IV.8 Individual DEIR Mailed Comment P-183

This section presents responses to individual public comments (i.e., not form letter or form letter based) received the U.S. mail or other non-electronic delivery services. The responses immediately follow each letter and are organized in the same order as the comments in each letter. Several of the letters included attachments. Attachments were not included herein if our response did not directly reference the attachment.

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BOARD OF FORI
AND FIRE PROTE

P-183

February 24th, 2006

Bruce Campbell
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Los Angeles, CA 90049

Board of Forestry and Fire Protection
P.O. Box 944246
Sacramento, CA 94244-2460

Re: Comments on Draft Environmental Impact Report for the Draft Jackson Demonstration State Forest Management Plan

Dear Board of Forestry and to whom it may concern:

The Proposed Alternative known as C1 must be emphatically rejected because:

01 1. the vast majority of Mature Trees are scheduled to be logged in the near term at Jackson DSF, and mature stands are a unique aesthetic resource that will become good habitat for old-growth dependent species -- *logging them would result in fragmentation and thus more edge effects, while it is likely that such logging will increase the amount of sediment in streams as well as raise the temperature of the watercourses which could imperil listed native salmonid species and amphibians;*

02 2. the document largely pretends that mature trees do not exist at Jackson DSF, and, to my knowledge, the Draft EIR for the Draft JDSF Management Plan never mentions the largest mature stands in coastal Mendocino County in the Brandon Gulch, nor the sizable mature stands at West Chamberlain Creek;

03 3. it hurts old-growth dependent species and makes it difficult for them to recover in the Mendocino County redwood region;

04 4. there is considerable wiggle room / leeway under C1 to log large and even old-growth residual trees;

05 5. forest management focusing on removing older trees and stands to plant younger tree plantations is a fire hazard;

06 6. such intensive management activities are an aesthetic nightmare;

07 7. there is an inadequate road plan;

08 8. it would bring increased sedimentation of watercourses and increase their temperatures;

09 9. it would hurt rather than encourage recreational activities;

10 10. it would add toxic materials to land which also impacts watercourses and species;

11 11. the invasive plant control plan does not consider preventative measures;

1.

12 12. it hurts habitat for many species by removing too many snags; (pg. VII.6.6-121 admits that "some key habitat elements, such as snags, depending on their location, could be at risk." Page VI-35 admits that Alternative E would provide "vastly expanded opportunity for snag development".

13 13. it is too vague as to what the plans really are and there is no indication in the documents about the location to which one should send comments;

14 14. the Preferred Alternative C1 would count on commercial logging proceeds to supposedly carry out more ecosytem protection activities, though overall the ecosystem would be clearly better if the larger trees were left where they are, rather than exploiting them to feed bureaucratic pressures to expand activities.

Related to the second point above, Page 4 of Appendix 4 in the Notice of Preparation shows this deception as to what age stands comprise the JDSF. It says that, "The majority of this area is now forested by young stands of redwood and Douglas-fir, but there are a few remnant stands of old growth forest." Excuse me, but is there anything in between? No mention of sizable mature stands. That same page says that, "Substantial core areas would be established to preserve old-growth forest stands and to provide for the development of late-seral habitat conditions." But, a
15 total of 783 acres of late-seral habitat augmentation under Alternative C1 (allowing cutting quite a number of trees even in the buffer area around the small old-growth stands) split between various stands, along with the admittedly narrow riparian areas which have significant edge effects, in no way forms a biologically healthy "core" area in any conservation biology sense of the word. But, continued growth without timber-cutting disruptions in the sizable mature stands (along with nearby smaller ancient stands) can form important core habitat, but these mature stands must be protected rather than logged!

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I would like to point out that I found no mention in about 1500 pages in 3 volumes in regards to what address (or fax or e-mail) to which one should send comments on the Draft EIR for the JDSF Management Plan. This is entirely unacceptable, and this fact alone should necessitate the preparation of at least a Draft Supplemental document. In most such major (or minor) documents, such information is given often on the first or first few pages, or at least on the first or first few pages following the Table of Contents. Even better than a Draft Supplemental document would be, for this and a number of reasons, for the Board of Forestry should reject the whole Draft EIR and Draft Management Plan, and prepare thorough new draft documents with better alternatives, with it clearly stated where to send comments on those draft documents (through various modes), and with more updated specifics addressed -- some of these topics needing updating and specifics I will
16 mention toward the end of these comments.

When I was seeking the Jackson documents a few weeks ago, I called the Board of Forestry who did not know where I should send it officially, but said I could order a CD of the documents. I did get an e-mail address and a fax number from an officeworker who was trying to be helpful, but these locations to send the comments were not the official ones -- and I know that some lawyers would be happy to not adequately respond to points raised in the draft if something was a little askew such as sending to an unofficial address. I was further appalled that I believe it was Mr. Gentry that called me back when I was insisting on a paper version of the documents, and informed me that it would cost $200 !!!!! Clearly, the state agencies are not interested in thorough public review of the documents (though at least the comment period was extended somewhat) and for this and some bogus claims in the document that many damaging activities are less than significant after

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mitigation, I do not believe the legal requirements have been met to adopt the plan – let alone the damaging alternative C1.

17 Appendix 5 Page 21 says that JDSF in 1982 was 50,505 acres. Why is it now claimed to be 48,652 acres? What accounts for this serious discrepancy in acreage totals?

REJECT THE DRAFT EIR for the DRAFT JDSF MANAGEMENT PLAN

I urge outright rejection of the Draft EIR for the Draft JDSF Management Plan. One of its main faults is the logging of the vast majority of the oldest second-growth forest stands at Jackson. These 10,000 to 12,000 acres of valuable forest stands are very unique for the region, yet except for mentioning some mature stands toward the extreme western part of the forest (as well as some at Lower Big River) on a mere two pages of print (plus a map), the mature / older second-growth
18 stands were barely mentioned in the lengthy documents – clearly by design! Adding the acreage of the mature stands mentioned in the aforementioned areas at Jackson, it totalled about 3500 acres, a number which is likely a little less than a third of the mature stands left at Jackson DSF. Why not admit where the other mature stands are in the forest, and what the various alternatives offered would do as far as protecting or pillaging them? I note that page VI-19 says under Alternative F, "Approximately 12,000 acres that have not been entered in the past 80 years shall be managed to address the regional scarcity of that age class".

Other very serious problems with the Jackson documents are the plans for massive clearcutting – with the amazing claim that with few exceptions 29% of the forest could be clearcut for "research purposes." There are other very damaging not quite clearcuts proposed in many other areas of the forest. There is also way too much wiggle room about how even old-growth residual trees may be
19 logged if one determines that they do not have the proper structural characteristics, and I'm sure even more sizable mature trees even in the few areas mentioned for special treatment would be logged due to questionable excuses (with the prime reason to get the cut out to help the fund flow for the bureaucracy at JDSF). Other serious problems with the draft Jackson documents are the inadequate protection for stream temperatures which support native salmonid species, not paying adequate attention to accomodating recreational visitors in the northern and some other parts of the
20 forest, and the proposed use of five identified and some unidentified herbicides (including even leaving the option open for aerial herbicide use). The other main problem with the documents were the inadequate alternatives. Surely, those who like the protective portions and working toward late seral stages in Alternative E would be champions for not just an aggressive inventory examining which of the 500 miles of roads should be decommissioned on the forest, but also would back
21 funding the decommissioning of many roads at JDSF, as well as funding active stream restoration to improve native salmon and steelhead habitat. Though I do not believe that Alternative E or even F are being seriously considered as a possible choice to guide management at JDSF, yet at least Page VI-8 admits in regards to the 7 alternatives that, "These alternatives have been determined generally feasible, consistent with the basic project purpose, goals and objectives and consistent with the CEQA concept that alternatives avoid or lessen a project's environmental effects."

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PROPOSED HERBICIDE USE

22 I will start with the serious matter of herbicides, and will make short points / paragraphs often asking questions, so that the "response" won't put a number by a big paragraph and act like a simple sentence adequately answers a number of very serious complex questions.

3.

22 There is inadequate analysis and discussion about proposed herbicide (and other possible pesticide) use at JDSF in the Draft EIR / Draft Management Plan. Appendix 13 admits that, "These herbicide summaries are not intended to be exhaustive reviews of the herbicides that may be used at JDSF." That is an understatement!

23 1. Page VII.8-10 and 8-11 says that, "When management activity levels on the Forest increase following the implementation of the DFMP, herbicide use levels may increase above those of the past several years. However, it is not anticipated that herbicide use will increase to the levels of the early to mid 1990s." What were the herbicide use levels in the early to mid 1990s? What is the amount of anticipated annual herbicide use at JDSF? If another EIR / Management Plan mentions an anticipated level of herbicide use, is there anything preventing JDSF managers from ignoring that theoretical anticipated use level and applying more herbicides than stated?

24 2. It is so vague that no herbicide, herbicide formulation, herbicide combination, active ingredient, inert ingredient, or surfactant (be they currently approved, yet-to-be approved, or perhaps even banned herbicides) are forbidden from use at Jackson forest.

25 3. Even aerial application is not forbidden, due to this sentence likely written by a lawyer, "CDF does not anticipate any aerial application." (App. 13, page 1) Just because something is not anticipated does not mean it cannot be done unless specifically stated. Was the last sentence correct in this assumption(?), or will the next EIR / FMP forbid aerially spraying of herbicides at JDSF?

26 4. While admitting that CDF anticipates possible use of 5 proposed herbicides (plus an unknown number of current and future herbicides) "for invasive weed control and reforestation purposes", there is no indication how much (if any) might be used in bodies of water targetting aquatic plants or in riparian zones.

27 5. If 1500 pages can be spewed to justify essentially the same damaging stale plan halted by the court in mid-2003, surely you can present the basic "specific label and Material Safety Data Sheet" mentioned in the first sentence of the second paragraph of App. 13, page 1 in regards to herbicides proposed for use at JDSF.

28 6. How many of the 5 herbicides (or others being considered for use at Jackson) have had a complete set of Toxicological Profile tests completed and documented? Will you delay or ban use of such herbicides that do not have such a complete Toxicological Profile? If they are completed for certain herbicides, what results from the profile would prompt a decision to not use these materials?

29 7. What are the active ingredients, inert ingredients, surfactants, adjuvants, carriers, diluents, binders, dispersants, stabilizers, neutralizers, antifoamers, buffers, and degradation products for the 5 mentioned herbicides and for any other herbicide that may be used by CDF or worker at JDSF?

30 8. Will you allow the use of any herbicide at JDSF which was approved due to testing by Industrial Bio-Test which was a firm with a number of labs which had some executives jailed due to falsified, sloppy, and inaccurate chemical testing work?

31 9. Seeing that the majority of the pesticides in the western United States are sprayed / applied by Spanish-speaking workers, will all who might apply herbicides be able to read the warning label and Material Safety Data Sheet (whether or not the Toxicological Profile) in Spanish? Do such exist in Spanish in Mendocino County, in Sacramento, or beyond?

4.

32 10. Seeing that App. 13 page 1 says, "in the future, there may be additions or deletions to the list of herbicides considered for use at JDSF", then I'd like to propose deleting the 5 proposed herbicides and all others from consideration for use at JDSF.

33 11. Has it ever occurred to CDF / BOF that JDSF could be a demonstration center for non-chemical ways of controlling unwanted vegetation, and that you could partner with universities to develop innovative tools and other non-chemical alternatives, plus have unemployed forestry and other workers, youth, prisoners, and others assist with the task?

34 12. Has JDSF considered the fact that clearcut logging (and other severely disturbing logging practices) as well as related vehicular traffic (and otherwise) are the prime factors spreading invasive plants as well as lead to pioneer brush which chemical addicts determine need to be poisoned?

35 13. Will any studies regarding volatilization of herbicide residues (through brown-and-burn operations or due to wildfire following herbicide application) and might they have any effect on herbicide use decisions at Jackson?

36 14. Have the 5 herbicides, or any future use of other herbicides, consider studies relating to herbicides and formulations disrupting immune and/or hormonal systems, or in regards to their genetic, teratogenic, or fetotoxic effects?

37 15. I see no mention of likelihood of these 5 herbicides and others which may be used to reach groundwater (or their degradation products). Has CDF / BOF examined the studies or summaries about why contamination of groundwater resulted in the banning of Roundup / glyphosate in Denmark. (A couple articles on this matter are at <www.organicconsumers.org/foodsafety/glyphosate051503.cfm> <www.organicconsumers.org/ge/monsanto_roundup_banned.cfm>. I believe that due to very effect p.r. by Monsanto claiming that glyphosate biodegrades so quickly, that those testing groundwater for pesticides do not even consider testing for this widespread active ingredient whose formulation is always more toxic than the active ingredient glyphosate alone.

38 16. Might an herbicide which necessarily contains dioxin contaminants be considered for use at JDSF? Might any herbicide which sometimes contains 2,3,7,8 tetrachlorodibenzo-p-dioxin or 1,2,3,7,8-pentachlorodibenzo-p-dioxin be considered for use at Jackson forest?

39 17. Page VII.8-9 says, "In addition to pesticides, other regulated potentially hazardous materials that are anticipated to be used on JDSF include:" -- then the last bullet point says, "other pesticides, such as insecticides, fungicides, rodenticides (no use in DFMP)". So, other pesticides are "anticipated to be used on JDSF", yet it claims "no use in DFMP". This is bait-and-switch -- obviously written documents / CDs which is "the plan" does not entail use of such, but apparently on the ground use at JDSF is anticipated. Please clarify these contradictory claims.

40 18. Under "8.2 Regional and Project Setting for Hazardous Materials" on Page VII.8-10, it says that, "JDSF maintains a chemical storage facility, which contains herbicides, located near the Mendocino Woodlands Forest Fire Station (Personal communication, Walt Decker)." Is there anything besides herbicides and related spray equipment in this facility? Are there any herbicides / chemicals other than the 5 listed in the Draft EIR / DFMP in this chemical storage facility? Why

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was there no analysis of dangers from possible incidents regarding this, likely the largest concentration of toxic materials at JDSF? (By the way, the one sentence saying that there are requirements for "the transport, storage, handling, and disposal of the hazardous materials that might be used at JDSF are established and enforced by the NCRWQCB, Department of Pesticide Regulation, and County Agricultural Commissioner" means virtually nothing on the ground since these are generally office bureaucrats who have some written regulations on a computer or in a filing cabinet. The public wants to know what could happen in the real world on the ground (with some likelihood of impacting air and water pathways and living organisms, not some rosy theory that there is no need for concern since there are regulations. Will the herbicide storage matter be analyzed for the next EIR / DFMP at JDSF?

41 19. In regards to the Washington Toxics Coalition lawsuit which forced EPA to study the impact of 55 pesticides on salmon, I note on page VII.8-18 that, "As of June 30th, 2004, the EPA had reviewed over half of the 55 pesticides subject to this litigation." How did the 5 herbicides anticipated for use at JDSF in this Draft EIR / FMP fare in these studies? Please elaborate on EPA's findings pertaining to the herbicides which your documents listed as anticipated for use at JDSF.

42 20. Have you considered the impact on the aquatic food chain from the "eutrophication" effect of herbicides on waterways (whether applied onto aquatic plants or from herbicides washed into watercourses after being applied on land)? If so, please present these findings.

43 21. Clopyralid was banned for lawn uses in California in 2002 because of its persistence in compost. Would vegetation killed by clopyralid be burned or be hauled to a municipal dump or compost heap, or what would be the specific fate of this vegetation? (It is also been found to be "highly soluble in water" and is considered a "Hazard to Humans and Domestic Animals".

44 Page 4-91 of the Bureau of Land Management's Vegetation Treatment on BLM Lands in Western U.S. Draft Programmatic Environmental Review says, "Aquatic herbicides with the greatest likelihood of affecting special status amphibian species during normal application to an aquatic habitat are diquat and some formulations of glyphosate."

45 Excellent compilations of important points from studies regarding the impact of pesticides on salmon can be obtained from the Northwest Coalition for Alternatives to Pesticides based in Eugene, Oregon. The Executive Summary of the report Diminishing Returns: Salmon Decline and Pesticides can be found at <www.pesticide.org/salpestx.pdf>, while the Full Report can be found at <www.pesticide.org/salpest.pdf>. The report called Poisoned Waters (Protecting Pacific Salmon) can be found at <www.pesticide.org/PoisonedWaters.pdf>. Various articles on the subject are compiled at <www.pesticide.org/CleanWaterSalmon.html>. Please include these reports and articles, and research and give their references in your next EIR / FMP documents.

46 I am appalled by the wide range of uses of herbicides planned by William Baxter mentioned on Page VII.8-12 of the DEIR / DFMP, "Herbicide use may occur in the following situations:" "Controlling invasive species in order to maintain native plant communities, promote conifer habitat, and prevent the establishment and spread of new exotics." "Control roadside vegetation, primarily invasive species such as pampas grass, broom, and gorse that easily spread via roadways, but also native plant species that vigorously grow in these conditions and hamper road use and maintenance. *"For use, following broadcast burns and wildfires, to facilitate successful establishment and growth of planted conifer seedlings by reducing brush competition. * To inhibit

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the regrowth of hardwoods and maintain high conifer occupancy in harvest areas." Controlling Tasmanian blue gum infestation (plantation) at Caspar Creek watershed is also mentioned.

47 Virtually all excuses for use of herbicides is included in that quote, including reasons where one could make an argument to conduct aerial spraying of herbicides. One could spray all 500 miles of roadsides at JDSF. One can spray to kill invasive plants admittedly largely spread by the excessive road system. One can spray following wildfires and broadcast burns. And one can spray after logging to control brush and hardwood regrowth, and then again to assist conifer plantations by killing the so-called competition of brush and hardwoods which dare to try to maintain some botanical diversity on our publicly-owned state forest.

I will briefly touch on herbicides later in these comments when discussing fire dangers.

USE of OTHER CHEMICALS at JDSF

48 a. In relation to other hazardous material in those bullet points on pages VII.8-9 and 8-10, where are these materials stored at JDSF?

49 b. What substances comprise the "chemical treatments on Forest roads for dust abatement"? (Page VII.8-10). Are these analyzed in this Draft EIR / DFMP? Will they be analyzed in the next EIR / FMP? Are these the same or different chemicals as will be used as "chemical stabilizers" to control soil erosion? If different, of what materials do these chemical stabilizers consist?

50 The next EIR / FMP (be it another Draft, a Supplemental Draft, or the Final) must consider possible cumulative impacts of purposeful use and accidental spills and their impact on workers, recreational users (including children and pregnant women), specific sites, sensitive plants, aquatic areas, and the food chain in the watersheds at JDSF. Synergistic and cumulative effects from different herbicide formulations, and impacts of combinations of ingredients and breakdown products of different herbicides along with fire retardants (if used at JDSF), spilled fuel and other lubricants, and "proper" or improper use of "chemical soil stabilizers" and road dust-abating chemicals -- and their impacts on soil, watercourses, spawning gravels, groundwater, various listed and other sensitive species (and their food chain) must be carefully examined.

GENETICALLY MODIFIED TREES, GRASSES, and MULCH

51 1. Will the Board of Forestry or the California Department of Forestry plant, or allow to be planted, any genetically modified (using recombinant DNA technology to cross the trans-species barrier) trees, grasses, or other plants at JDSF? Seeing that there is an ordinance in Mendocino County prohibiting these crops, I hope such are not planned for Jackson. Also, I like that JDSF uses tree species from local genetic stock, which should preclude genetically modified trees, grasses, turf, and other plants from becoming an issue -- which should also make the likelihood of these threatening plants at Jackson a remote possibility.

52 2. Will land managers at Jackson take any steps to try to discourage mulch used at the forest from being from remnants of genetically modified crops? Will any of these steps also apply to the type of feed which horse and other riders may bring to JDSF to feed their horse or other animal? If the commercialization of genetically modified alfalfa goes through (which is being proposed in the past several months), could people bring genetically modified alfalfa to Jackson to feed their horses or other animals despite the likelihood of some seed escaping and taking hold on what is supposed to

be a forest with just genetic stock vegetation (besides the invasive weed and eucalyptus problems)? (I will discuss mulch further when primarily discussing the impact of roads and management activities on the spread of invasive plant species at JDSF.
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53 I call for the rejection of the Draft Management Plan for JDSF due to the logging of the oldest second-growth mature forest stands (between 80 and 120 years old), due to plans for widespread clearcutting and other commercial logging, due to inadequate protection for streams from warmer temperatures and sedimentation which can harm or kill native salmonids, due to plans to use herbicides, and due to some other reasons enumerated above.

54 Also, there are no plans to accomodate more recreation in the area, while much of the mature forest at key current recreational sites such as Brandon Gulch and West Chamberlain Creek areas will be logged, while leaving just small "facade" buffer areas near trails and campgrounds -- and some logging can even occur within these "facade" buffer areas! I even object to the so-called management or treatment to achieve late seral forests in mature stands especially in the West Chamberlain and Brandon Gulch areas, as well as in the few areas identified as notable habitat
55 proximate to marbled murrelets at the western side of Jackson forest (as well as at the Lower Big River mature stand). I note on page VIII-36 that 40.4% of the Brandon Gulch CWE assessment area and 21.6% of the Chamberlain CWE assessment area are on the chopping block within the next decade.

56 The best alternative presented is Alternative E which would manage the forest for a return to late-seral forest conditions. However, even that alternative is lacking because it does not allot funds for the decommissioning of hundreds of miles of roads which wreak havoc on stream habitat or the active restoration of salmon habitat in streams. Thus, the Proposed Alternative C1, and the Draft JDSF plan in general, should be rejected!
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AESTHETICS

The Proposed Alternative C1 would substantially degrade the existing visual character and quality of many sites at Jackson Demonstration State Forest:

a. aesthetic mitigations under C1 are clearly inadequate -- not only is the 29% of the forest planned for clearcutting / even-aged management clearly not mitigatable, but other widespread commercial logging (including of mature stands) cannot be mitigated. Amazingly, on page VI-10, the Draft EIR has the nerve to say that in relation to Alt. C1, "With limited exception, clearcutting is permitted
57 only for research purposes." Give it up! JDSF has had a massive amount of these so-called "experiments" already, and they are harmful aesthetically, to streamcourses and rivers, to aquatic and amphibian life, and to old-growth forest dependent species. And seeing that you mentioned it, what parts of the forest would be the "exceptions" where clearcutting would be allowed other than for "research purposes." Also, what precisely are the research purposes for the extensive clearcuts
58 planned for the Berry Gulch watershed assessment area, as well as for other watershed assessment areas at Jackson forest?

59 b. Page VII.2-12 "Thresholds of Concern" points out that the proposed project would have a significant impact on aesthetics if it "substantially degrades the existing visual character or quality of the site and its surroundings" -- and mentions that the guidance as to what is considered significant is based on the California Environmental Quality Act (PRC Section 21001 and CEQA

8.

Guidelines). The documents act like one need not be concerned with aesthetics other than from a panoramic vista along a main road or trail. But, Webster's New World Dictionary 1975 defines
59 "site" as "location or scene". There are many locations at JDSF, and most of these are not panoramic vistas (a number of which also show the scars form excessively intensive timber and road management activities).

60 c. It is wrong to have a Registered Professional Forester as the point person making determinations as to whether a certain management activity has a significant impact on aesthetics.

d. In relation to the Alternatives presented in the Draft Forest Management Plan, page VII.2-19 says, "Alternatives C2 through F contain more provisions than C1 for aesthetic considerations.
62 Alternatives D through F include little or no clearcutting or other evenaged management and provide for greater levels of late seral forest development. These alternatives would have a less than significant impact on the visual character or quality of the site and its surroundings."

e. The terms "visual character" as well as "site and its surroundings" certainly include more areas than what one can see from a major road or trail at Jackson forest or near a state park or Special Concerns Area -- and even most of these buffers can have a certain amount of management activities / logging! (Thus, the Draft Forest Management Plan for Jackson acts like less intensive
63 logging in buffer areas, as well as treating logging slash within 50 feet of major corridors, is sufficient to declare that "Timber harvests and related activities" would not "substantially degrade the existing visual character or quality" of the Special Treatment Areas and buffer areas, yet acts like there is no need to be concerned about visual impacts on the vast majority of our state forest.)

f. Page VII.2-18 admits that "comments made through the public Scoping process expressed the sentiment that the buffers were not necessarily sufficient to mitigate aesthetic impacts." Page
64 VII.2-24 says that "The public scoping for this document clearly indicated a strong desire by some citizens and organizations for the State Forest to place increased importance on recreational and aesthetic resource values."

OVERLAP BETWEEN AESTHETICS and MATURE FORESTS at JDSF

Please note that AESTHETICS "d." above mentions the more aesthetically-pleasing alternatives and mentions the plus for aesthetics in providing "for greater levels of late seral forest development". Of course, not only is managing -- and sometimes non-managing -- for future late
65 seral development helpful for aesthetics as well as for a number of species, but if a forest is currently mature, then it is clearly aesthetically pleasing. One doesn't need to log trees and leave stumps and slash around to try to accelerate some eventually pleasing aesthetics because the mature forest stands -- so rare especially in the Coast Ranges of central or southern Mendocino County -- are already aesthetically positive and will naturally become more so.

The following points are also related to the importance of the overlap of the importance of the mature forest stands at JDSF with the topic and legal requirement to not significantly impact the currently pleasant aesthetics in these stands:
, immediately following,
66 a. Pages VII.2-24 and 2-25 admit only that there is an aesthetic problem related to PG&E transmission lines which the State Forest has no control over, and claim that "all other visual cumulative impacts within the boundaries of the State Forest to be less than significant is supported by the following findings:". The third bullet point is "The State Forest maintains a high proportion

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of area devoted to continuous forest cover in managed stands of medium to large trees, and maintains the highest standing timber inventory of any large forest ownership in the coastal watersheds of Mendocino County." Since the eleven ancient groves (totalling 459 acres, and ranging from 5 to 101 acres in size) cannot be considered managed (except by nature), then this last
66 quoted sentence must be referring to the 10,000 to 12,000 acres of mature forests (with a few scattered residual old-growth) at Jackson forest. (See the section on Mature Forests immediately following, because it is precisely the"medium to large trees" that allegedly make the current visual cumulative effects at Jackson "less than significant" which are the primary trees which are targetted for widespread logging as soon as JDSF managers can undertake it!)

b. The second bullet point in regards to criteria to help in determining whether physical changes significantly affect aesthetics on page VII.2-12 is "The integrity and uniqueness of the existing
67 aesthetic resource." The first sentence under that point says that, "The magnitude of change necessary to create a significant impact to aesthetics is greater in a disturbed or non-unique environment than in a pristine or rare environment." (This also can apply to the Mature Forests section because substantial tracts of mature forests are comparatively pristine and extremely rare in coastal Mendocino County other than the 10,000 to12,000 acres at Jackson forest.)

68 c. I do like the admission on page VI-41 that under Alternative E, "Reduction in forest management activity expected to provide increase in aesthetic values."

MATURE FORESTS

Under "Scenic Attractiveness" on pages VII.2-3 and 2-4, it says that "Distinctive landscapes on JDSF with a high scenic attractiveness are:" – the fifth bullet point is, "forested areas dominated by a high level of stocking of relatively large trees (The high levels of forest stocking and higher
69 percentages of relatively mature timber stands, as compared to commercial industrial forest ownerships within Mendocino County, provide aesthetic values for forest visitors who desire to recreate or travel within JDSF)". (Clearly, this quote also applies to the Aesthetics topic.)

Page VI-8 says that, "JDSF is not typical of other large forestland holdings in its maturing second-growth timber conditions, its ongoing research activities such as the Caspar Creek Study, its old growth redwood and Douglas-fir groves, and its special facilities such as conservation camps."

In relation to relatively rare habitat types and a forested mosaic, page V-11 says, "Maintaining a forest mosaic that helps support the many species in the region is a goal for both forest management and private forest demonstration. Habitat protection and restoration of relatively rare habitat types
70 is also an important element of forest management." Clearly, old-growth forests which are predominately redwood, some residual old-growth with mature redwood forest, and also mature redwood forests are all "relatively rare habitat types". That same page mentions that, "It can be assumed that most of the redwood forest in this region was once dominated by old-growth".
moderately intensive

For the Proposed Alternative C1 (under "Forest Management Special Concern Areas and Woodlands Special Treatment Areas) on page VI-20, it says that only 780 acres at JDSF is devoted
71 to "old-growth augmentation (late seral development)". This is clearly inadequate to protect this relatively rare habitat type, while even what JDSF managers may declare timber harvest for habitat restoration may well look like at least moderately intensive forest management which other than in young plantation areas would look to recreationists as well as some old-growth dependent species like you were eliminating canopy and sizable trees which can serve as murrelet social activity

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71 habitat and work into at least marginal nesting habitat within several decades. Not that I support even what this plan purports to be management to achieve late seral forest stage especially in the older and larger mature stands, but your denial of the importance of the mature stands even to the point of not proposing at least lighter thinning in those areas is appalling and biologically ignorant as well as an aesthetic disgrace from the perspective of recreationists.

72 It is quite disturbing to read on page VII.2-15 that, "Even-aged prescriptions are proposed in the central and eastern portions of the JDSF". It is also disturbing that such a high percentage of Berry Gulch, which is adjacent to the Mendocino Woodlands area and the Lower Big River mature stands the document discusses the importance of when discussing the marbled murrelet, is scheduled not only for logging, but for clearcutting / evenaged management.

WESTERN PART of JACKSON FOREST

73 Despite the stupidity of having a special "clearcutting experiment" on the Caspar Creek watershed in the latitudinal middle of the western portion of the Jackson forest (and the existence of a eucalyptus plantation in the area), still this portion of JDSF is quite important. In the western portion, MANAGEMENT ACTIVITIES SHOULD BE MINIMIZED and recreation should not be encouraged because:

74 a. rare plants at Jackson are especially concentrated here -- these include: Pygmy Cypress, Pygmy Manzanita, Leafy-Stemmed Mitrewort, Bolander's Beach Pine, Swamp Harebell, Coast Lily, and California Sedge.

75 b. some mature forests exist here (plus some old-growth residuals are in the Russian Gulch watershed in the state forest, besides more substantial old-growth groves in the state park further west);

76 c. the special clearcutting area at Caspar Creek has already caused enough damage in the west, and apparently this area cannot be guided by the managment plan;

77 d. there should only be an increase in campgrounds in this area if some campgrounds at adjoining state park land are closed to try to avoid disturbing marbled murrelet nests nearby -- and if campgrounds are located, JDSF personnel should educate campers not to leave food scraps which attract corvid bird species which also consumes marbled murrelet chicks and eggs.

78 Management activities such as logging should be minimized in the western portion (as well as in Lower Big River, Brandon Gulch, West Chamberlain Creek watershed, east side of mainstem of Chamberlain Creek, and other areas), while road-related activities should generally pertain to
79 decommissioning damaging and unneeded roads. I object to the intensive nature of JDSF's so-called "management for late seral forest", and definitely object to more logging activities in these
80 mostly mature stands adjacent to state parks before the specific assessment of habitat for the marbled murrelet is completed. Off-road vehicles must be halted from damaging riparian and other areas, plus should be controlled to stop the spread of invasive plants and so as not to run over and
81 damage the aforementioned rare plant species which especially favor the western part of the Jackson forest. And due to this area being adjacent to murrelet nesting habitat (while hopefully being
82 allowed to mature further to accomodate some murrelet nests in the future), hunting must be prohibited at least in this part of JDSF.

11.

COAST REDWOOD ECOSYSTEM and MARBLED MURRELET RECOVERY

83 The draft documents try to downplay the role which Jackson Demonstration State Forest can play in recovering old-growth forest dependent species. This area is quite vital due to it being the largest contiguous publicly-owned land in coastal Mendocino County -- a county and part of the county devastated by corporate timberland clearcutting. Also, the 459 acres of unentered or residual old-growth areas are a start, and the 10,000 to12,000 acres of mature forests are quite unique in the county and vital for recovery of watersheds and various species in this region.

Page V-12 of the Draft JDSF Management Plan says, "JDSF and the surrounding forestland area provides habitat for a number of listed and sensitive fish and wildlife species, including the Northern Spotted Owl, coho salmon, and steelhead. In addition, JDSF currently provides or may provide in the future, habitat for several listed or sensitive species that are not currently known to occur on the forest. These species include the Marbled Murrelet, Pacific fisher, and Humboldt marten. As such, the large block of publicly owned forestland that is JDSF, in conjunction with other parcels of public land in central Mendocino County, represents a valuable resource of potential reoccupancy and sustainability for at-risk wildlife species."

84 On a disturbing note which should mobilize us (and managers at JDSF and overseers at BOF) to action is that the 5-Year Murrelet Status review (McShane et al. 2004) assessed the status and trends of Marbled Murrelet populations within each of U.S. Fish and Wildlife Service's 6 Recovery Zones. Page VII-6.6-74 says, "The Zone Model projected an extirpation probability of 100% within 40 years for Recovery Zones 5 and 6 with a 2% annual migration rate into the zone." That means that murrelets will be entirely gone from the Humboldt / Mendocino County line all the way down to the southern extent of their habitat in Monterey County by the year 2044!

We need the agency managing the largest publicly-owned contiguous block of land in coastal Mendocino County to step up to the plate big-time, and do all that they can to provide extensive habitat for the Marbled Murrelet (and other old-growth forest dependent species). So-called mitigations to help murrelet habitat under the plan are a dismal sham when they plan to log the bulk of mature trees at JDSF within the next five to ten years. The marbled murrelet, which is federally-listed as threatened and state-listed as endangered, needs our help immediately (or even sooner!). A decent start at this late date would be to emphatically reject the Jackson Demonstration State Forest Management Plan.

85 I noticed on pages VI-5 and VI-6 that rejected from consideration as an alternative was a "Regional Watershed and Conservation Planning" approach using JDSF as a "mitigation bank" or "mitigation site" for wildlife connectivity partly with other public lands in the county. While it makes sense to dismiss this as an alternative because it may be difficult to mandate participation of neighboring timber companies (though it makes some sense for neighbors developing Habitat Conservation Plans to work with this approach), yet it is incredibly logical biologically. It is disingenuous to say that, "The use of JDSF as a mitigation site could allow more intense timber management activities elsewhere likely resulting in a full range of significant indirect impacts that would not otherwise occur as a result of this project." Just because you are obsessed with board-feet does not mean that if you take better care of a certain area, that it would necessitate more-than-planned intensive timber activities (beyond what was already planned) elsewhere in the watershed having significant indirect effects. Using that so-called logic, why protect any forest area since people will get just forest products from somewhere else? You mention regarding the

12.

86 aforementioned suggested alternative which you dismiss as not needing analysis that, "Components of this alternative have been incorporated into Alternatives C2, D, E and F to the extent that they meet the project purpose, goals and objectives, and reduce environmental impacts." This indicates that the Proposed Alternative C1 does not consider and incorporate into it the regional significance which the JDSF area could play in regional wildlife connectivity and as a prime area for recovery of habitat for old-growth redwood ecosystem dependent species.

87 So, on the one hand you dismiss the role of Jackson as a possible key recovery area for old-growth dependent species in the watershed and regional setting, yet on the other hand you use portions of somewhat "coarse" studies to act like the Jackson area is not in the highest priorities for restoration as far as redwood ecosystem conservation. If you are going to use extrapolations from Strittholt's "coarse" work and snippets from other studies to argue that the JDSF area is not vital for recovery of the coast redwood ecosystem, you cannot simultaneously argue that it is beyond your scope to analyze JDSF as a key component in watershed and regional recovery habitat for the redwood ecosystem and for a number of species dependent upon it.

88 I note that Page V-1 says that, "About half of the total area of redwood forest is located to the north of JDSF and about half to the south. With 542,000 acres of redwood forest, Mendocino County encompasses more redwood forest area than any other county in California (Fire and Resource Assessment Program 2002)." This fact that Jackson has similar amounts of redwood ecosystem to its north and to its south, and the fact that the Jackson DSF is the largest contiguous publicly-owned acreage in coastal Mendocino County, should give one a hint about how significant a role this area could play in "demonstrating" that we should care about managing this vital area to help in watershed, regional, and ecosystem recovery for the health of its watersheds and to prevent extirpation of species (for instance) from murrelet Recovery Zone 5. But since you do not seem to take watershed, regional, or ecosystem conservation and recovery seriously, I do not believe your statement on page V-11 that, "Habitat protection and restoration of relatively rare habitat types is also an important element of forest management." This EIR / FMP admits that there would be substantial edge effects in the streamside buffer areas -- thus they could certainly not develop to be anything but very marginal murrelet nesting habitat even centuries from now.

Need I remind you all that murrelets have been spotted near or in JDSF by such folks as Cota and Papke (1994), Ralph et al. (1994), Georgia-Pacific Sustained Yield Plan (G-P 1997), Camp Three Timber Harvest Plan (Jameson 1999), M. Jameson (personal communication 2002), and by others reporting sightings or giving interviews about such. Page VII.6.6-54 says that there are indications that "murrelets are likely nesting in Mendocino County and in the vicinity of JDSF (K. Nelson pers. comm. March 11, 2004)."

MARBLED MURRELET BIOLOGY

89 Here are some key quotes about the murrelet from the document. Though they are in the EIR / FMP, it does not seem like many of these points were considered in the development of the proposed alternative's management activities at Jackson. Page 6.6-53 says, "Current breeding populations are discontinuous and generally concentrated at sea in areas adjacent to remaining late-successional coniferous forests near the coast (Nelson, 1997a)." "A 300-mile gap occurs in the southern portion of the marbled murrelet's breeding range, between Humboldt and Del Norte Counties in the north and San Mateo and Santa Cruz Counties in the south. Marbled murrelets likely occurred in this gap prior to extensive logging of redwood forests (USFWS, 1997ac). Moderate numbers of murrelets have been observed along the coast of Mendocino, Sonoma, and

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Marin counties (Paton & Ralph 1988, 1990)." I would say that the term ":moderate" is optimistic here. Page 6.6-73 says, "A major gap in the at-sea distribution of murrelets is found between Humboldt and San Mateo Counties. Murrelets have recently been found to breed in small patches of nesting habitat still extant in Mendocino County. A moderate to low density (1.8 - 3.9 birds per square mile) was recorded from Loleta, Humboldt County to Albion, Mendocino County to Half
89 Moon Bay in San Mateo County."

Page 6-75 says, "According to Ralph and Miller (1995), the most important factor in indicating occupied stands was density of old-growth canopy cover. Occupied stands had a greater percentage of old-growth canopy cover than stands with only murrelet presence or no detections (Ralph and Miller 1995)."

One key point from my 17 years of research regarding the marbled murrelet which I did not see mentioned in the Jackson Draft EIR / FMP is that to successfully nest in California, murrelets need not only to be on a large mossy horizontal conifer branch (which need not necessarily be redwood), but also need ancient redwood canopy above the nest in order to help protect them from the gaze of corvid bird species. It is admitted on page 6-75 that, "Nests were typically located in the top third of the dominant tree canopy layer and usually had good overhead protection. Such locations seem to allow easy access to the exterior of the forest and provide shelter from potential predators." Yet, this does not admit what some key researchers believe to be biological fact in California, which is
90 that murrelets need old-growth REDWOOD canopy above their nest to have a chance for nesting success. Thus, the sentence on page VII.6.6-75 telling of Ralph and Miller's findings that "the most important factor in indicating occupied stands was density of old-growth canopy cover" -- in California, that should be clarified to say "old-growth redwood canopy cover". I note that page VII.6.6-168 under "Alternative C1 Project Alternative --Inside JDSF" says, "model outputs for Alternative C1 within JDSF indicate a decrease in acreage of large size and multistoried canopy condition in Redwood (RDW6)" -- thus even the most classic ancient forest type will have a canopy reduction which hurts species dependent upon interior forest conditions with mostly closed canopy. Page VII.6.6-170 in regards to habitat changes within the first period (2004 through 2030), says that, "Potential Marbled Murrelet habitat capability is expected to decline in the first period (-7%) given reduction in extent of Redwood 6." This is unacceptable in an era where murrelets may be facing extirpation from Zone 5 and possibly Zone 6 as well!

Page 6-76, in reference to studies by Meyer (1999) and fide Raphael et al.(2002), "In that study, patch size and isolation were important attributes of sites occupied by murrelets; at a broader scale, proximity of habitat patches to each other and amount of habitat in the largest patch predicted murrelet densities in adjacent offshore areas." Thus, since mature forests are at least half way there to being old-growth, and seeing that there are substantial mature stands especially at Brandon Gulch
91 CWE assessment area, in part of Chamberlain CWE, and elsewhere, these stands should remain intact which could develop into at least as good a murrelet habitat area as those nearer the coast mature stands which unfortunately are facing excessive timber management ironically in the name of "late seral" development. The sizable mature stands especially adjacent to ancient stands are especially important, and the proposed alternative's plan for timber activities even within so-called buffers near old-growth areas does not help the recovery of old-growth dependent species. McShane et al. 2004 concluded that (pg. VII.6.6-77). "Increased levels of nest site predation as a result of forest fragmentation and increased amounts of edge are considered the most significant cause of nest failure (corvids being the principal predator)."

I did find it interesting that a study in Washington state concluded that, since there is somewhat more uniformity in a mature stand than in a multi-layer ancient stand, when mature stands meet ancient stands or aggregations (as in the Brandon Gulch and Chamberlain cumulative watershed effects assessment areas as well as at mature stands at the western part of Jackson adjacent to state parks which contain ancient forest elements), that it is superior murrelet nesting habitat since these areas would tend to have less corvids (unless recreationists in the state parks leave considerable food scraps around anyway). Here is most of that interesting paragraph, "General landscape condition may influence the degree to which Marbled Murrelets nest in an area. In Washington, detections of murrelets increased when old-growth/mature forests comprised more than 30% of the landscape. Raphael et al. (1995) found that the percentage of old-growth forest and large sawtimber was significantly greater within 0.5 miles of sites that were occupied by murrelets than at sites where they were not detected. Raphael et al. (1995) suggested sites with 35 percent old-growth and large sawtimber in the landscape are more likely to be occupied. However, Raphael et al. (2002) found that murrelet numbers on the Olympic Peninsula, Washington, increased as the amount of core area of late-seral forest and proximity of patches increased, and decreased with increasing amounts of edge of late-seral patches." Thus, rather than log nearly all of the mature trees which comprise about 20-24% of JDSF – which sometimes are adjacent to the scatterings of old-growth groves which are almost 1% of the Jackson acreage, let that substantial amount of sawtimber remain vertical and allow other areas to grow larger trees as well so that the percentage of good-sized trees in good-sized patches can be over 25% and climb from there. In the Meyer (1999) and fide Raphael et al. 2002 studies regarding murrelet habitat in California, page VII.6.6-76 explains that, "proximity of habitat patches to each other and amount of habitat in the largest patch predicted murrelet densities in adjacent offshore areas." Thus, protect especially the substantial patches of mature trees which are of extra value if adjacent or in relative proximity to remaining old-growth stands and residual, partially to reduce the number of avian nest predators on murrelet chicks and eggs as will be elaborated upon in the following paragraph.

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On a similar note, Page VII.6.6-77 discusses the findings of Marzloff et al. (2000) by saying, "In their study area (western side of the Olympic peninsula of Washington State) providing landscapes that include mixtures of simple-structured mature, mature forest, and old-growth forest likely to be occupied by murrelets could increase nest success and productivity relative to landscapes of pure old-growth because those portions of the landscape with mature stands of relatively simpler structure would hold fewer avian nest predators."

I find it disturbing that page VII.6.6-83 says that, "Outside of stochastic events like the Biscuit fire, the greatest loss of suitable habitat is attributed to consultations on individual harvest units, individual trees, and suitable habitat harvest through Habitat Conservation Plans (McShane et al. 2004)." Thus, this shows that the wildlife agencies are not serious about protecting murrelet habitat (let alone the forest managers) even in areas that have been declared "critical habitat" for the federally-threatened and state-endangered marbled murrelet. Not only do biologists need to do more than token consultation and perhaps suggest a minor mitigation modification for habitat, but they and others need to realize that where you have both designated critical habitat as well as a large contiguous publicly-owned forest in a region which has largely had its older trees butchered, it is time to get serious about providing substantial areas for murrelet recovery -- and what better an area than one with substantial mature stands (sometimes adjoining ancient remnants and groves) on publicly-owned land designated critical habitat in the heart of the redwood region not only of Mendocino County, but of California as well.

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The Jackson management plan cannot have it both ways. Page VII.6.6-127 says that, "Marbled Murrelet habitat value within current old-growth groves on JDSF and late seral forest conditions associated with WLPZs are discounted under the DFMP due to distance from the coast reduced likelihood of certain nest site conditions given that distance and in the case of the latter, increased edge effect and potential for nest site predation." So, the near-term plans are to do intensive logging of mature stands especially where there are most extensive (and which also adjoin some ancient stands like at Brandon and Chamberlain areas), yet it is admitted that "increased edge effect and potential for nest site predation" are problems. Substantial mature forests are becoming murrelet social activity and flyway areas and will become at least marginal murrelet nesting habitat within several decades, so do not log them which would ruin chances for future nesting habitat in the
94 mature stands and which would make any murrelets who may wish to attempt nesting at the ancient stands in these area be more prone to edge effects including corvid predation! The aforementioned page continues, "Harvest of certain forest conditions under the DFMP could reduce the effective future recruitment of potential Marbled Murrelet habitat that by virtue of its location would have a higher probability of occupancy." Thus, both the mature stands adjacent to state park and Mendocino Woodlands areas, and the sizable mature stands at Brandon and West Chamberlain areas, should not only be logged en masse as is planned for nearly all of the larger mature stands, but also should not have substantial treatment to allegedly achieve late seral characterisitics because taking over half of the sizable trees out (which would not occur in more considerate practices of late seral stage development, for instance by the Institute for Sustainable Forestry or by a landowner at Deer Creek, Josephine County, OR) would also increase edge effect and predation of murrelet nests.

Thus, it is preposterous to make the claim (obviously urged by lawyers rather than reputable biologists) on page VII.6.6-121 that "Substantial adverse effect, either directly or through habitat modifications" of sensitive species, or "Reduce the number or restrict the range of a rare or endangered animal" is claimed to be "Less than Significant with Mitigation". Some generic impacts from management activities which do not kill a species outright but which impact their habitat is mentioned on pages VII.6.6-122 (and 123), "Indirect impacts may include, but are not limited to, the reduction of suitable nesting habitat or nest sites, habitat connectivity and dispersal corridors,
95 canopy cover, and key habitat elements (hardwoods, snags, LWD, and trees with cavities). Many of these impacts affect habitat quality and/or suitability and, ultimately, can adversely affect reproduction and the continued persistence of a species in a given area." Obviously, the writer of the following sentence conveniently overlooked the fact that JDSF contains the most substantial mature forests in coastal Mendocino County (which is a "rare habitat" in the region and will become another rare habitat within decades -- an old-growth habitat), "The proposed action does not propose the modification or removal of rare habitats." I believe that the Proposed Alternative calls for wholesale removal of the rare mature forest habitat with the potential to be the largest block eventually supporting marbled murrelet nesting in Mendocino County.

Though some elements of the Interior Dept. are now claiming that one need not list the murrelet in California, Oregon, and Washington because there are plenty of murrelets in Alaska, is ignoring info such as is mentioned by McShane et al. 2004 and others about not only different genetics among
96 murrelets south of Alaska, but even the difference in murrelet genetics in different recovery zones in California: "Loss of Genetic Variation Among Populations. Given that there are at least 3 genetically distinct populations of Marbled Murrelets, loss of any of these populations would reduce the species' genetic resources and compromise its long-term viability." "The probability for extirpation is especially prominent for Marbled Murrelets in Zones 5 and 6." In regards to the greater murrelet range, page VII.6.6-86 says, "Estimates of the distribution of neutral genetic variation in Marbled Murrelets indicate that population loss in California, British

Columbia/mainland Alaska, or the Aleutians would however compromise long-term viability of the species and adaptive variation."

97 Page VII.6.6-89 says, "JDSF was included in the critical habitat designation (USFWS 1996b). Criteria for critical habitat include the presence of suitable nesting habitat, presence of murrelets, and proximity to foraging habitat. Critical habitat also was designated in zones of current low use by murrelets. These areas are intended to support the USFWS goal to reduce gaps in the species nesting distribution, and help buffer the species from future catastrophic events such as oil spills and forest fires. JDSF is the largest contiguous parcel of public land on the Mendocino County coast. In California, 175,000 acres (71,040 ha) of state lands were designated as critical habitat, of which JDSF constitutes about 29 percent." "Jackson Demonstration State Forest falls within the Mendocino Zone (Zone 5) that extends from the southern boundary of Humboldt County California, to the mouth of San Francisco Bay." This zone extends from 1.2 miles at sea to up to 25 miles inland. "Conservation measures here could still benefit the species. Murrelets along the coast of Mendocino, Sonoma and Marin Counties are considered important to future reconnection of murrelet populations in northern and central California. Recovery efforts in Zone 5 may improve survival and recovery in adjacent zones by reducing the current geographical gap in breeding distribution. Given that the population of murrelets in this zone is so small, longer-term recovery efforts geared toward the development of new habitat may be most important (USFWS 1997)." However, this does not mean that what is now suitable social activity and marginal nesting habitat for the murrelet should be exposed to greater edge effects and corvid predation due to the intensive management activities proposed under Alternative C1 simply because of claims that buffer strips and riparian areas will have some old-growth over a century from now. Substantial chunks of good habitat are needed, and the best chance for this is to protect the mature stands at JDSF, especially when they are larger and when they are bordering ancient stands either at JDSF or in adjacent state parks or the Mendocino Woodlands area.

98 I notice that page VII.6.6-89 mentions "actions that will contribute to population stabilization and eventual recovery of the species" which could be "potentially implemented at JDSF" -- point #2 is "provide for the maintenance and recruitment of suitable, high-quality habitat over the long-term (50-100 years)". Seeking to have young-growth grow to be old-growth murrelet habitat just will not happen in that length of time. But if the JDSF mature stands are protected, they will provide good social activity and flyway habitat in the very near future, and will provide at least marginal nesting habitat in the length of time where some studies conclude the murrelet will be extirpated from south of the Humboldt County line -- extirpation predicted to be 100% by 2044 in Zones 5 and 6. Thus, protect the mature stands to provide just enough habitat for the murrelet to possibly survive in the recovery zone until the middle of the century, and keep protecting the mature stands so that it can provide good murrelet nesting habitat by late this century.

MURRELET, MENDOCINO COUNTY, and REDWOOD ECOSYSTEM RECOVERY including addressing the "coarse" STRITTHOLT Study

99 Some areas of Mendocino (with a couple in northwestern Sonoma County) in which murrelets have been detected in recent years include Ten Mile Creek, Big River, Navarro River, Chadbourne Gulch, Usal Creek, Russian Gulch State Park, Alder Creek, Admiral Standley Park, Greenwood Creek, Gualala River, Garcia River, Albion River, Hardy Creek, Wheatfield Creek, Haupt Creek, Willow Creek, Digger Creek, and at the Wages Creek and Rider Gulch confluence. (An earlier paragraph told of murrelet sightings in the vicinity of JDSF.)

In 1999, Strittholt et al. came out with an admittedly "coarse" overview of relative conservation values for watersheds in the North Coast redwood ecosystem. There was a general map called figure VII.6.6.5A. on Page VII.6.6-27 which was the "Composite Model Ranking by Watershed Using Criteria Two Through Nine". Though the map should have been considerably larger and the names of rivers and creeks should have been listed, I used my California atlas and the shape of the coast to determine which river watersheds were which shade on that map. The Noyo River as a whole looks like it is given a "medium" conservation value. I believe that both Big River and the short coastal watersheds which run from JDSF through state parks to the ocean (as well as Ten Mile Creek watershed to the north of the Noyo) were given High conservation value potential.

Looking on Page V-28 at "Table V.4. Strittholt et al. (1999) Redwood Ecosystem Conservation Ratings for JDSF Cumulative Effects Assessment Area", it gets into more detail. Three of the four coastal drainages, as well as the Mouth of Big River, were the areas at least partially on the Jackson forest rated of High Conservation Value. In regards to the CWE assessment areas that have substantial acreage at JDSF, I note that 4 of the 5 CWE assessment areas scheduled to have the most intensive timber management activities over the next five to ten years are rated of Medium conservation value. Yet, these watershed assessment areas (Brandon Gulch 40.4%, Kass Creek 35.2%, Berry Gulch 23.8%, Chamberlain 21.6%, and Parlin Creek 17.9%) are planned for the
99 most intensive logging at JDSF in the near future. Except for smaller coastal drainages and the Mouth of Big River, as well as 4 of the 5 just-mentioned watershed assessment areas, almost all the rest of the conservation value for JDSF is rated low. Why is JDSF itching to conduct timber management activities in the very near future which would ruin the redwood ecosystem conservation and recovery values? The one of the 5 mentioned watersheds which did not have a medium rating was Chamberlain Creek, however it has substantial mature stands on its western fork, and must not be hammered so that there would be close to no connectivity (with the exception of inadequate riparian buffers which could still have logging within them). So, besides being surprised at the rating for Chamberlain area, I'm not too surprised by the other ratings when one considers that it was based on GIS photography which is focusing on age and species of tree stands rather than focusing on maintaining watercourses so that they are not excessively sedimented which can ruin chances for reproductive success by native fish species. Likewise, clearly stream temperature needed to support Coho salmon as well as steelhead trout was not considered by Strittholt et al.

Before I relate the Stittholt redwood ecosystem conservation value criteria to JDSF, I will comment on the first and the tenth criteria. The first was given, but was ignored in the modelling and assigning of conservation values of watershed areas. That first criteria is "Patch size of late successional forest". While technical definitions would only include the ancient stands at JDSF none of which is over 101 acres, but Strittholt's calculations did not consider the considerable mature forests at JDSF which could develop within several decades to marginal habitat for ancient forest dependent species, and could be full-fledged old-growth habitat within a
100 century. No other area can come close to the many thousands of acres of mature mostly redwood forest adjoining small ancient stands -- at least south of Humboldt Redwoods State Park. Thus, if relatively near future late-successional patch size at JDSF (depending upon management) could combine with the realization that JDSF is the largest contiguous publicly-owned redwood ecosystem land in Mendocino County, clearly JDSF would look rosier in terms of conservation value for the redwood ecosystem to Strittholt and others. Regarding the tenth criteria, it says on Page VII.6.6-26.
101 "A tenth criterion addressing management potential was not modeled but qualitatively included to evaluate institutional barriers to management." What does that mean? Does it mean it examines the obstinance or bottom line of companies and management agencies to see whether practices are

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likely to change to allow more conservation? Does it mean that there are institutional barriers among companies and management agencies which precludes management (or non-management) which would protect or work toward late-seral characteristics? Of course, bear in mind that many of the most prime areas for conservation of the coast redwood ecosystem are natural and thus not
101 managed by humans, and should not be managed -- though possibly some very light management in the greater area / buffer area of older or mature stands to assist recovery of the area to provide better habitat for old-growth dependent species. The BLM's Arcata office is doing well at such work in the Headwaters Preserve area, and they are not oriented toward cutting big trees and taking out the majority of large trees in a so-called buffer as are forest managers at JDSF.

Before I get into those 8 criteria which were listed and used to determine conservation value of watershed areas, I will point out that Strittholt's work was mentioned as "coarse", thus not having much detail. Did you consult any other groups (besides the few words mentioning BLM and Save-the-Redwoods League) about prime areas within which one could conserve, restore, and
102 recover the priceless coast redwood ecosystem? Not long before finishing these comments, it occurred to me that Legacy - The Landscape Connection group did detailed GIS and other work in regards to the North Coast redwood ecosystem. They were unable to get back to me before I completed this paper, but their phone number, for future reference and to hopefully include some of their material in the next EIR / FMP is (707)826-9408.

In regards to Strittholt's Criteria 2 through 9, it is true that the road density currently at both JDSF and neighboring timberlands is out of control -- while the Alternative C1 proposes more roads and
103 is very vague as to how many roads will be decommissioned, so it is important to choose Alternative E or F in regards to roads while being sure to fund their substantial decommissioning work in the very near future. There are some threatened and endangered species at Jackson, so do
104 not let the watercourses receive more sediment or have their temperature raised, so that native fish can still survive in many of Jackson's streams and allow the mature stands to become old-growth habitat to host species such as murrelets and NSOs which are currently not very common at JDSF. The "Concentration of late successional patches" criteria should be examined in regards to what I mentioned under Criteria 1 about if one protects mature stands and lets that become ancient, that
105 could become excellent future habitat for old-growth dependent species. Forest age composition I basically just covered, but unfortunately JDSF and the nearby timberlands have predominately young-growth -- which makes the substantial mature with a little ancient at JDSF more unique and important. Forest fragmentation is certainly a problem, thus do not fragment the mature stands
106 bringing more edge effect to ancient stands at JDSF, and do not carry out widespread clearcutting as scheduled under Alternative C1. Even the JDSF areas with some decent mature elements near the state parks to the west are not well-managed (regarding criteria 7). There are too many road and stream interactions at Jackson (partly due to Hwy. 20), though it does divide areas of the state forest
107 where recreation should not be promoted toward the western reach of the forest, from the campgrounds, recreation corridors, and mature/ancient stands in the Brandon Gulch, West Chamberlain, and other areas. For criteria 9, while there are some regulations promulgated regarding riparian corridors at JDSF, they would allow too much logging of all but the ten larger conifers in a stretch of more than a football field, plus logging too much hardwood in places. These
108 areas are not wide enough under the proposed alternative for Jackson to make edge effects negligible. However, some mature stands along the North Fork of the South Fork of the Noyo River, at West Chamberlain Creek, plus some toward the western part of the forest as well as a little of James Creek to the east do have some decent forest nearby streams.

The 3 regions related to Strittholt's GIS work do not make much sense. Both the northern and central regions for redwood ecosystem conservation value in California include parts of southern Humboldt County, while both the central and southern portions include parts of northern Santa Cruz County. Seeing that redwood parks (besides narrow strips along the coast in northern Humboldt and Del Norte Counties) of substantial size are concentrated in southern Humboldt and in northern Santa Cruz County, watersheds partly within or adjacent to the major parks such as Humboldt Redwoods
109 State Park and Big Basin Redwoods State Park help to skew the findings not in the favor of ecosystem recovery at Jackson and Mendocino County as priorities. Because only little state parks to the west are protected in the Jackson vicinity, and because most redwood state parks are so small in Mendocino County, only the little larger protected area at Little River made enough of an impression to get Strittholt to rate the Little River watershed and the neighboring Albion River watershed to the south as having a "Very High" redwood ecosystem conservation value in Mendocino County.

Page V-29 mentions the Save-the-Redwoods League and BLM report of 2001 which followed workshops about areas especially needing conservation in the redwood zone. Of the eleven focus areas, none involved watersheds within or adjacent to the CWE assessment areas of JDSF. It should be noted that historically SRL, besides purchasing some substantial acreage temporarily to be
110 handed over to state or federal park managers, has been focusing on acquiring acreage to enlarge current parks. Since that 2001 report however, they have turned more attention to key biological connectivity corridors, both in the Redwoods-to-the-Sea / Gilham Butte area of southern Humboldt County, and more recently the considerable cutover lands in the Mill Creek area which link the Smith River Nat'l Recreational Area with the coastal redwood parks in Del Norte County. I'm sure all or close to all areas discussed were private land areas which some felt should come into the public realm (or at least have good conservation easements), and thus did not focus on the one large contiguous publicly-owned land in the heart of the redwood region -- that being JDSF.

Let us look at murrelet sightings and potential for recovery in Mendocino County, while keeping in mind the Stittholt map on Page VII.6.6-27. A few things should occur to one when looking at the shadings for conservation values of watersheds in Mendocino County. One notices a Very High rating for the Alder Creek watershed toward the southern third of the Mendocino Coast. Then one notices mostly darker shades in the latitudinal heart of Mendocino County. That area includes the
111 Little River watershed with a more sizable (for Mendocino County) redwood state park, as well as the Albion River watershed to its south which contains some old-growth remnants. Then it is mostly High conservation values for watersheds until you reach the Noyo River which is rated Medium (yet varies on the more specific chart about the CWE assessment areas in the JDSF area). And then, north of the Noyo River, there is High conservation value, as well as murrelet sightings, at Ten Mile Creek. Thus, this Albion River through Ten Mile Creek area is essential to the recovery of the coast redwood ecosystem and its dependent species -- and seeing that JDSF is in this area and includes substantial amounts of the Noyo, Big, and other watercourses (and is so sizable especially in the west-east direction, this is clearly the place to focus conservation energy in the heart of the redwood region (along with protecting as much as possible of Alder Creek further south).

BLM's Cahto area is mixed conifer rather than redwood, while the lands to the east of the very narrow Sinkyone Wilderness State Park are generally in bad cutover shape. It is still important to
112 conserve remnants of watersheds in those shaded areas indicating coastal watersheds in northwestern Mendocino County -- partly for murrelets who decide to fly to the southwest from their nests at HRSP or from southern parts of Pacific Lumber lands because they do not like to fly over the King Range which is primarily Douglas-fir and thus not ideal murrelet nesting habitat in

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113 California. But due to it being the heart of the redwood region and certainly the heart of Mendocino County's redwood region, that Ten Mile Creek watershed through Albion River watershed (including the sizable acreage at JDSF) appears to be the most vital area if murrelets are to survive in Recovery Region 5 (and many argue in Recovery Region 6) for the next few decades.

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PACIFIC FISHERS

I notice on Map Figue M that there is no "fully suitable" Pacific fisher habitat at JDSF. There are some areas of JDSF which are adjacent to some "fully suitable" fisher habitats on private land, state park land, or Mendocino Woodlands area. Since fishers like a wide range of mostly old-growth with good canopy cover, on areas adjacent to "fully suitable" fisher habitat, there should be no logging -- even theoretically designed to develop "late seral" characteristics. This would include the northeastern end of Brandon Gulch CWE assessment area (which should generally be left alone anyway due to it having that large older mature forest), upper West Chamberlain area (also largely a key mature stand which also should be avoided as far as timber management activities), in some areas by the state parks to the west, in areas adjoining that private land which juts north of Highway 114 20 in the south-central area of Jackson forest, and by the Mendocino Woodlands area.

Besides some moderate to high fisher habitat on the map toward the west and in other areas, I note that the areas with the most moderate-to-high fisher habitat at Jackson are in areas proposed for especially heavy logging in the next 5 to 10 years, namely the Chamberlain Creek watershed, the Brandon Gulch CWE area, the Berry Gulch area, and the Parlin Creek area. It seems that the forest managers at Jackson have chosen precisely those areas which are best habitat for fishers to log -- which would be a disaster for this species that needs large ranges, good canopy, and little fragmentation. Page VII.6.6-13 points out some key habitat needs for fisher and marten, "Stand level characteristics of importance to forest carnivores (marten and Pacific fisher) include canopy closure, snag and log frequency". It is admitted that Alternative C1 would result in a 7% reduction in Pacific fisher habitat from this time through the year 2030 -- and I believe that this is quite an underestimation.

NORTHERN SPOTTED OWL

I notice that there were most NSO sightings in the Brandon Gulch CWE assessment area, followed closely by the Parlin Creek CWE assessment area. Yet, the Proposed Alternative plans to log 40.4% of the Brandon Gulch CWE assessment area within the next 5 to 10 years (likely targetting the best NSO habitat other than the fairly limited ancient stands themselves). Such butchering of mature stands must not take place! The Parlin Creek CWE assessment area is being substantially targetted too (as is Berry Gulch to the south which has also had NSO sightings), and it 115 already has been quite cutover. Furthermore, the plans for clearcutting / evenaged management in the central and eastern parts of the forest will definitely ruin the NSO habitat not only in Parlin and Berry Gulch, but also some areas recovering in the Chamberlain and perhaps James Creek area (though the table with planned percentages of CWE assessment areas to be logged in the next 5 to 10 years does not include the James Creek area). Thus, there is quite a difference between declarations (to please lawyers) like "silvicultural allocation plan and silvicultural practice retains and creates habitat available for Northern Spotted Owl" and the plans for logging in areas at JDSF which have had the most NSO sightings. It is ironic that the document says, "As budget allows, expand more staffing to include greater biological expertise." No wonder the Proposed Alternative is harmful to habitat -- it is admitted that there is little biological expertise at JDSF! Do NOT log the mature stands in order to higher a biologist who may well conclude that you just finished off the

21.

115 best NSO, fisher, and murrelet recovery areas in order to hire them! (There was a NSO sighting in southeastern Chamberlain CWE assessment area, as well as in southeastern James Creek and along the Big River nearby, yet southeastern Chamberlain is scheduled for group-selection logging which would decimate NSO habitat features.)

116 Page VII.6.6-28 says that, "Franklin (2000) found that for Northern Spotted Owls, in his Northern California study area, an increasing amount of forest edge could be detrimental by decreasing the amount of interior habitat, increasing predation rates, and reducing the survival rate." Thus, do not log those larger mature stands adjoining the smaller ancient stands in the Brandon Gulch and West Chamberlain areas, and do not claim that mere riparian areas where logging is somewhat limited can suffice for interior forest habitat even more than a century down the line.

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117 In my initial enumerations as to basic problems with this Draft EIR and FMP for JDSF, I mentioned that there is too much "wiggle room" or leeway to allow even the logging of old-growth trees at JDSF -- let alone, for now, the sizable mature trees which are so rare in the redwood region of coastal Mendocino County. Page V-11 says, "The JDSF DFMP proposes to protect all old growth redwood stands, as well as individual old growth trees that have defined structural characteristics." What percentage of old-growth trees other than those in the unentered old growth redwood stands could face being cut down? Is it the RPF who gets to determine whether an old tree has sufficient enough structural characteristics to let it live? Be as specific as possible in the next EIR / FMP as to which old-growth trees could live and which do not qualify. Seeing that you mention old-growth trees with "defined structural characteristics", it sounds like there is a working definition to determine whether an individual old-growth tree would be left alone or would be logged. Please present this precise definition in the next EIR / FMP. Likewise, leeway is left to timber managers on page VI-49 of that table which says "Retain existing old growth groves, retention of large residual old growth trees and old trees with structure". Though old-growth trees would be comparatively large in general, but if an old-growth residual was not a dominant tree in a clump / aggregation, could some of that clump be logged of old-growth residuals since it was not comparatively large for old-growth residuals? Also, which kinds of both old-growth residuals or other old trees (and approximately what percentages) could be not declared to have an adequate "structure", and thus be logged? Another disturbing excerpt from the Draft EIR / FMP is on page VII.6.1-97, "Some flexibility should be maintained to allow removal of large trees to adjust species composition and improve the potential performance of future LWD". Much as some more LWD could be good at some sites at Jackson, the history of forest management has not demonstrated that the JDSF managers can be trusted with this "flexibility."Also, I see nothing here about if there is an old-growth Douglas-fir stand or clump / aggregation -- is there any protection for ancient Douglas-firs other than some which may be within unentered ancient redwood groves?

118 I do like Alternative F in terms of protecting "heritage trees" (trees that were living when California became a state in the middle of the nineteenth century) -- unless they are particularly a hazard that would impact people or property. This would get rid of the 'wiggle room" which would allow the logging of old-growth and trees which could be termed between some people's definition of old-growth and their definition of "very mature". Yet, the rare (in regional context) mature trees (generally 80 to 120 years old) need substantial protection as well.

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119 The documents admitted that little has been done at JDSF since the court injunction blocking the woefully inadequate Draft EIR / FMP back in 2003. In the meantime, the lawyers reached the conclusions that needed to be made, and these latest documents are a flailing attempt at trying to make manipulated biology and manipulated logic try to fit neatly with the lawyers' conclusions.

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119 Publishing hefty volumes may impress some, but why aren't the noted references which are mentioned summarized, while giving quotes from those documents to show that indeed they support the conclusions of this Draft EIR / DFMP?

120 There are a lot of matters I noticed in these JDSF documents which mention that more information is needed, plus there are many JDSF issues where it is presumed that sufficient information is available and presented, but which actually are very vague and non-specific. Some of these are what specific areas will be newly roaded and logged under C1, and what would the consequences be for habitat for various sensitive species if such actions were carried out (including for aquatic species). One of these key tasks which should have been done already and should have been presented in these draft documents (or at least by the next EIR / FMP) are the need for specifics as to what parts of the cumulative watershed assessment areas would be logged during the next five to ten years under Alternative C1 and under other alternatives. Another task clearly needing to be done is to examine the erosion and sedimentation impact on streams from the major storms of late 2005 and early 2006 on various watercourses at JDSF, and it is crucial to take temperature readings in August and September 2006 to be clear on the impact of sedimentation on the watercourse which could deleteriously impact Coho salmon, steelhead, and other species.

123 Other information which should be able to be produced in a relatively short length of time are: 1. a temperature TMDL should be developed for the Big River watershed; 2. a more accurate vegetation map to distinguish between old redwoods with generally closed canopy from scattered old redwoods with dense understory such is in some of the James Creek area; 3. more specifics as to how many old-growth residual trees and mature trees can and will be logged (since this helps to determine how much increase there will be in edge effects, and in sedimentation of streams which also can impact temperature, how much decrease in shading of watercourses, how much management activity is planned in steep landslide prone areas and inner gorges, where new roads are planned and how many of these are clearly linked to a better location for a road to replace hopefully several nearby roads which have particular erosion / sedimentation problems); 4. let a recreation specialist or perhaps an artist or landscape architect, rather than a RPF, determine whether a logging project will significantly impact the aesthetics of an area; 5. consider new recreation corridors as well as protecting more than just narrow facade strips along roads and trails; 6. complete a recreation survey as called for in the Draft EIR and include these results in the next EIR / FMP; include the James Creek Watershed Cumulative Effects Assessment Area on Table VIII.10 on pages VIII-37 (and VIII-38) or else have no cut in this area in the next 5 to 10 years; and explain by words and by better labelling of maps where the 492-acre buffer around Road 334 which to be managed for late-seral characteristics is, as well as where the 250-acre buffer around the waterfall grove complex (also to be managed for late-seral forest characteristics) is.

ROADS, TRAILS, and FEEDING of ANIMALS who are GRAZERS

134 Page VII.6.1-100 says that, "JDSF contains an estimated 350 miles of actively used roads and 150 miles of potentially improperly abandoned roads. The sediment contribution per unit area from roads is often much greater than that from all other land management activities combined, including log skidding and yarding (Furniss et al. 1991)." Elsewhere in the documents it is mentioned that the public uses 200 miles of road at JDSF. Page VII.2-12 says, "Aesthetic changes associated with paving a forest road would be less than significant whereas, establishing a new forest road may be significant." Thus, to abide by regulations, any new forest road should not be through or adjacent to mature or ancient forest areas, and it must be clearly needed for management activities and be in the general vicinity of several logging roads which have been decommissioned due to significant

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sediment from the roads having deleterious effects on watercourses in the area. All other new roads are clearly an aesthetic insult and would bring more edge effects which stresses (or results in deaths of) various species, plus can damage nearby watercourses. Even modern improved road-building techniques has done little to reduce sediment yields from the construction of new roads. Appendix 11 Page 5 says, "Significant construction of new roads has led to increasing sediment yields from road surface erosion, espite improved practices (see Table 27 in the Attachments, reproduced from Matthews 2001)." Page 11 of that Appendix points out that road-related sediment is the dominant source of sediment in both the Noyo and the Big Rivers. One should also realize that roads (and vehicular management activities largely using them) are the main spreader of non-native invasive plant species -- so there is another reason to minimize roads in the JDSF area.

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It is insufficient to merely say regarding Alternative C1 that you will, "Decommission unnecessary and environmentally damaging roads." You need to give a general estimate regarding the approximate number of miles of road that would be decommissioned, since taking out just a token number of road miles when JDSF managers have such widespread logging plans (which include building some new roads, logging nearly all the mature forests, as well as logging in riparian areas which could also impact shading, sedimentation, and temperature of watercourses) is certainly insufficient evidence to be able to claim that overall there would be an insignificant cumulative impact from management activities proposed at JDSF.

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I appreciate the urgency which Alternative F has (noted in Table VI.1 on pages VI-45 and 46) in regards to immediately inventorying unnecessary and/or damaging roads, and that it is clear that this activity would take priority over other management activities at JDSF. It is not that I believe that Alternative E would not wish such a focus too, but the way it is worded in the aforementioned table, while it calls for aggressive road decommissioning, it mentions nothing about immediate inventorying and decommissioning or a focus for allotment of funds for that alternative. Perhaps that is because it is clear that JDSF managers consider Alternative F the enemy and will not really consider this fine alternative to work toward restoring the lovely habitat and watershed condition which those of European extraction found in Mendocino County centuries ago, as well as protecting the best remnants currently at JDSF. I notice that under Alternative C1, it says that the road management "plan includes standards for 5-year inventory, construction, maintenance, and decommissioning; establishes a schedule repair and decommissioning work. Not only does this give no indication about whether there would be a dozen or a hundred or how many miles which might be decommissioned, and it is clear that JDSF personnel are in no hurry to do the inventory and are more focused on the earlier mentioned "construction" and "maintenance" than in taking out roads to reduce sedimentation so as not to damage salmonid habitat in watercourses. Under "Transportation (see also Road Management Plan)" part of the alternatives comparison Table VI.1., the wording for C1 (following the lawyer-mandated assurance that it would "Comply with FPRs and sediment TMDLs where applicable") is "Roads and landings constructed and reconstructed as needed to support harvest operations." This does indicate the priority of JDSF under the proposed alternative as far as roads -- the priority is constructing and reconstructing to assist timber operations. Thus, the talk of inventory and decommissioning of roads at Jackson is just a token non-enumerated effort to seek to validate the claim that watercourses would be in better shape despite intensive management on 75% of the forest (including substantial clearcutting / evenaged management as well as many other intensely chopped areas) due to decommissioning a not-even-estimated number of roads or mileage of roadway.

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There are various indications in the Draft EIR / FMP that trails are virtually an afterthought from the perspective of JDSF managers. Page V-26 says, "There are over 60 individual campsites, many

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miles of riding and hiking trails, and over 200 miles of forest road utilized by the public." For a nearly 50,000 acre forest, obviously 60 individual campsites are not very numerous. Why is there no attempt at enumerating the miles of riding and hiking trails at Jackson? Is it because some of the
137 trails are mostly animal trails and thus you do not know whether to count them, or has there just been so little recreation focus that there was never an attempt to enumerate how many miles of recreation trails (other than some roads) are being used by the public? [Also, while a recreation survey is a decent idea, it doesn't take a rocket scientist recreation specialist to determine that, besides liking to hike some trails, many hikers and campers like to immerse themselves in Mother Nature, so butchering the forests other than along streamsides and major roads and trails (while even
138 cutting in most of these facade buffer areas) is clearly not what most who would like to enjoy redwood forests without travelling an additional distance to Humboldt County have in mind for an environment that they wish to further explore. (Also, note some discussion on the main recreation areas on the forest when discussing mature forests, as well as some of the alternatives offered in the Draft EIR / FMP.)

While I can see why there are some concerns about horses and other animals which folks ride or perhaps which carry their belongings freely grazing on vegetation at JDSF, yet urging or requiring people to bring feed / mulch to feed to their animals is also a problem. Not only are increasing
139 amounts of mulch (whether used for feed or for management-related activities at Jackson) genetically modified these days (which will increase if genetically modified alfalfa is commercialized), but mulch often carries seeds of invasive plants which we do not need more of in the JDSF area. Would JDSF managers consider that if certain invasive plant species are good to eat for horses and other livestock, that the target plants could be pointed out to riders and could be grazed upon at least near roads and trails which are some of the areas in which invasive plants thrive?

In case anyone needs to be reminded of the seriousness of mulch spreading invasive plant species, here are a couple quotes from page 3-26 of the BLM Vegetation Treatments Using Herbicides Draft Programmatic EIS, "Many other invasive plants have been introduced unintentionally via air, water, rail, or road transportation pathways. Common methods of introduction include contaminated seed, feed grain, hay, straw, and mulch; movement of contaminated equipment across uncontaminated lands; animal fur and fleece; spreading of gravel, roadfill, and topsoil contaminated with noxious weed seed; and plants and seeds sold through nurseries as ornamentals (USDI BLM 1996)." "Once introduced, invasive plants are spread primarily by vehicles, humans, wild horses, livestock, wind, water, and wildlife. Initially, invasive weeds may get established in disturbed sites such as trailheads, along roads and trails, firebreaks, landing pads, oil and gas development sites, wildlife
140 and/or livestock concentration areas, and campgrounds". [(Speaking of firebreaks, will the shaded firebreaks mentioned in the plan involve the spraying of herbicides on them?)]

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INTENSIVE MANAGEMENT Leads to FIRE DANGERS at JDSF

The logging of old trees (which provide shade and are well along in developing a plumbing system to provide a more ongoing flow of cool clear water), the drying effect from spraying
141 herbicides, plus the fire risk involved with lots of machinery being operated on hundreds of miles of roads well as the drying effects of herbicide spraying, plus all the machinery used in management and along hundreds of miles of roads from which fires can accidentally or purposefully start are all major drawbacks of the Proposed Alternative C1. Regarding logging slash, it sounds like it might be gathered and burned in some clearcuts (obviously a slash fire is a fire and can escape at times), or just left on the ground upon other logging methods with a slight mitigation of scattering slash after

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logging within 50 feet of major roads and trails. Besides that, the highly flammable slash will be on the forest floor awaiting ignition.

142 It is quite obvious that if one removes all or nearly all vegetation from an area, it will dry out the area and provide deleterious edge effects to certain adjoining areas. Then, herbicides are sometimes used, which kills vegetation and dries things out further. Then, conifer trees (all of the same age and usually all the same species) are planted in a heavily stocked way. When one has a bunch of essentially Christmas trees all packed together, it not only could be prone to disease, but it is a virtual tinder box for not just fire, but for fire that is prone to burn more catastrophically which could also rise to become a crown fire and even seriously damage or kill ancient redwood trees in the JDSF area.

143 The DEIR / DFMP claims that the less intensive management alternatives are most prone to fire danger because a number of roads from which one could fight fires would be decommissioned. Certainly, a number of roads can remain not only to fight fires or for recreationists to use, but also for management activities. But, this document entirely fails to examine the implications in regards to forest managers promoting intensive vehicular and machinery activities in the majority of the JDSF. Other activities which increase fire danger are the use of herbicides, the increase in fire danger due to logging mature and other stands and replacing them with tightly packed conifer plantations, and even the further drying out of buffer areas intended for lighter management. There can be some valid excuses for managing an understory and brushfields in some places in order to lessen chances that there can be crown fires in the area, but seeing that even relatively light management at JDSF generally targets the larger trees of the area, the preponderance of proposed management at Jackson would lead to increased risk of fire -- including potentially catastrophic fire.

144 Page B-29 of the BLM's Vegetation Treatments Using Herbicides Draft Programmatic EIS says, "Herbicides used in site preparation reduce vegetation that would compete with conifers. In the brown-and-burn method of site preparation, herbicides are used to dry the vegetation, to be burned several months later." It should be pointed out that equipment use or smoking around herbicided vegetation on roadsides or in areas where intensive management activities occur would have a greater chance of igniting and spreading if there were drier dead vegetation around.

145 The DEIR / DFMP does nothing to analyze what age of tree species would be best to prevent not only fires, but catastrophic fires. Such fires could burn not only vital habitat, but could necessitate fire-fighting response with heavy equipment (including near watercourses) in order to control the fire, which could bring a horrible impact of less trees and vegetation shading streamcourses and thus more direct sunlight and warmer temperatures in streams (plus destabilized banks due to less living vegetation holding them together and due to heavy equipment use during firefighting). The ramifications on both native salmonids which need cool water to survive, as well as on mature and old-growth forest habitat if a fire burning super-hot through young plantations grew to a catastrophic level are very serious -- yet there was no analysis of such in the documents!

146 Because California Public Resources Code 4640 says (App. 5 pg. 2) that, "'Protection' means protection of forest trees against damage by fire, insects, disease, and trespass", i contend that this is being violated at Jackson DSF, and that the fire danger involved with the bulk of the management activities at JDSF must be analyzed in the next EIR / FMP.

STREAM TEMPERATURES and AREAS TARGETTED for LOGGING in Near-Term

147 The U.S. EPA has listed both the Big River and the Noyo River as sediment-impaired under Section 303(d) of the Clean Water Act. The North Coast Regional Water Quality Control Board has listed Big River for both temperature and sediment concerns, while just listing the Noyo River for sediment concerns. Sediment TMDLs have been established for both of these rivers, but a temperature TMDL has yet to be established for Big River. Page V-16 says, "These sediment and temperature impairments are of particular concern due to the presence of listed salmonid species in these watersheds, specifically, coho salmon and steelhead trout (Figure V.5). These listings of the Big and Noyo River watersheds as impaired are an indicator of existing adverse cumulative effects in these watersheds."
This should happen certainly before a long-term management plan is adopted for JDSF.

148 On March 30th, 2005, the Coho salmon was listed as endangered under the California Endangered Species Act for the population south of Humboldt County's Punta Gorda area. NOAA Fisheries followed suit to list the Central California coast population of Coho as endangered on August 29th, 2005. The Northern California Evolutionary Significant Unit of the steelhead trout was listed as threatened on August 7th, 2000. All accessible reaches of coastal streams between southern Humboldt and southern Santa Cruz Counties have been declared "critical habitat" for the Coho salmon, while 50 occupied watersheds for the steelhead were delineated as critical habitat for the steelhead early this year.

149 It is important to examine (especially during the late summer rearing stage) the maximum weekly average temperature in watercourses, and this is especially important this year to see if there is an increase in temperature this year (despite plenty of rain) due to what could be substantially more sedimentation than usual from the major storms of late 2005 and early 2006. The Coho salmon, even more than the steelhead trout, particularly needs temperatures preferably cooler than 62.2% F, and certainly usually below 63.7% F at that critical rearing stage time of year.

150 Page 9 of Appendix 12 points out that, based on thresholds for interpreting water temperature, several areas in the JDSF CWE assessment area were potentially of concern. These included the South Fork of the Noyo River (including Parlin Creek) and the North Fork of Big River (including Chamberlain and James Creeks). Considering these concerns, which are also reiterated by examining the map on Page VII-6.1-28 about some on-the-brink temperature readings in certain areas of JDSF, it is appalling that the very watercourses that have temperatures almost too warm especially for Coho salmon, are precisely the CWE assessment areas targetted for intensive logging activities in the next 5 to 10 years at JDSF! Clearcutting is the preferred logging method under Alternative C1 for much of the Chamberlain Creek and Parlin Creek CWE assessment areas. It does not take a fisheries biologist to conclude that more roading, widespread clearcutting, herbicide spraying and other logging will have significant unmitigatable impacts on sensitive aquatic species including listed salmonids in these key tributaries, as well as the North Fork Big River and the South Fork Noyo River themselves. In addition, the CWE assessment area especially targetted in the near future, Brandon Gulch (which includes the North Fork of the South Fork Noyo River), would also contribute warmer water than usual to the mainstem of the South Fork Noyo upon massive logging of its vast tracts of mature forests. Note that Appendix 12 Page 19 says that, "The potential impact of timber harvesting on water temperatures can result from a single action, or the cumulative impact of multiple harvests." Plus, remember that roads are the largest source of sediments into watercourses, and Alternative C1 plans numerous more roads, and proposes a vague eventual decommissioning schedule, whereas Alternatives E and F are serious about road decommissioning if they could only get chosen and funded to carry out these worthy endeavors to help the aquatic habitats at JDSF.

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151 The Proposed Alternative C1, despite claims to the contrary, will result in increased stream temperatures in most years. Some of this increase will occur due to the following activites: logging in streamside areas; increased sedimentation into watercourses due to intensive timber-cutting and roading activities; roading and logging on steep slopes or in inner gorges; focused intensive logging in watersheds which already have temperatures which are on the verge of being too warm to support Coho salmon and steelhead trout; poor management at JDSF across most of the landscape which increases danger of fire with many associated repercussions on watercourse temperature (even if a major fire doesn't envelop the bulk of streamside vegetation which would amplify negative impact on watercourses as would the equipment used in firefighting); plus other factors.

152 Consider the plans under the proposed JDSF alternative C1 in regards to logging in the streamside buffer areas. Obviously, large conifer trees have been targetted for logging historically, which means that hardwoods tend to be present in greater proportion than their historic numbers. The ten largest trees in a stream area longer than a football field supposedly must be left standing, but I'm sure most of the other sizable conifers will be logged even if it means opening up the canopy more than theorized in the document. Hardwoods are supposed to be retained unless they are at a higher than their naturally-occurring percentage. Thus, it is likely that most medium to large conifers will be logged from such areas, plus substantial amounts of hardwoods will be logged in order to bring species composition back to historical levels. This will result not only in direct solar radiation warming watercourses, but also in increased sedimentation of watercourses due to soil disturbance and streambank disturbances.

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153 I will once again call for either rejecting this quite inadequate Draft EIR / FMP, or I call for adopting Alternative E while devoting funds to take out many unnecessary and damaging roads, plus funding in-stream salmon restoration and expanding some recreation opportunities though not focusing this recreation on the western portion of the forest unless it is agreed with some state parks to accomodate some of their campers if they want to close campsites closer to marbled murrelet nesting areas.

154 Also in regards to the western portion of JDSF, the couple murrelet recovery areas under Alternative F make a lot of sense, and it is absolutely appalling that in what should be the geographical heart of this recovery area, there is this horrendous supposed "clearcutting experiment" and considerable infestation of Tasmanian blue gum (eucalyptus). I understand that this EIS / FMP cannot impact the Caspar Creek management mess, but the Board of Forestry likely has that power and should act immediately!

155 And, of course, need I mention again that the document has many unmitigatable cumulative impacts to aesthetics and to sediment / toxics / increased temperature in Coho salmon / steelhead / amphibian streams.

156 The documents are largely in denial as to the existence, the biological importance, and the current and especially near future habitat value of the most extensive mature stands of redwood (with some fir) in Mendocino County. And, of course, the document tries not to realize that, despite historic abuses in the area, Jackson Demonstration State Forest can be the heart of the most hopeful area to recover habitat for old-growth forest dependent species in Mendocino County -- since it is in the heart of the area of good conservation value between the Ten Mile Creek watershed to the north and the Little River and Albion River watersheds to the south. Good management (which in some areas involves lack of management) at JDSF is the hope for continued existence (and even thriving) of Coho salmon, steelhead, and amphibians in the Noyo and Big River watersheds which will have positive repercussions elsewhere in the county and help bolster the struggling marbled murrelet population in Recovery Zone 5 to hopefully some day link up with the

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156 murrelets in Recovery Zone 6 – rather than have them meet the fate of the prediction of 100% likelihood of extirpation south of the Humboldt / Mendocino County line by the year 2044.

157 For all of its paper and words, this Draft EIR / FMP does not give adequate specifics or analysis to justify ridiculous conclusions as to how the aggressive logging and roading of Alternative C1 will not result in cumulative impacts to various aspects of the environment including impact to threatened and endangered species. You must either reject this document in its entirety, or else choose what is admitted within the DEIR / DFMP to be the most protective of the environment -- Alternative E. Please choose E and strengthen it by focusing funding on near-future road removal and salmon habitat restoration, as well as expanding recreational opportunities in certain parts of the forest.

158 Finally, some of the legal statutes violated by Alternative C1 include California Code of Regulations §1422 on Polluting Waters, California Public Resources Code §4640 due to widespread activities at Jackson that increase fire danger, the federal Clean Water Act due to likely temperature increase in watercourses beyond the legal limit if the Proposed Alternative is carried out, as well as violating cumulative effects regulations of the state, and violating the federal and state Endangered Species Act due to obvious negative impacts which Alternative C1 would have on current and future habitat for the marbled murrelet and northern spotted owl.

Sincerely yours,

Bruce Campbell

Bruce Campbell

29.

Mailed Letter P-183

Response to Comment 1
A portion of the second-growth forest found within JDSF is scheduled for harvest within the next several years; please see the Administrative Draft Final Forest Management Plan (ADFFMP) Table 9. The majority of the harvesting will utilize forms of uneven-aged management, retaining the majority of trees within the harvest areas. Within areas proposed for management on an even-aged basis, second-growth trees will be retained at various levels, including most of the trees within the watercourse protection zone. Silvicultural systems and forms of management are described in the ADFFMP Chapter 3 (Silvicultural Allocation Plan, Table 8). The vast majority of the older second-growth forest found within JDSF will be either selectively harvested to retain a significant component of the largest and oldest trees or will be developed into late seral or older forest structure. Some young stands will also be regenerated. Mature second-growth redwood forest stands are not specifically defined and as such no formal inventory exists,. However, a substantial acreage of relatively advanced second-growth forest exists throughout the region, with many thousands of acres permanently protected within parks and reserves (e.g., Russian Gulch State Park, Van Damme State Park, Sinkyone Wilderness State Park, Navarro River Redwoods State Park, and Mendocino Woodlands State Park.

The harvesting of forested stands can contribute to habitat fragmentation and edge effects, depending upon the type and extent of management activity. Harvesting of timber can also contribute sediment to streams and is capable of leading to an increase in water temperature. The reader is referred to DEIR Sections VII.6.1 and VII.6.6 for an analysis of potential effects associated with fragmentation, edge, sediment, and water temperature. Significant cumulative impacts are not expected to occur, due to many factors, including operational standards, expected regulatory compliance, and other provisions of the management plan and subsequent individual projects.

Response to Comment 2
These characteristics of the Forest are described in the management plan. A large degree of variance exists, due primarily to a partially undocumented management history and the historic occurrence of fire within regenerated stands in the western and central portions of the Forest, which had the effect of setting back the development of the stands. Most of this fire occurred prior to 1940. Logging on the area now encompassed by the State Forest has been nearly continuous since the 1860s, which has resulted in a continuum of second and third-growth stand ages and sizes. There is no JDSF inventory or stand classification system that includes the term "mature forest". The term loosely refers to a stage in the development of young stands that follows what is commonly referred to as the pole stage, which occurs following the regeneration phase. There are many acres of even-aged second-growth forest and uneven-aged forest dominated by large second-growth trees in the western and central portions of the forest. Some of these stand conditions are reflected in the habitat analysis performed for the DEIR and depicted on the Map Figures (e.g. Map Figure K).

Most of the forest encompassed within the North Fork of South Fork Noyo watershed is second-growth forest that regenerated following logging that occurred between 1850 and 1930. Some of this regenerated forest was subsequently burned, and a substantial portion of the forest within this area has been harvested by uneven-aged methods. A substantial acreage of forest within this area has not been logged since the stands were regenerated (see DEIR Map Figures G and H for recent harvest history). The west side of Chamberlain Creek was initially regenerated between 1925 and 1950. There has been subsequent selective logging in a portion of this area.

Response to Comment 3
Wildlife will not be significantly impacted by the management plan represented as Alternative C1, and with Alternative G, which has been adopted by the Board. The ADFFMP proposes to increase the amount of habitat available for species normally associated with older forests (see DEIR Section VII.6.6 and RDEIR Alternative G description).

Response to Comment 4
The specifications for retention of old growth trees are clearly stated (ADFFMP Chapter 3, Protection and Enhancement of Wildlife Species, Habitat, And Forest Structure). Regarding second-growth trees and stands, the ADFFMP calls for both active timber management on an even or uneven-aged basis, as well as late seral habitat development within specified areas of the Forest. It is the Board's intention that large young trees be both grown and harvested. Young redwood stands achieve a high level of productivity as stand age increases, depending upon the form of management that is implemented.

Response to Comment 5
Forest management can contribute to the risk of fire, primarily by altering forest fuel dynamics and stand density. The potential for this impact to occur has been considered. Please see DEIR Section VII.8. Significant impacts related to fire hazard are not expected to occur.

Response to Comment 6
Please see DEIR Section VII.2 for an assessment of potential impacts associated with aesthetics. Significant impacts are not expected to occur.

Response to Comment 7
Please see road-related responses below. No specific concern is identified in this statement.

Response to Comment 8
Please see response number 01 above.

Response to Comment 9
The potential for impacts to recreational values to occur has been considered. Significant impacts are not expected to occur. Please see DEIR Section VII.14 for the assessment of recreational resources.

Response to Comment 10
The potential for impacts related to the use of potentially toxic materials has been considered. Significant impacts are not expected to occur. Please see DEIR Section VII.8.2 for the assessment of potentially toxic substances. In addition, see General Response 7.

Response to Comment 11
Prevention is an important element of an effective Integrated Weed Management (IWM) program. The ADFFMP and DEIR/RDEIR discuss the prevention element of the weed management program. Please see ADFFMP Chapter 3 (Invasive Weed Species) and DEIR Section VII.6.2 for a discussion that includes prevention.

Response to Comment 12
The vast majority of snags will be retained. Only those that pose a safety risk, or risk to infrastructure will be removed until the specified snag targets are met.

Response to Comment 13
The official Notice of Preparation included an address to which comments could be sent (DEIR Appendix 4, Notice of Preparation). In addition, the Board's web site provides an address for mailing, faxing, or e-mailing public comments to the Board.

Response to Comment 14
The primary purpose of the State Forest is to serve as a demonstration of sustainable forest management and production. The Forest is funded primarily by revenue derived from the sale of forest products. The growth and production of young forests consisting of large trees is encouraged by legislation, regulation, and Board policies regarding the management of state forests. While a policy of not cutting large trees, or not cutting trees at all may provide greater protection for some

elements of the forest ecosystem, the proposed management of the state forest is not expected to produce significant cumulative effects.

Response to Comment 15
The young forests that exist at JDSF were created primarily by logging activity that has occurred recently (since 1860), relative to the age of old growth forest. The management plan recognizes that stand ages at JDSF are variable, and that stand management has been essentially continuous since the 1860s. This management has created an opportunity for regeneration of young stands or trees between 50 and 130 years of age. The term "mature forest" is not defined in legislation, regulation, or Board policy for the management of state forests.

The degree of edge associated with late seral development areas, riparian zones, and the remainder of the Forest will vary depending upon the methods, timing, and extent to which the forest stands are managed. Please see DEIR Section VII.6.6 for the discussion and assessment of forest vegetation, habitat, and edge. While retention of vast contiguous areas of young forest would provide a greater area of similar habitat that is beneficial to some species, this is not a necessary measure in order to prevent significant adverse effects to wildlife. The ADFFMP proposes to develop additional late seral forest and older forest structure within JDSF.

Response to Comment 16
Notification of the preparation of an EIR for the JDSF management plan was made as required by law, including the address to which comments could be sent. The Board provided sufficient opportunity for comment, accepting written, faxed, or emailed comments.

Response to Comment 17
Acreage figures for the state forest at various points in time represent estimates that are based upon the best available information. The entire forest has not been subjected to land survey in order to provide an exact figure. Past and current estimates utilize deeds, survey, and available maps to produce estimates for forest acreage. This is true of virtually all contiguous land masses, regardless of location. As time has passed, the amount of land survey has increased, which tends to increase the precision of area estimates.

Response to Comment 18
A complete inventory of young redwood stands by age class has not been made in the Forest, county, or region. While old growth forest is widely recognized as a relatively unique resource, second-growth redwood forest has no formal legal status as a disparate category of forest type. While an accurate inventory of stand age has not been made for all of JDSF, the Forest records include harvest history (i.e. year or period of historic logging). While recognizing that the period of logging may not directly relate to current stand and tree age, some correlation exists. For habitat purposes, forest stands are generally characterized by their structural characteristics, not the age of the trees. The ADFFMP and DEIR describe the general pattern of historic logging at JDSF (DEIR Section VII.6.3, ADFFMP Chapter 1). In addition, the forest vegetation is described in the DEIR (Section VII.6.3 and 6.6).

Response to Comment 19
The ADFFMP does not propose clearcutting of 29% of the Forest area. The ADFFMP limits clearcutting to specific research and demonstration projects, forest health needs, and very difficult regeneration situations, while the majority of the area would be devoted to other forms of even-aged or to uneven-aged management. Even-aged management is limited to 2,700 acres per decade, and clearcutting, as a subset of this, is limited to no more than 500 acres per decade. Planned rotation ages vary between 60 and 150 years, so it can be expected that a period of up to 150 years would be required to regenerate this 29% of JDSF. This is a long-term management concept; by comparison, the ADFFMP is expected to remain in effect for approximately five years before a Board review is performed and 10 years before another major update occurs. These timeframes may be greatly shortened by the initial implementation period provisions of the ADFFMP.

The ADFFMP proposes to retain old trees with unique structural characteristics of value to wildlife. Other, smaller old trees could be removed. It is the intent of the ADFFMP to grow and harvest larger young trees, while promoting late seral characteristics and large old trees within the late seral development areas, the watercourse and lake protection zones (WLPZ), and within parts of the Older Forest Structure Zone. Potential impacts associated with silvicultural activity are discussed in many sections of the DEIR, including Section VII and VIII. Significant impacts are not expected to occur.

Response to Comment 20
The ADFFMP proposes to retain a high level of shade canopy within the WLPZ and above the stream channels in order to maintain or improve water temperatures to the benefit of aquatic species. Significant impacts related to water temperature are not expected to occur (DEIR Section VII.6.7 and Appendix 12). The ADFFMP proposes a modest increase in recreational facilities (ADFFMP Chapter 3, Recreation, Aesthetics, and Public Use). Herbicides may be used as part of an Integrated Pest Management Program. Please see DEIR Section VII.8.2 for the assessment of potential impacts associated with herbicide use. Aerial application of phenoxy herbicides is unlawful in Mendocino County (Section 10A.04.020, Mendocino County Code). The ADFFMP does not propose to apply herbicides aerially.

Response to Comment 21
The comment does not explain the perceived inadequacy of the alternatives. The DEIR/RDEIR contains a legally sufficient alternatives analysis.

Response to Comment 22
The discussion related to the proposed use of herbicides is adequate for the analysis of potential impacts in a programmatic document. Discussion can be found on DEIR pages VIII8.9 to 18. All herbicide use must comply with applicable provisions of the FMP and EIR, all applicable regulations, label requirements, and provisions of the individual project analyses that are performed prior to any herbicide use. DEIR Appendix 13 provides additional information on herbicides that are proposed for use. The exact scope of projects cannot be estimated in detail as this document spans ten years. By implementing IWM principles CAL FIRE hopes to manage more efficiently and with less potential for negative effects by invasive plants or control measures as time passes. Site-specific projects with varying environmental conditions and treatment options will be analyzed on a project-specific level.

Response to Comment 23
Indicative of current herbicide use levels, page VII.8-10 identifies that only 20 pounds (active ingredient basis) of herbicides were applied on JDSF over a four-year period beginning in 2000. Pages VII.8-10 and 11 of the 2005 DEIR address the amount of herbicides that could potentially be used on JDSF based on the DFMP (Alternative C1):

> The low level of herbicide use on the Forest in recent years is indicative of the low level of management activity in general, in addition to the request for reduced herbicide use from the public. When management activity levels on the Forest increase following the implementation of the DFMP, herbicide use levels may increase above those of the past several years. However, it is not anticipated that herbicide use will increase to the levels of the early to mid 1990s.

Alternative G adds restrictions that will result in reduced herbicide use (RDEIR pages II-10 and 11 and Administrative Draft Final Forest Management Plan, Chapter 3), as compared to the DFMP. The Administrative Draft Final Forest Management Plan includes a sequence of evaluation factors that will limit use and potential for adverse effects (see response to comments 33 and 67 in DEIR comment letter E-28 for details). These will be analyzed for each specific project and mitigations measures developed to avoid impacts from herbicide use.

Definitive estimates of future herbicide use are not possible at this time, as specific projects using herbicides have not been proposed. The analysis conducted for the DEIR considers the potential for significant and cumulative effects. The anticipated level of impact associated with each area of

management, and associated with each of the alternatives considered, is included at the end of each resource subject analysis. A formal risk assessment was not conducted in association with each herbicide. Please see the discussion of herbicide regulation in Section VIII 8.2.3 of the DEIR. The Administrative Draft Final Forest Management Plan, though programmatic with respect to vegetation management, includes specific guidance that is related to forest conditions. This includes the direction with respect to the quantity of even-aged management, road management measures, and use of IWM. By implementing IWM principles, the Board is confident that management will be more efficient and effective, and that significant impacts related to invasive plants and control methods can be avoided, as demonstrated by the analysis in the DEIR and RDEIR.

Response to Comment 24
The ADFFMP is intended to provide guidance to JDSF for approximately ten years. New information on treatment options or environmental effects can be expected in the next decade. Any herbicide proposed for use would have the appropriate labeling as well as legal status and be superior to the proposed herbicides in effectiveness and or environmental safety.

Response to Comment 25
The aerial application of phenoxy herbicides is forbidden within Mendocino County (Section 10A.04.020, Mendocino County Code). Aerial application of herbicides will not occur.

Response to Comment 26
Treatment of aquatic invasive plants is not among the possible treatments listed on DEIR page VII.8-12. At this time, no invasive aquatic weeds are known that would necessitate treatment to protect aquatic resources. If an unanticipated infestation should occur, careful CEQA analysis would conducted to determine how best to protect aquatic resources.

Regarding riparian areas, no herbicide use would be proposed for post harvest reforestation in the zones with canopy retention. Invasive weeds should be approached on a site-specific basis, choosing feasible alternatives that best protect aquatic resources.

Response to Comment 27
The Superior Court did not consider the DFMP. The Court found specific weaknesses in the environmental analysis performed for the DFMP. The DEIR/RDEIR provides programmatic direction with respect to vegetation management. This does not relieve the Department from conducting the appropriate site-specific analysis before undertaking any weed management activities. The most appropriate point to analyze treatment options is on a site-specific basis. Please see DEIR Section VII-8 for a discussion of how herbicides are regulated.

Response to Comment 28
The DEIR (VII.8-13) states that in reviewing new products, the effectiveness and the environmental toxicology profile would be considered. The comparative environmental toxicological information can be gleaned from: label, Material Safety Data Sheet,(MSDS), and reviews such as those conducted by the Nature Conservancy, USDA Forest Service, Cal EPA- Department of Pesticide Regulation and other sources. Both federal and state regulation provides pertinent information and analysis documents. Staff will evaluate the information from these sources. As stated in the DEIR/RDEIR new herbicide usage would be reviewed for factors listed. The five herbicides proposed for use have been reviewed in such manner. Herbicides would not be used until they are reviewed. Environmental factors that would trigger a decision to not use an herbicide would be based on environmental fate and the risk the product poses to non-target organisms as well as human health.

The commenter has capitalized the term “Toxicological Profile” implying that there is a specific document required, which is not the case. Reviewing existing information to determine its pretence to site-specific conditions at JDSF is the technique anticipated. Some key information was formally presented in DEIR Appendix 13 as general information for readers and decision makers not familiar with herbicides.

Response to Comment 29
The information requested is beyond the scope of the DEIR's programmatic approach to vegetation management. The active ingredients are listed in Appendix 13. This also listed inerts such as POEA, when formulations containing that compound are relevant. Information on some inerts and degradation products are examined by both EPA and CAL EPA- DPR. Registration of pesticides includes review of information on degradation, metabolism and environmental fate. Information on some of the other ingredients added to formulations falls in the realm of trade secrets and is unavailable. Risk assessments and re-registration revisit effects of herbicides and provide insight as to the product formulations. In California, adjuvants are required to undergo product registration and have undergone regulatory review. The information is available in from these sources, cited in the DEIR and responses.

For most applications, the carrier or dilutent will be water. Food grade oils may be in small quantities for cut surface applications. Dispersants, binders, stabilizers, neutralizers, anti-fomers or buffers will not be needed for the majority of applications. When these products are used, they comprise a small fraction of the material used. Given the small quantity of these compounds used, there is no reason to list this information in the document. Including information with little or no relevance to the decisions to be made would add unnecessary bulk.

Response to Comment 30
The commenter is referring to a specific laboratory that conducted pesticide and other tests apparently in the 1980's. The information on herbicides comes from many sources and atypical results are examined carefully. The data has been reviewed both state and federal regulatory agencies. The historic conduct of laboratories are not relevant to the actual safety of herbicides.

Response to Comment 31
JDSF will fully comply with worker protection safety standards for applications carried out by Department staff. For herbicide work for hire, i.e. Contractors, the business itself and personal must be licensed appropriately and register in the County. Accountability for training and safety extend from the individual applicator to the land manager. To ensure this responsibility is being met, a variety of contract and operational measures can be implemented. The Department is aware that safety-training material is available in Spanish from the DPR web site. MSDS and labels are technical items and often lengthy. Providing MSDS and Labels as a sole training source would be inadequate, no matter what languages the applicator speaks.

Response to Comment 32
The statement does not express a specific environmental concern.

Response to Comment 33
JDSF has been a research site for non-herbicide vegetation control methods. Carla Brossard conducted research on broom control, using several techniques. She produced an assessment of the resulting seed banks. JDSF was the site of several of the tests by Steve Young that produced a technical report for CALTRANS on alternative methods for vegetation control. JDSF remains interested in any research proposals for control methods at JDSF. Non-chemical control methods have been considered and utilized, and will continue to be considered during the planning of management projects, demonstrations, and research projects.

Several of the alternatives, as well the Administrative Draft Final Forest Management Plan, include consideration of research on alternative methods to controlling invasive species (Alternatives C1, C2, E, F, and G). Alternative G, page II-10 of the RDEIR, include the following statement:

> In an operational context, herbicides will be used only when no other effective and feasible control methods are found after consideration of the scope of the problem, opportunities to effectively manage the situation, and available alternatives and their potential effectiveness, costs, and risks.…

The Administrative Draft Final Forest Management Plan (Chapter 3) details these elements more specifically:

> CALFIRE and the BOF recognize there is public controversy regarding herbicide use. A total ban on herbicide use would compromise research opportunities and the broad demonstration value of the Forest and could result in adverse environmental and economic consequences. JDSF staff will adopt the following limitations to potential herbicide use:
>
> - No herbicide will be used unless it is integral to long-term, ecological based management. Projects will be proactive rather than reactive. These considerations will limit and focus any herbicide use. Long-term management will often integrate a variety of treatment techniques.
> - Public and environmental safety is a priority. When herbicide use is indicated, JDSF staff will reduce risk by selecting appropriate herbicide formulations and application techniques.
> - Recognize that some forest visitors may experience negative aesthetic reaction to dead treated plants, even if they are invasive weeds. Herbicide use will be evaluated for aesthetics where treatments could have this potential effect.

Response to Comment 34
Timber harvest operations will vary in their potential to increase invasive weeds. The measures developed must be project specific. At JDSF, neither even-aged management, nor uneven-aged selection will prevent the establishment of invasive species such as broom, if IWM measures are not utilized. The ADFFMP Planned Actions for invasive weeds specifies the following; “Staff will consider the impacts of exotic weeds to native vegetation during the normal course of project development if there is a high likelihood of weed spread due to a nearby infestation. Mitigation should be considered where appropriate and consistent with IWM to minimize the spread of exotic weeds.”

The relationship between management activities and invasive plants has been considered. Invasive plant occurrences are related to both light levels and soil disturbances. See DEIR Section VII.6.2 for a discussion of opportunities to prevent or control invasive plants. JDSF has not utilized herbicides following timber operations to control native brush for many years, opting to utilize mechanical means of control, such as cutting with chainsaws.

Response to Comment 35
No "brown and burn" herbicide use is anticipated. In the case of wildfires, any herbicide residue constitutes a minuscule fraction of the materials that would burn. The combustion products of herbicides have similar toxicological concerns as the rest of the combustion products. No special risks are presented by the combustion products of herbicide treated vegetation versus non-treated vegetation (Bush et al. 2000).

Response to Comment 36
The herbicide registration process includes consideration of many of these factors. Risk assessments and other post registration research provide more detail. JDSF reviews this information as part of the consideration for use.

Response to Comment 37
Ground water concerns are typically higher in agricultural use in contrast to forestry use. This is because forestry uses are dispersed in space and time. Water monitoring of forestry use has constantly shown little water contamination for the herbicides proposed for use (Wofford et al., 2003; Schuette, 1998; Ganapathy 1997; Neary & Mitchel 1996). Specific to glyphosate concerns, the degradation process is well documented and water monitoring has been conducted targeting this herbicide. JDSF will review in context, information available on a given product considered for use.

Response to Comment 38
The question appears to be an oblique reference to the herbicide 2,4-D. This herbicide was initially considered for use. JDSF staff are cautiously optimistic that other herbicides can be substituted for 2,4-D at JDSF.

Response to Comment 39
Pesticide is a general term, while specific terms such as herbicides refer to a class of pesticide that controls plants. The regional data was for pesticides. For forestry use in the region, herbicides comprise the vast majority of pesticides used. Under Section 8.2.2, the DEIR clearly discusses planned herbicide use. Although it could be stated more clearly, other pesticide products such as fungicides, rodenticides, and insecticides are not proposed for use at JDSF. To clarify, the only pesticide class proposed for use is herbicides.

Response to Comment 40
Herbicides and adjuvant are the only products stored in the pesticide room. At the fire station there is an adjacent paint storage room and a nearby gasoline tank and storage for automotive products. There may be other chemicals in the shop/garage, storage shed and barracks on this compound, which are unassociated with the management of the state forest. JDSF does not store any herbicides that have not been proposed for use. As a public safety agency, the Department places an emphasis on complying with legal responsibilities for storage. Release of any of this material is not planned nor is it a reasonable possibility; therefore no separate analysis is needed. The Mendocino County Agriculture Department has conducted inspections of the herbicide storage facility recently.

Response to Comment 41
Status is per 6/9/06 from http://www.epa.gov/oppfead1/endanger/effects/#e7. As of 2004 new consultation regulations regarding EPA and Fish and Wildlife service have come into effect. Clorpyralid was not named in the court order resulting from the lawsuit. The remaining four herbicides have been covered by memorandums and analysis. Imazapyr and Sulfometuron methyl were found to have “not-likely-to-adversely-affect the salmon and steelhead or their habitat” on January 17, 2003. Tryclopyr TEA (amine form) was fond to have “no direct or indirect adverse effects” on ESUs relevant to JDSF , on November 30,2002. Forestry use Triclopyr BBE (ester form) was found to “May Affect, not likely to adversely affect” for some ESUs relevant to JDSF on December 12, 2004. For Glyphosate: “the use of glyphosate at label limits may affect the species of concern, but is unlikely to adversely affect” for the Coho ESU relevant to JDSF on October 8, 2004. Note that the uses that would approach the label limit of 5lb ai/acre are not proposed at JDSF.

Response to Comment 42
In order for eutrophication to occur, excessive nutrients would have to be delivered to the water body. Given limited uses anticipated, there is no basis to project this as a potential effect of herbicide use, therefore no analysis was considered necessary.

Response to Comment 43
The information about the potential for clopyralid residue in compost to damage non-target plants is disclosed in DEIR Appendix 13. The Appendix listed the more relevant regulatory change in California, cancellation of registrations for specialty lawn products. This demonstrates how the pesticide regulatory system is responsive to new information. The Transline label contains a precaution statement about composting or mulching. Compost is not one of the minor forest products that has been collected on the forest. The FMP/DEIR does not propose composting or making mulch from treated plants. The scattered treated star thistle individuals remain present in a mix of annual grasses and other forbs. Given all the organic material present in Redwood forests, illegal collection of the treated plants is extremely unlikely.

Regarding possible mobility in soil, recent detailed analysis conducted for the Forest Service include this (SERA 2004a):

> ...Clopyralid does not bind tightly to soil and thus would seem to have a high potential for leaching. While there is little doubt that clopyralid will leach under conditions that favor leaching—sandy soil, a sparse microbial population, and high rainfall—the potential for leaching or runoff is functionally reduced by the relatively rapid degradation of clopyralid in soil. A number of field lysimeter studies and the long-term field study by Rice et al. (1997) indicate that leaching and subsequent contamination of ground water are likely to be minimal....

At JDSF the major forest soil types are fine loams, and the temperate climate favors soil microbial activity. The proposed use of Clopyralid is low and dispersed. Though the label contains specific warnings, it hazard has warranted the lowest level of labeling “CAUTION”.

Response to Comment 44
DEIR Appendix 13 discloses the varying toxicity of glyphosate to aquatic organisms. JDSF does not anticipate treating aquatic plants with herbicides.

Response to Comment 45
JDSF will review available information on a given product considered for use in context, including any potential effects of herbicides. The Board agrees that each invasive weed and proposed project should be evaluated carefully. The DEIR and RDEIR provide a description of the range of control methods to be used and identify the weed species that are anticipated to potentially require treatment. Within this programmatic context, the assessment in these documents did not find that the proposed actions, as mitigated, would result in a significant potential environmental impact.

The specific possible options for control measures are appropriately considered at the project level. The DEIR includes a discussion of the objectives of the DEIR and its relationship to specific projects (page II –9 to 14). Alternative G provides some specificity in terms of general location of future projects, but the specific operational detail is not known at this time. This management planning process will establish constraints and mitigation that future projects must adhere to, and recognizes the potential need for future analysis and CEQA compliance.

Response to Comment 46
There is potential for limited, yet appropriate herbicide use associated with the conditions mentioned in the ADFFMP, Chapter 3. The use of herbicides for control of native species along roadways is not expected to occur.

Response to Comment 47
The management situations that could involve the use of herbicides are not "excuses" to use these materials. The materials are utilized appropriately and judiciously. A high degree of botanical diversity exists within the Forest, and will continue to exist. Limited herbicide use in parts of the forest will not significantly affect the botanical diversity present on the Forest.

The supposition that JDSF would aerially spray all 500 miles of roadside on JDSF is illogical. Aerial application of herbicide will not occur.

Response to Comment 48
There are storage facilities for fuels and materials used for equipment maintenance at the conservation camps and the fire stations located on lands within JDSF boundary.

Response to Comment 49
Dust control treatments are normally conducted as part of an approved Timber Harvest Plan (THP). THP road management measures receive extensive review by DFG and North Coast Water Quality Control Board. The appropriate choice of dust control measure is site-specific. Evaluation and selection of dust control measures will be conducted at the THP level. The comment letter includes speculation on the use of “slope stabilization products”. No chemicals have been used for slope

stabilization, and none are anticipated. These are not proposed for use in the DEIR. The concern is speculative.

Response to Comment 50
Regarding cumulative effects of Hazardous Materials, the analysis is included in the DEIR pages VIII-60 to 63. Note that soil or slope stabilization chemicals or products are not listed as a potential hazardous material that could be used. Stabilization products are not listed elsewhere in the DEIR.

Response to Comment 51
The use of genetically modified plants or seeds is not anticipated.

Response to Comment 52
JDSF's first priority is to support the use of "weed free" straw to prevent the introduction of invasive weeds. Alfalfa is not used as mulch. Typically alfalfa is harvested before it produces seed. Equestrian camping is limited and campgrounds are monitored. Mendocino County has received no complaints regarding GMO regulation to date (Tony Linegar personal communication, 6/12/2006). At this point, there is no basis to predict a risk to JDSF flora from the source postulated by the comment letter.

Response to Comment 53
The potential for the broad management activities mentioned to create significant impacts has been considered. Significant and cumulative effects are not expected to occur. Please see DEIR Sections VII and VIII for the assessment of individual and cumulative effects associated with the harvesting of timber and the use of herbicides.

Response to Comment 54
A modest increase in recreational facilities is proposed (ADFFMP Chapter 3, Recreation, Aesthetics, and Public Use). Many management measures are proposed to prevent significant impacts upon recreational users and recreational resources. These include establishment of buffers, limitations upon silvicultural systems within and adjacent to the buffers, establishment of mitigation associated with noise and dust, seasonal and daily operating limitations as needed, and site-specific measures associated with individual projects and accompanying environmental assessment. Significant impacts to recreation are not expected to occur. See also General Comment 14, and see DEIR Section VII.14 for an assessment of potential impacts to recreational resources.

Response to Comment 55
The objection to the statement "the so-called management or treatment to achieve late seral forest in mature stands" is not explained. The percentage of a watershed area proposed for some form of management activity cannot be directly related to a level of impact. The specifics of most future management activities are not yet known. At the time that detailed plans are formulated, an environmental assessment will be conducted. The general management direction provided by the ADFFMP, in addition to all mitigation specified by the DFMP and DEIR/RDEIR, will be applied. Significant cumulative effects are not expected to occur.

Response to Comment 56
Support forAlternative E is note. Concern is expressed that hat Alternative E does not allocate funds for road decommissioning. The Board is free to prescribe a form of management that utilizes selected measures or practices from the various alternatives that have been considered. No specific concern relative to Alternative C1 is provided. As adopted by the Board, Alternative G includes provisions to develop late seral forest and to decommission roadways that are potentially damaging to aquatic resources.

Response to Comment 57
Significant impacts associated with aesthetics are not expected to occur. Potential mitigation measures include project location, silvicultural system applied, consideration of public view points and vistas, application of buffers, and many other potential considerations associated with individual

projects, based upon the assessment that is conducted when the project is planned and proposed. Please see DEIR Section VII.2. The potential for impacts to streams, aquatic species, and wildlife species has been considered. Please see DEIR Sections VII.6.1, 6.5, 6.6 and Section VIII.

The DFMP states that clearcutting may be utilized where conditions require this form of silviculture in order to regenerate a specific area (Section VII.6.3-11). At this time, no specific areas with potential regeneration difficulties that would require clearcutting have been identified, and this situation is uncommon.

Response to Comment 58
No extensive clearcuts are planned for Berry Gulch or other watersheds of JDSF. Even-aged management may be utilized in the areas depicted on Map Figure Z of the DEIR.

Response to Comment 59
The Board recognizes the fact that aesthetics must be considered at scales other than "vistas". Please see DEIR Section VII.2 for the assessment of potential impacts to aesthetic resources.

Response to Comment 60
It is appropriate for a registered professional forester (RPF) to conduct assessments of potential impacts to aesthetics related to the harvest of timber. The forest practice rules require this assessment (Title 14 CCR 912.9 and Board of Forestry Technical Addendum No. 2). This requirement does not preclude the use of other individuals or other areas of professional expertise in the conduct of the assessment.

Response to Comment 61
There is no comment 61 due to a numbering error.

Response to Comment 62
The Board agrees with this statement. The alternatives vary with respect to level of potential aesthetic impact. However, no significant impact is anticipated in association with the potential implementation of Alternative C1, or the adopted Alternative G.

Response to Comment 63
The Board agrees that the visual character of an area, and the site and its surroundings, can include more area than can be seen from a major road or trail, or near a state park or special concern area. However, most of the recreational sites utilized by relatively large numbers of people include campgrounds, major roadways, parks, and trails. The ADFFMP does not imply that less intensive logging in buffer areas or the treatment of slash in close proximity to roadways is necessarily sufficient to prevent significant impacts to aesthetics associated with projects. However, these measures can serve to mitigate the effects of management activities, in combination with other specifics of the projects being implemented. The Board disagrees that the ADFFMP implies that there is no need to be concerned about visual impacts on the vast majority of the state forest.

Response to Comment 64
The level and form of mitigation applied to prevent significant aesthetic effects will depend upon the specifics of the project being proposed. The ADFFMP includes a number of measures that will be implemented, but these should be viewed as minimum standards for the protection of aesthetic resources. There is ample opportunity to increase the level of protection provided, depending upon the conditions that are encountered during the planning process for individual projects.

Response to Comment 65
The ADFFMP does not propose, nor suggest, that stand management will improve aesthetics in the short-term. There is certainly potential for stand management to accelerate the development of large trees and stand conditions that are aesthetically pleasing. This is readily evident in most areas of the forest, where the current views have developed as the direct result of stand management in the past.

Response to Comment 66
The statement made in the DEIR referring to continuous forest cover in managed stands of medium to large trees refers to the majority of the Forest, which contains forest stands that have been either partially cut or are even-aged at the present time. With the exception of non-timbered sites, unmanaged old growth stands, and recently created stands of regeneration, most of the remainder of JDSF falls into this category. Most of the old growth stands within JDSF have been managed in the past, primarily by selective cutting. Past stand management has occurred in close proximity to most of the campsites located with JDSF, while retaining the aesthetic qualities associated with the recreational values that are present. Significant impacts are not expected to occur. Please also see response 01 above.

Response to Comment 67
The Board generally agrees that the perceived change in aesthetic value may be greater in even-aged stands than stands that have been partially harvested in the past, but this effect is localized and depends upon site-specific conditions. The ADFFMP includes mitigation measures for the protection of aesthetic resources (Appendix IX). Also, see DEIR VII.2-15. Second-growth forests are not considered a rare or unique resource within coastal Mendocino County.

Response to Comment 68
This statement is not an expression of environmental concern. No response is necessary.

Response to Comment 69
These statements primarily consist of quoted text from the DEIR. No environmental concern is expressed. The Board agrees that these statements are related to aesthetic values present on JDSF.

Response to Comment 70
While the Board recognizes that there is little old growth forest remaining within Mendocino County, young forests are not defined as a rare resource. Please see DEIR Map Figures J and K for a depiction of forest vegetation types within JDSF and the assessment area. A considerable acreage of forest outside of JDSF shares similar vegetation classifications with those found toward the western end of JDSF that are considered to have the oldest second-growth trees. The majority of JDSF will be managed to maintain or create a significant component of large second-growth trees. All identified old growth groves will be preserved.

Response to Comment 71
The designation of forest as late seral development area is intended to produce forested habitat with a significant component of large old trees. This designation is not intended to preserve current forest conditions, which are not late seral. The vast majority of forested area within the late seral development areas is young, having regenerated following the original harvest of old growth forest subsequent to 1860. Future management will retain a large acreage of young forest with a significant component of large trees outside of late seral development areas.

The ADFFMP proposes to increase the amount of habitat available for the marbled murrelet in the future. Neither the ADFFMP nor the EIR denies the importance of forest stands or habitats of any size or age. As stated previously, the majority of JDSF will be managed to retain or create young stands with a significant component of large trees in excess of 80 years of age. Please see earlier responses to concerns related to aesthetics.

Response to Comment 72
The ADFFMP proposes to manage the forest in the Berry Gulch watershed with a mix of both uneven-aged and even-aged silviculture. For the areas managed under an even-aged method, the management activity is expected to occur over a very long period of time, extending at several decades into the future until the subwatershed is entirely regenerated. By the time selected stands are regenerated, the subwatershed will consist of stands representing a broad range of aged classes, while the WLPZ will begin to develop late seral characteristics. The proposed management of the Berry Gulch watershed is not expected to reduce the future habitat development within the

Mendocino Woodlands STA and the lower Big River area. In the short term, only a portion of the Berry Gulch watershed is proposed for harvest (RDEIR Table II.3 and ADFFMP Table 9).

Response to Comment 73
The Board recognizes that the Caspar Creek watershed is important in terms of timber production, recreational value, watershed values, and habitat values. The eucalyptus was planted by the Caspar Lumber Company before 1947. The Caspar Creek Watershed Study has produced well-known and often cited research on forest management and watershed effects.

Response to Comment 74
The presence of plant and forest types of special concern in the western portion of JDSF is well recognized. The ADFFMP proposes to protect the pygmy forest and all listed plants. Recreational activity in this area of the forest is concentrated primarily on existing roads and trails where rare plants do not normally occur. Should rare plants be discovered on roads or trails, the use of these facilities would be halted or mitigated to protect the plants and their habitats. One common practice employed to help protect the pygmy forest from damage is to restrict vehicle use on many of the roads within pygmy forest stands. Please see DEIR Section VII.6.2 for an assessment of potential impacts to rare plants.

Response to Comment 75
All large old trees and old trees with unique structural characteristics of value to wildlife will be retained (ADFFMP Chapter 3, Protection and Enhancement of Wildlife Species, Habitat, and Forest Structure). An additional 1,549 acres of habitat has been devoted to development of late-seral forest in Alternative G (RDEIR pages I-5, II-8). Stands in close proximity to, and upstream of Russian Gulch State Park will be managed on an uneven-aged basis to develop late seral characteristics, while maintaining continuous forest canopy. In addition, a Special Treatment Area (STA) exists within 200 feet of the State Park, within which management restrictions apply (Title 14 CCR 895.1 and 913.4). Prior to the conduct of timber operations near suspected or known habitat for listed wildlife species, survey will be conducted and the timber operations will be planned and conducted to avoid "take". The vast majority of the Mendocino Woodlands STA will be managed to develop late seral habitat conditions, and future evaluation will consider the potential for designation of additional area for future recruitment of habitat for the marbled murrelet.

Response to Comment 76
The past clearcutting studies there have demonstrated how clearcutting can be done without causing significant environmental impacts. Future management in the Caspar Creek watershed will continue for research purposes and will be generally consistent with the management plan. A large portion of the North Fork of Caspar Creek (about 1200 acres) was designated as an experimental forest by the Board in 1991. Management of the North Fork of Caspar Creek is subject to the provisions of CEQA, the management plan, DEIR and RDEIR, as is the remainder of the State Forest. This area is exempt from the timber harvest planning process, but is not exempt from the assessment of environmental impacts. No timber harvesting is currently planned for the North Fork, so there were no specific harvesting plans to include in the DEIR/RDEIR analysis. The general programmatic analysis in the DEIR and RDEIR was applied to the North Fork. Any individual projects will be subject to environmental analysis.

Response to Comment 77
At this time, no additional campsites are anticipated in the western portion of JDSF. However, sites may be considered in the future. This consideration would include an assessment of potential impacts to the marbled murrelet and other resources in the area. Garbage collection containers are provided at all campgrounds, and Department personnel are assigned to maintain the campgrounds in a refuse free condition.

Response to Comment 78
Mr. Campbell states that management activities such as logging should be minimized in the western portion of JDSF, as well as in other areas, such as much of the Chamberlain Creek watershed.

Although no specific explanation of the concern is provided, the Board assumes that this concern relates to the broader issues of habitat and aesthetics, as previously stated by Mr. Campbell in the letter. Please see previous responses to concerns related to habitat and aesthetics.

Response to Comment 79
Mr. Campbell states that road related activities in the western portion of JDSF should "generally pertain to decommissioning damaging and unneeded roads". As provided in the Road Management Plan (ADFFMP Appendix IV), the road system at JDSF will be inventoried, and a priority schedule will be implemented for road maintenance, road improvement, and the decommissioning of damaging and/or unneeded roadways. However, many miles of existing and necessary roadway will be maintained to facilitate access for recreational and management purposes.

Response to Comment 80
A proposal to evaluate the potential for developing additional future habitat for the marbled murrelet is included in the DEIR (Section VII.6.6.4). The management of stands nearby or adjacent to these areas will not create significant impacts to the marbled murrelet. At present, these areas are not known to be habitat for the species. Any future timber operations in proximity to potential marbled murrelet will include survey and avoidance of occupied habitat, in order to prevent a "take" of the species.

Response to Comment 81
The use of off-road motor vehicles is prohibited within JDSF, with the exception of use by forest management personnel. The Department maintains a security patrol to help deter illegal vehicle use within the State Forest, and attempts to maintain a system of locked gates in areas with native surface roads that are subject to damage during periods of wet weather. Significant impacts to rare plants as a result of illegal vehicle use are not expected to occur.

Response to Comment 82
Hunting is prohibited in the Mendocino Woodlands STA, within the state parks, and in other areas where prohibited by state law and local ordinance. The Department may also prohibit hunting in areas where it is determined to represent a "take" of the marbled murrelet. With these exceptions, hunting is regulated by the Department of Fish and Game. At the present time, no murrelets are known to utilize the stands on JDSF as habitat. If murrelets are detected, they will be protected from "take", which could include a prohibition of shooting in the vicinity.

Response to Comment 83
The DEIR correctly describes JDSF relative to the remainder of the region in regard to the recovery of listed species (Section VII.6.6). It is recognized that the state forest can contribute to the habitat availability for many species, including species normally associated with older forest. Please see prior responses regarding the "mature forest" concern. The ADFFMP proposes to manage JDSF in order to promote recovery of aquatic systems, while maintaining and creating habitat for listed species.

Response to Comment 84
Characterization of the Contribution to Recovery of Marbled Murrelet Habitat management measure (DEIR Page VII.6.6-118) as a “dismal sham” is clearly hyperbole as is the assertion that it is the intent of management to “log the bulk of mature trees at JDSF within the next five to ten years.” It is precisely the recognition of the tenuous status of modeled marbled murrelet populations in Recovery Zone 5, cited by the commenter and described in the DEIR, that the Department and the Board have identified areas for marbled murrelet habitat recruitment that have the greatest likelihood of occupancy and in as short a time frame as possible. The Department and the Board have also committed to working with State and federal wildlife agencies and other sources of marbled murrelet expertise to validate the proposed management measure or modify it as necessary within the first 18-24 months of plan implementation. Lastly, the Board has designated additional area to be managed toward marbled murrelet habitat, located in the upper Russian Gulch and lower Big River area, adjacent to state parks, as mentioned in response 75 above.

Response to Comment 85
This statement represents a misunderstanding of the statements made in the DEIR. The intention of the statement is that the State Forest serves as a demonstration of sustainable forest management to the benefit of the public and the owners of private timberlands. Appropriate management of the State Forest serves as an incentive for private timberland owners to manage appropriately, in consideration of a vast number of forest resources other than timber. The statement in the EIR relating to producing more intensive operations elsewhere refers to the potential for other landowners to trade localized impacts for mitigation banking at JDSF.

Response to Comment 86
Both Alternative C1and G consider the regional setting from a habitat and species perspective, and incorporate provisions to develop additional late seral forest. Alternative G includes additional areas designated for late seral development (see response 75 above). Connectivity within and adjacent to JDSF has been considered as part of the habitat analysis that was performed for the management plan (DEIR Section VII.6.6).

Response to Comment 87
The concern is not clearly stated. The Board recognizes the role that JDSF can play in regional restoration efforts, while also recognizing that JDSF is not capable of bringing about a full recovery of species.

Response to Comment 88
Mr. Campbell is expressing a personal opinion and not an environmental concern that can be responded to.

That “streamside buffer areas” or WLPZs could exhibit significant amounts of habitat edge depending on adjacent upland forest conditions is broadly recognized. Depending on the adjacent silviculture, these areas may not be considered as potential high quality marbled murrelet habitat for these very reasons.

The Board is aware of the Marbled Murrelet sightings in the vicinity of JDSF and this information is documented in the DEIR.

Response to Comment 89
Mr. Campbell quotes extensively from the DEIR and DFMP but does not express an environmental concern that can be responded to.

Response to Comment 90
Specific attributes of limb structure found at murrelet nest sites are described in the DEIR on Pages VII.6.6-75-76. That the canopy closure above murrelet nest sites must be from old-growth redwood and no other tree species in order for a murrelet nesting attempt to be successful has not been documented in the scientific literature to the best of our knowledge.

California Wildlife Habitat Relationships System (CWHR) Redwood 6 is representative of forest stands where the largest tree need only exceed 24 inches DBH with an understory composed of smaller trees. Old-growth trees and stands are protected as described in the DEIR and ADFFMP. The ADFFMP/RDEIR target 33% of JDSF for management towards recruitment of late seral and older forest structure conditions (RDEIR page II-9). The potential decline of marbled murrelet habitat capability cited by the commenter is based on a reduction in Redwood 6 acreage. The modeling limitations of this CWHR habitat type relative to marbled murrelet habitat are described in the DEIR Page VII.6.6-78-79. It is also noteworthy, not withstanding species specific habitat modeling limitations, that the 7% decline is followed by a 13% increase in the 2030-2060 period.

Response to Comment 91
The DEIR has proposed a Contribution to Recovery of Marbled Murrelet Habitat management measure based on input from the US Fish and Wildlife Service, California Department of Fish and Game, and Oregon Cooperative Wildlife Research Unit and others. Habitat areas identified in that management measure will receive additional review as will other areas. The level of management the proposed murrelet habitat areas receive to speed the attainment of late seral forest conditions, if any, is dependent on the review to be conducted (DEIR Page 6.6-118-119 and 6.6-78-82). Also, see response to comment 75 above.

Response to Comment 92
Approximately 15-25% of JDSF is proposed as late seral (successional) or old-growth recruitment acreage, with an additional 10-20% designated for older forest structure. Ultimately, the importance of large second growth as an attribute to potential murrelet nest habitat recruitment will be determined as part of the Contribution to Recovery of Marbled Murrelet Habitat management measure. See response to Comment 91.

Response to Comment 93
The Board recognizes the biogeographic relevance of JDSF as a contributor to marbled murrelet recovery and other species of concern.

Response to Comment 94
Site specific impacts and identification of appropriate management measures to protect marbled murrelets or other species of concern are considered at the level of the individual project. The DEIR identifies those areas of second-growth that are adjacent to existing old-growth groves as late seral recruitment areas (DEIR Pages VII.6.3-24-26). The remainder of the comment appears to represent a management suggestion rather than a specific environmental concern that can be responded to.

Response to Comment 95
See response to Comments #1, #2, #15, #18, #70, and #118.

Response to Comment 96
The comment does not express an environmental concern that can be responded to.

Response to Comment 97
The Board will not speculate on what the commenter considers “suitable social activity” for marbled murrelets. The DEIR does not consider riparian areas and certain buffer strips that will be managed for late seral conditions as marbled murrelet nesting habitat. Existing old-growth groves are being augmented to increase effective size and reduce habitat edge influences (DEIR Page VII.6.3-25-26). Recognizing that existing old-growth groves may not provide suitable nesting habitat, per input from State and federal wildlife agencies, the DEIR has additionally proposed the Contribution to Recovery of Marbled Murrelet Habitat management measure described in the DEIR Page VII.6.6-118-119 and VII.6.6-79-82 and figure VII.6.6.8b. That unfragmented forest conditions are one of the habitat variables important to murrelet nesting success is broadly recognized.

Response to Comment 98
The commenter is correct that “young-growth”, as the term is typically defined, will not likely develop into “old-growth murrelet habitat” over a 50 to 100 year period. That outcome increases in probability to the degree that young-growth forest stands are not managed, if appropriate, to expedite the attainment of desired conditions. The DEIR/RDEIR seeks to identify those forest stands that can recruit suitable murrelet nesting habitat in as short a time frame as possible and with the highest likelihood of murrelet occupancy. The level of stand manipulation necessary to meet that objective, if any, is currently an unknown site specific determination that will be made in consultation with wildlife agencies and other sources of marbled murrelet habitat expertise.

Response to Comment 99
The landscape scale assessment developed by Strittholt et al 1999 was designed to provide a general picture of conservation value across central California. It was not designed to provide specific conservation and management measures for specific watersheds or CWE assessment areas, as stated in the DEIR Page VII.6.6-28. It was included in the Regional Setting Section of the DEIR to give the reader a landscape scale contextual view of JDSF watersheds relative to those across the region when considering a relatively small number of environmental values.

Response to Comment 100
The commenter does not describe an environmental concern that can be responded to. That JDSF would have appeared differently with a modified application of the Strittholt methodology relative to all other areas considered in the region with the same modification is speculative.

Response to Comment 101
The decision to not model the tenth criterion but to evaluate it qualitatively was made by Mr. Strittholt et al. as part of their study. The DEIR did not modify the methodology employed by Mr. Strittholt et al but reproduced their results as reported. Mr. Strittholt et al do not define "institutional barriers to management" but rather "management potential." This term referred to the degree of development of "existing management plans or conflicts". Strittholt et al note that "it is difficult, if not impossible, to assign the same type of ordinal score to this criterion" (p.2).

Response to Comment 102
The Board received input from a number of individuals and organizations as part of the scoping effort required for CEQA compliance.

Response to Comment 103
The ADFFMP proposes to complete a road inventory at JDSF (see Appendix IV). Following completion of the inventory, a priority list will be created for needed maintenance, improvement, and decommissioning. Since the inventory has not yet been completed, it would be speculative to estimate the miles of roadway that may be ultimately decommissioned. However, this effort is expected to be substantial. Over the past ten years, more than 10 miles of road have been decommissioned within JDSF. Most of the new road currently planned or anticipated is expected to be located near ridgelines and away from lower slopes and major watercourses. Most of this roadway will be designed to replace older roads located on steep slopes near watercourses, providing an improvement in environmental conditions for watershed resources.

Response to Comment 104
The potential for impacts to aquatic habitat and aquatic species associated with sediment production and increases in water temperature has been thoroughly considered. Protection is being provided through the implementation of many practices, including watercourse protection zone provisions, road construction and maintenance standards, and timber yarding provisions. Please see DEIR Section VII.6.1 for the assessment of potential impacts to aquatic species. A substantial acreage of young forest has been dedicated to the development of late seral forest, which is expected to increase the area of habitat available for the marbled murrelet. The northern spotted owl exists at a relatively high density within stands of young redwood forest. The density of owls is greater on the adjacent private industry lands, which have undergone a greater amount of timber harvest than JDSF over the past several decades. Significant cumulative impacts to the marbled murrelet and northern spotted owl are not expected to occur. Please see DEIR Section VII.6.6 for an assessment of potential impacts to terrestrial wildlife species. A provision has been adopted to develop an older forest structure zone, which will add potential habitat with unique structural characteristics and a component of large trees (see RDEIR Alternative G).

Response to Comment 105
The commenter appears to suggest that the criteria used by Strittholt to examine watershed conservation value at the landscape scale be applied to the JDSF. While the DEIR did not precisely follow Strittholt's landscape scale criteria, similar measures were applied to the analysis of

alternatives and associated determination of project impact at the scale of JDSF and the Cumulative Effects Assessment Area. The juxtaposition of late successional patches across JDSF was one of several criteria used to evaluate impact associated with each of the alternatives (DEIR Pages VII.6.6-216-240).

Response to Comment 106
Significant and cumulative environmental effects related to forest fragmentation and edge have been considered and are not expected to occur. Current and potential habitat has been evaluated. See DEIR Pages VII.6.6-216-240 for the consideration of edge and fragmentation. Widespread clearcutting is not proposed. The use of the clearcutting silvicultural system will be limited to research projects and areas where the system is necessary to successfully regenerate stands, which is not expected to occur often. See General Response 10.

Response to Comment 107
See response 103 above. Please see DEIR Sections VII.6.1 and VII.10 for a discussion of potential impacts to aquatic and other watershed resources. Significant cumulative impacts associated with the road system are not expected to occur.

Response to Comment 108
The ADFFMP proposes to retain trees the first 25 foot-wide strip of forest on either side of the stream. In addition, the 10 largest conifers and the native hardwoods will be retained. Additional conifers will be retained in order to maintain 240 square feet of basal area within the WLPZ, along with sufficient additional conifers to maintain 85% canopy near the stream, and 70% canopy further away from the stream (ADFFMP Chapter 3, Water/Lake Protection Zone Measures). The degree of temporary habitat edge created will depend upon the silvicultural system being proposed in the area adjacent to the stream zone. Little edge effect is expected when the adjacent forest is managed on an uneven-aged basis, while it is recognized that even-aged management adjacent to the watercourse protection zone is likely to create a temporary edge effect. Many wildlife species find edge to be beneficial, due to the variety of cover and foraging opportunities that are created.

As explained in Section VII.6.1 and Appendix 12 of the DEIR, the near-stream conditions on JDSF exhibit a high degree of canopy density in most areas, including some of those mentioned by Mr. Campbell. The average conifer volume present within JDSF, including the riparian zones, is significantly higher than on adjacent industry lands within the assessment area. The ADFFMP proposes to manage the WLPZ to develop late seral characteristics, including larger and older trees with a high degree of canopy closure.

Response to Comment 109
The comment does not express an environmental concern.

Response to Comment 110
This comment does not express an environmental concern.

Response to Comment 111
The Board agrees that the region surrounding and including JDSF should be managed to conserve and restore watershed and biological resources, including habitat for the marbled murrelet.

Response to Comment 112
The comment does not express an environmental concern.

Response to Comment 113
The comment does not express an environmental concern.

Response to Comment 114
Although recent survey effort has been limited, no Pacific fishers have been detected within the assessment area. Currently, the primary threat to the Pacific fisher is the reduction and fragmentation

of late-successional forests, and the associated loss of habitat components necessary for resting and denning. The species has been found in a wide variety of habitats, primarily those with a high level of large hardwoods and overstory canopy. The ADFFMP proposes to increase the area of late seral forest within JDSF, as well as increasing decadent stand elements such as snags and down logs, which are of value to the species. In addition, the creation of an older forest structure zone is proposed.

Habitat conditions for species of concern on adjacent ownerships are considered during individual project development and through the THP review process. That areas identified by the commenter as potential fisher habitat may be subject to possible timber harvest over the next 5 to 10 years does not equate to “especially heavy logging.” The commenter is correct that the non-spatial CWHR model predicts a 7% reduction in habitat capability over the Current-2030 period. However, this trend is reversed with a 8% increase in modeled habitat capability in the 2030-2060 period. It is also noteworthy that the CWHR model was not applied to riparian zones (DEIR Pages VII.6.6-133-134) which are considered to be of moderate to high habitat capability for breeding, feeding or cover requirements. This habitat type is expected to remain constant or increase in extent with the proposed Alternative. Significant impacts to currently unoccupied fisher habitat capability on JDSF are not expected to occur.

Response to Comment 115
The northern spotted owl exists at relatively high populations within the managed forest landscapes of the assessment area (DEIR Section VII.6.6-95). This is likely due to the availability of prey, which is closely associated with timber harvest and other forms of vegetative disturbance. The species requires a significant habitat component with a high degree of canopy closure consisting of trees greater than 24 inches in diameter. These conditions can be found throughout much of JDSF and the assessment area. All plans to harvest timber within JDSF must be accompanied by survey for the NSO. This partially accounts for the fact that large numbers of survey detections have occurred in areas proposed for harvest, such as Brandon Gulch and Camp Three. If the species is found to be using the proposed harvest area, plans must be mitigated to avoid take of the species. Typical mitigation may include an absence of harvest or modification of silvicultural systems to avoid "take" of the species.

Timber harvest does not decimate NSO habitat. All monitored spotted owls within JDSF are known to utilize the habitat provided by managed timber stands. Vegetative disturbance is capable of producing conditions that are conducive to the production of woodrats, the favorite local food of the NSO. While large even-aged cuttings are not expected to be viable habitat for a number of years, the species is capable of foraging near stand edges. Group selection maintains a significant component of nesting and roosting habitat, while promoting the development of habitat for the woodrat, an important prey base for the NSO. The assessment performed for the species indicates that a substantial amount of habitat exists and will be maintained or created within the assessment area. Significant impacts to the species are not expected to occur.

Response to Comment 116
The Franklin study was not conducted in redwood forest. It was conducted in interior coast range forests consisting primarily of fir, pine, and hardwood. The home ranges of all owls known to exist within JDSF include varying degrees of forest edge, while retaining sufficient closed canopy forest stands necessary for roosting and nesting. Known roosting and nesting in these types of sites on JDSF demonstrates the value of the Water/Lake Protection Zones. Forest edge provides a foraging opportunity for the species.

The ADFFMP will retain and produce large, contiguous forest areas that are managed on an uneven-aged basis, maintaining a significant amount of nesting, roosting, and foraging habitat for owls, similar to the habitats that the owls utilize at the present time. In addition, stands managed on an even-aged basis are expected to develop into quality foraging habitat within a few years after regeneration. Based upon the forms of stands utilized at the present time, both the Brandon Gulch and West Chamberlain area will continue to be quality habitat for the northern spotted owl after the completion

of forest management operations, due to the retention of a significant level of canopy cover, large second-growth trees, and hardwoods. Additional quality habitat will be maintained and recruited in the late seral development areas, the older forest structure zone, and within the WLPZ. Significant impacts to the northern spotted owl are not expected to occur.

Response to Comment 117
This extensive series of comments includes many concerns that have been repeated. Please see earlier responses to these issues.

The ADFFMP proposes to retain old trees that are greater than 48 inches in diameter, along with old conifer trees that exhibit specific structural habitat characteristics, such as cavities, large limbs, and broken tops. Due to the common historic occurrence of fire and other stand disturbances, these structural features are relatively common in the old growth trees within JDSF (Marc Jameson, personal communication). As such, it is anticipated that the majority of old trees will be retained. However, there is no inventory of old trees with unique structural characteristics, so a quantitative estimate cannot be made.

Within individual areas where timber harvest is planned, the Registered Professional Forester (RPF) or designee will evaluate individual trees and determine how they will be managed. Registered Professional Foresters are well qualified to identify old trees and structural characteristics. The structural characteristics of old trees are described in the ADFFMP (Chapter 3, Protection and Enhancement of Wildlife Species, Habitat, and Forest Structure). This serves as the working policy on retention of old trees. The RPF is free to apply professional judgement while evaluating trees within stands, potentially leading to retention of trees based upon other characteristics in addition to those listed in the ADFFMP, whether the trees are old or young. These decisions are a part of the site-specific planning and assessment that occurs for individual projects.

No trees, young or old, may be removed from old-growth aggregations (ADFFMP Chapter 3, Old Growth Forest), except under the special circumstances enumerated in the ADFFMP. Small trees without unique defining characteristics, regardless of age, will be evaluated individually during the planning process for individual harvest proposals. Individual old residuals may be harvested if lacking unique characteristics, depending upon the evaluation that is performed.

Very few young trees have developed unique structural characteristics of value to wildlife, due primarily to a relatively low occurrence of fire and other disturbances that tend to create unique structural attributes. As such, most young trees of any size or age may be harvested. Young trees are evaluated individually during the harvest planning process, and some trees with unique structural characteristics may be retained, as has been done with relatively high frequency in the recent past. One of the management objectives for a productive forest, is to remove defective trees that are not growing to potential. Production and habitat are both considered during the planning process.

Mr. Campbell does not specify why he believes that the "the history of forest management has not demonstrated that the JDSF managers can be trusted" with flexibility in determining which large trees can be removed to adjust species composition and improve potential performance of LWD. In fact, the forest managers have demonstrated the ability to adjust species composition and improve growing conditions for large trees, particularly redwood, with greater potential to remain persistent as future large woody debris.

The old-growth retention provisions of the ADFFMP apply equally to all conifer species, including Douglas-fir.

Response to Comment 118
The Board agrees that Alternative F would be expected to retain most of the old trees within JDSF. Trees in young stands that are 80 to 120 years old are not known to be a rare resource within the region. Trees of this age are common within many of the state and national parks, on private lands, and within the state forest. A considerable area was logged historically between 1885 and 1925, so

trees regenerated during this period are expected to occur in an extensive area of the region. However, no inventory of these trees has been performed, and many of the regenerated trees and stands have been harvested by uneven-aged and even-aged methods. The habitat value of forested stands is best assessed through an examination of structural characteristics, as was done for the DEIR. The age of trees within a forest stand is not a reliable determinant of forest structure, due to many factors, including stocking, species competition, site productivity, and historic disturbances.

Response to Comment 119
The reference material utilized to support the EIR have been appropriately cited.

Response to Comment 120
The management of the state forest is a continuous undertaking, so many operational details remain to be planned and implemented in the future, including additional road construction. As assessment of potential impacts associated with new road construction and timber operations will be conducted as the details of these potential future projects are better known. This assessment will also consider restoration projects that have or may be conducted, such as road decommissioning. The potential for new road construction has been considered at the programmatic level. Significant impacts to habitat and aquatic resources are not expected to occur. Please see DEIR Section VII.6.1 and 10.

Response to Comment 121
A short-term harvest schedule can be found in the RDEIR , Table II.3 (or ADFFMP Table 9). Rather than speculate as to where harvest would or could occur under each of the alternatives, the short-term harvest schedule served as an estimate for consideration with all alternatives, but the form of management (i.e. even-aged, uneven-aged, harvest or no harvest, late seral development) would likely vary, and the schedule would be adjusted based upon the final alternative adopted by the Board. This is an appropriate level of specific planning for the EIR.

Response to Comment 122
Water temperature has been monitored for many years, and no significant changes have been found, relative to either forest management or annual weather and flow patterns. Recent rainfall has been high, but well within a normal range in most areas. If environmental changes are discovered that represent a significant change in conditions relative to planned management or cumulative effects, the management plan will be evaluated and appropriate amendment of the plan will be considered.

Response to Comment 123
The North Coast Regional Water Quality Control Board is expected to produce a TMDL implementation plan in the future. Forest management operations will comply with the terms of the TMDL, similarly to all other regulatory requirements. The state forest has been managed to retain or develop a very high level of canopy to protect streams from water temperature increases, and to lower water temperatures in many areas as the canopy continues to develop.

Response to Comment 124
This information is available to some extent from JDSF timber inventory data; some of this detail was lost when these data were converted to CWHR types for wildlife habitat assessment. This fine-grain of information is more applicable at the project assessment level than at the programmatic assessment level of the DEIR. The finer-grained, site-specific information will be evaluated as a part of the environmental analysis at the project level.

Response to Comment 125
Please see earlier response above to the old tree retention issue. Edge effects are created by abrupt substantial changes in either stand density general canopy height, such as implementation of an even-aged harvest adjacent to a stand of larger trees. This does not directly relate to the age of second-growth trees or the existence of scattered old trees. The potential for significant edge effects relative to timber harvest has been considered.

Response to Comment 126
Direct solar radiation and local air temperature are the major environmental factors affecting local water temperature. Other related factors include shade canopy, water depth, and flow volume. Sediment color has not been found to be a significant factor locally, but may have a very minor influence.

Response to Comment 127
The ADFFMP makes provision for a geologist to evaluate potential slide prone areas and inner gorges, and to make recommendations to maintain the stability of these areas. Most of the inner gorge that exists in the Forest is within the WLPZ. A number of potential management limitations can be applied in potentially unstable areas (ADFFMP Chapter 3, Hillslope Management to Provide for Slope Stability). While a complete inventory of these areas has not been made, the DEIR and ADFFMP include maps that depict areas with potential to be unstable (DEIR Map Figures V and W). A thorough field evaluation is made of all planned harvest areas and areas subject to projects with potential to impact slope instability.

Response to Comment 128
The specific location of possible future road construction is unknown, expect in timber harvest plans that are a matter of public record. For these plans, a cumulative impacts analysis has been performed, based upon the potential harvest area and an associated assessment area. The EIR thoroughly considers the potential for new construction, improved maintenance, and the removal of old roads. Please review DEIR Sections VII.6.1 and 10 for an assessment of potential impacts to aquatic resources and watershed resources.

Response to Comment 129
RPFs are fully capable of assessing potential impacts to recreational resources. The staff of JDSF includes many professionals that have vast experience in the maintenance and protection of aesthetic values. A substantial amount of stand management has occurred in close proximity to recreational resources, and significant impacts have been avoided through application of various forms of mitigation, including harvest buffers, modification of project location, and application of silvicultural and timber yarding limitations.

Response to Comment 130
An analysis of potential impacts to recreational resources associated with road and trails is conducted for all projects with potential to impact these resources. Buffer strips and silvicultural limitations within them represent one of many potential measures that can be implemented on a site-specific basis. The recreational buffer represents an operational requirement, but mitigation of potential impacts is not limited to the buffer alone. As new recreational uses occur, including construction of new recreational trails, an expansion of the road and trail buffer system will be considered, and included in future amendments to the ADFFMP. The potential for impacts associated with the recreational use will also be considered.

Response to Comment 131
It is expected that a recreational needs survey will be conducted prior to conduct of the next environmental analysis associated with the JDSF management plan.

Response to Comment 132
No timber harvest is currently planned for the portion of state forest within the James Creek watershed. The table is based upon the best information available at the time of preparation of the DEIR, and as modified as adopted by the Board (RDEIR Alternative G). Future environmental analysis performed for planned management in this watershed will consider all past, present, and reasonably forseeable future projects within an assessment area established for the analysis, including projects on adjacent ownership.

Response to Comment 133
While the map figures do not include the names of these areas, the two largest late seral development areas are readily inferred from the map of special concerns. Waterfall Grove is located in the upper watershed area of Chamberlain Creek, and Road 334 is a short road located near the ridge that divides the North Fork of the South Fork from the South Fork of the Noyo River. The late seral development area is located between the ridge line and the North Fork of the South Fork. Both groves are within the older forest structure zone, which covers a large contiguous area from the west to east areas of the Forest.

Response to Comment 134
Several forms of mitigation are proposed to reduce the level of impact associated with the road system, and to prevent significant cumulative impacts associated with planned future management of the state forest. These measures include improved road maintenance and road construction, decommissioning of roads with highest potential to deliver sediment to streams, road use restrictions during wet weather periods, limitations upon road construction in proximity to watercourses, on steep slopes, or on unstable areas, and consideration of potential impacts to aesthetics. Please see DEIR Sections VII.1, 6.1, 10, and 14 for an assessment of potential impacts to aquatic resources, watershed resources, aesthetic resources, and recreational resources. Significant cumulative impacts are not expected to occur.

There are no existing regulations that directly relate to the location of roads relative to ancient or mature forests. However, new road construction will be avoided within old growth groves and late seral development areas. It is anticipated that most of the new road constructed in the future will replace older roads that present a potential impact to watershed resources.

Modern road building techniques have greatly reduced sedimentation on a per unit basis, but the extent of new construction within the assessment area as a whole has been high in recent decades, so the absolute level of sedimentation at the watershed level has been relatively high. The use of roads for the conduct of timber operations began in the 1940s, but accelerated in second-growth stands during the 1970s and 1980s with the development of new timber yarding technology.

New road construction will be kept to the minimum necessary to enable replacement of older, more environmentally damaging roads, and any additional road that is considered necessary for forest management purposes, subject to the constraints represented in the ADFFMP and in existing regulation (Title 14 CCR 923).

The Board recognizes that roads and road use present a pathway for the spread of invasive species. The ADFFMP includes management provisions to prevent the spread of these species, and to reduce the magnitude of existing populations (ADFFMP Chapter 3, Invasive Weed Species). The presence and re-growth of canopy also offer an effective means to reduce the spread of many invasive species and to reduce existing populations.

Response to Comment 135
Over the past several years, approximately 10 miles of road have been decommissioned on JDSF (Marc Jameson, personal communication). Though a complete road inventory has not been completed, it is estimated that a substantial amount of additional roadway will be decommission in the future. This is likely to include many the roadways that are no longer utilized for management purposes, in addition to many miles of roadway that remain in use. A rough estimate of 50 to 100 miles has been provided (ADFFMP Chapter 3, Road Management, Abandonment), but it is somewhat speculative at this point in time. The road inventory will help to refine the estimate.

Significant impacts associated with logging in riparian areas, within or near older second growth forest are not expected to occur. Please see responses above related to management of older second growth forest. Riparian areas will be protected by a number of measures designed to promote recovery and prevent impacts associated with sedimentation, shade levels, and water temperature increases. Heavy equipment will not operate within the WLPZ, and Class III

watercourses will be protected by equipment limitation zones. These measures will reduce soil disturbance and maintain ground cover that acts as a sediment filter. The watercourse protection zones will remain heavily vegetated, and streams that represent aquatic habitat will be protected by retention or creation of a very high level of overstory conifer canopy (ADFFMP Chapter 3).

Response to Comment 136
A road inventory would be expected to occur under Alternative E and F, as it is planned in Alternatives C1 and C2. The timing of the survey may differ somewhat, based upon the specifics of the alternative and development of a detailed management plan associated with the alternative, if adopted. Each of these alternatives recognizes the potential impact associated with roads. The ADFFMP includes a road inventory (Appendix IV).

JDSF personnel are concerned and are committed to reducing the impacts associated with roads at JDSF, while recognizing that survey, maintenance, and decommissioning are costly and time-consuming management activities. Forest management priorities include new construction to support management operations, in concert with improved maintenance, road inventory, and establishment of a schedule to maintenance and road decommissioning.

Response to Comment 137
The existing roadways on JDSF are available for recreational use. Most of the existing road is depicted on Map Figure 1 in the ADFFMP. Trails are depicted on the special concern area map (DEIR Map Figure D), including those roadways that are utilized most frequently on a recreational basis. The recreational trail system is described in the recreation appendix of the ADFFMP. Each project that is planned will include a unique consideration of potential impacts to recreational and aesthetic resources. The location of future camp sites and recreational trails is speculative. Future recreation opportunities on JDSF will developed through a recreation users survey, development of a recreation plan, and consultation with the new JDSF Advisory Group.

Response to Comment 138
The vast majority of recreational use within JDSF occurs within campgrounds, and along road, streams, and trails. Large numbers of people are not known to hike cross-country, but this activity is very likely to occur on occasion. JDSF is a managed forest that is intended to demonstrate maximum sustained production, and recreation is a recognized, yet secondary use of the Forest (Board policy). People who recreate beyond the bounds of recreational facilities can expect to see various forms of forest management. Most areas that have been managed remain a valuable and beautiful resource for those that venture off road, depending upon the form of management that has occurred and the period of time that has elapsed since the disturbance. Virtually the entire forest area has been harvested in the past. The Forest has been under continuous forest management since the 1860s, and has been managed continuously as a state forest since 1947.

Response to Comment 139
The campgrounds within JDSF, including those areas utilized by equestrians, are periodically examined for the presence of invasive species. To date, new invasive species associated with equestrian use have not been identified JDSF supports the use of “weed free” straw to prevent the introduction of invasive weeds. Fortunately, the ongoing equestrian use has not resulted major invasive weed infestations as a result of feed. This is probably due to the fact weeds adapted to agricultural settings are not well adapted to the canopy shaded conditions at JDSF and that equestrians are often proactive on these issues. The primary invasive weeds in areas appropriate for equestrian travel are not palatable to horses (broom, jubata grass). Significant impacts are not expected to occur.

The Board recognizes the role of vectors in weed spread. The principle vectors (vehicles, contaminated hay, wind, animals, humans, insects, etc) for the major invasive exotic species on JDSF are included in DIEIR Appendix 7B-1. This appendix also noted whether the species is spread by seed, plant parts, or both.

The IWM strategy at JDSF recognizes understanding of the spread of invasives is important. As provided in the Administrative Draft Final Forest Management Plan Chapter 3, the evaluation of weed infestation will include an investigation of the probable cause of the infestation.

The IWM approach includes prevention and an understanding of the disturbance effects that lead to infestations. Infestations have been facilitated by both management related disturbances and the proximity of infested rural residential and other lands. The DEIR, page VII6.2-20, provides for consideration of invasives during project development; “The impacts of invasive exotics and the potential for spread will be considered during the development of individual projects.” Some management actions have potential to create conditions that are more favorable to the establishment of invasive species, such as timber harvesting, road construction, road maintenance, and recreational development. These activities can be modified, based upon local conditions, to reduce the threat of infestation. Project modification may include variations in shade retention, buffering of roadsides, and reductions in the level of soil disturbance.

Response to Comment 140

The ADFFMP includes a list of five “Fire Defense Improvements”, including shaded fuel breaks. These shaded fuel breaks would be considered for construction in defensible areas along main ridges, adjacent to high use roads and adjacent to rural residential neighborhoods (DEIR VII.8-7). The mesic climate lowers fire risk but also increases the rate at which native and invasive plants can become established on a shaded fuel break. Among the considerations for any fuel break project would be the long-term management and maintenance. Some native vegetation including ferns, forbs and low shrubs could be managed to discourage growth of vegetation that would become ladder fuels. These and other similar factors are appropriately considered on a project specific basis.

Significant impacts associated with the risk of fire are not expected to occur (DEIR Section VII.8.1). There have been very few large fires recorded within JDSF since the 1940s. This is due to many factors, including an aggressive suppression program, a relatively cool and damp climate, and an aggressive prevention program. JDSF management staff regularly observe the Forest during the conduct of management activities, including security patrol. In addition, there are two conservation camps located wholly within JDSF, with crews that perform work projects throughout JDSF. JDSF is readily accessible to fire control personnel, due to the open roadways that exist. This is a primary factor that enables small fires to be extinguished. Historically, under old-growth conditions, fires were frequent relative to today, occurring in most areas on less than a 20 year frequency (Peter Brown and William Baxter, Fire History in Coast Redwood Forests of the Mendocino Coast, CA, Northwest Science, October 2002). Most recent fires have burned less than an acre, with the largest fire during the past 10 years being approximately 20 acres in size.

Forest canopy regrows quickly in this area, cooling the ground surface and increasing the moisture content of forest fuels. Timber operations occur on a small proportion of JDSF on an annual basis, and the extent of vegetation "browning" due to herbicide use is very low. Herbicide use targets certain species, and never browns entire hillsides.

Logging machinery can pose a fire hazard risk. Forest practice regulations have been adopted by the Board to prevent fires associated with the use of these machines in the forest (Title 14 CCR, Article 7, Hazard Reduction and Article 8, Fire Protection). Each proposal to harvest timber is accompanied by an assessment of potential impacts, including those related to the risk of fire. Each of the alternatives, except Alternative A, involves the maintenance of roads, though the anticipated future miles of open road is lowest in Alternative E.

Trees utilize ground water during the growth process. Simultaneously, they shade the soil surface and the understory. The Board will not speculate concerning Mr. Campbell’s use of the phrase "developing a plumbing system to provide more ongoing flow of cool clear water". This is not a recognized effect produced by trees, though trees can affect groundwater (primarily by depleting it and reducing the amount of precipitation that reaches the forest floor) and groundwater flow patterns (e.g. creating soil pipes).

Slash reduction near roadways is a common mitigation measure for individual timber harvest operations, depending upon the needs identified in individual areas. Broadcast slash fires are very infrequent, not having been utilized within JSDF over the past 10 to 15 years. Slash is commonly piled on or near log landings, and is often burned. Burns are conducted according to the conditions of permits, or in compliance with applicable regulations. Slash piles are most frequently burned after significant rainfall, which renders adjacent areas less prone to fire, and fire control lines are placed around the burn piles prior to ignition.

Response to Comment 141
At JDSF, vegetation becomes reestablished rapidly following timber harvest. The DEIR includes discussion of the fire and fuels issues (VII.8-5&6). Most of the forest falls into high fuels ranking which is related to the forested condition and productive soils. The fire potential is mitigated by relatively wet climate and lower than average frequency of severe fire weather.

The hazards section of the DEIR (VII-8) includes discussion of risk of wildfire to the forest and measures to protect JDSF. The proximity of the Pacific Ocean and its resulting summer fog pattern dominate any minor microclimate changes in the forest structure at JDSF.

Response to Comment 142
Please see earlier responses to the issues of edge effects and use of herbicides. Significant impacts associated with fire are not expected to occur. Even-aged management is known to produce heavy accumulations of slash. However, this slash tends to decompose rapidly, returning nutrients to the soil. Regrowth is rapid, and is often accompanied by the planting of redwood and Douglas-fir seedlings. The regrowth of young redwood forest tends to be quite dense, with up to 1000 or more trees per acre. Generally, within a period of 5 to 10 years after establishment, the regeneration is thinned in order to concentrate growth potential on a lesser number of trees. This type of activity has been on-going at JDSF for over 40 years, with no significant incidence of fire within this type of stand. This is primarily due to the fire prevention and suppression practices that are normally employed, in addition to the inherent climate conditions that are present. Please see the assessment of fire hazard (DEIR Section VII.8.1).

Response to Comment 143
Intensive vehicle and machinery activities tend to occur only along roadways used in conjunction with timber operations, and along a few of the more heavily utilized recreational access roads. While the use of machines along these roadways introduces some risk of fire, it also provides for ready identification and suppression of fire. The characterization of the DFMP as "promoting intensive vehicular and machinery activities, in the majority of JDSF" ignores the fact that these activities do not occur simultaneously, but may occur periodically over a long period of years. See also responses above to this and similar concerns.

This statement includes statements that have been made repeatedly by Mr. Campbell. Please see responses above. The management of JDSF does not generally target the larger trees within harvest units. In general, uneven-aged management involves the partial harvest of trees throughout the diameter range, while even-aged management may remove most of the trees of all sizes.

Response to Comment 144
The Board generally agrees with this statement. Smoking and the use of equipment around dead vegetation increases the risk of fire. The Department does not practice brown and burn management. Please see responses above for citations of the analysis of potential impacts due to fire. Significant impacts are not expected to occur.

Response to Comment 145
The risk of catastrophic fire has not been demonstrated to be of such a magnitude as to impact the age of trees grown and harvested within JDSF. No assessment has been made of the various potential ages of trees in relation to fire risk. Forest stands are dynamic and variable. It is virtually

impossible to create or maintain an even-aged condition over the long term. In time, natural stand dynamics, intra stand competition, and other stand development characteristics tend to produce an uneven-aged condition, as can be seen in most old growth forests. While the risk of catastrophic fire may be somewhat less in an old growth forest that is subjected to periodic under-burning, when compared to a managed forest, no significant cumulative impacts related to fire risk are expected to occur as the result of management in conformance with the provisions of the ADFFMP. These are somewhat speculative issues, due to the general absence of a catastrophic fire history in this area subsequent to the 1940s. Please see the assessment of impacts due to fire (DEIR Section VII.8.1).

Response to Comment 146
The potential for impacts related to fire has been assessed. Significant impacts are not expected to occur (DEIR Section VII.8.1).

Response to Comment 147
The potential for impacts to watershed resources and aquatic habitats has been considered. Significant impacts are not expected to occur. Please see responses to this issue above. The TMDL process continues to evolve. As regulatory requirements are established, forest management operations at JDSF will remain in compliance. Should any new regulation require further environmental analysis, additional mitigation measures, or additional monitoring, the ADFFMP will be amended, depending upon the magnitude of the regulatory change.

Response to Comment 148
This statement is not an expression of concern. The statement describes a series of regulatory actions taken by state and federal agencies relative to the listing of fish species.

Response to Comment 149
Please see the assessment of potential impacts to aquatic species and aquatic habitat, including potential sedimentation and potential increases in water temperature (DEIR Section VII.6.1 and Appendix 12). The monitoring of selected streams for sediment and water temperature is an on-going activity at JDSF. The monitoring serves as an important tool in the adaptive management program at the Forest. Observed changes are evaluated in order to correlate them with both management actions and natural events. If environmental changes are observed that necessitate a significant change in management direction, the management plan will be amended. To-date no environmental changes of this type have been observed. Timber operations are mitigated to retain water temperature within the range favorable to salmonids, while canopy is allowed to recover in areas where water temperature is outside of the range preferred by salmonids. An analysis of water temperature monitoring data collected in relation to recent timber harvest activities, both even-aged and uneven-aged, has demonstrated that the timber operations at JDSF do not produce a significant cumulative impact upon water temperature. Significant impacts associated with sediment and water temperature are not expected to occur.

Response to Comment 150
This statement repeats concerns expressed earlier in the letter. Please see responses above.

Response to Comment 151
This statement repeats concerns expressed earlier in the letter. Please see responses above.

Response to Comment 152
This statement is repetitive of earlier statements and concerns expressed in the letter, and represents conjecture that is contrary to the stated management objectives and measures proposed in the ADFFMP. Please see the proposed management objectives and measures for the WLPZ (ADFFMP Chapter 3). Significant impacts to aquatic resources are not expected to occur (DEIR Section VII.6.1).

Response to Comment 153
The commenter's preferences for management direction are noted.

Response to Comment 154
This statement is repetitive of earlier statements and concerns expressed in the letter. As pointed out above, the eucalyptus was planted by the Caspar Lumber Company. CAL FIRE recognizes that this plantation is not native, and may attempt to remove it at some time in the future. However, no attempt will be made to eliminate the eucalyptus until a thorough environmental analysis is conducted, including assessment of potential impacts to wildlife, public safety, and watershed resources.

Response to Comment 155
This statement repeats concerns expressed earlier in the letter. Please see responses above.

Response to Comment 156
This statement repeats concerns expressed earlier in the letter. Please see responses above.

Response to Comment 157
This statement expresses Mr. Campbell's preference for the adoption of Alternative E, which he believes is the most protective of the environment.

Response to Comment 158
The forest will be managed in compliance with all applicable rules and regulations.

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