for them. In the comparison charts in VI 16-53, these stands are referred to several times under the Alternative F column. Yet, there is no reference to them or discussion of the importance or extent of these stands in the narrative text of the EIR. There is no analysis of the effects of the alternatives in relation to them. Alternative F is designed largely around these stands both in the proposed "Recovery, Research and Recreation Area" and the "Marbled Murrelet Recovery Demonstration."

Failure to disclose the existence of these older stands also makes a mockery of the study used to back up the assertion (VII.6.3-33) that "Trees with late seral characteristics cannot be recruited during the life of the Management Plan." On Page VII.6.3-34-38 there is a lengthy discussion about a theoretical study published in the Appendix of the previous EIR regarding development of late seral conditions over time. At first glance, this study seems to support the contention that late seral conditions cannot be achieved in the 100-year life of the plan. However, a careful review indicates on Page VII.6.3-36 that after 100 years the oldest trees will be 150 years old. Simple math suggests that the model started with 50-year old trees. However, we know that there are, in fact, second growth stands well in excess of 100 years old at Jackson. Put another 100 years on them and by any standard currently applied, they would be considered "old growth," the older component of "late seral." Failure to do the late seral development analysis using the oldest available age classes as a starting point makes the whole exercise bogus for purposes of determining impacts at Jackson.

Is this a deliberate mis-representation? Or just sloppy analysis based on a failure to acknowledge actual conditions on the ground? Either way, it is a significant defect in the dEIR.

Definition of Late Seral Needs Clarification

- Failure to adequately define and describe the key concept "late seral" (used interchangeably with "late successional") forest cripples the dEIR's ability to adequately describe the alternatives and analyze how each alternative affects the maintenance and development of late seral forest over the planning horizon.

- "Late Seral" forest is properly defined as being on a continuum that has two components that are distinguished as to age of stand and stand characteristics: mature and old growth. To get to old growth, the stand must pass through the mature phase. Without adequate planning to maintain and develop the "mature" phase, the "old growth" phase cannot be achieved.

- The dEIR fails to adequately address how each alternative provides for maintenance and recruitment of the "mature" phase of late seral because it fails

to acknowledge the existence of the "mature" phase. This is a material defect in the dEIR.

- According to the 1993 Report of the multi-agency federal Forest Ecosystem Management Assessment Team, independent of old growth, the mature forest component of late seral is important in its own right as habitat for large numbers of species.

- Failure to acknowledge the importance of the "mature" component of late seral results in the dEIR's failure to consider the effects of each alternative on plant and wildlife species associated with the "mature" component of late seral as distinct from the "old growth" component of late seral.

- The Five-Year Timber Harvest Schedule includes numerous timber harvests in areas that would be deemed late seral if the definition were correct. The dEIR's failure to disclose these problems and address the effects of near-term logging on these stands is a significant omission.

What is meant by the term late seral forest (synonymous with late successional forest) is a key concept for the JDSF FMP and dEIR. It is imperative to acknowledge that this term is NOT synonymous with "old growth" forest. Rather, "old growth" is a subset of late seral. "Mature forest" is the component that arises before the old growth condition and is a necessary step along the succession to old growth conditions. Collectively, in every common useage except the California Forest Practice Rules, these two stages in forest development are called late seral forest. The previous EIR Glossary (Appendix) correctly recognized this when it defined this term: "The stage in forest development that includes mature and old-growth forest." The previous EIR Glossary then went on to adequately define both "mature" and "old growth." All three of these definitions are reasonable adaptations of the federal definition published jointly by the US Department of the Interior and the US Fish and Wildlife Service in December 1995 in the Environmental Analysis for a 4(d) Rule for the Conservation of the Northern Spotted Owl on Non-federal Lands. The EA for the Northern Spotted Owl 4(d) Rule was specifically about the region that includes Jackson Forest.

A close reader appreciates that the author(s) of the dEIR attempt to draw a distinction between "late seral" and "late seral as defined by the Forest Practice Rules." This distinction is made because the author(s) almost certainly understand that the definition within the Forest Practice Rules (FPRs) is essentially in error. The bad definition resulted from a political compromise back in 1992 that left the definition more or less correct only as it describes the "old growth" component. The FPR identifies the true stand characteristics of "old growth" and erroneously applies them as the definition of "late seral" thereby eliminating the unwanted (by the industry) necessity for giving special consideration to the "mature" component of late seral when submitting a Timber Harvest Plan. However, obfuscating the

definition does not change the environmental effects on the ground. Although we understand why this is such a pretzel for CDF, the wrong definition of late seral in the dEIR is a significant deficiency that leads to incorrect analyses of environmental effects.

For instance, on Page VII.6.3-14 we find: "Based on the definition of a late seral forest stand contained in the forest practice rules, functional characteristics of late seral forests include large decadent trees, snags and large down logs. Similarly, late seral forests are characterized in the forest practice rules as having large trees, multi-layered canopy and a large number of snags and downed logs that contribute to an increased level of stand decadence."

Contrast this with the federal definition in the EA for the NSO 4(d) Rule (page 53):
"Late –Successional: The stage in forest development that includes mature and old-growth forests.
"Mature: Forest for which the annual net rate of growth has peaked; stands are generally more than 80 to 100 years old and less than 180 to 220 years old; stand age, diameter of dominant trees, and stand structure at maturity vary by forest cover types and local site conditions; generally contain trees with a smaller average diameter, less age-class variation, and less structural complexity than old-growth stands of the same forest type.
"Old Growth: An older forest that differs significantly from a younger forest in structure, ecological function, and species composition; containing characteristics that become pronounced at 180 to 220 years of age, including: (1) a patchy, multilayered canopy with trees of several age classes; (2) a multispecies canopy…; (3) the presence of large living trees, some with broken tops and other indications of old and decaying wood (decadence); (4) the presence of snags (large standing dead trees) and heavy accumulations of wood, including large logs on the ground; (5) moderate to high canopy closure; and (6) the presence of species and functional processes that are representative of the potential natural community."

The FPR definition has taken characteristics like decadence and down wood, that the federal government uses in its definition of "old growth," and requires their presence in anything to be characterized as "late seral" or "late successional," thereby obliterating the earlier phase of late seral: the mature forest. Fourteen years after the political dog-fight that resulted in this definition being enshrined wrong in the FPRs, aren't we mature enough to get past it for purposes of analysis at Jackson Forest? The time to sue on the FPRs about this point is long past. CDF could restore a bit of credibility by acknowledging reality on the definition of late seral forest.

Without understanding the ecological importance of the "mature forest" component of late seral forest, the public's concern for Jackson's older second growth stands will be wrongly relegated to the spheres of aesthetics and recreation. Older forests younger than-old growth are a crucial biological resource well prior to their attaining true old-growth characteristics.

The federal FEMAT Report[1], which is specifically about the Pacific Coast region, says: [page IV-20]

> In the current assessment, we reviewed and updated the list of species associated with old forests. Criteria based on those developed by Thomas et al. (1993) were used for this effort…. The number of species identified is greater than that shown by Thomas et al. because of new information and because this report focuses on all federal late-successional forests within the range of the northern spotted owl rather than just the old-growth component on National Forests. A total of 1,098 terrestrial species (not counting arthropods) are identified as closely associated with late-successional forests on federal lands…."

No specific information is provided in the FMP, dEIR, or the maps regarding the total acreage or location of forest stands that are non-old-growth, but nevertheless, late successional stands. At least some of the stands that have not been logged since 1925 or earlier would be considered late seral if late seral were defined consistent with normal useage. This is a significant omission, especially in light of the purported emphasis on "late seral development" in the FMP and the dEIR.

One would think the information base on the state's premier research and demonstration forest would include information about the location and extent of existing late seral (used interchangeably with late successional) forest stands. If such information truly is not available, there is a critical need to develop it. This could be achieved by hiring on-staff experts in forest ecology or by contracting with recognized experts in the field to survey, catalog, and map these stands.

The Late Seral Development Areas are Minimal, Fragmented, and Soon to be Diminished by Operations Proposed in the Five-Year Timber Harvest Schedule

- Jackson's 11 old growth groves combined total 459 acres. Three of these locations have buffers designated for late seral development totaling an additional 780 acres. These areas combined total 1,239 acres, or 2.5% of Jackson. This 2.5% is the entirety of late seral development on the eastern two-thirds or more of the forest outside Watercourse and Lake Protection Zones.

- 2,224 acres of the Woodlands Special Treatment Area surrounding Mendocino Woodlands State Park is also designated for late seral development. This constitutes another 4.5% of Jackson.

- Therefore, outside watercourse and lake protection zones (WLPZs), **7% of Jackson is designated for "late seral development." This is the extent of what will develop into "interior" old forest, the sort of habitat most**

[1] USDA Forest Service, USDOC National Marine Fisheries Service, USDOI Bureau of Land Management, USDOI Fish and Wildlife Service, USDOI National Park Service, Environmental Protection Agency. *Report of the Forest Ecosystem Management Assessment Team*. July 1993.

beneficial to locally threatened terrestrial species. Given that these areas are at least dual purpose, likely to benefit both habitat and recreation potential, this figure seems less than what would be necessary to truly elevate non-timber production values to the equivalent of the timber program, which is the stated goal of the FMP.

- According to the dEIR VII.6.1-18, there are 97 miles of Class I streams. With150 feet on each side allowed to develop into late seral forest, at most this constitutes 3,527 acres, not accounting for the loss of acreage due to the difference between the ground-measured WLPZ width and the horizontal plane measurement of acreage.

- Class II streams are an additional 186 miles. Although the dEIR does not acknowledge this, *the WLPZ for Class II in the Forest Management Plan (page 70) is 50-100 feet, not the 100 feet generally mentioned in the dEIR.* Thus, the acreage of Class II streams that will develop late seral characteristics is at most 4509 acres and at least, 2255 acres, again not accounting for the fact that the WLPZs are measured on the ground, and acres are measured on a flat plane. In steep terrain, as Class IIs are likely to be, this difference could be very signficant.

- So totally, the Class I and Class II WLPZs constitute strips of terrain that total at most, somewhere between 8036 and 5782 acres. Someone somewhere must have decided to shave the baby, because on page 149 of the FMP, it says the WLPZs will total 7440 acres. Again, this may significantly overstate the actual acreage. The steeper the slope next to the stream, the less acreage a ground-measured WLPZ will actually cover. The primary beneficiary of the WLPZ late seral will be aquatic species.

- There is also a discrepancy in the language regarding how the WLPZs will be managed. While there is general direction to manage for late seral, the specific standards the FMP and dEIR describe may not lead to the WLPZs becoming late seral as soon as would be feasible. Particularly, the significant logging allowed in the "outer band" of both the Class I and Class II WLPZs seem to contradict the general direction to manage for late seral conditions. The dEIR does not discuss this contradiction or propose mitigations to address the problem. This contradiction could possibly be solved by clarifying that the WLPZs should be managed for late seral conditions to be achieved as soon as possible.

- Putting aside for the moment the remarks in the previous paragraph, using the lower figure of 5782 acres to somewhat account for the slope problem, this added to the 459 acres of old growth, the 780 acres of late seral development, and the 2224 acres of Woodlands STA, totals 9245 acres total for late seral development in all forms. This comes to around 19% of Jackson's land base. While this is a significant commitment to developing older forest, it is certainly not an expansive commitment, one that would seem to be consistent with "elevating wildlife,

watersheds, and ecosystem processes to a level of importance equivalent to the timber management and the research, demonstration and education programs." (FMP, page 3)

- Perhaps most important, the five-year Timber Harvest Schedule (see FMP map Figure 6) including the enjoined THPs, proposes near-term timber operations in areas adjacent to the designated late seral development areas that provide the core habitat. These operations will reduce existing older forest habitat next to the late seral development areas and leave the protected areas more isolated as islands, reducing their habitat value. Recent heavy canopy removal timber operations adjacent to one of the late seral development areas has already started this island-creation process.

- Additionally, the five-year THP schedule proposes operations in other old forest areas that should be considered for habitat development. For instance, in the West Chamberlain Creek drainage, operations are scheduled in an area with a very significant component of large residual old growth trees, and is also adjacent to the late seral development area near the headwaters.

- The EIR does not discuss or analyze the effects of the five-year THP schedule on either existing old forest stands or the designated late-seral development areas. This is a significant omission.

Conclusion

Adoption of Alternatives C1 and C2 are likely to lead to significant adverse impacts at Jackson Forest on terrestrial, avian and aquatic species and in relation to the extent and fragmentation of old forest habitat. The Board has several good alternatives in front of it. Alternative E, which the DEIR identifies as the environmentally superior alternative is just that. Understanding that the Board may believe that Alternative E is not feasible given the legislative mandate for the forest, we have provided the scoping comments and legislation that have been combined to produce Alternative F. The scoping comments, which we are re-submitting along with this letter, were drawn up with an eye to the existing legislative mandate and I view them to be completely consistent with current law. There are elements within SB 1648, for instance the citizens' and technical advisory committees, that seem likely to be within your current authority. You may wish to consider forming these committees. Alternative F provides a flexible approach to managing for enhanced habitat that can serve the needs of wildlife and people. Additionally, there are abundant research and demonstration projects that the Alternative F approach could facilitate.

After reading Pat Higgins' letter to you regarding the dire need for the strongest possible protection for salmonids at Jackson, I want to re-emphasize the need to

apply strong watercourse protection across the forest. This should be equivalent to federal standards for this region.

I truly hope the Board will take this opportunity to lay the controversy about Jackson's management to rest. It is possible that within a few years of improved management that Jackson could take the place it ought to have as a beloved state resource that everyone is proud of.

Sincerely,

Kathy Bailey
Forest Conservation Advocate
California Sierra Club

Attachments:
Map and photos
Scoping comments