March 31, 2014

Bureau of Land Mgmt.
Resource Management Plan Western Oregon

Subject: Public Comment on Western Oregon Resource Mgmt. Plan (RMP) – Recreation Planning Criteria

My comments are about the area known as Johns Peak/Timber Mountain proposed Off-Highway Vehicle (OHV) Emphasis Area.

The proposed Johns Peak/Timber Mountain area is not suitable as OHV Emphasis Area as the area is a checkerboard of public and private ownership, with the majority being private. These private land owners have not granted permission for OHV riders to trespass on their lands. Quote from John Gerritsma in 2007, “One of the key issues that people need to understand is that, of the existing miles of roads and trails out there now being used, only about half is on BLM land. Additionally, John said, “We didn’t consider any alternatives to increase trails. Our analysis shows there is already too much out there in terms of safety issues and environmental and social impact.”

The 1995 RMP OHV Designation for Johns Peak/Timber Mountain violated 43 CFR 8342.2a “Public Participation”: Prior to making designations or re-designations, the authorized officer shall consult with interested user groups, Federal, State, county and local agencies, local landowners, and other parties in a manner that provides an opportunity for the public to express itself and have its views given consideration. The residents directly impacted by this designation were never asked for public comment.

43 CFR 8342.1 Designation criteria must be applied to all OHV areas.

The Federal Land Policy and Management Act (FLPMA) Designation Criteria States:

The authorized officer shall designate all public lands as either open, limited, or closed to off-road vehicles. All designations shall be based on the protection of the resources of the public lands, the promotion of the safety of all the users of the public lands, and the minimization of conflicts among various uses of the public lands; and in accordance with the following criteria:

(a) Areas and trails shall be located to minimize damage to soil, watershed, vegetation, air, or other resources of the public lands, and to prevent impairment of wilderness suitability.

(b) Areas and trails shall be located to minimize harassment of wildlife or significant disruption of wildlife habitats. Special attention will be given to protect endangered or threatened species and their habitats.

(c) Areas and trails shall be located to minimize conflicts between off-road vehicle use and other existing or proposed recreational uses of the same or neighboring public lands, and to ensure the compatibility of such uses with existing conditions in populated areas, taking into account noise and other factors.

(d) Areas and trails shall not be located in officially designated wilderness areas or primitive areas. Areas and trails shall be located in natural areas only if the authorized officer determines
Comments on Planning Criteria for the Western Oregon Resource Management Plan

I attended the BLM public information and input session on March 12 in Medford. The BLM web site said this would be a meeting on “Planning Criteria and Preliminary Alternatives.” Before attending the meeting, I downloaded and read the 244-page Planning Criteria document. However, the meeting was not about the Planning Criteria. The only mention of the Planning Criteria document was to say that it’s very long and full of technical details. It was clear that they didn’t expect (or want) anybody to actually read it. Then they presented us with four “preliminary alternatives” for discussion.

When I attempted to raise some of the concerns I had with the Planning Criteria, I was advised that the purpose of this meeting was to discuss the preliminary alternatives and any potential options that might be missing from them. I was specifically told that we were not there to address the Planning Criteria.

Clearly, the BLM doesn’t want public input on the Planning Criteria. However, the Planning Criteria are more important than the preliminary alternatives because all of the alternatives (preliminary or not) will ultimately be analyzed and judged against these criteria. If the criteria are flawed or biased, the outcomes will reflect those flaws or biases, regardless of what alternatives are initially proposed.

So I’m providing my comments on the Planning Criteria here.

As a retired Senior Program Manager from Microsoft, I’m familiar with the strengths and weaknesses of computer modeling. Computer modeling is very useful for estimating probabilities in limited scenarios where all significant factors are well understood and/or tightly controlled. The more complex the system being analyzed, the less accurate the models are. Computer modeling is notoriously poor at predicting outcomes in complex systems such as the stock market and even weather forecasts. In a system as complex as the systems being analyzed here, the outcomes of computer models will necessarily have low confidence levels.

The scientific method requires a hypothesis, a test, and verification that the hypothesis accurately predicts the outcomes. In a complex system such as this, computer modeling could provide a reasonable basis for establishing hypotheses for potential outcomes, but the hypotheses need to be tested in the real world to determine their accuracy. Here, the outcomes predicted by the models are assumed to be accurate without ever being tested, and are used as criteria to analyze the different alternatives. That is poor science.

In any computer model, if the inputs do not completely and accurately reflect all factors that influence the outcome, the predicted outcomes will be inaccurate. It is difficult to believe that the designers of these computer models truly know all the relevant factors and fully understand not only how each
factor influences the outcomes but also how the different factors might interact with one another. Below is an example of one of the flaws in one of the methods of analysis described in the document.

The following excerpts are taken from pp. 92-95, under *Invasive Species - Analytical Methods and Techniques*.

- "Step 2a - Assign weights of 1 or 5 to the three timber harvest types based on their respective post-harvest light levels. Assign a weight of 5 to regeneration harvests. Assign a weight of 1 to commercial thinning and uneven-aged management activities.
- Step 2b - Assign weights of 1, 3, and 5 to logging methods based on their respective levels of soil disturbance. Aerial harvests will be assigned a weight of 1, cable yarding systems will be assigned a weight of 3, and ground-based methods a weight of 5.
- Step 2c - Calculate a combined timber harvest activity weighted value by multiplying the weights from Steps 2a and 2b."
- "Step 4a - Assign off-highway vehicle designation weights, as identified below, to each part of the fifth-field watershed having a different off-highway vehicle designation.
  - Off-highway vehicle designation susceptibility weights:
    - Open = 5
    - Limited = 3
    - Closed = 0"
- "Step 5a - Assign recreation management designation weights, as identified below, to each part of the fifth-field watershed.
  - Recreation management area designation susceptibility weights:
    - Special recreation management area = 5
    - Extensive recreation management area = 3
    - No recreation management area = 1"

How were these weighting factors determined? The fact that all of the weights are either 1, 3, or 5 indicates that these numbers simply represent Low, Medium, or High, rather than representing true relative weights calculated to reflect the magnitude of difference in the impacts of the alternatives.

These weights are then multiplied to determine the rankings of various combinations of scenarios. When multiplying weights, any errors in magnitude of relative significance are multiplied. Since these weights are not based on actual magnitudes of difference in impact, but simply vague concepts of Low, Medium, and High, the final results cannot accurately reflect relative differences in impact between the scenarios.

Unless it is actually known that regeneration harvests create five times more post-harvest light levels than commercial thinning, and that cable yarding causes exactly three times more soil disturbance than aerial harvesting, and that post-harvest light levels and soil disturbance are equally impactful in spreading invasive species, and that their combined impacts are linear, then it is meaningless to determine that regeneration harvests with cable yarding are 15 times more impactful than commercial thinning with aerial harvest, which is exactly what the method that is described in this section concludes. This is not good science, or even good logic.
In the section on the *Spotted Owl*, pp. 172-173, it says that we must set aside large blocks of nesting and roosting habitat, with more of them added each decade in each district until we have a properly spaced network of habitat blocks throughout all the districts. Each habitat territory requires a 500 acre inner circle within a provincial home range circle (whose area is undefined), each of which contains more than 50% roosting and nesting habitat. These blocks must be located no further than 12 miles apart, and must be surrounded by a 15.5 mile radius of dispersal habitat.

How much land will ultimately be left for sustained-yield timber management when the nesting, roosting, and dispersal habitats for the spotted owl keep expanding?

Looking at the maps presented at the public information and input session, it appears that preliminary Alternatives A, B, and C all have more land dedicated to Spotted Owl habitat than we have today. On the map for Alternative D, the only other alternative proposed, the Spotted Owl habitat does not appear to be in large contiguous blocks, as it is on the other three maps. Since the Planning Criteria document requires large contiguous blocks of owl habitat, no more than 12 miles apart, surrounded by a 15-mile radius of dispersal habitat, the owl habitat in Alternative D doesn’t appear to satisfy the Planning Criteria. Is the owl habitat in Alternative D just a straw man proposal that will be summarily eliminated when the criteria are applied? It seems that the Planning Criteria dictate the outcome that there will necessarily be more lands designated for Spotted Owl habitat in the new RMP than there are today.

I disagree with the merits of these criteria. Given the poor results that have been realized from this strategy to date, (reduction in both spotted owl population and timber harvest revenues), doubling down on a failed strategy doesn’t seem to be an effective plan.

On p. 173, it says “Conclusions are based on block development, regardless of their occupancy by nesting spotted owls.”

This approach seems far too theoretical. Why not determine suitable habitat based on where actual owls actually nest and roost? Suppose there are other factors, of which we’re unaware, which cause Spotted Owls to prefer nesting somewhere other than the habitat we’ve decided is suitable for them? Will we still maintain the habitat that has been set aside for them even though the owls have different ideas? And what if the Barred Owls continue to eat the Spotted Owls’ lunch, and the Spotted Owl population continues to decline, having nothing to do with habitat factors; will we continue to set aside and maintain ever-increasing Spotted Owl nesting and roosting habitat for owls that don’t even exist?

On p. 176, it says “Barred owls occupy the entire range of the spotted owl and all spotted owl habitats, compete with spotted owls for all spotted owl prey species, displace spotted owls from nest territories, inhibit spotted owl establishment of new territories, and are contributing to observed, range-wide spotted owl population declines.”

You can’t fight natural selection. Barred owls are better adapted to their environment. Survival of the fittest will determine the outcome, not federal regulations.
In the section on Socioeconomics, there is considerable redundancy, both within the chapter and with other chapters. For example, in Table 33 on p. 131, Wildlife is listed both under Recreation and under Biodiversity. Visual resources are listed both under Recreation and under Scenic Amenities. In the final analysis, I hope the factors that are considered under two categories are not going to be given twice the weight of factors that are considered under only one category.

For the sake of efficiency, it make sense to eliminate the redundancy in this chapter and in the rest of the document.

Finally, I have a concern with the scale on which dry forests are designated. All of the preliminary alternatives (except A) state that only uneven aged management would be applied in dry forests. However, most of Southern Oregon’s O&C lands are designated as dry forests. There are plenty of north slopes in the Medford District that have the characteristics of moist forests, yet the designations are not at a fine enough granularity to acknowledge this. To sustain an economically viable timber industry in the Medford District, it’s important to allow regeneration harvests on the slopes that have moist forest characteristics. This means the designations of dry forests must be considered on a more granular basis than they are in the current analysis and planning criteria documents.

Margaret Goodwin
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Public Comment Form

Please note that the following comments will be recorded as official public comment as part of the National Environmental Policy Act official public comment period for BLM’s Resource Management Plan for Western Oregon Planning Criteria. General response to comments will be provided in the Draft Environmental Impact Statement. Thank you for your input!

Name: __________ WAYNE BRADY ______ Email: __________________________

Address: __________________ City: ___ Roseburg __________

Phone #: __________________ Organizational Affiliation: __ULTRA________

I would like to be added to the RMP for Western Oregon mailing list:  Yes  No

Please use the space below to provide your comments on aspects of the Planning Criteria, draft Preliminary Alternatives, and/or today’s Public Session. Before including address, phone number, email-address, or any other personal identifying information in your comments, be advised that your entire comment, including personal identifying information, may be made publicly available at any time. While individuals may request that the BLM withhold personal identifying information from public view, the BLM cannot guarantee it will be able to do so. If you wish us to withhold your personal information you must state this prominently at the beginning of your comment. We will make all submissions from organizations or businesses available for public disclosure in their entirety.

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Visit the BLM RMP for Western Oregon website to submit comments (http://www.blm.gov/or/plans/rmpswesternoregon/)

Large block reserves should be based on actual use by spotted owls or murrelets not on hypothetical computer models. The RMP needs to identify what activities are allowed to occur in large block and riparian reserves such as salvage logging, OHV trail use, firewood cutting which do not alter the habitat. The RMP alternatives should not have the most restrictive riparian reserve requirements on the alternative that allows the most timber harvest.

The RMP must not continue the buffer requirements on non-fish bearing and seasonal streams which came with the Northwest Forest Plan. Those restrictions are not workable in the Cascade and Coastal topography. They make it nearly impossible to design an economical and rational harvest area. The RMP needs to recognize and document existing and inventoried OHV trails, and treat them as existing trails in the recreation analysis. Even though BLM has not been properly managing them, some have existed for 40-50 years and they do exist in the public minds.

The RMP needs to include OHV recreation in all area status including large block and riparian reserves.
Bureau of Land Management
Resource Management Plan for Western Oregon
March 2014 Public Information and Input Sessions

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Name: ________ VAN MANNING ________ Email: ______vanbonmanning@comcast.net__________
Address: PO Box 592________________ City: __Fox Island, WA 98333________
Phone #: (253) 549-0074________ Organizational Affiliation: __Assoc. of O&C Counties_____

I would like to be added to the RMP for Western Oregon mailing list: X Yes No

Please use the space below to provide your comments on aspects of the Planning Criteria, draft Preliminary Alternatives, and/or today’s Public Session. Before including address, phone number, email-address, or any other personal identifying information in your comments, be advised that your entire comment, including personal identifying information, may be made publicly available at any time. While individuals may request that the BLM withhold personal identifying information from public view, the BLM cannot guarantee it will be able to do so. If you wish us to withhold your personal information you must state this prominently at the beginning of your comment. We will make all submissions from organizations or businesses available for public disclosure in their entirety.

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The purpose and mandate of the O&C act is not addressed in the planning criteria document. The purpose of the O&C Act is providing revenues to 18 O&C Counties to support county services such as law enforcement. The means for providing this revenue is by selling timber based on then principles of sustained yield timber management. Today’s annual sustained capacity on O&C and CBWR lands based on current inventory is 1.2 billion board feet. The O&C Act requires at least a minimum of 500 million board feet to be sold and cut each year.

The alternatives currently identified are not capable of achieving this minimum statutory requirement. Additional Alternatives need to be analyzed that will meet the statutory requirements of the O&C Act.

The purpose and need statement will also need to be revised to include the purpose of the O&C Act.

Sustained yield timber management on O&C lands = County revenues = community services such as law enforcement.
Emailed comments to: blm_or_rmps_westernoregon@blm.gov

BLM Oregon
Attn: RMPs for Western Oregon Planning Team
1220 S.W. 3rd Avenue
Portland, OR  97204

RE: Comments on the Planning Criteria for Resource Management Plans for Western Oregon

To Whom It May Concern:

Thank you for this opportunity to participate in the early planning process for the BLM’s resource management plan revision for six BLM field offices in western Oregon. Trout Unlimited (TU) understands the importance of the Resource Management Plan (RMP) planning process for the future management of BLM lands in Oregon.

Background Summary

Trout Unlimited is a private, non-profit conservation organization that has more than 155,000 members nationwide dedicated to conserving, protecting and restoring North America’s trout and salmon fisheries and their watersheds. Since 1959, TU has dedicated staff and volunteers toward the protection of sensitive ecological systems necessary to support robust native and wild trout and salmon populations in their respective range. TU recognizes that the value of public lands is unparalleled in providing habitat to coldwater fisheries, drinking water and wildlife habitat.

Statewide, Oregon has over 3,000 TU members and six local chapters, including chapters in Brookings, Portland, Eugene/Springfield, Bend, Tualatin and Clackamas, Oregon. These volunteer members actively utilize and enjoy the resources of the many rivers, lakes and watersheds located on Oregon’s BLM lands. Attributes of these lands and watersheds include clean water, clean air, fishing, hunting, and wildlife viewing opportunities.

General Comments

The Planning Criteria document (PC) presents a fairly thorough and thoughtful review of options and strategies for proceeding to the next step in the planning process. We understand the enormity of the BLM’s undertaking in consolidating six field offices (Salem, Eugene, Roseburg, Coos Bay, Medford, and Klamath Falls) under one RMP. We appreciate the effort put forth by the BLM. Our interest is in the guidance on the development of the four preliminary
alternatives. Our feedback contains a few suggestions that perhaps can contribute to the BLM’s further analysis of the alternatives. These comments reflect the topics considered under the vegetative modeling analysis and discussion.

1. **Balance multiple uses.** Since this new RMP will be the management tool for the next potentially 20 years, we strongly urge the BLM to balance the various multiple uses that occur on these lands with an eye toward conservation. Identifying lands for various uses should be completed with the understanding that once these designations are made, it becomes a committed action with often little recourse for managers, should undesirable impacts occur. For instance, should the BLM open up new tracts of landscape for OHV use or minerals development, it should be done with an accompanying robust analysis and using the latest science and research available, and with full public review. Based on what the PC currently contains, we remain confident the BLM is on the right track.

2. **Fisheries and Climate Change.** For all Climate Change discussions, we recommend the BLM include analysis on aquatics and hydrology. The Hydrology section does include reference to warming temperatures but little reference in either section was made to the importance of understanding how climate change can affect fisheries and native trout and salmon populations.

3. **Buffer Protections for Fisheries.** In the Fisheries discussion, we recommend the BLM include a discussion on buffer setbacks and the benefits of increasing buffers along important perennial streams and riparian areas. Many species of native trout and native nongame fish have conservation agreements which the BLM is a participatory agent. Adhering to the commitment and objectives set forth in many of these conservation agreements provides for a more sound and responsible effort in protecting many sensitive species including potentially limiting their listing on the Endangered Species List.

TU supports aggressive buffers that add a more robust protective layer from natural and manmade disturbances. Activities such as logging, grazing, OHV trails, or energy development near watersheds increases the chances for unfortunate accidents or spills that can directly and significantly affect the aquatic ecosystem. From headwaters to downstream municipal communities, protection of our nation’s water systems remains a top priority for many reasons. Ecologically, waters are the most important element in any living system. Protecting water systems provide a healthy benefit for more than just fish; terrestrial wildlife including big game, large and small mammals, birds, insects, amphibians and reptiles all benefit by having clean water. Additionally, livestock and agricultural operations benefit from managed riparian areas. The implications of current scientific literature for management are that a stream buffer, a riparian setback, or forested buffer should be viewed as not only a parcel-specific best management practice, such as a stormwater management pond or a bioretention structure, but also as a watershed-scale management system.¹

4. **Invasive Species.** The Invasive Species section should include fisheries in the discussion. We note that while the risks to aquatic ecosystems from OHV use are discussed, there is no reference to impacts to fish populations should an infestation event occur.

5. **Minerals Section:** Include BLM Instruction Memorandum 2010-117. TU supports and promotes the responsible development of our public lands with respect to energy development. We recommend the section on Minerals be more thorough despite the limited past history with oil and gas development. Include reference language to the BLM’s oil and gas leasing reform based on BLM’s Instruction Memorandum (IM) 2010-117. This policy, issued in May 2010, provides opportunities for field offices to re-evaluate the adequacy of lease stipulations on areas that have important and significant wildlife resource values. TU recommends that the BLM consider assessing some of the older lease stipulations that may not provide the protection necessary for wildlife habitat in these six resource areas. We understand the limited amount of leasing which has occurred in Oregon in the past 20 years; however, by implementing updated leasing stipulations and mitigation considerations (based on current BLM experience and research with energy development) at the RMP stage the BLM is able to better manage potential leasing and development issues that may come up as the United States concentrates its efforts to more aggressively develop our own “home-based” energy resources. Oregon is not without renewable and nonrenewable energy resources, including geothermal and coalbed natural gas (or CBNG). Other neighboring BLM offices in the West are implementing more aggressive stipulations during the planning process\(^2\), which not only allows for more protective resource measures but also provides the resource managers with the options to adjust stipulations at the ground and project level—something they currently are either unable or reluctant to do once an area has been committed or leased using outdated stipulations or mitigation measures.

6. **Update Recreation Information.** While we support the direction the BLM is headed with addressing recreation activities across western Oregon, we would like to recommend the BLM include, in addition to the data found in the Statewide Comprehensive Outdoor Recreation Plan (2013), recreational data use from the U.S. Fish and Wildlife Service annual recreation, fishing and hunting surveys.\(^3\) These surveys provide excellent data that helps agencies address potential future use.

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\(^2\) The BLM and the Forest Service (FS) more and more are trending to increased buffer setbacks, as witnessed with the most recent buffer establishment in the Little Snake BLM Field Office in Colorado (establishing a quarter-mile buffer on all perennial streams, RMP October 2011). Both agencies have adopted the buffer approach for oil and gas activity in their land use plans with the application of consistent setback stipulations for coldwater fisheries. In Montana, the BLM’s Dillon Field Office RMP (2006) implemented a half-mile No Surface Occupancy (NSO) stipulation from the centerline of streams with pure populations of Westslope cutthroat trout, Arctic grayling and Blue Ribbon fisheries. The BLM’s Butte Field Office RMP (2009) stipulates a half-mile NSO from the centerline of streams containing conservation populations (populations of trout with greater than 90% purity) of cutthroat trout, Arctic grayling, bull trout, and Blue Ribbon fisheries. The Butte BLM FO went one step further when they also created a half-mile NSO from the centerline of streams with a high potential for restoring native trout populations (RMP 2009). In Wyoming, the Lander BLM FO recently established one-quarter mile buffers along native cutthroat trout streams (January 2014 FEIS/ ROD pending).

The discussion under recreation mentions that trends in visitor use will remain constant for the purpose of the RMP analysis under Issue 1 yet under Issue 2, the BLM states that recreation demand will grow. Some clarification or expansion on the different meaning between the two discussions would be helpful.

TU promotes responsible use of OHV and appreciates the necessary steps the BLM is taking to bring damaging OHV use under control as it outlines its analysis in the PC. Our members have a vested interest in protecting wild fish and cold water resources from inconsiderate and damaging motorized use. Our goal is to promote stewardship and responsibility and to ask that sportsmen and women take the lead in working towards balanced, resource-conserving practices with respect to motorized use. For more information on our efforts, please visit www.sportsmenrideright.org. We reasonably expect sensible management of motorized travel that will allow sportsmen balanced access to quality hunting and angling on public lands. We are committed to working with the various stakeholders in collaborative and creative ways as the travel management process proceeds.

For the PC, we recommend the BLM include discussion of the most up-to-date OHV research and impacts as they affect watersheds and the landscape. Research has shown that ATV use and other motorized vehicle use increases sedimentation, channeling, stream impacts, and impacts to big game species and other wildlife. The BLM noted that OHV use is expected to increase and with such increases, there is the potential for non-regulated use of areas. Such use can directly impact streambanks, riparian areas, and substrates of Oregon’s important watershed systems. Other studies demonstrate the direct relationship between how heavily an area is driven and the amount of vegetation loss.

7. Implement the CHAT. The BLM announced on January 13, 2012 the implementation of IM 2012-039. This new directive, effective immediately, is referred to as the Western Wildlife Crucial Habitat Assessment Tool, or CHAT, and has been endorsed by the Western Governors Association as a method to achieve public land management goals and planning decisions. The IM’s importance lies within the ability for the BLM to access priority habitat areas through the use of combined mapping efforts and applied consistently across political and agency jurisdictions. The CHAT has been developed to identify uniformity in identifying important wildlife corridors and crucial habitat. TU recommends the BLM include reference and use of this tool as it moves through the planning process.

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Summary

We appreciate this opportunity to have participated in what we feel is an important process for creating and maintaining dialogue with the BLM and other stakeholders. We look forward to continued participation as you move forward.

Sincerely,

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Bureau of Land Management
Resource Management Plan for Western Oregon
March 2014 Public Information and Input Sessions

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Address: 1854 Stevens Rd __________ City: ___ Eagle Point __________

Phone #: __(541) 826-4250 ______ Organizational Affiliation: ___ MRA ______

I would like to be added to the RMP for Western Oregon mailing list: Yes x No

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Include clear options for new and existing travel across riparian areas.

Include buying easements for public access or continuing legal access from prior prescriptive use
Please note that the following comments will be recorded as official public comment as part of the National Environmental Policy Act official public comment period for BLM’s Resource Management Plan for Western Oregon Planning Criteria. General response to comments will be provided in the Draft Environmental Impact Statement. Thank you for your input!

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**Phone #:** 541-476-9108

**Organizational Affiliation:** SORA

I would like to be added to the RMP for Western Oregon mailing list: □ Yes □ No

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The Northern Spotted Owl and the Indirect Approach

After more than thirty years of the Northwest Forest Plan and Northern Spotted Owl emphasis in Federal land management, which has resulted in severe reduction in forest utilization without notable success in the “recovery” of the owl population. Instead there have been other competing factors discovered - the barred owl and the effects of rat poison used in the cultivation of illegal substances. During the same time period the demographics of rural Oregon - and especially most of the O&C counties have exhibited a significant shift to the older age classes. (Attached)

Concurrently there have been groups of so-called environmentalists who have done their best to discourage utilization of forests - even the salvage of dead trees after major fires, such as the 2002 Biscuit.

These groups have sometimes been described as modern day “Luddites,” however a significant difference is that Luddites were textile workers who smashed new machines were trying to protect their jobs by direct action - this did not succeed. The lesson was learned, and the modern approach is indirect. To appear to be “protecting” or “saving,” while actually doing quite the opposite. With a few exceptions - the tree spiking and monkeywrenching episodes - the indirect approach to “deindustrialization” has been used and very successfully so. The evidence of reduced timber harvests, 300 mills shut down, local economies battered, and finally the major long term demographic in rural areas, show strategy at work.

Just what is the motivation is less clear. But then this is typical of the indirect approach. You can tell you have been attacked from the effects, but it can be difficult to figure out the why and the who, since it may not even appear to be an attack. So if it walks like a duck - even if it doesn’t quack like a duck, it probably is a duck, and if you’re a fish watch out!

The recent Greater Sage Grouse sue-&-settle situation shows a departure from the classic indirect approach in that the attack and attackers were less stealthy in going for the “jugular” without benefit of the usual scientific review.

The House Natural Resources Committee Endangered Species Act Working Group has recently (Feb. 4, 2014) published results of an investigation of 40 years of the ESA.

The Recommendations section is attached as part of the record for the March 12, 2014 meeting in Medford, OR.

T.W. Scott
346 Bickford Dr.
Grants Pass, OR
97527
Oregon's fast-aging rural population hindrances economic growth, state economist says.
Endangered Species Act
Congressional Working Group

Report, Findings and Recommendations

February 4, 2014

Rep. Doc Hastings (WA-04), Co-Chair
Rep. Cynthia Lummis (WY - At large), Co-Chair
  Rep. Mark Amodei (NV-02)
  Rep. Rob Bishop (UT-01)
  Rep. Doug Collins (GA-09)
  Rep. Andy Harris (MD-01)
  Rep. Bill Huizenga (MI-02)
  Rep. James Lankford (OK-05)
  Rep. Blaine Luetkemeyer (MO-03)
  Rep. Randy Neugebauer (TX-19)
  Rep. Steve Southerland (FL-02)
  Rep. Glenn Thompson (PA-05)
  Rep. David Valadao (CA-21)

Website: http://esaworkinggroup.hastings.house.gov
Recommendations for Improving ESA and Removing Impediments to Recovery

The main goal of the ESA is to recover species. This is a laudable and worthy goal. However, as has been demonstrated in this report, the ESA, federal implementation of it, and seemingly never-ending litigation are creating increasing impediments towards reaching that goal. Only by removing these impediments can the ESA be improved for the benefit of saving species.

After more than 40 years, sensible, targeted reforms would not only improve the eroding credibility of the Act, but would ensure it is implemented more effectively for species and people. The Working Group heard several common themes on areas for improvement that fall into four categories: (1) greater transparency and prioritization of ESA implementation to ensure more focus on species recovery and de-listing; (2) ESA litigation and settlement reforms; (3) empowering states, local, tribes and private landowners on ESA; and (4) improving transparency and accountability of ESA scientific data.

1. Ensure Greater Transparency and Prioritization of ESA Decisions: More Focus on Species Recovery and De-listing than Listing

The Working Group received many comments that raised serious concerns about federal implementation of the ESA, the lack of prioritization of resources, and a seeming-fixation with listing species versus ensuring species recovery and compatibility to other vital economic and private property priorities. Some areas of improvement could include:

- **Ensure Prioritization of Species Protection.** Rather than listing hundreds or thousands of new subspecies of plants, animals and fish, the focus and priority of the federal government should be protecting those species most imperiled or found to be at the brink of extinction.

- **Require Numerical Goals Needed for Species Recovery -- Upfront.** Federal agencies that implement ESA should not list species unless and until they are able to identify actual recovery and numerical goals for healthy species populations upfront—before, or at the time of any proposed rule involving listing a species. Recovery plans should be drafted and completed and approved before listing or critical habitat is designated, not as an afterthought, years later, or not at all.
- **Require ESA Listing and Delisting Petitions to be based on Actual, Accessible Data.** Rather than basing decisions on vague trends showing decline or improvement or "professional opinions," ESA listing/delisting petitions should not be accepted by federal ESA implementing agencies unless they are based upon actual data relating to the species' condition. Data used for listing and delisting decisions should be made publicly available, especially if the data and related studies are being financed by the American taxpayer.

- **Require Delisting and Downlisting as Data Supports.** Instead of having to guess when (or even whether) the federal government will make decisions to remove species from the ESA list that are healthy or have met required recovery goals, federal agencies should be required to issue actual rules to delist and remove or downlist species from the ESA list where supported by data.

- **Authorize Flexibility of ESA Statutory Deadlines.** Federal agencies should have discretion to extend 12 month or 90-day deadlines relating to species listing or critical habitat determinations, without fear of spurious litigation. Rather than force federal agencies to accept every petition with equal weight no matter how lacking the science and data, agencies should be allowed to incorporate the best and most current data to allow for better prioritization. The ESA must keep its eye on those species at the brink of extinction or most imperiled. Agencies' Listing Priority Guidance (48 Fed.Reg. 43098) should supersede any conflicting 12-month or 90-day deadline set by rule, settlement or other action.

- **Codify Policy for Evaluating Conservation Efforts (PECE).** To ensure ongoing species conservation efforts are given proper authority and consideration under the law, the Policy for Evaluating Conservation Efforts (PECE) (found at 68 Fed.Reg. 15100) should be codified.

- **Clarify and Define ESA Terms to Ensure Consistency.** Several terms in the law have become magnets for misinterpretation, conflicting interpretations, or even litigation, and should be clarified, including, for example: "foreseeable future"; "significant portion of the range," "jeopardy" to a species, the technological and economic feasibility of "reasonable and prudent alternatives/measures," and "maximum extent practicable" relating to mitigation.
2. ESA Litigation and Settlement Reform

The Working Group received many comments that ESA decisions need to be made less susceptible to litigation, which has served to be a significant hurdle in prioritizing the recovery of truly endangered species and created rush to judgments that lack transparency. In times of tight fiscal budgets and escalating national debt, the first priority of the federal government's endangered species protection and recovery programs should be on species—not lawyers or prepping biologists for court.

Moreover, the federal government should not be rewarding those that have made a business out of suing the federal government on ESA to receive taxpayer-funded federal grants or funding through other programs. Here are three areas the Working Group recommends ESA should be addressed:

- **Transparency and Flexibility of Closed-Door Settlements/Deadlines.** ESA listing and habitat designation deadlines (agreed to by the Department of the Interior in its 2011 "mega-settlements" with two litigious groups, the WildEarth Guardians and the Center for Biological Diversity), should not supersede the federal government's ESA responsibilities to American private property owners, states, tribes and local governments, or further incentivize these and other groups to litigate and settle. Federal agencies should be required to disclose all details of consent decrees to Congress and an appropriate NEPA process should be applied for settlements to ensure public input in ESA decisions, and to ensure they include best scientific data.

- **ESA Litigation Transparency and Reform.** Litigious groups and plaintiffs should be discouraged from filing procedural challenges against agencies simply because they do not agree with the agency's decisions, (such as delisting determinations, findings of species listing not warranted). Litigants should be required to pay their own way to curb repeated litigation and foster court cases only on substantive matters. To discourage forum shopping by frequent ESA-litigation-plaintiffs, ESA lawsuits should not be permitted in federal courts other than in a state a species is primarily located.

Federal agencies, (including the Departments of Justice, Interior, Forest Service, and NOAA), should be required to maintain and make publicly available and report to Congress on the complete and accurate records of federal funds spent annually for ESA-related litigation, payment of attorneys' fees, settlements, and consent decrees for the Judgment Fund and the Equal Access to Justice Act.
Curbing Excessive Taxpayer Funding of ESA Attorneys' Fees. Hourly fees paid by the federal government to litigious attorneys for ESA litigation should be capped like other federal statutes to prevent lucrative payment of attorneys’ fees. Courts should no longer view “settling” parties as “prevailing” or entitled to taxpayer-funded attorneys’ fees. Parties that engage in settlement negotiations and settlements should bear their own costs. In addition, non-governmental organizations or individuals that file ESA-related lawsuits against the federal government should be barred from receiving federal taxpayer-funded grants. Since money is fungible, litigation should not be subsidized by taxpayers.

3. Empower States, Tribes, Local Governments and Private Landowners on ESA Decisions Affecting Them and Their Property

The Working Group has found both the capability and willingness of states, tribes, localities and private landowners to conserve and recover species. Multiple parties have identified impediments and deficiencies in federal ESA implementation, including misguided priorities and fear of litigation, which undermines species protection and conservation while simultaneously ensuring multiple use, protection of economies, private property and water rights. In this regard, several areas are recommended:

- **Strengthen States’ Authority and Role in ESA Policy.** Section 6(a) should be strengthened to ensure that states’ roles in ESA policy provisions have meaning and are enforceable. Agreements to delegate authority between the Federal government and states for management of activities involving listed species should not be subject to excessive litigation. States that have approved species conservation plans and agreements should be given presumption by federal agencies that ESA listing is not warranted.

- **Require State, Tribe, and Local Approval of ESA Settlements.** In addition, states (as well as tribes and other local governments) should be afforded legal standing and be consulted with on federal ESA-related court settlements impacting their jurisdictional borders. The ESA should provide local, tribal and state governments a voice in closed-door settlements where such settlements impact their land.

- **Require Involvement of State, Tribe, Local Data and Peer Reviews.** States, tribes, local governments, private landowners and other entities, in many cases, have more current and accurate data, which should be given the highest consideration and
presumption in ESA decisions. No ESA petition or listing determination should be approved without incorporating and analyzing data provided by states, tribes, local governments and private landowners. In addition, federal ESA agencies should be directed to include states, tribes and local governments in the design, selection and scope of peer reviews of major ESA-related decisions.

- **Strengthen and Simplify HCPs and CCAAs and Exempt them from Critical Habitat.** To encourage and give validity to voluntary Habitat Conservation Plans or Candidate Conservation Agreements with Assurances, these agreements should be exempt from critical habitat designations. In addition, the process to obtain such HCPs and CCAAs, which now can be cumbersome, expensive and out of reach, should be simplified and codified to incentivize individuals undertaking voluntary conservation efforts.

- **Authorize Reconsideration of Listing/Critical Habitat Decisions that Significantly Harm Private Landowners.** Property owners have no recourse in certain cases where their property is significantly devalued or subject to regulatory taking. The Secretaries of the Interior and Commerce should be authorized in certain circumstances to reconsider and reevaluate, without judicial review, any critical habitat or listing decision where evidence shows significant economic harm or other justification warrants it.

- **Require Real Economic Analyses Up Front for ESA.** The Obama Administration's finalization last year of a rule changing the way ESA economic impact analyses are conducted to only include "baseline" costs should be replaced with a rule that codifies a 10th Cir. Court of Appeals ruling requiring agencies to analyze all economic costs of an ESA listing. Moreover, critical habitat economic analyses should be required at the time of any proposed listing, making it publicly available.

- **Authorize Private Funding of ESA Permit Processing.** To improve processing of federal ESA consultations, non-federal contractors should be authorized to privately funded by an ESA permit applicant to prepare biological opinions, similar to documents now authorized under NEPA by third-party contractors. In addition, "action agencies" should be permitted to prepare a biological opinion subject to review and approval by FWS and NMFS.
4. Transparency and Accountability of ESA Data and Science

Finally, the Working Group heard from a number of experts and witnesses on the need to ensure that ESA science and data are transparent, publicly available, and not driven by individuals with conflicts of interests. The Working Group recommends improvements could be made to this area as follows:

- **Modernize and Clarify “Best Available Scientific and Commercial Data”**. Data, including DNA, should be preferred to support ESA determinations over unpublished reports or professional opinions. ESA-related data should be required to meet Data Quality Act guidelines. In addition, federal agencies should be required to justify why data relied upon for ESA decision is the “best available” and why such data is deemed “accurate” and “reliable.”

- **Transparency and Accessibility of Data in Federal ESA Decisions**. Data used by federal agencies for ESA decisions should be made publicly available and, when possible, reviewable through online access on the Internet. This includes data or information that may be contrary to federal agencies’ own data. A public repository of data should be required for all ESA decisions.

- **Reform, Transparency and Accountability of ESA-related Peer Reviews**. To ensure accountability, ESA-related peer reviews that do not comply with the Data Quality Act should be deemed “arbitrary and capricious,” and all ESA-related peer reviews should be made publicly available and available online on the Internet. In addition, peer reviewers selected should not have a financial or other conflict of interest. FWS and NMFS should be required to consult with the National Academy of Sciences and affected states, tribes and local governments, to develop list of qualified peer reviewers on each controversial ESA action.
December 20, 2011

Katrina Symons, Field Manager
Grants Pass Resource Area
US Department Interior
Medford District Bureau of Land Management
2164 NE Spalding Avenue
Grants Pass, OR 97504

Regarding:

1. Plans of Operation, Bonding, and Monitoring needed for 2012 Suction Dredging on Sucker Creek and Althouse Creek.

2. EA for Tracy Sucker Creek Plan of Operations: Changed circumstances resulting in unanticipated Sucker Creek stream temperature increases.

Dear Ms. Symons:

Klamath Siskiyou Wildlands Center and Rogue Riverkeeper are providing you information about suction dredging and floodplain placer mining that is likely to adversely affect coho salmon in Sucker Creek. We are asking that the BLM take coordinated actions to assure protection of critical coho salmon habitat from despoliation. Intensive suction dredging during 2011 and floodplain placer mining has resulted in significant damage to coho salmon habitat in Riparian Reserves and would seem to require Plans of Operation as identified in 1994 Northwest Forest Plan Standards and Guidelines C-34: “MM-1. Require a reclamation plan, approved Plan of Operation, and reclamation bond for all mineral operations that include Riparian Reserves.” The BLM’s routine dismissal of past, present, and expected damage to coho salmon habitat caused by suction dredging and associated activities as “minimal” because suction dredging with 4” dredges is classified as “casual use” is wrong and must be corrected (see Tracy Sucker EA p.18). BLM staff has previously reported illegal and damaging activities associated with suction dredging on Sucker Creek (e.g., October 23, 2008 and October 31, 2008 emails listed below). Sufficient cause now exists that BLM must notify claimants of Sucker Creek and Althouse Creek that Plans of Operation are needed for the 2012 dredging season because of anticipated cumulative impacts to coho salmon critical habitat (e.g. Cliff Tracy, Don Bean and all others). Bonding will be needed as well as specific reclamation and agency monitoring. Coordination with the Forest Service and National Marine Fisheries Service would also be necessary. A precedent for small scale suction dredge plans of operation for specific stream segments is described in a Clearwater National Forest Impact Statement developed for four creeks in Idaho where
ESA listed steelhead and bull trout reside (Supplemental EIS on Small-Scale Suction Dredging in Lolo Creek and Moose Creek).

The ongoing NOI Reelfoot Placer mining pits must be reclaimed (filled) for similar reasons (see 11 page letter dated November 7, 2011 from R. Nawa, [KSWild] to K. Symons [BLM] ). Further mining at Reelfoot placer must be prohibited until authorized with a decision for an approved PoO, bonding, ESA consultation, reclamation plan, and supported with full disclosure environmental analysis documents. The BLM must also finish reclamation/restoration of Tracy NOI violations on the east side of Sucker Creek. The side-channel restoration project needs to be completed along with tree planting and placement of roughness elements such as large wood and boulders. A recreational vehicle, pick-up truck, and mining equipment must be removed prior to 2011/2012 winter floods that could prevent low cost removal and cause pollution (Photos 10,11,12). Further delays with reclamation are retarding restoration of the Riparian Reserve and preventing restoration of coho salmon critical habitat.

We provide BLM with new information relevant to the Environmental Assessment Tracy Sucker Creek Plan of Operations (NEPA #DOI-BLM-OR-M070-2010-0004 –EA dated April 2010) and Reelfoot Placer Mining Plan of Operations proposal (BLM “Dear Neighbor” letter dated July 27, 2010). During 2010 and 2011 significant streambank and streambed damage to Sucker Creek has occurred from “casual use” suction dredge mining. In addition, circumstances have changed due to significant loss of stream shade and increased stream warming caused by the 2011 relocation of Sucker Creek on mined over private lands in section 36. As you know lower Sucker Creek is 303(d) listed for temperature. The Tracy EA states on p. 18 that:

One future activity that is reasonably certain to occur within the project vicinity is small scale suction dredging on both private and BLM lands. On BLM lands, use of a small (≤4 inch diam.) suction dredge by a claimant is classified as “casual” level mining and does not require permission or authorization by the BLM, although state permits are required; no scheduled monitoring is done for these activities. There are no other known proposals or reasonably foreseeable mining operations that exceed casual use in the watershed. **No notification is required for casual use, but effects of “casual use” mining are anticipated to be minimal** (43 CFR 3809.5). (emphasis added)

The following observations and photos provide facts for the administrative record contrary to what is stated in the Tracy EA and support our requested actions.
Chronology of Recent Suction Dredge Mining Activity

October 23, 2008. Dave Maurer (BLM) emails Dan Vandkye (ODFW): “Dan, As we discussed on the phone, I saw active suction dredging occurring yesterday in Sucker Creek. Further, on the day before, that is Tuesday, I observed fine sediment coating cobble and gravel in the streambed roughly 2500 feet downstream from the dredging site. The operation had left rows of tailings in the stream (perpendicular to stream flow) for 200 feet downstream from the dredge. Within T40S-R7W-1, NE SW, the site is located in a canyon segment of Sucker Creek on BLM land…”

This email documents illegal dredging beyond September 15 dredging closure date. Spawning gravel was damaged and egg–to-fry coho survival was likely reduced (Harvey and Lisle 1999).

October 31, 2008. Dave Maurer (BLM) emails Mike Deblasi (BLM) and other BLM staff: “I just got a call from Jeff Thompson, OSP…He caught Cliff Tracy in the act of suction dredging Sucker Creek. As most of you know, this is the same miner who has over cleared on his mining notice which is on our Site 1, Sucker Creek Restoration. He eliminated the future channel and all its riparian veg. and removed several logs we had place in the future channel. On that site Kirby Bean is shutting him down for working beyond his specified site area.”

This email documents state and federal mining violations by Cliff Tracy.

November 2010. Cliff Tracy moves motorhome, Jeep pickup truck, excavator and mining equipment to his BLM claims on Sucker Creek (Photos 10,11,12,13).

August 20, 2010. R. Nawa observed oil like substance leaking from motorhome, dump truck, and jeep parked on Sucker Creek floodplain (Photo 10b)(T40S-R7W; Section 1, NE SW).

August 20, 2010. R. Nawa observed a suction dredge with a 5 inch nozzle which had moved an estimated 50 cubic yards in two locations (Photo 1). Coho salmon are known to spawn in this portion of Sucker Creek. A 5 inch dredge is not allowed with standard Oregon Department of State Lands (DSL) permit and is not allowed with BLM “casual use” mining. The amount of gravel moved by the 5 inch dredge exceeds the 25 cubic yard DSL limit for dredging in essential fish habitat.

September 9, 2010. R. Nawa observed tandem dredges that had dredged coho salmon spawning habitat across the width of the creek (Photos 2a,2b). Dredges are not allowed by state law to operate with overlapping turbid plumes. (DEQ 700 PM).

October 15, 2010. R. Nawa and Jon Raybourn (BLM) observed an operating suction dredge at or near the location on Sucker Creek identified in Figure 1. The dredge was
being operated a month after the in stream water work period established by ODFW had ended and appears to be a violation of the 700 PM permit.

**December 28, 2010.** R. Nawa observed 2 coho salmon spawning in Sucker Creek near where suction dredges had deposited tailings during August/September 2010 (T40S; R7W; SW1/4Sec.1). Egg–to-fry coho survival was likely reduced (Harvey and Lisle 1999).

**December 2010/January 2011.** R. Nawa observes suction dredge tailings in Althouse Creek and coho salmon spawning in areas known to be disturbed by suction dredging (T.40S R7W;Sections 9,15,22). The Forest Service has previously documented coho salmon spawning on suction dredge tailings in Althouse Creek (USDA 2002). Egg–to-fry coho survival was likely reduced (Harvey and Lisle 1999).

**July 7, 2011.** R. Nawa and F. English observe a non-operating suction dredge located in Essential Salmon Habitat (ESH) with nozzle exceeding 4 inch diameter and having no screen. Coho salmon are known to spawn at this location (Photo 3).

**September 21, 2011.** R. Nawa observed direct physical damage to coho salmon spawning habitat on Sucker Creek (Photo 4). Dredging also caused large amounts of fine sediment to be deposited downstream into spawning gravels (Photo 5).

**October 13, 2011.** Josephine County sponsored a public field trip which visited a placer gold mine on private lands (T39S; R7W;SE1/4Sec. 3). R. Nawa observed that Sucker Creek had been moved several hundred feet. The new stream channel lacked any shade whatsoever (Photo 15). Stream temperatures are now expected to increase 3 degrees F. in this mined private reach due to lack of shade.

**October 20, 2011.** R. Nawa observed suction dredged pits and tailings on Sucker Creek (Photo 9) (T40S-R7W-Sec. 12 NW; UTM N:4661488;E;460750 NAD 27). Besides streambed excavations, suction dredges appeared to have been recently used to undercut about 30 ft of streambank and approximately 4 cubic yards of coarse and fine sediment had been displaced into the stream (Photo 6). Winter flows are certain to cause more erosion from this destabilized streambank. This is significant because the damage is to streambanks and is long lasting. To put this in perspective, if a miner said he would destroy 30 ft of streambank to get at gold in an NOI, the BLM would likely require a PoO to be submitted for environmental analysis. Streambank excavations are not “casual mining”.

**October 20, 2011.** R. Nawa observed that sometime during 2011 about ten cubic yards of cobbles and boulders had been removed from the streambed and placed on adjacent hillslopes (Photo 7). An additional 20 cubic yards of cobble/boulder had been removed in 2010 or earlier (T.40S.; R.7W.;NW1/4Sec. 12; UTM N:4661495;E;460734 NAD 27).
Removal of this coarse material was apparently done by miners who then dredged the underlying finer sediments at this site. Loss of coarse sediment and subsequent dredging degrades the quality and decreases the quantity of spawning gravel for coho salmon spawning. Seven alders up to 2 inches in diameter had been cut from streambanks near where cobbles and boulders had been removed. Suction dredging excavated and mounded gravels which reduced spawning availability. Nawa observed that spawning gravels suitable for coho salmon had been excavated and mounded in two other locations about ½ mile to the north (T.40S.; R.7W.;SW1/4Sec. 1).

**October 20, 2011.** R. Nawa observes motorhome, Jeep pickup, and mining equipment on Sucker Creek floodplain where they have been parked since about November 2009. (Photos 10,11,12,13).
Map 1. Red dot in center of map is location of suction dredge streambank damage and removal of estimated 25 cubic yards of cobble and boulder to facilitate suction dredging.

Photo 1. A suction dredge with a measured 5 inch nozzle moved an estimated 50 cubic yards of alluvium. Coho salmon are known to spawn in this portion of Sucker Creek. Photo by R. Nawa on 8/20/2010 (T40S;R7W;SW1/4Sec.1;UTM N: 4662865;E:460793 NAD 27)
Photos 2a (top) 2b(bottom). Tandem dredges degrade coho spawning gravel across the width of Sucker Creek. Photo by R. Nawa on 9/09/2010 (T40S;R7W;SW1/4Sec.1)
Photo 3. A dredge with nozzle exceeding 4 inches inside diameter has been operating along the edge of Sucker Creek where coho salmon are known to spawn. Photo by F. English on 7/7/2011 (UTM E:460791;N:4662846 NAD 27, T40S R7W Sec 1; 42.11836 -123.47557 WGS84).

Photo 4. Suction dredge tailing piles in Sucker Creek are attractive spawning sites for coho salmon. Coho suffer reduced egg-to-fry survival due to inherent instability of tailings. Photo by R. Nawa 9/21/2011 T40S; R7W;SW1/4Sec.1)
Photo 5. Suction dredging in Sucker Creek (Photo 4) caused large amounts of fine sediment to be deposited downstream into spawning gravels. Fine sediment kills or reduces benthic animal production (insect larvae) and degrades spawning substrate. Photo by R. Nawa 9/21/11 T40S; R7W;SW1/4Sec.1)

Photo 6. During 2011 suction dredge mining undercut about 30 ft of streambank of Sucker Creek. Approximately 4 cubic yards of coarse and fine sediment had been displaced into the stream. Photo by R. Nawa 10/20/11 (T.40S.; R.7W.;NW1/4Sec. 12).
Photo 7. During 2010-2011 about 30 cubic yards of cobble and boulders were removed from Sucker Creek to facilitate suction dredging of smaller underlying sediments. Top left and foreground. Photo by R. Nawa 10/20/11 (T.40S.R.7W.;NW1/4Sec. 12)

Photo 8. Alder saplings along Sucker Creek were apparently cut by miners to facilitate suction dredging. Photo by R. Nawa 10/20/11 (T.40S.; R.7W.;NW1/4Sec. 12)
Photo 9. Unnatural pits, mounds, and excessive sandy substrate caused by suction dredging on Sucker Creek have greatly degraded coho salmon spawning habitat. Photo by R. Nawa 10/20/11 (T.40S.; R.7W.;NW1/4Sec. 12).

Photos 10a and 10b. A jeep pickup has been parked on the floodplain of Sucker Creek since about November 2009. Oil like fluids are leaking from the vehicle. Photo by R. Nawa 10/20/11 (T40S-R7W-1, NE SW)
Photo 11. A motorhome has been parked on the floodplain of Sucker Creel since about November 2009. Photo by R. Nawa 10/20/11 (T40S-R7W-1, NE SW)

Photo 12. Mining equipment has been left on the floodplain of Sucker Creel since about November 2009. Photo by R. Nawa 10/20/11 (T40S-R7W-1, NE SW)
Photo 13. Cliff Tracy 2008 NOI mining on east floodplain of Sucker Creeks caused large shade producing conifers to die (smaller alders were directly destroyed). Loss of shade contributes to stream warming. Photo by R. Nawa 10/20/11 (T40S-R7W-1, NE SW)

Photo 14. During 2010 and 2011 the Reelfoot NOI Placer pit destroyed some shade producing trees and precludes restoration of shade indefinitely. More importantly, ground water that once cooled Sucker Creek with intergravel flow is now intercepted, warmed and lost by evaporation. Photo by R. Nawa 10/20/11 (T40S-R7W-1, SW NW)
Photo 15. Sucker Creek was moved to a new location at a private gold mine during 2011. No shade exists for several hundred yards of stream. Measurable stream temperature increases are certain for decades. Photo R. Nawa 10/13/11 during a public field trip sponsored by Josephine County. (T39S-R7W-3, SE).

**Specific Requests**

1. We request that the damage to streambanks, streambeds, and riparian vegetation on BLM lands (Fig. 1) be investigated and those who have damaged federal lands be held accountable for restoration and possible prosecution under state and federal law. At a minimum, further suction dredging must be prohibited at this claim until restoration has proved to be effective (i.e. trees have grown back, streambanks are stabilized with live rooted vegetation, and coarse sediment returned to its original configuration in Sucker Creek).

2. We request that the motorhome, jeep pickup and mining equipment illustrated in photos be removed immediately and prior to winter flooding.

3. We request that in 2012, BLM require plans of operation for all suction dredging and motorized placer mining within riparian reserves of Sucker Creek and Althouse Creek.

4. We request that new information provided herein be used in a timely manner to update cumulative effects analysis for both the Reelfoot Placer and Tracy Placer decisions. For example, likely temperature increases from future mining can no longer be dismissed as negligible because of the following cumulative stream temperature increases:
a. Cliff Tracy 2008 NOI mining on east bank of Sucker Creek has killed several trees and reduced shade (photo ).
b. Reelfoot 2010-2011 NOI mining has destroyed shade trees at wet water crossing and at pits.
c. Reelfoot pit now captures ground water and causes it to warm and evaporate rather than cool Sucker Creek.
d. Relocation of Sucker Creek on private lands is certain to have measurably increased stream temperatures due to lack of shade. (Photo 15).

Contrary to what is stated in Tracy Placer EA, further temperature increases can be expected from tree removal and mining related tree death on the floodplain and west bank of Sucker Creek. We assert that cumulative impacts of shade loss and ground water interception in this reach of Sucker Creek precludes further mining related loss of shade until stream shade has recovered from Tracy 2008 NOI mining, Reelfoot NOI mining, and private land mining/reclamation.

5. Due to present December 2011 low water conditions, the knowledge BLM has of the identity of suction dredge claimants at this location, and the need for access through a locked gate, we request that you coordinate criminal investigations with Oregon state police and remedial habitat actions with National Marine Fisheries Service.

6. We request that BLM document suction dredge disturbance to coho salmon spawning areas with National Marine Fisheries Service. BLM monitoring of suction dredging and suction dredge damage is necessary in this area of Sucker Creek due to chronic non-compliance (contrary to expectations stated in Tracy Placer EA).

Relevant Reports and Publications

We provide the following documents in electronic form on attached disc. These documents further support our requests and substantiate severe adverse impacts to riparian reserves due to suction dredging and connected or linked actions.


USDA Forest Service. 2009b Small-Scale Suction Dredging in Lolo Creek and Moose Creek in Idaho - Supplemental Environmental Impact Statement. Clearwater County and Idaho County: Clearwater National Forest, Lochsa and North Fork Ranger Districts.

Sincerely,

Richard K. Nawa
Staff Ecologist
Klamath Siskiyou Wildlands Center
950 SW 6th
Grants Pass, Or 97526

Forrest English
Water Quality Coordinator
Rogue Riverkeeper
PO Box 102
Ashland, OR 97520

Enc: Disc with reports/publications, Map1, November 7, 2011 letter concerning Reelfoot Placer

Copies with no enclosures:
Dayne Barron, Medford District Manager
Ed Shepard, BLM State Director
David Haight, ODFW
Heather Tugow, DEQ
Anita Andazola, ASACE
Jim Houseman, NOAA Fisheries
Roy Bergstrom, Rogue River National Forest, Wild Rivers District Ranger
Public Comment Form

Please note that the following comments will be recorded as official public comment as part of the National Environmental Policy Act official public comment period for BLM’s Resource Management Plan for Western Oregon Planning Criteria. General response to comments will be provided in the Draft Environmental Impact Statement. Thank you for your input!

Name: Jack H. Swift
Email: j45wft@earthlink.net
Address: 275 Griffin Rd
City: Grants Pass
Phone #: 541-474-2553
Organizational Affiliation: SORA

I would like to be added to the RMP for Western Oregon mailing list: □ Yes □ No

Please use the space below to provide your comments on aspects of the Planning Criteria, draft Preliminary Alternatives, and/or today’s Public Session. Before including address, phone number, email-address, or any other personal identifying information in your comments, be advised that your entire comment, including personal identifying information, may be made publicly available at any time. While individuals may request that the BLM withhold personal identifying information from public view, the BLM cannot guarantee it will be able to do so. If you wish us to withhold your personal information you must state this prominently at the beginning of your comment. We will make all submissions from organizations or businesses available for public disclosure in their entirety.

Additional comments on the draft Planning Criteria can be submitted until March 31, 2014.

Visit the BLM RMP for Western Oregon website to submit comments
(http://www.blm.gov/or/plans/rmpswesternoregon/)

See Attached
To: Bureau of Land Management, Medford District

FROM: Jack H. Swift, J.D.
275 Griffin Road
Grants Pass, OR 97527

RE: Resource Management Plans for Western Oregon

Dear GentlePersons:

I would like to make comment on the *Report on Community Listening Sessions* and the issues with which the BLM must contend in connection with developing new RMPs for the Oregon and California Railroad Lands in western Oregon.

I speak from a vested personal interest in these particular lands which derives from a lifetime of free public utilization of them. This is an experience that dates back to the early 1960s.

During that same period I have had experience with other federal lands (and their management) both in Oregon and all the way to the continental divide. I speak from prejudice because I have found the management of the O&C lands to have been historically the most user-friendly for the general public.

Context:

It occurs to me that the O&C lands are unique in the federal inventory. Of the 24.5 million acres of federal forests subservient to the Northwest Forest Management Plan, these unique lands compromise, at most, 2.4 million acres of forest - something less than 10%.

I see them as unique because they and their management are subject to a unique and very specific act of Congress - the Oregon and California Railroad Lands Act of 1937. While that specificity may not serve to exempt them from the jurisdiction of more general management statutes such as the Forest Lands Management Plan Act, it does establish that in the event of a conflict of the relevant laws and objectives of management, the more specific 1937 Act must prevail so far as these specific lands are concerned.

JACK H. SWIFT, ATTORNEY

134 Rossier Lane
Grants Pass, Oregon 97527

541-474-2553
jhsft@earthlink.net
Nor does it seem at all unreasonable that something less than 10% of the available inventory be allocated to a specific mandated purpose. In western Oregon some 1.4 million acres have been set aside by Congress for conservation purposes: National Monuments, Wilderness Areas, Wild and Scenic Rivers, etc.

Mandated Management:

The 1937 O&C Act consists of a number of specific mandates regarding the management of these lands.

The Act (43 U.S.C. Section 1181a) provides that such of the revested Oregon and California Railroad grant lands classified as timberlands, and power-site lands valuable for timber, “shall be managed . . . for permanent forest production, and the timber thereon shall be sold, cut, and removed in conformity with the principal (sic) of sustained yield . . . “

The Act states that the purposes of this mandate are to provide a permanent source of timber supply, protect watersheds, regulate stream flow, contribute to the economic stability of local communities, and provide recreation facilities. These purposes are not iterated as additional mandates, they are stated as results flowing from the mandated activity.

A second specific mandate goes to annual timber production. “Timber from such lands in an amount not less than one-half billion board feet measure, or not less than the annual sustained yield capacity . . . shall be sold annually, or so much thereof as can be sold at reasonable prices on a normal market.”

It should be clear that, without equivocation, Congress has designated these lands for the production of timber and has mandated that such production be accomplished annually on a sustained yield basis.

Litigation Context:

Management of the O&C lands was fairly straightforward until the Northwest Forest Management Plan undertook to assume management control of these lands. That management scheme led to drastically curtailed timber production. Upon default of the BLM as to its production obligations, litigation was undertaken in
Association of O&C Counties and Douglas County vs. Babbitt and Dombeck, Civ. No. 94-1044 (U.S.D.C., D.C. 1994) and American Forest Resource Council et al. vs. Clarke, Civ. No. 94-1031 (U.S.D.C., D.C. 1994). Those cases were settled by way of a settlement agreement in 2003 wherein the BLM promised to revise the management plans in a manner that complied with the law. In their attempt to do so, five years later they produced the WOPR, in 2008. When a new administration in Washington decided to scrap the WOPR, the BLM was left in violation of its part of the settlement agreement. That failure coupled with BLM’s continued failure to comply with the law led to additional litigation in 2010. Douglas Timber Operators, Inc., et al vs Salazar, et al, 1:9 cv-01704, (U.S.D.C., D.C. 2009) and Swanson Group Mfg., LLC, et al vs Jewell, et al, 1:10-cv-01843 (U.S.D.C., D.C. 2010). Those cases went to judgment and the BLM was ordered to re-instate the cancelled WOPR.

Within both contexts, the BLM is now engaging in conversation with the public on a variety of issues with an eye to creating a new WOPR.

Issues Presented:

The BLM seeks opinion on a variety of issues potentially arising from its forced compliance with the 1937 Act. Although it is the legislated authority regarding sustained yield, it seeks input regarding “sustainable” timber. It also seeks opinions regarding clean water and healthy fish, habitat for owls, and “old growth forests.” In the course of the listening sessions conducted, it has also requested public input regarding recreation on the O&C lands.

Sustained Yield:

The previous commentaries have introduced a great deal of ambiguity regarding the terms “sustainability” and “sustainable forests.” While interesting in terms of evolving concepts, the commentary is really irrelevant. The statutory mandate speaks to sustained yield timber production. And, of course, the concepts of timber production and a “sustained forest” are mutually exclusive. One clearly cannot sustain a forest stand and cut its timber.
Moreover, the statute speaks to the sustained yield capacity as the minimum annual cut. “[N]ot less than the annual sustained yield capacity . . . shall be sold annually.”

Again, the statute speaks to the sustained yield “capacity.” Obviously, anything short of that capacity would qualify as a sustainable yield. Thus, Franklin and Johnson have pointed out that for a period of years, say 12 - 20, the BLM could satisfy the requirement by selectively thinning. The built in fallacy there is that such compliance would not be sustainable.

The BLM developed the sustained yield capacity for the Medford District years ago. See *Josephine timber management environmental statement*, March 3, 1978. Accordingly, the BLM must satisfy that mandate or be out of compliance with the law.

There has been commentary regarding the supposed “un-sustainable” harvesting of the 1980s. According to data published by the Association of O&C Counties, these lands had an inventory of 44 billion board feet of merchantable timber in the late 1930s when the law was enacted. During the roughly sixty years intervening between the Act and the adoption of the Northwest Forest Management Plan, more than 45 billion board feet were harvested. At that point, thanks to managed regeneration, the lands supported a standing inventory of some 60 billion board feet. That experience established that the 2.1 million acres could and would sustain harvests at a level of 1.2 billion board feet per year in perpetuity.

This data tracks exactly the BLM’s own reports. Their WOPR “Plan Revision News” Newsletter #9 indicated a standing inventory in 1950 of 50 billion board feet, a harvest over the ensuing 50 years of 45 billion board feet, and a resultant standing inventory in 2000 of 70 billion board feet.

Sustained yield necessarily entails the process of regeneration. Any scheme of management addressing sustained yield harvesting without regeneration would necessarily require a longer replacement period, thereby reducing artificially the maximum harvest in any one year. At the same time, such regeneration will usually require a clear-cut approach to harvesting - depending on the particular site. This is because regeneration seedlings are shade sensitive and their development will again be artificially retarded and delayed in a shade context.
Any such artificial retardation will be management away from the intended goal of maximizing harvesting to the level of sustained yield.

The statute does not speak to sustaining forests. It speaks to sustaining and maximizing timber production. The intent is that these peculiar and specific lands be dedicated to timber production at a rate in conformity with its capacity under the concept of sustained yield. That necessarily calls for tree plantations.

Clean Water and Healthy Fish:

There is perhaps no government entity better positioned to offer learned opinion regarding the issue of clean water and healthy fish than the Medford District BLM. The area they manage encompasses the Rogue watershed which is the historic home for an extensive population of valuable salmonids. The history of the area involves the most rampant of mining activities alleged to be detrimental to these not-so-fragile fish populations. It currently encompasses four major mining districts.

Placer mining was the activity that initially drew populations to southern Oregon. The entire watershed has a history of placer mining which included hydraulic mining with the use of high capacity monitors. The Rogue Wild and Scenic Corridor includes the old Flannigan Mine which was one of the most extensive of hydraulic mining operations. The Wild and Scenic Rogue includes the Almeda Mine which was a hard-rock operation adjacent to the Rogue River itself. The area is not a pristine and untrammeled natural forest. It has a one hundred and fifty year history of perhaps the most aggressive of mining operations anywhere in the state. During that same period, it also sustained an extensive commercial fishing industry for the same salmonids. History alone puts the lie to the allegation that industrial activities involving the waters of the area are detrimental to the fish populations. The miners come and go. The fish have remained.

In a learned study published in 2000, Robert Lackey of OSU concluded that the overall decline in salmonids in Oregon likely has more to do with climatic change and increases in human population than any specific activities. Thus, the farther north one goes, (the colder it remains) the less the decline noted in current versus historic fish runs. Lackey, Robert T. *Restoring Wild Salmon to the Pacific Northwest: Chasing an Illusion?*
The issue of turbidity in the waters being detrimental to salmonids was the topic of litigation and laboratory study back in the 1930s. At the peak of hydraulic mining along the Rogue River, the turbidity introduced became so dense that Curry County, who had a healthy fishing industry on the lower Rogue, undertook to sue Josephine County over the alleged degradation of the water and its supposed negative impact on the fishery. The matter became the subject of extensive laboratory investigation by a consultant to the State Dept. Of Geology and Mining Industries. His findings are recorded in the Ward Report: Placer Mining on the Rogue River, Oregon, in its Relation to the Fish and Fishing in that Stream, 1938. Laboratory testing demonstrated conclusively that turbidity in the water used by salmonids did not affect the fish.

It should be apparent that, if the awesome turbidity introduced by hydraulic mining is not detrimental to the fishery, the comparatively minuscule sediment introduction associated with roads, logging, and even dredge mining will not be.

The BLM’s own studies on the matter - Wild Rogue North Watershed Analysis and Wild Rogue South Watershed Analysis - undertaken in the 1990s indicate that fish usage has less to do with material introduced by logging or mining operations than temperature of the waters. At this point, water temperatures are lower than historic patterns owing to the presence of Lost Creek and Applegate dams. These dams serve to maintain a lower temperature in the Rogue itself than in its lower elevation tributaries. As such, many tributaries to the Rogue are unsuitable to salmonids regardless of other activities.

So-called “clean water” in the sense of having low levels of turbidity and sedimentation has been shown to have little, if anything, to do with the healthy condition of fish and fisheries.

Habitat for Owls:

The entire topic of northern spotted owls as an endangered species is the subject of controversy, fraud and fallacy. Initially, there is question whether the spotted owl found in the northwest is a distinct species different than those found in California and Mexico simply because it is found in different habitat. If, as dna suggests, these birds are all the same species, then the concept that they are habitat-dependent is completely refuted by the distribution the birds enjoy. Likewise, the
distribution of the barred owl which will interbreed with the spotted owl suggests a remarkable capacity on the part of owls to adapt to alternative habitats.

The FWS has been remarkably less than candid in its appraisals of the situation. When first listed, the FWS acknowledged that no one knew how many spotted owls there were - then or historically. They called for an inventory taking. When they did their 10 year report eighteen years later they again spoke to their lack of inventory and again called for a count. Their conclusion was that since forests continued to be destroyed by fire and logging, the owl population must be declining. This was simply a repeat of their initial argument that since old growth forests were declining, owls must be declining. This is an example of the logical fallacy known as non-sequitur. It is also an issue of fraud to the extent that lots of agencies maintain geographic inventories of owl locations and, if FWS really wanted an inventory, all they had to do was call and ask. Likewise, FWS themselves, in response to the recent Douglas Complex and Big Windy wildfires, produced site maps of the impacted areas disclosing all known owl sites. It is something more than disingenuous for FWS to claim they don’t know how many owls there are.

Then there is the issue of habitat itself. Old growth forests as described in the NWFMP may or may not be critical nesting habitat for the spotted owl. However, owls also need foraging habitat. Old growth forests do not provide the prey owls need in order to survive. Particularly, they need clearings and clear cuts where voles live. It is not an accident that Josephine County has a plethora of owls and a scarcity of old growth. Regardless, if 24.5 million acres are not enough, one has to wonder what difference 2 million more or less will make.

In a broader sense, it is a legitimate question today as to whether the concept of an endangered species is nothing more than an anachronism. In TVA v. Hill, 437 U.S. 153 (1978) the Supreme Court cited Congress’ concern for endangered species, calling them “irreplaceable” and of “incalculable” value. They were seen as genetic resources which might provide answers to questions we did not yet know to ask. Today, of course, thanks to modern science, no species can truly go extinct because we have the capacity to clone any living thing. We have gene banks for every known species of corn for use in replicating any one lost by happenstance. It simply is no longer possible for species to disappear unless we want them to. If one wants more owls, simply clone them.
Old Growth Forests:

The concept of an “old growth forest” has become an issue of deliberate obfuscation and controversy. The FSEIS for the NWFMP provided essentially two definitions. “A forest stand usually at least 180-220 years old with moderate to high canopy closure” and “a multi-layered, multispecies canopy dominated by large overstory trees; high incidence of large trees, some with broken tops and other indications of old and decaying wood with numerous large snags and heavy accumulations of wood, including large logs on the ground." An immediate difficulty, of course, is that the second definition works equally well as a definition of a ladder-fuel-laden forest stand.

It should be noted that in the Medford District, true old growth, defined as 180-220 year old and older, is fairly rare, accounting for only 13.6% of the BLM forests in Josephine County. By contrast, if “old growth” were re-defined as some suggest to all ages over 80, 74.6% of the forests would be old growth and, in very short order will include regeneration stands. The idea of re-defining old growth is ill-conceived.

Insofar as true old growth as defined by the NWFMP consists of dying trees which are generally lower quality timber, suffering decay and disease, its reservation from the harvest mandates should not significantly deter the BLM in its management responsibilities.

Recreation:

Recreation is a utilization of the O&C lands which is of economic significance to the local community and one of enjoyment for the general public. Depending on which of the Oregon and California Railroad counties one is discussing, tourism may be a significant contributor to the local economy. Josephine County in the Medford District is probably the most tourist dependent of all. It sits astride the Wild and Scenic Rogue River and is a hub for simple tourists and, of prime importance, fishermen. It must be observed that this industry is essentially maxed out. The BLM strictly limits the number of access permits to the lower Rogue and has an annual waiting list. Short of opening the river to more tourists, it is difficult to see what the BLM can do to expand this industry.
The alternative tourist-related recreational activity has historically been hunting and the Oregon DFW has estimations of the dollar value of that contribution. However, this use has been downgraded since the adoption of the NWFMP. Initially, there has been a marked decline in the populations of black tail deer. ODFW estimates this decline to be at a minimum 25%. They attribute the decline to the lack of clear cuts. Late successional stands may provide cover habitat for deer but they do not provide forage.

Secondary to the abandonment of the range by the deer is the issue of access. Traditionally hunters use roads - especially old logging roads - to access the area. There are no pack-in hunter services such as Montana, Idaho and other places offer. The BLM policy of expanding roadless areas with road closures and decommissionings is only aggravating this situation.

If the BLM would truly aid the tourism industry, it would manage the lands as it did prior to the NWFMP. In doing so, it provided excellent habitat for deer and the legacy roads engendered provided excellent access for hunters.

There was a great deal of conversation at the listening sessions about “walking” in the woods. Historically, the terrain difficulty with the O&C lands was their steep character. These lands are so steep that their only practical use is the growth of timber. They make for very difficult walking and it is hard to see how any significant tourism can be developed built around hiking. In any event, there are two wilderness areas, two national monuments, and a wild and scenic river designation in Josephine County alone. There has already been a great contribution to pristine walking opportunities.

For recreational exploitation by the general public, the issue is access. As noted, that means roads. For hunting, that means clear cuts and roads. The regeneration management of these lands prior to the NWFMP satisfied those needs ideally. The NWFMP has only served to destroy those opportunities.

There was conversation about shooting on BLM lands. As noted, I have been using these lands, using the roads, exploring, hunting and shooting since the 1960s. While I have encountered shooting, it has never been a problem. In Josephine County there are 259,123 acres of BLM administered O&C lands. If one is confronted with other people attempting to use the same bit of land at the
same time - shooting or otherwise - one simply goes somewhere else. This is not a problem and shouldn’t be considered as one.

Finally, the agency has put forth a great deal of conversation about a desire to manage recreation. The agency is not Disney Studios. It has no expertise in the area. The traditional management might be summed up in the admonition: Do what you want but leave only your footprints when you go.

According to Justice Brandeis the greatest and most important right of the American people is the right to be left alone. I can imagine no area in which this right is more jealously guarded than in the pursuit of recreation. Historically, the Department and the Agency have done an excellent job of managing the O&C lands in a manner that satisfied the mandate of the law and provided free people with excellent recreational opportunity. Please do not get in the business of dictating recreation.

In sum, the problems encountered on the O&C lands have everything to do with the NWFMP. The Agency should simply declare these lands outside the purview of general forest management - ESA or otherwise - and get on with the business you did so well for so long.

Sincerely,

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UNITED STATES DISTRICT COURT
DISTRICT OF COLUMBIA

SWANSON GROUP MFG. LLC; ROUGH & READY LUMBER LLC; WASHINGTON CONTRACT LOGGERS ASSOCIATION; AMERICAN FOREST RESOURCE COUNCIL; and DOUGLAS TIMBER OPERATORS, INC.,

Plaintiffs,

vs.

KEN SALAZAR, Secretary of Interior, and TOM VILSACK, Secretary of Agriculture,

Defendants,

and

KLAMATH-SISKIYOU WILDLANDS CENTER; OREGON WILD; and CASCADIA WILDLANDS,

Defendant-Intervenors.

DEFENDANT-INTERVENORS’ MEMORANDUM IN OPPOSITION TO PLAINTIFFS’ MOTION FOR SUMMARY JUDGMENT AND IN SUPPORT OF CROSS-MOTION FOR SUMMARY JUDGMENT

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INTRODUCTION

Defendant-intervenors Klamath-Siskiyou Wildlands Center, Oregon Wild, and Cascadia Wildlands (collectively “KS Wild”) respectfully move for summary judgment denying timber plaintiffs’ Swanson Group et al. (collectively “Swanson”) first claim for relief. Claim One fails to identify a discrete and binding Bureau of Land Management (“BLM”) commitment that can be enforced under the Administrative Procedure Act, and it relies on a misunderstanding of the requirements of the Oregon and California Lands Act (“O&C Act”).

At the heart of this dispute is a 75-year-old statute that applies to approximately 2 million acres of federal land managed by BLM in western Oregon. The Oregon and California Lands Act of 1937, 43 U.S.C. § 1181a, marks Congress’ first attempt at creating a multiple-use mandate for federal public forestland management. The O&C lands are the only forested public lands in the United States that are managed by BLM rather than the United States Forest Service. The statute states that the O&C lands:

shall be managed…for permanent forest production, and the timber thereon shall be sold, cut, and removed in conformity with the principal [sic] of sustained yield for the purpose of providing a permanent source of timber supply, protecting watersheds, regulating stream flow, and contributing to the economic stability of local communities and industries, and providing recreational facilities.

Id. § 1181a.

This short statute contains more than a “timber first” mandate: it embodies a multiple-use, sustained yield, protective standard for management of these federal public forest lands. Indeed, BLM explicitly recognized its multiple management responsibilities in the Resource Management Plans (“RMPs”) adopted for the Medford and Roseburg districts. In those planning documents, BLM projects an “estimate” of annual timber harvest that the agency explains is “neither a minimum level that must be met nor a maximum level that cannot be exceeded.”

BLM Administrative Record (“BLM:AR”) at 6885-86 (Roseburg RMP); 12375 (Medford RMP).
For seventeen years, BLM’s RMPs have clearly stated that the timber sale estimate was uncertain and that timber volumes would not be “a target that drives [] management.” *Id.* Moreover, these two million acres form a vital part of a greater ecosystem, an ecosystem governed by an overarching management plan that binds the U.S. Forest Service and BLM to the same standards precisely because the health of these lands and waters are intrinsically linked. This plan, the Northwest Forest Plan, has survived legal challenges from conservation groups as well as the timber industry—including a challenge that the Northwest Forest Plan violated the O&C Act because its prescriptions would lead to lower timber volumes. Under U.S. Supreme Court precedent, BLM has no enforceable, discrete, non-discretionary duty to sell a specific amount of timber from the O&C lands, and Swanson is entitled to neither declaratory nor injunctive relief.

**LEGAL & FACTUAL BACKGROUND**

This case represents another skirmish in the long-running battle over protection of federally-owned old-growth forests in the Pacific Northwest. And as they have been before, a particular subset of public forestlands in Oregon—lands covered by the Oregon and California Lands Act—are at the center of attention. Timber interests like Swanson (and in some instances the exact same timber interests) brought remarkably similar claims against BLM management of these lands 20 years ago. The claims were unsuccessful then, and the passage of time has done nothing to improve their chances of success today.

The O&C Act governs railroad grant lands that revested in the federal government due to the railroad company’s breach of its statutory duties. In the Act, Congress sought to put an end to wasteful and destructive logging practices that clearcut large forest areas for short-term gains without safeguarding the forests and other resources. The Act instituted a conservation ethic, making it the first federal statute to impose sustained-yield constraints on timber cutting.
No legal challenge to timber management in the Pacific Northwest such as this case can be understood without a discussion of the years of controversy over management of old-growth forests by the Forest Service and BLM. In 1991, upon uncovering “a remarkable series of violations of the environmental laws,” and “a deliberate and systematic refusal … to comply with the laws protecting wildlife,” a Washington district court issued an injunction halting timber sales in Pacific Northwest old-growth forests. Seattle Audubon Soc’y v. Evans, 771 F. Supp. 1081, 1089-90 (W.D. Wash.), aff’d, 952 F.2d 297 (9th Cir. 1991). The following year, an Oregon district court enjoined BLM from proceeding with further timber sales in old-growth forests—including the same lands at issue here pending compliance with NEPA. Portland Audubon Soc’y v. Lujan, 795 F. Supp. 1489 (D. Or. 1992), aff’d sub nom. Portland Audubon Soc’y v. Babbitt, 998 F.2d 705 (9th Cir. 1993).

To end the controversy, President Clinton convened a forest conference and directed the land management agencies to craft a comprehensive, long-term management strategy. The resulting 1994 Northwest Forest Plan has been heralded as the first science-based ecosystem management strategy for federal lands. The Plan contained standards and guidelines for managing both Forest Service and BLM public lands, created old-growth and riparian reserves, and provided for continued timber harvest. The Northwest Forest Plan Record of Decision amended the existing forest plans for 19 national forests and was incorporated into the newly developed plans for six BLM districts within the range of the northern spotted owl, including the RMPs for the Medford and Roseburg BLM districts at issue here.

aff’d sub nom. Seattle Audubon Soc’y v. Moseley, 80 F.3d 1401 (9th Cir. 1996). In rejecting the timber industry’s challenge to the agencies’ authority to adopt an ecosystem plan that covered both national forest lands and the O&C lands, the district court noted that both agencies’ planning statutes required an integrated, scientific approach; both agencies had to comply with NEPA’s mandate to consider ecosystem effects; and both agencies had to comply with the Endangered Species Act. The court held that “[g]iven the current condition of the forests, there is no way the agencies could comply with the environmental laws without planning on an ecosystem basis.” Id. at 1311 (emphasis in original).

Several of these court decisions confirm that BLM has a great deal of discretion in its management of the O&C lands. Portland Audubon Soc’y v. Babbitt held that there was no unavoidable conflict between the O&C Act and an injunction stopping old-growth logging pending compliance with NEPA, even though the O&C Act’s timber production estimates could not be met under the injunction. 998 F.2d at 709. The appellate court found that “the plain language of the [O&C] Act supports the district court’s conclusion that the Act has not deprived the BLM of all discretion with regard to either the volume requirements of the Act or the management of the lands entrusted to its care.” Id. In Seattle Audubon Soc’y v. Lyons, the district court held that the Northwest Forest Plan did not violate the O&C Act, noting that “management under the [O&C Act] must look not only to annual timber production but also to protecting watersheds, contributing to economic stability, and providing recreational facilities.” 871 F. Supp. 1291, 1314 (W.D. Wash. 1994) (appeal history omitted).

In Gifford Pinchot Alliance v. Butruille, 752 F. Supp. 967 (D. Or. 1990), a group of timber plaintiffs (including Northwest Forest Resource Council, the prior name of plaintiff American Forest Resource Council, and represented by the same attorney as in this case) asked
the Oregon district court to order the Forest Service to sell a certain number of board feet of timber pursuant to an appropriations rider, “invok[ing] the Administrative Procedure[] Act and contend[ing] that the Forest Service unlawfully withheld or unreasonably delayed mandatory agency action” under 5 U.S.C. § 706(1). 752 F. Supp. at 969. Rejecting timber plaintiffs’ arguments, the court held that the word “shall” “when read in context” was ambiguous, as the statute at issue had other provisions and “[r]eading ‘shall’ as a mandate renders section 318’s clauses contradictory.” Id. at 971.

The Butruille court also reviewed the legislative history of the statute at issue, concluding that while Congress clearly intended to push through as many timber sales as possible, “Congress also recognized the need to protect certain environmental interests.” Id. at 971. See also Gifford Pinchot Alliance v. Butruille, 742 F. Supp. 1077, 1082-83 (D. Or. 1990) (in case filed prior to APA action discussed above, the same timber plaintiffs sought a writ of mandamus to compel timber sales, similar to Swanson’s approach in this case. There, the district court denied the motion because the timber sales at issue were within the discretion of the agency—“mandamus may not be used to direct acts within an agency’s discretion.”).

Yet in spite of this history and the past unsuccessful cases, Swanson here has challenged BLM’s failure to “maintain an actual annual timber sale level that is not less than 80 percent of the annual allowable sale quantity,” relying on language in the RMPs. Complaint ¶ 60. Swanson claims that BLM has a non-discretionary duty to meet 80 percent of the annual allowable sale quantity estimated in the Medford and Roseburg district’s RMPs, and asks the Court not only to order that this 80 percent amount be maintained, see Complaint, Prayer for Relief ¶ 1, but also to order an additional number of timber sales to make up for the alleged shortfall. Id. ¶ 2.
ARGUMENT

I. THE O&C ACT DOES NOT CREATE A DISCRETE, NON-DISCRETIONARY DUTY TO SELL A SPECIFIC AMOUNT OF TIMBER.

In its opening brief, Swanson argues that the O&C Act requires the BLM to sell or offer for sale the annual productive capacity (allowable harvest level) from the Medford and Roseburg BLM districts. Swanson Br. at 24. Swanson drastically understates what the O&C Act requires and reaches its flawed conclusion by imprecisely analyzing the O&C Act itself.

As the U.S. Supreme Court has explained, “there is no errorless test for identifying or recognizing ‘plain’ or ‘unambiguous’ language.” United States v. Turkette, 452 U.S. 576, 580 (1980). Swanson argues that the terms of the O&C Act are plain, that “shall” means shall, and that the BLM is required to determine not only the “annual productive capacity” of the O&C lands, but also “to sell that volume of timber annually ‘or so much thereof as can be sold at reasonable prices on a normal market’.” Swanson Br. at 21, 24-27. This argument crumbles upon inspection.

First, the fact that the Act uses the word “shall” does not answer the question of whether or not a claim can be brought pursuant to the Administrative Procedure Act (“APA”), 5 U.S.C. § 706(1). The O&C Act directs BLM to manage these lands for permanent forest production, watershed protection, streamflow regulation, contributing to economic stability of local communities and industries, and providing recreational facilities. 43 U.S.C. § 1181a. How BLM meets each of these demands is left to the agency’s discretion. In Norton v. Southern Utah Wilderness Alliance, 542 U.S. 55 (2004) (“SUWA”), the U.S. Supreme Court analyzed a challenge to BLM’s failure to enforce provisions in a Resource Management Plan that pledged to take certain actions regarding off-road vehicle use. Ultimately, the Supreme Court held that the courts had no jurisdiction to review that claim: “[t]he claim … would have us … conclude that a
statement in a plan that BLM ‘will’ take this, that, or the other action, is a binding commitment that can be compelled under § 706(1). In our view it is not.” Id. at 69.

The Oregon district court in Butruille came to the same conclusion with respect to a statute that specifically directed the Forest Service to sell a certain amount of timber in a particular time period, finding that the word “shall” “when read in context” was ambiguous, as the statute at issue had other provisions and “[r]eading ‘shall’ as a mandate renders [the Act’s] clauses contradictory.” 752 F. Supp. at 971. Like the O&C Act, the statute at issue in Butruille contained provisions for land and water protection, and that fact helped convince the court to deny the timber plaintiffs’ requested relief of an order compelling the sale of federal timber.

Second, by attempting to shoehorn this claim directly under the O&C Act, Swanson fails to identify and challenge a final agency action. Swanson’s programmatic attack on BLM’s land management as counter to the O&C Act runs squarely into the U.S. Supreme Court’s admonition that broad programs—like the timber programs of the Medford and Roseburg BLM districts—are not final agency actions challengeable under the APA. See Lujan v. Defenders of Wildlife, 497 U.S. 871, 891 (1990) (“respondent cannot seek wholesale improvement of this program by court decree …. Under the terms of the APA, respondent must direct its attack against some particular ‘agency action’ that causes it harm”). Swanson’s claim does not attack a “purely ministerial duty,” but instead a broad area of planning where BLM has great discretion. See Work v. U.S. ex rel. Rives, 267 U.S. 175, 177 (1925) (mandamus cannot be used to compel a discretionary duty).

Plaintiffs also argue that because timber sales are discrete agency actions, a challenge to the “failure to sell enough of these sales” is reviewable under 5 U.S.C. § 706(1). Swanson Br. at 27. This assertion is simply wrong. Swanson has challenged no particular timber sales, nor has
Swanson identified and challenged any annual plans or planning documents for particular years. Finally, the O&C Act itself does not set minimum timber harvest levels. While the Act directs BLM to sell timber from the O&C lands, it also commands BLM to use its discretion so that “timber sales from a forest unit shall be limited to the productive capacity of such unit and the Secretary is authorized, in his discretion, to reject any bids which may interfere with the sustained-yield management plan of any unit.” 43 U.S.C. § 1181a. This explicit timber harvest limitation, coupled with the Act’s definition of sustained yield as being “for the purpose of providing a permanent source of timber supply, protecting watersheds, regulating stream flow, and contributing to the economic stability of local communities and industries, and providing recreational facilities,” clearly preserves BLM discretionary management authority over these lands. As the Ninth Circuit held, “the plain language of the Act supports the district court’s conclusion that the [O&C] Act has not deprived the BLM of all discretion with regard to either the volume requirements of the Act or the management of the lands entrusted to its care.”

Portland Audubon Soc’y, 998 F.2d at 709; see also Portland Audubon Soc’y, 795 F. Supp. at 1506 (O&C Act “does not mandate that the BLM offer for annual sale a minimum of 500 million board feet of timber”).

II. THE RESOURCE MANAGEMENT PLANS DO NOT CREATE DISCRETE, NON-DISCRETIONARY DUTIES TO SELL A SPECIFIC AMOUNT OF TIMBER.

Unable to rely on the O&C Act in a vacuum to force BLM to sell timber, Swanson argues that the BLM has a discrete, nondiscretionary duty to sell the “annual capacity of the O&C lands” of timber each year, based on the Medford and Roseburg district RMPs. Swanson Br. at 24-28. This argument is also incorrect.

First, while KS Wild agrees that the Federal Land Policy and Management Act (“FLPMA”) requires BLM to comply with the provisions of its RMPs, 43 U.S.C. § 1732;
43 C.F.R. § 1610.5-3(a), the provisions in the Medford and Roseburg RMPs pertaining to the sale of timber are explicitly qualified. The Supreme Court has explained that a claim charging that an agency has failed to act in accordance with its RMP “can proceed only where a plaintiff asserts that an agency failed to take a discrete agency action that it is required to take.” SUWA, 542 U.S. at 64. Here, the RMPs themselves limit the “allowable sale quantity” or ASQ that can be offered for sale from the Medford and Roseburg districts. The Roseburg RMP states that

The allowable sale quantity for the resource management plan is an estimate of annual average timber sale volume likely to be achieved from lands allocated to planned sustainable timber harvest. This estimate, however, is surrounded by uncertainties. The actual sale levels may differ, as timber sale levels will be an effect of overall forest management rather than a target that drives that management. Harvest of this approximate volume of timber is considered sustainable over the long term. This is based on assumptions that the available land base remains fixed, and that funding is sufficient to make planned investments in timely reforestation, plantation maintenance, thinning, genetic selection, forest fertilization, timber sale planning, related forest resource protection, and monitoring.

The allowable sale quantity represents neither a minimum level that must be met nor a maximum level that cannot be exceeded. It is an approximation because of the difficulty associated with predicting actual timber sale levels over the next decade, given the complex nature of many of the management actions/direction. It represents BLM’s best assessment of the average amount of timber likely to be awarded annually in the planning area over the life of the plan, following a start-up period. The actual sustainable timber sale level attributable to the land use allocations and management direction of the resource management plan may deviate by as much as 20 percent from the identified allowable sale quantity. As inventory, watershed analysis and site-specific planning proceed in conformance with that management direction, the knowledge gained will permit refinement of the allowable sale quantity. The separable component of the allowable sale quantity attributable to lands in key watersheds carries a higher level of uncertainty, due to the greater restraints of Aquatic Conservation Strategy Objectives and the requirement to prepare watershed analyses before activities take place.

During the first several years, the annual allowable sale quantity will not likely be offered for sale. The resource management plan represents a new forest management strategy. Time will be required to develop new timber sales that conform to the resource management plan.

BLM:AR 6885-86 (emphasis added). The Medford RMP contains nearly identical language. Id.
at 12375. These narrative discussions of allowable sale quantity are explicitly imprecise and explicitly state that the timber volume estimates are not mandatory, because of the many, and sometimes conflicting, duties BLM must meet.\(^1\)

The ASQ discussions provide none of the hallmarks of an action that the BLM is required to take in order to comply with the O&C Act. Instead, Swanson’s challenge (i.e., failure to sell a particular volume of timber) is indistinguishable from the types of claims that the Supreme Court has rejected in the past: “[t]he statute and regulations confirm that a land use plan is not ordinarily the medium for affirmative decisions that implement the agency’s ‘project[ions].’” \(SUWA, 542 U.S. at 69\). As in \(SUWA\), plaintiffs “cannot seek wholesale improvement of this program by court decree.” \(Id.\) at 64 (quotation and citation omitted).

In a recent decision, an Oregon district court analyzed and rejected a similar failure to act claim based on an allegedly clear statute and management plan. In \(Stout v. U.S. Forest Serv.\), No. 09-152-HA, 2012 WL 1424069 (D. Or. Apr. 24, 2012), plaintiff ranchers brought a claim pursuant to the Wild Free-Roaming Horses and Burro Act and the National Forest Management Act (“NFMA”). Slip op. at 2. The ranchers alleged that the Forest Service failed to meet a previously set management level of 100 wild horses on the lands at issue, and that this failure violated NFMA. \(Id.\) Relying on \(SUWA\), the court determined that the standard in the management plan was not binding, even though the standard emphasized the need to limit horses to 100 head in this area:

Accordingly, the court must determine whether Standard 183 constitutes a “clear indication of binding commitment” to maintain a wild horse herd averaging 100

\(^1\) Nor can Swanson today, in 2012, challenge the 1995 RMPs as violating the O&C Act. Any claim by timber plaintiffs that the RMPs themselves do not comply with the O&C Act has long been time-barred by the applicable six-year statute of limitations, 28 U.S.C. § 2401(a), as well as the fact that timber interests have already brought and lost such a claim. \(Seattle Audubon Soc’y v. Lyons\), 871 F. Supp. 1291 (W.D. Wash. 1994).
head. The court concludes it does not. By its terms, Standard 83 leaves a measure of discretion to the Forest Service in determining how to manage livestock…. Standard 83 does not constitute a statement of binding self-commitment on the part of the Forest Service to maintain a 100 head wild horse herd regardless of other Forest Service commitments or budgetary constraints. … Standard 83 is unenforceable pursuant to §706(1) of the APA….

Id. at 12-13 (citations omitted). Here, BLM has similarly hedged its bets as to the amount of timber to be harvested, noting that the “estimate” was “surrounded by uncertainties,” was not a target, was neither a minimum nor a maximum, and was an “approximation.” BLM:AR 6885-86 (Roseburg RMP). As in SUWA and Stout, meeting the Allowable Sale Quantity in the RMPs is not an action BLM is “required to take.” SUWA, 542 U.S. at 64; Stout, slip op. at 12-13.

A court in this district reached a similar conclusion in Theodore Roosevelt Conservation Partnership v. Salazar, 605 F. Supp. 2d 263 (D.D.C. 2009). In that case, plaintiffs challenged a final BLM Record of Decision2 as being inconsistent with the overarching Resource Management Plan because the decision exceeded the plan’s projections for oil and gas drilling by more than 25%. Id. at 283. Quoting SUWA’s observation that land use plans are “tools by which present and future use is projected,” the district court ruled against plaintiffs because the RMP stated that its oil and gas drilling projections were not hard caps. Id. (emphasis added).

Similarly here, BLM has stated that its timber volume projections are not minimums or maximums, but estimates and approximations, which do not create a discrete agency obligation. BLM:AR 6885-86.3

2 Unlike the plaintiffs in TRCP, Swanson has failed to challenge a final agency action.

3 As many courts in various jurisdictions have explained, federal land management agencies, including the BLM, are not required by any statute to sell timber from those lands. Natural Res. Def. Council v. U.S. Forest Serv., 421 F.3d 797, 802 (9th Cir. 2005); Portland Audubon Soc’y, 998 F.2d at 709 (“the [O&C Act] has not deprived the BLM of all discretion with regard to … the volume requirements of the Act”); Resources Ltd. v. Robertson, 35 F.3d 1300, 1305 (9th Cir. 1993); Region 8 Forest Service Timber Purchasers v. Alcock, 993 F.2d 800, 808 (11th Cir. 1993); Seattle Audubon Soc’y, 871 F. Supp. at 1314 (management decisions regarding timber
Second, the O&C Act is silent in directing how the Secretary is to calculate the “annual productive capacity” of the O&C lands; instead, the Act simply requires that it be calculated in the first instance. Notably, neither the Act nor the challenged RMPs define “annual productive capacity,” although presumably the methodology includes calculations of timber growth and yield. Regardless, as the administrative record indicates, there are many other practical considerations that go into determining how much timber BLM can sell from the Medford and Roseburg Districts. For example, the Department of the Interior and the BLM have consistently noted that declining Congressional appropriations have drastically affected BLM’s ability to meet its timber sale volume estimates. BLM:AR 3160 (“the current trend to flat or declining budgets will likely have negative impacts on Medford’s ability to ramp up to full ASQ and meet its expected targets in future years”), 2615 (noting “continuing shortfalls in available funds” as a roadblock to meeting volume estimates), 2616 (noting a need to increase funding in order to meet estimates), 2492 (explaining that review by the Office of Management and Budget compelled a downward calculation of estimated timber volume), 2467 (same), 2619 (memo from then-BLM Director Kathleen Clarke explaining that “contingent on funding,” BLM will attempt to meet its timber sale volume estimates), 179 (“as Budgets and subsequent staffing decreases, efficiencies will need to be adopted” in order to meet volume estimates), 996 (in order to increase timber sale volume, “funding increases would be necessary”), 317 (in fiscal year 2010, “as anticipated, the total funding (multiple subactivities) for timber sale support will decline from FY09 levels,” and in 2011 “the President’s Budget include a $5 million dollar reduction in O&C funding for Forest Management. This combined with an anticipated $5 million decline in

funding from the Timber Sale Pipeline Restoration Fund translates to an approximate decline in Timber funding of $10 million dollars. As a result of the decline in budget, the President also reduced our FY11 timber target to 185 Million Board Feet”), 299 (for fiscal year 2012, the BLM was directed to “assume flat budgets correspond to an 8% decline in working budget…during the glide path period, timber funding may not be synchronous with timber targets,” and to “identify ‘extra’ $1MM in budget reduction[s]”). BLM can only be expected to prepare and sell as much timber as funding and staffing levels will allow.

Another factor that has constrained BLM’s ability to meet its timber sale volume estimates is the need to comply with other environmental statutes, including the National Environmental Policy Act ("NEPA") and the Endangered Species Act ("ESA"), and successful litigation that has enforced those duties. BLM:AR 2589 (successful Northwest Forest Plan litigation has resulted in a decline in timber offered for sale), 2592 (same), 1025 (effects of successful NEPA and ESA litigation), 688-89 (court-ordered provisions to protect Endangered Species Act-listed species). And, consistent with its O&C Act obligations, BLM has frequently adjusted its allowable harvest levels to incorporate non-timber values such as aesthetics, recreational uses, watershed values, or other principles. Id. at 12591. There are also accounting barriers to BLM’s timber sale volume estimates: BLM currently does not consider timber harvested from Northwest Forest Plan reserves (such as Late-Successional Reserves) as “programmed volume,” so only timber harvested from the Matrix and Adaptive Management Area land use allocations “count” towards the timber volume estimates. Id. at 688.

Third, not only is the language “annual productive capacity” unclear in the statute, but also unclear is the phrase requiring BLM “to sell that volume of timber annually ‘or so much thereof as can be sold at reasonable prices on a normal market’.” One initial note is important:
the Act first requires the BLM to calculate the “annual productive capacity” of the BLM lands, but then states that the agency can only sell the “annual sustained yield capacity” of those lands based on a normal market. 43 U.S.C. § 1181a. Because two different phrases are used, it is likely that Congress intended different meanings. United States v. Cabaccang, 332 F.3d 622, 627 (9th Cir. 2003) (court must give each statutory word meaning and effect).

Regardless of whether the two phrases are equivalent, BLM has observed that “the housing market and demand for wood products were at historic lows in the 3rd and 4th quarters of FY 2010,” and the agency expects that “under current market conditions, that some sale[s] may not receive bids…” BLM:AR 180. In addition, “another factor to consider is that the private log market is more limited in a down market, especially the small landowner who tends to sell only when the market is high. The BLM…may be the major sellers in these poor market conditions.” Id. And, even though federal timber may be some of the only timber for sale due to poor market conditions—which may suggest an increased interest in purchasing that timber—in fact, the BLM has received 45 requests to cancel timber sales that are already under contract, suggesting that demand is not high for BLM volume. Id. at 315, 2631 (displaying no bid volume for FY06-09). BLM has recognized for some time, then, that the present economic situation does not represent a “normal market” as anticipated in the O&C Act, further conscribing any BLM “obligation” to sell any particular volume of timber. Contrary to Swanson’s position, Swanson Br. at 27, BLM can only “sell” as much timber as there are willing buyers for it.

III. A CLOSER EXAMINATION OF THE LEGISLATIVE HISTORY OF THE O&C ACT EXPLAINS THE ACT’S MULTIPLE-USE MANDATE.

Given that the plain meaning of critical terms in the O&C Act is unclear, this Court should look to the legislative history of the Act to discern its intended meaning. Wisconsin Pub. Intervenor v. Mortier, 501 U.S. 597, 610 n.4 (1991); Chevron v. NRDC, 467 U.S. 837, 843
(1984) (“if the statute is silent or ambiguous with respect to the specific issue, the question for
the court is whether the agency’s answer is based on a permissible construction of the statute”).

Swanson provides the Court with some basic legislative history, Swanson Br. at 21-23, but significantly, Swanson overlooks the fact that the framers of the O&C Act, and those who testified in support of the legislation, had in mind a multiple-use mandate, not the single-use commandment that Swanson suggests. See generally, Deborah Scott and Susan Jane M. Brown, The Oregon and California Lands Act: Revisiting the Concept of “Dominant Use,” 21 J. ENVTL. L. & LITIG. 259, 268-75 (2007) (hereinafter “Scott and Brown”). Indeed,

[the DOI saw its bill as a “management plan for permanent forest protection,” and sustained yield as an “abandonment of the old procedure which [had] characterized the cut-out and get-out policy that [had] dominated the American lumber industry.” The Department of Agriculture’s Forest Service focused its testimony on the economic impacts of sustained-yield management but agreed that the “important thing about having the Government retain control is to preserve it, not to permit it to be destroyed, as has been the practice of lumber companies.”

The timber industry also supported sustained-yield management. The West Coast Lumbermen’s Association enthusiastically supported it as an alternative to “liquidating” the forests. The group’s representative explained that the timber industry wanted to avoid the fate of the Lake states, with “unproductive land and idle towns and labor that has had to move out.” He likened the situation to a trust: the federal government would act as a trustee to conserve the productivity so that the people of Oregon would “live on the interest” and “keep the capital unimpaired.”

Id. at 270-71 (footnote references omitted).

The House and Senate Reports accompanying House Bill 5858 (which would become the O&C Act) provide additional legislative history indicating that the framers fully intended the Act to incorporate conservation principles as well as a multiple-use framework. The Senate Report, which was identical to the House Report with the exception of an additional concluding paragraph, explained that prior to the enactment of HB 5858,
No provision was made for the administration of the land on a conservation basis looking toward the orderly use and preservation of its natural resources. Cutting was contemplated. Seed trees were not to be preserved, nor was any provision made for the protection of stream flow. The probable effect of such a cutting policy on community industries was not considered.

This policy is now believed to be wasteful and destructive of the best social interests of the State and Nation.

S. REP. NO. 75-1231, at 2 (1937). In fact, the O&C Act, far from being a “dominant use” statute, was the first federal land management statute to embrace multiple uses for those lands.


A. Agency Interpretations of the O&C Act

In addition to the legislative history addressing the intent of the framers of the O&C Act, contemporary and subsequent Department and agency interpretations of the statute indicate that the Act was intended to be a multiple-use conservation law, in addition to providing for “permanent forest production.” 43 U.S.C. § 1181a; Hagen v. Utah, 510 U.S. 399, 418 (1994) (consideration of contemporary interpretations of a statute is permissible to discern legislative intent); K Mart Corp. v. Cartier, 486 U.S. 281, 291 (1988) (deference due to reasonable agency interpretations of its guiding statute). Relevant to this case are two sets of interpretations by the agency itself and by the Department of Interior Solicitor’s Office.

1. Policy Statements

In 1938, the General Land Office—the precursor to the BLM—published the first regulations implementing the O&C Act. Regulations and Forest Practice Rules for the Sale of Timber from the Revested Oregon and California Railroad and Reconveyed Coos Bay Wagon Road Grant Lands, 3 Fed. Reg. 1,795 (July 21, 1938). Accompanying the regulations was an
official Policy Statement from the General Lands Office that used strong language to describe the Act’s conservation basis, saying that the O&C Act was “a measure providing for the conservation of land, water, forest and forage on a permanent basis, the prudent utilization of these resources for the purposes to which they are best adapted, and the realization of the highest current income consistent with undiminished future returns.” Scott and Brown, at 284-285. The policy statement also expanded upon the Act’s economic purpose: sustained-yield management was to provide “perpetual forests which [would] serve as a secure foundation for continuing industries and permanent communities,” and the Act generally “provided for the flow of a full measure of the benefits produced by a well managed forest to the people of the region.” Id.

In 1940, the General Lands Office expounded on its interpretation of the conservation and multiple use mandate of the O&C Act. Contrasting prior laws superseded by the O&C Act, W. H. Horning—Chief Forester for the Oregon and California Revested Lands Administration within the General Lands Office and the man who oversaw the first several years of implementation of the O&C Act—explained that “the old policy of rapid disposal” “permitted no opportunity to manage [the O&C lands] on a conservation basis, looking toward prudent use of the forest resource or providing for its continuous renewal,” which had been replaced by the O&C Act. BLM:AR 12567. Pontificating on the “sustained yield management” required by the new law, Horning explained that

Congress in enacting the legislation of 1937 recognized that the disposal policy previously applied to these lands was unsound, unbusinesslike, and contrary to the public interest. The old policy accordingly was completely reversed and replaced by a plan which requires conservation of the forest resource through a logical plan of management. This plan, while providing for prudent use of mature timber, requires that timber cutting shall be conducted in accordance with the principle of sustained yield….

Successful operation of sustained yield management means that timber culture must be practiced instead of timber mining. Timber mining means building up overdeveloped lumber industries intending to use up the virgin forest in 20 or 30
years, and then move on to similar forests elsewhere leaving a wake of stranded populations and impoverished communities. Sustained yield requires somewhat smaller or less numerous mills to begin with, but permits them to be solid and permanent in character. Instead of sudden but brief prosperity followed by acute distress, it substitutes more modest form of initial development which can be continued on a permanent basis.

BLM:AR 12569. Horning also noted that prior to enactment of the O&C Act, “in several units, the timber cut has been seriously in excess of the allowable volume,” a pitfall the new law was designed to avoid. Id. at 12576.

Forty-one years later in 1981, BLM issued another Policy Statement regarding the “Multiple Use Management of the O&C Lands.” BLM:AR 12585-12599. Supported by a long line of Solicitor’s Opinion coming to the same conclusion (discussed below), BLM’s 1981 Policy Statement explains the “multiple uses” of the O&C lands and how those uses are consistent with the statute:

Heavy public use associated with recreation and scenic values, and sports hunting and fishing sustains major economic values to the local economies. Anadromous fish production from cradle streams found on O&C lands supports a major commercial fishery that is of local and regional importance. Therefore, the primary thrust of the management program on the O&C lands is to provide a high-level and undiminishing output of wood under the principle of sustained yield and recognize and provide for these other needs so as to maintain the economic stability of the local communities and industries.

BLM:AR 12586. In the context of Interior’s review of a proposed Coos Bay management plan and environmental impact statement, BLM warned that selecting an alternative that was “too strongly single use in [its] orientation (e.g. the alternative of maximizing timber production)” would violate the Act. Id. at 12590. This was because other statutes and policies, cited in the policy statement, effect the management of the O&C lands. These statutes provide for protection of fish and wildlife and its habitat, particularly threatened and endangered species; protection of water quality, wetlands, archeological resources, scenic values, and management of flood plains and the coastal zone…. In developing policies to meet these requirements, it is apparent that the primary emphasis of the management program is on sustaining a high-level of timber output, consistent with economic
and environmental feasibility, to maintain the economic stability of local communities and industries.

*Id.* (emphasis added). BLM also opined that “there was also a precedent for multiple use management, since the ‘plowback funds’⁴ were funding multiple use activities with the concurrence of the O&C counties,” and had been used as such since at least 1953. *Id.* at 12591.

Later Policy Guidance issued by the BLM clearly stated the multiple use framework of the O&C Act. BLM:AR 11950-55.⁵ There, BLM explains that there is adequate legal justification to forgo or limit timber production, when necessary, in order to accommodate certain non-timber values and land-use allocations. Specifically, these are: maintenance of water quality and the adjunct anadromous fishery...protection of wetlands (including riparian zones as a specialized type of wetland)...maintenance of a minimal level of habitat diversity, including the old growth component, in order to maintain viable populations of threatened and endangered species...maintenance of visual quality...protection of potential and developed high-value recreational areas.

*Id.* at 11952. Based on these consistent Policy Statements and Guidance, BLM has long managed the O&C lands for multiple uses, which can and do influence how much timber can be offered for sale from these lands.

2. Solicitors’ Opinions

The Department of Interior Solicitor’s Office has issued opinions interpreting the O&C Act since at least 1940. In 1941, the Solicitor reviewed the interaction between the O&C Act and the mining laws, explaining that “it is the opinion of this office that Congress intended, by the Act of 1937, that the lands and timber involved should be used in the same manner and for the same purposes as those within national forest reservations,” and in support of this position,

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⁴ “Plowback funds” are those timber receipts from O&C lands that are returned to the U.S. Treasury for roads and other capital improvements on those lands. Scott and Brown at 278.

⁵ The Policy Guidance is attached to another document dated 1955; however, since the Policy Guidance references statutes enacted well after 1955, it is unlikely that the Policy Guidance itself was contemporaneously issued in that year.
“attention is invited to the similarity between the purpose of the Act of 1937 and the purpose of the National Forest Act (Act of June 4, 1897, 30 Stat. 11, 34, 35, 36, 16 U.S.C. secs. 475, 478, 482)….” Memorandum from Assistant Secretary, Dep’t of Interior, Applicability of Mining Laws to Revested Oregon and California and Reconveyed Coos Bay Grant Lands, Instructions, 1941 I.D. LEXIS 23 (Aug. 25, 1941); see also, Memorandum from Associate Solicitor, Dep’t of Interior, to Regional Solicitor, Dep’t of Interior, Applicability to O&C Lands of the Public Works Act of September 3, 1954 3-4 (Jan. 24, 1958) (stating that “it is reasonable to suppose that the Congress saw no inconsistency between the purposes of the legislation under consideration and the purposes for which National Forest are established, namely protection and improvement of the forests, furnishing a continuous supply of timber and watershed protection (16 U.S.C. 475). The objectives of the National Forest act are almost identical with those of the O&C Act”).

Two years later in 1943, the Solicitor again considered the O&C Act, this time the question of whether the statute required competitive bids for the sale of timber from the O&C lands. In determining that competitive bidding was not required, the Solicitor opined that the Secretary of Interior was permitted to “refuse to sell timber where a sale would interfere with the sustained-yield management plan,” and may in fact be required to refuse to sell timber where the sale would “conflict” with sustained yield management. BLM:AR 11958.

Decades later in 1979, Interior Associate Solicitor John Leshy responded to a request from the BLM to review its proposed management plan for the Josephine Sustained Yield Unit. BLM:AR 11925-11933. There, the Solicitor examined what Congress intended by “sustained yield” in the O&C Act. The House and Senate Reports accompanying the Act described sustained yield as limiting the amount cut to a volume not exceeding new annual growth. This definition could not be taken at face value when interpreted in the context of the whole Act and
its background, the Solicitor insisted, because its literal language would lead to low harvests. In contrast, during the Act’s hearings, the DOI reported that sustained-yield management would produce more timber, with a goal of the “largest possible volume.” Thus, the annual cut, as determined by sustained yield, must be based on more than just the annual volume of new growth: it must also consider the rotation age of the forest and the kind of management techniques used in reforestation. Scott and Brown at 186-287; see also BLM:AR 11927-29.

This January 1979 Solicitor’s Opinion, known as the “Even Flow Opinion,” concluded that the BLM had abundant discretion to depart from an “even flow” or consistent timber harvest level due to a variety of influential factors, including timber harvest methods, timber markets, and the requirements of other laws. BLM:AR 11931.

In March 1979, BLM queried the Solicitor in response to the Even Flow Opinion, observing that “commercial forest management” – a phrase used in the Solicitor’s January Opinion – was not in the O&C Act, and therefore questioned whether the Solicitor meant “permanent forest production” instead. Id. The BLM explained that

Over the years, we have managed these O&C lands on the principles of multiple use management. Our basis for multiple use management has been (1) the O&C Act, which lists several uses including timber production without any indication of any one use being dominant, (2) the numerous legislative and Executive Orders direction that has been applied equally to O&C lands and other Federal lands since 1937, and (3) the annual Appropriation Acts which have funded a variety of multiple use activities on these lands, i.e., wildlife and fishery projects, intensive recreation development. Of course, the one exception is the wilderness provisions of FLPMA.

BLM:AR 11921. BLM included with its query BLM’s O&C Forest Resources Policy, which stated that “the primary objectives of the management program on the O&C lands are to manage for a high-level and sustained yield output of wood products needed to contribute to the economic stability of the local communities and industries, and to provide for other land uses as established in the O&C Act and other legislation.” Id. at 11922. Those “other land uses”
specifically included

maintenance of water quality…protection of wetlands, including riparian zones…conservation of specifically identified habitat for federally listed, threatened and endangered species…consideration of State goals and objectives concerning State-listed, threatened and endangered species…consideration of habitat needs of native species…[and] protection of developed high-value recreation areas, including the visual quality of significant scenic areas.

*Id.*

In response, the Solicitor stated that “you are correct in pointing out the inaccuracy of the statement… The term “commercial forestry” should not have been used; rather, the term “permanent forest production” is correct. The latter term is used in Section 1 of the O&C Act…. BLM:AR 11913. The Solicitor went on to explain that “the term “commercial forestry” cannot be found in the O&C Act nor can support for dominant use for commercial forestry (as opposed to “permanent forest production”) be supported by its legislative history or by BLM’s continued administration and implementation of the Act since 1937.” BLM:AR 11914.

BLM continued to refine its Policy Statement in light of these multiple uses. In May 1981, BLM sought the Solicitor’s approval of the agency’s approach. Noting that “during the past several years, other legislation has been forthcoming and policy guidance has been issued which tend to broaden the relatively narrow management orientation provided by the O&C Act,” including FLPMA, the National Environmental Policy Act, Clean Water Act, Endangered Species Act, Wild and Scenic Rivers Act, and several Executive Orders, among others. BLM:AR 11889-90. In September of that year the Solicitor replied to BLM, concurring with the agency’s assessment and stating that

we have concluded that the O&C Act places forest production in the dominant role within the entire scheme of the Bureau’s management of the O&C lands. Further, the Act clearly does not mandate exclusive use, but instead requires management for other interest as well as timber supply. Therefore, the Bureau must see that its operations meld the dominant use of forest production with those
aspects of multiple use envisioned by the O&C Act in addition to any relevant requirements specified in subsequent legislation.

*Id.* at 11894. Supporting that conclusion, the Solicitor went on to explain that “it is also clear not only from the language of the Act itself, but also from the legislative history that the O&C legislation is a conservation measure requiring a form of multiple use management.” *Id.* at 11896. Indeed, “the O&C Act specifies that the O&C lands are to be managed for permanent forest production. Yet this resource is to be maintained for various purposes (i.e., permanent source of timber supply, watershed, stream flow, economic stability and recreational facilities). It falls to the BLM to determine the best way to achieve each of these goals.” *Id.* at 11899. The Solicitor then went on to compare each aspect of BLM’s multiple use management policy statement6 with the O&C Act, and concluded that the BLM’s proposed policy was consistent with the legal requirements of the Act because “the O&C Act is a conservation measure authorizing the Bureau to use scientific methods when managing the total resource,” and because the Act gives the BLM “a significant amount of discretion to determine how competing objectives will be met.” *Id.* at 11900-04.

The last Solicitor’s review of the O&C Act took place in 1986, and responded to an inquiry from BLM regarding whether the agency was required to take any action on O&C lands to manage for the northern spotted owl, which had not yet been listed as a threatened species under the ESA. BLM:AR 11868-78. Largely concluding that the BLM had no legal obligation to do so because the species was not protected by federal law, the Solicitor concluded that “if the Secretary can manage northern spotted owls and still produce timber on a sustained yield basis in the O&C timberlands, the O&C Act in no way will preclude him from making that choice.” *Id.*

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6 The policy was slightly revised in 1983, and included the statement that decreases in timber harvest “shall be economically and/or biologically justified and timed so as to minimize impacts on dependent industries and local economies.” BLM:AR 11879, 11882.
at 11873. Indeed, “Congress left the question of what, if any, program is necessary for managing the northern spotted owl to the Secretary. Any reasoned choice by the Secretary will be sustained.” *Id.* at 11878. Given the robust legislative history and internal legal review of the O&C Act, it is clear that the Act is a multiple use statute that vests the Secretary with abundant discretion to determine how to best meet the myriad of goals that are part and parcel of “permanent forest production.”

B. *Headwaters v. BLM* does not hold that BLM has no discretion over O&C Act timber sale volumes.

Swanson cites to *Headwaters v. BLM*, 914 F.2d 1174 (9th Cir. 1990), to support its view that the O&C Act is not a multiple use statute. Swanson Br. at 5. While the Ninth Circuit in *Headwaters* stated that the O&C Act was a timber dominant statute, that simple statement does not mean that BLM has a non-discretionary duty to sell a prescribed amount of timber. To the contrary, the appellate court in *Headwaters* found that BLM did complete a multiple-use analysis for the challenged project, the Wilson Peak timber sale, considering “all pertinent factors, including, but not limited to, ecology, existing uses, and the relative values of the various resources in particular areas.” *Id.* at 1182. Moreover, the Wilson Peak timber sale provides an excellent example of the discretion BLM retains over management of its lands—BLM was not required to emphasize timber production on every acre, but instead “BLM elected to emphasize the production of timber on particular parcels in the Unit while managing over half of the public domain lands in the Unit for non-timber uses.” *Id.* at 1183. Finally, after *Headwaters*, the Ninth Circuit decided *Portland Audubon Soc’y* and found that the O&C Act did not divest BLM of discretion to manage its lands, including meeting timber volume requirements. 998 F.2d at 709. *Headwaters* does not support Swanson’s “timber first and only” interpretation of the O&C Act.

In sum, as discussed above, the O&C Act contemplates the sale of timber only insofar as
the sales can be accomplished in an economically and environmentally sound manner. The Secretary has “a significant amount of discretion” in determining how best to comply with the O&C Act, given fiscal constraints and the requirements of other laws, which may very well mean that timber harvest levels are lower than that which can be grown on the O&C lands. BLM:AR 3160, 2615, 2616, 2492, 2467, 2619, 179, 996, 317, 299. Swanson has provided no legal authority or legislative history that would eliminate the Secretary’s discretion to adjust harvest levels accordingly. SUWA, 542 U.S. at 66 (broad statutory mandates are unenforceable under § 706(1) of the APA).

CONCLUSION

For the reasons discussed above, KS Wild respectfully asks the Court to grant its motion for summary judgment and deny Swanson’s motion for summary judgment as to Claim One.

Respectfully submitted this 25th day of May, 2012.

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UNITED STATES DISTRICT COURT  
DISTRICT OF COLUMBIA  

SWANSON GROUP MFG. LLC; ROUGH & READY LUMBER LLC; WASHINGTON CONTRACT LOGGERS ASSOCIATION; AMERICAN FOREST RESOURCE COUNCIL; and DOUGLAS TIMBER OPERATORS, INC.,  

Plaintiffs,  

vs.  

KEN SALAZAR, Secretary of Interior, and TOM VILSACK, Secretary of Agriculture,  

Defendants,  

and  

KLAMATH-SISKIYOU WILDLANDS CENTER; OREGON WILD; and CASCADIA WILDLANDS,  

Defendant-Intervenors.  

DEFFENDANT-INTERVENORS’ REPLY MEMORANDUM IN SUPPORT OF CROSS-MOTION FOR SUMMARY JUDGMENT  

DEFFENDANT-INTERVENORS’ REPLY MEMORANDUM IN SUPPORT OF CROSS-MOTION FOR SUMMARY JUDGMENT  

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INTRODUCTION

Through this lawsuit, plaintiffs Swanson Group et al. ask this Court to force the Bureau of Land Management ("BLM") to sell a specific, large amount of timber from federal lands in Oregon, regardless of budget constraints, economic market forces, ecological concerns, or mandatory legal duties. Under plaintiffs’ theory, this Court should step in and judicially determine the appropriate amount of timber that can be sustainably logged and sold from these lands. Plaintiffs claim their position is “straightforward;” according to their argument, the Oregon and California Lands Act ("O&C Act") requires BLM to annually sell a certain amount of timber, and the agency has failed to meet this requirement. Swanson Reply/Opp. at 2-3. Plaintiffs’ argument, however, is a swaying house of cards.

First, the O&C Act does not demand that a specified amount of timber be sold annually; instead, the statutory language instructs BLM to determine the “annual productive capacity” of the O&C lands and then sell the “annual sustained yield capacity … or so much thereof as can be sold at reasonable prices on a normal market.” 43 U.S.C. § 1181a. This language gives BLM discretion to determine an annual sustained yield capacity, as well as discretion to sell that much timber or less depending on market conditions. Standing alone, this provision of the O&C Act requires BLM to set a timber-selling ceiling, but it does not set a mandate or a floor. This is precisely the type of discretion-laden statutory command that the Supreme Court found non-justiciable in Norton v. Southern Utah Wilderness Alliance, 542 U.S. 55 (2004) ("SUWA"). Plaintiffs’ attempts to distinguish the instant action from SUWA are unpersuasive.

Second, this is not a case of first impression as to whether the O&C Act mandates a certain timber harvest level or removes the discretion federal agencies have in all other contexts with respect to timber sales. As many courts in various jurisdictions have explained, federal land management agencies, including BLM, are not required by any statute to sell timber from those lands.
lands. The prior judicial interpretations of the O&C Act and its interplay with other federal environmental statutes illustrate that the Act has not removed the traditional timber sale discretion from BLM.

Third, in order to support their claim for a mandatory duty, plaintiffs continually switch the focus of their argument, claiming first that the O&C Act requirements are plain, then pointing to the 1995 Resource Management Plans (“RMPs”) to provide the actual numerical amount of timber supposedly required and claiming that BLM has violated the RMPs as well. Yet the RMPs set no firm, enforceable timber quantity. In language plaintiffs notably never cite, the RMPs explicitly state that their numbers are “estimates” surrounded by “uncertainties.”

BLM Administrative Record (“BLM:AR”) at 6885-86 (Roseburg RMP); 12375 (Medford RMP). “The actual sale levels may differ, as timber sale levels will be an effect of overall forest management rather than a target that drives that management. … The allowable sale quantity represents neither a minimum level that must be met nor a maximum level that cannot be exceeded.” Id. Plaintiffs cannot enforce the RMPs.

In short, plaintiffs would have this Court twist the O&C Act beyond recognition. The O&C Act, a short statute with the words “conservation management” in its title, marks Congress’ first attempt at creating a multiple-use mandate for federal public forestland management. The Act is more than a timber-only statute; it defines sustained yield as being “for the purpose of providing a permanent source of timber supply, protecting watersheds, regulating stream flow, and contributing to the economic stability of local communities and industries, and providing recreational facilities.” 43 U.S.C. § 1181a. Under Supreme Court precedent, BLM has no enforceable, discrete, non-discretionary duty to sell a specific amount of timber from the O&C lands; Swanson is entitled to neither declaratory nor injunctive relief; and defendant-intervenors
Klamath-Siskiyou Wildlands Center, Oregon Wild, and Cascadia Wildlands (“KS Wild”) respectfully ask the Court to deny Swanson’s motion for summary judgment on Claim One.

ARGUMENT

I. UNDER THE O&C ACT, BLM RETAINS DISCRETION AS TO THE AMOUNT OF TIMBER IT SELLS EACH YEAR.

As in its opening brief, Swanson argues that the O&C Act requires BLM to sell or offer for sale the estimated annual productive capacity (allowable harvest level) found in the 1995 Medford and Roseburg RMPs. Swanson Reply/Opp. Br. at 8-12. Review of the language of the O&C Act, however, shows that the Act does not deprive BLM of its discretion in management of these public lands. Beyond the requirements of the O&C Act itself (which include sustainable forestry and watershed protection), BLM has other duties it must follow.

Simply stating that the O&C Act is “plain” does not make it so. As the Supreme Court has explained, “there is no errorless test for identifying or recognizing ‘plain’ or ‘unambiguous’ language.” United States v. Turkette, 452 U.S. 576, 580 (1980). The fact that the Act uses the word “shall” does not answer the question of whether or not a claim can be brought pursuant to the Administrative Procedure Act (“APA”), 5 U.S.C. § 706(1). The O&C Act directs BLM to manage these lands for permanent forest production, watershed protection, streamflow regulation, contributing to economic stability of local communities and industries, and providing recreational facilities. 43 U.S.C. § 1181a. How BLM meets each of these demands is left to the agency’s discretion. In SUWA, the Supreme Court analyzed a challenge to BLM’s failure to enforce provisions in a Resource Management Plan that pledged to take certain actions regarding off-road vehicle use. Ultimately, the Supreme Court held that the courts had no jurisdiction to review the claim: “[t]he claim … would have us … conclude that a statement in a plan that BLM ‘will’ take this, that, or the other action, is a binding commitment that can be compelled under §
706(1). In our view it is not….” 542 U.S. at 69.

The Supreme Court explained that the Administrative Procedure Act (“APA”) limited judicial review in these circumstances in order to avoid excessive judicial involvement in agency activities. “The principle purpose of the APA limitations we have discussed … is to protect agencies from undue judicial interference with their lawful discretion, and to avoid judicial entanglement in abstract policy disagreements which courts lack both expertise and information to resolve.” SUWA, 542 U.S. at 66. That argument rings especially true here, as plaintiffs ask this Court to second-guess BLM and order specific levels of timber harvest without considering the many other obligations the agency must meet.

The Oregon district court in Gifford Pinchot Alliance v. Butruille, 752 F. Supp. 967 (D. Or. 1990), reviewed a statute that specifically directed the Forest Service to sell a certain amount of timber in a particular time period and found that the word “shall” “when read in context” was ambiguous, as the statute at issue had other provisions and “[r]eading ‘shall’ as a mandate renders [the statute’s] clauses contradictory.” 752 F. Supp. at 971. Like the O&C Act, the statute at issue in Butruille contained provisions for land and water protection, and that fact helped convince the court to deny the timber plaintiffs’ requested relief of an order compelling the sale of federal timber. Id. The Butruille court also reviewed the legislative history of the statute at issue, concluding that while Congress clearly intended to push through as many timber sales as possible, “Congress also recognized the need to protect certain environmental interests.” Id. at 971. The O&C Act has the same recognition of environmental concerns. See KS Wild SJ Memo. at 14-24 (discussing O&C Act legislative history). 1 Swanson’s reply fails to address this

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1 The law review article referenced and quoted in KS Wild’s opening summary judgment memorandum was cited primarily as an easy-to-access source of the O&C Act legislative history.
case or its earlier companion, *Gifford Pinchot Alliance v. Butruille*, 742 F. Supp. 1077, 1082-83 (D. Or. 1990). In the earlier case, the same timber plaintiffs sought a writ of mandamus to compel timber sales, similar to Swanson’s approach in this case. There, the district court denied the motion because the timber sales at issue were within the discretion of the agency.

As an O&C Act challenge, Swanson fails to identify and challenge a final agency action. Swanson’s programmatic attack on BLM’s land management as counter to the O&C Act runs squarely into the Supreme Court’s admonition that broad programs—like the timber programs of the Medford and Roseburg BLM districts—are not final agency actions challengeable under the APA. *See Lujan v. Defenders of Wildlife*, 497 U.S. 871, 891 (1990) (“respondent cannot seek wholesale improvement of this program by court decree …. Under the terms of the APA, respondent must direct its attack against some particular ‘agency action’ that causes it harm”). Swanson’s claim does not attack a “purely ministerial duty,” but instead a broad area of planning where BLM has great discretion. *See Work v. U.S. ex rel. Rives*, 267 U.S. 175, 177 (1925) (mandamus cannot be used to compel a discretionary duty).

Additionally, the O&C Act itself does not set minimum timber harvest levels. While the Act directs BLM to sell timber from the O&C lands, it also commands BLM to use its discretion so that “timber sales from a forest unit shall be limited to the productive capacity of such unit and the Secretary is authorized, in his discretion, to reject any bids which may interfere with the sustained-yield management plan of any unit.” 43 U.S.C. § 1181a. This explicit timber harvest limitation, coupled with the Act’s definition of sustained yield as being “for the purpose of providing a permanent source of timber supply, protecting watersheds, regulating stream flow, and contributing to the economic stability of local communities and industries, and providing

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for the convenience of the Court and the parties. Documents referenced in the law review article are in the administrative record.
recreational facilities,” clearly preserves BLM discretionary management authority over these lands. As the Ninth Circuit held, “the plain language of the Act supports the district court’s conclusion that the [O&C] Act has not deprived the BLM of all discretion with regard to either the volume requirements of the Act or the management of the lands entrusted to its care.”

*Portland Audubon Soc’y v. Babbitt*, 998 F.2d 705, 709 (9th Cir. 1993); *see also Portland Audubon Soc’y v. Lujan*, 795 F. Supp. 1489, 1506 (D. Or. 1992) (O&C Act “does not mandate that the BLM offer for annual sale a minimum of 500 million board feet of timber”).

II. OTHER COURTS HAVE HELD THAT THE O&C ACT DOES NOT MANDATE CERTAIN TIMBER HARVEST LEVELS.

Despite Swanson’s assertion to the contrary, the issue of BLM discretion over the quantity of timber sold from O&C lands is not one of first impression. Timber interests have been futilely pressing the argument that the O&C Act mandates a certain level of timber harvest for almost 20 years. In *Seattle Audubon Soc’y v. Lyons*, the Washington district court held that the Northwest Forest Plan—a regional forest plan that covers the O&C lands—did not violate the O&C Act, even though its prescriptions led to lower timber volumes. The district court noted that “management under the [O&C Act] must look not only to annual timber production but also to protecting watersheds, contributing to economic stability, and providing recreational facilities.” 871 F. Supp. 1291, 1314 (W.D. Wash. 1994), *aff’d sub nom. Seattle Audubon Soc’y v. Moseley*, 80 F.3d 1401 (9th Cir. 1996). In rejecting the timber industry’s challenge to the agencies’ authority to adopt an ecosystem plan that covered both national forest lands and the O&C lands, the district court noted that both agencies’ planning statutes required an integrated, scientific approach; both agencies had to comply with NEPA’s mandate to consider ecosystem effects; and both agencies had to comply with the Endangered Species Act. The court held that “[g]iven the current condition of the forests, there is no way the agencies could comply with the
environmental laws without planning on an ecosystem basis.” *Id.* at 1311 (emphasis in original).

In *Portland Audubon Soc’y*, 998 F.2d at 709, the appellate court specifically found that “the plain language of the [O&C Act] supports the district court’s conclusion that the Act has not deprived the BLM of all discretion with regard to either the volume requirements of the Act or the management of the lands entrusted to its care.” Swanson’s arguments to this Court slightly reframe this old attack, but the basis for rejection of the argument—that the Act has not taken away BLM’s discretion with respect to timber volumes—has already been addressed.²


**III. THE 1995 RMPS DO NOT SET FIRM, ENFORCEABLE TIMBER QUANTITIES.**

Unable to rely on the O&C Act in a vacuum to force BLM to sell timber, Swanson argues that the BLM has a discrete, nondiscretionary duty to sell the “annual capacity of the O&C

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² Swanson relies on *Headwaters v. BLM*, 914 F.2d 1174 (9th Cir. 1990), to support its view that the O&C Act deprives BLM of its usual discretion. Swanson Reply/Opp. at 10. While the Ninth Circuit in *Headwaters* stated that the O&C Act was a timber dominant statute, that simple statement does not mean that BLM has a non-discretionary duty to sell a prescribed amount of timber. In fact, the Wilson Peak timber sale (the challenged project) proves that BLM retains discretion over management of its lands—BLM was not required to emphasize timber production on every acre, but instead “BLM elected to emphasize the production of timber on particular parcels in the Unit while managing over half of the public domain lands in the Unit for non-timber uses.” *Id.* at 1183.
lands” of timber each year, based on the Medford and Roseburg District RMPs. Swanson Reply/Opp. at 12. This argument is also incorrect.

The provisions in the Medford and Roseburg RMPs pertaining to the sale of timber are explicitly qualified. The Supreme Court has explained that a claim charging that an agency has failed to act in accordance with its RMP “can proceed only where a plaintiff asserts that an agency failed to take a discrete agency action that it is required to take.” SUWA, 542 U.S. at 64. Here, the RMPs themselves qualify the “allowable sale quantity” or ASQ that can be offered for sale from the Medford and Roseburg districts. The Roseburg RMP states in relevant part that

The allowable sale quantity for the resource management plan is an estimate of annual average timber sale volume likely to be achieved from lands allocated to planned sustainable timber harvest. This estimate, however, is surrounded by uncertainties. The actual sale levels may differ, as timber sale levels will be an effect of overall forest management rather than a target that drives that management. … The allowable sale quantity represents neither a minimum level that must be met nor a maximum level that cannot be exceeded. It is an approximation because of the difficulty associated with predicting actual timber sale levels over the next decade, given the complex nature of many of the management actions/direction.

BLM:AR 6885-86 (emphasis added). The Medford RMP contains nearly identical language. Id. at 12375. These narrative discussions of allowable sale quantity are explicitly imprecise and explicitly state that the timber volume estimates are not mandatory, because of the many, and sometimes conflicting, duties BLM must meet.

The ASQ discussions provide none of the hallmarks of an action that the BLM is required to take in order to comply with the O&C Act. Instead, Swanson’s challenge (i.e., failure to sell a particular volume of timber) is indistinguishable from the types of claims that the Supreme Court has rejected in the past: “[t]he statute and regulations confirm that a land use plan is not ordinarily the medium for affirmative decisions that implement the agency’s ‘project[ions].’” SUWA, 542 U.S. at 69. As in SUWA, plaintiffs “cannot seek wholesale improvement of this

DEFENDANT-INTERVENORS’ REPLY MEMORANDUM IN SUPPORT OF CROSS-MOTION FOR SUMMARY JUDGMENT - 8 -
program by court decree.” *Id.* at 64 (quotation and citation omitted). Addressing the nature of RMPs, the Court stated that a land use plan generally does not contain prescriptions, and “[i]t would be unreasonable to think that either Congress or the agency intended otherwise, since land use plans nationwide would commit the agency to actions far in the future, for which funds have not yet been appropriated.” *Id.* at 72.

In a recent decision, an Oregon district court analyzed and rejected a similar failure to act claim based on an allegedly clear statute and management plan. In *Stout v. U.S. Forest Serv.*, No. 09-152-HA, 2012 WL 1424069 (D. Or. Apr. 24, 2012), plaintiff ranchers brought a claim pursuant to the Wild Free-Roaming Horses and Burro Act and the National Forest Management Act (“NFMA”). Slip op. at 2. The ranchers alleged that the Forest Service failed to meet a previously set management level of 100 wild horses on the lands at issue, and that this failure violated NFMA. *Id.* Relying on *SUWA*, the court determined that the standard in the management plan was not binding, even though the standard emphasized the need to limit horses to 100 head in this area. *Id.* at 12-13 (“By its terms, [the] Standard … leaves a measure of discretion to the Forest Service in determining how to manage livestock.”). Here, BLM has similarly retained its discretion as to the amount of timber to be harvested, noting that the “estimate” was “surrounded by uncertainties,” was not a target, was neither a minimum nor a maximum, and was an “approximation.” BLM:AR 6885-86 (Roseburg RMP). As in *SUWA* and *Stout*, meeting the Allowable Sale Quantity in the RMPs is not an action BLM is “required to take.” *SUWA*, 542 U.S. at 64; *Stout*, slip op. at 12-13.

A court in this district reached a similar conclusion in *Theodore Roosevelt Conservation Partnership v. Salazar*, 605 F. Supp. 2d 263 (D.D.C. 2009). In that case, plaintiffs challenged a final BLM Record of Decision as being inconsistent with the overarching Resource Management
Plan because the decision exceeded the plan’s projections for oil and gas drilling by more than 25%. *Id.* at 283. Quoting *SUWA*’s observation that land use plans are “tools by which present and future use is projected,” the district court ruled against plaintiffs because the RMP stated that its oil and gas drilling projections were not hard caps. *Id.* (emphasis added). Here, BLM has stated that its timber volume projections are not minimums or maximums, but estimates and approximations, which do not create a discrete agency obligation. BLM:AR 6885-86.3

**CONCLUSION**

For the reasons stated above and in KS Wild’s memorandum in opposition to plaintiffs’ motion for summary judgment and in support of cross-motion for summary judgment, KS Wild respectfully asks the Court to grant its motion for summary judgment and deny Swanson’s motion for summary judgment as to Claim One.

3 Plaintiffs also point to BLM’s annual work plans (Swanson Reply/Opp. at 17-18) and claim to be challenging them as violating the O&C Act because they do not require the timber estimate in the 1995 RMPs to be logged each year. Not only does this argument fail because the RMPs specifically disclaim a mandatory nature for their timber estimates, but this argument further confuses the focus of Swanson’s challenge. Practically conceding that they cannot challenge BLM’s timber program in a vacuum under 5 U.S.C. § 706(1), plaintiffs shift again and claim they are challenging the yearly annual work plans from 2004 to 2010 as arbitrary and capricious under 5 U.S.C. § 706(2). These work plans, however, are not final agency actions, and plaintiffs’ attempt to obtain jurisdiction through them is unavailing. See *Bennett v. Spear*, 520 U.S. 154, 177-78 (1997) (final agency action must mark consummation of agency decision-making process and create legal consequences).
Respectfully submitted this 17th day of July, 2012.

s/ Kristen L. Boyles
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CERTIFICATE OF SERVICE

I am a citizen of the United States and a resident of the State of Washington. I am over 18 years of age and not a party to this action. My business address is 705 Second Avenue, Suite 203, Seattle, Washington 98104.

On July 17, 2012, I served a true and correct copy of:


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I, Catherine Hamborg, declare under penalty of perjury that the foregoing is true and correct. Executed on this 17th day of July, 2012, at Seattle, Washington.

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Portland, OR 97208

To Whom it May Concern,

As a concerned former resident of Oregon, who considers Ashland to still be my authentic home, I urge you to issue a new plan for BLM's forests in Western Oregon that **breaks permanently and cleanly with the BLM's past practices of timber liquidation. I urge you to fully embrace an ecologically sustainable future** that is more responsive to the current and future interests of Oregonians and Americans in an intact landscape. The prior Administration's "Western Oregon Plan Revision" constituted a straightforward mandate for the destruction of Oregon's federally owned forests, a destruction that might sadly be now be underway, had the BLM not been dragged with great recalcitrance back to reality via the courts. I sincerely hope that BLM will, in this latest iteration of its Western Oregon plan, voluntarily uphold its responsibility to protect our precious forests instead.

The prior WOPR's scale of logging and road construction was completely inappropriate in the contemporary southern and western Oregon that is increasingly urbanized, fragmented in landscape, and dependent upon its public lands as a last refuge for an array of plants and animals. It constituted an absolute repeal of the past two decades of scientific and social progress in forest management in the Pacific Northwest. I urge BLM to instead follow the prevailing trend in the Forest Service to move beyond the "timber wars" by developing new methods of small-diameter timber harvest, genuine forest health restoration, and economic diversification in rural communities. The BLM must not attempt to re-ignite these insidious battles, particularly in the context of the extremely low price for lumber in the current market. Mills are shutting down and the US is engaged in a trade war with Canada due to global oversupply.

The BLM can best maximize America's net benefit from these ecosystems by protecting all remaining old-growth forests in Western Oregon, by keeping roads out of all remaining roadless areas, and selectively cutting only where efficacious and appropriate to restore historic stand densities. BLM lands in Western Oregon are riddled with second-growth forests that are already overstocked, fragmented, and degraded by past logging. The BLM could pursue ecologically sustainable and socially constructive consensus projects that restore these forests while supplying an honest, consistent, and abundant supply of small-diameter timber. The Forest Service has already made progress in taking these steps toward forest management that is more appropriate to an urbanized and heavily impacted Oregon. Too often, the BLM has advertised its timber sales as "restoration," only to mark large-diameter trees for cutting on the ground and exacerbate the very stand health problems it purports to address. If the BLM can, in the new Western Oregon management regime, match its employees' actions on the ground to the claims of its NEPA project documents, our forests will benefit greatly.

BLM must also staunch the metastasis of rogue mining claims across Southwest Oregon, spread by parasitic miners who convert our precious streams into muddy ditches for a few flecks of gold. These mining operations are enabled by a peculiar combination of sociopathic greed and a mining law that dates to an entirely different era of American history and landscape context. BLM must assert, once and for all, that this is not an appropriate use of BLM's lands that are worth far more to the American public with soil, vegetation, and wildlife than as disemboweled mud pits. Therefore, it must use the new western Oregon plan to withdraw all of its lands from new mining claims under the 1872 Mining Act, as its planning process allows if done before a claim is staked. BLM must also sternly police these withdrawals, as has already been seen from its experience with various lawless criminal miners that any weakness of enforcement on its part will only invite further aggression.
A similar challenge in establishing rule of law exists in the management of off-road vehicle users. The plan should emphasize the closure of existing unauthorized, illegal, “user-created” routes that are bleeding soil into our streams. **ORV use should be directed onto a finite number of clearly marked and mapped routes that can be policed and enforced** with reasonable frequency given the staff time available. The plan must establish a clear, unambiguous, blanket prohibition on any off-route, cross-country travel with civil fines commensurate with the level of resource damage this causes, and sufficient to meaningfully deter willful violators. The plan must also address the critical task of either repairing or closing and revegetating the backlog of old, unmaintained roads and trails. This is the first task to achieve before BLM even considers opening new routes or watersheds. The BLM should also not legitimize and reward bad behavior by designating “user-created” routes except through normal environmental analysis, and not give them an automatic leg-up in route consideration.

After so many decades of abuse, **the BLM finally has both the scientific predicate and the legal imperative to protect and restore its precious lands and waters in Western Oregon.** As a former resident of Ashland, I personally attest to the national significance of the forests that historical political contingency has bestowed upon the BLM, and which entrusted BLM with a stewardship mandate that it has often failed. I urge you to seize this opportunity, and secure a future for these lands that both current and future generations of Oregonians will be thankful for.

Thank you for your attention to this urgent issue.

Sincerely,

Jim Steitz
At the BLM Purpose and Need Listening session at the Red Lion motel in Coos Bay on March 11, 2014, presenters indicated that buffers along creeks would be measured on the slope rather than horizontally. This has the effect of reducing the actual buffer zone, as shown below. On very steep slopes the buffer would be the most reduced, increasing erosion and accretion, destroying forest lands as well as polluting and damming streams.

As a member of the public I strongly recommend that the BLM rethink its position on slope affected buffer zones and perform horizontal measurements as per accepted surveying principles.

Thank you, Jerry Solley.

Signatures and date: 3/27/14
ARTICLES

DEBORAH SCOTT*
SUSAN JANE M. BROWN**

The Oregon and California Lands Act:
Revisiting the Concept of “Dominant Use”

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Since its enactment in 1937, the Oregon and California Lands Act (O&C Act)\(^1\) has created a version of public lands management unique in the United States. The O&C Act's grant lands (O&C lands) are the only areas where the Bureau of Land Management (BLM)—rather than the Forest Service—oversees forest management. Unlike all other counties in which the federal government oversees timber harvest, counties within the O&C lands receive an additional percentage of the revenue from timber harvest conducted on O&C lands, and the welfare of local communities is listed as one of the specific purposes for which the Department of the Interior (DOI) must provide.\(^2\) Within this unique scheme, the environmental sustainability of the O&C lands and the economic sustainability of its local communities are intertwined. Unfortunately, under the BLM's management, the O&C lands have failed to meet both forms of sustainability.


Pacific Northwest logging communities faced a sharp decline in logging in the early 1990s, precipitated by court rulings on the spotted owl, modernization of the logging industry that reduced the need for workers, and a decreased demand for lumber due to housing declines in the 1980s. These timber-dependent communities may face censure from urban centers, where loggers are often considered to be interested only in economic gain. The federal government has failed to provide adequate support to these communities, and is often more interested in what the loggers produce than in the loggers themselves.

The BLM is currently using the O&C Act as a rationale to reduce or eliminate many of the protections in the Northwest Forest Plan (NFP), relying on several flawed interpretations of the Act that have concluded the law is a “dominant use” statute. Pursuant to a settlement agreement with the American Forest Resources Council and others aligned with timber interests, the BLM is revising its Resource Management Plans (RMPs) in western Oregon. Among other effects, these revisions are likely to largely eliminate Late-Successional Reserves and reduce stream buffers where logging has been largely prohibited and

4 Id. at 231.
6 Reimer, supra note 3, at 242.
strenuously regulated. The O&C Act was wrongly used to justify this settlement agreement. A correct reading of the O&C Act is necessary to understand BLM’s forest land-management obligations, and the legality of the RMP revisions.

Part I of this Article is a history of the O&C lands, and Part II describes the Act’s legislative history, provisions, regulations, and amendments. Part III summarizes the various official interpretations of the O&C Act, including DOI Opinions, federal case law, and administrative appeals board decisions. Part IV argues that the Ninth Circuit’s decision in *Headwaters v. Bureau of Land Management, Medford District* was wrongly decided, and that a fair reading of the case law and legislative history prompts a different conclusion than that drawn by the appellate court. Finally, Part V highlights a prescient opportunity for the public and the courts to reexamine the conventional wisdom that the O&C Act is a “dominant use” statute.

**I**

**HISTORY OF THE O&C LANDS**

During the nineteenth century, the U.S. government promoted a national policy of settlement and development of the West, primarily by granting land to companies in exchange for building wagon roads, railroads, and other public purpose construction. Railroad companies were then required to sell the granted land to settlers to generate revenue to pay railroad construction costs. By the end of the Civil War, the United States had granted 130 million acres of land west of the Mississippi to a few private companies.

In 1866, Congress established a land grant to build a railroad from the valleys of northern California to Portland, Oregon,

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leaving the Oregon Legislature to designate a company to do the Oregon work.12 Public land along the railway line was granted to the railroads in odd-numbered sections, in a strip twenty miles wide on each side. If a section was already occupied or otherwise disposed of, the company could locate and select equivalent acreage from an additional ten-mile strip on each side.13 When twenty or more consecutive miles of railway line were completed, the President of the United States was to appoint commissioners to inspect and issue patents to the companies for the land.14 The DOI was responsible for administration of the land grant.15

In 1869, a controversy between two competing Oregon railroads necessitated a congressional amendment to the 1866 grant.16 By that time, the fever to fund railroads to aid in westward expansion had cooled considerably. The public lands committees of Congress used the amendment as an opportunity to reflect their greater concern for the national interest and “paramount interest of homesteaders.”17 Congress added three new conditions: (1) the railroad companies could sell the granted lands to “actual settlers only,” (2) in quantities no greater than one-quarter section18 per purchaser, and (3) for not more than $2.50 per acre.19

Around the same time, the two Oregon railroad companies merged and became the Oregon and California Railroad Company (O&C Railroad Company).20 Throughout the 1870s and

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12 Act of July 25, 1866, ch. 242, § 1, 14 Stat. 239, 239.
13 Id. § 2, 14 Stat. at 239. “Mineral lands” were exempted from the Act; the railroads could not choose sections that were “mineral” except to the extent that they could use the timber thereon to construct the railway. Id. § 10, 14 Stat. at 241.
14 Id. § 4, 14 Stat. at 240.
15 Id. § 2, 14 Stat. at 239-40.
16 Congress officially designated the Oregon Central Railroad in 1866, but that same year another company called the Oregon Central Railroad also formed. RICHARDSON, supra note 11, at 3-4. One company built on the east side of the Willamette River, the other on the west side, and each company accused the other of illegal formation. Id. at 3. Due to pending litigation between the two companies, Oregon realized that it would not be able to name a company before the statutory time ran out. The 1869 amendment eliminated the statutory time frame. Id. at 3-4.
17 Id. at 4.
18 One-quarter section = 160 acres.
20 RICHARDSON, supra note 11, at 4.
into the early 1880s, the company encountered constant financial difficulties; it frequently suspended construction, once entered receivership, and ultimately was absorbed by the Southern Pacific Railway Company.\textsuperscript{21} One of the causes of financial stress was the railroad’s inability to sell its granted land.\textsuperscript{22} The 1869 legislation assumed the grant lands would be marketable at the going rates for agricultural land—$2.50 per acre—but in fact, the steep, heavily forested lands were unsuited for agriculture.\textsuperscript{23}

By the time construction was completed to the California border in 1887, the O&C Railroad Company had earned 3,728,000 acres of grant land.\textsuperscript{24} Yet by 1890, it had sold only 300,000 acres.\textsuperscript{25} Because the market for land was poor, the O&C Railroad Company did not bring most of its acreage to patent.\textsuperscript{26} This left more than 3 million unpatented acres for which the counties received no taxes and which the O&C Railroad Company held at very little cost.\textsuperscript{27}

The Railroad’s financial prospects changed with the Oregon timber boom. By the end of the nineteenth century, the timber industry depleted the Great Lakes timber resources.\textsuperscript{28} Timber cruisers from the former “northwest” of Minnesota, Michigan, and Wisconsin\textsuperscript{29} were drawn to the new Northwest by reports of “simply prodigious” and “inexhaustible” amounts of timber.\textsuperscript{30} Soon, Weyerhaeuser and other Great Lakes firms entered the Pacific Northwest. In the 1890s, the price of timbered O&C lands rose as high as $40 per acre, inflated by new legislation authorizing the President to reserve public domain land for for-
est conservation purposes. The sales that followed grossly violated the 1869 Homestead Act’s conditions: land was sold to timber companies for well over $2.50 per acre, often in huge tracts, and the timber firms certainly were not “actual” settlers. By 1903, Southern Pacific Railway (through the O&C Railroad Company) had sold 813,000 acres, and about 84% of the acreage sold violated the 1869 Act.

In 1902, Southern Pacific withdrew all its lands from sale. Because the timber boom was far from over, most Oregonians believed that the railroad company actually was “hedging against expected further price increases,” which only added to Oregonians’ distrust of the railroads. Oregon had become a leader in the Progressive movement, built on defending the “little” people against monopolistic corporations. Already unpopular in Oregon for their tax-avoidance techniques, the railroads were a natural target for Progressives. When the Portland Oregonian rediscovered the 1869 “actual settlers” clause, it set off a campaign against the railroads. Around the same time, President Roosevelt initiated land-fraud investigations in Oregon and uncovered several decades of falsified records, bribery, and other illegal actions regarding Oregon’s public domain timber. More than a thousand people were eventually indicted in the investigations.

31 In the early 1900s, President Roosevelt enlarged Oregon’s forest reserves to 13 million acres. Richardson, supra note 11, at 9-10. By July 1905, President Roosevelt had expanded the national reserves to 85.7 million acres, and by 1913, 187 million acres were in reserve. Clary, supra note 28, at 3. While these reservations protected those forests, it also probably exacerbated the price of remaining timberlands and “heightened the anxieties of land-hungry Oregonians.” The O&C Lands, supra note 10, at 6.

32 Bureau of Governmental Research & Serv., Univ. of Or., The Significance of the O&C Forest Resource in Western Oregon 21 (1968) [hereinafter Significance of the O&C].

33 Id. The misappropriated acres totaled approximately 685,000 acres. Id.

34 See Clary, supra note 28, at 15-16 (discussing the tenets of Progressive belief).


36 Richardson, supra note 11, at 10. The Oregonian found the “actual settlers” clause in the Coos Bay Wagon Road grant, causing it to look for similar wording in the Oregon and California Railroad grant. Id.

37 The O&C Lands, supra note 10, at 6-7. The land-fraud investigations took place in 1903. Id. at 6.
In response to these events, the Oregon Legislature pushed hard for Congress to ensure compliance with the terms of the 1869 grant. In 1908, Congress authorized the Attorney General to institute a forfeiture suit for the O&C Railroad Company’s breach of the terms of its contract with the federal government. In 1911, the Circuit Court for the District of Oregon held that the railroad company forfeited the contract set out in the 1866 Act by not following the conditions subsequent of the 1869 Act. Upon this judgment, the O&C Railroad Company filed an appeal and stopped paying county taxes on its remaining holdings. Five years later, the U.S. Supreme Court reversed the judgment, holding that the contract was not forfeited because the 1869 conditions were not conditions subsequent. The Supreme Court enjoined the railroad from further violating the terms of the 1869 conditions or disposing of its land in any way until Congress provided legislation to solve the problem.

Congress’ solution was the 1916 Chamberlain-Ferris Act, re vesting ownership of unsold O&C lands in the federal government. The Act required the Secretary of the Interior to classify the O&C lands into three categories: (1) timberlands (land with at least 300,000 board feet of timber per 40-acre tract), (2) power-site lands (water power), and (3) agricultural lands (all land not in the other two categories). The DOI was required to sell the timber “as rapidly as reasonable prices [could] be secured therefor in a normal market.” The federal government would pay the O&C Railroad for the revested land, but only at $2.50 per acre and less the amount of money already received for grant lands, including unpaid taxes. The balance would be paid from the revenue generated by O&C timber sales. After the O&C Railroad was paid in full and the U.S. Treasury was reimbursed for the county taxes it had paid on behalf of the O&C Railroad, 25% of revenue would go to the State treasurer, 25% to county
treasurers, 40% to a Reclamation Act fund, and 10% to the general fund of the U.S. Treasury. Applying the law in 1925, the Oregon District Court determined that the federal government owed the railroad at least $4,077,478.35 at the time of revestment.

The Chamberlain-Ferris Act turned out to be a less than adequate solution. The Act’s classification of “agricultural land,” less than 300,000 board feet per 40-acre tract, was somewhat arbitrary and inflexible: much of the land fitting that description had plenty of timber or was barren ground and rocky mountain tops. Of the 1,055,000 acres classified and advertised as agricultural, the DOI estimated that less than 1% was suitable for agriculture. Homesteaders drawn by advertisements found the land “utterly unfit” for their needs. Because of the high cost of clearing the timbered land—the average settler was able to clear only five to ten acres—the land was insufficient for subsistence farming.

The Act also failed to sell enough timber to generate county revenue. The responsibility for implementing the Act fell to the DOI’s General Land Office (GLO), a small office with one timber cruiser, one stenographer, and one administrator. Although 1,232,000 acres were classified as timberlands that should be cut and sold “as rapidly” as possible, sales were slow. The northwest timber industry had developed where timber was accessible at the lowest cost: mainly around Puget Sound where water transportation was nearby. The O&C land’s timber was

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51 **Id.**


54 **Id.** at 16.

55 April Hearings on H.R. 5858, supra note 10, at 21 (statement of David T. Mason, Consulting Forester).


58 April Hearings on H.R. 5858, supra note 10, at 5 (statement of Rufus G. Poole, Department of the Interior).

59 April & May Hearings on H.R. 5858, supra note 53, at 142 (statement of Guy Cordon).
less accessible, and without enough GLO staff to cruise for timber and administer sales, timber sales simply did not happen.\textsuperscript{60} Ten years after the law’s enactment, the eighteen counties with re vested O&C lands had not yet received any revenue, the U.S. government’s tax advances to the counties on behalf of the railroads were not repaid, and the counties had lost the tax base of the railroads.\textsuperscript{61}

In response to the counties’ revenue crisis, the Association of O&C Counties (AOCC) was formed. Its main purpose was to secure an advance from the federal government in lieu of taxes.\textsuperscript{62} The AOCC succeeded, and in 1926 Congress passed the Stanfield Act.\textsuperscript{63} The Act gave the O&C counties a $7,135,000 advance for what would have been taxes from 1916 to 1926 had the land stayed in private ownership.\textsuperscript{64} In 1937, county finances had not improved, and the counties received another $3,866,000 advance from the federal treasury, in lieu of taxes from 1927 to 1933.\textsuperscript{65}

II

THE O&C LANDS ACT

A. Legislative History of the O&C Lands Act

Conservation became popular during the 1920s and 1930s among the general American population, as well as within the DOI and some of the private forestry community. The Great Depression had created a national sensitivity to overproduction in natural resource-based industries.\textsuperscript{66} Secretary of the Interior Harold Ickes wanted to transform the DOI into the “Department of Conservation.”\textsuperscript{67} Ickes “ardently” desired to be considered an “enlightened forest conservationist,”\textsuperscript{68} and took particular interest in the problems and the potential of the O&C lands. He

\textsuperscript{60} Id. at 141-42.\textsuperscript{61} Id. at 141.\textsuperscript{62} The O&C Lands, supra note 10, at 13.\textsuperscript{63} Act of July 13, 1926, ch. 897, 44 Stat. 915.\textsuperscript{64} McKinley, supra note 57, at 191-92. The Stanfield Act provided that the money would be charged against the “Oregon and California land-grant fund” and repaid out of the proceeds from the sale of land and timber. Act of July 13, 1926, ch. 897, § 4, 44 Stat. at 916.\textsuperscript{65} McKinley, supra note 57, at 192.\textsuperscript{66} The O&C Lands, supra note 10, at 14. The Dust Bowl created a desire among many citizens to conserve America’s natural resources. Bureau of Land Mgmt., O&C Sustained Yield Act, supra note 37, at 11.\textsuperscript{67} The O&C Lands, supra note 10, at 14.\textsuperscript{68} Bureau of Land Mgmt., O&C Sustained Yield Act, supra note 37, at 11.
found a private forestry consultant in Portland, David Mason, who was a proponent of “sustained yield” management for the O&C lands.\textsuperscript{69} The stage was set and the pieces were in place for new O&C legislation.

\begin{enumerate}
\item \textbf{House Bill 5858}

In 1937, the DOI drafted House Bill 5858, which permitted the federal government to retain the O&C lands and maintain them for conservation needs, instead of seeking to sell off the timber and dispose of the land.\textsuperscript{70} Title I of the bill required that the timberlands

\begin{quote}
be managed . . . for permanent forest production, and the timber thereon shall be sold, cut, and removed in conformity with the principle of sustained yield for the purpose of providing a permanent source of timber supply, protecting watersheds, regulating stream flow, and contributing to the economic stability of local communities and industries, and providing recreational facilities.\textsuperscript{71}
\end{quote}

Title II detailed the revenue scheme for distributing the Oregon and California land-grant fund: 50% to counties; 25% to counties to pay the tax deficit until it was extinguished, then to the U.S. Treasury to reimburse accrued charges against the fund until that was satisfied, and then to the Oregon Treasurer for the school fund; 25% for administration of the Act; and any unused amounts to the U.S. Treasury.\textsuperscript{72}

The bulk of the congressional hearings on House Bill 5858 involved Title II’s controversies, including whether the DOI or the Department of Agriculture should have jurisdiction over the O&C lands;\textsuperscript{73} whether the counties should receive revenue from timber sales or from the previous in-lieu-of-taxes formula;\textsuperscript{74} whether Oregon counties should get any money in relation to the

\begin{flushright}
\textsuperscript{69} Id.
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\textsuperscript{70} H.R. 5858, 75th Cong. § 3 (1937), reprinted in April Hearings on H.R. 5858, supra note 10, at 2.
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\textsuperscript{71} Id. § 1.
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\textsuperscript{72} Id. § 201(a)-(c).
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\textsuperscript{73} See May & June Hearings on H.R. 5858, supra note 53, at 86-116 (statements of multiple witnesses and Representatives) (extensively discussing the merits and demerits of granting either department jurisdiction).
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\textsuperscript{74} See id. at 17 (statement of Rep. James W. Mott, Member, House Comm. on the Public Lands) (expressing opposition to attempts to alter the distribution formula).
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O&C lands;\textsuperscript{75} whether the Forest Service should be housed under the DOI or Agriculture;\textsuperscript{76} and whether Oregon was morally obliged to return taxes for the lands exceeding $2.50.\textsuperscript{77} The hearings were contentious and often confusing.\textsuperscript{78}

\textit{a. Conservation Measures in House Bill 5858}

The sustained-yield management scheme was considered “not very controversial.”\textsuperscript{79} Of the thirteen days of hearings on House Bill 5858 in the House Committee on the Public Lands, only about one day was spent on Title I.\textsuperscript{80} The Representatives and witnesses, including officials from the Departments of the Interior and Agriculture, west coast lumber representatives, and Oregon foresters and political figures, all supported the principle of sustained yield. Indeed, the transcript of the hearings is a litany of praise for sustained-yield management.

The Departments of the Interior and Agriculture may have battled over jurisdiction of the O&C lands, but they were united in their support for sustained-yield management. The DOI saw its bill as a “management plan for permanent forest protection,”\textsuperscript{81} and sustained yield as an “abandonment of the old procedure which [had] characterized the cut-out and get-out policy that [had] dominated the American lumber industry.”\textsuperscript{82} The Department of Agriculture’s Forest Service focused its testimony on the economic impacts of sustained-yield management but agreed that the “important thing about having the Government retain
control is to preserve it, not to permit it to be destroyed, as has been the practice of lumber companies.\(^83\)

The timber industry also supported sustained-yield management. The West Coast Lumbermen’s Association enthusiastically supported it as an alternative to “liquidating” the forests.\(^84\) The group’s representative explained that the timber industry wanted to avoid the fate of the Lake states, with “unproductive land and idle towns and labor that has had to move out.”\(^85\) He likened the situation to a trust: the federal government would act as a trustee to conserve the productivity so that the people of Oregon would “live on the interest” and “keep the capital unimpaired.”\(^86\) An Oregon mill operator also spoke in favor of sustainable yield:

[\ldots] it is time for us to subject ourselves to the proper practices of forestry in [the] whole region. We do not any longer wish to be subject to the criticisms, the national criticisms, of our methods of handling those forests, and there is no reason why, with the proper cooperation on the part of any of these departments, that the industry itself will not go along on a fair basis, with a great deal of interest and enthusiasms toward carrying out a national program.\(^87\)

Representatives of Oregon interests vehemently opposed Title II’s revenue scheme, but supported sustained yield. Representative James Mott of Oregon opined that “it should have been put into effect long ago.”\(^88\) Judge Day of Jackson County, Oregon, said that not only was his county “not opposed to [Title I], but we think that something along that line should be done,”\(^89\) though he also acknowledged that “there is a wide difference of opinion as to what a practical application of the sustained yield idea is.”\(^90\) Indeed, neither House Bill 5858 nor the O&C Act define sustained yield.

\(^{83}\) Id. at 85 (statement of Rep. Henry G. Teigan, Member, House Comm. on the Public Lands). L. F. Kneipp, the Assistant Chief of the Forest Service, concurred with Representative Teigan. Id.

\(^{84}\) April Hearings on H.R. 5858, supra note 10, at 9-10 (statement of W.B. Greeley, Manager, West Coast Lumbermen’s Association).

\(^{85}\) Id. at 11.

\(^{86}\) Id. at 10.

\(^{87}\) May & June Hearings on H.R. 5858, supra note 10, at 44 (statement of George T. Gerlinger, private mill operator).

\(^{88}\) Id. at 17 (statement of Rep. James W. Mott, Member, H. Comm. on the Public Lands).

\(^{89}\) Id. at 198 (statement of Hon. Earl Day, Judge, Jackson County, Oregon).

\(^{90}\) Id. at 180.
b. Economic Motivation for House Bill 5858

Along with recognizing the need for sustained yield to maintain Oregon’s forests, witnesses at the hearing supported sustained yield for the effect it would have on the economic structure of Oregon communities. In 1937, approximately 62% of Oregon’s payroll came from the forest industry.91 The DOI contrasted “timber mining” with “timber culture.” Timber mining created “overdeveloped lumber industries,” depleted virgin forest in a few decades and moved on, “leaving a wake of stranded populations and impoverished communities.”92 House Bill 5858 would instead enable a timber culture, with smaller and less numerous mills, “solid and permanent in character.”93 The Forest Service identified the problem of industrial farms owning more than half the timber supply in the Pacific Northwest,94 which meant the region was “cursed with excess mill capacity and excess production of timber.”95 The excess resulted in a “destructive form of exploitation in order to salvage values before they [were] consumed by carrying costs.”96 The bill would manage the “timber situation so that it [would] be cut only as economic need dictate[d], not cut to work out a finance problem of some insolvent company.”97

The timber industry representatives likewise saw the bill as a boon for O&C communities and local industries.98 They understood House Bill 5858 as the federal government entering into a “partnership with a local industry to maintain them on a perpetual footing.”99 The AOCC spokesman acknowledged that sustained yield was “unequivocally” necessary to the future of the

91 April Hearings on H.R. 5858, supra note 10, at 9 (statement of W.B. Greeley, Manager, West Coast Lumbermen’s Association).
93 Id.
94 Id. at 84 (statement of L. F. Kneipp, Assistant Chief, Forest Service).
95 Id. at 87.
96 Id. at 85.
97 Id.
98 One timber industry representative explained, “We want to know not only what happens to the soil, whether it remains productive or not, but also what is going to happen to the numerous communities whose livelihood is drawn mainly from the forest industry, and to the future of the thousands of workers whose job depends upon the forestry industry.” April Hearings on H.R. 5858, supra note 10, at 9-10 (statement of W. B. Greeley, Manager, West Coast Lumbermen’s Association).
99 Id. at 13.
Northwest; cutting all the timber would be a “death blow” to the economy.\textsuperscript{100}

While the House of Representatives was keenly conscious of the role of timber in the Northwest economy, the members knew that timber sales from the O&C lands would not be a profit-making enterprise for the federal government. The DOI acknowledged that its budget would initially show a $50,000 deficit, and at most would some day balance.\textsuperscript{101} In response to questioning on the propriety of such accounting, a DOI official indicated that the DOI’s ability to balance its budget would be greater than that of the Forest Service, which spent “three times what they [took] in.”\textsuperscript{102} Furthermore, he explained that the forests were not revenue-builders, but rather a “national resource which we want to hold in perpetuity and protect as a reservoir for the timber needs of the United States.”\textsuperscript{103}

c. Logging Mandate and Disbursement Scheme

Nonetheless, Title I was not embraced in its entirety. While all parties agreed on the concept of sustained yield, there was less harmony regarding actual logging limits or requirements. Under the original proposal, the only limit on logging was that the land shall not produce more than 500 million board feet (MMbf) if the annual sustained yield was not yet determined.\textsuperscript{104} The timber industry considered sustained yield a matter that only impacted the counties.\textsuperscript{105} The AOCC and Representative Mott of Oregon saw the issue as preventing any guarantee of county revenue. Desperate for some “yardstick for advance measurement” in the face of Title II’s uncertain revenue returns,\textsuperscript{106} they offered amendments to Title I’s 500 MMbf maximum. Ultimately, these efforts

\textsuperscript{100} May & June Hearings on H.R. 5858, supra note 53, at 145-46 (statement of Guy Cordon).
\textsuperscript{101} Id. at 221 (statement of Rufus G. Poole, Assistant Solicitor, Department of the Interior).
\textsuperscript{102} Id. Very little has changed for the Forest Service. See Robert E. Wolf, National Forest Timber Sales and the Legacy of Gifford Pinchot: Managing a Forest and Making it Pay, 60 U. COLO. L. REV. 1037, 1067 (1989) (noting that costs exceed receipts on many national forests).
\textsuperscript{103} May & June Hearings on H.R. 5858, supra note 53, at 222 (statement of Rufus G. Poole, Assistant Solicitor, Department of the Interior).
\textsuperscript{104} H.R. 5858, 75th Cong. § 1 (1937), reprinted in April Hearings on H.R. 5858, supra note 10, at 1.
\textsuperscript{105} May & June Hearings on H.R. 5858, supra note 53, at 46 (statement of George T. Gerlinger).
\textsuperscript{106} Id. at 157 (statement of Guy Cordon).
were successful in amending the language: although there was still a provisional limit of 500 MMbf after the annual sustained yield was set, the DOI was required to sell \textit{at least} 500 MMbf, or “not less than the maximum annual sustained yield capacity.”\textsuperscript{107} According to the testimony, the counties’ desire for some guaranteed revenue was the \textit{only} reason for the amendment. The AOCC worried that “[w]ithout the amendment it might be conceivable that the timber would be wholly or substantially withdrawn from sale and the proceeds . . . thereby greatly restricted or completely cut off.”\textsuperscript{108}

The same desire to guarantee revenue motivated Representative Mott’s and the AOCC’s plea to keep the Stanfield Act’s scheme of paying the counties an in-lieu-of-tax amount from the O&C land grant fund, rather than the proposed direct percentage from the O&C timber revenue.\textsuperscript{109} Under the Stanfield Act, even when there was not enough in the fund to pay the amount due, the counties could still plan their budgets accordingly, knowing that they would be paid “at some time or other.”\textsuperscript{110} Under House Bill 5858’s direct percentage scheme,\textsuperscript{111} which was ultimately adopted, counties risked fluctuations in revenue and no guarantee of base payments if revenues dropped precipitously.

2. \textit{House and Senate Report}

The bill that the House and Senate ultimately passed was very similar to the DOI’s House Bill 5858. The accompanying Senate and House Reports trumpeted the 1937 O&C Act as a “solution to the problems created by the Revestment Act [the 1916 Chamberlain-Ferris Act].”\textsuperscript{112} Those problems are described as a lack of consideration for conservation and local economics:

\textsuperscript{107} \textit{Id.} at 121-24.  
\textsuperscript{108} \textit{Id.} at 124.  
\textsuperscript{109} \textit{Id.} at 157.  Representative Mott expressed his concerns about Title II, arguing that it would deprive the counties of “part of the revenue to which [they] are entitled,” \textit{April Hearings on H.R. 5858, supra} note 10, at 2 (statement of Rep. James W. Mott, Member, H. Comm. on the Public Lands).  
\textsuperscript{110} \textit{May & June Hearings on H.R. 5858, supra} note 53, at 157.  
\textsuperscript{111} H.R. 5858, 75th Cong. § 201 (1937), \textit{reprinted in April Hearings on H.R. 5858, supra} note 10, at 2.  
\textsuperscript{112} S. \textit{Rep.} No. 75-1231, at 3 (1937).  With one exception, the Senate Report is identical to the House Report. \textit{Compare S. Rep.} No. 75-1231 \textit{with H.R. Rep.} No. 75-1119 (1937).  However, the Senate Report contained a final paragraph not found in the House Report, explaining that the bill did not confer jurisdiction in the De-
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No provision was made for the administration of the land on a conservation basis looking toward the orderly use and preservation of its natural resources. . . . [Clear] cutting was contemplated. Seed trees were not to be preserved, nor was any provision made for the protection of stream flow. The probable effect of such a cutting policy on community industries was not considered.

This policy is now believed to be wasteful and destructive of the best social interests of the State and Nation.113

The new bill presented an alternative of “conservation and scientific management” for the O&C lands.114 Instead of destroying the timber assets by “early liquidation,” they would be “conserved and perpetuated.”115 Managing classified timberlands according to sustained-yield basis would avoid “depletion of the forest capital” and “make for a more permanent type of community, contribute to the economic stability of local dependent industries, protect watersheds, and aid in regulating stream-flow.”116 The O&C lands are described as a “vast, self-sustaining timber reservoir for the future, an asset to the Nation and the State of Oregon alike, all of which is financed by the lands themselves.”117 Early enactment was urged “in the interest of both conservation and economy.”118

B. The O&C Act

The O&C Act119 retained the DOI as the implementing entity. Under the Act, lands classified as timberlands and power-site lands valuable for timber were to be managed . . . for permanent forest production, and the timber thereon shall be sold, cut, and removed in conformity with the principal [sic] of sustained yield for the purpose of providing a permanent source of timber supply, protecting watersheds, regulating stream flow, and contributing to the economic sta-

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113 Id. at 2.
114 Id.
115 Id. at 3.
116 Id. at 2.
117 Id. at 3.
118 Id.
119 43 U.S.C. §§ 1181a-1181j (2006). The law is also known as the Oregon and California Railroads Grant Act, McNary Act, and O&C Act.
bility of local communities and industries, and providing recre­ational facilities [sic].\textsuperscript{120}

The Act provided that until the annual productive capacity was determined, the “average annual cut therefrom shall not exceed one-half billion feet board measure.”\textsuperscript{121} Once the sustained yield was set, the Act stated that timber from O&C lands was to be sold annually at “not less than one-half billion feet board measure, or not less than the annual sustained yield capacity when the same has been determined and declared . . . or so much thereof as can be sold at reasonable prices on a normal market.”\textsuperscript{122}

The Act permitted the Secretary of the Interior to divide the O&C lands into “sustained-yield forest units:” boundary lines were to be drawn so that each forest unit provided a “permanent source of raw materials for the support of dependent communities and local industries of the region.”\textsuperscript{123} In subdividing the lands, the O&C Act states that the Secretary must give “[d]ue consideration” to “established lumbering operations . . . when necessary to protect the economic stability of dependent communities.”\textsuperscript{124} Timber sales were limited to the productive capacity of the respective forest unit.\textsuperscript{125} In turn, the Act adopted House Bill 5858’s proposed financial structure: the revenue from timber and land sales goes to an “Oregon and California land-grant fund,” whereby 50\% of the revenue goes to O&C counties; 25\% to repay the money in lieu of taxes advanced by the U.S. Treasury until that tax indebtedness is extinguished, and then to the counties; and 25\% for administrative purposes with any remaining money to the general fund of the U.S. Treasury.\textsuperscript{126}

The O&C Act broke new ground in federal forest legislation. It was the first federal law to require something akin to multiple-use management of federal public lands.\textsuperscript{127} It retained the DOI’s control over western Oregon’s forests, despite insistence by the Department of Agriculture and Forest Service that they were

\textsuperscript{120} Id. § 1181a.
\textsuperscript{121} Id.
\textsuperscript{122} Id.
\textsuperscript{123} Id.
\textsuperscript{124} Id.
\textsuperscript{125} Id.
\textsuperscript{126} Id. § 1181f.
better suited for forest management. And it introduced sustainable-yield management of forests, a new way to ensure sustained timber supply and promote conservation.

At the time of the Act’s passage, the O&C lands consisted of 2.5 million acres in Oregon. The Committee on Public Lands and Surveys estimated that 87.5% were covered with forest, less than 1% was suited for agricultural uses, and 12% were nonproductive except for grazing. The volume of timber was approximated at 46 billion board feet of mature saw timber, which was 3% of the total U.S. saw-timber supply.

C. Regulations

The year after the O&C Act’s enactment, the GLO published regulations for the Act. The 1938 regulations provided for a competitive process of selling the O&C timber, including provisions for detailed examination and reports on the sale area, advertisement, a bidding system, graduated payment installations, and records and reports by the Chief Forester. Today, the regulations governing the BLM’s forest management are found in 43 C.F.R. part 5000, and describe the process for establishing sustained-yield forest units. The BLM must give notice of, and hold, a public hearing and publish a notice describing the units. A sustained-yield unit should contain enough land to “provide, insofar as practicable, a permanent source of raw materials to support local communities and industries, giving due consideration to established forest products operations.” The regulations create a scheme for competitive, advertised sales, as well as an allowance for unadvertised sales of limited size, “in the public interest,” and for not less than the appraised value.
D. Amendments and Changes to the 1937 Act

Since the O&C Act’s adoption, three main changes have been made to the process for administering the O&C lands: (1) a new financial disbursement plan under the “County Payments” Act, (2) the Forest Service’s administration of the controverted lands, and (3) new “no net loss” provisions. A failed proposal to transfer the O&C lands from the federal government to the State of Oregon is also briefly discussed below.

1. County Payments Act

Under the 1937 O&C Act, the O&C counties receive 50% of the timber revenues and an additional 25% after the U.S. Treasury’s reimbursement for its tax advances. 137 In 1952, the Treasury was finally reimbursed, and the O&C Counties received the full 75% of the revenues for the first and only time. 138 That same year, Congress added a rider to the DOI’s 1953 fiscal appropriation, reserving up to a one-third share of the counties’ fund to cover the costs of roads and other capital improvements on the O&C lands. 139 The AOCC agreed to this arrangement, in part because it “deflected” Congress’ growing interest in revising the O&C formula to give less money to the counties. 140 This “plow-back” money was initially used only for road construction and repair, but in 1956 the AOCC agreed to allocate 20% of the money for reforestation. 141 Through plow-back funds, the O&C counties contributed over $340 million from 1953 to 1981. 142 In 1981, Congress changed the system to stabilize management of the O&C lands; receipts were divided evenly between the O&C counties and the U.S. Treasury. 143

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139 Id.
140 THE O&C LANDS, supra note 10, at 26. In the 1970s, Clackamas County challenged this arrangement in federal court, suing the Secretary of the Interior and the Secretary of the Treasury for reimbursement of the plow-back funds since 1953. The city was unsuccessful. See infra notes 235-37 and accompanying text.
141 MCKINLEY, supra note 57, at 191.
By 1987, fifty years after the enactment of the O&C Act, $1.4 billion in returned revenues had gone to the O&C counties. From the 1960s through the 1980s, the BLM regularly sold more than 1 billion board feet per year. In the early 1990s, however, the volume of timber dropped dramatically. The BLM sold 418 MMbf in 1991, 49 MMbf in 1992 and 1993, and just 13 MMbf in 1994; the floor had dropped out from beneath many of the O&C county economies. To save floundering schools and crumbling county infrastructure, the federal government guaranteed “special payments” between fiscal years 1994 and 2000 to the O&C counties that were based on an annually decreasing percentage of an average of the payments from fiscal year 1986 to fiscal year 1990.

The Secure Rural Schools and Community Self-Determination Act of 2000 (County Payments Act) was an effort to stabilize county payments and help counties cope with lost economic infrastructure and reduced O&C revenue. The County Payments Act provided payments to O&C counties from fiscal year 2001 to fiscal year 2006, based on the average of a county’s highest three payments between fiscal years 1986 and 1999. Counties must spend 15%-20% of the payments on forest restoration on public lands or other county uses connected with BLM land. The legislative history of the County Payments Act explicitly describes the Act as having “absolutely no incentive for

144 BUREAU OF LAND MGMT., O&C SUSTAINED YIELD ACT, supra note 37, at 14.
146 Id.
147 A study in the 1960s showed that the O&C receipts made up 50% or more of the total revenue in Jackson, Douglas, and Josephine Counties. SIGNIFICANCE OF THE O&C, supra note 32, at 77.
149 SECURE RURAL SCHOOLS AND COMMUNITY SELF-DETERMINATION ACT OF 2000, Pub. L. No. 106-393, 114 Stat. 1607. This statute is also referred to as the County Payments Act.
151 SECURE RURAL SCHOOLS AND COMMUNITY SELF-DETERMINATION ACT §101(a)(2).
152 Id. §102(d).
increased logging.”\textsuperscript{153} The Act expired in 2006, and Congress is currently debating reauthorization.\textsuperscript{154}

2. \textit{Controverted Lands}

When the O&C lands were revested in the federal government, 462,000 acres lay inside National Forest boundaries.\textsuperscript{155} Until 1938, the Department of Agriculture’s Forest Service administered the lands as part of the national forests, without opposition from the DOI. In 1938, Interior Secretary Ickes realized that the Forest Service was selling timber from the lands. He declared that the lands were under his jurisdiction and began to advertise for bids through the GLO.\textsuperscript{156} Naturally, the Forest Service took exception to Ickes’ actions. In 1942, revenue from timber sales of the disputed lands was impounded until the GLO and Forest Service reached a settlement.\textsuperscript{157}

In 1943, Senator Charles McNary of Oregon introduced a bill extending DOI’s jurisdiction to the disputed lands.\textsuperscript{158} During congressional hearings on the legislation, the AOCC based its arguments for the bill on conservation and local economics. AOCC touted the cooperative sustained-yield program as a

\textsuperscript{153} 146 CONG. REC. E1800 (statement of Rep. Peter DeFazio).

\textsuperscript{154} See Dan Berman, \textit{Administration Agrees to Extension of Rural Schools Program}, \textsc{Greenwire}, Aug. 8, 2006, at 1 (discussing congressional attempts to secure funding for an additional year). The Bush administration’s agreement to support reauthorization of the County Payments Act came after a failed attempt to pay for the reauthorization by selling off significant portions of public lands, and with the caveat that Congress find “offsets” to fund the one-year reauthorization. \textit{Id.} And, as at least one county commissioner noted, the agreement to fund County Payments for another year is still premised on finding elusive offsets in an election year: “[t]he agreement to work for a solution is not the same as a solution.” Jeff Kosseff & Michael Milstein, \textit{1-Year Deal Preserves Timber Payments}, \textsc{Oregonian} (Portland), Aug. 8, 2006, at A1; \textit{see also} Memorandum from Gil Riddell, Ass’n of Or. Counties, and Rocky McVay, Executive Dir., Ass’n of O&C Counties, to All Oregon Safety-Net Receiving Counties (Aug. 8, 2006) (on file with authors) (noting the need to find a funding source for the offsets). As of publication, Congress still has not acted to renew the County Payments Act, with the result that nearly all Oregon counties are preparing to close libraries, lay off staff, empty jails, and otherwise curtail county services. Harry Esteve, \textit{Timber Counties Brace for Ax to Fall}, \textsc{Oregonian} (Portland), Feb. 18, 2007, at A1.

\textsuperscript{155} McKinley, \textit{supra} note 57, at 192.

\textsuperscript{156} Id. at 193.

\textsuperscript{157} \textsc{The O&C Lands}, \textit{supra} note 10, at 29-30.

\textsuperscript{158} McKinley, \textit{supra} note 57, at 193.
“forward-looking program of conservation,” and urged that the disputed lands be added to the DOI’s jurisdiction in order to “make this combination of action the full success it can be.”159 The AOCC pointed to the heavy cost of keeping up timber roads and showed how the O&C annual payments had “carried their share of this burden,” while the national forest payments from “the last ten years would not build ten miles of these roads.”160 Nonetheless, the bill died in the House, and for the next six congresses, similar bills died similar deaths.

By 1952, the fund of impounded revenue totaled $4.5 million, a significant amount of money for the counties.161 The political climate had also changed: in 1946 the Bureau of Land Management was born, taking over administration of the O&C Lands from the GLO. In 1954, tired of the fight, the two Departments settled for a compromise.162 Under the Controverted Lands Act, the Department of Agriculture would continue to administer the disputed land as part of the National Forest System, subject to the laws, rules, and regulations of the national forests.163 The revenues from timber sales, however, would be disbursed according to the 1937 O&C Act.164

3. No Net Loss

In 1998, Congress established a policy of “No Net Loss” for the O&C lands.165 When selling, purchasing, or exchanging land, the BLM may not reduce the total acres of O&C land nor reduce the number of acres of O&C, Coos Bay Wagon Road, and public domain lands166 that are available for timber harvest. The Secretary of the Interior must ensure that at the end of every ten

159 Id.
160 Id.
161 Id. at 194.
162 Id.
164 Id.
166 “Public domain” lands are lands that have never left federal ownership since their original acquisition by the federal government (i.e., through treaty or war with Native Americans, Great Britain, Spain, or other sovereign nations). Stephen S. Edelson, The Management of Oil and Gas Leasing on Federal Wilderness Lands, 10 B.C. ENVTL. AFF. L. REV. 905, 914 (1982). These lands were “the lands no one wanted,” and were never homesteaded, granted, or reserved. Telephone Interview with Andy Kerr, The Larch Company, in Ashland, Or. (June 21, 2006).
years, the amount of land under DOI’s control and subject to harvest is the same as it was upon the bill’s enactment.\textsuperscript{167}

As originally proposed, the House bill prohibited the BLM from selling or exchanging O&C lands within a congressionally designated wilderness area, the National Wild and Scenic River System, or an area of critical environmental concern.\textsuperscript{168} Also, public domain lands would be redesignated as O&C revested lands.\textsuperscript{169} Although Oregon Representative Darlene Hooley considered the bill “noncontroversial” and simply a “common sense land transfer arrangement,”\textsuperscript{170} an earlier Senate bill contained no limitations other than the “no net loss” provisions.\textsuperscript{171} The Forest Service and the BLM were still strongly opposed to the bill, despite the removal of “some of the objectionable provisions.”\textsuperscript{172} The “no net loss” requirement was considered “unacceptable” because it could restrict land exchanges that help protect the timber base while securing habitat for listed species.\textsuperscript{173}

Congress passed the “no net loss” provisions over the objections of the BLM and the Forest Service. Nonetheless, as the BLM implements “no net loss,” the policy does not actually curtail most land exchanges. Under the Agency’s interpretation, the BLM must maintain the total acreage of timberlands but has the flexibility to gain or lose O&C, Coos Bay Wagon Road, and public domain lands, so as long as the net amount at the end of ten years is not less than the initial amount.\textsuperscript{174} Also, instead of identifying the initial number of acres, the BLM just keeps track of the fluctuations.\textsuperscript{175} In effect, the BLM interpretation allows faster cutting of valuable O&C lands’ old growth, balanced by gains in the less-merchantable public domain timber.

\textsuperscript{167} Oregon Public Lands Transfer and Protection Act of 1998 § 3(b).
\textsuperscript{169} Id.
\textsuperscript{172} S. REP. NO. 105-391, at 7 (1998).
\textsuperscript{173} Id.
\textsuperscript{175} Id. at 3.
4. Proposal to Transfer O&C Lands to the State of Oregon

In November 1994, the AOCC began circulating the idea of transferring the O&C lands to the State of Oregon.176 The lands would be managed under the Oregon Forest Practices Act177 within the intent of the O&C Act. Proponents of the proposal estimated that, once the land was no longer subject to federal environmental laws, annual sustainable-harvest levels would approximate 594 MMbf.178 Over the next few years, proponents of the O&C land-transfer concept introduced various bills in the U.S. House and Senate.179 One of the most promising bills required Oregon to manage the lands for “permanent timber production” (instead of “forest” production), and for the primary purpose of achieving “economic stability of local communities.”180

The AOCC has been the main proponent of transferring the O&C lands to Oregon. In a fact sheet drawn up for Oregon’s governor, the BLM expressed its concerns, including a return to legal gridlock because of the impact on the NFP, increased costs to Oregon without guaranteed harvest levels, and a loss of connectivity for the northern spotted owl.181 Environmental groups were vehemently opposed to a transfer, fearing lower environmental standards, a greater management emphasis on timber

176 Memorandum from Diana Wales on Proposed O&C Land Transfer Speech by Doug Robertson to Roseburg Chamber Forum 1 (Mar. 5, 1995) (on file with authors).
178 Memorandum from Diana Wales, supra note 176, at 2.
179 See O&C Forest Transfer Act, H.R. 3769, 104th Cong. § 4(a) (1996) (requiring transfer of the O&C lands to the State of Oregon if certain conditions are met); see also S. 1031, 104th Cong. (1995) (requiring the transfer of all BLM lands to the states in which they are located); H.R. 2032, 104th Cong. (1995) (same).
181 Bureau of Land Mgmt., O&C Lands Transfer Proposal: Facts and Analysis for the Governor 2-3 (March 1995) (information sheet, on file with authors). The BLM’s concerns about the effects on the northern spotted owl resulting from the land exchange is interesting, given that the agency is currently proposing to reduce or eliminate protections for the spotted owl through BLM’s Western Oregon Forest Plan Revision. BUREAU OF LAND MGMT., supra note 9, at 23-24. But, the BLM has not articulated similar concerns about a return to legal gridlock, the loss of spotted owl connectivity, or the overall well-being of the species.
production, and fewer opportunities for public participation. Legal scholars pointed to the likelihood of environmental degradation due to the loss of federal planning and regulation.

The proposed House and Senate bills have all died in committee. In recent years, the proponents of the land transfer appear to have abandoned efforts to transfer O&C lands to the State of Oregon.

III

INTERPRETATIONS OF THE O&C ACT

A. DOI Statements and Memoranda

The DOI has published a number of policy statements on the O&C Act, and its Solicitor has written numerous memoranda and opinions regarding the Act.

I. 1938 GLO Policy Statement

In 1938, the GLO published a policy statement along with its O&C Act regulations. The policy statement used strong language to describe the Act’s conservation basis, saying that the O&C Act was “a measure providing for the conservation of land, water, forest and forage on a permanent basis, the prudent utilization of these resources for the purposes to which they are best adapted, and the realization of the highest current income consistent with undiminished future returns.” Instead of clear-cutting, the DOI was directed to cut under “rules of forest practice providing for partial or selective logging in its various forms of...
tree, group and area selection.” Field officers were granted discretion in prescribing methods for management, but “destructive methods which may tend to prevent an early restocking of the area under development . . . will not be permitted.” “Prompt reforestation” was one of the stated “principal objectives” of sustained-yield management.

The policy statement also expanded upon the Act’s economic purpose: sustained-yield management was to provide “perpetual forests which [would] serve as a secure foundation for continuing industries and permanent communities,” and the Act generally “provide[d] for the flow of a full measure of the benefits produced by a well managed forest to the people of the region.”

When subdividing the property into sustained-yield units, the DOI was to give “full consideration to existing operations and the policy of stabilizing and perpetuating substantial dependent communities.”

The Act’s listed purposes for cutting timber were described as providing “certain secondary benefits of the forest which are to be conserved by the new plan of management.” For example, the policy statement states:

In compliance with this mandate, all lands classified for continuous timber production shall be so managed as to maintain or restore on them the best obtainable forest cover, to the end that soil may be protected from erosion, rainfall stored and its run-off retarded, floods avoided, and the landscape kept green and attractive.

Grazing was authorized only where “it [would] not interfere with the attainment of . . . a high sustained yield of commercial timber from all areas classified as permanent forest land.”

2. 1977 FLPMA Opinion

In 1977, the BLM asked the DOI’s Solicitor whether the Federal Land and Policy Management Act’s (FLPMA) wilderness-
review provision195 applied to the O&C lands. The Solicitor con­
cluded that the O&C Act’s requirement to manage for “commer­
cial forestry” would prevail over the FLPMA provision.196 To reach that conclusion, the Solicitor examined the nature of the O&C Act. While the O&C Act “is expressly not an exclusive use Act,” it was “[l]ess clear” whether multiple-use or dominant-use was intended.197 The Solicitor compared FLPMA’s multiple-use definition—requiring equal, coordinated consideration of uses—with the O&C Act’s requirements. Without much analysis, the Solicitor determined that the O&C Act was a dominant-use statute, requiring that lands “be managed for commercial forestry if suitable,” while recreation and other uses “[were] allowed only when subordinated to commercial forestry management.”198

3. 1979 Even Flow Opinion

Two years later in 1979, the BLM requested a legal opinion from the Solicitor as to whether the management of public lands under the principle of sustained yield required a policy of even flow of timber harvest, i.e., a constant or increasing level of timber harvest without planned decreases in the future.199 The request for this opinion came as a result of the BLM’s analysis under the National Environmental Policy Act (NEPA)200 for the Josephine Sustained Yield Unit. One of the alternatives for the Josephine Unit analyzed accelerated harvest of old growth timber to make room for younger timber, followed by a deceleration in harvesting.201 The Solicitor determined the O&C Act allowed for this kind of plan because the amount of cutting would not fall below the current “even flow” level, and because the plan would ultimately accelerate the movement toward logging at sustained yield capacity.202

The Solicitor examined what Congress intended by “sustained yield” in the O&C Act. The House and Senate Reports accom-

\footnotesize{196} Memorandum from Deputy Solicitor, Dep’t of the Interior, to Director, Bureau of Land Mgmt. 9-10 (June 1, 1977) (on file with authors).
\footnotesize{197} Id. at 7.
\footnotesize{198} Id. at 10.
\footnotesize{199} Memorandum from Associate Solicitor, Dep’t of the Interior, to Director, Bureau of Land Mgmt. 1 (Jan. 24, 1979) (on file with authors).
\footnotesize{201} Memorandum from Associate Solicitor to Director, supra note 199, at 1.
\footnotesize{202} Id. at 9.
panying the Act described sustained yield as limiting the amount cut to a volume not exceeding new annual growth.\textsuperscript{203} This definition could not be taken at face value when interpreted in the context of the whole Act and its background, the Solicitor insisted, because its literal language would lead to low harvests.\textsuperscript{204} In contrast, during the Act’s hearings, the DOI reported that sustained-yield management would produce more timber, with a goal of the “largest possible volume.”\textsuperscript{205} Thus, the annual cut, as determined by sustained yield, must be based on more than just the annual volume of new growth: it must also consider the rotation age of the forest and the kind of management techniques used in reforestation.\textsuperscript{206}

The Solicitor also quoted the 1937 hearing testimony of Representative Mott of Oregon, concluding that the requirement of harvesting the maximum annual sustained-yield “underline[d] one of the stated purposes of the Act; e.g., to provide revenue to local counties.”\textsuperscript{207} Consequently, the Solicitor reasoned, the closer the BLM could get to harvesting and selling the sustained-yield capacity, the closer the BLM would be to fully implementing the Act.\textsuperscript{208}

4. 1979 Technical Revisions of Earlier Opinions

The 1979 Technical Revisions of earlier opinions, a short but important memorandum, resulted from the BLM Director’s request that the Solicitor “reconsider” its earlier statement that the O&C Act mandated “commercial forestry.”\textsuperscript{209} Issued seven months after the first 1979 Opinion, the Solicitor acknowledged in the Technical Revisions that the term “commercial forestry” was not used in the O&C Act, nor was there support for the

\begin{itemize}
  \item \textsuperscript{203} S. REP. NO. 75-1282, at 2 (1937); H.R. REP. NO. 75-1119, at 2 (1937).
  \item \textsuperscript{204} Memorandum from Associate Solicitor to Director, supra note 199, at 3.
  \item \textsuperscript{205} Memorandum from Associate Solicitor, Dep’t of the Interior, to Director, Bureau of Land Mgmt. 1 (Aug. 27, 1979) (on file with authors).
  \item \textsuperscript{206} Id. at 4-5.
  \item \textsuperscript{207} Id. at 7.
  \item \textsuperscript{208} Id.
  \item \textsuperscript{209} Memorandum from Associate Solicitor to Director, supra note 199, at 3.
\end{itemize}
dominant use of commercial forestry in legislative history or the BLM’s administration of the O&C Act. Instead, the Solicitor argued the phrase “permanent forest production” should have been used. Furthermore, there was no basis for the earlier conclusion that recreation was “always subordinate” to the other O&C Act purposes.

Although the ultimate conclusions of the earlier 1977 and 1979 opinions remained intact, the Technical Revisions memo signaled a major change in the official interpretation of the O&C Act. By specifically reversing the primacy of “commercial forestry” and replacing it with “permanent forest production,” the BLM and the Solicitor placed timber production on the same level as other O&C Act purposes, such as recreation.

5. 1981 BLM Policy Statement and Solicitor’s Response

In 1981, the BLM drafted a policy statement for timber management on the O&C lands regarding policies that called for multiple-use planning. In general, land classified as unsuitable for timber was to be “used to the fullest extent possible to meet nontimber needs.” Only if that land was inadequate to meet the nontimber needs could timberland be used for nontimber needs, with reduced or excluded timber harvest. From the federal and state multiple-use requirements placed on the O&C lands, the BLM highlighted six specific resource objectives and policies, including maximizing timber production at the “highest level of management consistent with economic and environmental feasibility,” maintaining water quality at federal and state standards, maintaining a minimal amount of suitable habitat for threatened or endangered species by limiting or excluding timber harvest, and protecting potential and developed high-value recreational areas.

The BLM asked the Solicitor to comment on the legal adequacy of this proposed policy. Overall, the Solicitor found the

210 Id. at 2.
211 Id.
213 Id. at 3.
214 Id.
215 Id. at 3-5.
policy to be legally adequate,\textsuperscript{216} but cautioned the BLM to ensure that its operations “meld[ed]” the required dominant use of forest production with the multiple uses of the O&C Act and other environmental legislation.\textsuperscript{217} For example, protecting wetlands, one of the policy goals, fit with the O&C Act conservation mandate because “[e]ven if specific protection of wetlands had not been envisioned at the time of the Act’s passage, it [was] clear from the legislative history that Congress intended the O&C lands to be managed in accordance with scientific principles of conservation.”\textsuperscript{218} The Solicitor explained that the Act required the BLM to use the best conservation techniques in managing the O&C lands. Similarly, maintaining and protecting potential and developed recreational areas was already a goal of the O&C Act, so the BLM already had the authority to manage for recreation “even if to do so were to come in conflict with managing for timber production.”\textsuperscript{219}

The Solicitor took the opportunity to set forth a “clear” enunciation of the DOI’s interpretation of the O&C Act, recognizing that its earlier memoranda were not consistent.\textsuperscript{220} The Solicitor confirmed the August 27, 1979, memo: commercial forestry was “only one of the components” for which timber was to be managed on the O&C lands.\textsuperscript{221} Although timber was the “chief component of forest production,” managing for “permanent forest production” required logging in conformity with principles of sustained yield, “so as not only to provide a permanent source of timber supply, but also to protect watershed, [sic] to regulate stream flow . . . to contribute to the economic stability of local communities and industries and to provide recreation.”\textsuperscript{222} Thus, it was “clear”—according to the Solicitor’s response—that the O&C Act was “a conservation measure requiring a form of multiple use management.”\textsuperscript{223} Looking back at the O&C Act’s legislative history, the Solicitor described the law as one envisioned to


\textsuperscript{217} Id. at 1.

\textsuperscript{218} Id. at 7.

\textsuperscript{219} Id. at 9-10.

\textsuperscript{220} Id. at 2.

\textsuperscript{221} Id.

\textsuperscript{222} Id. at 3.

\textsuperscript{223} Id.
give the DOI authority to manage timber under conservation principles and to allow it to reserve land when necessary for reforestation, recreation, and other purposes.\textsuperscript{224} Although the O&C Act was a “dominant use statute,” the BLM was vested with the discretion to determine how best to meet the multiple-use goals of permanent timber production, watershed, stream flow, economic stability, and recreation.\textsuperscript{225}

6. 1986 Spotted Owl Opinion

In 1986, the BLM asked for advice regarding the requirements that certain federal laws, including the O&C Act, would impose on a proposal to manage the northern spotted owl.\textsuperscript{226} The 1986 Opinion again described the O&C Act as a “dominant use” statute, but instead of “permanent forest production,” the Solicitor\textsuperscript{227} used the term “timber production.”\textsuperscript{228} Because of timber production’s dominance, the O&C Act would “preclude” the application of a program for the spotted owl that conflicted with producing timber on a sustained basis.\textsuperscript{229}

In 2003, the timber industry,\textsuperscript{230} the AOCC, and the BLM entered into a settlement agreement designed to increase logging levels on public lands in the Pacific Northwest.\textsuperscript{231} In reaching
that agreement, the timber industry relied heavily on the argument that from 1937 to 1994, the BLM, the DOI, and the Department of Justice had consistent interpretations of the O&C Act.\(^{232}\) The timber industry’s settlement proposal did not mention the 1979 or 1981 Opinions in which the Solicitor specifically amended past Opinions, admitted that there was no mandate for “commercial forestry,” and stated that “permanent forest production” encompassed more than just timber production.\(^{233}\) While none of these Solicitor opinions were legally binding, they had erroneously been used to justify an important BLM and Industry settlement, as discussed below in Part V.

**B. Federal Courts**

The DOI managed the O&C lands for fifty years with essentially “unchallenged administrative discretion.”\(^{234}\) Federal courts had no cause to oversee the implementation of the O&C Act, and, as a result, DOI’s interpretation of the O&C Act controlled the management of O&C lands. With the development of environmental law, citizens’ groups, the BLM, and timber industries have tried to use the O&C Act to suit their varied purposes. In response, the courts have minimally analyzed the O&C Act and generally done their best to ensure that no group could use the Act to further its interests.

In the 1970s, Clackamas County, Oregon, sued the Secretaries of the Interior and Treasury for reimbursement of the plow-back funds from 1953 to 1979, insisting that the counties were entitled to a full 75% of revenues under the O&C Act.\(^{235}\) In Skoko v. Andrus, the Ninth Circuit made short shrift of this argument, holding that the counties had no right to the money, and the language of the appropriation riders was clear.\(^{236}\) In dicta, the court noted that under the O&C Act, “most of the O & C lands would henceforth be managed for sustained-yield timber production.”\(^{237}\)

In 1987, the Ninth Circuit again contemplated the O&C Act. In O’Neal v. United States, a case in which hunters sued the BLM...

\(^{232}\) Global Framework, supra note 8, at 7-10.  
\(^{233}\) Cf. id. (containing no reference to Solicitor Opinions adverse to the timber industry’s position).  
\(^{234}\) Blumm & Lovvorn, supra note 180, at 363.  
\(^{235}\) Skoko v. Andrus, 638 F.2d 1154, 1156-57 (9th Cir. 1979).  
\(^{236}\) Id. at 1157.  
\(^{237}\) Id. at 1156.
for damages sustained when a BLM road collapsed, the court noted in dicta that

[I]t is clear that the primary use of the revested lands is for timber production to be managed in conformity with the provision of sustained yield, and the provision of recreational facilities as a secondary use. No duty is thereby established to provide for recreational use. Indeed, the [BLM] has the power to close or restrict the use of public lands under its management and supervision.

From this dicta, the Ninth Circuit built its seminal O&C Act interpretation, Headwaters, Inc. v. Bureau of Land Management, Medford District. Headwaters involved the northern spotted owl and whether the risk to the species from timber sales in old growth forests was accurately reflected in the BLM’s regional environmental impact statement addressing the management of the owl. The plaintiff conservation organization also contended that the O&C Act required the BLM to manage the lands for multiple use, including wildlife conservation. Headwaters argued that the phrase “forest production” encompassed more than timber production and thus included conservation values. The Ninth Circuit, however, described the primacy of timber production in the O&C Act, adding emphasis to the line “the timber thereon shall be sold, cut, and removed in conformity with the principal [sic] of sustained yield.”

On that basis, the court determined that exempting timber resources to serve as wildlife habitat was “inconsistent with the principle of sustained yield,” and that there was “no indication that Congress intended ‘forest’ to mean anything beyond an ag-

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238 O’Neal v. United States, 814 F.2d 1285, 1286-87 (9th Cir. 1987).
239 Id. at 1287.
241 See supra note 226 and accompanying text.
242 Id., 914 F.2d at 1183.
243 Id.
244 Id. The O&C Act provision further states that grant lands . . . shall be managed . . . for permanent forest production, and the timber thereon shall be sold, cut, and removed in conformity with the principal [sic] of sustained yield for the purpose of providing a permanent source of timber supply, protecting watersheds, regulating stream flow, and contributing to the economic stability of local communities and industries, and providing recreational facilities [sic].

2006] The Oregon and California Lands Act 293
gregation of timber resources.” In its brief and incomplete re-
view of the legislative history, the Ninth Circuit found two
purposes for the O&C Act: to provide counties with a “stream of
revenue,” and to “halt previous practices of clear-cutting without
reforestation.” The Headwaters court concluded that “Con-
gress intended to use ‘forest production’ and ‘timber production’
synonymously. Nowhere [did] the legislative history suggest that
wildlife habitat conservation or conservation of old growth forest
[was] a goal on a par with timber production, or indeed that it
[was] a goal of the O&C Act at all.”

The court’s restrictive reading completely ignores the 1937
House and Senate reports and the extensive hearings on House
Bill 5858. And, the decision overlooks congressional enthusiasm
for “conserving and perpetuating” the timberlands, as well as
creating a “more permanent type of community, contribut[ing] to
the economic stability of local dependent industries, protect[ing]
watersheds, and aid[ing] in regulating streamflow.” The court
simply did not take a “hard look” at the history of the O&C
Act.

In Portland Audubon Society v. Lujan, the Ninth Circuit ad-
ressed the O&C Act’s intersection with other environmental
laws. In the district court, the BLM argued that the application
of NEPA was restricted because the O&C Act “commanded” the
BLM to sell no less than 500 MMbf. Portland Audubon ar-
A  said the O&C Act provided the BLM with discretion to set
an annual sustained yield of less than 500 MMbf. Although
the O&C Act “is not legislation designed to protect the environ-
ment,” the district court determined that the language of the Act
nonetheless did not mandate that the BLM sell a minimum of
500 MMbf annually. Instead, in making the annual sustained-
yield determination, the BLM was bound to comply with applica-
ble laws, including NEPA. On appeal, the Ninth Circuit
agreed, holding that the O&C Act did not deprive the BLM of its

245 Headwaters, 914 F.2d at 1183.
246 Id.
247 Id. at 1184.
249 See Marsh v. Oregon Natural Resources Council, 490 U.S. 360, 374 (1989), for
a description of the “hard look” doctrine.
251 Id.
252 Id. at 1506.
discretion, “with regard to either the volume requirements of the Act or the management of the lands entrusted to its care.”

Two years later, in *Seattle Audubon Society v. Lyons*, the National Forest Resources Association (NFRA) claimed that the 1994 Record of Decision for the NFP violated the O&C Act because it designated some parts of the O&C lands as Late-Successional Reserves and Riparian Reserves. The NFRA relied upon *Headwaters* for the concept that land could not be reserved for non-timber uses. The district court rejected this argument and distinguished *Headwaters* from NFRA’s claim. Judge Dwyer explained that *Headwaters* addressed allocating more than 50% of the management unit to non-timber uses, and dealt only with the O&C Act; but in the present case, the BLM had a duty to comply with other applicable statutes as well, which in turn could compel the creation of Late-Successional and Riparian Reserves. The NFRA also argued that the Endangered Species Act could not empower the BLM to do something it has no power to do under its enabling statute. The district court rejected this argument too, noting the “broad authority” of the Secretary of the Interior to manage the O&C lands: “the BLM is steward of these lands, not merely a regulator. Management under [the O&C Act] must look not only to annual timber production but also to protecting watersheds, contributing to economic stability, and providing recreational facilities.”

Most recently, the courts considered the O&C Act in *Klamath Siskiyou Wildlands Center v. Boody*. Klamath-Siskiyou Wildlands Center argued that the BLM had an obligation to comply with NEPA, regardless of the involvement of O&C lands. Responding to a motion for a preliminary injunction of a timber sale in old growth forests, the BLM pointed out that the sale

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253 Portland Audubon Soc’y v. Babbitt, 998 F.2d 705, 709 (9th Cir. 1992). Babbitt replaced Lujan as the Secretary of the Interior during the pendency of the case. *See* FED. R. CIV. P. 25(d)(1) (providing for the substitution of a public official’s name upon death or resignation); FED. R. APP. P. 43(c)(2) (same).

254 The NFRA eventually became the American Forest Resources Council, a party to the settlement agreement discussed *infra* Part V.


256 *Id.* at 1314.

257 *Id.* It is interesting to note that the NFRA chose to not proceed with an appeal of this adverse ruling, which also upheld the legality of the NFP and decreased timber harvest on federal lands generally.

would provide socioeconomic benefits and fulfill its statutory duties under the O&C Act, and that its NEPA obligations were sub-
servient to the O&C Act—essentially, that the BLM need not 
comply with NEPA because of the O&C Act.259 Acknowledging 
the economic aspects of the Act, the court nonetheless found 
that these interests were outweighed by the “public’s interest in 
ensuring that resources are not irretrievably committed without 
observance of required procedures” mandated by NEPA.260 

Courts have restricted the O&C Act’s usefulness to environ-
mentalists, the timber industry, and the BLM. *Headwaters* is the 
high-water mark, establishing the most conservative interpreta-
tion of the O&C Act, and curtailing—erroneously—the BLM’s 
authority to manage O&C lands for non-timber purposes. But 
the courts also have not allowed the BLM or the timber industry 
to use the O&C Act to avoid following NEPA, the Endangered 
Species Act, and other federal environmental statutes, thus limit-
ing the impact of *Headwaters*. Because the courts have not reex-
amined the assumptions upon which *Headwaters* is based, the 
underlying fallacy regarding the O&C Act’s “dominant use” pre-
scription remains.

### C. Interior Board of Land Appeals

The Interior Board of Land Appeals (IBLA) hears administra-
tive appeals of BLM decisions involving forest management. 
Appellants have attempted to use the O&C Act as a tool to over-
turn BLM decisions but, like the federal courts, the IBLA has 
been reluctant to vest the O&C Act with such power. There are 
more than fifty IBLA decisions involving the O&C Act, and a 
few key decisions are discussed below.

In 1980, one year after the Ninth Circuit made its first, limited 
pronouncement on the O&C Act,261 the IBLA also labeled the 
Act as a “dominant use” statute, and that dominant use was tim-
ber production. In *Oregon Wilderness Coalition*, the IBLA de-
scribed the Act’s language as a “clear directive to ‘sell, cut, and 
remove’ the timber on revested O&C lands in conformity with 
the principle of sustained yield.”262 The “remaining uses”—pro-
tecting watersheds, regulating stream flow, contributing to the

259 *Id.* at *8.
260 *Id.*
261 *See supra* note 235 and accompanying text.
economic stability, and providing recreational facilities—were listed simply to “reflect a Congressional finding that permanent forest production would be conducive [sic] to such uses.”\textsuperscript{263} Although “likely to occur as a result of prudent cutting consistent with sustained yield,” they were nonetheless “subordinate uses.”\textsuperscript{264}

In 1982, Applegate Citizens Opposed to Toxic Sprays appealed a dismissal of their protests of a timber sale.\textsuperscript{265} One of Applegate Citizens’ claims was that the proposed timber sale violated the O&C Act’s “multiple-use guidelines.”\textsuperscript{266} The IBLA noted that the O&C Act does not define “sustained yield,”\textsuperscript{267} but because it was defined in FLPMA, and FLPMA is generally construed as giving the BLM “substantial discretion,” the BLM’s decision could not be overturned unless it was clearly erroneous.\textsuperscript{268}

In the 1983 case \textit{In re Lick Gulch Timber Sale}, the IBLA explored the O&C Act more thoroughly.\textsuperscript{269} After giving a brief history of the Act, the IBLA again addressed the term “sustained yield,” but this time described the meaning as “not particularly arcane.”\textsuperscript{270} The Board referred to the DOI’s Circular No. 1448 that described the Act as providing for conservation on a permanent basis and providing for perpetual forests.\textsuperscript{271} The IBLA’s \textit{In re Lick Gulch Timber Sale} decision defined “sustained yield” as a level of harvesting such that “a constant amount of timber [would] be annually available on an indefinite basis,”\textsuperscript{272} asserted again that the Act’s dominant purpose was timber production, and described other factors, such as watershed protection and economic stability, as “complementary values” that will “necessa-

\begin{footnotesize}
\begin{enumerate}
\item \textsuperscript{263} Id.
\item \textsuperscript{264} Id.
\item \textsuperscript{265} A.C.O.T.S., 61 I.B.L.A. 166, 167 (1982).
\item \textsuperscript{266} Id.
\item \textsuperscript{267} The IBLA did not explore the implications of the O&C Act’s use of “sustained yield,” instead adopting FLPMA’s definition of the same term. \textit{Id.} at 169. The O&C Act does not define the term; instead, the definition of sustained yield is found in 43 U.S.C. § 1702(h): “the term ‘sustained yield’ means the achievement and maintenance in perpetuity of a high-level annual or regular periodic output of the various renewable resources of the public lands consistent with multiple use.”
\item \textsuperscript{268} Id. at 168.
\item \textsuperscript{269} \textit{In re} Lick Gulch Timber Sale, 90 Interior Dec. 189 (1983).
\item \textsuperscript{270} Id. at 193.
\item \textsuperscript{271} Id. \textit{See supra} Part II.C. for more on Circular 1448.
\item \textsuperscript{272} Id.
\end{enumerate}
\end{footnotesize}
rily result through proper implementation” of sustained yield.\textsuperscript{273} The appellant in the case used the O&C Act to criticize the economic basis of the sales, emphasizing that timber production was of declining economic importance while tourism and recreational uses were increasing in importance, and that the timber sale would reduce the economic returns and impair user enjoyment.\textsuperscript{274} The BLM responded that the sale was within its Visual Resource Management land-use allocation, and that meeting standards and guidelines for this allocation would protect user values. The IBLA agreed, explaining that there would not be “significant adverse effects on the recreational values presently available in Lick Gulch” so long as the BLM complied with its own management requirements.\textsuperscript{275}

In 1990, the Oregon Natural Resources Council\textsuperscript{276} argued that proposed timber sales violated the multiple-use mandates of FLPMA and the O&C Act because they would remove old growth trees and thus threaten the recreational, scenic, wildlife, and water resources of the areas.\textsuperscript{277} The IBLA responded:

ONRC would have us construe the phrase “permanent forest production” to encompass the protection of timber resources from harvesting, in order to promote other general uses of the land. However, section 1 of the O & C Act makes it clear that permanent forest production is intended only to permit timber harvesting so as to ensure a sustained yield over time. . . .

. . . .

The O & C Act also makes reference to various “purpose[s],” including protecting watersheds and providing for recreational facilities, but only in the context of what the harvesting of timber is intended to accomplish.\textsuperscript{278}

The IBLA quoted \textit{Headwaters} in support of the BLM’s interpretation of the O&C Act as a timber-dominant statute, and thus pronounced that “management of the lands for permanent forest

\textsuperscript{273} \textit{Id.}  
\textsuperscript{274} \textit{Id.} at 212.  
\textsuperscript{275} \textit{Id.} at 213.  
\textsuperscript{276} The Oregon Wilderness Coalition, discussed \textit{supra} note 262, changed its name to the Oregon Natural Resources Council in 1982. The organization is now known as Oregon Wild. Oregon Wild, \textit{About Oregon Wild}, \texttt{http://oregonwild.org/about} (last visited Feb. 15, 2007).  
\textsuperscript{278} \textit{Id.} at 371-72.
production, rather than multiple uses, is to take precedence where these forms of management conflict.”

The next year, an environmental group again asserted that the O&C Act called for multiple use of the O&C lands, and again the IBLA denied the assertion. The IBLA cited *Lujan, Headwaters*, and its own decision in *Oregon Natural Resources Council* as proof that timber production is the dominant use of the O&C Act, but did not revisit any of the underlying documents or history that led to the passage of the O&C Act.

In *Swanson-Superior Forest Products, Inc.*, the appellant was not an environmental group, but a timber company opposed to a proposed exchange of land between the BLM and another timber company. Swanson-Superior argued that, because the government timberland in the exchange was O&C land, it was “improper” for the BLM to consider wildlife habitat and other uses in making its decision to approve the exchange. The IBLA held that while the “main consideration” must be to facilitate timber management, the BLM could consider other relevant factors in managing O&C lands, including “conservation of wildlife habitat, and protection of threatened and endangered species, among other environmental values considered integral to BLM’s forest resources management policy under the O & C Act.”

The IBLA addressed the BLM’s “socio-economic commitment” arising under the O&C Act in the 2002 *Umpqua Watersheds, Inc.* decision. Umpqua Watersheds claimed that because timber prices were at an all-time low, the BLM failed to show how the challenged timber sale would meet local and national socio-economic needs when the best returns would not be realized, and the value of private timber would be further depressed by the sales. The IBLA, however, was satisfied that the sales would “[a]dress the O&C Act socio-economic commitment “by providing for the production of merchantable timber in economically depressed times,” and claimed that there was

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279 Id. at 372.
281 Id.
283 Id. at 380-81.
284 Id. at 385.
286 Id. at 69.
no statutory requirement to maximize sale prices by withholding timber from sale.\textsuperscript{287}

Overall, the IBLA decisions are just as conservative—if not more so—than the federal court decisions interpreting the O&C Act. The IBLA conducts very little analysis of the Act’s language or legislative history, misinterprets the legislative history, and builds on its own thinly supported determinations that the O&C Act is a dominant-use statute.

IV
REVISITING HEADWATERS

The Ninth Circuit Court of Appeals’ \textit{Headwaters} decision quotes past dicta that timber production is the dominant use of the O&C Act while recreation is only one of the secondary uses, and claims that “forest” refers to nothing more than an “aggregation of timber resources.”\textsuperscript{288} The court concluded that neither wildlife habitat protection, nor conservation of old growth forests, are goals of the O&C Act.\textsuperscript{289} Because subsequent judicial and IBLA decisions have not reexamined the assumptions upon which \textit{Headwaters} is based, the underlying fallacy about the purpose of the O&C Act remains.

In actuality, a different outcome than that of \textit{Headwaters} results when one examines the plain language of the Act, its legislative history, and the changes resulting from the County Payments Act. The international movement toward sustainable forest management should also give courts and the BLM pause before automatically assuming that the O&C Act is a dominant-use law.

A. Plain Language and Legislative History of the O&C Act

The plain language of the O&C Act mandates “managing” O&C lands for permanent “forest” production, not “timber” production.\textsuperscript{290} Such “management” involves selling, cutting, and removing timber following the principle of sustained yield \textit{and} for purposes specified in the Act. This is a far more nuanced commandment than a blanket mandate to commercially harvest

\textsuperscript{287} \textit{Id.} at 70.
\textsuperscript{288} Headwaters, Inc. v. Bureau of Land Mgmt., Medford Dist., 914 F.2d 1174, 1183 (9th Cir. 1990).
\textsuperscript{289} \textit{Id.} at 1184.
timber from the O&C lands. Logging is not urged for the sake of logging, but only as a means to further certain purposes.

For example, the act of cutting and removing timber is an unruly event, usually one that can disturb the soil, cause erosion, and disrupt watersheds and stream flow. Timber removal and cutting “for the purpose of . . . protecting watersheds” must therefore refer to more than just the actual physical cutting and removal process. The phrase logically refers to managing forests to protect the watershed: sometimes making the deliberate choice to not cut timber, to avoid using certain logging methods that are most disruptive, or to cut small-diameter trees to reduce the risk of wildfire.

Similarly, economic stability is not always achieved by choosing to harvest public forests. Oregon’s natural resources bring significant income from tourism and recreational activities, and by drawing in people who move to Oregon for the landscape and quality of life. Also, as demonstrated by the Midwestern areas over-logged at the turn of the twentieth century, a cut-and-run logging philosophy leaves communities stranded. Such “boom and bust” cycles are not unusual among natural resources-dependent communities, but the O&C Act was enacted specifically to avoid such fluctuations and to provide socio-economic stability.

Another aspect of the IBLA’s and Ninth Circuit’s interpretations of the O&C Act that is counter to the Act’s plain language is the notion of “primary” and “secondary” purposes, which has given rise to the “dominant use” concept. In O’Neal v. United States, the Ninth Circuit declared that the O&C Act designated timber production as the primary use of the lands and the other purposes as secondary uses only. The courts and the IBLA have since relied on that declaration. The language of the Act,

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291 Id.
293 See supra note 85 and accompanying text.
295 See May & June Hearings on H.R. 5858, supra note 53, at 24 (written statement of the Department of the Interior). House Bill 5858 was intended to avoid an overdeveloped, unsustainable timber industry which left “impoverished communities” in its wake. Id.
296 O’Neal v. United States, 814 F.2d 1285, 1287 (9th Cir. 1987).
however, does not indicate any such preference or ranking among the purposes. It states that the lands

shall be managed . . . for permanent forest production, and the timber thereon shall be sold, cut, and removed in conformity with the principal [sic] of sustained yield for the purpose of providing a permanent source of timber supply, protecting watersheds, regulating stream flow, and contributing to the economic stability of local communities and industries, and providing recreational facilities [sic].

There are no congressional indications that the order in which the purposes are listed is intended to be important. While it is plain from the Act that timber harvest will occur on O&C lands, the courts have misread the plain language of the Act. Rather than reading the phrase “managed . . . for permanent forest production” as the overall purpose of the Act with the subsequent list of functions as equally important means to achieve that purpose, courts have interpreted the phrase as the Act’s “primary” purpose.

Indeed, the legislative history demonstrates that the impetus for the O&C Act was a desire for forest conservation and local economic stability, not strictly—or even predominately—timber production. The O&C Act was a product of citizenry scarred by the Dust Bowl and fearful of a timber drought, as well as a Secretary who wanted to transform his DOI into the “Department of Conservation.” Naturally, “conservation” as it was envisioned in 1937 is different than the “conservation” many environmentalists seek today; then, forest ecosystems were not valued because of their intrinsic worth or their ability to support biodiversity. Rather, the O&C Act says exactly why forests are valued: as a way to protect watersheds and regulate stream flow, a means to stabilize and sustain local economies, a source of recreation, and a permanent source of wood fiber. Today, ecology and economics have developed so that those components have a deeper, more scientifically grounded understanding than they did in 1937. Even the BLM has acknowledged that Congress intended the O&C lands to be managed under contemporary principles of ecology and conservation. Thus, the ability of a forest to support biodiversity should be taken into account in managing the

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298 See supra notes 66-68 and accompanying text.
300 Memorandum from Solicitor to BLM Director, supra note 216, at 7.
O&C lands because of biodiversity’s importance to recreation, in protecting watersheds, and for the nontimber-based economic benefits of the forest to local communities.

Legislative history also highlights the importance of regional and local economic stability to the drafters of the O&C Act. The witnesses at the hearings and members of Congress understood a healthy “timber culture” to encompass primarily smaller, locally owned mills without large capacity that would have a steady stream of work.\footnote{See supra notes 93-97 and accompanying text.} For example, at a hearing in Eugene, Oregon, in 1948 on the O&C Act, one of the main issues raised was the lack of local ownership of the O&C timber—approximately one-twentieth of one percent of the total forestland owners owned about one-third of the total value of the timber in the O&C lands.\footnote{Sustained Timber Yield: Hearings Before a Subcomm. of the S. Comm. on Interior and Insular Affairs, 80th Cong. 20 (1948) (statement by R. T. Titus, Western Forest Industries Association).}

\section*{B. Impact of the County Payments Act}

Since the early 1990s, payments to counties have been “decoupled” from O&C timber sale revenues by the County Payments Act.\footnote{See supra Part II.D.1.} If Title II\footnote{43 U.S.C. § 1181f.} of the O&C Act, which lays out the disbursement scheme, is no longer relevant to the Act due to County Payment’s decoupling, this changes how Title I\footnote{Id. § 1181a.} should be interpreted.

anted payments, just as they had originally requested during the 1937 hearings.

The O&C Act’s legislative history shows that the counties’ desire to guarantee revenue was the only incentive for mandating logging of the entire annual sustainable-yield. This impetus does not obviate the O&C Act’s language that an amount “not less than the annual sustained yield capacity” shall be sold if possible at “reasonable prices on a normal market.” It does, however, soften the mandate, which is already flexible because of language such as “if possible,” “reasonable,” and “normal market,” all of which are subjective terms. Even the concept of “annual sustained yield” is a loose one that was never clearly defined by the O&C Act.

C. Changing Ideas of Sustainable Forestry and Sustainable Communities

Under the O&C Act, timber is to be harvested for the “purpose of . . . contributing to the economic stability of local communities and industries.” Economic stability has taken on new meaning in the decades since the drafting of the O&C Act. On the international level, the experiences of forest-dependent communities have shaped a new rhetoric for “sustainable” forestry. As this international discourse unfolds, individual countries are exploring the utility of community forestry in sustaining local communities and their forests.

Forestry has economic, ecological, and cultural implications. Although other issues with similar implications are the subject of international agreements and conventions (for example, climate change and international trade in endangered species), no such
international forestry conventions or treaties exist. There are, however, non-binding intergovernmental agreements on forestry, as well as sustainable-forest management criteria and indicators that have been widely accepted. These “soft law” documents demonstrate a trend toward increased inclusion of local communities in decision making, greater cohesion of environmental and economic goals, and a long-term view of economic conditions.

At the 1992 United Nations Conference on Environment and Development, participating countries agreed to a number of legally binding agreements, but none regarding forests. Instead, countries endorsed some soft-law agreements regarding forest management, including Agenda 21, the Rio Declaration, and the Non-Legally Binding Authoritative Statement of Principles for a Global Consensus on the Management, Conservation and Sustainable Development of All Types of Forests (Rio Forest Principles).

313 See Ronnie D. Lipschutz, Why Is There No International Forestry Law?: An Examination of International Forestry Regulation, Both Public and Private, 19 UCLA J. ENVTL. L. & POL’Y 153, 163-64 (2000/2001) (noting that international regulation of forestry practice has been “limited”). The United States and a number of NGOs have resisted a world treaty. Opponents contend that a world treaty would: (1) “[e]nshrin[e] weak standards,” (2) “avoid[] some of the world’s most critical and controversial forest problems,” and (3) “stall[] or block[] action on a wide range of critical forest problems during years of lengthy debate.” Robert L. Hendricks, International Dialogue on Sustainable Forest Management: The U.S. Response, J. FORESTRY, July/Aug. 2003, at 46-47.


The Rio Forest Principles contain a number of provisions relevant to sustainable development and the role of local communities in forest management. The first paragraph of the Rio Forest Principles preamble acknowledges that the subject of forests includes a range of environmental and development issues, “including the right to socio-economic development on a sustainable basis.” The governments are urged to “promote and provide” opportunities for a wide variety of persons to participate in national forest policies planning and implementation. The Rio Forest Principles also call for environmental protection and economic development to be “integrated and comprehensive,” and for national forest policies to “recognize and duly support the identity, culture and the rights of indigenous people, their communities, and other communities and forest dwellers.” If the O&C Act had been written in 1992, it is quite possible that the “purposes” of permanent forest production would look similar to the Rio Forest Principles:

Forest resources and forest lands should be sustainably managed to meet the social, economic, ecological, cultural and spiritual needs of present and future generations. These needs are for forest products and services, such as wood and wood products, water, food, fodder, medicine, fuel, shelter, employment, recreation, habitats for wildlife, landscape diversity, carbon sinks and reservoirs, and for other forest products.

Since the Conference on Environment and Development, the U.N. has maintained its focus on forest management. The Intergovernmental Panel on Forests existed from 1995 to 1997, ultimately devising 130 proposals for action. The Intergovernmental Panel on Forests Proposals stress the role of local communities, by encouraging countries to recognize and respect the customary and traditional rights of indigenous people and local communities, create systems for involving local communities

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318 Id. pmbl. (a).
319 Id. ¶ 2(d). Governments “should promote and provide opportunities for the participation of interested parties, including local communities and indigenous people, industries, labour, non-governmental organizations and individuals, forest dwellers and women, in the development, implementation and planning of national forest policies.” Id.
320 Id. ¶ 3(c).
321 Id. ¶ 5(a).
322 Id. ¶ 2(b).
324 Id. (proposal 17(a)).
and others in meaningful decision-making, formulate policies to secure land tenure for local communities, and adopt certification schemes that include the requirement of local community participation. The Proposals also encourage countries to integrate sustainable forest management into their national forest programs. Countries should take into account the “wide range of benefits provided by forests [that] are not adequately covered by present valuation methodology,” because “economic valuation cannot become a substitute for the process of political decision, which includes consideration of wide-ranging environmental, socio-economic, ethical, cultural and religious concerns.”

After the Intergovernmental Panel on Forests, the Intergovernmental Forum on Forests formed, which in turn established the U.N. Forum on Forests. The Forum on Forests had a five-year mandate (from 2000 to 2005). The 2002 World Summit on Sustainable Development supported the Forum’s work, describing sustainable forest management as “an essential goal of sustainable development.”

In 1995, twelve countries, representing 90% of the world’s temperate and boreal forests, endorsed a set of criteria and indicators for forest conservation and sustainable management of temperate and boreal forests called the Montreal Process. One of the criterion is the “[m]aintenance and enhancement of

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325 Id. (proposal 17(f)).
326 Id. (proposal 29(c)).
327 Id. (proposal 133(c)(v)).
328 Id. (proposal 17(d)).
329 Id. (proposal 104(a)).
333 Working Group on Criteria and Indicators for the Conservation and Sustainable Management of Temperate and Boreal Forest, Criteria and Indicators for the Conservation and Sustainable Management of Temperate and Boreal Forests (Feb. 3, 1995), http://www.mpci.org/rep-pub/1995/santiago_e.html. The criteria offer categories of conditions or processes by which countries can assess sustainable forest management, while the indicators are a way to measure aspects of the criterion.
long-term multiple socio-economic benefits to meet the needs of societies.”

Indicators used to measure this criterion include not only production and consumption of wood and wood products, but also: the area and percent of forest land managed for general recreation and tourism, the value of the investment in forest health and forest growing, the area and percent of land managed to protect “cultural, social and spiritual needs and values,” and the “viability and adaptability to changing economic conditions, of forest dependent communities.” Another criterion, an economic framework for forest conservation and sustainable management, is measured by the extent to which the regulatory environment meets “long-term demands for forest products and services” through market signals, non-market economic valuations, and public policy decisions.

The International Tropical Timber Organization developed another key set of criteria and indicators. The original 1992 criteria focused primarily on sustainable management “for the production of timber,” and by 1998 the Timber Organization found it necessary to establish criteria that covered the “full range of forest goods and services.” Under the 1998 criterion, participation by local communities, public participation in planning and decision making, and increased public awareness of forest policies and practices were important indicators of “[e]nabling [c]onditions for [s]ustainable [f]orest [m]anagement.” The extent of participation by local communities in economic activities, and the number of agreements in which local communities are given co-management responsibilities are indicators of the economic, social, and cultural aspects of forest management.

Since the early 1990s, other regional agreements have been made, setting forth more criteria and indicators of sustainable forest management.

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334 Id. § 3.6 (criterion 6).
335 Id. § 4.1 (criterion 7).
337 Id. at 6-7 (criterion 1).
338 Id. at 18 (criterion 7).
D. Forest Certification

As soft law, these principles and criteria do not bind countries to take any specific steps, and the degree of their implementation varies widely among countries. Timber certification programs, on the other hand, offer a concrete way to follow the building of an international understanding of sustainable forestry and the role of local communities and environmental concerns. The first, and arguably still the most legitimate, certification program for forest products is the Forest Stewardship Council (FSC). To become FSC certified, a forest must pass an independent body’s inspection, certifying that it meets the FSC principles and standards. The FSC’s criteria and principles for forest stewardship require respect for local communities’ tenure, use, and workers’ rights. The social and economic well-being of local communities and forest workers must be maintained or enhanced by forest management operation.

Other certification programs include the Canadian Standards Association and Sustainable Forestry Initiative. The Sustainable Forest Initiative, created by the American Forest and Paper Association, has been vigorously criticized by environmental groups. Conservationists claim that the Sustainable Forest Initiative has weak standards that do not protect old growth forests or endangered-species habitat, and do not require sufficient verification processes. They are also critical that the regulated industry itself controls the certification process and has much weaker social and economic standards than the FSC. Consequently, it

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340 Tumushabe, supra note 314, at 676-77; see also Hendricks, supra note 313, at 48 (discussing difficulties with treaty implementation in the United States).
341 See Lipschutz, supra note 313, at 167-70 (providing additional information on the FSC).
344 Id. at 5 (principle 4).
is unclear whether an alternative method of certification to the FSC will gain popular support.

The Forest Service is currently reviewing two national forests in Oregon for certification under the FSC protocol.\textsuperscript{347} Regardless of whether these forests secure certification, it is noteworthy that the U.S. government has begun to embrace international forestry standards in some capacity. This fact in and of itself should counsel the “mightiest economy on earth”\textsuperscript{348} to review its unfounded conclusion that the O&C act is a dominant-use law.

\textbf{E. An International Example of Community Forestry}

As criteria and indicators for sustainable forest management are developed on the international scene, many countries are coping with immediate forest crises by embracing community involvement in forests. Although forests and their local communities in other countries face different threats and challenges than those in the Pacific Northwest,\textsuperscript{349} some of their solutions are relevant to Oregon.

Conventional forestry, with its focus on timber and exclusive responsibility to professional foresters, is largely a product of European forestry.\textsuperscript{350} Those tenets were spread through colonialism and took root in the United States, as well as in many other colonized countries. In the 1970s, the concept of community forestry began to evolve in developing countries where conventional forestry most egregiously failed to stem the degradation and destruction of forests, and also attempted to meet the needs of local communities.\textsuperscript{351} Since then, community forestry has spread as national governments have recognized that returning control to local communities can “reconnect the costs and benefits of forest management,” thus providing an alternative to a system in which the majority of financial benefits go to private entities, and the


\textsuperscript{349} Issues faced by other regions, but not the Pacific Northwest, include the role of indigenous peoples and forest dwellers in forest management, illegal logging under the cover of night, and subsistence communities that rely on the physical forest for sustenance.


\textsuperscript{351} Id.
economic, social, and environmental losses are felt by the greater society.\textsuperscript{352}

Community involvement in forest management can vary, from no responsibility or decision-making authority, to joint forest management in which the government collaborates with communities to manage the forest resources, to complete local control in which the local residents develop the institutions, norms, and rules for protecting and using a specified area.\textsuperscript{353} Broadly defined, community forestry includes local community empowerment and participation, sustainable forestry, and community economic development.\textsuperscript{354}

For example, Nepal has utilized a form of community forestry for almost thirty years.\textsuperscript{355} In “forest user groups,” communities and the Department of Forest together assess the forest and traditional household uses of the forest, develop operational plans, specify users and rights, and create user communities that manage the forest;\textsuperscript{356} a staggering 10,000 forest user groups have been formed in Nepal.\textsuperscript{357} Community forestry in Nepal has brought positive economic and social impacts as well as desired ecological characteristics, but it is not without problems. Marginalized community members, particularly at the bottom of Nepal’s caste system, experience bias in the decision-making process.\textsuperscript{358} Additionally, the benefits of community forestry are more likely to be felt by the wealthy—development activities such as roads benefit the more powerful—while the poor bear the losses, such as limited access to fuelwood.\textsuperscript{359}

\textsuperscript{352} Janet N. Abramovitz, Publ’N No. 140, Taking a Stand: Cultivating a New Relationship with the World’s Forests 60 (1998).

\textsuperscript{353} IUCN, Communities and Forest Management: A Report of the IUCN Working Group on Community Involvement in Forest Management, with Recommendations to the Intergovernmental Panel on Forests 12 (Mark Poffenberger ed., 1996).


\textsuperscript{355} IUCN, supra note 353, at 18.

\textsuperscript{356} Patrick D. Smith, Bir Bahadur Khanal Chhetri, & Bimal Regmi, Meeting the Needs of Nepal’s Poor: Creating Local Criteria and Indicators of Community Forestry, J. Forestry, July/August 2003, at 24, 24.

\textsuperscript{357} Id.

\textsuperscript{358} More poor people than rich feel that the current processes lack transparency and a consensus basis. As one such person explained, “[s]trong people’s stones will roll uphill, but the poor’s won’t even go downhill.” Id. at 29.

\textsuperscript{359} Id. at 26-27.
2006] The Oregon and California Lands Act

Any model of community involvement in sustainable forestry cannot be a panacea; they require resources, commitment to the process, and a willingness to collaborate and work through conflicts. Still, community-based forestry offers a more complex, more engaging view of what a community requires from its local forests than the simplistic “logging = jobs = community stability” logic of the BLM and Forest Service. Although the Forest Service is constrained in its ability to address the needs of forest-based communities, the O&C Act explicitly includes the economic stability of local communities as one of its purposes. This offers a unique opportunity for the U.S. government to dip its toes into community forestry.

V

A CONTEMPORARY OPPORTUNITY TO GET THE O&C ACT RIGHT

The BLM is currently engaging in the Western Oregon Forest Plan Revision process to revise the six western Oregon BLM District RMPs. These RMPs—like their Forest Service cousins, Land and Resource Management Plans—provide standards and guidelines that direct all land management on each BLM District. Of the 2.55 million acres included in these planning areas,
2.2 million acres are O&C lands. The formal public scoping process began in the summer of 2005, and the draft RMPs and environmental impact statement are expected to be available for public review early in 2007.

In 2003, a Freedom of Information Act request by Earthjustice unearthed a series of industry settlement proposals for litigation relating to the NFP. According to these documents, the effort to revise the BLM's western Oregon RMPs is just one part of an overall framework for enabling the Forest Service and BLM to offer 1.1 billion board feet per year from public lands managed under the NFP. The Freedom of Information Act documents disclose that the BLM is conducting the RMP revisions pursuant to a 2003 Settlement Agreement with the American Forest Resource Council (AFRC) and the AOCC that resolved a lawsuit brought by the AFRC in the D.C. Circuit against the BLM. In its case, the AFRC alleged that by approving the 1994 Record of Decision implementing the NFP, the BLM violated a number of laws, including FLPMA, NEPA, the Federal Advisory Committee Act, and the O&C Act. The AFRC's principal argument

365 GLOBAL FRAMEWORK, supra note 8, at ii.
regarding the O&C Act was that from 1937 to 1994, the Departments of the Interior and Justice and the courts consistently interpreted the O&C Act as a dominant-use statute requiring management of timberlands for timber production over other uses.\(^{368}\) As described above, this dominant/subservient dichotomy of purposes is not found in the plain language of the Act. Furthermore, the notion that there was an unswerving federal interpretation of the O&C Act from 1937 to 1994 is false: the 1979 and 1981 Solicitor opinions rescinded past opinions that the O&C Act stated “commercial forestry” and argued that the O&C Act was clearly a “conservation measure” requiring multiple-use management.\(^{369}\)

Along with using the Agency’s best efforts to offer timber sales equal to the annual probable sale quantity and thinning sales from the Late-Successional Reserves,\(^{370}\) the 2003 Settlement Agreement requires the BLM to revise the RMPs by the end of 2008.\(^{371}\) The Agreement obligates the BLM to consider at least one alternative that will not create any reserves on O&C lands “except to the extent required to avoid jeopardy under the [Endangered Species Act].”\(^{372}\) Under the 2003 Settlement Agreement, “[a]ll” of the RMP alternatives must be “consistent with the O & C Act as interpreted by the 9th Circuit Court of Appeals.”\(^{373}\) Predictably, *Headwaters* is cited as the Ninth Circuit’s interpretation of the O&C Act.\(^{374}\)

Based on the letters between the parties leading up to the 2003 Settlement Agreement, it is clear that the timber industry considers such “consistency” to mean no reserves (late-successional, riparian, or otherwise) beyond what is required to comply with the Endangered Species Act.\(^{375}\) This ignores *Seattle Audubon Society v. Lyons*, a district court case that dispensed with the same claim that putting land into reserved status violated the O&C Act. In that case, Judge Dwyer determined that the O&C Act...
did not restrict the BLM from setting aside land from logging, holding that the BLM has broad authority to manage the O&C lands not only for timber production but also for the other purposes such as economic stability, recreation, and biodiversity.

Rather than using the Western Oregon Plan Revision process to encourage divisiveness and to implement a plainly erroneous interpretation of the O&C Act that is sure to invite legal challenge and more uncertainty, the BLM has the opportunity to finally get the O&C Act right. For example, the Agency should remain faithful to ecological reserves, protect high-quality waters, and embrace forest restoration that would create healthy forests as well as a sustainable local timber industry. The result would be robust rural communities that have a stake in permanent forest production, and that would resist the invitation to return to a scheme of unsustainable federal forest management based on a fictitious interpretation of the law.

VI

CONCLUSION

The Oregon and California Lands Act requires the BLM to manage the O&C lands with the purpose of creating sustainable communities, industries, and forests. The Agency has arguably failed to do so, and now finds itself—pursuant to a sweetheart settlement agreement—entangled in a highly contentious forest plan revision process that is unlikely to escape litigation from all “sides” of the issue. Given the political pressure surrounding the BLM’s Western Oregon Forest Plan Revision, it is likely that the environmental protections that make “permanent forest protection” possible—reserves for wildlife and water quality, areas of critical environmental concern that limit activity on sensitive soils, and similar land allocation set-asides—will be eliminated, or at least severely curtailed. That these reserves have been adjudicated as necessary for the viability of several species places

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376 Seattle Audubon Soc’y v. Lyons, 871 F. Supp. 1291, 1314 (W.D. Wash. 1994). Riparian Reserves and Late-Successional Reserves are open to timber harvest, albeit under limited conditions. Id. at 1305.
377 Id. at 1314.
in jeopardy not only the uneasy truce in the Pacific Northwest spotted owl wars, but also the viability of rural communities that have attempted, some with significant success, to recover from the boom-and-bust reality brought about by those wars.

The O&C Act was designed by its drafters to avoid this situation and not to be used as a weapon to reopen and exacerbate old wounds. A faithful and contextual reading of the Act and its legislative history compels a different outcome: sustainable forestry carried out with the long-term health of the forest and its rural communities as paramount concerns.
Bureau of Land Management  
Resource Management Plan for Western Oregon  
March 2014 Public Information and Input Sessions

Public Comment Form

Please note that the following comments will be recorded as official public comment as part of the National Environmental Policy Act official public comment period for BLM’s Resource Management Plan for Western Oregon Planning Criteria. General response to comments will be provided in the Draft Environmental Impact Statement. Thank you for your input!

Name: ________ BARB SHAMET ______ Email: bshamet@hotmail.com

Address: PO Box 212 City: Allegany, OR 97407

Phone #: (541) 269-2147 Organizational Affiliation: Resident Land Owner

I would like to be added to the RMP for Western Oregon mailing list: Yes x No

Please use the space below to provide your comments on aspects of the Planning Criteria, draft Preliminary Alternatives, and/or today’s Public Session. Before including address, phone number, email-address, or any other personal identifying information in your comments, be advised that your entire comment, including personal identifying information, may be made publicly available at any time. While individuals may request that the BLM withhold personal identifying information from public view, the BLM cannot guarantee it will be able to do so. If you wish us to withhold your personal information you must state this prominently at the beginning of your comment. We will make all submissions from organizations or businesses available for public disclosure in their entirety.

Additional comments on the draft Planning Criteria can be submitted until March 31, 2014.

Visit the BLM RMP for Western Oregon website to submit comments (http://www.blm.gov/or/plans/rmpswesternoregon/)

Conservation is at the forefront of the 21st Century, and not the exploitative practices of the timber industry. Getting below market value for our cut trees sold at auctions due to mandates and so called sustainable yields have led to the challenge to the original Northwest forest plan. The timber industry is simply running out of resources and they want it all. Automation have driven jobs away, overseas shipping of our resources, selling our public resources for rock bottom prices have brought the economy to its knees. Not environmental action, on the contrary-environmental activists, tree sits, protests and lawsuits are to protect our public lands from the chronic and historic exploitation of the timber industry. People by the thousands are standing up, pledging civil disobedience and will continue to fund lawsuits to stop the exploitation of public lands and resources. These resources belong to the people of this land and not the corporations who continually steal them through the process of timber management.

Please consider putting all native forest in conservation on the west coast, and sell carbon credits on wall street! Thanks so much for all you do. Your meetings are very much appreciated.
*Consider Conservation Land Trusts for our country's future.
March 25, 2014

Bureau of Land Mgmt.
Resource Management Plan Western Oregon

**Subject: Public Comment on Western Oregon Resource Mgmt. Plan (RMP) - Recreation Planning Criteria**

These comments and recommendations are specifically focused on Johns Peak/Timber Mt. between Grants Pass and Medford, Oregon, in relation to the proposed OHV Emphasis Area.

An OHV Park or Emphasis Area should be of significant size so as to be able to close parts of it for restoration and resting the land while opening other areas. This provides long term preservation of the land. It should have camping where tourists can recreate which would boost local economies. Where there is enough diversity it provides comfort and challenges. It should be in and accessed through areas that have minimal if any residential homes and private properties so as to avoid conflicts and accidents.

The proposed Johns Peak/Timber Mt. area (especially Foots Creek, Galls Creek, & Birdseye Creek.) is totally unsuitable for such a designation given the checkerboard public/private ownership throughout the area with the greater area being private at 62% private and 38% public lands. These areas are divided and not continuous and include existing and growing residential communities. When this area was designated as an OHV area in the 1995 Medford District RMP it was done so by completely bypassing the Public Process, without any definition of where or what it was, without any maps being provided and without any significant notice being provided to local nearby communities.

For over a decade a huge number of residents in various communities have been objecting this poorly designed OHV Plan. Additionally the BLM has been promoting the area for OHV use, in various media, prior to any open Public Process involving the local residents and that has resulted in many many conflicts between locals and OHV users. Locals have written a huge number of letters of concern which provided a huge list of negative impacts to us, the local communities, and our environment. Despite the presentation to BLM of our petition containing at least 1,300 signatures of resident land owners from around Johns Peak/Timber Mt. area none of that information has been included in your planning criteria or in your new 4 Alternative choices.

We cannot understand why information submitted by local residents to BLM on noise, fire, wildlife and environmental issues, including personal letters and petitions from those impacted in the Johns Peak/Timber Mountain area and all submitted data provided at the BLM’s Mediation Process in 2012 in which so many of the locals participated, will not be included into the BLM 2014 Resource Management Planning Criteria and that an additional Alternative, that we requested, will not be included which removes the OHV Designation from Johns Peak Timber Mountain.

**We officially request the Bureau of Land Management to remove the 1995 RMP OHV Designation from Johns Peak/Timber Mountain in Southern Oregon as it violated 43 CFR 8342.2a “Public Participation”: Prior to making designations or re-designations, the authorized officer shall consult with interested user groups, Federal, State, county and local agencies, local landowners, and other parties in a manner that provides an opportunity for the public to express itself and have its views given consideration.**

Additionally we request the BLM planning criteria for the Western Oregon RMP include a review of current and proposed OHV areas by applying “43 CFR 8342.1, Designation criteria,” to all OHV areas, either formally or informally designated since 1972 when President Nixon’s Executive Order on this topic was issued.”
Here are some of the Impacts that we have requested you to consider and you evidently did not:

**Noise:** The noise of OHV's buzzing in the hills would destroy the quality of life for many local residents, including me. Instead of hearing the enjoyable sounds of nature we would hear the constant racket of OHVs. Many of these areas have ambient sound levels of only 25 decibels to 40 decibels and all readings of those levels were taken from nearby roads and not up on the more quiet hillsides. I, like many elderly who live locally, need to wear hearing aids so the thought of excess noise from ORV's is devastating. My property adjuncts BLM property and ORV's can, even illegally, navigate very near my home. People with normal hearing ability when exposed to noise pollution suffer from hearing loss, sleep deprivation, chronic fatigue, anxiety, depression and hypertension. Why would BLM want to expose us to that?

**Increased Threat of Fire:** While it's true there have been improvements to exhaust systems to try to prevent fires from happening, they still do happen with some regularity and there is documentation to support this claim from this area. When you increase the number of people on OHVs in the surrounding hills you also increase the risk of starting a fire. The Oregon Dept. of Forestry has designated this entire area as an "Extreme" fire danger area. Our community has worked tirelessly every year for a decade with ODF, the Seven Basins Watershed Council, local Fire Depts., and SOU Extension Office to create Community Fire & Emergency Plans, to reduce ladder fuels, to educate residents on safe fire practices, create phone and email trees and collect resident fire surveys etc. This entire effort is ineffective if BLM goes through with this OHV plan at Johns Peak/Timber Mt.. It won’t matter where the fire starts because of the many residents around and throughout the area. Someone’s community will burn, homes and possibly lives will also be lost.

**Trespassing and Property Damage:** Due to the checkerboard ownership of this area there is no way to avoid this problem because it is the wrong area for OHV activity. The conflicts with OHV users has been growing steadily over the past 5 years and we feel this is directly attributed to the BLM’s promotion of the site as an OHV Emphasis Area on maps, on their web site, through their partnership with the MRA and through Oregon State Parks maps and web site. All this before an EIS or the public process has taken place. The BLM then proclaims that they can’t manage the very issues they created unless it is an OHV Emphasis area. Most disturbing was the discovery the BLM was directing OHV users on their web site to use my street (Foots Creek Road) as an access road to the OHV area when there is no legal access to public lands from Foots Creek Road thereby creating numerous conflicts with residents. Before we knew this we called the Medford BLM to ask why all these OHV users were coming up our road they said "they had no idea and no control of who used public roads". This is not how I would expect a Federal Agency to conduct business. Further it is a mandate of the BLM to do whatever they have to do to avoid creating conflicts, a mandate that was clearly violated.

**Environmental Issues:** In the Foots Creek Basin alone there are identified rare plants, what may be the last refuge for the suspected extinct Franklin bumblebees and the rare Occidentalis. We have bioluminescent arthropods that have yet to be identified as "known" species by SOU entomologists.

The Middle Rogue Watershed consists of 6 Salmon Spawning Tributaries that feed the Rogue River; Foots Creek, Galls Creek, Birdseye Creek, Kane Creek, Sam's Creek and Sardine Creek as identified by the Oregon Dept. of Fish and Wildlife and all have been documented annually for 40 years.. Most of these are listed as 303D Sensitive Streams. Four of the six sensitive tributaries in the Middle Rogue Watershed are included in BLMs proposed Johns Peak/Timber Mt. OHV Emphasis Area and all have issues with granitic soils from hydraulic mining.

These sensitive tributaries are "each" fed by hundreds of feeder springs like a network of veins across the hillsides that would be negatively impacted by OHV activity. Rains will wash soils into the feeder and main streams which would cause serious damage to Salmon Spawning. According to the Assistant District Fish Biologist at ODFW, Foots Creek produces the highest density of spawning Summer Steelhead Redds of anywhere in the entire Rogue River Basin.
Recommendation: remove Foots Creek, Birdseye Creek, Galls Creek and Kane Creek and surrounding canyons from the proposed OHV Emphasis Area to protect dwindling steelhead spawning habitat or remove the OHV Designation for Johns Peak Timber Mountain area in total.

Wildlife Issues: There are bears, cougars, coyotes, fox, and a host of other animals that will be negatively impacted by OHV use in this area. We have endured through human/wildlife conflicts with cougars and those conflicts increase when they are driven down into the communities to hunt for food and water. Deer and Elk will move away from the OHV areas driving them into residential areas which will also bring with it the predators that depend on that food source to survive. In Spring (high OHV activity) larger animals will move their young to avoid being near OHV areas and if all the hills are OHV areas where are they supposed to go? Additionally Endangered Spotted Owls have been found in the Foots Creek Basin area by independent Timber resources.

Recommendation: The BLM review these studies and similar science related to OHV activity as it applies to the designation of OHV Emphasis Areas and under "43 § 8342.1, Designation criteria.

Motorized vs. Non-Motorized Recreation: The hills around the Foots Creek, Birdseye Creek and Galls Basins have been historically used for horseback riding, hunting, hiking, and birding since statehood and long before OHVs came along (despite their claims). This is easily verified as many of the original family homesteaders heirs still live here. All of these non-motorized recreational uses can co-exist with each other but not within an OHV Emphasis Area. An OHV Emphasis area operates to the exclusion of all of these others historic forms of recreation in this area. These non-motorized forms of recreation do not have the negative impacts on the environment and to the thousands of families that reside here unlike the OHVs. The BLM has proclaimed an All or Nothing scenario with their misguided concept of an OHV Emphasis Area at Johns Peak/Timber Mt. and therefore to protect our quality of life, our environment, and the value of our homes we will continue to fight to remove our areas from this OHV designation.

Law Enforcement: There is very little enforcement for OHV use currently. One of the issues is OHV users trespassing or causing other problems (reckless driving etc). By the time the Sheriff arrives the perpetrator is long gone. There are no license plates on OHVs for identification, no active patrols (at least in our area), too many areas and ways they can escape to avoid being caught. Nobody knows who to call for help, if they call the Sheriff (whose resources are already over taxed) it takes too long to arrive, if they call BLM nobody shows up at all. These are all issues we are dealing with currently and in large part due to the BLM promoting the area for OHV use in an area with no legal access to BLM.

We have gathered all of the "available" BLM Enforcement Officers data and the Jackson County Sheriffs data and it weighs heavily on calls to the Sheriff’s office with the BLM officer doing mainly tag enforcement and not much of that. The Jackson County Sheriff Mike Winters agrees that Johns Peak/Timber Mt. is not the right place for an OHV Emphasis Area due to its geography, intermixed private properties, surrounded by growing communities, and lack of manpower and funds to maintain reasonable enforcement. Add to this the extra expenses to the County budget for Search and Rescue Operations, helicopters, officers, medical etc.. It makes no economic sense and the BLM should be considering a more suitable location for an OHV area that could be more easily managed and enforced with fewer resources, more reasonable costs and the reduction of conflicts with area residents.

The extreme noise pollution from OHV’s would have to be constantly monitored for all of these communities in and throughout Johns Peak/Timber Mt. add to this the enforcement issues of OHVs that violate the rules and the additional costs for manpower. The cost to accomplish this effectively is unrealistic and fiscally irresponsible.

IN CONCLUSION: At the very least please remove Foots Creek Basin, Birdseye Creek area and Galls Creek Basin from your OHV designation and plans. Privately owned acreage far exceeds the BLM’s scattered ownership at Johns
Peak/Timber Mt. Yet BLM seems to want to force the OHV Emphasis Area into existence even though it harms thousands and only benefits a single special interest group.

None of your 4 new alternatives include the prior 10 years of data nor do they remove this OHV Designation. We will not support something that will create untold conflicts, certainly diminish our quality of life, negatively impact our property values and will likely result in a catastrophic fire that will cost people their homes and their lives.

If all BLM lands in So. Oregon are a checkerboard with private property and no other alternatives exist then perhaps a partnership with Forest Service lands could make it possible or the realization that this area cannot support an OHV Emphasis Area for this particular and single form of high impact recreation.

Respectfully submitted by:

\[\text{Seldom}\]

Seldom
1998 Foots Creek R Fork Road
Gold Hill, OR 97525
541-582-3855
A Resident of Foots Creek since 1978
March 28, 2014

BLM Oregon
RMPs for Western Oregon Planning Team
1220 S.W. 3rd Avenue
Portland, OR 97204

To Whom it May Concern:

RE: Re-designation of BLM parcel T03N,R02W WM Sec. 21:E1/2NE1/4 from potential trade status to disposition status.

Raymond Creek LLC strongly supports the re-designation of the 80 acre BLM parcel T03N,R02W WM Sec. 21:E1/2NE1/4 (currently scheduled for trade) to tenure zone for dispersal.

Due to the parcel’s location, lack of legal public access, and the inability to harvest timber (substantial wetlands as well as streams prevent this) it is my opinion that the BLM should change the management status to disposition. Recently, this land was considered for timber harvest with other Bureau of Land Management land in the Scappoose vicinity and it is my understanding that this piece was deemed unsuitable for logging.

Raymond Creek LLC owns all of the adjacent land that surrounds said BLM parcel, the acquisition would provide access for management and small harvests removing any need to disturb riparian areas and supporting the continuation of very high standard management practices.

Funds generated from the dispersal could be applied for other more productive and beneficial Bureau of Land Management purposes for the public.

Raymond Creek LLC, would be an excellent steward of the land and our history demonstrates this.

1. We exceed the requirements of The Oregon Forest Practices Act.
2. Our tree farm has hosted Oregon State University Extension for forestry classes as an example for how to take care of forest land and for teaching.
3. We have organized and carried out riparian restorations that consisted of removal of invasive species and planting of native riparian species on two fish bearing creeks with the advice and direction of Darlene Segal of Oregon Department of Fish & Wildlife and working with our neighbors.
4. We have partnered with Scappoose Bay Watershed Council to remove barriers in two creeks.
5. Milled wood from this tree farm is donated annually to the wood working shops at Scappoose Middle School and High School for classes taught by Gregg Kilbourne.
6. Two log root wad structures have been constructed on our section of Raymond Creek land to harvest spawning bed gravel for salmon utilizing the knowledge of Steve Trask of Trask Design and Construction, Aquatic Restoration Solutions who has constructed many such structures in other areas. All wood, machinery, and labor was provided by three generations of the Russell Family.
7. After helping to fight a lightning strike fire on adjacent timber land, we constructed a helicopter dipping pond with the advice of Oregon Department of Forestry Forest Practices Forester John
Krause. It is available for use by all firefighting agencies in our area. No outside funding was used for this project.

8. This farm was the winner of the Columbia County Tree Farmer of the Year Award 2001.

9. Our farm received the 2004 Landowner Stewards Award from the Scappoose Bay Watershed Council.

10. Scott Russell has served as president of the Columbia County Small Woodlands Association for several years and as an officer or board member for more than a decade.

11. This farm is certified by The American Tree Farm System and has a management plan that carries out planning for 100 years.

12. One of the land purchases for this farm had over 260 lots which were plated in the 1950’s without regard of the creeks and topography. This land was scheduled for development in various size lots. We were able to purchase this land prior to its development and change the zoning to forest land that will preserve the riparian areas and forestland.

13. Included in the Raymond Creek LLC management plan is a section that charts the location of invasive plant species. We regularly visit these sites to minimize the spread of these plants and watch for any new invasive.

Historical logging had removed the natural conifers on Raymond Creek which are so necessary to ensure the natural long term healthy riparian habitat. Three generations of this family have planted and maintained conifer production in this hardwood shaded riparian environment which will never be harvested.

It is our strong belief that the parcel in question should be designated for dispersal for the benefit of the land, the quality of water and species associated with it as well as the public in general. Raymond Creek LLC has demonstrated that we will continue to manage the forest at the highest standards, providing balance for generations to come.

Thank you for your consideration,

Scott Russell
Manager
Raymond Creek LLC
31291 Raymond Creek Road
Scappoose, OR 97056
E-mail: firpitch@msn.com

Attachments:

Vicinity Map
Land Tenure Zone Map
Spawning Gravel Structure Photo
Oregon Dept. of Forestry Letter
Oregon Dept. of Fish and Wildlife Letter

Cc: Karen Schank, Field Manager
March 24, 2014

Scott Russell
Raymond Creek LLC
31291 Raymond Creek Rd.
Scappoose, Or. 97056

RE: BLM Ownership

To Whom It May Concern:

Scott Russell is interested in acquiring an isolated 80 acre parcel from the BLM in the NE portion of Section 21 T3N R2W, Washington County, Oregon. Mr. Russell has owned forestland surrounding this 80 acre parcel for over 20 years. During this time, I have had the pleasure of knowing Mr. Russell, often working closely with him, as I am a Stewardship Forester with the Oregon Department of Forestry and administer the Oregon Forest Practices Act. I have always known Mr. Russell to be a very respectful steward of the land, often voluntarily taking on projects to enhance and protect the resources on his property. Three years ago, Mr. Russell, who is an engineer, built a bridge across Raymond Creek to gain access to his property and provide for fire protection. Through his careful planning and construction of this bridge and by protecting Raymond Creek, a significant fish bearing stream, he received a Letter of Commendation from the Oregon Board of Forestry.

I am confident if Mr. Russell were to acquire the 80 acres from the BLM, that he would manage this parcel with these same principals of stewardship.

Respectfully submitted,

John Krause
Stewardship Forester
Oregon Department of Forestry
March 28, 2014

Scott Russell
Raymond Creek LLC
31291 Raymond Creek Rd
Scappoose, OR 97056

RE: Proposed 80-acre acquisition by Raymond Creek LLC

To Whom It May Concern:

I'm pleased to support Scott Russell’s proposal to acquire an isolated 80-acre parcel currently owned by the BLM in the NE portion of Section 21 T3N R2W in Washington County, Oregon. I have visited Mr. Russell’s property in order to provide input on how to augment habitat for aquatic and terrestrial species and believe him to be a true steward of the land. Scott goes the extra mile to be sensitive to priority habitat and species while conducting timber operations on his property and I am impressed with his knowledge of ecosystem function and his understanding that fish and wildlife are integral to a healthy forest stand.

I have worked closely with Mr. Russell on his property and through his connections have been able to reach out to the surrounding small woodland community to encourage his excellent example of living off of, as well as living with, the land. I believe his acquisition proposal represents an exceptional opportunity to advance the Oregon Department of Fish and Wildlife’s mission to protect and enhance Oregon’s fish and wildlife and their habitats for use and enjoyment by present and future generations, while retaining important working landscapes. Thus, I strongly encourage you to consider this proposal and provide Mr. Russell more area in which to apply his land ethic.

Please feel free to contact me if you have any additional questions or would like to discuss my support for his proposal further.

Sincerely,

Elizabeth J. Ruther
Habitat Conservation Biologist
Oregon Department of Fish and Wildlife
North Willamette Watershed District
Log Root Wad Structure at Construction and at High Water
Bureau of Land Management
Resource Management Plan for Western Oregon
March 2014 Public Information and Input Sessions

Public Comment Form

Please note that the following comments will be recorded as official public comment as part of the National Environmental Policy Act official public comment period for BLM’s Resource Management Plan for Western Oregon Planning Criteria. General response to comments will be provided in the Draft Environmental Impact Statement. Thank you for your input!

Name: Heather and Tony Salberg
Email: heathershome@hotmail.com
Address: 163 Pony Lane
City: Roseburg
Phone #: 541-679-2462
Organizational Affiliation: OU TEC

I would like to be added to the RMP for Western Oregon mailing list: ☑ Yes □ No

Please use the space below to provide your comments on aspects of the Planning Criteria, draft Preliminary Alternatives, and/or today’s Public Session. Before including address, phone number, email-address, or any other personal identifying information in your comments, be advised that your entire comment, including personal identifying information, may be made publicly available at any time. While individuals may request that the BLM withhold personal identifying information from public view, the BLM cannot guarantee it will be able to do so. If you wish us to withhold your personal information you must state this prominently at the beginning of your comment. We will make all submissions from organizations or businesses available for public disclosure in their entirety.

Additional comments on the draft Planning Criteria can be submitted until March 31, 2014.

Visit the BLM RMP for Western Oregon website to submit comments
(http://www.blm.gov/or/plans/rmpswesternoregon/)

[Handwritten comments]

Want to be able to show my children and grandchildren all of the neat places my Father took me as a boy. Hunting, Fishing, Hiking has become so limited by regulations against motorized recreation as well as gated/prohibited areas preventing the ability to access areas that once were available to everyone. We clean up after others as well as ourselves when we go on outings.
Would like to be able to continue to discover and appreciate nature by exploring all the different trails and BLM roads that are out there. We do not " Tear up the land " with our Class 2 Motorized vehicles and we do as a group hold events to clean up all areas that others have damaged.

Hunting the last 2 yrs. with my son have presented a huge challenge by restricting more and more areas. Not only did we NOT get a Buck nor Elk but saw very few in any areas we were allowed to hunt in and very little sign of any deer or elk either.
To: John Assini (John_Assini@energy.senate.gov), Staff
Committee on Energy and Natural Resources
United States Senate

Regarding: Request the Deer Creek Watershed be included, A) in the Illinois Valley Salmon and Botanical Area Special Management Unit, and B) as one of the designated Drinking Water Special Management Units identified in the Bill S.1784, "Oregon and California Land Grant Act of 2013."

March 19, 2014

The Honorable Ron Wyden, Author S.1784
The Honorable Mary Landrieu, Chair
Committee on Energy and Natural Resources
United States Senate
Washington, DC 20510

Regarding: “Oregon and California Land Grant Act of 2013" / S.1784

Dear Senator Wyden, Senator Landrieu and Committee on Energy and Natural Resources,

The Deer Creek Valley Natural Resources Conservation Association (DCA) opposes the proposed Oregon and California Land Grant Act of 2013 (S.1784) because it would remove necessary protections provided by long standing environmental laws required to sustain environmental, social and economic values of our public lands, as explained in our February 21 official comments for the 2/6/14 hearing record.

However, if the proposed legislation is approved by congress, DCA requests that the Deer Creek Watershed be included, A) in the Illinois Valley Salmon and Botanical Area Special Management Unit, and B) as one of the designated Drinking Water Special Management Units identified in the Bill.

The purposes of the Drinking Water Special Management Unit would be –
1) to ensure the protection of the Deer Creek watershed as a clean drinking water source safeguarding the water quality and quantity for the benefits of the residences of Deer Creek watershed
2) to allow visitors to enjoy the special scenic, natural, cultural, and fish and wildlife values of the Deer Creek Watershed.

1
Sec 105 (Management of Conservation Emphasis Areas) states “...for the general purposes of ecological and conservation benefits including providing forest reserves that include... (3) water quality filtration, purification and storage; (4) watershed health (5) soil stabilization; (6) flood control...”

The following information supports our request and is in accordance with the purposes of the Management of Conservation Emphasis Areas described in Sec 105, 108, 109, 110 and 111:

The Deer Creek watershed is located within the Klamath Mountain Geomorphic Province of southwestern Oregon approximately 15 miles southwest of Grants Pass, in Josephine County, Oregon.[1] The watershed covers 72,697 acres[2] of which 29,924 (41%) are BLM managed O&C lands, 11,475 (16%) are private forest industry owned, and 18,755 (26%) are private, non-industrial owned.[3]

The Deer Creek watershed is a sub-watershed of the Illinois River watershed, and Deer Creek is an important salmon stream with approximately 73 miles of fish habitat for winter steelhead, coho and fall chinook salmon and resident cutthroat trout.[4] Much of the watershed has been converted to irrigated farmlands beginning in the late 1800s and now supports many crops including vineyards, orchards, truck crops, produce and floral gardens/farms, and pastures for livestock. The population demographics have gradually shifted with a diminishing reliance on the timber industry for work and income. Recreation in the watershed for both residents and visitors is tied to outdoor related activities.[5]

In the 1970's and 1980's timber harvesting in Deer Creek watershed accelerated. During this time coho salmon production dropped by 90%.[6] Protecting the watershed is important to maintain the summer stream flows for fish habitat; and reducing winter flood flows, soil erosion, and storm damages. The Oregon Coastal Salmon Restoration Initiative, in both the Southwest Oregon Coho Recovery Plan and the Southwest Oregon Salmon Restoration Initiative are key objectives for the Deer Creek watershed.[7] The Deer Creek Valley Natural Resources Conservation Association was formed in 1981 by local residents to address domestic and other water problems in Deer Creek and other areas of the watershed that were the result of logging practices on BLM lands in the riparian and upland areas; and to protect the natural values in the Deer Creek watershed on which the community depends for water and other needs.

Deer Creek watershed’s entire population of over 2,000 (Selma zip code 97538) depends on spring and well water for domestic use, as they always have. Because there is no other option for domestic water for this community, BLM lands are critical for providing and protecting water for the entire community of Deer Creek watershed. While many homesteads in the Deer Creek watershed rely on groundwater wells for domestic water uses, there are also dozens of domestic surface water rights held by residents on Deer Creek and its tributaries used for drinking water.[8] Many of those domestic surface water rights have old priority dates, some predating the state of Oregon. Surface water has historically provided the best quality domestic water for
domestic use. Many areas of the Deer Creek watershed do not have good quality deep water wells, so a large percentage of the residents must rely on surface water. Protecting those domestic surface water rights and domestic well supplies is justification for establishing a Deer Creek Drinking Water Special Management Unit in S.1784.

The Highway 199 corridor, the main travel route between Redwood National Park and Crater Lake National Park passes through the Deer Creek watershed. Tourism is regarded by many Deer Creek watershed residents to be one of their most important economic values and development options. Deer Creek Center[9] nestled in the mountains of the Deer Creek watershed is a naturally inspired meeting facility amongst a stunning backdrop hosting visitors from around the world. Children and adults of all ages and backgrounds, from near and far attend nature based educational classes and adventures at the Siskiyou Field Institute,[10] located at Deer Creek Center. The Siskiyou Field Institute is dedicated to field-based natural history studies in one of the most unique and intriguing bioregions in the world, the Kamath-Siskiyou Mountains. The Deer Creek Center and Selma Community Farmer’s Market located at Selma Community and Education Center[11] are just two examples of the many local community social and economic strongholds dependent upon water provided by BLM lands. Protecting the water on BLM lands is necessary to allow the special scenic, natural, cultural, fish and wildlife values of the Deer Creek Watershed to be enjoyed by residents and visitors. The Deer Creek watershed is home of the Lake Selmac County Park[12] and Resort[13], a beautiful 160 acre lake, offering boating, fishing, swimming, horseback riding, camping and full R.V. hook-up facilities; and many other trails and features such as, Althouse Pack Trail, Thompson Creek Overlook Trail, Anderson West Lone Pine Trail, and Horse Heaven, a serpentine outcropping covered with native grasses and other flora, a highly visible landmark from Deer Creek’s Little Grayback Mountain area. Little Grayback, headwaters to Deer Creek is a unique landmark and beautiful backdrop for our community residents and for visitors.[14]

Deer Creek watershed is an important reservoir of biological diversity with many endemic species that have survived here for millions of years. The rare natural community ecosystems in the Deer Creek watershed on BLM O&C public land provide critical east-west habitat connecting blocks to mountainous National Forests for terrestrial species and aquatic systems.[15][16] However large areas of Deer Creek watershed are owned by industrial timber companies and have been severely cut over with most of the large trees removed. The BLM lands are some of the most important and intact forest lands remaining in Deer Creek watershed. Before logging began, the natural state of the entire Deer Creek watershed was heavily forested in both the riparian and upland areas. The upper reaches of the stream network in the Deer Creek watershed and their tributaries has always been to produce high quality water to the lower gradient streams in the valley bottoms.[17] As such, the federal O&C BLM lands have taken on increased importance in the Deer Creek watershed for wildlife habitat and stream flow regulation because the private lands have been severely degraded with clearcuts.

The American Fisheries Society and Society for Conservation Biology have testified to the S.1784 hearing committee that the proposed legislation would in effect be a return to pre-NWFP
operations that were unsuccessful in protecting water quality and aquatic resources in the past.[18] They say, when given projections of regional climate change models that predict more frequent rain on snow events, flashier floods, and changes in the timing of peak flows (Daltron et al. 2013) and highly fragmented landscape in the surroundings; a management scenario requiring even wider buffers than the NWFP ACS is needed to maintain riverscape connectivity, mitigate flood damage and anticipated erosion, and allow fish to adapt to cumulative impacts and channel migration. They also say that cumulative effects of such changes predicted in the above models include increased stream temperature Allen and Dietrich 2005; Nelitz et al. 2007), greater flood frequencies and magnitudes (Alia et al. 2009) and altered ground water fluxes that disrupt hyporheic (stream-ground water interactions) biota (Hancock 2002)–all of which are compounded by logging on non-federal lands in conflict with recovery goals for Oregon Coast Coho (Stout et al. 2011).[19]

The Deer Creek Watershed Analysis, U.S. Dept of the Interior, BLM- Pgs 98-99 states:
“Synthesis of data/information and interpreting current trends in the Deer Creek watershed points out two primary ecological large scale issues/functions of concern: (1) the condition of a critical terrestrial linkage between the Deer Creek watershed and other provincial watersheds; and (2) the condition of the aquatic habitat particularly as it relates to salmonid species. The desired future condition of the watershed and the recommendations in this section emanate from these two important ecological functions.

1. Terrestrial Links
“ It is assumed that the non-federal timbered land will continue to be harvested on a 60 to 80 year rotation. This harvest rotation would continue to adequately supply requisite amounts of the young seral stage component. The federal lands would supply the mature and old-growth seral stages necessary to maintain species viability consistent with the Northwest Forest Plan and RMP.”

2. Aquatic System
“The other important ecological issue in the Deer Creek watershed is aquatic habitat. There are many miles of stream and associated riparian areas that can provide this habitat.” ... “The stream system of this watershed should be protected from activities that would reduce the quality and quantity of aquatic habitat.”

The federal lands are Oregon and California (O&C) railroad lands and public domain lands. According to the O&C Lands Act these BLM lands are to be managed "for permanent forest production, and the timber thereon shall be sold, cut, and removed in conformity with the principal for sustained yield for the purpose of providing a permanent source of timber supply, PROTECTING WATERSHEDS, regulating stream flow, and contributing to the economic stability of local communities and industries, and providing recreational facilities”. A definition of sustained yield is that it can be done forever. Regulating stream flow is an old term-of-the-art which means to slow runoff and erosion and moderate peak flows. This will reduce winter time flood flows and increase summer time stream flows.
Increased winter storm runoff, caused by loss of forest cover, reduces infiltration and groundwater recharge thus lowering water table levels which can reduce domestic well production during the summer. Increased turbidity causes destruction of water systems through massive silt plugging the natural collection systems (and human built domestic spring water collection systems). Increased winter runoff also reduces summer time flows which also hugely harms the domestic surface water rights and drinking water supplies.

The logging proposed in S.1784 would cause the loss of one of the most essential needs of our community and residents of the Deer Creek watershed, the need to safeguard the quantity and quality of our domestic water.

Therefore, we request that the Deer Creek watershed be included in the Illinois Valley Salmon and Botanical Area Special Management Unit, and be established as a Deer Creek Drinking Water Special Management Unit, in S.1784.

Sincerely,

Mary Camp, President
Deer Creek Valley Natural Resources Conservation Association
maryc@rougueriver.net

s/ Mary Camp
Mary Camp

Endnotes


[2] Id. Pg 3

[3] Id. Pg 8

[4] Id. Pg 20

[5] Id. Pg 10
[6] Id. Pg 20

[7] Id. Pg 11

[8] Oregon Water Resources Department


[12] Lake Selmac County Park http://www.co.josephine.or.us/Page.asp?NavID=492


[19] Id. Pg2-3
March 30, 2014

MR. Mark Brown, Project Mgr.
Bureau of Land Mgmt.
Resource Management Plan - Western Oregon
P.O. Box 2965
Portland, OR 97208

Subject: Public Comment on Western Oregon Resource Mgmt. Plan (RMP) – Recreation Planning Criteria

Dear Mr. Brown,

In regard to the Recreation Management Planning Criteria and the 4 Alternatives: We cannot choose any of your 4 new alternatives as there is no consideration given or alternative provided that would amend RMP and remove the OHV Emphasis Area Designation from the Johns Peak / Timber Mountain area. The same is true of the draft DEIS.

The entire draft DEIS in this process is fatally flawed as it demonstrates a clear bias toward OHV uses and even the No Action Alternative promotes continued OHV use and suggests additional areas are not precluded from being added. The Deis does not acknowledge years of letters, petitions and data submitted by the numerous communities that surround and intermix in this area. Issues with high impact to residents are dismissed as “not significant”. Many communities that have been very vocal about issues like noise and fire were left out of those comments entirely. Additionally the DEIS does not offer the alternative or even the consideration of removing the OHV Emphasis Area Designation from Johns Peak/Timber Mountain, in fact quite the contrary. All other forms of “historic” non-motorized recreation are barely mentioned. The promotion by BLM of this area has maximized conflicts with all non-motorized recreation in the area. The BLM’s claim of 40 years of OHV use is outrageous and a promo line straight from the mouth of the Motorcycle Riders Association in So. Oregon. A great many trails were created by trespassing and illegally cutting down trees in the last 10 years!

Due to the majority of the area being private property, including numerous residential communities with thousands of residents and commercial timber ownership being intermixed with BLM lands, this area (at best) may only be appropriate for non-motorized recreation. The largest commercial timber owner at Johns Peak/Timber Mt. (also the largest timber land owner in Jackson County) has recently confirmed they will not be participating on their private lands with any BLM proposed OHV Emphasis Area at Johns Peak and they too have fire concerns among others.

Additional definition is required to clarify exactly what is meant by BLM “Managed” Public Lands. We have been told by BLM Medford District Representatives that we have two choices: 1. The area will only be “managed” if it is a BLM OHV Emphasis Area or 2. It will not be managed and the abuses will continue from OHV users. It is also important that the BLM clarify for the record: Is the BLM incapable of “managing” Public Lands unless they are Designated as OHV Emphasis Areas?

**Alternative #1**: Minimum Recreation Development still leaves the door open for this OHV Emphasis Area Designation to remain in place which we cannot support. Additionally it requires some identification of what “management” would mean if it was not Designated as an OHV Emphasis Area. What type of management would take place, if any, and how often on lands not designated for Recreation Management Area (RMA)?

**Alternative #2**: Provides RMA Designations on all currently managed recreation opportunities in the planning area which includes all developed and dispersed opportunities motorized and non-motorized. We are unable to support this alternative as it does not allow for the removal the OHV Emphasis Area Designation from Johns Peak/Timber Mt. Also additional clarification is needed on the BLM’s definition of “Dispersed”.
**Alternative #3:** Increases Recreation Development and Management based on regional demand and scarcity. Relating this alternative to Johns Peak/Timber Mt. it is a non-starter. The one thing that will increase exponentially is conflicts and lawsuits. This area is unsuitable for an OHV Emphasis Area Designation for a great many reasons outlined below.

**Alternative #4:** Maximum Recreation Development and Management Alternative: Given the long list of abuses to residents over the past decade at the hands of the BLM Medford District office, this Alternative is out of the question. The local Medford BLM decision maker John Guarritsma is at the heart of these abuses and has demonstrated repeatedly that he is in partnership with the local Motorcycle Riders Association.

We will not support a BLM Medford District Office agenda biased toward OHV use that will create untold conflicts, diminish our quality of life, negatively impact our property values and will likely result in a catastrophic fire that will cost people their homes and God forbid cost lives.

Johns Peak/Timber Mt. area (especially Foots Crk., Galls Crk. & Birdseye Crk.) is totally unsuitable for such a designation given the checkerboard public/private ownership throughout the area with the lions share being private; 62% private and 38% public (non-continuous). Additionally, this area is literally surrounded on all sides by vibrant and growing residential communities. It is the natural progression of residential growth between the cities of Grants Pass and Medford along the I-5 corridor.

This was designated as a “Snow Play Area” area in the 1995 Medford District RMP then later changed to an OHV Emphasis Area completely bypassing the Public Process, without any definition of where or what it was, without maps and without any meaningful notice to potentially impacted communities. One sentence (42 letters – not words) in a huge WOPR set this disaster in motion and it is a serious error with far reaching implications. Coincidentally, the BLM Employee who did this is now in charge of the ATV Fund at Oregon State Parks and Recreation and repeatedly involved with the BLM Medford District Office in this OHV plan including the 9 month long BLM mediation process in 2012. This needs to be investigated by the State BLM Management and steps taken.

The BLM Medford District Office repeatedly states they have done “extensive public outreach” and that is not true. The first outreach we heard about was in 2005 and there was no public comment taken for the record at all. They bounced everyone around to the various booths and told everyone these are your only choices. We repeatedly asked them to hold a public meeting on this issue where public testimony could be taken for the record and John Guarritsma refused every time. The "outreach" has been for show from the start. Are we really all expected to sign up for the Federal Register to watch everything the BLM Medford District office is going to try to pull? Is this the definition of BLM's extensive public outreach?

The BLM Mediation process was a sham. We were blackmailed into participating under the threat that if we did not then they would "appoint" someone to represent our communities. From the first meeting and every meeting thereafter we requested maps of proposed OHV and decommissioned trails and none were produced until the second to last meeting 8 months later and even that map had an incorrect legand so it was useless. We then learned the BLM had a comprehensive library of maps of the area and did all along. Our submitted comments were altered to make them seem more benign. We were assured by the presiding Judge that impacted communities would be notified of this process - it didn't happen.

For over a decade, our communities have been battling this ill-conceived OHV Designation. During this time the BLM has been promoting the area for OHV use online and in brochures while discounting the impacts to residential communities. This caused a decade of conflicts between residents, non-motorized users and OHVs. It is even in BLM’s newest 2014 Recreation Brochure for OHV areas! For years we have submitted letters and data on the long list of negative impacts to the communities, sensitive watersheds, soils, environmental issues and a petition in 2004 with over 1,300 signatures of resident land owners (all registered voters) from in and around Johns Peak/Timber Mt. requesting the removal of the OHV Designation. None of it has been givin any serious consideration by the BLM Medford District Office.
We request that the last 10+ years of resident submitted data to BLM on noise, fire, sensitive streams, granitic soils, wildlife, environmental issues, resident letters, petitions from those impacted in and around Johns Peak/Timber Mountain area (including all submitted data provided at the BLM’s Mediation Process in 2012), be acknowledged by the BLM, given the weight they rightly deserve and be included into the BLM 2014 Resource Management Planning Criteria. This can be demonstrated by review and removal of the OHV Emphasis Area Designation in the 2014 RMP for Western Oregon.

Additionally, at the last Mediation meeting (9 months into it) the Motorcycle Riders Assoc. Representatives declared they actually did not represent the MRA at all, we request their comments and submissions be stricken from the public record of that process.

We officially request the Bureau of Land Management to amend the 1995 RMP removing the OHV Designation from Johns Peak/ Timber Mountain in Southern Oregon as it violated 43 CFR 8342.2a “Public Participation”: Prior to making designations or re-designations, the authorized officer shall consult with interested user groups, Federal, State, county and local agencies, local landowners, and other parties in a manner that provides an opportunity for the public to express itself and have its views given consideration.

Additionally we request the BLM planning criteria for the Western Oregon RMP include a review of current and proposed OHV areas by applying "43 CFR 8342.1, Designation criteria," to all OHV areas, either formally or informally designated in the BLM Medford District since 1972 when President Nixon’s Executive Order on this topic was issued."

The Federal Land Policy and Management Act (FLPMA) Designation Criteria States:

The authorized officer shall designate all public lands as either open, limited, or closed to off-road vehicles. All designations shall be based on the protection of the resources of the public lands, the promotion of the safety of all the users of the public lands, and the minimization of conflicts among various uses of the public lands; and in accordance with the following criteria:

(a) Areas and trails shall be located to minimize damage to soil, watershed, vegetation, air, or other resources of the public lands, and to prevent impairment of wilderness suitability.

(b) Areas and trails shall be located to minimize harassment of wildlife or significant disruption of wildlife habitats. Special attention will be given to protect endangered or threatened species and their habitats.

(c) Areas and trails shall be located to minimize conflicts between off-road vehicle use and other existing or proposed recreational uses of the same or neighboring public lands, and to ensure the compatibility of such uses with existing conditions in populated areas, taking into account noise and other factors.

(d) Areas and trails shall not be located in officially designated wilderness areas or primitive areas. Areas and trails shall be located in natural areas only if the authorized officer determines that off-road vehicle use in such locations will not adversely affect their natural, esthetic, scenic, or other values for which such areas are established.

Impacts to surrounding residential communities:

First it should be noted that in the BLM Draft EIS (pages 56 & 57) stated only 47 homes were affected by OHV noise, this is woefully incorrect. We have hundreds of property owners on Foots Creek alone and we can all hear OHV’s in the hills around us. Now add in all the other affected communities and you begin to see how this DEIS is being framed.
**Noise**: The noise of OHV's buzzing in the hills around numerous quiet bedroom communities would destroy the quality of life for thousands of families. Instead of hearing birds and bubbling creeks residents would hear the constant buzzing of OHVs and that is something we cannot and will not live with. Many of these areas have ambient sound levels of 25 decibels to 40 decibels and all readings were taken from the road not up on the more quiet hillsides - see attached Foots Creek area reading. OHVs can legally emit up to 99 decibels under Oregon State Law with more than a few exceeding that level. Add to that the echo chamber of the canyons and this would have a tremendous negative impact on surrounding residents. In our personal business OSHA requires us to provide constant sound monitoring in an active power plant and if the ambient readings exceed 85 decibels, special hearing protection must be provided for our employees. Is this what the BLM intends to provide for all of the surrounding and intermixed communities?

Safety & Health concerns; Noise pollution is unwanted human-created sound that has the effect of being annoying, distracting, painful, or physically harmful. People exposed to noise pollution suffer from hearing loss, sleep deprivation, chronic fatigue, anxiety, hostility, depression and hypertension. World Health Organization, National Institutes of Health, United Nations and numerous scientific and medical publications recognize noise pollution and its deleterious effects.

The intense sound caused by OHVs easily triggers an involuntary stress response commonly known as "fight or flight." This results in the secretion of adrenaline, with ensuing spikes in cardio-respiratory rates, muscle tension, and elevated blood pressure. Vibroacoustic Disease is a cumulative and chronic disease caused by exposure to infrasound. Infrasound is low frequency sound energy that affects the nervous system and prolonged exposure can lead to progressive medical conditions. Much more data is available on this issue.

**Increased Threat of Fire**: While it’s true there have been improvements to exhaust systems to try to prevent fires from happening, they still do happen with some regularity and there is documentation to support this claim from our area. When you increase the number of people on OHVs in the surrounding hills you also increase the risk of starting a fire. The Oregon Dept. of Forestry has designated this entire area as an "Extreme" fire danger area. Our community has worked tirelessly every year for a decade with ODF, the Seven Basins Watershed Council, local Fire Depts., and SOU Exten. Office to create Community Fire & Emergency Plans, to reduce ladder fuels, to educate residents on safe fire practices, create phone and email trees and collect resident fire surveys etc. This entire effort is for not if the BLM goes through with this OHV plan at Johns Peak/Timber MT. It won’t matter where the fire starts because of the many communities around and throughout the area, someone’s community will burn, homes will be lost and God forbid lives would be lost. The Draft DEIS (pg 201 - 204) says under all it's Alternatives, Human caused fires would go down with the creation of a OHV Emphasis Area, this is ridiculous. We take this issue very seriously because we live with it each and every day of every year. See attached fire history for the Foots Creek Basin and Seven Basins Watershed.

**Trespassing and Property Damage**: Due to the checkerboard ownership of this area there is no way to avoid this problem because it is the wrong area for OHV activity. The conflicts with OHV users has been growing steadily over the past 5-10 years and we feel this is directly attributed to the BLM's promotion of the site as an OHV Emphasis Area on maps, on their web site, through their partnership with the MRA and through Oregon State Parks maps and web site. The BLM then proclaims that they can't manage the very issues they created unless it is an OHV Emphasis area.

Most disturbing was the discovery the BLM was directing OHV users on their web site to use my street (Foots Creek Road) as an access road to the OHV area when there is no legal access to public lands from Foots Creek Road thereby creating numerous conflicts with residents. Before we knew this we called the Medford BLM to ask why all these OHV users were coming up our road they said "they had no idea and no control of who used public roads". This is not how I would expect a Federal Agency to conduct business. Further it is a mandate of the BLM to avoid creating conflicts, a mandate that was clearly violated and continues to be.
Most of us have already had clashes and conflicts with trespassing OHV users. They have cut down trees to make illegal trails, lit bon-fires even using the "No Fires Permitted" signs as fuel, dumped trash, torn down No Trespassing signs, started grass fires, cut fences, torn down gates, been abusive to residents, drive recklessly on our roads endangering families, children and horse riders. One of the largest land owners at Johns Peak/Timber Mt., a timber company, has had to replace over 200 gates that were torn down and destroyed by OHV users all of which is verifiable and documented. Again, the DEIS states none of this is attributed to by OHVs....really? We live with it and deal with it firsthand!

Unless BLM intends to fund an army of full time enforcement officers in each community surrounding this area from all directions, full time, then it is an unmanageable situation at best. Additionally funds would have to include additional firefighting manpower and equipment. This is not the right place for an OHV Emphasis Area and at the very least BLM should remove the Foots Creek, Birdseye Creek, Galls Creek and surrounding areas and ridges from the OHV Emphasis area including modifying maps and web information to show them as non-motorized.

Financial Impacts to Private Property Owners: In addition to being a business owner I am also a real estate Broker and have practiced here in the Rogue Valley for over 24 years. The mere consideration of our communities being included as a potential OHV Emphasis Area is already having a negative impact. We are required to disclose any known potential impacts about the properties for sale and when buyers hear of this potential OHV Park they are simply not interested in buying in this areas causing our properties to become less appealing and ergo less valuable. Should this inappropriate OHV plan be allowed to continue, its effects on the market will without doubt be extremely negative to what degree we can only imagine. This also pertains to communities that are used as pass through to access an OHV area. The BLM can be fairly certain that this will be one of the leading issues for litigation (among others) if this plan persists. There are over 1000 residents on Foots Creek Road alone. Now consider the many other residential communities surrounding and mixed throughout this area, this is a lot of angry property owners.

Environmental Issues: In the Foots Creek Basin alone there are identified rare plants, what may be the last refuge for the suspected extinct Franklin bumblebees and the rare Occidentalis. We have bioluminescent arthropods that have yet to be identified as "known" species by SOU entomologists.

The Middle Rogue Watershed consists of 6 Salmon Spawning Tributaries that feed the Rogue River; Foots Creek, Galls Creek, Birdseye Creek, Kane Creek, Sams Creek and Sardine Creek as identified by the Oregon Dept. of Fish and Wildlife and all have been documented annually for 40 years.. Most of these are listed as 303D Sensitive Streams. Four of the six sensitive tributaries in the Middle Rogue Watershed are included in BLMs proposed Johns Peak/Timber Mt. OHV Emphasis Area and all have issues with granitic soils from hydraulic mining.

These sensitive tributaries are "each" fed by hundreds of feeder springs like a network of veins across the hillsides that would be negatively impacted by OHV activity. Rains will wash soils into the feeder and main streams which would cause serious damage to Salmon Spawning. According to the Assistant District Fish Biologist at ODFW, Foots Creek produces the highest density of spawning Summer Steelhead Redds of anywhere in the entire Rogue River Basin. See attached data.

Recommendation: remove Foots Creek, Birdseye Creek, Galls Creek and Kane Creek and surrounding canyons from the proposed OHV Emphasis Area to protect dwindling steelhead spawning habitat or remove the OHV Designation for Johns Peak Timber Mountain area in total.
Wildlife Issues: Habitat for bears, cougars, coyotes, fox, and a host of others will be negatively impacted by OHV use in this area. We have endured through human/wildlife conflicts with cougars and those conflicts increase when they are driven down into the communities to hunt for food and water. Deer and Elk will move away from the OHV areas driving them into residential areas which will also bring with it the predators that depend on that food source to survive. In Spring (high OHV activity) larger animals will move their young to avoid being near OHV areas and if all the hills are OHV areas where are they supposed to go?

We have lived with the impacts of having cougars moving down into the valleys before where we experienced a total of 24 daylight attacks and 17 kills of pets and livestock (documented) in a 90 day period. We had children being stalked when they got off the school bus to walk home. Our concerns are real, genuine and based in fact not some data table from another county. All of this can be verified by the USDA Wildlife Service Manager for Jackson County and the Medford Mail Tribune Newspaper Archives.

According to ODFW: Impacts to Big Game. Several studies document the impacts of motorized vehicle use to big game habitat (Rowland et al. 2000, Wisdom et al. 2004, Rowland et al. 2005, Naylor 2006, Wisdom 2007). Increased hunter demand, numbers of roads, and hunter access increase deer and elk vulnerability and result in reduced hunter opportunity in order to maintain bull/buck ratios at management objective levels specified in Oregon’s deer and elk management plans (ODFW 2003a, ODFW 2003b, ODFW 2008). Mixing biological and social considerations becomes very difficult, especially when Oregon deer and elk hunters express desire for more bucks/bulls and less crowded hunting conditions. The winter period is an especially stressful time of year for big game. Human disturbances, such as OHV use in big game winter range can result in animals using fat reserves needed for survival. In addition, increased unregulated vehicle traffic on public land can cause big game to seek security on private lands (Wertz et al. 2001). Often this may result in increased damage issues for landowners and reduced opportunity for public land hunters.

Additionally Endangered Spotted Owls have been identified on both the right and left forks of the Foots Creek Basin area by independent Commercial Timber resources. We should have this data shortly and will present it. See Attached.

Recommendation: The BLM review these studies and similar science related to OHV activity as it applies to the designation of OHV Emphasis Areas and under "43 § 8342.1, Designation criteria.

Motorized vs. Non-Motorized Recreation: The hills around the Foots Creek, Birdseye Creek and Galls Basins have been historically used for horseback riding, hunting, hiking, and birding since statehood and long before OHVs came along (despite their claims). This is easily verified as many of the original family homesteaders heirs still live here. All of these non-motorized recreational uses can co-exist with each other but not within an OHV Emphasis Area. Many non-motorized recreational users have been literally driven out of the area in the last 10 years due to the BLM and MRA promotion of the area as an OHV area then they claim historic use.

An OHV Emphasis area operates to the exclusion of all of these other historic forms of recreation in this area. These non-motorized forms of recreation do not have the negative impacts on the environment and to the thousands of families that reside here unlike the OHVs. The BLM has proclaimed an All or Nothing scenario with their misguided concept of an OHV Emphasis Area at Johns Peak/Timber Mt. and therefore to protect our quality of life, our environment, and the value of our homes we will continue to fight.

Law Enforcement: There is very little enforcement for OHV use currently. One of the issues is OHV users trespassing or causing other problems (reckless driving etc). By the time the Sheriff arrives the perpetrator is long gone. There are no license plates on OHVs for identification, no active patrols (at least in our area), too many areas and ways they can
escape to avoid being caught. Nobody knows who to call for help, if they call the Sheriff (whose resources are already over taxed) it takes too long to arrive, if they call BLM nobody shows up at all. These are all issues we are dealing with currently and in large part due to the BLM promoting the area for OHV use in a full residential area and with no legal access to BLM.

We have gathered all of the "available" BLM Enforcement Officers data and the Jackson County Sheriffs data and it weighs heavily on calls to the Sheriffs office with the BLM officer doing mainly tag enforcement and not much of that. The Jackson County Sheriff Mike Winters agrees that Johns Peak/Timber Mt. is not the right place for an OHV Emphasis Area due to its geography, intermixed private properties, surrounded by growing communities, and lack of manpower and funds to maintain reasonable enforcement. Add to this the extra expenses to the County budget for Search and Rescue Operations, helicopters, officers, medical etc.. It makes no economic sense and the BLM should be considering a more suitable location for an OHV area that could be more easily managed and enforced with fewer resources, more reasonable costs and the reduction of conflicts with area residents.

The extreme noise pollution from OHV's would have to be constantly monitored for all of these communities in and throughout Johns Peak/Timber Mt. add to this the enforcement issues of OHVs that violate the rules and the additional costs for manpower. The cost to accomplish this effectively is totally unrealistic and fiscally irresponsible.

In Closing: I ask the State BLM Management for myself, my family and my community to please do the right and honorable thing and lets find an OHV area that makes sense, one we can all support, other than the Johns Peak/Timber Mt. proposed OHV Emphasis area. Privately owned acreage far exceeds the BLM's scattered ownership at Johns Peak/Timber Mt. yet the BLM Medford District Office seems hell bent to force the OHV Emphasis Area even though it harms thousands and only benefits a single special interest group to the exclusion of all others. At the very least please remove Foots Creek Basin, Birdseye Creek area and Galls Creek Basin from your OHV designation and plans.

If all BLM lands in So. Oregon are a checkerboard with private property and no other alternatives exist then perhaps a partnership with Forest Service lands could make it possible or the realization that this area cannot support an OHV Emphasis Area for this particular and single form of high impact recreation.

Respectfully,

Shayne Maxwell

1057 Foots Creek Road
Gold Hill, OR 97525
541-582-2020

My Background:
A resident of the Foots Creek Community and So. Oregon Business owner for over 25 years,
A Principal Real Estate Broker, licensed in Oregon for 24 years,
Served as Chair and Member for 8 years on the Jackson County Budget Committee to 2012,
Appointed to the Jackson County Blue Ribbon Task Force for Law Enforcement 2011,
Chaired the Public Utilities Commission Committee on EAS for So. Oregon (creating a 2 county local calling region),
Established and Manage the Foots Creek Fire & Emergency Community Plan and Committee 2003 to present,
Established and Chaired the Rogue River Greenway Foundation (9 yrs).

*Please add me to the BLM Mailing and Email list for the Western Oregon RMP.
Bureau of Land Management
Resource Management Plan for Western Oregon
March 2014 Public Information and Input Sessions

Public Comment Form

Please note that the following comments will be recorded as official public comment as part of the National Environmental Policy Act official public comment period for BLM’s Resource Management Plan for Western Oregon Planning Criteria. General response to comments will be provided in the Draft Environmental Impact Statement. Thank you for your input!

Name: Roger Doll
Email: roger.doll.2012@state.or.us
Address: 5116 Sandy Creek City: Prairie Point OR 97458
Phone #: 541/572-9317
Organizational Affiliation: Organic Farmer

I would like to be added to the RMP for Western Oregon mailing list: ☑ Yes ☐ No

Please use the space below to provide your comments on aspects of the Planning Criteria, draft Preliminary Alternatives, and/or today’s Public Session. Before including address, phone number, email-address, or any other personal identifying information in your comments, be advised that your entire comment, including personal identifying information, may be made publicly available at any time. While individuals may request that the BLM withhold personal identifying information from public view, the BLM cannot guarantee it will be able to do so. If you wish us to withhold your personal information you must state this prominently at the beginning of your comment. We will make all submissions from organizations or businesses available for public disclosure in their entirety.

Additional comments on the draft Planning Criteria can be submitted until March 31, 2014.

Visit the BLM RMP for Western Oregon website to submit comments
(http://www.blm.gov/or/plans/rmpswesternoregon/)

BALANCING WESTERN OREGON’S PUBLIC RESOURCES
March 25, 2014

Bureau of Land Management
P.O. Box 2965
Portland, Oregon 97208

Attn: RMP for Western Oregon – Planning Criteria, comments

The following comments specifically address planning for recreation, and very specifically, motorized OHV use on public lands.

Issue 1 -

In consideration of establishing and maintaining any motorized OHV recreation area, the BLM must follow the requirements set by Executive Order 11644, codified by Interior Department 43 CFR §8342. These over-arching documents specify criteria to use when designating areas for OHV trails, specifically requiring the BLM “to ensure the compatibility of such uses with existing conditions in populated areas, taking into account noise and other factors.”

Since 1995, the BLM Medford District has been working to establish a motorized OHV area in an area commonly called Johns Peak/Timber Mountain. The BLM objective was formalized in a 1995 RPM using less than 50 characters (characters, not words) within a massive RMP document. The RMP document provided no defined scope or boundaries, and there was no justification offered for the objective. This OHV designation was devoid of any public process or meaningful notification (especially to the numerous potentially impacted communities) prior to its inclusion into the 1995 RMP. There was no visible action by the BLM for the next 7 years. In 2002, the BLM began an ill-conceived and haphazard attempt to implement their OHV designation, relying heavily upon input from the OHV community.

The resulting DEIS and EIS were filled with unsubstantiated statements and conclusions, in addition to errors of fact and process.

Any implementation of such an OHV area in the Johns Peak/Timber Mountain area will be in violation of Executive Order 11644, codified by Interior Department 43 CFR §8342, specifically in violation of BLM’s legal requirement “to ensure the compatibility of such uses with existing conditions in populated areas.” The Johns Peak/Timber Mountain area has a checkerboard pattern of property ownership, intermingling private and public lands in nominally one square mile blocks, a legacy of the O&C lands. OHV use is inherently incompatible within this checkerboard ownership, with thousands of private residences intermingled within the BLM lands of the Johns Peak/Timber Mountain area. In 1995, the Johns Peak/Timber Mountain OHV area was not compatible with the checkerboard ownership of BLM lands mixed in and around residential neighborhoods, and the conflicts have only grown more extreme in the past 19 years.

In 2006, the community recognized that the BLM was ignoring the written objections of residents and landowners impacted by the potential development of an OHV riding area
in their neighborhoods. An area-wide group circulated a petition asking the BLM to stop work on the Johns Peak/Timber Mountain OHV plan, and remove the 1995 OHV area designation. The petition was signed by over 1,300 impacted residents / registered voters. The petitions were presented to the BLM in a letter dated November 7, 2007, addressed to Mr. Ed Shepard, Oregon/Washington State Director, Bureau of Land Management, 333 SW 1st Avenue, Portland, OR 97204, Subject: Off Highway Vehicles and Western Oregon Plan Revision. The letter was signed by 16 community leaders who represented nearly every neighborhood in and around the Johns Peak/Timber Mountain area. I request that the letter and its attachments on file be entered into the record for this RMP for Western Oregon.

The verbal comments received from BLM personnel regarding the petition was that “the BLM does not make decisions based on popular opinion.” It is obvious that the BLM failed to recognize that the people who signed the petition were advising the BLM of the incompatibility of OHV activity with their properties and residences. It is worth noting that the citizens who circulated the petition may have reached 1/3rd of the impacted residents and landowners. The feedback from the circulators indicated that the acceptance rate of signers exceeded 95%. Therefore, the proposed OHV area will have a negative impact far exceeding the 1,300+ signatures represented by the petition.

Conclusion: In its consideration of motorized OHV areas, the BLM has been in violation of the over-arching law of Executive Order 11644, codified by Interior Department 43 CFR §8342. How will the BLM correct this deficiency?

Issue 2 –

The BLM continues to be “under-funded”, and continues to make plans as if the lack of funds does not exist. Specifically, the Johns Peak/Timber Mountain BLM lands are continuously over-run with motorized OHV, which the Medford District fails to manage. The BLM, in fact, relies on OHV user groups to build and maintain trails. In fact, any such trail is illegal because of the lack of a record of decision permitting such use. Any policing of the area is woefully inadequate, with perhaps four part-time personnel available to police 880,000 acres. When OHV users trespass on private property, the BLM has no means to investigate, not to mention, enforce, compliance. The county sheriff rarely bothers to get involved. Why does the BLM attempt to designate and expand OHV recreation areas when it cannot begin to manage the existing activity?

Conclusion: The BLM should consider, plan, open, and maintain only the recreation areas that it can effectively manage.

Submitted by,

Robert Kingsnorth
Jackson County, Oregon
JPTMCitizens@aol.com
March 31, 2014

Via e-mail: BLM_OR_RMPs_WesternOregon@blm.gov

Jerome E. Perez, State Director
Bureau of Land Management
Oregon/Washington
United States Department of Interior
P.O. Box 2965 Portland, OR 97208

RE: Planning Criteria for Resource Management Plans for Western Oregon

Dear Mr. Perez,

Thank you for the opportunity to provide comments on the Planning Criteria for Resource Management Plans (RMP) for western Oregon.

The Pacific Rivers Council (PRC) is a regional conservation organization with a long history advocating for healthy rivers and watersheds, clean water and native aquatic species. PRC played an instrumental role in the development of the Aquatic Conservation Strategy (ACS) of the Northwest Forest Plan, which is arguably the best example of an ecologically based approach to managing watersheds and streamside forests on federal lands in the nation. In 2003, we successfully challenged the Bush Administration’s attempt to weaken the protections afforded under the ACS. More recently, we participated in Governor Kitzhaber’s O&C panel and have been working closely with Senator Wyden as he develops his O&C legislative proposal. As such, PRC will be closely tracking the development of the RMP to ensure that the environmental values these lands provide are not compromised by a desire of some interests to return to industrial-level logging levels on federal land.
As you are aware, BLM-managed forests in Oregon support abundant salmon, steelhead and wildlife populations, play a vital role in providing drinking water to over 1.8 million Oregonians and sequester large amounts of carbon. The cultural, recreational and economic benefits that these lands provide cannot be overstated. Recent economic analysis indicate these lands would have a timber value of no more than about $5,000 per acre, and less than this amount if the existing environmental protections and the ban on exporting logs from O&C Lands remain unchanged. Industrial logging of these lands, however, would leave them unable to produce conservation-related goods and services worth 10–20 times more than the timber value.¹

**Preliminary Alternatives**

In the development of preliminary alternatives, BLM has identified the following purposes of the RMP:

- Provide a sustained-yield of timber (per the O&C Act)
- Contribute to the conservation of threatened and endangered species
- Provide clean water in watersheds
- Restore fire adapted ecosystems
- Provide recreation opportunities
- Coordinate management of lands surrounding the Coquille Forest with the Coquille Tribe

Approximately 80% of BLM-managed lands in Western Oregon are so-called O&C lands, managed under the O&C Lands Act of 1937. In its Purpose and Need Statement (P&N), BLM has identified the need to harvest timber on a sustained yield basis under the O&C Act as a principal driver of the RMP. However, the O&C Act also dictates that the lands be managed for watershed protection, regulation of stream flow and recreation. Therefore, we encourage BLM to incorporate these additional mandates into the development of proposed alternatives that reference the O&C Act as a basis for increasing timber harvest.

**Carbon Sequestration**

In addition to the above referenced purposes, we encourage BLM to include carbon sequestration as a distinct purpose and need for the RMP and included in a conservation alternative (see below) for analysis.

¹ *Economic Value of Good and Services Produced from O&C Lands With and Without Industrial logging*. Pacific Rivers Council, August 2013
The potential of forests to remove and store carbon from the atmosphere is well established. The density of carbon—the amount of carbon per acre—of the forests of the western Oregon is among the highest of all forests in the world (Keith et al. 2009). Implementation of the Northwest Forest Plan has increased that density significantly relative to what it would have been with a continuation of logging at earlier levels. Industrial-scale logging on BLM lands will hasten the transfer of carbon from forests to the atmosphere with far-reaching ramifications for Oregon, the nation and the world. Recent research by scientists at Oregon State University looked at the potential effects on the amount of carbon stored on matrix lands under different scenarios that vary the intensity of conservation and logging activities. The two bookend scenarios are:

- **Thinning and fire restoration scenario.** This scenario assesses the impact of continuing to manage the matrix lands in a manner similar to how they have been managed to date under the NW Forest Plan. It entails restoring the natural/pre-settlement fire regime, and allowing logging only to thin overstocked stands.
- **60-year rotation scenario.** This scenario assesses the impact of managing the matrix lands for industrial timber production, with a harvest rotation length of 60 years.

The analysis modeled the effects through 2100 on all components of carbon storage/release: live vegetation, dead vegetation and charcoal, soil carbon, and manufactured products derived from wood. The results for matrix lands in Oregon clearly show that continued conservation of the matrix lands would increase the amount of carbon stored, while industrial logging would reduce it and release CO₂ into the atmosphere. The published results of the research indicate that the simple average difference between the two scenarios is about four metric tonnes of CO₂ per

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We suggest that the thinning/fire restoration scenario (or something similar) be incorporated into a conservation alternative.

**Riparian Buffer Reductions**

We are concerned that all preliminary alternatives reduce riparian buffers by half, with varying degrees of "no-thin" buffers within them. We see no evidence that reducing buffers to this degree is scientifically justifiable or that BLM has produced any analysis that such buffer reductions will be protective of the values the buffers were designed to protect and enhance. Indeed, watershed analysis on federal forests managed under the Northwest Forest Plan have validated the efficacy of the existing two tree height buffers along fish bearing rivers and one tree-height for non-fish bearing streams for protecting aquatic and riparian values.

**Conservation Alternative**

Although we realize the list of alternatives is preliminary, we strongly encourage BLM to develop a truly conservation-focused alternative. Such an alternative would, at a minimum, maintain existing buffers in riparian reserves, create protection for drinking water source areas, prohibit harvest of old growth, manages for carbon sequestration and prioritizes road decommissioning in key watersheds.

Again, thank you for the opportunity to provide comments on the planning criteria for the RMP for western Oregon. I look forward to participating in the process and discussing these and other issues with you in the near future.

Sincerely,

Greg Haller,
Conservation Director
BLM Oregon
Attn: RMPs for Western Oregon Planning Team
1220 S.W. 3rd Avenue
Portland, OR 97204
BLM_OR_RMPs_WesternOregon@blm.gov

The Resource Management Plan (RMP) for Western Oregon will directly and significantly affect the Douglas Forest Protective Association (DFPA) and the landowners we serve. The DFPA is a non-profit corporation established under Oregon law for the purpose of providing fire protection to forest land. DFPA provides fire protection to all forestlands in the Douglas District including the Bureau of Land Management (BLM) and is part of the complete and coordinated protection system of the State of Oregon.

As District Manager of the Douglas Forest Protective Association I am submitting our comments to encourage the BLM to create an RMP that allows BLM managers the flexibility, pre and post fire, to both maintain and improve forest conditions on BLM lands. The condition of forest lands both pre and post fire has a significant impact on the ability of DFPA to provide an efficient and effective fire fighting on all forest lands including lands managed by the BLM. Post fire, it is critically important to implement land management activities to reduce and mitigate risk as soon as possible. Forest condition, especially after a large stand replacing fires can have significant impact to the safety of firefighters and the public. DFPA supports a plan that allows the BLM to take direct and timely action to provide a safe environment for firefighters, members of the public and forest workers in the future, while also reducing the potential for high severity large scale fires that have such a large and significant impact on the environment and the economy.

All landowners, private, state, and federal recognize that there is a shared risk of fire in the ownership of forest lands, this is especially significant in the checkerboard lands of southwestern Oregon. It is
imperative that all landowners take significant and timely actions to reduce the risk of large high severity fires in the future.

The following items should be considered by the BLM in their planning process and incorporated into the final RMP.

- Allow for maximum flexibility for managers to implement pre and post fire land management strategies (Fuels reduction and Snag removal) with an emphasis on safety and economic recovery.
- Allow for BLM to respond in a timely manner to catastrophic events such as large stand replacing fires.
- The final RMP should increase the efficiency of the BLM in implementing forest activities not decrease it.
- Allow for reducing hazards through methods such as prescribed burning, mechanical or manual manipulation of forest vegetation and debris, removal of forest vegetation and debris, and combinations of these methods.
- Allow for modification of fuel profiles in order to lower the potential of fire ignition and rate of spread; protect and support land allocation objectives by lowering the risk of high intensity, stand replacing wildfires.
- The plan should include options and requirements to reduce future risk of fire or insect damage.
- Retain and maintain existing developments, such as utility corridors and electronic sites.
- Consider how not maintaining existing roads and improving road infrastructure will negatively impact the ability to safely, efficiently and effectively control wildfires.
- Remove hazard trees along utility right-of-ways, roads and in other developed areas.

DFPA supports the BLM in developing a comprehensive and implementable plan that allows forest managers the flexibility to make timely decisions regarding pre and post fire fuels management.

Sincerely,

Melvin Thornton
District Manager
Douglas Forest Protective Association
Dear BLM RMP, Resource Management Planners,


2. Commercially thin trees 18 inches or smaller with “Stewardship” programs. Use local restoration businesses, such as “Lomakatsi” in Southern Oregon to thin old plantations.

3. Include fuels management thinning programs in the winter months, in and around urban residential BLM neighbors. Use local forest restoration businesses as contractors.

4. Use current scientific data on “Global Warming” & it’s effects in So. Oregon.

5. Continue to ban the use of herbicides on our public lands. Use manual labor and “goat contracts” to rid of noxious weeds.

6. Under the new proposal or range of alternatives, BLM no longer has to help endangered species to recover; they only have to avoid killing them off entirely. This is called “avoiding jeopardy”. Taking away habitat for Murrelets, Salmon, owls, red tree voles, Goshawks, and other Endangered or threatened species is criminally and morally wrong!

7. Do not log within 2 miles of road less areas, recreation areas, trails, wilderness areas, or campgrounds. The public loves Oregon forest and do not want to see heavy management activities in these areas.

8. Do not log wildlife corridors, especially near or around road less areas, wilderness or unentered forest. BLM must provide some old growth refuge within a landscape dominated by private land clear cuts & to connectivity/dispersal habitat that connects larger blocks of habitat on N.F. lands. Scientists concluded 12 years ago that endangered wildlife cannot be protected without adequate safeguards for old growth forest on BLM lands

9. By logging BLM lands of its old growth legacy trees, this brings down property values of private adjacent lands, it threatens the quality and amount of our pure drinking waters, it destroys reproduction lands for our wildlife to persist on. Follow the “Clean Water Act”, keep a 500 foot vegetation buffer on each side of every seasonal stream and river. Negative economical impacts happen for fishing, bird watching and hunting, due to loss of valuable forest habitat & stream habitat.

10. ORV “off road vehicles cause extreme erosion and soil sediment to our Salmon and Trout streams and rivers. As a BLM neighboring home, we do not want our peace and quiet destroyed nor do we want to see the animals of the forest disturbed by ORV’s roaring through our forest lands. BLM does not have a budget for extra security to enforce laws concerning ORV misuse of our public lands. Current enforcement is an ongoing problem; let’s not make our public lands into an ORV playground. We urge BLM to delete the Ferris Gulch Williams Applegate ORV area and any other proposed ORV areas.

11. Do not build new roads, we have enough roads. We want hunters and fisherman and women to be able to walk into the forest to enjoy their sports. No new roads helps connectivity for winter thermal cover for deer and helps protects endangered species.
12. Do not clear-cut, those days are over. Select cut in future thinning contracts, while leaving old growth legacy trees for endangered species habitat, such as the Spotted Owl.

13. Global warming has not been recognized nor analyzed by the BLM scientist in the WOPR. We urge you to continue managing our public forest with the NW Forest Clinton Plan in tact.

14. Update the 1872 mining law; based on current science, they are obsolete. Make it mandatory for all mining claimants to follow the “Clean Water Act, NEPA and the “ESA Act.

We look forward to hearing your response concerning issues. Thank you,

Mr. Daniel and Mrs. Claudia Beausoleil
4495 Cedar Flat Rd. – Williams, OR. 97544

e- mail= mediation.center@oigp.net
March 28, 2014

BLM Oregon
Attn: RMPs for Western Oregon Planning Team
1220 S.W. 3rd Avenue
Portland, OR 97204

E-mail: blm_or_rmps_westernoregon@blm.gov

Subject: Comments – Draft Planning Guidance Document, Resource Management Plans (RMPs) for Western Oregon

The Rocky Mountain Elk Foundation (RMEF) submits for consideration the following comments:

The RMEF believes the BLM must recognize and respond during this planning process to the decline in Roosevelt elk and black-tailed deer populations throughout western Oregon, and particularly on federal lands including those managed by the BLM. These two species are early seral obligates, dependent on early seral habitat for nutrition. Early seral habitat is declining in quantity and quality, and is well below its historical range of variability due to wildfire suppression and reduced forest harvest on federal lands.

In western Oregon deer and elk are but two of more than 150 species obligated to the early seral habitat type (O’Neil et al, 2001). It is likely that these other early seral obligates are in decline as well; a few are acknowledged as Bureau Sensitive Species.

The BLM objective of increasing timber production from O&C lands is entirely compatible with increasing the amount of early seral habitat across BLM managed lands in western Oregon, and increasing the carrying capacity for early seral obligated species.

Specific Comments regarding the Planning Criteria:

1. Wildlife

   a. Roosevelt elk, black-tailed deer and mule deer should be identified as focal species. These species are socially and economically important. Oregon Department of Fish and Wildlife (ODFW) reports their populations are in decline largely due to loss of early seral habitat. ODFW has species specific management plans and population Management Objectives for them, and annually estimates populations (ODFW, 2014 unpublished data; ODFW Elk, Mule Deer and Black-tailed Deer species management plans).
b. The Wildlife Analysis should be expanded to include Roosevelt elk, black-tailed deer and mule deer. Restricting the Wildlife Analysis to the few species proposed in the Planning Criteria document will not disclose or address the impact of the action alternatives on the vast majority of wildlife species present and affected. Analysis of elk and deer impacts will be representative for other species obligated to the same habitat. NEPA requires a full assessment of the affected environment.

c. The Westside Elk Nutrition and Habitat Use Models should be used to analyze each action alternative. These models are based on new science from the US Forest Services (USFS) Pacific Northwest Research Station. The Westside Elk Nutrition and Habitat Selection Models should be used to analyze each action alternative by decade – 0, 10, 20, 30, 40, 50 and 100 years. There is a letter from the BLM State Director indicating their use should be integrated in planning.

d. A letter from the BLM State Director indicating that their use should be integrated in planning is attached.

e. The existing Elk Habitat Management Areas in current RMPs should be retained and expanded. BLM staff should collaborate and cooperate with ODFW staff to establish elk and deer habitat management area overlays where appropriate across BLM managed lands and incorporate these in the new RMPs.

f. Standards and guidelines supporting elk and deer habitat management outside of designated elk and deer habitat management areas should also be present in the new RMPs.

2. Socioeconomics

The economic value of hunting, fishing and wildlife viewing services derived from BLM managed lands must be analyzed to ensure a clear understanding of their importance. These often undervalued recreational activities have deep roots in western culture and simultaneously produce a huge economic impact, particularly for rural economies. The ODFW published a document which should be very useful in developing the economic values for hunting, fishing and wildlife viewing service titled “Fishing, Hunting, Wildlife Viewing and Shell Fishing in Oregon – 2008 State and County Expenditure Estimates,” and is available at:

http://www.dfw.state.or.us/agency/docs/Report_5_6_09--Final%20(2).pdf.
3. Recreation

a. The Planning Criteria should be revised to fully address impacts upon hunting, fishing and wildlife viewing. The current guidance appears to be heavily weighted toward recreation facilities.

b. Public recreational access to BLM lands in western Oregon can be problematic due to the checkerboard ownership pattern and existing right of way agreements. Consider addressing measures to increase public access to BLM lands.

c. Provide guidance that if new off-highway vehicle recreation areas are established they avoid disturbance of critical wildlife habitat and establishment occurs only after consultation and cooperation with ODFW. (Montgomery et al, 2013)

4. Preliminary Alternatives

a. The Preliminary Alternatives for Analysis offered in the Planning Criteria seem designed to minimize the O&C timber harvest land base and limit the sustained yield harvest potential. The alternatives presented will constrain the economic benefit to the O&C counties and limit the opportunity for the BLM to provide a diversity of habitats and wildlife species on its lands.

b. The RMEF recommends development of an additional action alternative for analysis which maximizes the amount of land area in the O&C timber harvest base and provides the opportunity to employ the full range of silvicultural practices thereon in order to achieve the greatest sustained yield allowable timber sale quantity.


Section 2 of the attached Executive Order 13443 enumerates a number of actions the BLM should consider incorporating into the Planning Criteria and the subsequent EIS and RMP.

Founded in 1984, the RMEF is a national conservation organization with more than 203,000 members in 500 chapters across the country. The mission of RMEF is to ensure the future of elk, other wildlife, their habitat, and our hunting heritage. Our mission aligns with many aspects of the Bureau of Land Management mission, as we are both concerned with healthy forests and wildlife habitat. During the past 30 years the RMEF has helped protect and enhance more than 6.4 million acres of wildlife habitat, much of it
managed by the BLM. Maintaining and enhancing deer and elk habitat benefits a wide variety of big game, upland game birds, song birds, raptors, fur bearers and aquatic species. Hunting, fishing, wildlife viewing and outdoor recreation in general are part of our social fabric in the west and contribute significantly to local economies.

Thank you for the opportunity to comment.

Sincerely,

Blake Henning
Vice-President, Lands & Conservation

References:


ODFW, OREGON’S ELK MANAGEMENT PLAN, February 2003 http://www.dfw.state.or.us/wildlife/management_plans/docs/ElkPlanfinal.pdf

ODFW, OREGON BLACK-TAILED DEER MANAGEMENT PLAN, November 14, 2008 http://www.dfw.state.or.us/wildlife/docs/Oregon_Black-tailed_Deer_Management_Plan.pdf


Attachments:

Presidential Executive Order 13443 of August 16, 2007 – Facilitation of Hunting Heritage and Wildlife Conservation

Letter from R6 and Oregon District BLM directing use of Westside Elk Nutrition and Habitat Use Models
Executive Order 13443 of August 16, 2007

Facilitation of Hunting Heritage and Wildlife Conservation

By the authority vested in me as President by the Constitution and the laws of the United States of America, it is hereby ordered as follows:

Section 1. Purpose. The purpose of this order is to direct Federal agencies that have programs and activities that have a measurable effect on public land management, outdoor recreation, and wildlife management, including the Department of the Interior and the Department of Agriculture, to facilitate the expansion and enhancement of hunting opportunities and the management of game species and their habitat.

Sec. 2. Federal Activities. Federal agencies shall, consistent with agency missions:

(a) Evaluate the effect of agency actions on trends in hunting participation and, where appropriate to address declining trends, implement actions that expand and enhance hunting opportunities for the public;

(b) Consider the economic and recreational values of hunting in agency actions, as appropriate;

(c) Manage wildlife and wildlife habitats on public lands in a manner that expands and enhances hunting opportunities, including through the use of hunting in wildlife management planning;

(d) Work collaboratively with State governments to manage and conserve game species and their habitats in a manner that respects private property rights and State management authority over wildlife resources;

(e) Establish short and long term goals, in cooperation with State and tribal governments, and consistent with agency missions, to foster healthy and productive populations of game species and appropriate opportunities for the public to hunt those species;

(f) Ensure that agency plans and actions consider programs and recommendations of comprehensive planning efforts such as State Wildlife Action Plans, the North American Waterfowl Management Plan, and other range-wide management plans for big game and upland game birds;

(g) Seek the advice of State and tribal fish and wildlife agencies, and, as appropriate, consult with the Sporting Conservation Council and other organizations, with respect to the foregoing Federal activities.

Sec. 3. North American Wildlife Policy Conference. The Chairman of the Council on Environmental Quality (Chairman) shall, in coordination with the appropriate Federal agencies and in consultation with the Sporting Conservation Council and in cooperation with State and tribal fish and wildlife agencies and the public, convene not later than 1 year after the date of this order, and periodically thereafter at such times as the Chairman deems appropriate, a White House Conference on North American Wildlife Policy (Conference) to facilitate the exchange of information and advice relating to the means for achieving the goals of this order.

Sec. 4. Recreational Hunting and Wildlife Resource Conservation Plan. The Chairman shall prepare, consistent with applicable law and subject to the availability of appropriations, in coordination with the appropriate Federal agencies and in consultation with the Sporting Conservation Council, and in cooperation with State and tribal fish and wildlife agencies, not later
than 1 year following the conclusion of the Conference, a comprehensive Recreational Hunting and Wildlife Conservation Plan that incorporates existing and ongoing activities and sets forth a 10-year agenda for fulfilling the actions identified in section 2 of this order.

Sec. 5. Judicial Review. This order is not intended to, and does not, create any right, benefit, trust responsibility, or privilege, substantive or procedural, enforceable at law or in equity by any party against the United States, its departments, agencies, instrumentalities, or entities, its officers or employees, or any other person.

THE WHITE HOUSE,

[FR Doc. 07–4115
Filed 8–17–07; 10:46 am]
Billing code 3195–01–P
FS-Memorandum
EMS TRANSMISSION
BLM-Information Bulletin No. OR-2013-

To:  Forest Supervisors, Westside NF, Region 6
     District Managers, Westside BLM Districts, Oregon and Washington

Subject:  Westside Elk Model

The U.S. Forest Service’s (FS) Pacific Northwest Research Station (PNW) recently released two new landscape models that predict elk nutrition and habitat use across western Oregon. These models represent the best available information for evaluating elk habitat on Westside public and forest lands and should be considered in project and land use planning as appropriate.

The elk nutrition and elk habitat use models, reflect key elk research findings from the last twenty years, and will help managers evaluate the nutritional and habitat conditions of Westside landscapes and their likely use by elk. They also can be used to project the effects of land management activities, like road closures and thinning, on this ecologically and economically important ungulate. The models, which are combined in a single downloadable toolbox along with sample datasets, are available online at http://www.fs.fed.us/pnw/research/elk.

The models were developed and validated in collaboration with a wide range of partners including the Oregon Department of Fish and Wildlife; the Washington Department of Fish and Wildlife; the National Council for Air and Stream Improvement, Oregon State University, and over twenty other partners. In addition, the models were beta-tested for more than a year by biologists and technicians from a variety of agencies, including the FS and the Bureau of Land Management (BLM).

The modeling team will continue to offer training sessions and other technology transfer activities to help managers with efficient and timely application of the models. For general questions on the Westside elk models, please contact Todd Thompson (t1thomps@blm.gov) or Robert Alvarado (ralvarado@fs.fed.us). For technical assistance, please contact Barb Wales (bwales@fs.fed.us) or Lisa Renan (lrenan@fs.fed.us). For assistance with BLM National Environmental Policy Act (NEPA) and Land Use Planning, please contact Anne Boeder (aboeder@blm.gov) or, for Forest Plan Amendments, Michael Hampton (mhampton@fs.fed.us).

/s/  Kent P. Connaughton  
KENT P. CONNAUGHTON  
Regional Forester, Region 6  
USDA Forest Service

/s/  Jerome E. Perez  
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Bureau of Land Management  
Resource Management Plan for Western Oregon  
March 2014 Public Information and Input Sessions  

Public Comment Form  

Please note that the following comments will be recorded as official public comment as part of the National Environmental Policy Act official public comment period for BLM’s Resource Management Plan for Western Oregon Planning Criteria. General response to comments will be provided in the Draft Environmental Impact Statement. Thank you for your input!

Name: ________RICHARD ROGERS_____ Email: _____amhearingaidsystems.com__________________________  
Address: 1444 Elaine Way_______________City: ___Medford__________________________  
Phone #: ___(541) 681-0196_______ Organizational Affiliation: __Motorcycle Riders Association__  

I would like to be added to the RMP for Western Oregon mailing list: Yes x No  

Please use the space below to provide your comments on aspects of the Planning Criteria, draft Preliminary Alternatives, and/or today’s Public Session. Before including address, phone number, email-address, or any other personal identifying information in your comments, be advised that your entire comment, including personal identifying information, may be made publicly available at any time. While individuals may request that the BLM withhold personal identifying information from public view, the BLM cannot guarantee it will be able to do so. If you wish us to withhold your personal information you must state this prominently at the beginning of your comment. We will make all submissions from organizations or businesses available for public disclosure in their entirety.  

Additional comments on the draft Planning Criteria can be submitted until March 31, 2014.  

Visit the BLM RMP for Western Oregon website to submit comments  
(http://www.blm.gov/or/plans/rmpswesternoregon/)  

Recreational/OHV use and access to public lands needs much more consideration-you take away our land-that is wrong –give us our right to access back

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BALANCING WESTERN OREGON’S PUBLIC RESOURCES
March 26, 2014
Bureau of Land Mgmt.
Resource Management Plan Western Oregon

Subject: Public Comment on Western Oregon Resource Mgmt. Plan (RMP) – Recreation Planning Criteria

My comments and recommendations are specifically focused on the area known as Johns Peak/Timber Mt. in Southern Oregon between Grants Pass and Medford area in relation to the proposed Off-Highway Vehicle (OHV) Emphasis Area.

An OHV Park or Emphasis Area should be of significant size, contiguous lands, large enough so as to be able to close parts of it for restoration and resting the land while opening other areas. It should have camping where tourists with toy haulers can come and recreate which would boost local economies and provide a wonderful OHV experience. Where there is enough diversity to accommodate young new riders and experienced veterans alike. It should be in and accessed through areas that have minimal if any residential homes and private properties so as to avoid conflicts and accidents.

An example: 30,000 contiguous acres (possible partnership with US Forestry) divided into 3 separate sections of 10,000 acres each. Only one section would be open at a time and when the environmental impacts were taking a toll it would be closed, restored and allowed to rest while another section is opened for use. All three areas could utilize the same camping, parking and restroom facilities if designed that way at the onset.

The proposed Johns Peak/Timber Mt. area (especially Foots Crk., Galls Crk. & Birdseye Crk.) is totally unsuitable for such a designation given the checkerboard public/private ownership throughout the area with the lions share being private; 62% private and 38% public (non-continuous). Additionally, this area is literally surrounded on all sides by vibrant and growing residential communities. It is the natural progression of growth between the cities of Grants Pass and Medford along the I-5 corridor. This area was designated as an OHV area in the 1995 Medford District RMP completely bypassing the Public Process, without any definition of where or what it was, without maps and without any meaningful notice to potentially impacted communities. One sentence (42 letters – not words) in a huge WOPR set this disaster in motion and it is a serious error with far reaching implications. Coincidentally, the BLM Employee who did this is now in charge of the ATV Fund at Oregon State Parks and Recreation and repeatedly involved with BLM in this OHV plan including the 9 month long BLM mediation process in 2012.

For over a decade, thousands of residents in numerous communities have been battling this ill-conceived OHV Plan. During this time the BLM has been promoting the area for OHV use online and in brochures before any meaningful Public Process and that has caused a decade of conflicts between residents and OHVs. We have written a mountain of letters, presented data on the long list of negative impacts to the communities and the sensitive watershed and environmental issues. We have presented a petition with over 1,300 signatures of resident land owners (registered voters) from in and around Johns Peak/Timber Mt. and none of it has been included in your planning criteria or in your new 4 Alternative choices.

We demand that the last 10 years of resident submitted data to BLM on noise, fire, sensitive streams, granitic soils, wildlife, environmental issues, resident letters, petitions from those impacted in and around Johns Peak/Timber Mountain area and all submitted data provided at the BLM’s Mediation Process in 2012, all be included into the BLM 2014 Resource Management Planning Criteria and that an additional Alternative be included removing the OHV Designation from Johns Peak Timber Mountain in Western Oregon.
If any BLM employee operates OHV’s or has any affiliation with any OHV organization they should be excused from this process and any input they have made disregarded.

We officially request the Bureau of Land Management to remove the 1995 RMP OHV Designation from Johns Peak/ Timber Mountain in Southern Oregon as it violated 43 CFR 8342.2a “Public Participation”: Prior to making designations or re-designations, the authorized officer shall consult with interested user groups, Federal, State, county and local agencies, local landowners, and other parties in a manner that provides an opportunity for the public to express itself and have its views given consideration.

Additionally we request the BLM planning criteria for the Western Oregon RMP include a review of current and proposed OHV areas by applying "43 CFR 8342.1, Designation criteria," to all OHV areas, either formally or informally designated since 1972 when President Nixon's Executive Order on this topic was issued."

The Federal Land Policy and Management Act (FLPMA) Designation Criteria States:

The authorized officer shall designate all public lands as either open, limited, or closed to off-road vehicles. All designations shall be based on the protection of the resources of the public lands, the promotion of the safety of all the users of the public lands, and the minimization of conflicts among various uses of the public lands; and in accordance with the following criteria:

(a) Areas and trails shall be located to minimize damage to soil, watershed, vegetation, air, or other resources of the public lands, and to prevent impairment of wilderness suitability.

(b) Areas and trails shall be located to minimize harassment of wildlife or significant disruption of wildlife habitats. Special attention will be given to protect endangered or threatened species and their habitats.

(c) Areas and trails shall be located to minimize conflicts between off-road vehicle use and other existing or proposed recreational uses of the same or neighboring public lands, and to ensure the compatibility of such uses with existing conditions in populated areas, taking into account noise and other factors.

(d) Areas and trails shall not be located in officially designated wilderness areas or primitive areas. Areas and trails shall be located in natural areas only if the authorized officer determines that off-road vehicle use in such locations will not adversely affect their natural, esthetic, scenic, or other values for which such areas are established.

Impacts to surrounding residential communities:

Noise: The noise of OHV's buzzing in the hills around numerous quiet bedroom communities would destroy the quality of life for thousands of families. Instead of hearing birds and bubbling creeks residents would hear the constant buzzing of OHVs and that is something we cannot and will not live with. Many of these areas have ambient sound levels of 25 decibels to 40 decibels and all readings were taken from the road not up on the more quiet hillsides - see attached readings & WSJ article. OHVs can legally emit up to 99 decibels under Oregon State Law with more than a few exceeding that level. Add to that the echo chamber of the canyons and this would have a tremendous negative impact on surrounding residents. In our business OSHA requires us to provide constant sound monitoring in an active power plant and if the ambient readings exceed 85 decibels special hearing protection must be provided for our employees. Is this what the BLM intends to provide for all of the surrounding and intermixed communities?
Safety & Health concerns; Noise pollution is unwanted human-created sound that has the effect of being annoying, distracting, painful, or physically harmful. People exposed to noise pollution suffer from hearing loss, sleep deprivation, chronic fatigue, anxiety, hostility, depression and hypertension. World Health Organization, National Institutes of Health, United Nations and numerous scientific and medical publications recognize noise pollution and its deleterious effects.

The intense sound caused by OHVs easily triggers an involuntary stress response commonly known as "fight or flight." This results in the secretion of adrenaline, with ensuing spikes in cardio-respiratory rates, muscle tension, and elevated blood pressure. Vibroacoustic Disease is a cumulative and chronic disease caused by exposure to infrasound. Infrasound is low frequency sound energy that affects the nervous system and prolonged exposure can lead to progressive medical conditions.

**Increased Threat of Fire:** While it’s true there have been improvements to exhaust systems to try to prevent fires from happening, they still do happen with some regularity and there is documentation to support this claim from this area. When you increase the number of people on OHVs in the surrounding hills you also increase the risk of starting a fire. The Oregon Dept. of Forestry has designated this entire area as an "Extreme" fire danger area. Our community has worked tirelessly every year for a decade with ODF, the Seven Basins Watershed Council, local Fire Depts., and SOU Ext. Office to create Community Fire & Emergency Plans, to reduce ladder fuels, to educate residents on safe fire practices, create phone and email trees and collect resident fire surveys etc. This entire effort is for not if the BLM goes through with this OHV plan at Johns Peak/Timber MT.. It won’t matter where the fire starts because of the many communities around and throughout the area, someone's community will burn, homes will be lost and God forbid lives would be lost. We take this issue very seriously because we live with it each and every day of every year. **See attached fire history for the Foots Creek Basin and Seven Basins Watershed.**

**Trespassing and Property Damage:** Due to the checkerboard ownership of this area there is no way to avoid this problem because it is the wrong area for OHV activity. The conflicts with OHV users has been growing steadily over the past 5 years and we feel this is directly attributed to the BLM's promotion of the site as an OHV Emphasis Area on maps, on their web site, through their partnership with the MRA and through Oregon State Parks maps and web site. All this before an EIS or the public process has taken place. The BLM then proclaims that they can't manage the very issues they created unless it is an OHV Emphasis area. Most disturbing was the discovery the BLM was directing OHV users on their web site to use my street (Foots Creek Road) as an access road to the OHV area when there is no legal access to public lands from Foots Creek Road thereby creating numerous conflicts with residents. Before we knew this we called the Medford BLM to ask why all these OHV users were coming up our road they said "they had no idea and no control of who used public roads". This is not how I would expect a Federal Agency to conduct business. Further it is a mandate of the BLM to do whatever they have to do to avoid creating conflicts, a mandate that was clearly violated.

Most of us have already had clashes and conflicts with trespassing OHV users. They have cut down trees to make illegal trails, lit bon-fires even using the "No Fires Permitted" signs as fuel, dumped trash, torn down No Trespassing signs, started grass fires, cut fences, torn down gates, been abusive to residents, drive recklessly on our roads endangering families, children and horse riders. One of the largest land owners at Johns Peak/Timber Mt., a timber company, has had to replace over 200 gates that were torn down and destroyed by OHV users all of which is verifiable and documented. Unless BLM intends to fund an army of full time enforcement officers in each community surrounding this area from all directions full time then it is an unmanageable situation at best. Additionally funds would have to include additional firefighting manpower and equipment. This is not the right place for an OHV Emphasis Area and at the very least BLM should remove the Foots Creek, Birdseye Creek, Galls Creek and surrounding areas and ridges from the OHV Emphasis area including modifying maps and web
Financial Impacts to Private Property Owners: I have spoken with real estate Brokers that have practiced here in the Rogue Valley for over 24 years. The mere consideration of our communities being included as a potential OHV Emphasis Area is already having a negative impact. Property owners are required to disclose any known potential impacts about the properties for sale and when buyers hear of this potential OHV Park they are simply not interested in buying in this areas causing our properties to become less appealing and ergo less valuable. Should this inappropriate OHV plan be allowed to continue, its effects on the market will without doubt be extremely negative to what degree we can only imagine. This also pertains to communities that are used as pass through to access an OHV area. The BLM can be fairly certain that this will be one of the leading issues for litigation (among others) if this plan persists. There are over 1000 residents on Foots Creek Road alone. Now consider the many other residential communities surrounding and mixed throughout this area, this is a lot of angry property owners.

Personal Safety Issues: With over 1000 residents on Foots Creek the traffic is already extremely high. The OHV users will add a large threat to people simply trying to cross the road to check the mail, visit a neighbor or enjoy our community. Most of us run livestock and the added traffic and noise will cause stress on the animals resulting in lost, injured or killed livestock. Who is going to police them and pay for the inevitable loss of life and property? The OHV users won't, they could not care less about us or our community as long as they get their way. They are willing to damage our way of life to have a little fun tearing up the forest. I ride quads but I go where there are existing roads because as a Medford native, our forest lands are more important than having fun on a trail. Also who is going to clean up the trash that gets thrown out the window as they drive up Foots Creek because it will happen. I for one will set up cameras to capture license plates and turn every one of them in to the sheriff and when they speed past my farm I will call the police to slow them down. This is not being taken lightly as it is impacting our lives in a negative way.

Environmental Issues: In the Foots Creek Basin alone there are identified rare plants, what may be the last refuge for the suspected extinct Franklin bumblebees and the rare Occidentalis. We have bioluminescent arthropods that have yet to be identified as "known" species by SOU entomologists.

The Middle Rogue Watershed consists of 6 Salmon Spawning Tributaries that feed the Rogue River; Foots Creek, Galls Creek, Birdseye Creek, Kane Creek, Sams Creek and Sardine Creek as identified by the Oregon Dept. of Fish and Wildlife and all have been documented annually for 40 years. Most of these are listed as 303D Sensitive Streams. Four of the six sensitive tributaries in the Middle Rogue Watershed are included in BLMs proposed Johns Peak/Timber Mt. OHV Emphasis Area and all have issues with granitic soils from hydraulic mining.

These sensitive tributaries are "each" fed by hundreds of feeder springs like a network of veins across the hillsides that would be negatively impacted by OHV activity. Rains will wash soils into the feeder and main streams which would cause serious damage to Salmon Spawning. According to the Assistant District Fish Biologist at ODFW, Foots Creek produces the highest density of spawning Summer Steelhead Redds of anywhere in the entire Rogue River Basin. See attached data.

Recommendation: remove Foots Creek, Birdseye Creek, Galls Creek and Kane Creek and surrounding canyons from the proposed OHV Emphasis Area to protect dwindling steelhead spawning habitat or remove the OHV Designation for Johns Peak Timber Mountain area in total.

Wildlife Issues: I have already mentioned the smaller creatures but there are also bears, cougars, coyotes, fox, and a host of others that will be negatively impacted by OHV use in this area. We have endured through human/wildlife conflicts with cougars and those conflicts increase when they are
driven down into the communities to hunt for food and water. Deer and Elk will move away from the OHV areas driving them into residential areas which will also bring with it the predators that depend on that food source to survive. In Spring (high OHV activity) larger animals will move their young to avoid being near OHV areas and if all the hills are OHV areas where are they supposed to go?

We have lived with the impacts of having cougars moving down into the valleys before where we experienced a total of 24 attacks and 17 kills of pets and livestock (documented) in a 90 day period. We had children being stalked when they got off the school bus to walk home. Our concerns are real, genuine and based in fact not some data table from another county.

According to ODFW: **Impacts to Big Game.** Several studies document the impacts of motorized vehicle use to big game habitat (Rowland et al. 2000, Wisdom et al. 2004, Rowland et al. 2005, Naylor 2006, Wisdom 2007). Increased hunter demand, numbers of roads, and hunter access increase deer and elk vulnerability and result in reduced hunter opportunity in order to maintain bull/buck ratios at management objective levels specified in Oregon’s deer and elk management plans (ODFW 2003a, ODFW 2003b, ODFW 2008). Mixing biological and social considerations becomes very difficult, especially when Oregon deer and elk hunters express desire for more bucks/bulls and less crowded hunting conditions. The winter period is an especially stressful time of year for big game. Human disturbances, such as OHV use in big game winter range can result in animals using fat reserves needed for survival. In addition, increased unregulated vehicle traffic on public land can cause big game to seek security on private lands (Wertz et al. 2001). Often this may result in increased damage issues for landowners and reduced opportunity for public land hunters.

Additionally **Endangered Spotted Owls have been found in the Foots Creek Basin area by independent Timber resources.**

**Recommendation:** The BLM review these studies and similar science related to OHV activity as it applies to the designation of OHV Emphasis Areas and under "43 § 8342.1, Designation criteria.

**Motorized vs. Non-Motorized Recreation:** The hills around the Foots Creek, Birdseye Creek and Galls Basins have been historically used for horseback riding, hunting, hiking, and birding since statehood and long before OHVs came along (despite their claims). This is easily verified as many of the original family homesteaders heirs still live here. All of these non-motorized recreational uses can co-exist with each other but not within an OHV Emphasis Area. An OHV Emphasis area operates to the exclusion of all of these others historic forms of recreation in this area. These non-motorized forms of recreation do not have the negative impacts on the environment and to the thousands of families that reside here unlike the OHVs. The BLM has proclaimed an All or Nothing scenario with their misguided concept of an OHV Emphasis Area at Johns Peak/Timber Mt. and therefore to protect our quality of life, our environment, and the value of our homes we will continue to fight to remove our areas from this OHV designation.

**Law Enforcement:** There is very little enforcement for OHV use currently. One of the issues is OHV users trespassing or causing other problems (reckless driving etc). By the time the Sheriff arrives the perpetrator is long gone. There are no license plates on OHVs for identification, no active patrols (at least in our area), too many areas and ways they can escape to avoid being caught. Nobody knows who to call for help, if they call the Sheriff (whose resources are already over taxed) it takes too long to arrive, if they call BLM nobody shows up at all. These are all issues we are dealing with currently and in large part due to the BLM promoting the area for OHV use in an area with no legal access to BLM.

We have gathered all of the "available" BLM Enforcement Officers data and the Jackson County Sheriffs data and it weighs heavily on calls to the Sheriff’s office with the BLM officer doing mainly tag enforcement and not much of that. **The Jackson County Sheriff Mike Winters agrees that Johns**
Peak/Timber Mt. is not the right place for an OHV Emphasis Area due to its geography, intermixed private properties, surrounded by growing communities, and lack of manpower and funds to maintain reasonable enforcement. Add to this the extra expenses to the County budget for Search and Rescue Operations, helicopters, officers, medical etc.. It makes no economic sense and the BLM should be considering a more suitable location for an OHV area that could be more easily managed and enforced with fewer resources, more reasonable costs and the reduction of conflicts with area residents.

The extreme noise pollution from OHV's would have to be constantly monitored for all of these communities in and throughout Johns Peak/Timber Mt. add to this the enforcement issues of OHVs that violate the rules and the additional costs for manpower. The cost to accomplish this effectively is unrealistic and fiscally irresponsible.

In Closing: I ask the BLM for myself, my family and my community to please do the right and honorable thing and lets find an OHV area that makes sense, one we can all support, other than the Johns Peak/Timber Mt. proposed OHV Emphasis area. At the very least please remove Foots Creek Basin, Birdseye Creek area and Galls Creek Basin from your OHV designation and plans. Privately owned acreage far exceeds the BLM's scattered ownership at Johns Peak/Timber Mt. yet the BLM seems hell bent to force the OHV Emphasis Area even though it harms thousands and only benefits a single special interest group.

We can’t choose any of your 4 new alternatives as none of them include the prior 10 years of data nor do they remove this OHV Designation and we will not support something that will create untold conflicts, diminish our quality of life, negatively impact our property values and will likely result in a catastrophic fire that will cost people their homes and God forbid cost lives.

If all BLM lands in So. Oregon are a checkerboard with private property and no other alternatives exist then perhaps a partnership with Forest Service lands could make it possible or the realization that this area cannot support an OHV Emphasis Area for this particular and single form of high impact recreation.

Respectfully,

Richard Hart
135 Foots Creek Road
Gold Hill, OR 97525
541-601-7459

My Background:
A Native of the Rogue Valley and resident for 55 years,
Phoenix High School graduate, attended SOSC,
Married 40 years and raised 2 children both graduating from Phoenix High School
A resident of the Foots Creek Community and So. Oregon Business owner for over 5 years,
A Manager for a Fortune 100 company for 20 years,
Managed several supermarkets in Southern Oregon over a 15 year period
Avid hunter, fisherman and hiker.
Taxpayer for 46 years
Public Comment Form

Please note that the following comments will be recorded as official public comment as part of the National Environmental Policy Act official public comment period for BLM’s Resource Management Plan for Western Oregon Planning Criteria. General response to comments will be provided in the Draft Environmental Impact Statement. Thank you for your input!

Name: ________RICHARD HART____ Email: ______hartstractor1@yahoo.com________

Address: 135 Foots Creek Rd____________City: __Gold Hill________________________

Phone #: __(541) 601-7459________ Organizational Affiliation: _______________________

I would like to be added to the RMP for Western Oregon mailing list: Yes x No

Please use the space below to provide your comments on aspects of the Planning Criteria, draft Preliminary Alternatives, and/or today’s Public Session. Before including address, phone number, email-address, or any other personal identifying information in your comments, be advised that your entire comment, including personal identifying information, may be made publicly available at any time. While individuals may request that the BLM withhold personal identifying information from public view, the BLM cannot guarantee it will be able to do so. If you wish us to withhold your personal information you must state this prominently at the beginning of your comment. We will make all submissions from organizations or businesses available for public disclosure in their entirety.

Additional comments on the draft Planning Criteria can be submitted until March 31, 2014.

Visit the BLM RMP for Western Oregon website to submit comments (http://www.blm.gov/or/plans/rmpswesternoregon/)

I am strongly opposed to any access to any trail system whether it be motorized or non-motorized in the Foots Creek area. We have a high traffic count as it is and any additional is a danger to people and livestock, not to mention wildlife & the increase in fire danger. We do not want our community invaded by people that do not live in our great area.

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________
Your feedback is important to us – thank you in advance for sharing your thoughts!
Please use this form to provide feedback on your experience in the public listening session.

The purpose of today’s listening session was:
1) To share with the public the overall Resource Management Plan process: What are each of the planning documents and how are they used by BLM? What are the ‘alternatives’ and how are they used? How can the public engage? Who makes the final decision and how?
2) To gather public input about whether the spectrum of Preliminary Alternatives is comprehensive or whether BLM should consider additional alternatives.

How useful were the following? Not Somewhat Extremely
Useful Useful Useful
1…………2……….3……….4……….5

BLM & Planning Process Overview from the District Manager
Overview of Planning Criteria & Next Steps from Project Manager
Videos on Purpose and Need & Preliminary Alternatives
Interactive Small Group Discussions
1…………2……….3……….4……….5

1. Overall, what do you feel was most valuable about this session and why?
   Opportunity to get involved in the planning process early

2. What suggestions would you have for improving the next public outreach effort?
   Small group control inappropriate comments which took up most of the recreation session and prevented meaningful input from being offered.

3. Was there enough opportunity for you to: Yes No
   Ask questions? ___ x_
   Express your views? ___ x_
   Learn from others? ___ x_
   Engage in useful dialogue? ___ x_
   Have your input acknowledged? ___ x_
   “yes” to first two in Large group

4. Is there anything else you would like us to know?
   Yes, that the recreation section facilitator did not facilitate or control I believe she was from the Bend area.
August 25, 2010

Abbie Jossie, Field Manager
Medford District Grants Pass Resource Area
USDI Bureau of Land Management
2164 N.E. Spalding
Grants Pass, Oregon 97526

Regarding: Reelfoot Placer Mining Plan of Operations

Dear Ms. Jossie:

The Siskiyou Project recommends that you deny the Plan of Operation and pursue mineral withdrawal. The RMP (p.80) states that “[m]ineral withdrawals will be pursued for all sites with significant capital improvements such as administrative sites, reaches of streams with improvements and developed recreation sites following initiation of the investment;” (emphasis added). Mining damage to streams and Riparian Reserves (this PoO and previous NOIs) creates a need for expensive restoration/reclamation projects that are inferior to original habitat. BLM has spent considerable time and money restoring this reach of stream from previous mining impacts and further restoration/reclamation costs are likely. A mineral withdrawal would create a higher standard for implementation of PoOs and likely eliminate: senseless destruction of Riparian Reserves (Forest Service Tracy Placer, Tracy BLM NOI, Bean BLM NOI), costly restoration, costly environmental analysis, and lost coho production when operator removes artificial habitat provided for coho salmon or degrades existing habitat. This PoO cannot meet several Aquatic Conservation Strategy objectives and the operator is not likely to acquire required state water quality permits. These facts strongly suggest that the prudent course of action in the public’s interest is to withdraw this area from mineral entry (i.e. at least all Riparian Reserves in Section 1).
Photo 1. Approximately 500 cubic yards were excavated near where Johnson Gulch joins Sucker Creek ca July 2010. Approximately 2 acres of riparian vegetation in a riparian reserve was destroyed with road construction, pits, tailings and berms. These pits have been excavated below the bed elevation of Sucker Creek which is about 40 ft behind the photo point.

UTM 10 N:4663168;E:460872 NAD 27
Photo 2. A 8ft high berm now restricts floodplain inundation during floods. Sucker Creek has been “diked” to prevent natural flood flows from entering mined area which is located entirely on the “2 year” floodplain.

I am providing the following comments on behalf of the Siskiyou Project, Klamath Siskiyou Wildlands Center, and Oregon Wild.

1. Please incorporate into the planning records the letter to you from R. Nawa dated August 23 which documented placer mining and road building at this site.
2. The BLM must acknowledge in the process records that Mr. Bean failed to obtain permits from Department of State Lands and Department of Geology and Mining Industries prior to mining and road building on BLM land ca July 2010. The size of mined area and activity on 2 year floodplain would appear to require permits.
3. The BLM must acknowledge in the process records that Mr. Bean failed to contact the Oregon Department of Fish and Wildlife and failed to contact the National Marine Fisheries Service to obtain recommendations of how to protect critical coho salmon habitat prior to mining and road building on BLM land ca July 2010.
4. Further placer mining at the site as described in the POO cannot be legally implemented because it is unlikely that Mr. Bean can acquire required state and federal permits to mine as described.
5. Further placer mining at the site as described in the POO cannot be legally implemented because it is unlikely that an alternative can be developed that would meet Aquatic Conservation Strategy objectives.
6. The BLM failed to monitor anticipated NOI mining at the site. An NOI was submitted April 14, 2005 and this expected mining was mentioned in Tracy Placer EA.
7. The BLM’s July 27, 2010 letter failed to fully disclose to the public the nature and magnitude of mining and road building that had occurred or was occurring at the site ca July 2010 (Photo 1). This is a serious violation of the public trust and “full disclosure” mandates of NEPA.

8. BLM apparently failed to notify responsible state and federal officials to investigate likely federal and state law violations. In other words it appears the BLM colluded with the miner or was acquiescent in allowing the purported NOI mining and road building to occur. For example, the BLM continues to assert no violation of BLM mining regulations have occurred as if the 1872 mining law is the only controlling legal standard. This is a serious breach of public trust and the BLM must demonstrate with actions that they fully support all federal and state laws which protect water quality, riparian reserves, and critical coho salmon habitat. No BLM mining regulation allows water quality to be placed in unnecessary jeopardy to meet the whims of a miner.

9. A backhoe on the site must be removed. The oil contaminated soils beneath this backhoe must be properly disposed as a hazardous material. Public lands along Sucker Creek must be made safe for water contact recreation by families with children. It must not be despoiled as an industrial mining site.

10. The road leading to the site from private land must be gated. Vehicle access must be strictly controlled by BLM and private land owner.

11. The ponds must be marked as hazardous to swimming as the potential exists for drowning because of steep sides and depths over 5ft.

12. The BLM must immediately begin reclamation planning with fish and wildlife habitat managing agencies to prevent serious degradation and erosion that will result from the mining pits, tailings, road, and berm (Photo 2). At a minimum the berm must be removed to allow natural overbank flooding and the upstream edges of the pits armored to prevent upstream erosion when flooding occurs into the pits. Potential exists for Sucker Creek to capture the pits and change its course because pits have been mined to below the streambed elevation of Sucker Creek. The road fill at the unnamed stream must be removed. Please inform me of reclamation plans as I would want to offer my expertise on this issue. The BLM must not abdicate its responsibility to the operator.

13. The baseline for environmental analysis is the pre-mined, pre July 2010 condition.

14. And EIS is needed due to significant cumulative impacts and likely illegal impacts that occurred ca July 2010. Cumulative impacts in this reach of Sucker Creek are significant. Public controversy adds to the need for an EIS. The operator’s alternative would likely be shown to violate state and federal laws protective of coho salmon habitat and water quality.

15. Connected Actions

The Notice of Intent mining activity ca 2010 and future Reelfoot Plan of Operation mining must be considered connected actions with respect to the National Environmental Policy Act, even though they may be treated separately under BLM mining regulations. The BLM must not analyze the mining impacts of the two mining activities separately so as to diminish cumulative impacts over space and time. The BLM must not reach a “finding of no significant impact” by separating the NOI mining activities ca July 2010 from the PoO mining actions. An obvious basis for connecting the mining actions is that the same water body (Sucker Creek) is being affected by the same activity (mining) by the same person (Mr. Bean). Significant mining damage to floodplains has already occurred from
assumed NOI unpermitted mining and the additional PoO mining would certainly trigger the need for an Environmental Impact Statement. Although mining regulations for BLM lands are lenient for casual mining and grossly permissive for NOI mining, this does not excuse the agency from full disclosure of significant impacts with an Environmental Impact Statement when the threshold for significance has been exceeded by multiple mining actions and triggered by the need for environmental analysis of a PoO.

16. Water Quality/Fish

Water quality is currently threatened by allowing petroleum leaking mining equipment to be stored on Sucker Creek floodplains where a large flood or even a bankfull event could cause water pollution. The access road has filled a wetland and during floods would erode sediment directly into Sucker Creek. Dust will increase fines in Sucker Creek that reduce salmon egg survival. Vegetation that once shaded the stream has been destroyed. Berms would prevent natural flooding and increase stream scour detrimental to incubating coho salmon eggs. Pits are likely to cause undesirable pit capture by Sucker Creek leading to degraded salmon habitat. Fish will be stranded in the unnatural pits.

17. Wetlands.

BLM has failed to identify wetlands at this site associated with Sucker Creek, Johnson Gulch and an unnamed tributary. Johnson Gulch wetlands has been destroyed by mining pits and unnamed tributary filled with rock for the access road.

18. Riparian Vegetation

Riparian vegetation crucial to wetland function has been destroyed on at least 2 acres. Further loss of riparian vegetation retards recovery of the Riparian Reserve and violates the Aquatic Conservation Strategy.

19. Agency Coordination/Permits

The Northwest Forest Plan requires coordination between agencies One would reasonably expect the BLM to be in communication with the Oregon Department of Fish and Wildlife, Department of State Lands, Oregon Department of Environmental Quality, and National Marine Fisheries about anticipated NOI mining and PoO mining. Regardless of differences in mining regulations among agencies, you must coordinate with relevant agencies such as Oregon Department of Environmental Quality, Department of State Lands, Department of Geology and Mines and US Army Corps of Engineers. Simply expecting the miner to do this is grossly negligent.

20. Recreation Loss

Due to the presence of mining equipment, noise, dust, and anticipated devastation, all recreation opportunities such as camping, swimming, and nature study will be eliminated temporarily and greatly degraded in the long term.
21. Public Controversy
Public controversy is high because of repeated illegal mining and disregard for agency
permitting process. We request the BLM provide the public an opportunity to visit Sucker
Creek with the BLM to learn what the issues are so that they can provide substantive and
site specific comments as you request.

Sincerely

Richard K. Nawa
Staff Ecologist
Siskiyou Project
950 SW 6th
Grants Pass, Oregon 97526

George Sexton
Klamath Siskiyou Wildlands Center
PO Box 102
Ashland, OR 97520

Doug Heiken
Oregon Wild
POB 1168
Eugene, Oregon 97440
August 23, 2010

Abbie Jossie, Field Manager
Medford District Grants Pass Resource Area
USDI Bureau of Land Management
2164 N.E. Spalding
Grants Pass, Oregon 97526

Re: Reelfoot Placer Mine in Josephine Co.

Dear Ms. Jossie

I am requesting the BLM to investigate what appears to be serious unauthorized mining on BLM lands adjacent Sucker Creek in Josephine County (T. 40S.; R.7W.; Sec. 1 NW1/4; Fig1). This mining is similar to the unauthorized mining about 3 miles upstream on US Forest Service lands (Tracy Placer). I discovered this very recent mining and road building on August 20. An estimated 500 cubic yards of alluvium has been excavated from a wetland (Johnson Gulch) and replaced with 2 pond (Fig 2). An estimated 170 ft long berm has been placed adjacent Sucker Creek. The berm would restrict floodplain function (i.e. overbanking onto floodplain; Fig 3). New coarse rock has been placed in Sucker Creek to provide for wet water crossing for heavy mining machinery (Fig 4) and riparian vegetation removed (Fig 5). An unnamed channel has been filled with coarse rock and riparian vegetation destroyed for about 40 ft (Fig 6). Approximately 1/2 mile of new road has been constructed or reconstructed on BLM lands within a Riparian Reserve. I am very concerned that operators may begin discharging mining wastes into Sucker Creek. Please inform me about the following:

- Which federal laws or regulations under your jurisdiction been violated?
- How can further violations (e.g, discharge into Sucker Creek) be prevented?
- What do you recommend be done to restore desired groundwater storage, wetland function, floodplain function, and riparian habitat?
- Who is responsible for restoration?

Sincerely

Richard K. Nawa
Staff Ecologist

Enc: map and 5 photos
Fig. 1. Map illustrating location of recently excavate mining pits, berm, and new road.
Fig. 2. Two recently excavated mining pits have obliterated Johnson Gulch where it once flowed across the Sucker Creek floodplain. A backhoe can be seen between the two mounds. An estimated 500 cubic yards has been removed. 8/20/10

Fig. 3. An estimated 170 ft long berm has been placed within 30 ft of Sucker Creek, which has restricted flood flows, increased streambed scour, and reduced potential for development of side channels important to coho.
Fig 4. Rock was placed in Sucker Creek for motorized wet stream crossing and riparian vegetation removed.

Fig 5. Riparian vegetation removed from Sucker Creek at wet stream crossing.

Fig 6. Road construction with no culverts. Road fill of coarse rock destroyed a portion of an unnamed channel supporting willow vegetation. Winter flows will erode this fill into Sucker Creek.
DEPARTMENT OF THE INTERIOR
Fish and Wildlife Service

50 CFR Part 17

Endangered and Threatened Wildlife
and Plants; 12-Month Finding on a
Petition To List a Distinct Population
Segment of the Red Tree Vole as
Endangered or Threatened

AGENCY: Fish and Wildlife Service, Interior.

ACTION: Notice of 12-month petition finding.

SUMMARY: We, the U.S. Fish and Wildlife Service (Service), announce a 12-month finding on a petition to list a distinct population segment of the red tree vole (Arborimus longicaudus) as endangered or threatened and to designate critical habitat under the Endangered Species Act of 1973, as amended (Act). The Petition provided three listing options for the Service to consider: Listing the dusky tree vole subspecies throughout its range; listing the North Oregon Coast population of the red tree vole (Arborimus longicaudus) as a distinct population segment (DPS); or listing the red tree vole because it is endangered or threatened in a significant portion of its range.

After review of the best available scientific and commercial information, we have determined that listing the North Oregon Coast population of the red tree vole as a DPS is warranted. However, the development of a proposed listing rule is precluded by higher priority actions to amend the Lists of Endangered and Threatened Wildlife and Plants. Upon publication of this 12-month petition finding, we will add this DPS of the red tree vole to our candidate species list. We will develop a proposed rule to list this DPS of the red tree vole as our priorities allow. We will make any determination on critical habitat during development of the proposed listing rule. In any interim period, we will address the status of the candidate taxon through our annual Candidate Notice of Review (CNOR).

DATES: This finding was made on October 13, 2011.

ADDRESSES: This finding is available on the Internet at http://www.regulations.gov. Supporting documentation we used in preparing this finding is available for public inspection, by appointment, during normal business hours at the U.S. Fish and Wildlife Service, Oregon Fish and Wildlife Office, 2600 S.E. 98th Ave., Suite 100, Portland, OR 97266; telephone 503–231–6179; facsimile 503–231–6195. Please submit any new information, materials, comments, or questions concerning this finding to the above street address.

FOR FURTHER INFORMATION CONTACT: Paul Henson, Ph.D., Field Supervisor, U.S. Fish and Wildlife Service, Oregon Fish and Wildlife Office (see ADDRESSES section). If you use a telecommunications device for the deaf (TDD), call the Federal Information Relay Service (FIRS) at 800–877–8339.

SUPPLEMENTARY INFORMATION:

Background

Section 4(b)(3)(B) of the Endangered Species Act (Act) (16 U.S.C. 1531 et seq.) requires that, for any petition to revise the Federal Lists of Endangered and Threatened Wildlife and Plants that contains substantial scientific and commercial information indicating that listing may be warranted, we make a finding within 12 months of the date of receipt of the petition on whether the petitioned action is: (1) Not warranted; (2) warranted; or (3) warranted, but the immediate proposal of a regulation implementing the petitioned action is precluded by other pending proposals to determine whether species are endangered or threatened, and expeditious progress is being made to add or remove qualified species from the Federal Lists of Endangered and Threatened Wildlife and Plants. Section 4(b)(3)(C) of the Act requires that we treat a petition for which the requested action is found to be warranted but precluded as though resubmitted on the date of such finding; that is, requiring a subsequent finding to be made within 12 months. We must publish these 12-month findings in the Federal Register.

Previous Federal Actions

On June 22, 2007, we received a petition dated June 18, 2007, from the Center for Biological Diversity and six other organizations and individuals (hereafter, “the petitioners”), requesting that we list the dusky tree vole as an endangered or threatened species and designate critical habitat. The petitioners requested that if we found the dusky tree vole was not a listable entity as a subspecies, we either list the North Oregon Coast population of the red tree vole as a distinct population segment (DPS), or list the red tree vole because it is endangered or threatened in a significant portion of its range, including the North Oregon Coast population. On September 26, 2007, we sent a letter to Noah Greenwald, Center for Biological Diversity, acknowledging our receipt of the petition and providing our determination that emergency listing was not warranted for the species at that time.

On October 28, 2008, we published a 90-day finding for the dusky tree vole in the Federal Register (73 FR 63919). We found that the petition presented substantial information indicating that listing one of the following three entities as endangered or threatened may be warranted:

1. The dusky tree vole subspecies of the red tree vole;
2. The North Oregon Coast DPS of the red tree vole; or
3. The red tree vole because it is endangered or threatened in a significant portion of its range.

As a result of that finding, we also initiated a status review of the species, including an evaluation of the North Oregon Coast population of red tree vole and the red tree vole throughout its range. This notice constitutes our 12-month finding for the petition to list the dusky tree vole as endangered or threatened.

Species Information

As a putative subspecies, the dusky tree vole is a member of the red tree vole taxon. Some of the scientific literature is specific to the “dusky tree vole,” but much of it describes the red tree vole and does not distinguish among subspecies. For that reason, available information on the red tree vole is presented below with the assumption that it also applies to the dusky tree vole. If the information source makes distinctions between the two, they are noted, as appropriate. Published literature on the red tree vole also includes work conducted on the closely related Sonoma tree vole (Arborimus pomo). Prior to 1991, these taxa were both considered red tree vole (Johnson and George 1991, entire). Where pertinent information is lacking or limited for the red tree vole, information on the Sonoma tree vole is presented because there have been no ecological or life-history differences noted for the two species (Smith et al. 2003, p. 187).

Tree voles are small, mouse-sized rodents that live in conifer forests and spend almost all of their time in the tree canopy. Tree voles rarely come to the ground, and do so only to move briefly between trees. They are one of the few animals to persist on a diet of conifer needles, which is their principal food. When eating, tree voles strip away the resin ducts within conifer needles and eat the remaining portion; resin ducts contain terpenoid chemicals that make
them unpalatable to most species. Red tree voles live singly (or with young, in the case of females) in nests made of vegetation and other materials. Swingle (2005, p. 2) summarized the sizes of red tree vole nests as ranging from “very small ephemeral structures about the size of a grapefruit, to large old maternal nests that may be nearly as large as a bushel basket and completely encircle the trunk of the tree (Taylor 1915; Howell 1926; Verts and Carraway 1998).” Nestles of females tend to be larger than those of males. Males and females live separate lives once leaving the nest, only coming together to breed. Further details of the life-history characteristics of tree voles are presented below.

**Taxonomy and Description**

Tree voles are less than 8.2 inches (in) (209 millimeters [mm]) long and weigh up to 1.7 ounces (oz) (49 grams [g]) (Hayes 1996, p. 1; Verts and Carraway 1996, p. 301; Forsman 2010, pers. comm.). Pelage (fur) color ranges from brownish red to bright brownish-red or orange-red (Maser et al. 1981, p. 201). The darker coat color has been attributed to the dusky tree vole (Bailey 1936, p. 198; Maser et al. 1981, p. 201). Melanistic (all black) forms of the dusky (Hayes 1996, p. 1) and red tree vole (Swingle 2005, p. 46), as well as cream-colored red tree voles (Swingle 2005, p. 82), rarely occur.

Howell (1926, p. 35) described several physical differences between voles described as dusky tree voles and red tree voles. These differences include coat color, as well as skull and dental characteristics. However, Howell (1926, p. 34) based his description of the red tree vole on the observations of 40 tree voles, 32 of which were from California. At least 28 of the California tree voles were collected from Carlotta, Humboldt County, within the range of what is now considered the Sonoma tree vole (Howell 1926, p. 41; Blois and Arbogast 2006, pp. 953–956). Howell’s description of the red tree vole was therefore based on a collection that was actually comprised primarily of Sonoma tree voles, rendering the comparison to dusky tree voles of questionable value.

The taxonomic history of red and dusky tree voles is complex; a comprehensive description can be found in Miller et al. (2010, pp. 64–65). The red tree vole was first described from a specimen collected in Coos County, Oregon (True 1890, pp. 303–304), and originally placed in the genus Phenacomys. The dusky tree vole was first described from a dead specimen found in Tillamook County and originally classified as a distinct species, *P. silvicola* (Howell 1921, entire), later renamed *P. silvicola* (Miller 1924, p. 400). Taylor (1915, p. 156) established the subgenus Arborimus for tree voles, which Johnson (1968, p. 27; 1973, p. 243) later proposed elevating to full generic rank, although this genus has not been universally adopted (e.g., Verts and Carraway 1998, pp. 309–311). For the purpose of this finding, we use the generic classification, *Arborimus*, adopted by the petitioners. Johnson (1968, p. 27) concluded that analysis of blood proteins and hemoglobin from dusky and red tree voles “* * * suggested combining the named forms of *Arborimus* into a single species * * *.” Hall (1981, p. 788) cited Johnson (1968, p. 27) as suggesting a “subspecific relationship of the two taxa,” and others have cited Johnson as well in supporting the classification of the dusky tree vole as a subspecies (e.g., Maser and Storm 1970, p. 64; Johnson and George 1991, p. 1). However, based on a lack of detectable genetic differences and a lack of consistently verifiable morphological differences between dusky and red tree voles, Bellinger et al. (2005, p. 207) suggested subspecific status of the dusky tree vole may not be warranted.

Miller et al. (2006a, entire) analyzed mitochondrial DNA sequences from red tree voles throughout their range in Oregon. This study was not designed to address red tree vole taxonomy, but rather, how historical processes may have affected the genetic diversity and structure of the red tree vole across much of its range. The authors found significant genetic discontinuities based on unique haplotypes that result in three genetically distinct groupings of red tree voles. A primary discontinuity divided the red tree vole’s range into a northern and a southern region in terms of genetic makeup as determined from mitochondrial DNA. Some overlap of these two genetic groups occurred, but in general, red tree voles north of Douglas and southeastern Lane Counties were genetically different from tree voles to the south (Miller et al. 2006a, pp. 146, 151–152). There are no known geographic or geological features that coincide with this genetic discontinuity that might explain this genetic break. The northern genetic group was further subdivided by a secondary discontinuity that coincided with the Willamette Valley, a non-forested barrier currently separating individuals in the northern Oregon Coast Range to the west from the Cascade Range to the east (Miller et al. 2006a, Fig. 1, pp. 146, 151–152).

Although Miller et al. (2006a, entire) found genetic discontinuities in the red tree vole in Oregon, the authors did not comment on the taxonomic status of the species. Subsequent conversations with the geneticists who authored this paper indicated that the genetic differences described in Miller et al. (2006a, entire) were substantial enough to potentially warrant taxonomically classifying the three genetically distinct groups as separate subspecies if there were corresponding differences in other traits, such as behavior or morphology, to provide additional support (Miller and Haig 2009, pers. comm.). Recent review of external morphological characters by Miller et al. (2010, entire) did not distinguish dusky tree voles from red tree voles. The authors noted that additional analysis of other physical characteristics (e.g., fur color) would be required to better determine the dusky tree vole’s taxonomic status.

The Integrated Taxonomic Information System (ITIS), a database maintained by a partnership of U.S., Canadian, and Mexican agencies, other organizations, and taxonomic specialists to provide scientifically credible taxonomic information, does not recognize the dusky tree vole as a subspecies of the red tree vole (information retrieved 15 March 2011, from the ITIS database).

Wilson and Reeder (2005, entire) is the industry standard for mammalian taxonomy. Subspecies were not recognized until the most recent edition, published in 2005. Although Wilson and Reeder (2005, pp. 962–963) recognize the dusky tree vole as a subspecies, the more recent research on tree vole genetics and analyses attempting to clarify the taxonomic status of the dusky tree vole have only become available subsequent to that review, and therefore were not considered at the time that volume was published.

**Range and Distribution**

Tree voles are endemic to the humid, coniferous forests of western Oregon and northwestern California (Maser 1966, p. 7). The red tree vole occurs in western Oregon from below the crest of the Cascade Range to the Pacific coast (Hayes 1996, p. 2; Verts and Carraway 1998, pp. 309–310), with a geographic range covering approximately 16.3 million acres (ac) (6.6 million hectares [ha]) across multiple ownerships (USDA and USDI 2007, p. 287) (Figure 1).
The southern boundary of the range of the red tree vole borders the range of the Sonoma tree vole, which Johnson and George (1991, p. 12) classified as a separate species from the red tree vole. Johnson and George (1991, pp. 11–12) suggested the break between the ranges of these two species was the Klamath Mountains along the Oregon-California border. Murray (1995, p. 26) considered the boundary between the two species to be the Klamath River in northwestern California. A recent mitochondrial DNA analysis supports the classification of tree voles in northwestern California (Del Norte County) as Arborimus longicaudus (Blois and Arbogast 2006, pp. 956, 958).

The red tree vole has not been found north of the Columbia River (Verts and Carraway 1998, p. 309), but the actual northern limit of its historical distribution in northwestern Oregon is unclear. Within the Oregon Coast Range, the northernmost tree vole collection site was in the vicinity of Saddle Mountain in central Clatsop County (Verts and Carraway 1998, pp. 310, 546; Forsman and Swingle 2009, pers. comm.). Although no tree voles have been detected in recent search efforts in northern Clatsop and Columbia...
Counts (Forsman and Swingle 2009, unpublished data), the area historically had extensive forests with large Douglas-fir (Pseudotsuga menziesii) and western hemlock (Tsuga heterophylla) trees conducive to tree vole habitat (Robbins 1997, pp. 205–206). Therefore, we believe it is reasonable to assume that tree voles were present in those areas prior to the late 1800s and early 1900s when virtually all old forests in the region were clear-cut or burned. The Columbia River was considered Oregon’s most productive logging center in the late 1800s (Robbins 1997, p. 220), and it is likely that virtually all of the suitable tree vole habitat in Clatsop, Columbia, and Washington Counties was removed before tree vole occurrence could be recorded. Whether tree voles may persist undetected in Columbia County and northern Clatsop County is not known at this time; although not detected in the most recent search efforts, tree voles may be overlooked if they are sparsely distributed or few in number.

Farther east, the red tree vole occurs in the Columbia River Gorge from Wahkena Creek to Seneca Fouts State Park, 4 miles (mi) (6 kilometers (km)) west of Hood River (Forsman et al. 2009b, p. 230). The red tree vole range had been described as west of the crest of the Cascade Range in Oregon (Corn and Bury 1986, p. 405). However, recent surveys have also found them just east of the Cascade Range crest, in the headwaters of the Lake Branch of Hood River, 19 mi (30 km) southwest of the town of Hood River (Forsman et al. 2009b, p. 227).

Surveys conducted for red tree voles by the Forest Service and the Bureau of Land Management as part of the Survey and Manage program under the Northwest Forest Plan (NFWP) have provided additional information on the distribution of the red tree vole (USDA and USDI 2007, p. 289). These surveys indicate red tree voles are uncommon and sparsely distributed in much of the northern Coast Range and northern Cascade Range of Oregon. Forsman et al. (2004, p. 300) reached the same conclusion based on remains of red tree voles in pellets of northern spotted owls (Strix occidentalis caurina), although data were sparse from the northern Oregon Coast Range compared to the rest of the red tree vole’s range. Based on these surveys and data from owl pellets, the eastern limit of red tree vole distribution in southwestern Oregon appears to include forested areas in Josephine County and a narrow band along the western and northern edges of Jackson County (Forsman et al. 2004, pp. 297–298; USDA and USDI 2007, p. 289).

Red tree voles are generally restricted to lower elevation coniferous forests, although there are a few records of this species above 4,265 feet (ft) (1,300 meters (m)) (Manning and Maguire 1999, entire; Forsman et al. 2004, p. 300). Hamilton (1962, p. 503) suggested red tree voles may be limited to lower elevations because their nests do not provide adequate insulation during winter. Because tree voles are active throughout the year, it is also possible they are absent from high-elevation areas because they find it difficult to forage on limbs covered with snow and ice during winter (Forsman et al. 2004, p. 300).

The range of the putative dusky tree vole is less clear than that of the red tree vole. Johnson and George (1991, p. 12) described its range as restricted to the western slope of the Coast Range in Tillamook and Lincoln Counties. However, Maser (1966, p. 16) summarized collection and nest records for the dusky tree vole from locations east of the crest of the Coast Range down to the western edge of the Willamette Valley in Washington, Yamhill, Polk, Benton, and Lane Counties. Maser (2009, pers. comm.) believed the southern limit of the dusky tree vole to be in the vicinity of the Smith and Umpqua Rivers (western Douglas County) based on a shift in vole behavior and habitat type. Brown (1964, p. 648) mentioned four dusky tree vole museum specimens collected near Molalla in Clackamas County east of the Willamette Valley. Howell (1926, p. 34) referred to Stanley Jewett, a fellow naturalist, finding “unmistakable evidence” of red tree voles in old nests near Bonneville, in far eastern Multnomah County at the foot of the Cascade Range, and then goes on to say, “Though this sign may possibly have been of longicaudus, it is considered more likely to have been of silvicola.” However, he did not elaborate on why he concluded that it was indicative of the dusky tree vole. Maser (1966, p. 8) observed that tree voles historically collected north of Eugene and west of the Willamette Valley were typically classified as dusky tree voles, while those collected north of Eugene and east of the Willamette Valley were almost all identified as red tree voles.

**Home Range and Dispersal**

The only published data on home range sizes and dispersal come from red tree voles radio-collared in the southern Coast Range and southern Cascades of Douglas County in southwestern Oregon (Swingle and Forsman 2005, pp. 51–63. 84–89; Swingle and Forsman 2009, entire). Of 45 radio-collared red tree voles, 18 had home ranges consisting of their nest tree and a few adjacent trees, whereas the remainder occupied up to 6 different nests spaced up to 532 ft (162 m) apart in different trees (Swingle and Forsman 2009, p. 277). Mean and median home ranges were 0.43 ac (0.17 ha) and 0.19 ac (0.08 ha), respectively (Swingle and Forsman 2009, p. 278). Home range sizes did not differ among gender, age, or among voles occurring in young (22–55 years old) versus old (110–260 years old) forests (Swingle and Forsman 2009, pp. 277–279). An unpublished study conducted by Brian Biswell and Chuck Meslow found mean male home ranges of 0.86 ac (0.35 ha) and mean female home ranges of 0.37 ac (0.15 ha) (Biswell and Meslow, unpublished data referenced in USDA and USDI 2000b, p. 8). Dispersal distances of nine subadults ranged from 10 to 246 ft (3 to 75 m) (Swingle 2005, p. 63). The longest known straight-line dispersal distance was for a subadult male who traveled 1,115 ft (340 m) over the course of 40 days (Biswell and Meslow, unpublished data referenced in USDA and USDI 2000b, p. 8).

**Habitat**

Red tree voles are found exclusively in conifer forests or in mixed forests of conifers and hardwoods (Hayes 1996, p. 3). Throughout most of their range, they are principally associated with Douglas-fir for foraging and nesting (Jewett 1920, p. 165; Bailey 1936, p. 195). However, their nests have also been documented in Sitka spruce (Picea sitchensis) (Jewett 1920, p. 165), grand fir (Abies grandis), western hemlock, Pacific yew (Taxus brevifolia), and non-conifers such as bigleaf maple (Acer macrophyllum) and golden chinquapin (Castanopsis chrysophylla) (Swingle 2005, p. 31). Hardwoods are generally not recognized as an important habitat component (USDA and USDI 2002, p. 1). Tree vole nests are located in the forest canopy and are constructed from twigs and resin ducts discarded from feeding, as well as fecal pellets, lichens, dead twigs, and conifer needles (Howell 1926, p. 46; Clifton 1960, pp. 53–60; Maser 1966, pp. 94–96; Gillesberg and Carey 1991, p. 785; Forsman et al. 2009a, p. 266). On the occasions when tree voles nest in non-conifers or snags, they are virtually always in trees that have limbs interconnected with adjacent live conifers where the voles can obtain food (Maser 1966, p. 78; Swingle 2005, p. 31). Within the northern Oregon Coast Range primarily in the Douglas-fir (Pseudotsuga menziesii) and western hemlock (Tsuga heterophylla) plant series (see Distinct Vertebrate Population Segment Analysis for plant
series description), tree vole diet and nest tree species selection favors western hemlock and Sitka spruce (Walker 1930, pp. 233–234; Forsman et al. 2008, Table 2; Forsman and Swingle 2009, pers. comm.; Maser 2009, pers. comm.), although some vole nests have been found in Douglas-fir in this plant series (Howell 1921, p. 99; Jewett 1930, pp. 81–83; Forsman and Swingle 2009, pers. comm.).

Based on their study of small mammal habitat associations in the Oregon Coast Range, Martin and McComb (2002, p. 262) considered red tree voles to be habitat specialists. In that study of forests of different patch types, red tree voles selected "conifer large sawtimber patch types" and landscapes that minimize fragmentation of mature conifer forest (Martin and McComb 2002, pp. 259, 261, 262). The vegetation classification scheme used by Martin and McComb (2002, p. 257) defines the conifer large sawtimber patch type as forest patches with greater than 70 percent conifer composition, more than 20 percent canopy cover, and mean diameter at breast height (dbh) of greater than 21 in (53.3 cm) (it should be noted that studies where researchers actually measured the canopy cover of stands used by red tree voles indicate the minimum canopy cover requirements of red tree voles are much higher, on the order of 53 to 66 percent (e.g., Swingle 2005, p. 39)). Red tree voles were most abundant in contiguous mature conifer forest (unfragmented landscapes), and were negatively affected by increasing patch densities at the landscape scale (Martin and McComb 2002, p. 262).

Although red and Sonoma tree voles occur and nest in young forests (Jewett 1920, p. 165; Brown 1964, p. 647; Maser 1966, p. 40; Corn and Bury 1986, p. 404; Thompson and Diller 2002, entire; Swingle and Forsman 2009, p. 277), most comparisons of relative abundance from pitfall trapping and nest presence data show increased occurrence in older forests throughout the range of these species (Corn and Bury 1986, p. 404; Corn and Bury 1991, pp. 251–252; Ruggiero et al. 1991, p. 460; Meiselman and Doyle 1996, p. 38; Gomez and Anthony 1998, p. 296; Martin and McComb 2002, p. 261; Jones 2003, p. 29; Dunk and Hawley 2009, entire). The occurrence of active nests in remnant older trees in younger stands indicates the importance of legacy structural characteristics (USDA and USDI 2002, p. 1). Although the bulk of the evidence points to forests with late-successional characteristics as important to the red tree vole, we lack specific data on the minimum size of trees or stands required to sustain populations of the red tree vole over the long term. There is no single description of red tree vole habitat and a wide variety of terms have been used to describe the older forest stands the tree voles tend to select (e.g., late-successional, old-growth, large conifer, mature, structurally complex). Where these terms appear in cited literature, or where specific ages are referred to, we refer to them in this analysis. Otherwise, we use the term “older forest” when collectively referring to these stand conditions. In using the term “older forest,” we are not implying a specific stand age that represents tree vole habitat. Rather, we use the term to represent the mixture of old and large trees, multiple canopy layers, snags and other decay elements, understory development and biologically complex structure and composition often found in forests selected by tree voles.

The most extensive and intensive analysis of red tree vole habitat associations for stands throughout the vole’s range found a strong association between tree vole nest presence and late-successional and old-growth forest conditions (forests over 80 years old), with optimal red tree vole habitat being especially rare (Dunk and Hawley 2009, p. 632). Throughout their range on Federal land, the probability of red tree vole nest presence (Po) in the highest quality habitat (forest exhibiting late-successional structural characteristics) was 7 times more than expected based on the proportional availability of that habitat, whereas in lowest quality, early-seral forest conditions, Po was 7.6 times less than expected based on availability (Dunk and Hawley 2009, p. 632). In other words, red tree vole demonstrated strong selection for nesting in stands with older forest characteristics, even though that forest type was relatively rare across the landscape. Conversely, tree voles avoided nesting in younger stand types that were much more common across the landscape.

Trees containing tree vole nests are significantly larger in diameter and height than those without nests (Gillesberg and Carey 1991, p. 785; Meiselman and Doyle 1996, p. 36 for the Sonoma tree vole). Other forest conditions associated with red tree vole habitat include the number of large trees and variety of tree size distribution (Dunk and Hawley 2009, p. 632). Carey (1991, p. 8) suggested that tree voles seem especially well-suited to the stable conditions of old-growth Douglas-fir forests (multi-layered stands over 200 years old, with decay elements). Old-growth trees may be optimum tree vole habitat because primary production is high and needles are concentrated, providing maximum food availability (Carey 1991, p. 8). In addition, old-growth canopy buffers weather changes and has high water-holding capacity, providing fresh foliage and a water source (Gillesberg and Carey 1991, pp. 786–787), as well as numerous cavities and large limbs that provide stable nest substrates.

As noted above, tree voles can be found in younger forests, sometimes at fairly high densities (Howell 1926, pp. 41–45; Maser 1966, pp. 216–217; Thompson and Diller 2002, p. 95). It is not understood how younger forests influence the abundance, persistence, or dispersal of red tree voles. Carey (1991, p. 34) suggested younger forests were population sinks for red tree voles. Based on surveys in young forests (22–55 years old) and observations of radio-collared tree voles, Swingle (2005, pp. 78, 94) and Swingle and Forsman (2009, pp. 283–284) concluded that some young forests may be important habitat for tree voles, particularly in landscapes where old forests have largely been eliminated or currently exist in isolated patches. However, Swingle (2005, pp. 78, 94) cautioned against using the occasional presence of tree voles in young forests to refute the importance of old forest habitats to tree voles. Young forest stands may serve as interim habitat for tree voles and may provide connectivity between remnant patches of older forest, but whether younger forests are capable of supporting viable populations of tree voles over the long term is uncertain. The limited evidence available suggests that tree vole occupation of younger forest stands may be relatively short-lived (Diller 2010, pers. comm.) or intermittent (Hopkins 2010, pers. comm.).

After weighing all of the best available information, we conclude that although red tree voles may use younger forest types to some degree, the preponderance of evidence suggests red tree voles demonstrate strong selection for forests with older forest conditions, as well as contiguous forest conditions. Whether tree voles can potentially persist in younger forests over the long term is unknown (USDA and USDI 2007, p. 291). However, although the data are limited, the available evidence suggests that red tree voles likely do not maintain long-term or consistent populations in younger stands (Diller 2010, pers. comm.; Hopkins 2010, pers. comm.). There is a relatively large body of evidence, on the other hand, that red tree voles exhibit strong selection for areas of contiguous habitat exhibiting...
conditions characteristics of older, mature forests (Corn and Bury 1986, p. 404; Corn and Bury 1991, pp. 251–252; Ruggiero et al. 1991, p. 460; Meiselman and Doyle 1996, p. 38; Gomez and Anthony 1998, p. 296; Martin and McComb 2002, p. 261; Jones 2003, p. 29; Dunk and Hawley 2009, entire). We therefore further conclude that unfragmented forests with late-successional characteristics are thus most likely to provide for the long-term persistence of the species, and in this finding we consider these older forest types as representative of high-quality habitat for the red tree vole.

Tree voles may tolerate some forest fragmentation, but the point at which forest gaps become large enough to impede their movements or successful dispersal is not known. Howell (1926, p. 40) suggested that “considerable” expanses of land without suitable trees are a barrier to tree vole movements. However, as noted earlier, known dispersal distances for red tree voles are quite short, ranging from 10 to 246 ft (3 to 75 m) (Swingle 2005, p. 63), with 1,115 ft (340 m) being the longest known dispersal distance (Biswell and Meslow, unpublished data referenced in USDA and USDI 2000b, p. 8). This suggests that relatively small distances, roughly less than 1,200 ft (366 m) between forest patches, may serve as effective barriers to dispersal or recolonization for red tree voles. Radio-collared tree voles crossed logging roads, first-order streams, and canopy gaps up to 82 ft (25 m) wide (Biswell and Meslow, unpublished data referenced in USDA and USDI 2000b, p. 8; Swingle and Forsman 2009, p. 283). Some of these crossings occurred on multiple occasions by a single vole. This suggests that “small forest gaps” (Swingle 2005, p. 79) may not greatly impair tree vole movement, but increasing gap size may be expected to limit tree vole movement. In addition, Swingle (2005, p. 79) suggested that the necessity of descending to the ground to cross openings may reduce survival. There are three records of red tree voles captured in clearcuts (Borecco 1973, pp. 34, 36; Corn and Bury 1986, pp. 404–405; Verts and Carraway 1998, p. 310), in one case over 656 ft (200 m) from the forest edge. In two of these instances, the authors suggested the individuals were most likely in the act of dispersing.

In summary, based on our evaluation of the best scientific and commercial data available, as detailed above, for the purposes of this finding we consider older forests with late-successional characteristics to represent high-quality habitat for red tree voles, and younger forests in early-seral condition to represent low-quality, transitional habitat for red tree voles. In addition, we consider it likely that younger forests only play a role as interim, low-quality habitat for red tree voles if they occur in association with older forest patches or remnants.

**Reproduction**

Red tree vole litter sizes are among the smallest compared to other rodents of the same subfamily, averaging 2.9 young per litter (range 1 to 4) (Maser et al. 1981, p. 205; Verts and Carraway 1998, p. 310). Clifton (1960, pp. 119–120) reported that captive tree voles became sexually mature at 2.5 to 3.0 months of age. Females breed throughout the year, with most reproduction occurring between February and September (Swingle 2005, p. 71). Red tree voles are capable of breeding and becoming pregnant immediately after a litter is born (Clifton 1960, p. 130; Hamilton 1962, pp. 492–495; Brown 1948), resulting in the potential for females to have two litters of differently aged young in their nests (Swingle 2005, p. 71; Forsman et al. 2009a, p. 270). Captive tree voles may have litters just over a month apart (Clifton 1960, p. 130). Forsman et al. (2009a, p. 270) observed two female voles in the wild that produced litters at 30 to 35 day intervals. Young tree voles develop more slowly than similar-sized rodents of the same subfamily (Howell 1926, pp. 49–50; Maser et al. 1981, p. 205), first exiting the nest at 30 to 35 days old, and not dispersing until they are 47 to 60 days old (Swingle 2005, p. 63; Forsman et al. 2009a, pp. 268–269).

**Diet**

Tree voles are unique in that they feed exclusively on conifer needles and the tender bark of twigs that they harvest from conifers. In most of their range, they feed primarily on Douglas-fir (Howell 1926, p. 52; Benson and Borell 1931, p. 230; Maser et al. 1981, p. 205). In portions of the northern coastal counties of Oregon (Lincoln, Tillamook, and Clatsop), tree voles also consume needles from western hemlock and Sitka spruce, and in some parts of their range they feed on grand fir, bishop pine (*Pinus muricata*), and introduced Monterey pine (*P. radiata*) (Jewett 1920, p. 166; Howell 1926, pp. 52–53; Walker 1930, p. 234; Wooster and Town 2002, pp. 182–183; Forsman and Swingle 2009, pers. comm.; Swingle 2010, pers. comm.). Conifer needles contain filamentous resin ducts that are filled with terpenoids, chemicals that serve as defensive mechanisms for trees by making the leaves unpalatable. Tree voles have adapted to their diet of conifer needles by stripping away these resin ducts and eating the more palatable portion of the needle (Benson and Borell 1931, pp. 228–230; Perry 1994, pp. 453–454; Maser 1998, pp. 220–221; Kelsey et al. 2009, entire). Resin ducts typically run the length of the needle, but may be located in different portions of the needle, depending on the tree species; this forces the tree vole to behave differently depending on the tree species on which they forage. As an example, the resin ducts in Douglas-fir needles are located along the outer edges of the needle, so tree voles remove the outside edge and consume the remaining middle portion of the needle. Conversely, the resin ducts of western hemlock are located away from the outside edges along the midline of the needle. Thus, voles foraging on hemlock needles will consume the outer edge of the needle and discard the center (Clifton 1960, pp. 35–45; Forsman and Swingle 2009, pers. comm.; Kelsey et al. 2009, entire; Maser 2009, pers. comm.).

Within the Sitka spruce plant series of the northern Oregon Coast Range of Oregon, tree voles appear to prefer, and perhaps require, a diet of western hemlock and Sitka spruce needles (Walker 1930, p. 234; Forsman and Swingle 2009, pers. comm.; Maser 2009, pers. comm.). Voles in the Sitka spruce plant series rarely forage on Douglas-fir, even where it is available; foraging on Douglas-fir only becomes more evident where the Sitka spruce plant series transitions into the adjacent western hemlock series (Forsman and Swingle 2009, pers. comm.; Forsman and Swingle 2009, unpublished data), Maser (2009, pers. comm.) observed that tree voles adapted to a diet of western hemlock starved to death in captivity because they would not eat the Douglas-fir needles they were offered. Because the resin ducts of western hemlock, Sitka spruce, and Douglas-fir needles are in different locations on the needle, their removal requires a different behavior depending on which species is being eaten (Clifton 1960, pp. 35–49; Kelsey et al. 2009, entire). Maser (2009, pers. comm.) suspected that voles raised in stands of western hemlock never learned the required behavior for eating Douglas-fir, although Walker (1930, p. 234) observed a captive vole raised on hemlock needles that preferred hemlock but would eat fir or spruce in the absence of hemlock. Conversely, voles taken from Douglas-fir stands have been observed to eat both Douglas-fir and western hemlock in captivity (Clifton...
1960, p. 44; Maser 2009, pers. comm.), although voles appear to be reluctant to switch between tree species [Walker 1930, p. 234; Forsman 2010, pers. comm.].

Tree voles appear to obtain water from their food and by licking water off of tree foliage (Clifton 1960, p. 49; Maser 1966, p. 148; Maser et al. 1961, p. 205; Carey 1996, p. 75). In keeping captive Sonoma tree voles, Hamilton (1962, p. 503) noted that it was important to keep leaves upon which they fed moist, otherwise the voles would lose weight and die. The need for free water in the form of rain or dew on foliage may explain why the distribution of tree voles is limited to relatively humid forests in western Oregon and California (Howell 1926, p. 40; Hamilton 1962, p. 503). However, there are no quantitative data on water consumption by tree voles, and some forests in which they occur (e.g., portions of southwestern Oregon) have little rain or dew during the summer months. How they are able to persist under such conditions is unclear.

Mortality

In the only quantitative study conducted to date, Swingle et al. (2010, p. 258) found that weasels (Mustela spp.) were the primary predators of red tree voles. However, many other animals feed on tree voles, including ringtails (Bassariscus astutus) (Alexander et al. 1994, p. 97), fisher (Martes pennanti) (Golightly et al. 2006, p. 17), northern spotted owls (Forsman et al., 1984, p. 40), barred owls (Strix varia) (Wiens 2010, pers. comm.), and a variety of other nocturnal and diurnal raptors (Miller 1933, entire; Maser 1965a, entire; Maser 1965b, entire; Forsman and Maser 1970, entire; Reynolds 1970, entire; Graham and Mires 2005, entire). Other documented predators include the Steller’s jay (Cyancittta stelleri) (Howell 1926, p. 60), a gopher snake (Pituophis catenifer) (Swingle et al. 2010, p. 258), domestic dogs (Canis familiaris) (Swingle et al. 2010, p. 258), and house cats (Felis catus) (Swingle 2005, pp. 90–91). In addition, Maser (1966, p. 164) found tree vole nests that had been torn apart and inferred the destruction was likely caused by northern flying squirrels (Glaucomys sabrinus), raccoons (Procyon lotor), western gray squirrels (Sciurus griseus), or Douglas’ squirrels (Tamiasciurus douglasii), apparently in search of young voles. Forsman (2010, pers. comm.) recorded video footage of northern flying squirrels, western gray squirrels, and Douglas’ squirrels chasing tree voles or tearing into tree vole nests in what appeared to be attempts to capture voles.

Swingle et al. (2010, p. 259) estimated annual survival of radio-collared tree voles to be 15 percent. Little is known about the vulnerability of red tree voles to predators in different habitats. Swingle (2005, pp. 64, 90) found that of 25 documented cases of predation on radio-collared voles, most occurred in young (22–55 years old) forests (Forsman and Swingle 2009, pers. comm.). Predation by weasels, which accounted for 60 percent of the predation events, occurred only in the 22–55-year-old forests, and 80 percent of the weasel predation was on female voles. Most of the radio-collared sample consisted of females and were in young forest, so forest age and vole gender explained little of the variation in the data (Forsman 2010, pers. comm.; Swingle 2010, pers. comm.). Although there was no statistical difference in predation rates among forest ages and vole gender, Swingle et al. (2010, p. 260) suspected weasel predation on tree voles may be inversely proportional to nest height. Tree vole nests tend to be found in the lower portion of the tree crown (Gillesburg and Carey 1991, pp. 785–786; Swingle 2005, pp. 29–30), and tree vole nests tended to be higher above the ground in older stands or larger trees than in younger stands or smaller trees (Zentner 1966, pp. 18–20; Vrieze 1980, pp. 18, 32–33; Meiselman and Doyle 1996, p. 38; Swingle 2005, pp. 29–30). Thus, tree voles could be more prone to predation in shorter trees that comprise younger stands and limit the height of nests above the ground. Swingle et al. (2010, p. 261) also suggested that female tree voles may be more susceptible to predation than males because they occupy larger, more conspicuous nests and spend more time outside the nest collecting food for their young. Other mortality sources include disease, old age, storms, forest fires, and logging (Maser et al. 1981, p. 206). Carey (1991, p. 8) suggested that forest fires and logging are far more important mortality factors than predation in limiting vole abundance.

Defining a Species Under the Act

Section 3(16) of the Act defines “species” to include any species or “subspecies of fish or wildlife or plants, and any distinct population segment of any species of vertebrate fish or wildlife which interbreeds when mature” (16 U.S.C. 1532(16)). Our implementing regulations at 50 CFR 424.11 provide further guidance for determining whether a particular taxon or population is a species for the purposes of the Act: “[T]he Secretary shall rely on standard taxonomic distinctions and the biological expertise of the Department and the scientific community concerning the relevant taxonomic group” (50 CFR 424.11(a)). As previously noted, we were petitioned to list the dusky tree vole as a subspecies of the red tree vole. The petitioners requested that if we found that the dusky tree vole was not a listable entity as a subspecies, then we subsequently consider whether it should be listed as the North Oregon Coast DPS of the red tree vole. Alternatively, the petitioners requested that the dusky tree vole be protected by listing the red tree vole because it is endangered or threatened in a significant portion of its range. The analysis to determine whether this is a viable subspecies or DPS according to section 3(16) of the Act follows.

Subspecies Analysis

There is no universally accepted definition of what constitutes a subspecies, and the use of the term “subspecies” varies among taxonomic groups (Haig et al. 2006, entire). To be operationally useful, subspecies must be discernible from one another (i.e., diagnosable, not merely exhibit mean differences [Patten and Unitt 2002, pp. 28, 34]). This element of “diagnosability,” or the ability to consistently distinguish between populations, is a common thread that runs through all subspecies concepts. It is important to use multiple sources of information when evaluating a taxon’s status. The greater the concurrence among multiple morphological, molecular, ecological, behavioral, and physiological characteristics, the higher the level of confidence in the taxonomic classification (Haig et al. 2006, p. 1591). To assess subspecies classification for the dusky tree vole, we evaluated all the available data to determine whether the evidence points to a consistent separation of the putative dusky tree vole voles from the remaining population of red tree voles. If the assessment of these multiple characteristics provides a clear and consistent separation of the putative dusky tree vole subspecies from the remaining red tree vole population, such that any individual from the range of the dusky tree vole would likely be correctly assigned to that subspecies on the basis of the suite of characteristics analyzed, that evidence would be considered indicative of a likely valid subspecies.

Geography

As described under Range and Distribution, there is no clear demarcation for the range of the putative dusky tree vole. All
descriptions include the western slope of the northern Oregon Coast Range, typically Tillamook and Lincoln Counties. Other descriptions expand this range to include the east slope of the Oregon Coast Range (Maser 1966, p. 16), and south to include the coastal portion of Douglas County (Maser 2009, pers. comm.). Still others suggest tree voles found in the foothills of the Cascade Range (Brown 1964, p. 648) and in the Columbia River Gorge (Howell 1926, p. 34) were dusky tree voles. Contemporary descriptions of the dusky tree vole range usually reference Johnson and George (1991, p. 12), who, despite not finding any strong morphometric or karyologic (chromosomal) differences between the subspecies, state the two taxa, “* * * now can be properly delineated geographically.” Johnson and George (1991, p. 12) go on to describe the dusky tree vole range as the Pacific slope of the Oregon Coast Range in Tillamook and Lincoln Counties without substantiating the basis for their geographic delineation. There is thus no clear and consistent description of what may constitute the range of the “dusky tree vole.”

**Blood Proteins**

Johnson (1968, p. 27) analyzed blood proteins of dusky tree voles, red tree voles, and heather voles (Phenacomys intermedius) to determine whether Arborimus should remain as a subspecies under Phenacomys or be elevated to a full genus. Multiple authors cite this work to support the classification of the dusky tree vole as a subspecies of the red tree vole (e.g., Maser and Storm 1970, p. 64; Hall 1981, p. 788; Johnson and George 1991, p. 1). However, we fail to reach this conclusion based on Johnson’s (1968, p. 27) work. Johnson (1968, p. 27) describes his results as follows:

> The tree mice of the species Arborimus longicaudus (including A. silvicola) have in the past been included with the heather vole, Phenacomys intermedius. Two specimens of *P. intermedius* (of two subspecies) and 16 specimens of *A. longicaudus* (of two subspecies) were examined. In these two species the serum proteins and hemoglobins have suggested combining the named forms of Arborimus into a single species, and separating the genera Arborimus and Phenacomys.

Although Johnson (1968, p. 27) concluded that the named forms *longicaudus* and *silvicola* should be combined, he did not make any further determination on whether or not *silvicola* should be retained as a subspecies. We therefore question whether Johnson (1968, p. 27) definitively designates *silvicola* as a subspecies. While Hall (1981, p. 788) cited Johnson (1968, p. 27) as suggesting a “subspecific relationship of the two taxa,” he also notes that this designation is a “provisional arrangement” because of the existing uncertainty about the relationship of the two taxa.

**Genetics**

In this section and the *Summary* section below we describe and analyze the research on tree vole genetics as it relates to answering the question of whether or not the dusky tree vole is a taxonomically valid subspecies of the red tree vole. This should not be confused with our analysis later in this document (see Distinct Vertebrate Population Segment Analysis) wherein we evaluate the genetics research as it relates to its contribution towards determining the discreteness and significance of a potential DPS of the red tree vole. Bellinger et al. (2005, p. 207) failed to find detectable genetic differences between dusky and red tree voles, suggesting that subspecific status may not be warranted. Miller et al. (2006a, p. 145) found three distinct genetic entities in their analysis of mitochondrial DNA of red tree voles throughout Oregon. For this analysis, we are interested in the genetic entity that Miller et al. (2006a, p. 151) labeled the “Northern Coast range” sequence. While Miller et al. (2006a, entire) do not describe specific boundaries for this entity, the sampling locations in this entity are distributed across the northern Oregon Coast Range, extending south to latitudes roughly equivalent with the cities of Eugene and Florence (see Figure 1 for city locations). This genetic entity encapsulates most of the range descriptions of the putative dusky tree vole. Although the objective of Miller et al. (2006a, entire) was not to address the taxonomy of the dusky tree vole, in subsequent conversations with the authors, they concluded that the genetic differences between these groups were sufficient to potentially support subspecies recognition if there were congruent differentiations in other characteristics (Miller and Haig 2009, pers. comm.).

**Morphology**

The dusky tree vole has been described as darker than the red tree vole (Bailey 1936, p. 198; Maser et al. 1981, p. 201; Hall 1981, p. 788; Johnson and George 1991, p. 12), but there has been no analysis to indicate an identifiable change in coat color either between the two entities or that corresponds with the boundaries of the haplotype groups found in Miller et al. (2006a, entire) (see Genetics, above). Maser (2007, pers. comm.; 2009, pers. comm.) postulated that the darker coat color in voles from the northern Oregon Coast Range was due to the denser, darker forests in which a darker coat provided a more cryptic coloration than a lighter coat color. Assuming this hypothesis is correct, because there is a gradual transition of tree species and forest composition as one progresses south in the Coast Range, it is reasonable to hypothesize that a corresponding change in coat color may also be gradual rather than abrupt and thus not easily discernable from the red tree vole. This needs to be evaluated using a consistent and repeatable method for comparing pelage color. Such an analysis is currently being conducted but is not available for this review (Forsman 2010, pers. comm.). In measuring multiple morphometric features, Johnson and George (1991, p. 5) found statistical differences distinguishing Oregon tree voles from California samples, but were not able to easily detect discernable differences between samples within Oregon or California. Miller et al. (2010, p. 69) found statistically significant differences in some external morphological features between putative dusky tree vole and red tree voles. Although these differences were statistically significant in distinguishing between groups of tree voles, they were of little diagnostic utility because they were so subtle they could not be used to reliably classify an individual tree vole as a dusky tree vole or a red tree vole (Miller et al. 2010, p. 67). A possible explanation for the statistical difference, yet lack of diagnostic utility, is that the morphological features measured also exhibited a positive correlation with latitude; tree voles from the northern part of the range were larger than tree voles from the southern part of the range. This is a clinal pattern consistent with Bergmann’s Rule, an ecological principle stating that larger forms of species tend to be associated with cooler climate and higher latitude (Miller et al. 2010, p. 69).

**Behavior**

Tree voles within the narrow band of Sitka spruce found along the coastal portion of the northern Oregon Coast Range north of Newport exhibit a different diet than voles in the rest of the range, foraging on Sitka spruce or western hemlock rather than on Douglas-fir (Walker 1930, p. 234; Forsman and Walking 2009, pers. comm.) (see above under Diet). This diet requires a different treatment of needles.
than in other areas because resin ducts in spruce and hemlock are located in different parts of the needle than in Douglas-fir (Kelsey et al. 2009, pp. 12–13). While this behavioral difference exists primarily in the Sitka spruce plant series of the northern Oregon Coast Range, it comprises only a small portion of the area within the northern Coast Range genetic sequence found by Miller et al. (2006a, pp. 150–151; see Genetics, above) and does not correspond to the general boundaries of that genetic entity, nor does it correspond to any of the various boundaries of the putative dusky tree vole’s range.

Summary

Bellinger et al. (2005, p. 207) concluded that the absence of detectable genetic differences between red tree voles and putative dusky tree voles, combined with the lack of consistently verifiable morphological differences, suggested that the subspecific status of the dusky tree vole might not be warranted. Miller et al. (2006a, entire) found evidence of marked genetic differences in the red tree vole that could indicate the existence of a possible subspecies, although they did not explicitly address the implications of their work on red tree vole taxonomy. Subsequent conversations with the authors, however, indicated that observed genetic differences were sufficient to potentially support recognition of the dusky tree vole as a subspecies if there were additional differentiations in identifiable characteristics and if the boundaries of those differentiations were congruent with the “Northern Coast range” genetic grouping identified in Miller et al. (2006a, p. 151). However, our review of the best and most current data on the genetics, behavior, morphology, and range of the putative dusky tree vole reveals no other characteristics of diagnostic utility that correspond with the “Northern Coast range” haplotype grouping identified by Miller et al. (2006a, p. 151). There is not a consistent and well-substantiated range description of the dusky tree vole. Although some morphological differences may occur between the red tree vole and the putative dusky tree vole, these differences have little diagnostic utility and may only represent a clinal variation, as would be expected between northern and southern populations of the red tree vole based on Bergmann’s Rule (an ecogeographic principle that states that animals at more northerly latitudes tend to be larger than individuals of the same species at more southerly latitudes) (Miller et al. 2010, entire). The prevailing behavior of foraging on western hemlock and Sitka spruce within the Sitka spruce plant series does not correspond to the geographic range of the “Northern Coast range” genetic entity described by Miller et al. (2006a, p. 151), but comprises only a small portion of the range of that haplotype group. Presumptive differences in coloration, which served as one of the primary bases for the original subspecies distinction of the dusky tree vole, have never been quantified. Such a conventional approach to subspecies designation, used historically and frequently based on apparent geographic or clinal variation, is often not supported when tested by more rigorous analyses of multiple characters (e.g., Thorpe 1987, pp. 7, 9).

Given the lack of diagnostic characteristics that correspond with the “Northern Coast range” haplotype group described by Miller et al. (2006a, p. 151) and the findings of Bellinger et al. (2005 entire) and Miller et al. (2010 entire) that there are no detectable genetic or morphological differences yet found between dusky tree voles and red tree voles, we do not believe there is sufficient evidence to indicate that the dusky tree vole is a distinct subspecies. Although the dusky tree vole was recognized as a subspecies in Wilson and Reeder’s Mammal Species of the World (2005, pp. 962–963), we note that this reference did not recognize, or was published prior to, the availability of the work of Bellinger et al. (2005, entire) and Miller et al. (2006a, entire; 2010 entire). Subsequent to the publication of some of these latter works, the Oregon Natural Heritage Information Center ceased recognition of the dusky tree vole as a subspecies (ORNHIC 2007, p. 17), as did the U.S. Forest Service and Bureau of Land Management’s Survey and Manage program (USDA and USDI 2007, p. 289). Finally, the dusky tree vole is not recognized as a valid subspecies of the red tree vole in the Integrated Taxonomic Information System (ITIS 2011). Therefore, based on the best available scientific and commercial data, as described above, we have concluded that the dusky tree vole is not a valid subspecies, and therefore is not eligible for listing as such under the Act. We must next evaluate whether the North Oregon Coast population of the red tree vole is a DPS to determine whether it would constitute a listable entity under the Act.

Distinct Vertebrate Population Segment Analysis

The Service and the National Marine Fisheries Service (now the National Oceanic and Atmospheric Administration—Fisheries), published the Policy Regarding the Recognition of Distinct Vertebrate Population Segments Under the Endangered Species Act (DPS Policy) in the Federal Register on February 7, 1996 (61 FR 4722) to guide the implementation of the DPS provisions of the Act. Under the DPS Policy, three elements are considered in the decision regarding the establishment and classification of a population of a vertebrate species as a possible DPS. These are applied similarly for additions to and removals from the Lists of Endangered and Threatened Wildlife and Plants. These elements are:

1. The discreteness of a population in relation to the remainder of the species to which it belongs;

2. The significance of the population segment to the species to which it belongs; and

3. The population segment’s conservation status in relation to the Act’s standards for listing, delisting, or reclassification (i.e., is the population segment endangered or threatened?).

In the petition, we were asked to consider listing a DPS for the red tree vole in the North Oregon Coast portion of its range if we did not conclude that the dusky tree vole was a valid subspecies of the red tree vole. In accordance with our DPS Policy, this section details our analysis of the first two elements, described above, to assess whether the vertebrate population segment under consideration for listing may qualify as a DPS.

Specific to red tree vole genetics, as we noted above (see Subspecies Analysis), in this section we have reviewed the research on red tree vole genetics and evaluated whether or not the genetics evidence supports identifying a population segment that meets the discreteness and significance standards described above. Although genetic research indicates that the putative dusky tree vole may not be a valid subspecies (e.g. Bellinger et al. 2005, entire; Miller et al. 2010, entire), whether or not a population segment is discrete and significant is a different question and these works do not exclude the possibility that there is a discrete and significant population segment for the red tree vole.

Discreteness

The DPS Policy’s standard for discreteness requires an entity to be adequately defined and described in some way that distinguishes it from other representative entities. A population segment of a vertebrate species may be considered discrete if it
satisfies either of the following two conditions:

1. It is markedly separated from other populations of the same taxon as a consequence of physical, physiological, ecological, or behavioral factors (quantitative measures of genetic or morphological discontinuity may provide evidence of this separation); or

2. It is delimited by international governmental boundaries within which significant differences in control of exploitation, management of habitat, conservation status, or regulatory mechanisms exist.

The North Oregon Coast portion of the red tree vole range is markedly separated from the rest of the species’ range based on the genetic discontinuities described by Miller et al. (2006a, pp. 150–151). Miller et al. (2006a, entire) examined phylogeographical patterns by analyzing mitochondrial control region sequences of 169 red tree voles sampled from 18 areas across the range of the species in Oregon. In addition, they analyzed Cytochrome b sequences from a subset of these samples. Through phylogenetic network and spatial genetic analyses, the researchers found a primary genetic discontinuity separating red tree voles from the northern (areas A through F (Miller et al. 2006a, Figure 1, pp. 146, 151–152)) and southern (areas G through R (Miller et al. 2006a, Figure 1, pp. 146, 151–152)) sampling areas; a secondary discontinuity separated the northern sampling areas into eastern (areas B, E, and G (Miller et al. 2006a, Figure 1, pp. 146, 151–152)) and western (areas A, C, D, and F (Miller et al. 2006a, Figure 1, pp. 146, 151–152)) subdivisions separated by the Willamette Valley (Miller et al. 2006a, pp. 150–153). Miller et al. (2006a, p. 151) labeled the eastern subdivision as the “Northern Cascade range” sequence, and the western subdivision the “Northern Coast range” sequence, reflecting the associated mountain ranges. As described in the Taxonomy and Description section, above, genetic researchers considered the degree of genetic difference between the 3 groupings of red tree voles to be highly significant (Miller and Haig 2009, pers. comm.). We thus consider the population of red tree voles represented by the “Northern Coast range” haplotypes to be markedly separated from other populations of the taxon as evidenced by quantitative measures of genetic discontinuity.

Red tree voles within the “Northern Coast range” haplotype (genetic) group identified by Miller et al. (2006a, pp. 150–151) came from several specific sampling locations, but the researchers did not attempt to delineate precise boundaries between the three genetic groupings of red tree voles in Oregon. We have therefore defined the boundary of the northern Coast Range population of red tree voles based on a combination of convergent genetic, physical, and ecological characteristics. To assist in this delineation, we relied in part on the physiographic provinces used in the Northwest Forest Plan because they incorporate physical, biological, and environmental factors that shape large landscapes (FEMAT 1993, p. IV–5). In addition, much of the forest-related research relevant to our analysis has been based on these province delineations. We interpret the area occupied by the “Northern Coast range” genetic group of red tree voles to include that portion of the Oregon Coast Range Physiographic Province (FEMAT 1993, pp. II–27, IV–7) from the Columbia River south to the Siuslaw River. In addition, the Willamette Valley to the east of the northern Oregon Coast Range provides a geographic barrier for genetic exchange between red tree voles found in the northern Oregon Coast Range and those found in the northern Cascade Range; the western edge of the Willamette Valley thus forms a natural eastern boundary for the red tree vole population in the northern Oregon Coast Range.

As for the southern limit of the “Northern Coast range” haplotypes, there is no identifiable geographic boundary that may act as a genetic barrier. We chose the Siuslaw River as an identifiable feature that approximates a divide between Miller et al.’s (2006a, pp. 150–151) southern and northern haplotypes in the Oregon Coast Range. This is an area where vegetation transitions from more mesic vegetation species in the north to drier vegetation in the south (Franklin and Dyrness 1973, p. 72; McCain 2009, pers. comm.). In addition, the Siuslaw River creates an approximate break between ecosystems that experience longer fire return intervals to the north and shorter return intervals to the south (Hardt 2009, pers. comm.). This area transitions into the southern end of the western hemlock vegetation zone, which has a patchier fire severity distribution as compared to the northern Oregon Coast Range, which is characterized by high fire severities (Agee 1993, pp. 211–213). This delineation of the boundary of the northern Oregon Coast Range population of the red tree vole, described above, is shown in Figure 2.
There is some overlap of haplotypes in the lineage of sequences unique to the northern Oregon Coast Range and the southern portion of the tree vole range (Miller et al. 2006a, pp. 153–154). This overlap, combined with the absence of an obvious geographical barrier to genetic interchange, leads to a hypothesis that the observed genetic discontinuity in this area represents a zone of secondary contact between lineages that were divided during the most recent glaciation approximately 12,000 years ago (Miller et al. 2006a, p. 154). Although the Cordilleran ice sheet of the Wisconsin glaciation did not overlay present-day Oregon, associated climate change during the glaciation fragmented the forest landscape (Bonnicksen 2000, pp. 8–10, 15–16, 24–25). Subalpine forests occupied much of northwestern Oregon, with western hemlock and Sitka spruce remaining only in isolated, protected areas (Bonnicksen 2000, p. 25). These potential bottlenecks in northern populations may have separated red tree voles into separate lineages that continue to exist today (Miller et al. 2006a, p. 154). A similar genetic discontinuity is found in the southern torrent salamander (Rhyacotriton...
variegatus) in this vicinity (Miller et al. 2006b, p. 565). In addition, multiple plant species exhibit genetic discontinuities in the vicinity of the central Oregon Coast (Solits et al. 1997, pp. 353–359).

We conclude that the North Oregon Coast population of the red tree vole is markedly separated from the remainder of the red tree vole population and meets the discreteness criterion for the DPS Policy based on quantitative measures of genetic discontinuity. Genetic distribution in the red tree vole is not random, with a markedly distinct group of haplotypes located in the northern Oregon coast. The Willamette Valley likely serves as a genetic barrier between the North Oregon Coast red tree vole population and tree voles in the northern Cascades. While there is no currently identifiable geographic barrier to the south, glacial activity at the end of the Pleistocene Epoch may have been responsible for creating multiple lineages of red tree voles, as well as other species, that are still identifiable today. The Siuslaw River is an identifiable feature that appears to be approximately coincident with the southernmost boundary of the “Northern Coast range” genetic group of the red tree vole (Miller et al. 2006a, p. 151).

**Significance**

If we have determined that a vertebrate population segment is discrete under our DPS Policy, we then consider its biological and ecological significance to the taxon to which it belongs in light of Congressional guidance (see Senate Report 151, 96th Congress, 1st Session) that the authority to list a DPS be used “sparingly” while encouraging the conservation of genetic diversity. To evaluate whether a discrete vertebrate population may be significant to the taxon to which it belongs, we consider the best available scientific evidence. As precise circumstances are likely to vary considerably from case to case, the DPS Policy does not describe all the classes of information that might be used in determining the biological and ecological significance of a discrete population. However, the DPS Policy describes four possible classes of information that provide evidence of a population segment’s biological and ecological significance to the taxon to which it belongs. This evaluation may include, but is not limited to:

1. **Persistence of the discrete population segment in an ecological setting that is unusual or unique for the taxon;**
2. **Evidence that loss of the discrete population segment would result in a significant gap in the range of the taxon;**
3. **Evidence that the discrete population segment represents the only surviving natural occurrence of a taxon that may be more abundant elsewhere as an introduced population outside its historical range; or**
4. **Evidence that the discrete population segment differs markedly from other populations of the species in its genetic characteristics.**

**Persistence of the DPS in an ecological setting that is unique or unusual for the taxon.** The Sitka spruce plant series in the northern Oregon coast appears to be a unique ecological setting for a portion of the population of the red tree vole that was determined to be discrete. The Sitka spruce series occurs in the strongly maritime climate near the ocean, following the coastal fog up river valleys. Sitka spruce ranges from southcentral Alaska to northern California and a significant portion of its range occurring in southeastern Alaska and northern British Columbia, Canada (Burns and Honkala 1990, Sitka spruce chapter). Although present at some level along most of the Oregon coastline, it is more limited in this southern portion of its range, but extends much farther inland toward the northern part of the Oregon Coast Range than in the southern portion, where ridge systems along the coastline intercept the fog layer (Franklin and Dymess 1973, pp. 58–70; McCain and Diaz 2002, p. 59). With the exception of scattered small patches on the southern and central Oregon coast, the majority of the Sitka spruce plant series in Oregon lies in the area encompassed by the North Oregon Coast population of red tree voles (McCain and Diaz 2002, p. 61). It is in the Sitka spruce plant series that the alternative tree vole diet of western hemlock and Sitka spruce needles predominates (see **Diet** section). Douglas-fir appears to have been historically uncommon in the Sitka spruce series (Agee 1993, p. 194). Little variation in annual temperature, minor summer plant moisture stress, and very high precipitation make the Sitka spruce series extremely productive, producing large trees relatively quickly, and containing plant associations that tend to develop and maintain older forest characteristics important to a variety of wildlife species.

The Sitka spruce plant series is the only portion of the red tree vole range where the consumption of western hemlock and Sitka spruce needles is the dominant foraging behavior. Within the extent of the “Northern Coast range” genetic grouping identified by Miller et al. (2006a, p. 151), this behavior is exhibited by tree voles in the western portions of Lincoln, Tillamook, and Clatsop Counties. While there is evidence of individual red tree voles elsewhere in the range foraging on species other than Douglas-fir, these are rare occurrences and nowhere else in the range of the red tree vole does a non-Douglas-fir diet dominate. This alternative diet appears well ingrained, as evidenced by wild voles adapted to a diet of western hemlock refusing to eat Douglas-fir in captivity and ultimately starving to death (Maser 2009, pers. comm.). This ecological setting has resulted in a foraging behavior that appears relatively inflexible and unique to the red tree voles in this area, as red tree voles in forests dominated by Douglas-fir apparently exhibit greater behavioral plasticity and have been observed to eat western hemlock and Sitka spruce in captivity (Clifton 1960, p. 44; Maser 2009, pers. comm.).

The ecological setting and unique foraging behavior of red tree voles in the northern Oregon Coast Range create different selective pressures for the animals in this portion of their range relative to red tree voles in the remainder of the taxon’s range. Such selective pressures are the foundation of speciation, and such distinct traits may be crucial to species adaptation in the face of changing environments (Lesica and Allendorf 1995, p. 756). We find the discrete population of tree voles in the northern Oregon Coast Range contains a unique ecological setting in the form of the Sitka spruce plant series because the plant series is extremely limited within the red tree vole range, and because of the relatively unique and inflexible foraging behavior tied to this plant series that may be indicative of ongoing speciation. However, the geographic range in which this ecological setting and associated unusual foraging behavior is expressed does not correspond to the range of the tree voles identified under the discreteness criterion, above, as it occurs in only a subset of the range of tree voles with the “Northern Coast range” genetic grouping (Miller et al. 2006a, p. 151). Therefore, although we recognize this ecological setting and the associated unique foraging behavior of tree voles to be potentially important from an evolutionary perspective, we find that the discrete population of tree voles in the northern Coast Range as a whole do not meet this significance criterion under the DPS policy.

**Evidence that loss of the DPS would result in a significant gap in the range of the taxon.** The loss of the North
Oregon Coast portion of the red tree vole range would result in a roughly 24 percent reduction in the range of the red tree vole. This loss is significant for multiple reasons, in addition to the fact that it represents nearly one-quarter of the total range of the species. For one, it would occur in the part of the range where the alternative foraging behavior of feeding on spruce and hemlock is the dominant behavior observed. Although this behavior is expressed in only a subset of this portion of the range, it is unique to this portion of the range and is of potential evolutionary significance, therefore its loss would be significant to the taxon as a whole. Secondly, while loss of the North Oregon Coast population would not create discontinuity in the remaining range, species at the edge of their range may be important in maintaining opportunities for speciation and future biodiversity (Fraser 1999, p. 50), allowing adaptation to future environmental changes (Lesica and Allendorf 1995, p. 756).

Furthermore, peripheral populations may represent refugia for species as their range is reduced, as described by Lomolino and Channell (1995, p. 339), who found range collapses in mammal species to be directed towards the periphery. Genetically divergent peripheral populations, such as the North Oregon Coast population of the red tree vole, are often of disproportionate importance to the species in terms of maintaining genetic diversity and therefore the capacity for evolutionary adaptation (Lesica and Allendorf 1995, p. 756). Finally, in the face of predictions that climate change will result in species’ ranges shifting northward and to higher elevations (Parmesan 2006, pp. 648-649; IPCC 2007, p. 8; Marris 2007, entire) (see Factor E. Other Natural or Manmade Factors Affecting the Species’ Continued Existence), the northern Oregon Coast Range may become a valuable refugium from climate change effects for the species, as it includes the northernmost portion of the red tree vole’s range as well as higher elevations near the Oregon Coast Range summit. Based on the above considerations, we therefore conclude that loss of the North Oregon Coast population of the red tree vole would result in a significant gap in the range of the taxon.

Evidence that the DPS represents the only surviving natural occurrence of a taxon that may be more abundant elsewhere as an introduced population outside its historical range. As part of a determination of significance, our DPS Policy suggests that we consider whether there is evidence that the population represents the only surviving natural occurrence of a taxon that may be more abundant elsewhere as an introduced population outside its historical range. The North Oregon Coast population of the red tree vole is not the only surviving natural occurrence of the species and has not been introduced outside of its historical range. Consequently, this factor is not relevant to our determination regarding significance.

Evidence that the DPS differs markedly from other populations of the species in its genetic characteristics. Red tree voles exhibit marked genetic structure. As described under Discreteness, above, Miller et al. (2006a, entire) characterized patterns of genetic divergence across the range of the red tree vole in western Oregon based on analyses of mitochondrial DNA from 18 sampling areas. The results of their spatial analysis of molecular variance revealed three distinctive genetic groupings of red tree voles in Oregon: A “southern” haplotype group, and a “northern” haplotype group that was further subdivided into 2 groups, the “Northern Cascade range” and “Northern Coast range” groups (Miller et al. 2006a, Figure 3, p. 151). The sampling areas that correspond to the “Northern Coast range” subdivision of the “northern” group (Areas A, C, D, and F) correspond to the entity we have described here as the North Oregon Coast population of the red tree vole. In the 4 sampling areas for the “Northern Coast range” genetic sequence (Miller et al. 2006a, p. 151), 20 out of the 21 D-loop haplotypes identified were unique to those locations, and in 3 of 4 sampling areas, 100 percent of the individuals sampled had a location-specific haplotype (60 percent of the individuals had a location-specific haplotype in the fourth sampling area; a single haplotype from Area C was also detected in Area N) (Miller et al. 2006a, Table 1, p. 148; Appendix, pp. 158–159). Although the researchers could not identify a strict discontinuity or barrier between the northern and southern groupings, which exhibited the greatest genetic distances, they suggest that the Willamette Valley serves as an important phylogeographical barrier that is likely responsible for the secondary genetic discontinuity identified between red tree voles in the western (“Northern Coast range” sequence) and eastern (“Northern Cascade range” sequence) portions of the northern haplotypes group (Miller et al. 2006a, pp. 151, 155).

Loss of the North Oregon Coast population of the red tree vole would eliminate a unique set of genetic haplotypes from the red tree vole population. Retaining genetic variation provides a wider capability for species to adapt to changing environmental conditions (Frankham et al. 2002, p. 46). Peripheral populations that are known to be genetically divergent from other conspecific populations, such as the North Oregon Coast population of the red tree vole, may have great conservation value in providing a species with the capacity to adapt and evolve in response to accelerated environmental changes (Lesica and Allendorf 1995, p. 757). Changing environmental conditions are almost a certainty for the red tree vole, given the prevailing recognition that warming of the climate system is unequivocal (IPCC 2007, p. 30). The importance of maximizing the genetic capacity to adapt and respond to the environmental changes anticipated is therefore magnified. Furthermore, preservation of red tree voles and their unique genetic composition at the northern extent of their range may be particularly important in the face of climate change, as most northern-hemisphere temperate species are shifting their ranges northward in response to that phenomenon, and species that cannot shift northward have suffered range contractions from loss of the southernmost populations (Parmesan 2006, pp. 647-648, 753; IPCC 2007, p. 8). Given that the Columbia River presents an apparent absolute barrier to northward expansion of the species, the northern Coast Range population of the red tree vole may provide an important refugium for the persistence of the species if more southerly populations are extinguished in the face of climate change. Losing an entire unique genetic component of the red tree vole, with its inherent adaptive capabilities, is significant and could compromise the long-term viability of the species as a whole. We therefore conclude the marked difference in genetic characteristics of the North Oregon Coast population relative to other populations of the red tree vole meets the significance criterion of the DPS Policy.

DPS Conclusion

We have evaluated the North Oregon Coast population of the red tree vole to determine whether it meets the definition of a DPS, addressing discreteness and significance as required by our policy. We have considered the genetic differences of the North Oregon Coast population relative to the remainder of the taxon, the ecological setting of the northern Oregon Coast Range, and the proportion
of the range of the red tree vole that the North Oregon Coast population comprises. We conclude that the North Oregon Coast population of the red tree voles is a valid distinct population segment under the 1996 DPS Policy (Figure 2). The North Oregon Coast population meets the discreteness criterion of the DPS Policy because it is markedly separated from the remainder of the taxon based on genetic differences. Genetic distribution in the red tree vole is not random, but exhibits a markedly distinct group of haplotypes located in the northern Oregon Coast Range (Miller et al. 2006a, entire). We also conclude that the North Oregon Coast population of red tree voles is significant on multiple accounts. The loss of this population would virtually eliminate a unique genetic component of the red tree vole, substantially reducing genetic diversity and consequently limiting the species’ ability to evolve and adapt to changing environments. Loss of this population, which comprises 24 percent of the range of the red tree vole, would result in a significant gap in the range, primarily because of the value of peripheral populations in maintaining diversity and evolutionary adaptation, and because this area may provide a valuable refugium in the event of predicted climate change. The loss of red tree voles in the northern Oregon Coast Range would also result in the loss of a unique alternative foraging behavior exhibited by tree voles in the Sitka spruce plant series. Although this behavior occurs in a subset of the area encompassed by the North Oregon Coast population (Forsman and Swingle 2009, unpublished data), it is of potential evolutionary significance to the species; therefore the loss of that portion of the species’ range that includes this subpopulation would be of significance to the taxon as a whole.

Because this population segment meets both the discreteness and significance elements of our DPS Policy, the North Oregon Coast population segment of the red tree vole qualifies as a DPS in accordance with our DPS Policy, and as such, is a listable entity under the Act (hereafter “North Oregon Coast DPS” of the red tree vole). Because we have determined the DPS to be a listable entity, we do not need to analyze the alternative presented by the petitioners, which was protecting what they labeled the dusky tree vole via listing the red tree vole because it is endangered or threatened in a significant portion of its range. Below we provide an analysis of threats to the North Oregon Coast DPS of the red tree vole, based on the five listing factors established by the Act.

**Summary of Information Pertaining to the Five Factors**

Section 4 of the Act (16 U.S.C. 1533), and implementing regulations (50 CFR part 424) set forth procedures for adding species to, removing species from, or reclassifying species on the Federal Lists of Endangered and Threatened Wildlife and Plants. Under section 4(a)(1) of the Act, a species may be determined to be endangered or threatened based on any of the following five factors:

1. The present or threatened destruction, modification, or curtailment of its habitat or range;
2. Overutilization for commercial, recreational, scientific, or educational purposes;
3. Disease or predation;
4. The inadequacy of existing regulatory mechanisms; and
5. Other natural or manmade factors affecting its continued existence.

In making this finding, information pertaining to the North Oregon Coast DPS of the red tree vole in relation to the five factors provided in section 4(a)(1) of the Act is discussed below. In considering what factors might constitute threats to a species, we must look beyond the exposure of the species to a particular factor to evaluate whether the species may respond to that factor in a way that causes actual impacts to the species. If there is exposure to a factor and the species responds negatively, the factor may be a threat and, during the status review, we attempt to determine how significant a threat it is. The identification of factors that could impact a species negatively may not be sufficient to compel a finding that the species warrants listing. The information must include evidence sufficient to suggest that these factors, singly or in combination, are operative threats that act on the species to the point that the species may meet the definition of endangered or threatened under the Act.

**Factor A. The Present or Threatened Destruction, Modification, or Curtailment of Its Habitat or Range**

**Past and Current Range and Abundance**

Because of its arboreal existence and difficulty to observe and capture, little is known about the past and current population sizes of red tree voles. It is difficult to accurately estimate the size of a local tree vole population, let alone the population of the entire species (Howell 1926, p. 56; Blois and Arborgast 2006, p. 958). Estimates indicate that observers using ground-based survey methods may only see approximately half of the nests, with a bias towards observing more nests in younger forests than in older forests due to the greater visibility (Howell 1926, p. 45; Swingle 2005, pp. 78, 80–81; Swingle and Forsman 2009, p. 284). While nests can be counted and assessments have been made of the activity status of the nests, translating nest counts to numbers of voles does not yield good population estimates because some nests will be missed, some individuals occupy multiple nests, and determining whether nests are actively occupied is not possible without climbing to the nests and dissecting or probing them for voles (Swingle and Forsman 2009, p. 284). Using the presence or absence of green resin ducts and cuttings to determine the activity status of nests, which formerly had been a common method used in tree vole surveys, is now known to be unreliable for assessing actual nest occupancy by voles because the resin ducts can retain a fresh appearance for long periods of time if stored in the nest or out of sunlight, resulting in potential overestimates of active nest occupancy (USDA and USDI 2007, p. 290).

Although historical observations of tree voles are useful for assessing the range of the species, they may also be biased because collectors did not sample randomly. Thus, historical locations of tree voles tend to occur in clusters where a few collectors spent a lot of time searching for them. Until extensive surveys were conducted by the Forest Service and BLM as part of the Survey and Manage program adopted in 1994 under the NWFP, much of the range of the red tree vole had never been searched. The lack of historical documentation of tree vole presence thus cannot be interpreted as meaning that tree voles had limited populations or were historically absent from an area, especially if that area formerly provided suitable forest habitat for tree voles and was contiguous with known occupied areas. Surveys by naturalists in the late 1800s and early 1900s were more of an inventory to find new species and to determine species presence as opposed to determining abundance of a particular species (Johane 1988, p. 370). Only portions of Oregon were surveyed, and coverage was cursory and localized. Given the arboreal existence of the red tree vole and difficulty of finding and observing them, few specimens were collected or observed until more was understood about their life history (Bailey 1936, p. 195; Johane 1988, pp. 380–381). Many
nests were simply inaccessible to early naturalists. Nests were often high up in big trees, many of which were too large to climb without the benefit of modern climbing equipment, or the trees lacked enough branches on the lower bole to readily free-climb (e.g. Jobanek 1988, p. 391). Howell (1921, p. 99) noted that there was little hope for finding tree voles in virgin timber because of the large trees and the abundant moss that might conceal “a score of hidden nests.”

Vernon Bailey, Chief Naturalist of the U.S. Bureau of Biological Survey, considered the red tree vole to be abundant in the wild yet rare in museum collections because of the difficulty in collecting them (Jobanek 1988, p. 382). Murray Johnson, the most prolific early collector of tree voles, spent most of his time searching in young forests because he could not climb big trees (Forsman 2010, pers. comm.).

Red tree voles are found on both the eastern and western slopes of the Oregon Coast Range. Although there are no records of red tree voles in Clatsop County north of Saddle Mountain or in Columbia County, there is no reason to believe that tree voles did not once occur there given the presence of historical habitat (see Range and Distribution). There is a gap in the distribution of tree vole specimens and nests south of Saddle Mountain State Park in south-central Clatsop County, through the eastern two-thirds of Tillamook County south to the town of Tillamook (Forsman et al. 2009b, p. 229). There are no historical records of voles collected in this area, but there is also no evidence that early naturalists searched this area for tree voles. This gap in the range corresponds roughly with the area of the Tillamook burn, a stand-replacing fire that burned over 300,000 acres (121,400 ha) in 1933 (Pyne 1982, pp. 330–331). This area burned in three successive fires over the next 18 years, for a combined total of 500,000 acres (121,650 ha) (Pyne 1982, pp. 330–331). It is reasonable to conclude that voles were present in this area prior to the fire, considering that much of the burned area contained older forest similar to forests occupied by tree voles in areas adjacent to the burn.

Extensive surveys done throughout the range of the red tree vole as part of the NWFP Survey and Manage program have resulted in information that has helped to refine the distribution of the red tree vole (USDA and USDI 2000a, p. 376; USDA and USDI 2007, pp. 289–290). Information gleaned from these more recent surveys indicate that tree voles continue to be widely distributed throughout much of their range in Oregon with the exception of the northern Oregon Coast Range, particularly the area within the DPS north of Highway 20. This portion of the Coast Range north of Highway 20 accounts for nearly three-quarters of the DPS. Within the DPS, 36 percent of the Federal land, 92 percent of the State and County ownership, and 77 percent of the private ownership lies north of Highway 20 (Figure 2). In other words, this portion of the DPS is primarily in State, County, and private ownership, with relatively little Federal land. In the northern Oregon Coast Range north of Highway 20, tree voles are now considered uncommon and sparsely distributed compared to the rest of the range, based on observations of vole nests classified as recently occupied (USDA and USDI 2007, pp. 289, 294). Furthermore, the few nests that are recorded in this portion of the DPS likely result in overestimation of tree vole occupancy given errors in nest activity classification (USDA and USDI 2007, p. 290) and the difficulty in translating nest counts to vole numbers discussed earlier in this section.

Descriptions of historical search efforts for red and Sonoma tree voles indicate that once the species’ behavior and life history were understood, observers typically noted the patchy distribution of voles, and once they found voles, they tended to readily find multiple nests and voles in the same area (Howell 1926, pp. 140–141; Howell 1926, pp. 42–43; Clifton 1960, pp. 24–30; Maser 1966, pp. 170, 216–217; Maser 2009, pers. comm.; Forsman and Swingle 2010, p. 104). For example, Clifton (1960, pp. 24–30) averaged one day searching for every red tree vole “colony” found near Newberg, Oregon, and Howell described more than 50 Sonoma tree vole being collected over 2 days near Carlotta, California in 1913 (Howell 1926, p. 43).

In contrast, between 2002 and 2006, Forsman and Swingle (2006, unpublished data) spent 1,143 person-hours searching potential vole habitat in or near areas where voles historically occurred in or immediately adjacent to the DPS and captured or observed only 27 voles, equating to 42 hours of search effort per vole found. Although a rigorous quantitative comparison cannot be made between recent and historical observation data, the above anecdotal information indicates that tree vole numbers are greatly reduced in the DPS—red tree voles are now scarce in the same areas where they were once found with relative ease. Similarly, decreases in Sonoma tree vole numbers have been observed, although not quantified, over the past decade (Diller 2010, pers. comm.). The weight of evidence suggesting that tree voles are less abundant now increases upon considering that most historical observations were by naturalists who primarily collected voles from younger forests where nests were more easily observable and accessible by free-climbing (e.g. Howell 1926, p. 42; Clifton 1960, p. 34; Maser 2009, pers. comm.; Forsman 2010, pers. comm.). These early naturalists were limited in the size and form (e.g., presence or absence of low-lying limbs that allowed for free-climbing) of trees they could climb, unlike current researchers, yet found many voles with relatively little effort. In contrast, researchers in recent years searching these same areas have captured comparatively few voles per unit effort, using state-of-the-art climbing gear to access every potential nest observed, regardless of tree form or size (Forsman 2009, pers. comm.; Forsman and Swingle 2006, unpublished data; 2009, pers. comm.). Although rigorous population estimates cannot be determined from these data, the evidence suggests that red tree voles are now much less abundant within the DPS than they were historically.

Habitat loss appears to at least partly explain the apparent reduction in tree vole numbers, both rangewide and within the DPS. As an example, many researchers have noted a continual decrease in both habitat and numbers of Sonoma tree voles near Carlotta, California, from 1913 through 1977 (Howell 1926, p. 43; Benson and Borell 1931, p. 226; Zettner 1966, p. 45). Specific to the North Oregon Coast DPS, Forsman and Swingle (2009, pers. comm.) noted the reduction or loss of habitat in areas where tree voles historically occurred; habitat loss seemed especially prominent in coastal areas and along the Willamette Valley margin, where Forsman and Swingle (2009, unpublished data; 2009, pers. comm.) observed that some historical collecting sites had since been logged and found fewer voles than were historically collected from these areas. The apparently significant decline in tree vole abundance within the North Oregon Coast DPS of the red tree vole appears to correspond with the extensive historical loss of the older forest type that provides the highest quality habitat for the red tree vole, as well as the ongoing harvest of timber on short rotation schedules that maintains the remaining forest in lower quality early seral conditions in perpetuity.
addition, continuing timber harvest in younger forest areas adjacent to remaining patches of older forest diminishes the habitat quality of these stands by maintaining them in an isolated and fragmented condition that may not allow for persistent populations of red tree voles. 

Landscapes in the Oregon Coast Range have become increasingly fragmented and dominated by younger patches of forest, as old and mature forests have been converted to younger stands through anthropogenic alteration (Wimberly et al. 2000, p. 175; Martin and McComb 2002, p. 255; Wimberly 2002, p. 1322; Wimberly et al. 2004, p. 152; Wimberly and Ohmann 2004, pp. 631, 635, 642). The historical loss of large contiguous stands of older forest has manifested in the current primary threats to the North Oregon Coast DPS of the red tree vole of insufficient habitat, habitat fragmentation, and isolation of small populations; these threats are addressed under Factor E, below. Here we address the effects of varying levels of ongoing habitat loss and modification in the North Oregon Coast DPS of the red tree vole. We first provide some background on the historical environmental conditions in the DPS, as this provides important context for understanding the effects of ongoing timber harvest on the habitat of the red tree vole.

Modification of Oregon Coast Range Vegetation

Within the Oregon Coast Range Province, the amount of forests that have the type of structure and composition favored by red tree voles has experienced significant loss over the past century, primarily due to timber harvest. While the total area of closed canopy forest remained fairly stable from 1936 to 1996, major shifts have occurred in the distribution, age, and structure of these forested cover classes. Most germane to red tree voles, there has been a change from a landscape dominated by large conifers with quadratic mean tree diameters greater than or equal to 20 in (51 cm) to a landscape dominated by smaller conifers. Specifically, the percent cover of large conifers in the Coast Range Province declined from 42 percent in 1936 to 17 percent in 1996 (Wimberly and Ohmann 2004, p. 631). On Federal lands, timber harvest has declined substantially since the inception of the NWFP in 1994 (Spies et al. 2007a, p. 4). Moer et al. (2005, pp. 95–100) even showed a 19 percent increase in older forests (minimum quadratic mean diameter 20 in (51 cm) and canopy cover greater than 10 percent, regardless of structural complexity) on Federal lands in the NWFP during the first 10 years of its implementation. However, more recently, better data and analysis methods have indicated that in fact there has been a slight net decline in older forest on Federal lands between 1994 and 2007. Specifically on Federal lands in the Oregon Coast Range, older forest has declined from 44.2 percent to 42.9 percent (Moeur et al. 2010a, Figure 1).

There is some indication that managed second-growth forests are not developing characteristics identical to natural late-successional forests, and that second-growth forests and clearcuts exhibit reduced diversity of native mammals typically associated with old-growth forest conditions (Lomolino and Perault 2000, pp. 1526, 1529). The historical losses of late-successional forest and ongoing management of most forests on State, County, and private lands for harvest on a short-rotation schedule have resulted in the destruction of the older forest habitats favored by red tree voles; these older forest habitats now persist largely in small, isolated fragments across the DPS. Because of the historical loss of older forest stands, the remaining habitat now contains forests in earlier seral stages, which provide lower-quality habitat for red tree voles. The ongoing management of much of the forest within the DPS for timber harvest on relatively short rotation schedules, particularly on State, County, and private lands, contributes to the ongoing modification of tree vole habitat by maintaining forests in low quality condition; most of the younger forest types within the DPS are avoided by tree voles for nesting. Although younger forests may provide important interim or dispersal habitats for red tree voles, it is unlikely that forests lacking the complexity and structural characteristics typical of older forests can support viable populations of red tree voles over the long term. These concepts are explored further in the section, Continuing Modification and Current Condition of Red Tree Vole Habitat, below.

Habitat Loss From Timber Harvest

In their analysis of forest trends, Wimberly and Ohmann (2004, p. 643) found that land ownership had the greatest influence on changes in forest structure between 1936 and 1996, with State and Federal ownership retaining more large-conifer structure than private lands. Loss of large-conifer stands to development was not considered a primary cause of forest type change. Instead, loss to disturbance, primarily timber harvest, was the biggest cause, with fires accounting for a small portion of the loss (Wimberly and Ohmann 2004, pp. 643–644). Between 1972 and 1995, timber clearcut harvest rates in all stand types were nearly three times higher on private land (1.7 percent of private land per year) than public land (0.6 percent of public land per year), with the Coast Range dominated by private industrial ownership and having the greatest amount of timber harvest as compared to the adjacent Klamath Mountain and Western Cascades Provinces (Cohen et al. 2002, pp. 122, 124, 128). Within the Coast Range, there has been a substantial shift in timber harvest from Federal to State and private lands since the 1980s, with an 80 to 90 percent reduction in timber harvest rates on Federal lands (Azuam et al. 2004, p. 1; Spies et al. 2007b, p. 50).

More than 75 percent of the future timber harvest is expected to come from private timberlands (Johnson et al. 2007, entire; Spies et al. 2007b, p. 50) and modeling of future timber harvests over the next 50 years indicates that current harvest levels on private lands in western Oregon can be maintained at that rate (Adams and Latta 2007, p. 13). Loss and modification of tree vole habitat within the northern Oregon Coast Range is thus expected to continue, albeit at a lower rate on State and Federal lands compared to private lands (see discussion under Factor D, below). However, even on Federal lands, which provide the majority of remaining suitable habitat for red tree voles within the DPS, some timber harvest is expected to continue in those land allocations where allowed under their management plans. Although some forms of harvest may not exert a significant negative impact on red tree voles if managed appropriately (for example, thinning in Late-Successional Reserves (LSRs) or Late-Successional Management Areas (LSMAs) with the goal of enhancing late-successional characteristics over the long term), lands in the Timber Management Area (TMA) and Matrix allocation are intended for multiple uses, including timber harvest. As an example, since the inception of the NWFP, 55 percent of the timber harvest on BLM lands within the DPS came from the Matrix allocation, 20 percent from Adaptive Management Areas (AMAs), and 25 percent came from LSRs both within and outside the AMA (BLM 2010, unpublished data). These numbers do not include harvest within Riparian Reserves, which overlay all land allocations. Within the DPS, approximately 156,844 ac (63,475 ha)
are in the Matrix and TMA allocations, combined.

Continuing Modification and Current Condition of Red Tree Vole Habitat

The loss of much of the older forest within the DPS has reduced high-quality habitat for tree voles to relatively small, isolated patches; these conditions pose a significant threat to red tree voles, which are especially vulnerable to the effects of isolation and fragmentation due to their life-history characteristics (see Factor E below). Tree voles are naturally associated with unfragmented landscapes, and are considered habitat specialists that select areas of contiguous mature forest; they are not adapted to fragmented landscapes and early seral habitat patches (Martin and McComb 2002, p. 262). At present and for the foreseeable future, however, much of the remaining forest on State and private lands in the North Coast Range DPS is managed for timber production, as are lands within the Matrix and TMA allocations of the Federal lands (see Factor D below). Managing for timber production either removes existing habitat or prevents younger stands from developing into suitable habitat due to short harvest rotations. Remaining older forest habitat tends to be in small, isolated patches (see Factor E below); we consider such forest conditions to provide poor habitat for the red tree vole and unlikely to sustain the species over the long term. Although some State land and much of the Federal ownership is managed for development or maintenance of late-successional habitat or old-forest structure conditions, active management such as thinning activities are allowed and encouraged to develop the desired stand conditions. However, thinning stands occupied by tree voles can reduce vole numbers or eliminate them (see below).

The most comprehensive analysis of current red tree vole habitat conditions specific to the North Coast Range DPS is a report by Dunk (2009, entire). Dunk (2009, p. 1) applied a red tree vole habitat suitability model (Dunk and Hawley 2009, entire) to 388 Forest Inventory Analysis (FIA) plots systematically distributed on all ownerships throughout the DPS (the FIA is a program administered by the USDA Forest Service, and is a national scientific inventory system based on permanent plots designed to monitor the status, conditions, and trends of U.S. forests). FIA plots are resampled every 10 years to monitor changes in forest vegetation vole habitat suitability model estimates the probability of red tree vole nest presence (Po) from 0 to 1; the larger values of Po (e.g., 0.9 or 0.8) represent a greater probability of nest presence and correlate to presumed higher quality habitat. Based on their model results, Dunk and Hawley (2009, p. 630) considered a Po of greater than or equal to 0.25 as likely having presence of a tree vole nest in an FIA plot; a Po of less than 0.25 was considered as not likely to have a tree vole nest. The Po cutoff point of 0.25 represents the value that achieved the highest correct classification of occupied and non-occupied sites while attempting to reduce the error of misclassifying plots that actually had nests as plots without nests; plots with Po greater than 0.25 are assumed to represent suitable tree vole habitat. Based on this assumption that a Po value of 0.25 represents suitable tree vole habitat, Dunk (2009, pp. 4, 7) found that 30 percent of the plots on Federal lands within the DPS had suitable habitat, but only 4 and 5 percent of the plots on private and State lands within the DPS, respectively, had suitable habitat. Across all landownerships in the DPS collectively, 11 percent of the plots had potentially suitable habitat for red tree voles. Thus within the DPS, there is relatively little suitable habitat remaining for the red tree vole, and this suitable habitat is largely restricted to Federal lands. State and private lands, which comprise the majority of the DPS (78 percent of the land area), provide little suitable habitat for tree voles. Dunk and Hawley (2009, p. 631) also compared red tree vole usage of forest types with the proportional availability on the landscape; this is an important measure of habitat selection by the species. If red tree voles do not select for any particular forest type condition, we would expect usage of different forest types to be proportional to their availability. If a forest type is used less than expected based on its availability, that is assumed to represent selection against that forest type; in other words, the species avoids using that forest type, even though it is available. If a forest type is used more than expected based on availability, that is assumed to represent selection for that forest type; the species is seeking out that forest type, despite the fact that it is less readily available. The forest type that tree voles select is assumed to be suitable habitat.

Combining the strength of selection analysis done by Dunk and Hawley (2009, p. 631) with the current habitat condition in the DPS based on FIA data, almost 90 percent of the DPS is in a forest type condition that tree vole voles tend to avoid, while only 0.3 percent of the DPS is in a forest type that red tree voles tend to strongly select for (Figure 3). This is based on evaluation of the FIA plots, comparing those with the lowest probability of selection by tree voles for nesting (lowest 20 percent of probability classes; nearly 87.3 percent of FIA plots across all landownerships within the DPS were in this condition) with those with the greatest strength of selection (highest 20 percent of probability classes; 0.3 percent of FIA plots across all landownerships were in this condition). Assuming that tree vole exhibit the strongest selection for the highest quality habitats, this translates into roughly 11,605 ac (4,700 ha) of high-quality habitat remaining for red tree voles distributed across a DPS roughly 3.6 million ac (1.6 million ha) in size. Furthermore, although some nests may have been missed during tree vole surveys, the nest estimates used by Dunk and Hawley (2009, entire), and subsequently applied by Dunk (2009, entire), likely overestimate probable tree vole occupancy for two reasons. First, occupied sites were based on locations of tree vole nests, and as explained earlier, the presence of nests, even those classified as “active,” do not necessarily equate to tree vole occupancy. Second, the analyses were based on plot-level data at the scale of less than 2.5 ac (1 ha). The distribution of tree vole habitat and effects of habitat fragmentation, connectivity, and possible metapopulation dynamics may also influence the probability of tree voles on a site such that a 2.5 ac (1 ha) plot of highly suitable habitat isolated from other suitable habitat is less likely to contain or sustain tree voles than connected stands (Dunk 2009, p. 9).

Thus, its actual likelihood of occupancy may be lower than predicted by the model due to its landscape context. The sample patch size used by Dunk (2009, entire) is less than the 5–10 acres (2–4 ha) in which Hopkins (2010, pers. comm.) found nests of tree voles and substantially less than the minimum forest stand size of 75 ac (30 ha) in which individual tree voles have been found (Huff et al. 1992, p. 7). Whether either of these minimum patch sizes can sustain a population of red tree voles over the long term is unknown and is influenced by such things as habitat quality within and surrounding the stand, position of the stand within the landscape, and the ability of individuals to move among stands (Huff et al. 1992, p. 7; Martin and McComb 2003, pp. 571–579). Given the conservative assumptions of the model, the amount of remaining suitable habitat within the DPS reported by Dunk (2009, entire) may represent a best-case
Figure 3. Strength of habitat selection by red tree voles on Federal land throughout their range in Oregon and percentage of FIA plots in DPS within each Probability Class. Probability Classes are the probability of occurrence of red tree vole nests in a plot with certain habitat characteristics, with probabilities divided into 10 equally sized groups. Bars represent the strength of selection by red tree voles for each Probability Class (bars to the right of the graph) to strong selection against the lowest Probability Classes (bars to the left of the graph). The number at the end of each bar is the percentage of plots within the DPS within that Probability Class.
Their results indicated that tree vole habitat currently makes up almost 50 percent of the province, with just under half of that habitat occurring on private lands (Spies et al. 2007a, p. 10, Figure 2). While this assessment of the current condition of tree vole habitat in coastal Oregon differs from Dunk (2009, entire), we believe Dunk to be a more accurate description of red tree vole habitat in the DPS and rely more heavily on that work for the following reasons. Dunk’s analysis is specific to the DPS, whereas the Coast Range Physiographic Province, which includes the DPS, covers an additional 1.8 million acres (728,000 ha) extending to the south of the DPS. Second, Spies et al. (2007b, p. 51, Appendix D) assessed tree vole habitat by developing habitat capability index models that reflect habitat characteristics important for survival and reproduction based on literature and expert opinion. The variables they used were restricted to existing geographic information system layers that could be projected into the future using forest dynamics models. They were not able to empirically verify their red tree vole habitat capability index model with independent data, although it was reviewed by two published experts. Dunk’s analysis (2009, entire) relied on the red tree vole habitat model described in Dunk and Hawley (2009, entire), which was empirically developed based on presence or absence of red tree vole nests in FIA plots on Federal lands throughout most of the tree vole range. Dunk (2009, entire) then applied that model to FIA plots across all ownerships within the DPS to describe current tree vole habitat distribution based on existing field data.

As noted earlier, although red tree voles are widely considered habitat specialists strongly associated with older forests, they may also be found in younger stands (Maser 1966, pp. 216–217; Thompson and Diller 2002, p. 95; Swingle and Forsman 2009, pp. 278, 284), which are much more abundant in the DPS. Although some have suggested that these young forests may be population sinks (Carey 1991, p. 34), the role of younger stands in tree vole population dynamics is unclear. Tree voles in young stands may represent attempts of emigrants to establish territories, or may be residual populations that tolerate habitat disturbance (USDA and USDI 2000a, p. 378). It is possible that some young stands are on unique microsites where tree voles are able to reinvade and persist. Young stands (Forsman 2010, pers. comm.). Younger stands may also be important for allowing dispersal and short-term persistence in landscapes where older forests are either isolated in remnant patches or have been largely eliminated (Swingle 2005, p. 94). The presence of individuals within a particular habitat condition does not necessarily mean the habitat is optimal, and individuals may be driven into marginal habitat if it is all that is available (Gaston et al. 2002, p. 374). Swingle and Forsman (2009, entire) found radio-collared tree voles in young stands throughout the year, but occupancy of younger stands appears to be short-term or intermittent (USDA and USDI 2000a, p. 378; Diller 2010, pers. comm.; Hopkins 2010, pers. comm.).

There are few data on survival of tree voles in younger stands. The only study conducted to date suggested no difference in annual survival of tree voles in young (22–55 years) and old (110–260 years) stands, but the authors cautioned that their sample sizes were small and had low power to detect effects (Swingle 2005, p. 64; Forsman and Swingle 2009, pers. comm.). Thinning younger stands occupied by tree voles can reduce or eliminate voles from these stands (Biswell 2010, pers. comm.; Swingle 2010, pers. comm.), and Carey (1991, p. 8) suggests activities that result in rapidly developing (changing, unstable) younger forests are a limiting factor for red tree voles. Conversely, when vole nests classified as occupied (based on indication of activity such as presence of fresh green resin ducts) were protected with a 10-acre buffer zone during thinning treatments, Hopkins (2010, pers. comm.) continued to find signs of occupancy at these nests post-treatment, although signs of occupancy were intermittent through time. However, Hopkins’ (2010, pers. comm.) results are subject to the limitations of using the presence or absence of green resin ducts to determine the activity status of nests (see the beginning of Factor A, above). Red tree voles may ultimately come back to a treated stand, but how long it will be after the treatment before the stand is reoccupied is unknown. If and when tree voles return likely depends on a multitude of factors including magnitude, intensity and frequency of the treatment within the stand, type and amount of structure left after treatment (e.g., large trees), and whether or not there is a refugium or source population nearby that is available to supply voles for recruitment when the treated stand becomes suitable again (Swingle 2010, pers. comm.; Forsman 2010, pers. comm.; Hopkins 2010, pers. comm.; Swingle 2010, pers. comm.). Thus, while the value of younger stands as suitable habitat to voles is unclear, they may provide some value in otherwise denuded landscapes, and thinning treatments in these stands have the potential to further reduce vole numbers, especially if thinning design does not account for structural features and the connectivity of those features that are important to red tree voles (Swingle and Forsman 2009, p. 284). Swingle (2005, pp. 78, 94), however, cautions against using the occasional presence of tree voles in young forests to refute the importance of old forest habitats to tree voles.

In summary, whether red tree voles in younger forests can persist over long periods or are ephemeral populations that contribute little to overall long-term population viability remains unknown at this time (USDA and USDI 2007, p. 291). However, the recent work of Dunk (2009, entire) and Dunk and Hawley (2009, entire) indicate that red tree voles display strong selection for forests with late-successional structural characteristics.

Although the role of younger forest is uncertain, based on our evaluation of the best available scientific data, as described above, we conclude that older forests are necessary habitat for red tree voles and that younger stands will rarely substitute as habitat in the complete or near absence of older stands. While some State land and much of the Federal ownership is managed for development or maintenance of late-successional habitat or old-forest structure conditions, full development of this habitat has yet to occur (see below). In addition, thinning activities designed to achieve these objectives can reduce or eliminate tree voles from these stands. The ongoing management of forests in most of the North Oregon Coast DPS for the purposes of timber production thus contributes to the threat of habitat modification for the red tree vole, as forest habitats are prevented from attaining the high-quality older forest characteristics naturally selected by red tree voles and are maintained in a low-quality condition for red tree voles in the DPS. Our evaluation of the remaining older forest patches within the DPS indicate they are likely insufficient to sustain red tree voles over the long term due to their relatively small size and isolated nature (see Factor E, below).

Projected Trends in Red Tree Vole Habitat

Implementing current land management policies in the Coast Range Province is projected to provide an increase (approximately 20 percent) in
red tree vole habitat over the next 100 years, primarily on Federal and State lands (Spies et al. 2007b, p. 53). Vegetation simulations indicate that private industrial timber lands will generally be dominated by open and small- and medium-sized conifer forests. Old forest structure and habitat will strongly increase on Federal and State lands, and large, continuous blocks of forest will increase primarily on Forest Service and State lands (Johnson et al. 2007, pp. 41–42). The estimate of older forests on State lands, however, may be a substantial overestimate because the analysis was not able to fully incorporate the complexity of the State forest management plan (Johnson et al. 2007, p. 43; Spies et al. 2007a, p. 11). In addition, the Oregon Department of Forestry (ODF) has since reduced the targeted level of old forest to be developed in northwestern Oregon forests (ODF 2001, p. 4–48; 2010c, p. 4–48). Yet even with the projected increase, the amounts of old forest will not approach historical levels estimated to have occurred over the last 1,000 years in the Coast Range Province (Spies et al. 2007a, pp. 10–11), and these blocks of restored older forest will continue to be separated by forests in earlier seral stages on private lands. Although restoration of Oregon Coast Range forests to historical levels of older forest conditions is not requisite for the conservation of red tree voles, we have no evidence to suggest the present dearth of suitable habitat for the red tree vole will be alleviated by the modest projected increases in older forest conditions on Federal and State lands within the DPS. Even though the amount of suitable habitat on public lands may eventually increase, these patches of suitable habitat will remain fragmented due to landownership patterns and associated differences in management within the DPS. Furthermore, the time required for stand development to achieve these improved conditions, 100 years, is substantial; whether these gradual changes will occur in time to benefit the red tree vole in the North Oregon Coast DPS is unknown. However, we anticipate that any patches of suitable habitat that may be found on public lands within the DPS 100 years from now will continue to be fragmented and isolated, due to the management practices on intervening private lands that inhibit connectivity. Thus, although projected future conditions represent a potential improvement in habitat for the red tree vole, the time lag in achieving these conditions and the fragmented nature of public lands in the northern Oregon Coast Range suggests that a potential gain of 20 percent more suitable habitat 100 years from now is likely not sufficient to offset the loss, modification, and fragmentation of habitat and isolation of populations that collectively pose an immediate threat to the red tree vole in the DPS.

Loss of forest land to development is projected to occur in 10 percent of the Coast Range Province, and would most likely occur on non-industrial private lands, near large metropolitan areas, and along the Willamette Valley margin (Johnson et al. 2007, p. 41; Spies et al. 2007a, p. 11). Although timber production in the Coast Range has shifted by ownership class, declining on Federal lands and increasing on private lands, overall production is projected to stay at recent harvest levels. Actual production may result in levels higher than projected because harvest levels estimated for private industrial timberland were conservative (Johnson et al. 2007, pp. 42–43) and timber production on State lands may be underestimated by 20 to 50 percent (Johnson et al. 2007, p. 43). Johnson et al. (2007, pp. 45–46) described several key uncertainties that were not accounted for in their projections of future trends in the Coast Range that could potentially affect their results. These uncertainties include: effects of climate change; recently adopted initiatives that may result in an increased loss of forest land to cities, towns, and small developments; a possible decrease in global competitiveness of the Coast Range forest industry; sales of industrial forests to Timber Management Investment Organizations that may result in a shift of land use to other types of development; the effects of Swiss needle cast on the future of plantation forestry; and effects of wildfire. Most of these scenarios would result in a loss of existing or potential tree vole habitat, contributing further to the present loss, modification, fragmentation, and isolation of habitat for the red tree vole within the DPS, although the magnitude of that loss is uncertain. In conclusion, while modest increases in tree vole habitat are expected to occur in the Oregon Coast Range over the next century, they are limited primarily to Federal lands and, to some lesser degree, State lands, although the amount of older forests on State lands may be an overestimate. As described above, the time lag in achieving the potential loss in suitable habitat and the fragmented nature of public lands, especially those Federal lands with the highest quality habitats, suggests that any future gains are likely not sufficient to offset the present threat of habitat loss, modification, or fragmentation, and its ongoing contribution to the isolation of red tree voles in the DPS.

Summary of Factor A

The North Oregon Coast DPS of the red tree vole is threatened by the effects of both past and current habitat loss, including ongoing habitat modification that results in the maintenance of poor quality forest habitats and insufficient older forest habitats, addressed here, and habitat fragmentation and isolation of small populations, addressed under Factor E. Most of the DPS, nearly 80 percent, is in State, County, and private ownership, and most of the forested areas are managed for timber production. Ongoing timber harvest on a short rotation schedule over most of this area maintains these forest habitats in a low-quality condition, preventing these younger stands from developing the older forest conditions most suitable for red tree voles. Although the role of younger forest stands is not entirely clear, we conclude the preponderance of the best available information suggests that red tree voles are habitat specialists strongly associated with unfragmented forests that exhibit late-successional characteristics; while younger forests may play an important role as interim or dispersal habitat, older forests are required to maintain viable populations of red tree voles over the long term. The ongoing management of forests in the North Oregon Coast DPS for the purposes of timber harvest thus contributes to the threat of habitat modification for the red tree vole, as forest habitats are prevented from attaining the high-quality older forest characteristics naturally selected by red tree voles and are maintained in a low-quality condition for red tree voles in the DPS. Factors that hinder the development and maturation of younger forest stages into late-successional forest conditions contribute to the ongoing modification of suitable habitat and maintain the present condition of insufficient remaining older forest habitat for the red tree vole in the DPS. The persistence and development of high-quality tree vole habitat over the next century under existing management policies is likely to occur primarily on Federal lands, and to a lesser degree on State lands. However, as Federal lands make up less than a quarter of the area of the DPS, even with eventual desirable management conditions, suitable red tree vole habitat will remain restricted in size and in a
readily obtained by early collectors such as Alex Walker, Murray Johnson, Doug Bake, Chris Maser, and Percy Clifton (Forsman 2009, pers. comm.). Although standardized quantitative data are not available to rigorously assess population trends of red tree voles, we believe it is reasonable to conclude that, based on information from retrospective surveys of historical vole collection sites, red tree voles have declined in the DPS and no longer occur, or are now scarce, in areas where they were once relatively abundant. Loss of habitat in the DPS, primarily due to timber harvest, has been substantial and has probably been a significant contributor to the apparent decline in tree vole numbers. Current management practices for timber production, particularly on the State, and privately-owned lands that comprise the vast majority of the DPS, keep the majority of the remaining forest habitat from maturing and developing the late-successional characteristics that comprise highly suitable habitat for red tree voles. Current management for timber harvest thereby contributes to the ongoing modification of tree vole habitat, as well as the fragmented and isolated condition of the remaining limited older forest habitat for the species. Indications are that the remaining older forest patches are likely too small and isolated to maintain red tree voles over the long term (see Factor E, below). The biology and life history of red tree voles render the species especially vulnerable to habitat fragmentation, isolation, and chance environmental disturbances such as large-scale fires that could reasonably be expected to occur within the DPS within the foreseeable future (Martin and McComb 2003, p. 583; also addressed in Factor E). Based on our evaluation of present and likely future habitat conditions, we conclude that the ongoing effects of the destruction, modification, and curtailment of its habitat, in conjunction with other factors described in this finding, pose a significant threat to the persistence of the North Oregon Coast DPS of the red tree vole.

We have evaluated the best available scientific and commercial data on the present or threatened destruction, modification, or curtailment of the habitat or range of the North Oregon Coast DPS of the red tree vole, and determined that this factor poses a significant threat to the continued existence of the North Oregon Coast DPS of the red tree vole, when we consider this factor in concert with the other factors impacting the DPS.

Conclusion for Factor A

Recent surveys at locations within the DPS where voles were readily captured 30 to 40 years ago have resulted in significantly fewer voles captured per unit of survey effort compared to historical collections. This suggests that tree vole numbers have declined in many areas where voles were once readily obtained by early collectors such as Alex Walker, Murray Johnson, Doug Bake, Chris Maser, and Percy Clifton (Forsman 2009, pers. comm.). Although standardized quantitative data are not available to rigorously assess population trends of red tree voles, we believe it is reasonable to conclude that, based on information from retrospective surveys of historical vole collection sites, red tree voles have declined in the DPS and no longer occur, or are now scarce, in areas where they were once relatively abundant. Loss of habitat in the DPS, primarily due to timber harvest, has been substantial and has probably been a significant contributor to the apparent decline in tree vole numbers. Current management practices for timber production, particularly on the State, and privately-owned lands that comprise the vast majority of the DPS, keep the majority of the remaining forest habitat from maturing and developing the late-successional characteristics that comprise highly suitable habitat for red tree voles. Current management for timber harvest thereby contributes to the ongoing modification of tree vole habitat, as well as the fragmented and isolated condition of the remaining limited older forest habitat for the species. Indications are that the remaining older forest patches are likely too small and isolated to maintain red tree voles over the long term (see Factor E, below). The biology and life history of red tree voles render the species especially vulnerable to habitat fragmentation, isolation, and chance environmental disturbances such as large-scale fires that could reasonably be expected to occur within the DPS within the foreseeable future (Martin and McComb 2003, p. 583; also addressed in Factor E). Based on our evaluation of present and likely future habitat conditions, we conclude that the ongoing effects of the destruction, modification, and curtailment of its habitat, in conjunction with other factors described in this finding, pose a significant threat to the persistence of the North Oregon Coast DPS of the red tree vole.

We have evaluated the best available scientific and commercial data on the present or threatened destruction, modification, or curtailment of the habitat or range of the North Oregon Coast DPS of the red tree vole, and determined that this factor poses a significant threat to the continued existence of the North Oregon Coast DPS of the red tree vole, when we consider this factor in concert with the other factors impacting the DPS.

Conclusion for Factor B

We are not aware of any information that indicates that overutilization for commercial, recreational, scientific, or educational purposes threatens the continued existence of the North Oregon Coast DPS of the red tree vole and have determined that this factor does not pose a significant threat to the viability of the North Oregon Coast DPS of the red tree vole.

Conclusion for Factor C

While predators undoubtedly have some effect on annual fluctuations in tree vole numbers, there is no evidence to suggest that changes in predation rates have caused or will cause long-term declines in tree vole numbers. Tree voles are exposed to a variety of predators and as a prey species they have adapted traits that reduce their exposure and vulnerability to predation; examples include cryptic coloration and leaping from trees when pursued (Maser et al. 1981, p. 204), or minimizing the duration of individual foraging bouts outside of the nest (Forsman et al. 2009a, p. 269). While habitat alterations...
may affect the exposure and vulnerability of tree voles to predators (see above under Mortality), predators themselves do not appear to be a principal threat affecting long-term trends in red tree vole numbers. We therefore conclude that the continued existence of the red tree vole in the North Oregon Coast DPS is not threatened by disease or predation, nor is likely to become so. We have evaluated the best available scientific and commercial data on the effects of disease or predation on the North Oregon Coast DPS of the red tree vole, and determined that this factor does not pose a significant threat to the viability of the North Oregon Coast DPS of the red tree vole.

Factor D. Inadequacy of Existing Regulatory Mechanisms

Timber harvest has been identified as the primary cause of vegetation change and loss of red tree vole habitat in the Oregon Coast Range Province (Wimberly and Ohmann 2004, pp. 643–644) (see Factor A discussion, above). Although most of the losses of late-successional forest conditions occurred historically, these losses, combined with current management of younger forests on both private and public lands, contribute to the ongoing modification, curtailment, fragmentation, and isolation of habitat for the red tree vole in the DPS. The inadequacy of existing regulatory mechanisms in regard to timber harvest contributes to these threats. Regulations for timber harvest differ among land ownerships and are explained in separate sections below.

Regulatory Mechanisms on Private Land

Private lands make up 62 percent of the DPS, and over 75 percent of timber harvest in the Coast Range Province is expected to come from private forest lands (Johnson et al. 2007, entire; Spies et al. 2007b, p. 50). The Oregon Forest Practice Administrative Rules and Forest Practices Act (OAR) (Oregon Department of Forestry 2010a, entire) apply on all private and State-owned lands in Oregon, regulating activities that are part of the commercial growing and harvesting of trees, including timber harvesting, road construction and maintenance, slash treatment, reforestation, and pesticide and fertilizer use. The OAR provide additional guidelines intended for protection of soils, water, fish and wildlife habitat, and specific wildlife species while engaging in tree growing and harvesting activities. The red tree vole is not a specific species provided for in the OAR, and we are not aware of any proactive management for tree voles on private timberlands in Oregon. Per the Oregon Revised Statue, an average of two snags or green trees per ac (0.8 per ha) greater than 30 ft (9 m) tall and 11 in (28 cm) diameter are required to be left in harvest units greater than 25 ac (10 ha) (ORS 527.676); up to half of these trees may be hardwoods. Retention buffers are required around northern spotted owl nest sites (70 ac (28 ha) of suitable habitat) (OAR 629–665–0210), bald eagle nest sites (330-ft (100-m) buffer) (OAR 629–665–0220), bald eagle roost sites (300-ft (100-m) buffer) (OAR 629–665–0230), and great blue heron nest sites (300-ft (91-m) buffer) (OAR 629–665–0120). In addition, foraging trees used by bald eagles (OAR 629–665–0240) and osprey nest trees and associated key nest site trees (OAR 629–665–0110) are also protected from timber harvest. In all cases, protections of these sites are lifted when the site is no longer considered active (OAR 629–665–0010).

Within the Coast Range, small perennial streams that are neither fish bearing nor a domestic water source have no tree retention requirements. With respect to all other perennial streams, no harvest is allowed within 20 ft (6 m). In addition, riparian management areas are established around all fish-bearing streams and large or medium non-fish-bearing streams; their distances range from 20 to 100 ft (6 to 30 m) beyond the stream, depending on the stream size and fish-bearing status. Within these riparian management areas, from 40 to 300 square ft (4 to 28 square m) of basal area must be retained for every 1,000 ft (305 m) of stream; basal area retention levels depend on stream size, fish presence, and type of harvest (OAR 629–640–0100 through 629–640–0400). Trees within the no-harvest 20-ft (6-m) buffer count towards these retention requirements. To meet the basal area requirement within the riparian management areas of large and medium streams, a minimum number of live conifers must be retained to meet shade requirements. Depending on stream size and fish-bearing status, live conifer retention requirements range from 10 to 40 per 1,000 ft (305 m) of stream, with a minimum size of either 8 or 11 in (20 or 28 cm) dbh. If the basal area requirements are still not met with the minimum conifer retention, the remainder can be met with trees greater than 6 in (15 cm); a portion of this retention can be met with snags and hardwoods (excluding red alder (Alnus rubra)) (OAR 629–640–0100 through 629–640–0400). Logs in streams to enhance large woody debris conditions (OAR 629–640–0110). Thus, while basal area credits may produce in-stream enhancements, they simultaneously reduce potential aboreal habitat for red tree voles.

Given the extensive network of streams within the Coast Range, riparian management areas appear to have potential in providing connectivity habitat for red tree voles between large patches of remnant older forest stands. However, given the minimum tree retention sizes and numbers prescribed under the OAR, we believe them to be insufficient to provide adequate habitat to sustain populations of red tree voles, and likely not sufficient to provide connectivity between large patches of remnant older forest stands. As an example, the streamside rules applying the most protection apply around fish-bearing streams (sections 5–7 of OAR 629–640–100). Although these sections require retention of 40 live conifer trees per 1,000 ft (305 m) along large streams, and 30 live conifer trees along medium streams, these trees need only be 11 in (28 cm) dbh for larger streams and 8 in (20 cm) dbh for medium streams to count toward these requirements. Although these regulatory requirements are stated as minimums, they potentially allow for conditions such that the remaining trees will likely be far smaller than those generally utilized by red tree voles, and the remaining trees may be relatively widely dispersed along the riparian corridor, thereby impeding aboreal movement. Furthermore, the purpose of tree retention in riparian management areas is to retain stream shade, and retaining a minimum number of live conifers is designed to distribute that shade along the stream reach by retaining more, smaller trees to meet the basal area requirements rather than concentrate that shade around each large tree. Consequently, there is little incentive to retain any larger trees within the riparian management areas. Although in general biological corridors are believed to be beneficial for the conservation of fragmented populations by allowing for genetic interchange and potential recolonization (e.g., Bennett 1990, entire; Fahrig and Merriam 1994, p. 51; Rosenberg et al. 1997, p. 677), possible disadvantages may include increases in predation, parasitism, and invasion of interior habitats by introduced species.
Long, narrow strips of habitat suffer from a high ratio of edge to interior, resulting in “edge effects” such as altered microclimates and potentially increased vulnerability to generalist predators (Yahner et al. 1988, p. 337; Saunders et al. 1991, pp. 20–22; Chen et al. 1993, p. 220). In old-growth Douglas-fir forests, altered environmental conditions may extend up to 137 m (450 ft) from the forest edge, to the extent that patches less than 10 ha (25 ac) in size provide essentially no forest interior habitat (Chen et al. 1992, p. 395).

The successful use of corridors to maintain regional populations is highly species-specific (Rosenberg et al. 1997, p. 683; Debinski and Holt 2000, p. 351), and depends on the spatial configuration of the remaining habitat, the quality of the corridor habitat, and the habitat specificity and dispersal ability of the species in question (Henein and Merriam 1990, p. 157; Fahrig and Merriam 1994, p. 53; With and Crist 1995, entire; Rosenberg et al. 1997, entire). In general, habitat specialists with limited dispersal capabilities, such as the red tree vole, have a lower “critical threshold” for responding to fragmented habitats; such species may experience the environment as functionally disconnected even when their preferred habitat still comprises nearly half of the landscape (With and Crist 1995, p. 2452; Pardini et al. 2010, p. 6). Reduced survival probability for animals moving through linear corridors of habitat may potentially be offset by large numbers of dispersers, but for animals with relatively low reproductive rates and low mobility, such as the red tree vole, survival probability may be compromised under such conditions (Martin and McComb 2003, p. 578). Poor-quality habitat conditions for red tree voles in riparian management areas, such as from reduced canopy cover, may reduce their probability of survival in moving through such a patch (Martin and McComb 2003, p. 577). For example, there is some evidence that small mammals may experience increased risk and local extinction events of predation in narrow corridors or isolated fragments of habitat (e.g., Henderson et al. 1985, p. 103; Mahan and Yahner 1999, pp. 1995–1996).

Although riparian buffers are frequently suggested as potential corridors for dispersal. Soulé and Simberloff (1986, pp. 33–34) specifically suggest that forest interior species such as the red tree vole would likely avoid using such areas for movement between remaining patches of conifer forest. Observations that red tree voles are now apparently absent from forest stands where they historically occurred indicate riparian management areas are likely not functioning as successful corridors for dispersal and recolonization by red tree voles in the DPS.

Although the OAR do not specifically provide protection for red tree voles, some protections may be afforded to individuals that are incidentally found within buffers retained for sensitive wildlife sites. However, such scattered remnants of possible habitat are unlikely to protect viable populations due to their small size and fragmented and isolated nature. In addition, these protected areas can be logged if the site is no longer occupied by the target species. The short timber harvest rotations (e.g., in calculating its riparian rule standards, OAR assume 50-year rotations for even-aged stands, and 25-year entry intervals for uneven-aged management) in the surrounding landscape further limits the potential for a well-connected tree vole population. Although tree voles have been found in these younger stands, frequent thinnings, larger harvest units, and the tendency for these large harvest units to aggregate into larger blocks of younger stands that are unlikely to develop into red tree vole habitat (Cohen et al. 2002, p. 131) decrease the likelihood that tree voles will persist on industrial private timber lands even with protections afforded to other species per the OAR. Therefore, based on the above assessment, we conclude that existing regulatory mechanisms on private land are inadequate to ameliorate the threat of habitat loss and fragmentation and provide for the conservation of the North Oregon Coast DPS of the red tree vole.

**Summary of Regulatory Mechanisms on Private Land**

Private lands comprise more than 60 percent of the DPS, and most of the projected future timber harvest in the Oregon Coast Range is anticipated to come from these lands. The Oregon Forest Practices Administrative Rules and Forest Practices Act (OAR) provide the current regulatory mechanism for timber harvest on private lands within the DPS. The stated goal of the OAR is to provide for commercial growing and harvesting of trees. The OAR additionally provide guidelines intended to protect soils, water, and fish and with other species suffering from habitat destruction, modification, or curtailment under Factor A, as well as the threats of habitat fragmentation and isolation of small populations under Factor E.

**Regulatory Mechanisms on State Land**

State lands make up 16 percent of the DPS, totaling just over 600,000 ac (242,800 ha). Although there are some scattered State parks located primarily along the coastal headlands, virtually all of the State ownership in the DPS is land managed by the Oregon Department of Forestry (ODF) in the Tillamook and Clatsop State Forests, as well as other scattered parcels of State forest land in the southern half of the DPS. State forest lands are to be actively managed, assuring a sustainable timber supply and revenue to the State, counties, and local taxing districts (ODF 2010c, pp. 3–2, 3–4 to 3–5). Annual timber harvests projected over the next decade for each of the three State Forest districts within the DPS sum to 181 million board feet (422,000 cubic m) (ODF 2009, p. 59; 2011a, p. 69; 2011b, p. 65). Harvest intensities (annual harvest per acre of landbase) differ by district: harvest intensity for the Tillamook District, which comprises half of the State Forest ownership within the DPS, is projected at 188 board feet per acre (0.526 and 0.530 cubic m per ha) per year. The Astoria and Forest Grove Districts project substantially higher harvest intensities of 240 and 330 board feet per acre per year, respectively. Acreages used to calculate harvest intensity may include...
acres that are not capable of producing forest and may be a slight underestimate.

The overarching statutory goal for management of State forest lands is to provide, “healthy, productive, and sustainable forest ecosystems that over time and across the landscape provide a full range of social, economic, and environmental benefits to the people of Oregon” (ODF 2010c, p. 3–12). Common School Forest Lands comprise 3 percent of the northwestern Oregon State Forests, and they are to be managed to maximize income to the Common School Fund (ODF 2010c, p. 3–2). To the extent that it is compatible with these statute-based goals, wildlife resources are to be managed in a regional context, providing habitats that contribute to maintaining or enhancing native wildlife populations at self-sustaining levels (ODF 2010c, pp. 3–12, 3–14).

The Northwestern Oregon State Forest Management Plan provides management direction for forests within the DPS (ODF 2010c, p. 1–3). There is no specific direction in the ODF northwestern forest management plan recommending or requiring surveys or protecting tree vole sites if they are found on State lands. ODF personnel are recording tree vole nest locations as ancillary information collected during climbing inspections of marbled murrelet (Brachyramphus marmoratus) nests (Gostin 2009, pers. commun.), but are not implementing management or conservation measures to known sites beyond recording the nests.

Red tree voles are, however, one of several species of concern identified by ODF for which anchor habitats have been established (ODF 2010c, pp. 4–82 to 4–83, E–42). Anchor habitats are, “intended to provide locales where populations will receive a higher level of protection in the short-term until additional suitable habitat is created across the landscape” (ODF 2010c, p. 4–82). They are not intended to be permanent reserves. Terrestrial anchor habitats are intended to benefit species associated with older forest and interior habitat conditions, and management within them will promote the development of complex forest structure (ODF 2010c, pp. 4–82 to 4–83). Within the State Forests in the DPS, there are 11 terrestrial anchor habitat areas totaling 40,706 ac (16,474 ha) with a mean size of 3,701 ac (1,498 ha) (ODF 2011, unpublished data).

Although the OAR apply on all State lands, the ODF may develop additional site-specific management regulations that are potentially more stringent than those set forth in the OAR. With respect to management around marbled murrelet and northern spotted owl sites, ODF exceeds the protections called for by the OAR. Spotted owl sites are protected by a 250-acre (101-ha) core area around the nest, maintenance of 500 acres of suitable habitat within 0.7 mi (1.1 km) of the nest, and 40 percent of habitat within 1.5 mi (2.4 km) of the nest (ODF 2008, 2010b). Currently there are three owl sites on ODF State Forests within the DPS, and another six in adjacent lands wherein buffers from these sites overlap onto ODF ownership (ODF 2011, unpublished data). Marbled murrelet management areas (MMMA) are established around marbled murrelet occupied sites (ODF 2010d) with the purpose of retaining habitat function. There are 42 MMMA’s within the DPS totaling 6,281 acres (2,542 ha), averaging 150 acres (61 ha), and ranging in size from 13 to 623 acres (5 to 252 ha) (ODF 2011, unpublished data). Sixteen percent of the MMMA’s occur within terrestrial anchor areas. ODF also applies the OAR protection buffers for bald eagle nests and roosts, and great blue heron nests (see Regulatory Mechanisms on Private Land above).

ODF regulations for fish-bearing streams provide a 170-ft (52 m) buffer on each side, with no harvest within 25 ft (7.6 m), management for mature forest (basal area of 220 square feet (20 square m) of trees greater than 11 in (28 cm) dbh) between 25 and 100 ft (7.6 and 30 m) of the stream, and retention of 10 to 45 conifers and snags per acre (4 to 18 per ha) between 100 and 170 ft (30 and 52 m) of the stream (ODF 2010c, p. J–7). Large and medium streams that are not fish-bearing have management standards similar to fish-bearing streams except that conifer and snag retention levels between 100 and 170 ft (30 to 52 m) from the stream are reduced to 10 per ac (4 per ha) (ODF 2010c, p. J–8). Management standards for small, perennial, non-fish-bearing streams, as well as intermittent streams considered “high energy reaches” (ODF 2010c, pp. J–9–J–10), apply to at least 75 percent of the stream reach and include no harvest within 25 ft (7.6 m), retain 15 to 25 conifer trees and snags per acre (6 to 10 per ha) between 25 to 100 ft (7.6 to 30 m) of the stream, and retain 0 to 10 conifer trees and snags per acre (0 to 4 per ha) between 100 to 170 ft (30 to 52 m). Additional management standards also apply within 100 ft (30 m) of intermittent streams (ODF 2010c, pp. J–9–J–10). Within harvest units, all snags are to be retained, and green tree retention must average 5 per ac (2 per ha) (ODF 2010c, pp. 4–53 to 4–54). Although riparian retention levels on ODF lands are larger than what is required on private lands, they still allow for a reduction in existing habitat suitability for red tree voles, with minimum retention levels not meeting tree vole habitat requirements due to reduced stand densities and lack of crown continuity.

State forests are managed for specific amounts of forest structural stages. The objective is to develop 15 to 25 percent of the landscape into older forest structure (32 in (81 cm) minimum diameter trees, multiple canopy layers, diverse structural features, and diverse understory) and 15 to 25 percent into layered structure (two canopy layers, diverse multiple-species shrub layering, and greater than 18 in (46 cm) diameter trees mixed with younger trees) over the long term (ODF 2010c, p. 4–48). Attainment of these objectives would benefit the red tree vole; however, this is not the current condition of State forests within the DPS, and these desired future conditions are not projected to be reached for at least 70 years (ODF 2010c, p. 1–13). At present, only about 1 percent of the State forests in northwestern Oregon is currently in older forest structure and 12 percent is in a layered structure condition (ODF 2003a, pp. 4, 12; ODF 2003b, pp. 4, 16; ODF 2009, pp. 4, 21; ODF 2011a, pp. 6, 20, 23; ODF 2011b, pp. 6, 25). While 13 percent of the State forests is in a complex structure category (old forest and layered forest structure, combined), only a small subset of this likely provides tree vole habitat given that only 5 percent of the State land is considered actual red tree vole habitat (Dunk 2009, pp. 5, 7).

Given the description provided (ODF 2010c, p. 4–48), we estimate the older forest structure condition as defined by the ODF would generally provide red tree vole habitat. However, only some portion of the layered structure condition appears to be suitable tree vole habitat, and that is likely to be stands with more complexity that are closer in condition to that found in stands classified as old forest structure. Thus, stands that currently meet tree vole habitat requirements on State lands are limited to 5 percent of the ownership and, given such a low proportion, most likely isolated. Furthermore, the direction is to actively manage these landscapes to meet the targeted forest structure stages via thinning activities that promote desired structural features. The use of thinning activities to create stands that may be suitable habitat for red tree voles has not been tested; to the extent we can, develop the appropriate structure and conditions in the long term, such
benefits to red tree voles from actions taken to protect other wildlife species. In addition to OAR requirements to provide buffers to protect certain wildlife species, ODF provides additional buffers for spotted owls and marbled murrelets, as well as additional retention blocks in the form of terrestrial anchor habitats scattered throughout its ownership. While these areas provide for some habitat retention, some are likely too small and most too isolated to provide for a species with limited dispersal ability, such as the red tree vole. Furthermore, without pre-project surveys for voles, the species will need to serendipitously be in these retention blocks to be afforded any protections. Occupied vole sites outside these areas would be lost with any timber harvest activity. This precludes the opportunity to potentially reduce isolation and provide for additional retention blocks elsewhere on the landscape where tree voles may actually be present, thereby improving their dispersal potential.

Because of the small amounts (13 percent) of complex forest habitat (1 percent older forest and 12 percent layered forest structure) currently available on State lands throughout the DPS, there is limited ability to maintain persistent populations of red tree voles on this ownership. Also, not all areas of these combined structure categories may provide tree vole habitat, considering that empirical evidence indicates only 5 percent of the State ownership within the DPS is currently considered tree vole habitat (Dunk 2009, pp. 5, 7). State Forest Management Plans call for developing more of these older habitats, but these conditions are not expected to be reached for at least 70 years. Moreover, the use of thinning activities to create stands that may be suitable habitat for red tree voles has not been tested; to the extent we can develop the appropriate structure and conditions, it is reasonable to conclude that much of the 15 to 25 percent of the landscape targeted as older forest structural condition may eventually be suitable tree vole habitat. However, as described above, based on the currently observed proportion of suitable red tree vole habitat relative forest conditions, it is likely only some undetermined portion of the 15 to 25 percent of the landscape targeted as layered forest condition may provide suitable habitat. Finally, thinning activities designed to meet these long-term structure targets may place additional limitations on the ability of tree vole populations to be well connected over those next 70 years. Although the State does manage their forests with an eventual increase in older forest conditions as a goal, most of the State lands within the DPS are managed for some level of continuing timber harvest. The loss and modification of red tree vole habitat on State lands, compounded by isolation of existing habitat as a result of timber harvest, continues under existing regulatory mechanisms. In addition, there are no mechanisms in place to protect existing occupied tree vole sites outside of retention areas. We therefore conclude that existing regulatory mechanisms on State land are inadequate to provide for the conservation of the North Oregon Coast DPS of the red tree vole, as they contribute to threats of habitat destruction, modification, or curtailment under Factor A, as well as the threats of habitat fragmentation and isolation of small populations under Factor E.

Regulatory Mechanisms on Federal Land

Federal lands comprise 22 percent of the DPS (851,000 ac (344,400 ha)) and are concentrated in two separate areas. The southernmost portion lies between U.S. Highway 20 and the Siuslaw River, and makes up roughly two-thirds of the Federal lands within the DPS (Figure 2). The remaining Federal ownership, although more fragmented and dispersed than the southern portion in terms of ownership pattern, is generally located between Lincoln City and Tillamook, with a few scattered parcels of BLM land in Columbia and Washington Counties. The Siuslaw National Forest comprises 41 percent of the Federal land in the DPS, and the Salem and Eugene BLM Districts make up the remainder. Federal lands have been managed under the Northwest Forest Plan (NWFP) (USDA and USDI 1994, entire), although there is past and ongoing litigation that has, and will continue to, affect management planning for BLM within the DPS (see below). Implementation of the NWFP resulted in an 80 to 90 percent reduction of timber harvests from Federal lands in the Coast Range compared to levels in the 1980s (Spies et al. 2007b, p. 50). Approximate timber harvests projected for the next 2 years on the Federal ownership in the North Oregon Coast DPS sum to 99 million board feet (231,000 cubic m) on average per year (Herrin 2011, pers. comm.; Nowack 2011, pers. comm.; Wilson 2011, pers. comm.). This may include harvest in some areas within an administrative unit that is not encompassed by the DPS, primarily that portion of the Siuslaw National Forest that lies south of the Siuslaw River (approximately 15 percent of the forest acreage). Currently, all the harvest on...
Federal land in the North Oregon Coast DPS occurs as thinning. Harvest intensity (annual harvest per acre of landbase) differs by administrative unit and ranges from 66 board feet per acre (0.066 cubic m per ha) per year on the Siuslaw National Forest to 154 board feet per acre (0.154 cubic m per ha) per year on that portion of the Eugene BLM District within the DPS. Acreages used to calculate harvest intensity may include areas that are not capable of producing forest, and may be slightly underestimated.

Within the DPS, BLM has operated under two different management plans over the past several years. On December 30, 2008, BLM published Records of Decision (ROD) for the Western Oregon Plan Revisions (WOPR), which revised the Resource Management Plans for the BLM units in western Oregon, including those units within the DPS. The WOPR meant that BLM would no longer be managing their land under the standards and guidelines of BLM’s 1995 Resource Management Plans, which had adopted the Northwest Forest Plan. On July 16, 2009, the Acting Assistant Secretary for Lands and Minerals administratively withdrew the WOPR RODs. The administrative withdrawal of WOPR was challenged in court (Douglas Timber Operators, Inc. v. Salazar, 09–1704 JDB (D.D.C.). On March 31, 2011, the United States District Court for the District of Columbia vacated and remanded the administrative withdrawal of the WOPR RODs, effectively reinstating the WOPR RODs as the operative Resource Management Plan for BLM lands within the DPS.

However, there remains ongoing litigation, the result of which could affect the implementation of WOPR (e.g., Pacific Rivers Council v. Shepard, Case No. 3:2011–cv–00442 (D. Or.); AFRC v. Salazar–DOU/Locke, Case No. 1:11–cv–01174 (D.D.C.)). Our analysis of existing regulatory mechanisms on Federal lands reflects the current management plans that are officially in place. That is, the NWFP for Forest Service lands, and the WOPR for BLM lands.

Of the Federal lands in the DPS, 34 percent are managed as LSRs, and 14 percent are managed as an Adaptive Management Area (AMA), which includes additional LSR management in portions of the AMA (see below). Another 18 percent are managed as Late-Successional Management Area (LSMA). The primary management objectives in LSRs, an NWFP allocation, are to protect and enhance late-successional forest conditions (USDA and USDI 1994, p. C–11). The LSMA, established under WOPR, have a similar objective as LSRs, with a focus on maintaining and developing habitat for northern spotted owls and marbled murrelets (USDI 2008, p. 2–28). The combined area of LSR and LSMA equals 52 percent of the Federal ownership managed for the purpose of developing and maintaining late-successional conditions, although not all of the acres in these allocations currently meet that condition. Although forest structure can vary widely with vegetation type, disturbance regime, and developmental stage, in Douglas-fir stands of western Oregon, 80 years of age is the point at which stands can begin to develop the structural complexity that is of value to late-successional species (e.g., canopy differentiation and multiple canopy layers; understory development; large limbs; large snags and logs; tree decay and deformities in the form of hollow trees, broken tops, large cavities; and epigamic branching) (USDA and USDI 1994, pp. B–2 through B–7). Thinning and other silvicultural treatments are allowed in LSRs and LSMA if needed to create and maintain late-successional forest conditions. Within LSRs, thinning is allowed in stands up to 80 years old, except for the Northern Coast AMA, where it is allowed in stands up to 110 years (USDA and USDI 1994, p. C–12). There is no age limit for thinning in LSMA (USDI 2008, p. 2–28). Salvage after stand-replacement disturbances is allowed in LSRs and LSMA, although there are different standards and guidelines in place for these allocations (USDA and USDI 1994, pp. C–13 through C–16; USDI 2008, pp. Summary–9, 2–28 to 2–32).

The emphasis of the Northern Coast Range AMA, an NWFP allocation, is to restore and maintain late-successional forest habitat consistent with marbled murrelet guidelines (USDA and USDI 1994, p. D–15) through developing and testing new approaches that integrate ecological, economic, and other social objectives. Although 14 percent of the Federal land in the DPS is allocated as AMA, 10 percent of Federal land is managed as LSR within the AMA, meaning that LSR standards and guidelines are to be followed unless reconsidered as part of the AMA plan. The current AMA plan has retained the original NWFP standards and guidelines for LSRs, so in effect 62 percent of the Federal ownership is currently managed as LSR (52 percent LSR and LSMA, combined, and 10 percent AMA managed as LSR). The one difference in LSR management within the AMA as compared to the rest of the NWFP area is that thinning is allowed in stands up to 110 years of age in the AMA, as described above. Additional areas of older and more structurally complex forest is retained under the WOPR in the Deferred Timber Management Area allocation, but only through the year 2023; this land allocation makes up less than 0.5 percent of the Federal ownership within the DPS.

Of the 34 percent of Federal lands not designated as LSR or AMA in the DPS, 16 percent is classified as either Matrix (6 percent) or Timber Management Area (TMA) (12 percent), NWFP and WOPR land allocations, respectively. These allocations are where commercial timber harvest is expected to occur (e.g., regeneration harvest such as clearcuts).

Allocations to protect streams and other water bodies include Riparian Management Areas (RMA) under the WOPR, and Riparian Reserves (RR) under the NWFP. Under the WOPR, the width of RMAs are reduced for most water bodies by up to half the distances compared to Riparian Reserves under the NWFP (USDA and USDI 1994b, pp. C–30 through C–31; USDI 2008, 2–32 through 2–34). Riparian Management Areas have been mapped under WOPR and comprise 4 percent of the Federal ownership within the DPS. Under the NWFP, stream densities in the Coast Range result in much of the Matrix allocation being overlain by Riparian Reserves that can be anywhere from 150 to 500 ft (76 to 152 m) wide on each side of the stream, depending on the waterbody and site condition (USDA and USDI 1994b, pp. C–30 through C–31; Davis 2009, pers. comm.). Overlapping Riparian Reserves and protections for other species called for in the NWFP can substantially reduce the area of Matrix available for timber harvest. For example, between riparian reserves and other protections required by the NWFP, only 3 percent of the Siuslaw National Forest is available for timber harvest other than thinning treatments designed to meet ecological objectives (Davis 2009, pers. comm.).

The remaining 10 percent of lands in the DPS under Federal ownership are in Congressional Reserves, Administratively Withdrawn Areas, and other areas under special management and not available for timber harvest. These areas may or may not be conducive to developing and maintaining older forest conditions, depending on their underlying management emphasis.

In 2007, the BLM and the Forest Service signed Records of Decision...
Although the Survey and Manage standards and guidelines are an artifact of the NWFP—and BLM is currently operating under the WOPR and not the NWFP—as signatories to the Survey and Manage settlement agreement, they are applying the Survey and Manage program, as described above, on their ownership within the DPS. The red tree vole falls under the Survey and Manage standards and guidelines; thus, prior to certain habitat-disturbing activities, surveys and subsequent management of high-priority sites are required for red tree voles. All sites on Federal land within the DPS are considered high-priority sites with the exception of 198,000 ac (80,130 ha) of the southernmost portion of the DPS (primarily located within the Siuslaw River drainage). Some tree vole sites on Federal land in this portion of the DPS would not be considered high-priority sites, depending on the amount of reserve land allocation in the watershed, habitat quality, number of active vole nests detected in survey areas, and the total survey effort (USDA and USDI 2003).

Although federally managed lands are expected to provide for large, well-distributed populations of red tree voles throughout most of their range, the northern Oregon Coast Range north of Highway 20 within the DPS is an exception. For this area, despite of the majority of the Federal land being managed as LSRs or LSMAs, the Final Environmental Impact Statement analyzing the effects of discontinuing the NWFP Survey and Manage program concluded that regardless of the tree vole’s status as a Survey and Manage species, the combination of small amounts of Federal land, limited connectivity between these lands, and few known vole sites would result in habitat insufficient to support stable populations of red tree voles north of Highway 20 (USDA and USDI 2007, pp. 291–292). Federal lands provide more habitat for red tree voles than other ownerships in the DPS and have land allocations, such as LSRs, that require management to maintain and restore late-successional conditions that are more suitable as red tree vole habitat. However, the limited amount of Federal lands in the DPS restricts red tree vole distribution and magnifies the effect of habitat loss occurring from stochastic events, further limiting the red tree vole’s ability to persist in an area or recolonize new sites (see Factors A and E).

Thinning treatments are allowed in LSRs and LSMAs, but their effect on red tree voles is not well understood. Younger stands may be important for allowing dispersal and short-term persistence of tree voles in landscapes where older forests are either isolated in remnant patches or have been largely eliminated (Swingle 2005, p. 94). Thinning these younger stands, while designed to develop late-successional habitat characteristics in the long term, has the potential to degrade or remove tree vole habitat characteristics in the short term, especially if thinning design does not account for structural features and the connectivity of those features that are important to red tree voles (Swingle and Forsman 2009, p. 284). As reported in USDA and USDI (2002, p. 13), although old, inactive red tree vole nests have been found in thinned stands and shelterwood treatments, no occupied nests have been found, suggesting that red tree voles are susceptible to stand-level disturbances that alter the canopy layer and may cause sites to become unsuitable. Biswell (2010, pers. comm.) and Swingle (2010, pers. comm.) have also observed reduction in numbers or elimination of red tree voles from stands that have been thinned. Hopkins (2010, pers. comm.) found that buffering nests with a 10-ac (4-ha) buffer would result in the presence of nests post-thinning, but he did not attempt to verify vole occupancy through visual observations of voles.

Red tree voles are afforded more protection on Federal lands than on State Forest and private lands within the DPS, primarily as a result of the Survey and Manage protections. Before commencing timber harvest activities (except for thinning activities in stands under 80 years old), projects must be surveyed for tree voles and high priority sites protected. Thirty percent of the Federal ownership is currently considered tree vole habitat; 62 percent of the Federal ownership is in a land allocation wherein management objectives call for retaining and developing late-successional and old forest structural conditions. Another 10 percent are in allocations that preclude timber harvest, although not all of these allocations may develop habitat suitable for tree voles. However, most of the Federal landbase should develop into conditions suitable as red tree vole habitat at some point in the future given the current Federal land management. In addition, conifer-dominated forests in Riparian Reserves and Riparian Management Areas may provide additional future habitat. Thinning activities designed to develop older forest conditions in the long term may limit the dispersal capability and connectivity of local tree vole
populations in the short term. Except for the limited amount and isolated nature of Federal lands north of Highway 20, federally managed lands are expected to provide for large, well-distributed populations of red tree voles throughout the rest of their range within the DPS. Based on the above assessment, we conclude that existing regulatory mechanisms on Federal land are adequate to provide for the conservation of the North Oregon Coast DPS of the red tree vole.

**Summary of Regulatory Mechanisms on Federal Land**

Although they comprise less than one-quarter of the land area within the DPS, Federal lands provide the majority of remaining high-quality, older forest habitat for red tree voles within the DPS. The implementation of the Northwest Forest Plan in 1994 led to a dramatic decrease in timber harvest on Federal lands. Management direction for the Forest Service (under the NWFP) and BLM (under the WOPR) calls for maintaining or restoring late-successional forest conditions on a majority of these lands within the DPS. Although some level of timber harvest continues on these Federal lands, particularly in the Matrix and Timber Management Area allocations, it affects less than a quarter of the DPS. Some degree of thinning also occurs within LSRs and LSMAs within the DPS, but if managed according to the standards and guidelines of the respective management plans, and if such thinning does not exceed the current rates, the effects of such treatments on red tree voles are believed to be relatively minor. The recent reinstatement of Survey and Manage standards and guidelines contributes to the conservation of the red tree vole and its habitat within the DPS. We therefore consider existing regulatory mechanisms adequate to provide for the conservation of the red tree vole on Federal lands where they occur within the DPS. However, the insufficient quantity of Federal lands and their distribution within the DPS contribute to the threat of habitat fragmentation, isolation, and potential extirpation of local populations due to stochastic events, as detailed in Factor E, below.

**Conclusion for Factor D**

Existing regulatory mechanisms are inadequate to provide for the protection and management of red tree voles on the 78 percent of the DPS made up of non-Federal (private and State) lands. The State of Oregon has regulatory mechanisms in place on private and State lands designed to provide for commercial timber harvest on relatively short rotation schedules, while simultaneously conserving habitat and protecting specific wildlife species during the course of activities associated with timber growth and harvest. The red tree vole is not one of those specific species targeted for protection under the OAR, and, due to its relatively specialized habitat requirements and limited dispersal abilities, many of the guidelines intended to conserve other wildlife species are not sufficient to provide adequate habitat for the red tree vole. Although some individual red tree voles may enjoy incidental benefits if they are located within tree retention or buffer areas, these small buffer areas are not expected to provide for long-term persistence of red tree vole populations given their isolated nature and the allowance for removal of some buffers if the target species are no longer present. In addition, short rotations and intensive management of the surrounding stands will not likely develop or retain the structural features advantageous to red tree voles, thus contributing to the threat of habitat modification and maintaining the isolation of any tree voles that may be present in these areas. Timber harvest rates are expected to continue at current levels on private lands. Protection measures in addition to the OAR regulations are provided on State Forest lands, allowing for more retained and protected areas on the landscape. State Forests are also being managed to increase the amount of structurally complex forests. However, loss and modification of red tree vole habitat on private and State lands as a result of timber harvest continues under existing regulatory mechanisms. Furthermore, there are no mechanisms in place to locate and protect existing occupied tree vole sites outside of retention areas.

Although Federal lands offer some habitat protection and management, there may not be enough habitat in a condition to provide for the red tree vole north of U.S. Highway 20 where Federal land is limited. There is restricted connectivity among blocks of Federal land in this area, and few known vole sites currently available to recolonize habitat. Given survey and protection measures in place for tree voles, the low level of timber harvest compared to other ownerships, and the projected management of over 62 percent of their landbase to maintain or develop late-successional conditions, current regulatory mechanisms appear to be adequate on Federal lands. However, because we find that existing regulatory mechanisms are not adequate to protect habitat for tree voles on the nearly 80 percent of the DPS that is made up of State or private lands, we conclude that overall, existing regulatory mechanisms are not adequate to protect the DPS from the threats discussed under Factors A and E and, in conjunction with these additional factors, pose a significant threat to the persistence of the North Oregon Coast DPS of the red tree vole.

We have evaluated the best available scientific and commercial data on the inadequacy of existing regulatory mechanisms, and determined that this factor poses a significant threat to the viability of the North Oregon Coast DPS of the red tree vole, when we consider this factor in concert with the other factors impacting the DPS.

**Factor E. Other Natural or Manmade Factors Affecting the Species’ Continued Existence**

**Fragmentation and Isolation of Older Forest Habitats**

Tree voles in the northern Oregon Coast Range evolved in vast, well-distributed expanses of primarily late-successional forest. By 1936, the amount of large-conifer forest was already below the historical range of 52 to 85 percent of the Coast Range estimated to contain late-successional forest (greater than 80 years old) over the past 1,000 years (Wimberly et al. 2000, p. 175; Wimberly and Ohmann 2004, p. 642). In 1936, extensive patches of large-conifer Douglas-fir forest connected much of the central and southern portions of the Coast Range Province. In the northern quarter of the province, patches of large-conifer forest were combined with large spruce-hemlock forest and intermingled with large patches of open and very young stands (Wimberly and Ohmann 2004, pp. 635, 639). Most of those open and young stands encompassed the 300,000 acres (121,410 ha) burned in the 1933 Tillamook fire. By 1996, large blocks of the remaining large-conifer forest were restricted to Federal and State lands in the central portion of the Coast Range Province, having been eliminated from most private lands (Wimberly and Ohmann 2004, p. 635). Elsewhere, large-conifer forests were primarily isolated in scattered fragments on public land. The 1936 area of the Coast Range Province covered by large Douglas-fir (2,052 square mi (5,315 square km)) and large spruce-hemlock (344 square mi (891 square km)) cover types declined by 1996, primarily as a result of timber harvest, resulting in a 58 percent reduction in the total area of large-conifer forest. Conversely, the combined area of small Douglas-fir and spruce-
hemlock forests increased by 87 percent (Wimberly and Ohmann 2004, pp. 639–641). Not only have amounts of older forest decreased, but the spatial distribution of those forests has changed. Prior to European settlement, vegetation simulations indicate that mature (80–200 years) and old-growth forest (greater than 200 years) patches had the highest densities of all successional stages within the Coast Range Province. In addition, old-growth patches were large, ranging from 810 to 5,200 square mi (2,010 to 8,500 square km), with a median of 1,660 square mi (4,300 square km), while patches of less than 80-year-old forests were generally less than 770 square mi (2,000 square km) (Wimberly 2002, p. 1322). In the Coast Range Province today, the largest old-growth patch is 2.5 square mi (6.5 square km), while the largest patch of early-seral forest (less than 30 years old) is larger than 1,900 square mi (5,000 square km), and the largest patch of 30 to 80-year-old forest is larger than 1,150 square mi (3,000 square km) (Wimberly et al. 2004, p. 152).

Within the DPS, we analyzed data compiled as part of the NWFP effectiveness monitoring program (USDA/USDI 2010, unpublished data) for the distribution of late-successional and old-growth (LSOG) patches within the DPS. As part of our analysis, we wanted to see what proportion of the LSOG habitat comprised patches large enough to support tree voles, and how close these patches were to other suitable patches. There is little information on minimum stand sizes used by tree voles and a complete lack of information on what is needed to sustain tree vole populations (USDA and USDI 2000b, p. 7). In Polk and Tillamook Counties, Hopkins (2010, pers. comm.) found vole nests in forest patches as small as 5 to 10 acres (2 to 4 ha) in the oldest (350–400 years), most structurally complex stands available. Huff et al. (1992, pp. 6–7) compiled data on actual red tree vole presence and found the mean size of stands in which tree voles were found in the Coast Range was 340 years and the minimum stand size was 75 ac (30 ha), with mean and median stand sizes of 475 and 318 ac (192 and 129 ha), respectively. Whether a minimum patch size of 5 to 10 ac (2 to 4 ha) or even 75 ac (30 ha) can sustain a population of red tree voles over the long term is unknown and is influenced by such things as habitat quality within and surrounding the stand, the position of the stand within the landscape, and the ability of subadults to move among stands (Huff et al. 1992, p. 7; Martin and McComb 2003, pp. 571–579). However, in the absence of better information on the stand size needed to sustain tree vole populations (USDA and USDI 2000b, p. 7), we consider the 75-ac (30-ha) minimum patch size identified by Huff et al. (1992, pp. 6–7) the best available information to use for our analysis because it represents actual tree vole occurrence and not just presence of a nest. As part of our analysis, we found that 59 percent of the area mapped as LSOG occurred in patches larger than 75 ac (30 ha). If we extrapolate this proportion to Dunk’s (2009, p. 7) analysis showing only 11 percent of the DPS containing actual tree vole habitat (418,000 ac [169,165 ha]), we find the suitability potentially further reduced to only 246,629 ac (99,807 ha), or 6 percent of the DPS. This is consistent with Dunk (2009, p. 9), who noted that his work did not take into account habitat fragmentation, connectivity, and metapopulation dynamics that may influence whether populations or individual tree voles could occur within his area of analysis.

It is important to note that even the forested areas identified as individual “patches” through a geographic information systems (GIS) program do not necessarily represent areas of forest with continuous canopy cover. Although these patches of forest are technically connected at some level, inspection of the data reveal that they are for the most part highly porous and discontinuous, and we performed no analysis to filter out stands that may be so porous or discontinuous as to provide no interior habitat. Furthermore, the LSOG definition used as part of the NWFP monitoring program (mean tree DBH of 20 in [50.8 cm] or greater; canopy cover 10 percent or greater; all tree species included) can include stands that do not necessarily equate to red tree vole habitat and thus constitutes a substantial overestimate. For example, while the LSOG dataset identified 75,968 ac (307,559 ha) of LSOG within the DPS, Dunk (2009, pp. 4, 7) found red tree vole habitat to comprise approximately 425,000 ac (172,000 ha) of the DPS (see Continuing Modification and Current Condition of Red Tree Vole Habitat in Factor A, above). There are several reasons why the LSOG database represents a liberal (i.e., overly generous) description of red tree vole habitat. First, the dataset included stands with canopy cover as low as 10 percent, which is well below the minimum canopy cover of 53 percent and even further below the mean of 78 percent for stands in which Swingle (2005, p. 39), as one example, found tree vole nests. The dataset also included hardwood species as part of the canopy cover component allowing for the possibility of LSOG patches comprising primarily hardwood stands with scattered large conifers. While tree vole have been found in mixed conifer/hardwood stands, their exclusive diet of conifer needles would limit the habitat capability of stands that are primarily hardwood. Therefore, our analysis of remaining older forest patches in the DPS provides an overestimate in terms of remaining potential tree vole habitat, given that the LSOG data used provide a liberal characterization of tree vole habitat. Furthermore, the GIS pixel aggregation used likely characterized some of the data as patches that would in reality be too porous to function as tree vole habitat, increasing the potential for overestimation. Applying the proportion of this LSOG data set that meets the minimum forest patch size to the area of DPS considered suitable tree vole habitat (Dunk 2009, p. 7), an analysis considered a likely overestimate of tree vole occupancy (see Factor A. Continuing Modification and Current Condition of Red Tree Vole Habitat, above), we find only 6 percent of the DPS may be in suitable habitat that is of a large enough patch size to sustain tree voles. This suggests that the remaining potentially suitable habitat for tree voles is highly fragmented, which further lessens the probability of long-term persistence of red tree voles under current conditions in the DPS.

In simulated pre-European settlement forests of the Coast Range Province, most forests less than 200 years old were within 0.4 mi (1 km) of an old-growth forest patch. This pattern has reversed, with a considerable increase in isolation of old-growth forest patches (Wimberly et al. 2004, p. 152). Our analysis of the LSOG forest data provided by the NWFP effectiveness monitoring program indicates that in the DPS, the average distance between LSOG forest patches greater than 75 ac (30 ha) in size was 1,745 ft (532 m). Larger patches greater than 500 ac (202 ha) in size were separated by 6,158 ft (1,877 m) on average. This increasing isolation of LSOG forest patches due to maintenance of younger stands in the intervening areas poses a threat to the red tree vole, as the dispersal capability of this species is so limited. As noted earlier, the greatest known dispersal distance for an individual red tree vole is 1,115 ft (340 m) (Biswell and Meslow, unpublished data referenced in USDA and USDI 2000b, p. 8), but shorter distances from 10 to 246 ft (3 to 75 m) appear to be more the norm for dispersing subadults (Swingle 2005, p.
63). The current average distance between patches of LSOG forest in the DPS thus exceeds the known dispersal distances of red tree voles. A matrix of surrounding younger forest is not entirely inhospitable habitat for dispersing red tree voles, but survivorship in such habitats is likely reduced. Whether red tree voles can successfully disperse between remaining patches of fragmented habitat depends on their vagility and tolerance for the intervening matrix habitat (Pardini 2004, p. 2581). Historically, dispersal between trees in areas of more contiguous older forest would not have been a limiting factor for red tree voles, but under the current conditions of fragmentation, the ability of individuals to disperse between patches of remaining high quality habitat is restricted. Limited dispersal can translate into a lack of sufficient gene flow to maintain diversity and evolutionary potential within the population, possible inbreeding depression, Allee effects (e.g., failure to locate a mate), and other problems (e.g., Soulé 1980, entire; Terborgh and Winter 1980, pp. 129–130; Shaffer 1981, p. 131; Gilpin and Soulé 1986, pp. 26–27; Lande 1988, pp. 1457–1458). The potential for the local loss of populations is high, as remnant habitat patches formerly occupied by tree voles may not be recolonized due to the distance between habitat fragments and the short-distance dispersal of the species, leading to local extirpation and further isolation of the remaining small populations, and possibly eventual extinction (see Isolation of Populations and Small Population Size, below). As noted above, although we do not have standardized, quantitative survey data, the fact that red tree voles are increasingly difficult to find and have apparently disappeared from some areas where they were formerly known to occur suggests that current habitat conditions are not conducive to the successful dispersal or maintenance of red tree vole populations within the DPS.

Highly suitable red tree vole habitat (that with the greatest strength of selection) is quite rare throughout the range of the red tree vole (Dunk and Hawley 2009, p. 632) and is even more restricted within the North Oregon Coast DPS (Dunk 2009, pp. 4–5). Moreover, large blocks of older forest (greater than 1,000 ac [400 ha]) are restricted primarily to Federal lands, with contiguous blocks separated by great distances (Moeur et al. 2005, p. 77). Fragmentation complicates habitat availability for red tree voles, which select for patches of large tree structure where fragmentation is minimized (Martin and McComb 2002, p. 262); having evolved in extensive areas of relatively more contiguous late-successional forest, tree vole are especially vulnerable to the negative effects of fragmentation and isolation due to their limited dispersal capability. Within the DPS, virtually all of the Federal land lies in two widely separated clusters (Figure 2). Much of the southern portion of the DPS, south of U.S. Highway 20, is Federal land, with the other cluster of Federal land lying north of Highway 20, mainly between Lincoln City and Tillamook. As most of the remaining high-quality habitat for red tree voles within the DPS is restricted to these two clusters of Federal lands, there is little redundancy for tree vole populations within the DPS, and loss of either cluster would result in the single remaining cluster and its associated tree vole population being highly vulnerable to extirpation through some stochastic event, such as wildfire. These two blocks of Federal ownership are separated by primarily private and some State lands. Except for a small patch of checkerboard BLM ownership in southeast Columbia and northeast Yamhill Counties, along with a few small State parks, ownership north of Tillamook consists almost entirely of private timberland and lands managed by the Oregon Department of Forestry (Tillamook and Clatsop State Forests). Implementing current land management policies in the Coast Range is projected to provide a modest increase (approximately 20 percent) in red tree vole habitat over the next 100 years, primarily on public lands (Spies et al. 2007b, p. 53). However, red tree vole populations appear to be decreasing in the face of current threats to their habitat. Therefore, we conclude that this limited increase in suitable habitat that may develop on public lands over an extended length of time will not be sufficient to address the lack of connectivity that currently exists between Federal lands, due to land management practices on the intervening lands (USDA and USDI 2007, p. 291). Furthermore, currently small, isolated populations of tree voles may not be capable of persisting over the length of time required to enjoy the benefits of this projected increase in suitable habitat, but may more likely be subject to local extirpations in the intervening time period. The Final Environmental Impact Statement analyzing the effects of discontinuing the NWFP Survey and Manage program concluded that the combination of small amounts of Federal land, limited connectivity between these lands, and few known vole sites north of Highway 20 would result in habitat insufficient to support stable populations of red tree voles (USDA and USDI 2007, pp. 291–292). The authors of the report further concluded that due to these vulnerabilities, “every site is critical for persistence” for the red tree vole in Oregon’s North Coast Range north of Highway 20 (USDA and USDI 2007, p. 292). Given the fragmented nature of Federal lands providing late-successional conditions in the DPS and the limited connectivity between these remaining blocks, it is unlikely that the small projected increase in suitable habitat that may develop over the next 100 years on Federal lands will be sufficient to offset the more immediate threats of habitat destruction, modification, and fragmentation that threaten the North Oregon Coast population of the red tree vole.

Summary of Fragmentation and Isolation of Older Forest Habitats

Red tree voles are considered habitat specialists and are strongly associated with large, relatively more contiguous areas of conifer forests with late-successional characteristics; they are not adapted to fragmented or patchy habitats (Martin and McComb 2002, p. 262). The older forest habitat associated with red tree voles has been significantly reduced through historical timber harvest, and as discussed under Factor A, above, ongoing management for timber production maintains much of the remaining older forest habitat in a fragmented and isolated condition, surrounded by younger forests of lower quality habitat for tree voles. We analyzed data compiled as part of the NWFP effectiveness monitoring program (USDA/USDI 2010, unpublished data) and found that of the remaining older forest within the DPS, 59 percent is in patches greater than 75 ac (30 ha), but these patches comprise only 6 percent of the entire DPS. The average distance between the remaining patches that are at least 75 ac (30 ha) in size exceeds the known dispersal distances of red tree voles. This suggests that red tree voles are unlikely to persist over the long term in most of the remaining patches of older forest habitats within the DPS, because most of them are likely too small or too isolated to support tree vole populations. Although the surrounding younger forests may serve as interim or dispersal habitat, the evidence suggests that such forest conditions are unlikely to support persistence of red tree voles. Furthermore, our evaluation suggests that the remaining older forest...
habitat for tree voles is highly fragmented, which further lessens the probability of long-term persistence of red tree voles under current conditions in the DPS due to the limited dispersal capability of the species, and other consequences of isolation (see Isolation of Populations and Small Population Size, below).

Most of the remaining high-quality habitat for red tree voles in the DPS is restricted to Federal lands; however, these lands make up only 22 percent of the area within the DPS, and they occur in two widely spaced clusters, one north of Highway 20 and one south of Highway 20. Thus, there is little redundancy for tree vole populations within the DPS, and loss of either cluster on Federal lands would result in the single remaining cluster and its associated tree vole population being highly vulnerable to extirpation or even extinction through some stochastic event, such as wildfire (see Climate Change, below). Under present conditions, the Federal lands north of Highway 20 are already considered insufficient to support stable populations of red tree voles (USDA and USDI 2007, pp. 291–292).

Under the current conditions of habitat fragmentation within the DPS, the ability of red tree voles to disperse between patches of remaining high-quality habitat are extremely restricted, and the evidence suggests that any remaining tree vole populations within the DPS are relatively small. The potential for the local loss of populations is therefore high, as remnant habitat patches formerly occupied by tree voles may not be recolonized due to the distance between habitat fragments and the short-distance dispersal capabilities of the species, leading to local extirpation and further isolation of the remaining small populations, and possibly eventual extinction (see Isolation of Populations and Small Population Size, below).

Furthermore, ongoing timber harvest in surrounding areas of younger forests contributes to the threat of habitat fragmentation and isolation, as discussed above in Factors A and D. Therefore, based on the above evaluation, we conclude that the fragmentation and isolation of older forest habitats pose a significant threat to the North Oregon Coast DPS of the red tree vole.

Climate Change

General Impacts. Climate change presents substantial uncertainty regarding current and habitat conditions in the North Oregon Coast DPS. Reduction and isolation of red tree vole habitat has been identified as a substantial threat to their persistence. Changing climate could further reduce tree vole habitat in ways that are difficult to predict. Globally, poleward and upward elevational shifts in the ranges of plant and animal species are being observed and evidence indicates recent warming is influencing this change in distribution (Parmesan 2006, pp. 648–649; IPCC 2007, p. 8; Marris 2007, entire). In North America, and specifically in the Pacific Northwest, effects of forest pathogens, insects, and fire on forests are expected to increase, resulting in an extended period of high fire risk and large increases in area burned (IPCC 2007, p. 14; Karl et al. 2009, pp. 136–137; OCCRI 2010, pp. 16–18; Shafer et al. 2010, pp. 183–185). The pattern of higher summer temperatures and earlier spring snowmelt, leading to greater summer moisture deficits and consequent increased fire risk, has already been observed in the forests of the Pacific Northwest (Karl et al. 2009, p. 136). Ecosystem resilience is expected to be exceeded by the unprecedented combination of climate change, its associated disturbances, and other ecosystem pressures such as land-use change and resource over-exploitation (IPCC 2007, p. 11). These projections discussed above indicate further reduction and isolation of red tree vole habitat over the next century.

Red tree voles in the North Oregon Coast DPS cannot shift their range farther north due to the existing barrier of the Columbia River, which defines the northern boundary of their current and historical range. In addition, their range already occupies the summit of the Oregon Coast Range, so a shift to higher elevations is also not possible. Climate change assessments predict possible extinctions of such local populations if they cannot shift their ranges in response to environmental change (Karl et al. 2009, p. 137).

Increased Frequency and Magnitude of Wildfire due to Climate Change. In the western hemlock and Sitka spruce plant series that dominates the Coast Range, fires tend to be rare but are usually stand-replacing events when they take place, although low and moderate severity fires also occur (Impara 1997, p. 92). Sediment core data show mean fire return intervals of 230 to 240 years over the past 2,700 years (Long et al. 1998, p. 766; Long and Whitlock 2002, p. 223). Three large fires, ranging from 300,000 to 800,000 acres (120,000 to 325,000 ha), occurred in the DPS historically in addition to the Tillamook fires of 1933–1951 (Morris 1934, pp. 317–322, 328; Pyne 1982, pp. 336–337; Agee 1993, p. 212; Wimberly et al. 2000, p. 172). Starting in the mid-1800s, climate change, combined with Euro-American settlement, may have influenced the onset of large-scale fires (Weisberg and Swanson 2003, p. 25). Another complication in these wetter forests has been a pattern of multiple returns that occurred, such as the Tillamook burns of 1933, 1939, 1945, and 1951. Redburns may or may not add large amounts of additional area to the original burn, but they have the potential to impede the development of the stand for decades, delaying the ultimate return to older forest habitat suitable for red tree voles (Agee 1993, p. 213). Forests in the Pacific Northwest face a possible increased risk of large-scale fires within the foreseeable future; under the conditions of anticipated climate change, the effects of forest pathogens and fire on forests are expected to increase, resulting in an extended period of high fire risk and large increases in area burned (IPCC 2007, p. 14; Karl et al. 2009, pp. 136–137). Most recently, the Oregon Climate Change Research Institute predicted that large fires will become more common in the forests west of the Cascades, which includes the forests of the North Oregon Coast Range; estimated increases in regional forest areas burned over the next century ranged from 180 to 300 percent (OCCRI 2010, p. 16).

Considering that the majority of the remaining tree vole habitat in the DPS is limited to Federal land, which comprises a total of roughly 850,000 ac (344,000 ha) and is restricted to two separate clusters in the DPS, it is certainly possible to lose much of the Federal land in either of these blocks to a single stand-replacement fire, further limiting habitat and restricting the range of the tree vole in the DPS. Fire suppression organization and tactics have improved since the large fires of the last two centuries, resulting in a reduction in stand-replacement fires (Wimberly et al. 2000, p. 178), although Weisberg and Swanson (2003, p. 25) note that suppression success may have been influenced by the reduction in fuel accumulations that these extensive fires accomplished. Regardless, the intense, large, high-severity fires that can occur in the Coast Range are driven by severe weather events (droughts or east wind patterns) (Agee 1997, p. 154), conditions under which fire suppression is severely hampered at best and ineffectual at worst (Impara 1997, pp. 262–263). Although large fires of the past occurred within the DPS historically, in the past there were many additional areas of older forest
that were less isolated from other older forest stands and could serve as refugia for tree voles displaced from forests that burned; under current conditions, there are few such refugia available (Wimberly 2002, p. 1322; Wimberly et al. 2004, p. 152) (see Modification of Oregon Coast Range Vegetation above). Given that we have evidence of past fires in the Coast Range that burned areas of up to 800,000 ac (325,000 ha), an amount roughly twice as large as either of the remaining clusters of Federal land within the DPS, and that projections under anticipated conditions of climate change point to the increased risk and magnitude of fire in this region (e.g., OCCRI 2010, p. 16), we believe it is reasonably likely that a single stand-replacing fire could occur within the foreseeable future that would eliminate much of the remaining suitable habitat for tree voles within the DPS.

Summary of Climate Change

The uncertainty in climate change models prevents a specific assessment of potential future threats to the North Oregon Coast DPS of the red tree vole as a consequence of projected warming trends and the various environmental and ecological changes associated with increasing temperatures. However, the direction of these future trends indicate that climate change will likely exacerbate some of the key threats to the DPS, such as an increased probability of large wildfires which may result in the further destruction, modification, fragmentation, and isolation of older forest habitats, and evidence suggests that such changes may already be occurring. High-quality habitat for red tree voles within the DPS is largely restricted to two clusters of Federal lands, and these areas are small enough that a single stand-replacing fire could potentially concentrate the remaining red tree voles to primarily a single population that would be highly vulnerable to extirpation or extinction from future stochastic events. Furthermore, red tree voles within the DPS are restricted in their ability to shift their range in response to changes that may take place as a consequence of climate change. We therefore conclude that the environmental effects resulting from climate change, by itself or in combination with other factors, exacerbate threats to the North Oregon Coast DPS of the red tree vole.

Swiss Needle Cast

A large-scale disturbance event currently ongoing in the Oregon Coast Range is the spread of Swiss needle cast, a foliage disease specific to Douglas-fir caused by the fungus Phaeocryptopus gaeumannii. It is typically found in Douglas-fir grown outside of its native range, but in western Oregon it is primarily found, and is more consistently severe, along the western slope of the central and northern Oregon Coast Range, which overlaps both the Sitka spruce and western hemlock plant series. Douglas-fir accounted for less than 20 percent of the forest composition prior to the 1940s in this portion of the Coast Range, but timber harvest and large-scale planting of Douglas-fir on cutover areas make it the dominant species today. The wetter, milder weather, combined with a uniform distribution of the host species, favors the fungus and helps spread the disease (Hansen et al. 2000, p. 777; Shaw 2008, pp. 1, 3). In Oregon, Swiss needle cast is geographically limited to western Oregon and there is no evidence of it expanding. Even so, it has affected about 1 million ac (405,000 ha), much of that in the northern and central Oregon Coast Range of the DPS. It is roughly estimated that about half of the land base is moderately afflicted by Swiss needle cast, and about 10 percent of the area is severely afflicted by this disease (Filip 2009, pers. comm.).

Swiss needle cast causes premature needle loss which, although rarely lethal, reduces tree growth rates by 20 to 55 percent (Shaw 2008, pp. 1–2). Most of the research on this disease has occurred in managed plantations less than 40 years old (Shaw 2009, pers. comm.), although it is known to limit growth in established overstory trees greater than 100 years old, even within mixed-species stands (Black et al. 2010, p. 1680). Forest pathologists are just beginning to understand how to manage this disease. Thinning treatments to improve tree vigor in infected stands do not appear to exacerbate the spread of the disease or its effects on tree health. However, young Douglas-firs infected with the pathogen are not expected to outgrow the disease (Black et al. 2010, p. 1680) and may never develop the large structures that are integral features of older forests. Given our current knowledge, a likely scenario in these stands is that the non-host Sitka spruce and western hemlock will become the dominant cover, moving these sites closer to the historical species composition present before earlier forest management converted them to Douglas-fir (Filip 2009, pers. comm.). Where these non-host species are deficient or absent in infected stands, reestablishing them in the stand is the only known treatment certain to reduce the spread and extent of the disease.

There is still much uncertainty in our understanding of this pathogen to project future trends in vegetation. While it could result in a return of western hemlock and Sitka spruce that were removed as a result of conversion to Douglas-fir plantations, the commercial value of Douglas-fir is a major incentive to continue research to develop pathogen treatments that would allow continued existence of healthy Douglas-fir stands. In addition, projected effects of climate change (see Increased Frequency and Magnitude of Wildfire due to Climate Change, above) could alter the extent of the fog zone in which Swiss needle cast is prevalent.

Summary of Swiss Needle Cast

Swiss needle cast is a foliage disease specific to Douglas-fir, and is found in western Oregon along the western slope of the central and northern Oregon Coast Range. Some of the most severe infestations of Swiss needle cast occur in the Sitka spruce plant series, which is the plant series in the DPS where tree voles forage primarily on western hemlock and Sitka spruce. However, the disease also occurs in the western hemlock plant series on the western slope of the Oregon Coast Range, where most of the voles that forage on Douglas-fir tend to occur. Thus, while the disease may ultimately improve foraging sources for some red tree voles over the long term, it may remove forage for others. In addition, Swiss needle cast may affect forest characteristics in mixed species stands that affect tree voles and are unrelated to foraging, such as canopy closure and structural components that may provide cover. Therefore, the potential impact that this disease may have on the tree vole population is not well understood at this time. Although Swiss needle cast may potentially have some negative effects on red tree voles, at this point in time we do not have evidence that the impacts of Swiss needle cast are so severe as to pose a significant threat to the North Oregon Coast DPS of the red tree vole.

Isolation of Populations and Small Population Size

There are multiple features of red tree vole biology and life history that limit their ability to respond to habitat loss and alteration, as well as to stochastic environmental events. Due to their current restricted distribution within the DPS, stochastic events could further isolate individuals and consequently limit their recolonization capability. Small home ranges and dispersal distances of red tree voles, as well as their apparent reluctance to
cross large openings, likely make it difficult for them to recolonize isolated habitat patches. As discussed above in the section “Fragmentation and Isolation of Older Forest Habitats,” within the DPS, forests with the late-successional characteristics that represent high-quality habitat for red tree voles presently exist in a highly fragmented state, the average distance between the minimum patch sizes associated with nesting exceeded the known maximum dispersal distance of red tree voles. Based on this information, we conclude that high-quality older forest habitats for red tree voles within the DPS are in a highly fragmented and isolated condition.

Without the ability to move between isolated patches of occupied habitat, local populations act essentially as islands vulnerable to local extirpation, resulting from a disequilibrium between local extinction and immigration events (Brown and Kodric-Brown 1977, p. 445). Some species are adapted to living in patchy environments and may exist as a series of local populations connected by occasional movement of individuals between them, known as “metapopulations” (e.g., Hanski and Gilpin 1991, p. 7). However, it is presumed that the red tree vole was formerly more continuously distributed throughout the late-successional forests of the Oregon Coast Range and has only recently become “insularized” (isolated into islands of habitat) through habitat fragmentation. The limited dispersal ability of the red tree vole indicates this species is not adapted to living in a patchy environment, where long-distance movements between populations are occasionally required. Although in many cases the tree voles within the DPS are not separated by completely inhospitable matrix habitat, but may only be isolated by surrounding areas of forest in earlier seral stages, the apparent disappearance of red tree voles from many areas where they were formerly found leads us to believe that successful recolonization of formerly occupied areas is likely infrequent, if it occurs at all (see discussion of Past and Current Range and Abundance under Factor A, above). As noted above, the average distance between patches of potentially suitable habitat at a minimum of 75 ac (30 ha) in size in the DPS exceeds the greatest known dispersal distance for a red tree vole. The apparent disappearance of red tree voles from areas where they were formerly found, combined with the isolation of remaining habitat patches at distances on average greater than the known dispersal capability of red tree voles, leads us to conclude that movement of individuals between patches of older forest habitat is infrequent at best. Therefore, we conclude that at present, the red tree vole most likely persists as a set of relatively isolated populations in discrete patches of older forest habitat and surrounding lower quality, younger forest, with little if any interaction between these populations.

Although we do not have direct evidence of red tree vole population sizes within the DPS, the evidence before us suggests that remaining local tree vole populations are likely relatively small and isolated. We base this conclusion on the limited amount of tree vole habitat remaining within the DPS, on the fragmented and isolated nature of the remaining habitat, and on evidence from recent search efforts, which have yielded few voles relative to historical search efforts, suggesting that red tree vole numbers are greatly reduced in the DPS compared to historical conditions (see Background and Past and Current Range and Abundance under Factor A, above, for details). That isolated populations are more likely to decline than those that are not isolated (e.g., Davies et al. 2000, p. 1456) is discussed above. In addition to isolation, population size also plays an important role in extinction risk. Small, isolated populations place species at greater risk of local extirpation or extinction due to a variety of factors, including loss of genetic variability, inbreeding depression, demographic stochasticity, environmental stochasticity, and natural catastrophes (Franklin 1980, entire; Shaffer 1981, p. 131; Gilpin and Soulé 1986, pp. 25–33; Soulé and Simberloff 1986, pp. 28–32; Lehmkuhl and Ruggiero 1991, p. 37; Lande 1994, entire). Stochastic events that put small populations at risk of extinction include, but are not limited to, variation in birth and death rates, fluctuations in gender ratio, inbreeding depression, and random environmental disturbances such as fire, wind, and climatic shifts (e.g., Shaffer 1981, p. 131; Gilpin and Soulé 1986, p. 27; Blomqvist et al. 2010, entire). The isolation of populations and consequent loss of genetic interchange may lead to genetic deterioration, for example, that has negative impacts on the population at different timescales. In the short term, populations may suffer the deleterious consequences of inbreeding; over the long term, the loss of genetic variability diminishes the capacity to adapt and evolve by adapting to changes in the environment (e.g., Franklin 1980, pp. 140–144; Soulé and Simberloff 1986, pp. 28–29; Nunney and Campbell 1993, pp. 236–237; Reed and Frankham 2003, pp. 233–234; Blomqvist et al. 2010, entire). Although we do not have any information on relative levels of genetic variability in red tree vole populations, Swingle (2005, p. 82) suggested that genetic inbreeding may be maintaining cream-colored and melanistic tree vole pelage polymorphisms at a few populations within the red tree vole’s range. Swingle (2005, p. 82) did not elaborate on his suggestion, nor account for the possibility that alternative processes may be maintaining these different color forms.

Based on this evaluation, we conclude that the isolation of red tree vole populations due to fragmentation of their remaining older forest habitat, independent of the total area of suitable habitat that may be left, poses a significant threat to the red tree vole within the DPS.

Summary of Isolation of Populations and Small Population Size

Remaining red tree vole populations in the North Oregon Coast DPS likely persist primarily in isolated patches of fragmented, older forest habitat, and the surrounding younger forest habitats are subject to continuing habitat modification due to timber harvest that tends to maintain the forest in this highly fragmented condition (see Factor A discussion and Fragmentation and Isolation of Older Forest Habitats above). Red tree voles are considered highly vulnerable to local extirpations due to habitat fragmentation or loss (Huff et al. 1992, p. 1). Species that have recently become isolated through habitat fragmentation do not necessarily function as a metapopulation and, especially in the case of species with poor dispersal abilities, local populations run a high risk of extinction when extirpations outpace dispersal and immigration (Gilpin 1987, pp. 136, 138; Hanski and Gilpin 1991, p. 13; Hanski et al. 1996, p. 539; Harrison 2008, pp. 82–83; Sodhi et al. 2009, p. 518). Some conservation biologists suggest that for species with poor dispersal abilities, habitat fragmentation is likely more important than habitat area as a determinant of extinction probability (Shaffer and Sansom 1985, p. 146). The low reproductive rate and lengthy development period of young, relative to other vole species, adds further to the inherent vulnerabilities of the red tree vole and may limit population growth; the isolation of tree voles through insularization likely exacerbates these inherent vulnerabilities (Boiget et al. 1997, p. 562).
For the reasons given above, based on the observed level of habitat fragmentation and isolation that has occurred within the DPS, the presumed small size of remaining tree vole populations, and the inherent vulnerabilities of the red tree vole to local extirpation or extinction due to its life history characteristics, we conclude that the isolation of populations and the consequences of small population size pose a significant threat to the red tree vole within the North Oregon Coast DPS.

**Summary of Factor E**

Population isolation, presumed small local population size, and potential loss of populations to large-scale disturbance events exacerbated by climate change, combined with the life-history traits that put red tree voles at a disadvantage in moving between and colonizing new habitats in an already fragmented landscape, are the principal threats considered under this factor that significantly affect the species. Although precise quantitative estimates are not available, recent surveys suggest that populations have substantially declined in the DPS, and that red tree voles are likely at greatly reduced numbers relative to their historical abundance. Furthermore, our analysis of LSOG data from the NWFP effectiveness monitoring program indicates that, within the DPS, any remaining highly suitable habitat is highly fragmented and patchy in occurrence. Patches of forest meeting older forest standards that are overly generous for red tree voles, and thus are likely overestimating the size and number of remaining patches that provide suitable habitat, indicate that the average distance between the remaining patches that are at least 75 ac (30 ha) in size exceeds the known dispersal distances of red tree voles, and the difference is even greater for patches that are more than 500 ac (202 ha) in size.

The narrow habitat requirements, low mobility, low reproductive potential, and low dispersal ability of red tree voles limits their movement among existing patches of remnant habitat. This fragmentation of habitat, resulting in small, isolated populations of tree voles, can have significant negative impacts on the North Oregon Coast DPS of the red tree vole, including potential inbreeding depression, loss of genetic diversity, and vulnerability to extirpation as a consequence of various stochastic events. Although large-scale disturbance events such as fire are not common in the Coast Range, we have historical evidence of occasional very large fires in this region, and climate change projections indicate a likely increase in both fire risk and fire size. At present, red tree voles are thus largely without available refugia to sustain the population in the face of events such as severe, large-scale fires. Under these conditions, red tree voles in the North Oregon Coast DPS are unlikely to experience the habitat connectivity and redundancy needed to sustain their populations over the long term. Based on the above evaluation, we conclude that the threats of continued fragmentation and isolation of older forest habitats, as potentially exacerbated by the environmental effects of climate change, and the isolation of populations and consequences of small population size pose a significant threat to the red tree vole within the North Oregon Coast DPS. We did not have sufficient evidence to suggest that Swiss needle cast poses a significant threat to the DPS at this point in time.

We have evaluated the best available scientific and commercial data on other natural or manmade factors affecting the continued existence of the North Oregon Coast DPS of the red tree vole, including the effects of habitat fragmentation, as exacerbated by the environmental effects of climate change, isolation of small populations, and consequences of small population size, and determined that this factor poses a significant threat to the viability of the North Oregon Coast DPS of the red tree vole, when we consider this factor in concert with the other factors impacting the DPS.

**Finding**

As required by the Act, we considered the five factors in assessing whether the North Oregon Coast DPS of the red tree vole is threatened or endangered throughout all of its range. We have carefully assessed the best scientific and commercial data available regarding the past, present, and future threats faced by the North Oregon Coast DPS of the red tree vole. We reviewed the petition, information available in our files, and other published and unpublished information submitted to us by the public following our 90-day petition finding, and we consulted with recognized experts on red tree vole biology, habitat, and genetics, as well as with experts on the vegetation of the northern Oregon Coast Range. In addition, we consulted with other Federal and State resource agencies and completed our own analyses of the available data.

On the basis of the best scientific and commercial data available, we find that the population segment satisfies the discreteness and significance elements of the DPS policy and therefore qualifies as a DPS under our policy. We further find that listing the North Oregon Coast DPS of the red tree vole is warranted. However, listing the North Oregon Coast DPS of the red tree vole is precluded by higher priority listing actions at this time, as discussed in the Preclusion and Expedientious Progress section below.

Although quantitative data are not available to estimate red tree vole populations, comparing past collection efforts with recent surveys leads us to conclude that tree voles are substantially more difficult to find now than they were historically. In some areas within the DPS, red tree voles are now not found, or are scarce, where they were formerly relatively abundant. This information, in conjunction with that knowledge that red tree voles are closely associated with older forest habitats and strong quantitative data...
showing an unprecedented loss of older forest habitat in the Oregon Coast Range Province, insufficient area of remaining late-successional old-growth habitat, and large distances between those remaining older forest patches that exceed known dispersal distances of tree voles, leads us to conclude that tree vole populations have substantially declined from past levels. Whereas, the literature provides multiple examples of voles nesting in younger stands, virtually all analyses comparing vole nest presence or relative abundance of nests in younger versus older stands have shown an increased use or selection of older stands. Although the role of younger stands is unclear, in weighing the available evidence, including a recent modeling effort specific to habitat suitability for red tree voles, we conclude that older forests are necessary habitat for red tree voles and that younger stands will rarely substitute as habitat in the complete absence of older stands. However, we recognize that younger stands may facilitate dispersal or short-term persistence in landscapes where older forests are isolated or infrequent.

Amounts of older forest habitat within the Coast Range Province have been reduced below historical levels, primarily through timber harvest (Wimberley et al. 2000, p. 176). The occurrence of forest structural conditions outside of the historical range of variability may not in itself be a problem with respect to red tree vole persistence, considering their persistence through historical large-scale fires that removed habitat. However, the frequency and duration of those conditions outside the historical range of variability will ultimately affect the persistence of the red tree vole. Historically, old-growth forest (greater than 200 years old) was well dispersed (Wimberly et al. 2004, p. 152) within the Oregon Coast Province and there were large tracts of suitable habitat that served as refugia in which tree voles could persist while adjacent disturbed areas grew into habitat (Wimberley et al. 2000, p. 177). Such areas likely served as source areas to recolonize newly developed habitats (Pulliam 1988, pp. 658–660; Dias 1996, p. 326). However, if the amount or duration of unsuitable habitat exceeds the ability of the species to persist in refugia and ultimately recolonize available areas, the species may eventually be extirpated. Hence, the longer habitat stays in an unsuitable condition, the greater the risk to the population (Wimberley et al. 2000, p. 177).

Under current management conditions, the vast majority of remaining red tree vole habitat in the DPS is, and will continue to be, limited to Federal lands. Federal lands make up less than a quarter of the area within the DPS, and are limited to two disparate clusters of land. Although 62 percent of the Federal ownership in the DPS is currently managed under the NWFP and the WOPR to develop and maintain late-successional conditions that would be conducive to red tree vole habitat, only 30 percent of these Federal lands are currently estimated to provide suitable habitat for red tree voles (Dunk 2009, pp. 5, 7). Even if the entire Federal ownership provided older forest habitat conducive to red tree vole occupation, this would still represent a significant reduction of older forest habitat based on estimates from simulations of forest conditions in the Coast Range Province during the past 3,000 years (Wimberley et al. 2000, pp. 173–175; Nonaka and Spies 2005, p. 1740). Although much of this loss was historical, it led to the present condition of insufficient habitat for red tree voles today; at present, less than 1 percent of the habitat within the DPS is in the condition for which red tree voles showed the greatest strength of selection for nesting, and nearly 90 percent of the DPS is in a condition avoided by red tree voles. Most of the lands in the nearly 80 percent of the DPS under State and private ownership are managed for timber production. Although regulatory mechanisms exist that are intended to provide for the conservation of wildlife and habitats during the course of timber harvest activities on private and State lands, the habitat requirements and life-history characteristics of the red tree vole are such that these regulatory mechanisms are inadequate to prevent the ongoing modification, fragmentation, and isolation of red tree vole habitat on these lands.

Our own analysis of NWFP data demonstrates the fragmentation and isolation of large patches of older forest remain within the DPS. Fifty-nine percent of the LSOG within the DPS comprised patches greater than 75 ac (30 ha), the minimum stand size in which tree voles are found, and the average distance between these patches exceeds the known dispersal limits of tree voles (USFWS 2010, unpublished data). Furthermore, the criteria used to define the initial dataset of late-successional forest used in our analysis includes forest conditions that are not suitable for red tree voles (e.g., low canopy cover, predominant hardwood cover), so these results are overestimates of habitat remaining for red tree voles. Finally, applying the proportion of large patches within the DPS onto the amount of tree vole habitat estimated within the DPS (Dunk 2009, p. 7) indicates only about 6 percent of the DPS is in a condition of suitable habitat in patches large enough to provide for tree voles, and this analysis is considered a likely overestimate of tree vole habitat. Clearly, existing and projected amounts of older conifer forest habitat conducive to red tree vole persistence are less than the amounts projected to have occurred historically and with which tree voles have evolved. High-quality older forest habitat remains in isolated fragments, most of which are too small to support tree voles, and are so widely separated as to be likely well beyond the dispersal capability of the species. Unlike historical conditions, which were highly stochastic, these changes are likely to be permanent. Based on our analysis of best available information, we conclude the remaining high-quality habitat within the DPS is likely insufficient to support red tree voles over the long term, and persists in a fragmented and isolated condition that renders local populations of red tree voles vulnerable to extirpation or extinction through a variety of processes, including genetic stochasticity, demographic stochasticity, environmental stochasticity, and natural catastrophes.

The significant historical losses of older forest with the late-successional characteristics selected by red tree voles, in conjunction with ongoing practices that maintain the remaining patches of older forest in a highly fragmented and isolated condition by managing the surrounding younger forest stands on short-rotation schedules, pose a threat to the persistence of the North Oregon Coast DPS of the red tree vole through the destruction, modification, or curtailment of its habitat or range. Furthermore, barring a significant change in the Oregon Forest Practices Rules and Act, loss, modification, and fragmentation of red tree vole habitat is likely to continue on most of the 62 percent of the DPS that is privately owned. Forecasts for State forest land, which makes up almost all of the 16 percent of the DPS in State ownership, are to manage 15 to 25 percent of their land in older forest structure, with another 15 to 25 percent to be managed as layered forest structure. However, it is expected to take 70 years before reaching these amounts, with only 8 percent of the State lands currently existing in these structural conditions. Active management via thinning to reach these targeted structures, while potentially developing suitable tree vole habitat in the long term, may further
limit the potential for well-connected tree vole populations in the ensuing 70 years. Current regulations on private and State lands provide for timber harvest on relatively short rotation schedules; this contributes to the modification of older forest habitat, and maintains forest in a low-quality condition for red tree voles. Although some incidental benefits may accrue to individual red tree voles from the buffers put in place to protect habitat and targeted wildlife species under the Forest Practices Rules, in general the patches of forest remaining under these guidelines are too small and isolated to provide for the persistence of red tree voles. In some harvest units, the regulations require the retention of only two trees per ac (0.8 trees per ha), and the size of these trees is well below that normally used by red tree voles. The linear perpendicular extent of tree retention along fishbearing streams under the State regulations is dramatically less (about one-fifteenth) than that conserved under Federal regulations. The scarcity of red tree voles throughout much of the DPS where they were formerly found with ease further suggests the forest areas retained under the existing regulatory mechanisms are insufficient to support persistent tree vole populations or successful dispersal and recolonization. Finally, unlike on Federal lands, there are no mechanisms in place on private or State lands to survey for tree voles and manage for sites that are located. We have therefore found existing regulatory mechanisms on private and State lands inadequate to provide for the conservation of the red tree vole within the DPS.

The current presumed limited population size and distribution of the red tree vole within a small portion of the DPS makes the species particularly vulnerable to random environmental disturbances such as fires. Evidence from past fire events indicates that stand replacement fires have historically occurred in this area large enough that, if fires of similar size were to occur now or in the foreseeable future, could eliminate most, if not all, of the largest patches of remaining high-quality older forest habitat in the DPS. This is of particular concern since the stronghold of the red tree vole population in this DPS is likely concentrated in a single cluster of Federal lands south of Highway 20, and the potential loss of the high quality habitat on these lands to an event such as a fire would remove the greatest secure population of red tree voles in the DPS. Other populations are more fragmented and isolated and have little potential to contribute to the overall persistence of the DPS under current conditions of habitat fragmentation. Population connectivity is thus a particular concern given the species’ reduced numbers, habitat specialization and limited dispersal capabilities, combined with the limited distribution of older forests located primarily on Federal land within the range of the red tree vole (USDA and USDI 2000a, p. 186). Even on the cluster of Federal lands north of Highway 20, remaining habitat has been deemed insufficient to support stable populations of red tree voles (USDA and USDI 2007, pp. 291–292).

Finally, though the precise effects of environmental changes resulting from climate change on red tree vole habitat are unknown, the projected increase in size and severity of forest disturbance vectors such as fire and pathogens are expected to further reduce and isolate habitat and tree vole populations. In addition, projected shifts in the range of species to the north and to increased elevations would further reduce the available habitat for the red tree vole, given that it is already at its northern and elevational limit within the North Oregon Coast DPS. Therefore, we have additionally found that the North Oregon Coast DPS of the red tree vole is threatened by the exacerbating effects of other natural or manmade factors affecting its continued existence.

Given the threats described above, we find that the North Oregon Coast DPS of the red tree vole is in danger of extinction now or in the foreseeable future and therefore warrants listing. We have considered time spans of several projections of forest conditions and associated tree vole response and other measures of biodiversity to determine how far into the future is reasonably foreseeable. Trends in timber harvest and biodiversity in the Oregon Coast Range are projected for the next century (Johnson et al. 2007, entire; Spies et al. 2007a, b, entire). Although older forest structure is expected to develop on some areas of private land and in those Federal land allocations managed for late-successional conditions, existing stands are in a variety of age and structural stages and it will be several decades before those stands develop older forest structure and late-successional conditions. For example, on State lands, it is estimated that it will take at least 70 years to develop the targeted amounts of forest complexity (ODF 2010c, p. I–13). Congruent with the time spans stated above, we have determined the foreseeable future for the red tree vole to be approximately 70 to 100 years.

In summary, several threats, combined with the limited ability of the red tree vole to respond to those threats, contribute to our finding that the North Oregon Coast DPS of the red tree vole is in danger of extinction now or in the foreseeable future. Older forest habitats that provide for red tree voles are limited and highly fragmented, while ongoing forest practices in much of the DPS maintain the remaining patches of older forest in a highly fragmented and isolated condition by managing the surrounding younger forest stands on short-rotation schedules. Existing regulatory mechanisms on private and State lands result in the maintenance of this condition on most of their ownership. Although a portion of the State forest land will be managed towards older forest structure, it is expected to take 70 years before reaching these conditions. Red tree vole populations within the North Oregon Coast DPS appear to be relatively small and isolated. Multiple features of red tree vole biology and life history limit their ability to respond to the above noted habitat loss and alteration. These features include small home ranges, limited dispersal distances, low reproductive potential relative to other closely related rodents, a reluctance to cross large openings, and likely increased exposure to predation in certain habitat conditions (e.g. younger stands or in areas with insufficient canopy cover that forces voles to leave trees and travel on the ground). Such life history characteristics make it difficult for red tree voles to persist in or recolonize already isolated habitat patches. Although some land management allocations within the DPS call for developing older forest conditions that may provide habitat for the red tree vole, it will be decades before those areas attain those conditions. In the interim, the red tree vole remains vulnerable to random environmental disturbances that may remove or further isolate large blocks of already limited habitat (e.g. large wind storms or stand-replacing fire events). Finally, small and isolated populations such as the red tree vole are more vulnerable to extirpation within the DPS due to a variety of factors including loss of genetic variability, inbreeding depression, and demographic stochasticity. Because of the existing habitat conditions, the limited ability of the red tree vole to persist in much of the DPS, and its vulnerability in the foreseeable future until habitat conditions improve, we find that the North Oregon Coast DPS of the red tree
vole is in danger of extinction now or in the foreseeable future.

We reviewed the available information to determine if the existing and foreseeable threats render the DPS at risk of extinction now such that issuing an emergency regulation temporarily listing the species under section 4(b)(7) of the Act is warranted. We have determined that issuing an emergency regulation temporarily listing the species is not warranted for the North Oregon Coast DPS of the red tree vole at this time, because voles are currently distributed across multiple areas within the DPS and we do not believe there are any potential threats of such great immediacy, severity, or scope that would simultaneously threaten all of the known populations with the imminent risk of extinction. However, if at any time we determine that an emergency regulation temporarily listing the North Oregon Coast DPS of the red tree vole is warranted, we will initiate this action at that time.

Listing Priority Number

The Service adopted guidelines on September 21, 1983 (48 FR 43098) to establish a rational system for utilizing available appropriations to the highest priority species when adding species to the Lists of Endangered or Threatened Wildlife and Plants or reclassifying threatened species to endangered status. These guidelines, titled "Endangered and Threatened Species Listing and Recovery Priority Guidelines" address the immediacy and magnitude of threats, and the level of taxonomic distinctiveness by assigning priority in descending order to monotypic genera (genus with one species), full species, and subspecies (or equivalently, distinct population segments of vertebrates). The lower the listing priority number (LPN), the higher the listing priority (that is, a species with an LPN of 1 would have the highest listing priority).

As a result of our analysis of the best available scientific and commercial information, we assigned the North Oregon Coast DPS of the red tree vole an LPN of 9, based on our finding that the DPS faces threats that are imminent and of moderate to low magnitude, including the present or threatened destruction, modification, or curtailment of its habitat; the inadequacy of existing regulatory mechanisms; and the impacts of chance environmental and demographic events on an already isolated population. We consider the threat magnitude moderate because, although the entire population is experiencing threats, the impact of those threats is more pronounced on private and State ownerships than on Federal lands, where more of the existing tree vole habitat is likely to remain. For example, our analysis indicates that remaining forested habitat on Federal lands provides a measure of security to extant vole populations.

Although timber harvest across the DPS is a concern, the loss of suitable vole habitat to timber harvest has declined, and the current status of the species may reflect a lag effect from previous timber harvest. At the same time, much of the Federal forested lands are growing toward older conditions and management of these lands is targeted toward increasing the older forest condition of the landscape. In consideration of all these factors, we find the magnitude of threats to be moderate to low. We consider all of these threats imminent because they are currently occurring within the DPS.

Preclusion and Expeditious Progress

Preclusion is a function of the listing priority of a species in relation to the resources that are available and the cost and relative priority of competing demands for those resources. Thus, in any given fiscal year (FY), multiple factors dictate whether it will be possible to undertake work on a listing proposal regulation or whether promulgation of such a proposal is precluded by higher priority listing actions.

The resources available for listing actions are determined through the annual Congressional appropriations process. The appropriation for the Listing Program is available to support work involving the following listing actions: Proposed and final listing rules; 90-day and 12-month findings on petitions to add species to the Lists of Endangered and Threatened Wildlife and Plants (Lists) or to change the status of a species from threatened to endangered; annual "resubmitted" petition findings on prior warranted-but-precluded petition findings as required under section 4(b)(3)(C)(i) of the Act; critical habitat petition findings; proposed and final rules designating critical habitat; and litigation-related, administrative, and program-management functions (including preparing and allocating budgets, responding to Congressional and public inquiries, and conducting public outreach regarding listing and critical habitat). The work involved in preparing various listing documents can be extensive and may include, but is not limited to: Gathering and assessing the best scientific and commercial data available and conducting analyses used as the basis for our decisions; writing and publishing documents; and obtaining, reviewing, and evaluating public comments and peer review comments on proposed rules and incorporating relevant information into final rules. The number of listing actions that we can undertake in a given year also is influenced by the complexity of those listing actions; that is, more complex actions generally are more costly. The median cost for preparing and publishing a 90-day finding is $39,276; for a 12-month finding, $100,690; for a proposed rule with critical habitat, $345,000; and for a final listing rule with critical habitat, $305,000.

We cannot spend more than is appropriated for the Listing Program without violating the Anti-Deficiency Act (see 31 U.S.C. 1341(a)(1)(A)). In addition, in FY 1998 and for each fiscal year since then, Congress has placed a statutory cap on funds that may be expended for the Listing Program, equal to the amount expressly appropriated for that purpose in that fiscal year. This cap was designed to prevent funds appropriated for other functions under the Act (for example, recovery funds for removing species from the Lists), or for other Service programs, from being used for Listing Program actions (see House Report 105–163, 105th Congress, 1st Session, July 1, 1997).

Since FY 2002, the Service’s budget has included a critical habitat subcap to ensure that some funds are available for other work in the Listing Program (“The critical habitat designation subcap will ensure that some funding is available to address other listing activities” (House Report No. 107–103, 107th Congress, 1st Session, June 19, 2001)). In FY 2002 and each year until FY 2006, the Service had to use virtually the entire critical habitat subcap to address court-mandated designations of critical habitat, and consequently none of the critical habitat subcap funds have been available for other listing activities. In some FYs since 2006, we have been able to use some of the critical habitat subcap funds to fund proposed listing determinations for high-priority candidate species. In other FYs, while we were unable to use any of the critical habitat subcap funds to fund proposed listing determinations, we did use some of this money to fund the critical habitat portion of some proposed listing determinations so that the proposed listing determination and proposed critical habitat designation could be combined into one rule, thereby being more efficient in our work. At this time, for FY 2011, we plan to use some of the critical habitat subcap funds to fund proposed listing determinations.
We make our determinations of preclusion on a nationwide basis to ensure that the species most in need of listing will be addressed first and also because we allocate our listing budget on a nationwide basis. Through the listing cap, the critical habitat subcap, and the amount of funds needed to address court-mandated critical habitat designations, Congress and the courts have in effect determined the amount of money available for other listing activities nationwide. Therefore, the funds in the listing cap, other than those needed to address court-mandated critical habitat for already listed species, set the limits on our determinations of preclusion and expeditious progress.

Congress identified the availability of resources as the only basis for deferring the initiation of a rulemaking that is warranted. The Conference Report accompanying Public Law 97–304 (Endangered Species Act Amendments of 1982), which established the current statutory deadlines and the warranted-but-precluded finding, states that the amendments were “not intended to allow the Secretary to delay commencing the rulemaking process for any reason other than that the existence of pending or imminent proposals to list species subject to a greater degree of threat would make allocation of resources to such a petition [that is, for a lower-ranking species] unwise.” Although that statement appeared to refer specifically to the “to the maximum extent practicable” limitation on the 90-day deadline for making a “substantial information” finding that finding is made at the point when the Service is deciding whether or not to commence a status review that will determine the degree of threats facing the species, and therefore the analysis underlying the statement is more relevant to the use of the warranted-but-precluded finding, which is made when the Service has already determined the degree of threats facing the species and is deciding whether or not to commence a rulemaking.

In FY 2011, on April 15, 2011, Congress passed the Full-Year Continuing Appropriations Act (Pub. L. 112–10), which provides funding through September 30, 2011. The Service has $20,902,000 for the listing program. Of that, $9,472,000 is being used for determinations of critical habitat for already listed species. Also $500,000 is appropriated for foreign species listings under the Act. The Service thus has $10,930,000 available to fund work in the following categories: Compliance with court orders and court-approved settlement agreements requiring that petition findings or listing determinations be completed by a specific date; section 4 (of the Act) listing actions with absolute statutory deadlines; essential litigation-related, administrative, and listing program-management functions; and high-priority listing actions for some of our candidate species. In FY 2010, the Service received many new petitions and a single petition to list 404 species. The receipt of petitions for a large number of species is consuming the Service’s listing funding that is not dedicated to meeting court-ordered commitments. Absent some ability to balance effort among listing duties under existing funding levels, the Service is only able to initiate a few new listing determinations for candidate species in FY 2011.

In 2009, the responsibility for listing foreign species under the Act was transferred from the Division of Scientific Authority, International Affairs Program, to the Endangered Species Program. Therefore, starting in FY 2010, we used a portion of our funding to work on the actions described above for listing actions related to foreign species. In FY 2011, we anticipate using $1,500,000 for work on listing actions for foreign species, which reduces funding available for domestic listing actions; however, currently only $500,000 has been allocated for this function. Although there are no foreign species issues included in our high-priority listing actions at this time, many actions have statutory or court-approved settlement deadlines; thus increasing their priority. The budget allocations for each specific listing action are identified in the Service’s FY 2011 Allocation Table (part of our record).

For the above reasons, funding a proposed listing determination for the North Oregon Coast DPS of the red tree vole is precluded by court-ordered and court-approved settlement agreements, listing actions with absolute statutory deadlines, and work on proposed listing determinations for those candidate species with a higher listing priority (i.e., candidate species with LPNs of 1–8).

Based on our September 21, 1983, guidelines for assigning an LPN for each candidate species (48 FR 43098), we have a significant number of species with a LPN of 2. Using these guidelines, we assign each candidate an LPN of 1 to 12, depending on the magnitude of threats (high or moderate to low), immediacy of threats (imminent or nonimminent), and taxonomic status of the species (order of priority of species and monotypic genus (a species that is the sole member of a genus); species; or part of a species (subspecies, or distinct population segment)). The lower the listing priority number, the higher the listing priority (that is, a species with an LPN of 1 would have the highest listing priority).

Because of the large number of high-priority species, we have further ranked the candidate species with an LPN of 2 by using the following extinction-risk type criteria: International Union for the Conservation of Nature and Natural Resources (IUCN) Red list status/rank, Heritage rank (provided by NatureServe), Heritage threat rank (provided by NatureServe), and species currently with fewer than 50 individuals, or 4 or fewer populations. Those species with the highest IUCN rank (critically endangered), the highest Heritage rank (G1), the highest Heritage threat rank (substantial, imminent threats), and currently with fewer than 50 individuals, or fewer than 4 populations, originally comprised a group of approximately 40 candidate species (“Top 40”). These 40 candidate species have had the highest priority to receive funding to work on a proposed listing determination. As we work on proposed and final listing rules for those 40 candidates, we apply the ranking criteria to the next group of candidates with an LPN of 2 and 3 to determine the next set of highest priority candidate species. Finally, proposed rules for reclassification of threatened species to endangered species are lower priority, because as listed species, they are already afforded the protections of the Act and implementing regulations. However, for efficiency reasons, we may choose to work on a proposed rule to reclassify a species to endangered if we can combine this with work that is subject to a court-determined deadline.

With our workload so much bigger than the amount of funds we have to accomplish it, it is important that we be as efficient as possible in our listing process. Therefore, as we work on proposed rules for the highest priority species in the next several years, we are preparing multi-species proposals when appropriate, and these may include species with lower priority if they overlap geographically or have the same threats as a species with an LPN of 2. In addition, we take into consideration the availability of staff resources when we determine which high-priority species will receive funding to minimize the amount of time and resources required to complete each listing action.

As explained above, a determination that listing is warranted but precluded must also demonstrate that expeditious progress is being made to add and
remove qualified species to and from the Lists of Endangered and Threatened Wildlife and Plants. As with our “precluded” finding, the evaluation of whether progress in adding qualified species to the Lists has been expeditious is a function of the resources available for listing and the competing demands for those funds. (Although we do not discuss it in detail here, we are also making expeditious progress in removing species from the list under the Recovery program in light of the resource available for delisting, which is funded by a separate line item in the budget of the Endangered Species Program. So far during FY 2011, we have completed delisting rules for three species.) Given the limited resources available for listing, we find that we are making expeditious progress in FY 2011 in the Listing Program. This progress included preparing and publishing the following determinations:

**FY 2011 COMPLETED LISTING ACTIONS**

<table>
<thead>
<tr>
<th>Publication date</th>
<th>Title</th>
<th>Actions</th>
<th>FR pages</th>
</tr>
</thead>
<tbody>
<tr>
<td>10/7/2010</td>
<td>12-Month Finding on a Petition to list the Sacramento Splittail as Endangered or Threatened.</td>
<td>Notice of 12-month petition finding, Not warranted.</td>
<td>75 FR 62070–62095.</td>
</tr>
<tr>
<td>12/28/2010</td>
<td>Listing Seven Brazilian Bird Species as Endangered Throughout Their Range.</td>
<td>Final Listing Endangered.</td>
<td>75 FR 81793–81815.</td>
</tr>
<tr>
<td>2/10/2011</td>
<td>12-Month Finding on a Petition to list the Pacific Walrus as Endangered or Threatened.</td>
<td>Notice of 12-month petition finding, Warranted but precluded.</td>
<td>76 FR 7634–7697.</td>
</tr>
<tr>
<td>Publication date</td>
<td>Title</td>
<td>Actions</td>
<td>FR pages</td>
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<tr>
<td>7/19/2011</td>
<td>Petition To List Grand Canyon Cave Pseudoscorpion .......................</td>
<td>Notice of 90-day Petition Finding, Not warranted.</td>
<td>76 FR 40868–40871.</td>
</tr>
<tr>
<td>7/27/2011</td>
<td>Determination of Endangered Status for Ipomopsis polyantha (Pogosa Skyrocket) and Threatened Status for Penstemon debilis (Parachute Beardtongue) and Phacelia submutica (DeBeque Phacelia).</td>
<td>Notice of 12-month petition finding, Not warranted.</td>
<td>76 FR 44547–44564.</td>
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</table>
### FY 2011 COMPLETED LISTING ACTIONS—Continued

<table>
<thead>
<tr>
<th>Publication date</th>
<th>Title</th>
<th>Actions</th>
<th>FR pages</th>
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<tr>
<td>8/2/2011</td>
<td>Listing 23 Species on Oahu as Endangered and Designating Critical Habitat for 124 Species.</td>
<td>Proposed Listing Endangered or Threatened.</td>
<td>76 FR 46362–46594.</td>
</tr>
</tbody>
</table>

Our expeditious progress also includes work on listing actions that we funded in FY 2010 and FY 2011 but have not yet been completed to date. These actions are listed below. Actions in the top section of the table are being conducted under a deadline set by a court. Actions in the middle section of the table are being conducted to meet statutory timelines, that is, timelines required under the Act. Actions in the bottom section of the table are high-priority listing actions. These actions include work primarily on species with an LPN of 2, and, as discussed above, selection of these species is partially based on available staff resources, and when appropriate, include species with a lower priority if they overlap geographically or have the same threats as the species with the high priority. Including these species together in the same proposed rule results in considerable savings in time and funding, when compared to preparing separate proposed rules for each of them in the future.

### ACTIONS FUNDED IN FY 2010 AND FY 2011 BUT NOT YET COMPLETED

#### Actions Subject to Court Order/Settlement Agreement

<table>
<thead>
<tr>
<th>Species</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>4 parrot species (military macaw, yellow-billed parrot, red-crowned parrot, scarlet macaw)</td>
<td>12-month petition finding.</td>
</tr>
<tr>
<td>4 parrot species (blue-headed macaw, great green macaw, grey-cheeked parakeet, hyacinth macaw)</td>
<td>12-month petition finding.</td>
</tr>
<tr>
<td>Longfin smelt</td>
<td>12-month petition finding.</td>
</tr>
</tbody>
</table>

#### Actions with Statutory Deadlines

<table>
<thead>
<tr>
<th>Species</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>Casey's june beetle</td>
<td>Final listing determination.</td>
</tr>
<tr>
<td>5 Bird species from Colombia and Ecuador</td>
<td>Final listing determination.</td>
</tr>
<tr>
<td>Queen Charlotte goshawk</td>
<td>Final listing determination.</td>
</tr>
<tr>
<td>Ozark hellbender</td>
<td>Final listing determination.</td>
</tr>
<tr>
<td>Altamaha spiny mussel</td>
<td>Final listing determination.</td>
</tr>
<tr>
<td>6 Birds from Peru &amp; Bolivia</td>
<td>Final listing determination.</td>
</tr>
<tr>
<td>Loggerhead sea turtle (assist National Marine Fisheries Service)</td>
<td>Final listing determination.</td>
</tr>
<tr>
<td>2 mussels (rayed bean (LPN = 2), snuffbox No LPN)</td>
<td>Final listing determination.</td>
</tr>
<tr>
<td>CA golden trout</td>
<td>Final listing determination.</td>
</tr>
<tr>
<td>Black-footed albatross</td>
<td>Final listing determination.</td>
</tr>
<tr>
<td>Mojave fringe-toed lizard 1</td>
<td>12-month petition finding.</td>
</tr>
<tr>
<td>Kokanee—Lake Sammamish population 1</td>
<td>12-month petition finding.</td>
</tr>
<tr>
<td>Cactus ferruginus pygmy-owl 1</td>
<td>12-month petition finding.</td>
</tr>
<tr>
<td>Northern leopard frog</td>
<td>12-month petition finding.</td>
</tr>
<tr>
<td>Tehachapi slender salamander</td>
<td>12-month petition finding.</td>
</tr>
<tr>
<td>Coqui Llanero</td>
<td>12-month petition finding/ Proposed listing.</td>
</tr>
<tr>
<td>Dusky tree vole</td>
<td>12-month petition finding.</td>
</tr>
</tbody>
</table>
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ACTIONS FUNDED IN FY 2010 AND FY 2011 BUT NOT YET COMPLETED—Continued

Species | Action
--- | ---
Leatherside chub (from 206 species petition) | 12-month petition finding.
Platte River caddisfly (from 206 species petition) | 12-month petition finding.
3 Texas moths (Ursia furtiva, Sphingicampa blanchardi, Apagena galbina) (from 475 species petition) | 12-month petition finding.
3 South Arizona plants (Erigeron pisicatus, Astragalus hypoxylus, Amoreuxia gonzalezii) (from 475 species petition) | 12-month petition finding.
5 Central Texas mussel species (from 475 species petition) | 12-month petition finding.
14 parrots (foreign species) | 12-month petition finding.
Mohave Ground Squirrel | 12-month petition finding.
Western gull-billed tern | 12-month petition finding.
OK grass pink (Calopogon oklahomensis) | 12-month petition finding.
Ashy storm-petrel | 12-month petition finding.
Honduran emerald | 12-month petition finding.
Eagle Lake trout | 90-day petition finding.
32 Pacific Northwest mollusks species (snails and slugs) | 90-day petition finding.
42 snail species (Nevada & Utah) | 90-day petition finding.
Spring Mountains checkerspot butterfly | 90-day petition finding.
10 species of Great Basin butterfly | 90-day petition finding.
404 Southeast species | 90-day petition finding.
Franklin’s bumble bee | 90-day petition finding.
American eel | 90-day petition finding.
Aztec glia | 90-day petition finding.
White-tailed planmigan | 90-day petition finding.
San Bernardino flying squirrel | 90-day petition finding.
Bicknell’s thrush | 90-day petition finding.
Sonoran talussnail | 90-day petition finding.
2 AZ Sky Island plants (Graptopectum bartrami & Pectis imberbis) | 90-day petition finding.
I’iwi | 90-day petition finding.
Humboldt marten | 90-day petition finding.
Desert massasauga | 90-day petition finding.
Western glacier stoneyfly (Zapada glacier) | 90-day petition finding.
Thermophilic ostracod (Potamocypris hunteri) | 90-day petition finding.
Sierra Nevada red fox | 90-day petition finding.
Boreal toad (eastern or southern Rocky Mtn population) | 90-day petition finding.

High-Priority Listing Actions

20 Maui-Nui candidate species (17 plants, 3 tree snails) (14 with LPN = 2, 2 with LPN = 3, 3 with LPN = 8) | Proposed listing.
8 Gulf Coast mussels (southern kidneyshell (LPN = 2), round ebonysnail (LPN = 2), Alabama pearlshell (LPN = 2), southern sandshell (LPN = 5), fuzzy pigtoe (LPN = 5), Choctaw bean (LPN = 5), narrow pigtoe (LPN = 5), and taper pigtoe (LPN = 11)) | Proposed listing.
Umatum buckwheat (LPN = 2) and white bluffs bladderpod (LPN = 9) | Proposed listing.
Grotto sculpin (LPN = 2) | Proposed listing.
2 Arkansas mussels (Neosho mucket (LPN = 2) & Rabbitsfoot (LPN = 9)) | Proposed listing.
Diamond darter (LPN = 2) | Proposed listing.
Gunnison sage-grouse (LPN = 2) | Proposed listing.
Coral Pink Sand Dunes Tiger Beetle (LPN = 2) | Proposed listing.
Lesser prairie chicken (LPN = 2) | Proposed listing.
4 Texas salamanders (Austin blind salamander (LPN = 2), Salado salamander (LPN = 2), Georgetown salamander (LPN = 8), Jollyville Plateau (LPN = 8)) | Proposed listing.
5 SW aquatics (Gonzales Spring Snail (LPN = 2), Diamond Y springsnail (LPN = 2), Phantom springsnail (LPN = 2), Phantom Cave snail (LPN = 2), Diminutive amphipod (LPN = 2)) | Proposed listing.
2 Texas plants (Texas golden gladecress (Leavenworthia texana) (LPN = 2), Neches River rose-mallow (Hibiscus dasycalyx) (LPN = 2)) | Proposed listing.
4 AZ plants (Acuna cactus (Echinomastus exertocentrus var. acunensis) (LPN = 3), Fickeisen plains cactus (Pediocactus peeblesianus fikeiseniae) (LPN = 3), Lemmon fleabane (Erigeron lemmunii) (LPN = 8), Gierisch mallow (Sphaeralcea gierischii) (LPN = 2)) | Proposed listing.
FL bonneted bat (LPN = 2) | Proposed listing.
3 Southern FL plants (Florida semaphore cactus (Conosori coralliformis) (LPN = 2), shellmouth applecactus (Harrisia (=Cereus) abobinum (=gracilis)) (LPN = 2), Cape Sable thoroughwort (Chromolaena frustrata) (LPN = 2)) | Proposed listing.
21 Big Island (HI) species (includes 8 candidate species—6 plants & 2 animals; 4 with LPN = 2, 1 with LPN = 3, 1 with LPN = 4, 2 with LPN = 8) | Proposed listing.
12 Puget Sound prairie species (9 subspecies of pocket gopher (Thomomys mazama ssp.) (LPN = 3), streaked horned lark (LPN = 3), Taylor’s checkerspot (LPN = 3), Mardon skipper (LPN = 8)) | Proposed listing.
2 TN River mussels (fluted kidneyshell (LPN = 2), slabside pearlymussel (LPN = 2)) | Proposed listing.
Jemez Mountain salamander (LPN = 2) | Proposed listing.

1 Funds for listing actions for these species were provided in previous FYs.
2 Although funds for these high-priority listing actions were provided in FY 2008 or 2009, due to the complexity of these actions and competing priorities, these actions are still being developed.
3 Partially funded with FY 2010 funds and FY 2011 funds.
4 Funded with FY 2010 funds.
5 Funded with FY 2011 funds.
We have endeavored to make our listing actions as efficient and timely as possible, given the requirements of the relevant law and regulations, and constraints relating to workload and personnel. We are continually considering ways to streamline processes or achieve economies of scale, such as by batching related actions together. Given our limited budget for implementing section 4 of the Act, these actions described above collectively constitute expeditious progress.

The North Oregon Coast DPS of the red tree vole will be added to the list of candidate species upon publication of this 12-month finding. We will continue to monitor the status of this species as new information becomes available. This review will determine if a change in status is warranted, including the need to make prompt use of emergency listing procedures.

We intend that any proposed listing action for the North Oregon Coast DPS of the red tree vole will be as accurate as possible. Therefore, we will continue to accept additional information and comments from all concerned governmental agencies, the scientific community, industry, or any other interested party concerning this finding.

References Cited

A complete list of all references cited is available on the internet at http://www.regulations.gov and on request from the Oregon Fish and Wildlife Office (see ADDRESSES).

Authors

The primary authors of this document are the staff members of the Oregon Fish and Wildlife Office.

Authority

The authority for this action is the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 et seq.).

Dated: September 19, 2011.

Daniel M. Ashe,
Director, Fish and Wildlife Service.
March 26, 2014  
Bureau of Land Mgmt.  
Resource Management Plan Western Oregon  

Subject: Public Comment on Western Oregon Resource Mgmt. Plan (RMP) – Recreation Planning Criteria  

My comments and recommendations are specifically focused on the area known as Johns Peak/Timber Mt. in Southern Oregon between Grants Pass and Medford area in relation to the proposed Off-Highway Vehicle (OHV) Emphasis Area.  

An OHV Park or Emphasis Area should be of significant size, contiguous lands, large enough so as to be able to close parts of it for restoration and resting the land while opening other areas. It should have camping where tourists with toy haulers can come and recreate which would boost local economies and provide a wonderful OHV experience. Where there is enough diversity to accommodate young new riders and experienced veterans alike. It should be in and accessed through areas that have minimal if any residential homes and private properties so as to avoid conflicts and accidents.  

An example: 30,000 contiguous acres (possible partnership with US Forestry) divided into 3 separate sections of 10,000 acres each. Only one section would be open at a time and when the environmental impacts were taking a toll it would be closed, restored and allowed to rest while another section is opened for use. All three areas could utilize the same camping, parking and restroom facilities if designed that way at the onset.  

The proposed Johns Peak/Timber Mt. area (especially Foots Crk., Galls Crk. & Birdseye Crk.) is totally unsuitable for such a designation given the checkerboard public/private ownership throughout the area with the lions share being private; 62% private and 38% public (non-continuous). Additionally, this area is literally surrounded on all sides by vibrant and growing residential communities. It is the natural progression of growth between the cities of Grants Pass and Medford along the I-5 corridor. This area was designated as an OHV area in the 1995 Medford District RMP completely bypassing the Public Process, without any definition of where or what it was, without maps and without any meaningful notice to potentially impacted communities. One sentence (42 letters – not words) in a huge WOPR set this disaster in motion and it is a serious error with far reaching implications. Coincidentally, the BLM Employee who did this is now in charge of the ATV Fund at Oregon State Parks and Recreation and repeatedly involved with BLM in this OHV plan including the 9 month long BLM mediation process in 2012.  

For over a decade, thousands of residents in numerous communities have been battling this ill-conceived OHV Plan. During this time the BLM has been promoting the area for OHV use online and in brochures before any meaningful Public Process and that has caused a decade of conflicts between residents and OHVs. We have written a mountain of letters, presented data on the long list of negative impacts to the communities and the sensitive watershed and environmental issues. We have presented a petition with over 1,300 signatures of resident land owners (registered voters) from in and around Johns Peak/Timber Mt. and none of it has been included in your planning criteria or in your new 4 Alternative choices.  

We demand that the last 10 years of resident submitted data to BLM on noise, fire, sensitive streams, granitic soils, wildlife, environmental issues, resident letters, petitions from those impacted in and around Johns Peak/Timber Mountain area and all submitted data provided at the BLM’s Mediation Process in 2012, all be included into the BLM 2014 Resource Management Planning Criteria and that an additional Alternative be included removing the OHV Designation from Johns Peak Timber Mountain in Western Oregon.
If any BLM employee operates OHV’s or has any affiliation with any OHV organization they should be excused from this process and any input they have made disregarded.

We officially request the Bureau of Land Management to remove the 1995 RMP OHV Designation from Johns Peak/ Timber Mountain in Southern Oregon as it violated 43 CFR 8342.2a “Public Participation”: Prior to making designations or re-designations, the authorized officer shall consult with interested user groups, Federal, State, county and local agencies, local landowners, and other parties in a manner that provides an opportunity for the public to express itself and have its views given consideration.

Additionally we request the BLM planning criteria for the Western Oregon RMP include a review of current and proposed OHV areas by applying "43 CFR 8342.1, Designation criteria," to all OHV areas, either formally or informally designated since 1972 when President Nixon's Executive Order on this topic was issued."

The Federal Land Policy and Management Act (FLPMA) Designation Criteria States:

The authorized officer shall designate all public lands as either open, limited, or closed to off-road vehicles. All designations shall be based on the protection of the resources of the public lands, the promotion of the safety of all the users of the public lands, and the minimization of conflicts among various uses of the public lands; and in accordance with the following criteria:

(a) Areas and trails shall be located to minimize damage to soil, watershed, vegetation, air, or other resources of the public lands, and to prevent impairment of wilderness suitability.

(b) Areas and trails shall be located to minimize harassment of wildlife or significant disruption of wildlife habitats. Special attention will be given to protect endangered or threatened species and their habitats.

(c) Areas and trails shall be located to minimize conflicts between off-road vehicle use and other existing or proposed recreational uses of the same or neighboring public lands, and to ensure the compatibility of such uses with existing conditions in populated areas, taking into account noise and other factors.

(d) Areas and trails shall not be located in officially designated wilderness areas or primitive areas. Areas and trails shall be located in natural areas only if the authorized officer determines that off-road vehicle use in such locations will not adversely affect their natural, esthetic, scenic, or other values for which such areas are established.

Impacts to surrounding residential communities:

Noise: The noise of OHV's buzzing in the hills around numerous quiet bedroom communities would
destroy the quality of life for thousands of families. Instead of hearing birds and bubbling creeks residents would hear the constant buzzing of OHVs and that is something we cannot and will not live with. Many of these areas have ambient sound levels of 25 decibels to 40 decibels and all readings were taken from the road not up on the more quiet hillsides - see attached readings & WSJ article. OHVs can legally emit up to 99 decibels under Oregon State Law with more than a few exceeding that level. Add to that the echo chamber of the canyons and this would have a tremendous negative impact on surrounding residents. In our business OSHA requires us to provide constant sound monitoring in an active power plant and if the ambient readings exceed 85 decibels special hearing protection must be provided for our employees. Is this what the BLM intends to provide for all of the surrounding and intermixed communities?

Safety & Health concerns; Noise pollution is unwanted human-created sound that has the effect of being annoying, distracting, painful, or physically harmful. People exposed to noise pollution suffer from hearing loss, sleep deprivation, chronic fatigue, anxiety, hostility, depression and hypertension. World Health Organization, National Institutes of Health, United Nations and numerous scientific and medical publications recognize noise pollution and its deleterious effects.

The intense sound caused by OHVs easily triggers an involuntary stress response commonly known as "fight or flight." This results in the secretion of adrenaline, with ensuing spikes in cardio-respiratory rates, muscle tension, and elevated blood pressure. Vibroacoustic Disease is a cumulative and chronic disease caused by exposure to infrasound. Infrasound is low frequency sound energy that affects the nervous system and prolonged exposure can lead to progressive medical conditions.

Increased Threat of Fire: While it’s true there have been improvements to exhaust systems to try to prevent fires from happening, they still do happen with some regularity and there is documentation to support this claim from this area. When you increase the number of people on OHVs in the surrounding hills you also increase the risk of starting a fire. The Oregon Dept. of Forestry has designated this entire area as an "Extreme" fire danger area. Our community has worked tirelessly every year for a decade with ODF, the Seven Basins Watershed Council, local Fire Depts., and SOU Exten. Office to create Community Fire & Emergency Plans, to reduce ladder fuels, to educate residents on safe fire practices, create phone and email trees and collect resident fire surveys etc. This entire effort is for not if the BLM goes through with this OHV plan at Johns Peak/Timber MT.. It won’t matter where the fire starts because of the many communities around and throughout the area, someone's community will burn, homes will be lost and God forbid lives would be lost. We take this issue very seriously because we live with it each and every day of every year. See attached fire history for the Foots Creek Basin and Seven Basins Watershed.

Trespassing and Property Damage: Due to the checkerboard ownership of this area there is no way to avoid this problem because it is the wrong area for OHV activity. The conflicts with OHV users has been growing steadily over the past 5 years and we feel this is directly attributed to the BLM's promotion of the site as an OHV Emphasis Area on maps, on their web site, through their partnership with the MRA and through Oregon State Parks maps and web site. All this before an EIS or the public process has taken place. The BLM then proclaims that they can't manage the very issues they created unless it is an OHV Emphasis area. Most disturbing was the discovery the BLM was directing OHV users on their web site to use my street (Fooths Creek Road) as an access road to the OHV area when there is no legal access to public lands from Fooths Creek Road thereby creating numerous conflicts with residents. Before we knew this we called the Medford BLM to ask why all these OHV users were coming up our road they said "they had no idea and no control of who used public roads". This is not how I would expect a Federal Agency to conduct business. Further it is a mandate of the BLM to do whatever they have to do to avoid creating conflicts, a mandate that was clearly violated. Most of us have already had clashes and conflicts with trespassing OHV users. They have cut down trees to make illegal trails, lit bon-fires even using the "No Fires Permitted" signs as fuel, dumped trash, torn down No Trespassing signs, started grass fires, cut fences, torn down gates, been abusive to
residents, drive recklessly on our roads endangering families, children and horse riders. One of the largest land owners at Johns Peak/Timber Mt., a timber company, has had to replace over 200 gates that were torn down and destroyed by OHV users all of which is verifiable and documented. Unless BLM intends to fund an army of full time enforcement officers in each community surrounding this area from all directions full time then it is an unmanageable situation at best. Additionally funds would have to include additional firefighting manpower and equipment. This is not the right place for an OHV Emphasis Area and at the very least BLM should remove the Foots Creek, Birdseye Creek, Galls Creek and surrounding areas and ridges from the OHV Emphasis area including modifying maps and web information to show them as non-motorized.

Financial Impacts to Private Property Owners: I have spoken with real estate Brokers that have practiced here in the Rogue Valley for over 24 years. The mere consideration of our communities being included as a potential OHV Emphasis Area is already having a negative impact. Property owners are required to disclose any known potential impacts about the properties for sale and when buyers hear of this potential OHV Park they are simply not interested in buying in this areas causing our properties to become less appealing and ergo less valuable. Should this inappropriate OHV plan be allowed to continue, its effects on the market will without doubt be extremely negative to what degree we can only imagine. This also pertains to communities that are used as pass through to access an OHV area. The BLM can be fairly certain that this will be one of the leading issues for litigation (among others) if this plan persists. There are over 1000 residents on Foots Creek Road alone. Now consider the many other residential communities surrounding and mixed throughout this area, this is a lot of angry property owners.

Personal Safety Issues: With over 1000 residents on Foots Creek the traffic is already extremely high. The OHV users will add a large threat to people simply trying to cross the road to check the mail, visit a neighbor or enjoy our community. Most of us run livestock and the added traffic and noise will cause stress on the animals resulting in lost, injured or killed livestock. Who is going to police them and pay for the inevitable loss of life and property? The OHV users won't, they could not care less about us or our community as long as they get their way. They are willing to damage our way of life to have a little fun tearing up the forest. I ride quads but I go where there are existing roads because as a Medford native, our forest lands are more important than having fun on a trail. Also who is going to clean up the trash that gets thrown out the window as they drive up Foots Creek because it will happen. I for one will set up cameras to capture license plates and turn every one of them in to the sheriff and when they speed past my farm I will call the police to slow them down. This is not being taken lightly as it is impacting our lives in a negative way.

Environmental Issues: In the Foots Creek Basin alone there are identified rare plants, what may be the last refuge for the suspected extinct Franklin bumblebees and the rare Occidentalis. We have bioluminescent arthropods that have yet to be identified as "known" species by SOU entomologists.

The Middle Rogue Watershed consists of 6 Salmon Spawning Tributaries that feed the Rogue River; Foots Creek, Galls Creek, Birdseye Creek, Kane Creek, Sams Creek and Sardine Creek as identified by the Oregon Dept. of Fish and Wildlife and all have been documented annually for 40 years. Most of these are listed as 303D Sensitive Streams. Four of the six sensitive tributaries in the Middle Rogue Watershed are included in BLMs proposed Johns Peak/Timber Mt. OHV Emphasis Area and all have issues with granitic soils from hydraulic mining.
These sensitive tributaries are "each" fed by hundreds of feeder springs like a network of veins across the hillsides that would be negatively impacted by OHV activity. Rains will wash soils into the feeder and main streams which would cause serious damage to Salmon Spawning. **According to the Assistant District Fish Biologist at ODFW, Foots Creek produces the highest density of spawning Summer Steelhead Redds of anywhere in the entire Rogue River Basin.** See attached data.

**Recommendation:** remove Foots Creek, Birdseye Creek, Galls Creek and Kane Creek and surrounding canyons from the proposed OHV Emphasis Area to protect dwindling steelhead spawning habitat or remove the OHV Designation for Johns Peak Timber Mountain area in total.

**Wildlife Issues:** I have already mentioned the smaller creatures but there are also bears, cougars, coyotes, fox, and a host of others that will be negatively impacted by OHV use in this area. We have endured through human/wildlife conflicts with cougars and those conflicts increase when they are driven down into the communities to hunt for food and water. Deer and Elk will move away from the OHV areas driving them into residential areas which will also bring with it the predators that depend on that food source to survive. In Spring (high OHV activity) larger animals will move their young to avoid being near OHV areas and if all the hills are OHV areas where are they supposed to go?

We have lived with the impacts of having cougars moving down into the valleys before where we experienced a total of 24 attacks and 17 kills of pets and livestock (documented) in a 90 day period. We had children being stalked when they got off the school bus to walk home. Our concerns are real, genuine and based in fact not some data table from another county.

According to ODFW: **Impacts to Big Game.** Several studies document the impacts of motorized vehicle use to big game habitat (Rowland et al. 2000, Wisdom et al. 2004, Rowland et al. 2005, Naylor 2006, Wisdom 2007). Increased hunter demand, numbers of roads, and hunter access increase deer and elk vulnerability and result in reduced hunter opportunity in order to maintain bull/buck ratios at management objective levels specified in Oregon's deer and elk management plans (ODFW 2003a, ODFW 2003b, ODFW 2008). Mixing biological and social considerations becomes very difficult, especially when Oregon deer and elk hunters express desire for more bucks/bulls and less crowded hunting conditions. The winter period is an especially stressful time of year for big game. Human disturbances, such as OHV use in big game winter range can result in animals using fat reserves needed for survival. In addition, increased unregulated vehicle traffic on public land can cause big game to seek security on private lands (Wertz et al. 2001). Often this may result in increased damage issues for landowners and reduced opportunity for public land hunters.

**Additionally Endangered Spotted Owls have been found in the Foots Creek Basin area by independent Timber resources.**

**Recommendation:** The BLM review these studies and similar science related to OHV activity as it applies to the designation of OHV Emphasis Areas and under "43 § 8342.1, Designation criteria.

**Motorized vs. Non-Motorized Recreation:** The hills around the Foots Creek, Birdseye Creek and Galls Basins have been historically used for horseback riding, hunting, hiking, and birding since statehood and long before OHVs came along (despite their claims). This is easily verified as many of the original family homesteaders heirs still live here. All of these non-motorized recreational uses can co-exist with each other but not within an OHV Emphasis Area. An OHV Emphasis area operates to the exclusion of all of these others historic forms of recreation in this area. These non-motorized forms of recreation do not have the negative impacts on the environment and to the thousands of families that reside here unlike the OHVs. The BLM has proclaimed an All or Nothing scenario with their misguided concept of an OHV Emphasis Area at Johns Peak/Timber Mt. and therefore to protect our quality of life, our environment, and the value of our homes we will continue to fight to remove our areas from this OHV designation.
**Law Enforcement:** There is very little enforcement for OHV use currently. One of the issues is OHV users trespassing or causing other problems (reckless driving etc). By the time the Sheriff arrives the perpetrator is long gone. There are no license plates on OHVs for identification, no active patrols (at least in our area), too many areas and ways they can escape to avoid being caught. Nobody knows who to call for help, if they call the Sheriff (whose resources are already over taxed) it takes too long to arrive, if they call BLM nobody shows up at all. These are all issues we are dealing with currently and in large part due to the BLM promoting the area for OHV use in an area with no legal access to BLM.

We have gathered all of the "available" BLM Enforcement Officers data and the Jackson County Sheriffs data and it weighs heavily on calls to the Sheriff’s office with the BLM officer doing mainly tag enforcement and not much of that. **The Jackson County Sheriff Mike Winters agrees that Johns Peak/Timber Mt. is not the right place for an OHV Emphasis Area due to its geography, intermixed private properties, surrounded by growing communities, and lack of manpower and funds to maintain reasonable enforcement.** Add to this the extra expenses to the County budget for Search and Rescue Operations, helicopters, officers, medical etc.. It makes no economic sense and the BLM should be considering a more suitable location for an OHV area that could be more easily managed and enforced with fewer resources, more reasonable costs and the reduction of conflicts with area residents.

The extreme noise pollution from OHV’s would have to be constantly monitored for all of these communities in and throughout Johns Peak/Timber Mt. add to this the enforcement issues of OHVs that violate the rules and the additional costs for manpower. The cost to accomplish this effectively is unrealistic and fiscally irresponsible.

**In Closing:** I ask the BLM for myself, my family and my community to please do the right and honorable thing and lets find an OHV area that makes sense, one we can all support, other than the Johns Peak/Timber Mt. proposed OHV Emphasis area. At the very least please remove Foots Creek Basin, Birdseye Creek area and Galls Creek Basin from your OHV designation and plans. Privately owned acreage far exceeds the BLM's scattered ownership at Johns Peak/Timber Mt. yet the BLM seems hell bent to force the OHV Emphasis Area even though it harms thousands and only benefits a single special interest group.

**We can’t choose any of your 4 new alternatives as none of them include the prior 10 years of data nor do they remove this OHV Designation and we will not support something that will create untold conflicts, diminish our quality of life, negatively impact our property values and will likely result in a catastrophic fire that will cost people their homes and God forbid cost lives.**

If all BLM lands in So. Oregon are a checkerboard with private property and no other alternatives exist then perhaps a partnership with Forest Service lands could make it possible or the realization that this area cannot support an OHV Emphasis Area for this particular and single form of high impact recreation.

Respectfully,

Rebecca Hart
135 Foots Creek Road
Gold Hill, OR 97525
541-601-7459

My Background:
A Native of the Rogue Valley and resident for 53 years and Phoenix High School graduate
Married 40 years and raised 2 children both graduating from Phoenix High School
A resident of the Foots Creek Community and So. Oregon Business owner for over 5 years,
An event coordinator at Oaklane Retirement for 6 years,
Avid gardener, artist
Taxpayer for 42 years
March 26, 2014

To Mark Brown, Project Manager BLM

Please include the NSA (Natural Selection Alternative) in the EIS for your revised Resource Management Plans.

The O&C Act calls for multiple use of those lands. NSA is the only way to be true to that legislation; NSA places forest health first and all other uses (including timber production) depend on forest health. Forget re-named clearcuts! And more fire danger from their brushy regrowth.

We must restore late successional forest ecosystems, lowering fire hazard while enhancing wildlife in old-growth.

The NSA produces a steady supply of timber at no cost to tourism and recreation jobs. Water retention capability increases with NSA, salmon love this plan, with the resulting clean and ample water supply.

NSA requires NO herbicides which are making conditions so hazardous for so many life forms, including humans.

No one will go to court to protest NSA.

Thank You
Ray Wilberg
PO Box 1133
Cave Junction, OR 97523

Final Report: JFSP Project 09-1-08-31

Project Website: https://sites.google.com/a/pdx.edu/vegetation-fire-owl/home

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This research was sponsored in part by the Joint Fire Science Program. For further information go to www.firescience.gov
I. Abstract

National Forests in the dry forest provinces on the east-side of the Oregon and Washington Cascades have been managed under the guidelines of local Forest Plans and the Northwest Forest Plan (NWFP), both of which specify large areas of late-successional reserves (LSRs). In contrast, the recently-released USDI Fish and Wildlife Service Revised Recovery Plan (RRP) for the Northern Spotted Owl (NSO) calls for development of dynamic and shifting mosaics in the dry forests, and retention of LSRs in moist forests of eastern Cascades of Oregon and Washington, to address NSO habitat and wildfire concerns. Our objectives in this study were to develop and evaluate several key management approaches intended to reduce fire risk and conserve NSO habitat and to assess the relative merit of alternative management strategies in fire-prone stands and landscapes. We first sought to determine the current area and successional status of east-side forests across eastern Cascade forests in Oregon and Washington. Next, we simulated succession, wildfire, and fuel treatments using a state-and-transition model, LADS. Finally, we translated forest cover types into three levels of NSO habitat suitability (poor, moderate, and good) and applied an NSO population simulation model to investigate response of the NSO to vegetation trajectories over a 100-yr time series. To do so, we developed a spatially explicit, individual-based population model using HexSim software that integrated habitat maps with information on spotted owl population dynamics. We then compared the outcomes of several landscape management scenarios: no restoration management, restoration management under the Northwest Forest Plan reserve network, and several whole-landscape scenarios that vary the area and intensity of treatments without regard for current reserve allocations. All of our simulations assumed a wildfire regime that reflects the past 15 years of fire history, including the potential for large, rare fire events.

NSO population changes through time generally tracked changes in total NSO habitat (the combined amount of good and moderate NSO habitat) and showed similar patterns for the Wenatchee analysis area and the Deschutes NSO population scenarios without BDOW displacement. Decadal lambda (rate of population change was approximately stationary (lambda ~1) from simulation years 0 to 30 for most scenarios excepting the large-area, high-intensity treatments, which resulted in decadal NSO population decline (lambdas <1) for those years. NSO population bottlenecks (temporary periods of lower than average population levels) generally occurred in both analysis areas around year 30, after treatments had been applied but before the steep accumulation of good habitat in years 30-50. All of the NSO population modeling scenarios showed a spike in decadal lambda from years 30 to 60 in response to a steep, synchronous increase in the modeled amount of good and moderate habitat.

Higher-intensity, larger-area treatment scenarios created short-term NSO habitat and population bottlenecks, but had mixed effects on end-century NSO population sizes. Particularly for the Wenatchee analysis area, we did not find larger ending NSO population sizes from aggressive fuel reduction treatments relative to the No Treatment scenario. The presence of both good and moderate habitat contributed substantially to the suitability of an area for occupancy by a territorial NSO pair based on our analysis of habitat conditions surrounding documented NSO activity centers. Active fuel reduction activities in moderate habitat
contributed to substantial short-term (simulation years 0 to 30) population declines under the larger area, higher intensity scenarios. However, our landscape-scale analysis may have failed to detect local benefits of targeted fuel reduction treatments for habitat sustainability and recruitment in specific areas. More refined, finer-scale analysis may reveal more local benefits of fuel reduction treatments for recruiting and maintaining NSO habitat.

II. Background and Purpose

Land managers are faced with a conundrum when tasked with maintaining threatened northern spotted owl (*Strix occidentalis caurina*, NSO) populations, while reducing wildfire risk in dry, fire-prone forests of the Inland Northwest. Historical surface-fire-dominated regimes have given way to crown-fire-dominated regimes, with high rates of old forest loss, and potentially dire consequences for the multi-storied stands that are NSO habitat (Spies et al. 2006; Hessburg et al. 2005). Substantial areas of dry forest need to be treated to reduce fire risk and restore dry forest structure, but treatments can adversely impact NSO habitat quality and population viability. In addition, NSO populations appear to be declining in much of their range in part due to competitive interactions with recently established barred owls (*Strix varia*, BDOW; Gutierrez et al. 2004, Forsman et al. 2011).

At present, there remains high uncertainty and controversy over east-side (east of the Cascades crest) forest management and NSO population outcomes, especially with regard to effects of fuel treatments on NSO and reserve vs. non-reserve landscape strategies (TWS 2008, SCB and AOU 2008). To date, National Forests in the dry forest provinces on the east-side have been managed under the guidelines of local Forest Plans and the Northwest Forest Plan (NWFP), both of which specify large areas of late-successional reserves (LSRs). In contrast, the recently-released USDI Fish and Wildlife Service (USFWS) Revised Recovery Plan (RRP) for the Northern Spotted Owl (USFWS 2011) calls for development of dynamic and shifting mosaics in the dry forests, and retention of LSRs in moist forests of eastern Cascades of Oregon and Washington, to address NSO habitat and wildfire concerns. The RRP suggests that approximately a third of the total dry forest land area should be maintained in late-successional and old forest (LSOF) structural conditions of sufficient patch size and spatial distribution to provide for breeding pairs of NSOs. However, the spatial allocation and temporal dynamics of these forests has not been determined, nor is it described by the RRP. Complicating the successful implementation of Plan guidelines are the adverse effects from the BDOW (Livezey 2007), whose influence challenges the success of any NSO recovery plan based solely on vegetation or habitat characteristics.

We developed and evaluated several key management approaches intended to conserve NSO habitat, and reduce fire risk, at stand and landscape scales, throughout a large portion of the east-side NSO range (10 million ac), to assess risk of NSO habitat loss and related population processes. The goal of this project was to assess the relative merit of alternative management practices and conservation strategies to maintaining habitat and populations of the NSO in fire-prone stands and landscapes. Our study is unique in that it focuses not only on fire and fuels
management effects on NSO habitat, but also on NSO population viability and influences of the Barred Owl (BDOW) on NSO population processes.

III. Study Description and Location

Project Overview

We used a multi-model framework to simulate forest growth and disturbance dynamics, and NSO population responses, to evaluate the effect of different forest management treatment scenarios on NSO habitat and populations in the eastern Cascades. We also investigated various assumptions regarding competitive interactions with BDOWs, as well as habitat contributions from non-federal lands. We quantified landscape-scale habitat associations of NSOs and BDOWs by analyzing vegetation and topographic characteristics surrounding documented activity centers for each species (Singleton 2013). We used state-of-the-art fire spread models and existing fuels data to determine current burn probability and probable flame length in the vicinity of NSO habitats. Predicted burn probability and flame length maps were used along with topographic and other data to define fuels management treatment locations in the vicinity of NSO habitats for the purpose of their protection. We used a forest state-and-transition model (LADS: Wimberly 2002, Wimberly and Kennedy 2008) to simulate forest growth and disturbance processes over a 100-year period. We then used a spatially explicit individual-based population model (HexSim: Schumaker 2012) to simulate NSO population dynamics based on habitat maps derived from the forest growth and disturbance modeling. We compared the various forest management scenarios using the following metrics: (1) ending and minimum amounts of good and moderate NSO habitat, (2) ending and minimum NSO population sizes, (3) rate of NSO population change over 100 years (simulation-duration lambda), and (4) running 10-year rates of NSO population change (decadal lambdas) over each 100-year NSO population simulation.

Analysis Areas

We conducted our modeling in two analysis areas: the Wenatchee analysis area, and the Deschutes analysis area (Figure 1). These areas encompassed portions of the Okanogan-Wenatchee National Forest and Deschutes National Forest, respectively, within the range of the NSO, and included adjacent areas that had the potential to support NSOs. The Wenatchee analysis area was approximately 1.6 million ha characterized by rugged, mountaneous topography, with elevations ranging from 210 to 2900 m (700 to 9500 ft). The Deschutes analysis area encompassed 0.4 million ha, dominated by volcanic landforms including broad pumice plains, cinder cones, and overall more gentle terrain than the Wenatchee. Elevations range from 600 to 3150 m (2000 to 10300 ft). Vegetation communities in both areas are influenced by the strong moisture gradient associated with the rain-shadow effect of the Cascade Range, with wetter areas near the crest of the range on the west and drier areas in the east.
Our objectives were to develop and evaluate several key management approaches intended to reduce fire risk and conserve NSO habitat and to assess the relative merit of alternative management strategies in fire-prone stands and landscapes. We first sought to determine the current area and successional status of east-side forests across the eastern Cascade in Oregon and Washington. Next, we simulated succession, wildfire, and fuel treatments using a state-and-transition model, LADS (Wimberly 2002). We then compared the outcomes of several landscape management scenarios: no restoration management, restoration management under the Northwest Forest Plan reserve network, and several whole-landscape scenarios that vary the area and intensity of treatments without regard for current reserve allocations. All of our simulations assumed a wildfire regime that reflects the past 15 years of fire history, including the potential for large, rare fire events. We simulated 100 years of landscape change and structure to determine whether and when the landscape will become more or less heterogeneous.

**Vegetation simulations**

Our study sites occur in the eastern Cascade physiographic provinces designated by the RRP as areas potentially suitable for whole-landscape treatments. Vegetation in the study area consists of Ponderosa pine (*Pinus ponderosa*), mixed conifer, and mountain hemlock (*Tsuga mertensiana*).
forest types. Fire regimes range from low to high severity with frequencies ranging from <10 to >150 years. Vegetation is similar in type and current condition to the surrounding landscapes. Results derived from this research will be broadly applicable to surrounding forests in the range of the NSO. Resource managers on these forests have expressed a great interest in developing management approaches that will be conducive to recovering NSO populations.

**Fire modeling**

Wildfire risk analysis examines for a resource of interest (here, NSO habitat), the susceptibility of that resource to loss or damage by fire, and the probability of the loss. In this work, we used the underlying algorithms from FlamMap (Finney 2002) and Randig (Ager et al. 2012) to model wildfire ignitions, burn probability and flame lengths, and the Forest Vegetation Simulator (FVS) and stand table (tree list) data from the GNN database (Ohmann 2002) to simulate risk of loss to owl habitats.

On the Wenatchee and Deschutes analysis areas we used 150,000 and 50,000 (respectively) random ignitions to simulate the spread of a large number of fires across the study landscapes. The proportion of times a pixel burned in all fires and its predicted flame length at each occurrence were stored for later creation of burn probability and probable flame length maps (Ager et al. 2012). We used FVS to calculate flame length thresholds needed to make substantive changes in NSO habitat, and to determine whether those thresholds had been achieved in FlamMap. Results of this risk analysis were mapped and later used to assign fuels treatments in the vicinity of NSO habitats. Wildfire risk analyses for the Deschutes and Wenatchee were similar, except for local differences in weather and topography and locally established fuels data (Table 1).

The Wenatchee analysis used a fuels map created on national forests by local fuels specialists resampled to 90m to represent the 13 surface fire behavior fuel models (FBFMs, Anderson 1982). The Deschutes used Landfire (www.landfire.gov) fuels data, which is based on the Scott and Burgan (2005) 40 FBFMs. To predict crown fire ignition and spread potential and more realistically simulate surface fire behavior, additional raster layers defining the existing crown bulk density, canopy base height, canopy closure, and average canopy height were used to initialize the fire spread model. Elevation, slope and aspect were also used to account for topographic effects on pre-combustion heating and moisture content of fuels. Fuel moistures were assigned by particle size and time-lag class, assuming 97th percentile fire weather burn conditions (Table 1). We used Remote Automatic Weather Station (RAWS) weather data combined with local fire manager experience to establish wind parameter files for the wildfire simulations. The wind parameter file specifies the prevailing wind directions, speed, and duration, which are probabilistically drawn (Table 1) and assigned to each simulated ignition. To ensure that the simulations were capturing realistic fire sizes, we compared simulated fire sizes with recorded fire size data using methods of Ager et al. (2012).

**Table 1:** Summary of environmental variables used in fire simulation modeling for the Wenatchee and Deschutes study areas.
<table>
<thead>
<tr>
<th>Wenatchee</th>
<th>Wind</th>
<th>Fuel Moisture (%)</th>
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<tbody>
<tr>
<td></td>
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<td>Speed (k h⁻¹)</td>
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<table>
<thead>
<tr>
<th>Deschutes</th>
<th>Wind</th>
<th>Fuel Moisture (%)</th>
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<tbody>
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<td></td>
<td>Direction (°)</td>
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</table>

**Vegetation Modeling (LADS)**

We used the *LADS* state-and-transition model for all simulations of landscape change (Wimberly 2002, Kennedy and Wimberly 2008). *LADS* treats a landscape as a grid of interacting cells; each cell is associated with a dominant cover type and a fire zone. *LADS* simulates the transition of dominant cover type to larger sizes and higher cover class through time with transition times determined through empirical analysis and/or expert inputs. Simulated fires regimes are unique to each fire zone although an individual fire event can spread among zones. After a fire event is initialized, fire severity is determined by the probability of low, medium, and high fires associated with each combination of cover type, size class, and cover class (details below). Fuel treatments are simulated as events that alter the size and cover class (cover type is immutable) and have unique fire severity and spread rates. Fuel treatments are transitory and after a predefined duration revert back to an appropriate size and cover class (Wimberly 2002).

Our simulated successional trajectories were bounded by the dominant cover at the landscape scale, i.e., dominant cover type at a given location could not change. Nevertheless, our simulations indicate broad successional changes on the landscape that varied among the dominant cover types, among scenarios, and between the two landscapes.

**NSO Population Modeling (HexSim)**
We developed a spatially explicit, individual-based population model using HexSim software (version 2.4, Schumaker 2012) that integrated habitat maps with information on spotted owl population dynamics. Breeding pairs are the fundamental unit of population function for most large raptors, including spotted owls (Anthony et al. 2006, Forsman et al. 2011). We used a female-only, single-sex model structure, where territorial females were surrogates for breeding pairs. The general model structure was based on the work of Dunk et al. (2012, also see USFWS 2011: Appendix C), but was modified for our study area and questions. We adjusted NSO vital rate parameters to reflect local demographic information (Forsman et al. 2011), and we adjusted space use parameters (i.e., core area and home range sizes) to correspond to findings from local NSO radiotelemetry studies (Eric Forsman, USFS PNW Research Station, unpublished data).

Spatially explicit habitat maps formed the basis for the NSO population simulations. Each analysis area landscape was represented as a grid of 86.6 ha (1 km diameter) hexagons. Each hexagon was assigned a habitat resource value based on the amount of good and moderate NSO habitat within the hexagon. Hexagon resource values were updated at 10-year intervals based on the LADS landscape modeling outputs. During each annual time step in our simulations, animals moved through the landscape, attempted to establish territories, then reproduced and survived at rates influenced by the habitat quality within their territories (Figure 2).

**Figure 2.** The NSO population model event sequence. The NSO HexSim population model simulated territory establishment, survival, reproduction, and movement for female spotted owls during each annual time step for our 100-year simulation period. Resource maps were updated at 10-year intervals based on habitat maps from LADS landscape modeling simulations.
Our habitat classification rules were based on habitat patterns observed around NSO activity centers as described by Singleton (2013). We identified areas with vegetation (i.e., tree size, canopy cover, and dominant tree species) and topographic characteristics (i.e., topographic position and slope) that corresponded to areas used by NSOs more than available, or in proportion to availability, within the analysis area landscapes (classified as good or moderate habitat respectively). Using the approach of Dunk et al. (2012), we employed maximum entropy models (Maxent: Phillips et al. 2006) to convert habitat characteristics within a hexagon into a single resource value for each hexagon in the HexSim base map (Singleton 2013). We then conducted additional spatial analyses so that habitat patterns within modeled NSO territories corresponded to observed habitat patterns around actual NSO activity centers documented in our analysis areas (Singleton 2013).

**Model Experiments**

We evaluated 12 landscape management scenarios and 4 NSO population scenarios. The landscape management scenarios included a No Treatment scenario, and 11 combinations of 3 strategies for spatial allocation of treatment, 3 sizes of areas treated, and 3 intensities of fuel reduction (Table 2). The 3 strategies for spatial allocation of treatment were: (1) Structured – no treatment in existing good NSO habitat, other areas were prioritized by fire risk and proximity to owl habitat (representing an integration of a critical habitat approach with an effort to create fire-breaks around existing habitat); (2) Naïve – treatment units were prioritized by existing fire risk only, with no consideration for owl habitat (representing aggressive management focused on minimizing fire risk); and (3) Reserve – areas within Late Successional Reserves identified by the Northwest Forest Plan were excluded from treatment, and treatment units outside of reserves were prioritized based on existing fire risk (representing a reserve-based approach, but not including management activities within reserves as provided for under the Northwest Forest Plan).

<table>
<thead>
<tr>
<th>Code</th>
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<th>Des Treated ha</th>
<th>Intensity</th>
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<tbody>
<tr>
<td>NoTrt</td>
<td>No Treatment</td>
<td>None</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>N10H</td>
<td>Naïve</td>
<td>40553</td>
<td>16152</td>
<td>High</td>
</tr>
<tr>
<td>N10L</td>
<td>Naïve</td>
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<td>N40H</td>
<td>Naïve</td>
<td>161311</td>
<td>64616</td>
<td>High</td>
</tr>
<tr>
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<td>64616</td>
<td>Low</td>
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<tr>
<td>S10H</td>
<td>Structured</td>
<td>40326</td>
<td>16079</td>
<td>High</td>
</tr>
<tr>
<td>S10L</td>
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<td>40326</td>
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</tr>
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<tr>
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<td>NWFP</td>
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<td>130320</td>
<td>59020</td>
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</table>
The three simulated fuel treatment intensities reduced fuel loads and retained large trees within the treated stands. High intensity treatments resulted in stands moving from a closed canopy (>60%) to an open (<40%) canopy condition and had the largest reduction in fuel, representing typical forest restoration thinning treatments. Light intensity treatments moved stands from closed (>60%) to moderate (40-60%) canopy closure and resulted in less reduction in fuel load, representing light thinning from below and removal of ladder fuels. Medium intensity treatments resulted in an intermediate impact on canopy and fuel load.

USFS lands were considered to be available for treatment if they were not in wilderness or administratively withdrawn (e.g., roadless) status, within 500 m of existing roads, and dominated by a forest type appropriate for fuel reduction treatment (e.g., subalpine fir and mountain hemlock types were not considered for treatment). The simulated treatments were only applied in areas that are currently available for treatment. The total treatable area for the Wenatchee analysis area was 402,769 ha. The total treatable area for the Deschutes analysis area was 161,150 ha. Three areas of treatment (approximately 10%, 20%, and 40% of the available area) were applied for several combinations of treatment intensity and allocation strategy (Table 2). Each treatment scenario landscape simulation was replicated 20 times in LADS to capture variation in outcomes resulting from stochastic disturbance events.

We evaluated four NSO population modeling scenarios to evaluate the range of potential population outcomes with and without interactions with competitive BDOWs, as well as with and without habitat contributions from non-federal lands. For the NSO population scenarios with BDOW interactions, hexagons attributed as occupied by BDOWs were set to zero resource value to simulate the effects of exclusion of NSOs from areas occupied by territorial BDOWs (Singleton 2013). We attributed hexagons as occupied by BDOWs or not based on the amount of good BDOW habitat in the area. BDOW habitat definitions and occupancy probability were based on Singleton (2013). We also conducted NSO population simulations with and without non-federal lands contributing NSO habitat resource values. The purpose of these scenarios was to evaluate the range of potential NSO population outcomes that might result from different approaches to habitat conservation on non-federal lands. We conducted 3 population scenario replicates in HexSim for each LADS landscape realization.

IV. Key Findings

Vegetation

Our results indicated that despite intense prior logging and the risk of very large fires (Irland 2013), there is considerable successional inertia on both landscapes that will eventually transition much of both landscapes to larger diameter classes and more closed canopy conditions. However, the transition from small/medium to large/very large sized trees varies widely depending upon dominant cover type, stochastic variation due to wildfires, and
landscape management. There is further uncertainty in that we assumed that logging would remain at its current very low rates (Healey et al. 2008) and that climate change (Westerling et al. 2006) would not substantially alter fire regimes from their recent (1985-2008) patterns. Nevertheless, our simulated transitions are robust and appear likely within a broad spectrum of future conditions and drivers.

At the landscape scale, fuel treatment altered forest transitions for select dominant cover types, primarily when the area treated within the treatment zone was at or close to 5% per year with high intensity (e.g., under the Northwest Forest Plan). By reducing fire severity, fuel treatments enabled individual cells to transition to larger and more fire resilient size and cover classes before the next wildfire occurred. Because of the stochastic nature of wildfire, the process itself is highly variable and the effect can appear relatively minor. Nevertheless, for some dominant cover types, fuel treatments accelerated transitioning from mid- to larger- tree size classes after 30 years.

Treatment effectiveness (Figure 3) is primarily limited by the small area treated in total. Given the relatively small area available for treatment, optimized treatment effects to reduce fire flow through the landscape could not be achieved (Finney et al. 2007). This suggests that current restrictions on the fuel treatment placement may be impeding managers ability to protect against wildfire and improve habitat. Faster transitions could be achieved and across more forest types if the treatable area was larger. Doing so would also reduce ‘treatment pressure’ on a subset of the landscape and the landscape would more broadly respond to the treatment ‘shadow’ effect (Finney et al. 2007, Schmidt et al. 2008).

![Figure 2](image)

**Figure 2.** Relative treatment effectiveness and dominant cover type responsiveness for two study landscapes: Deschutes (DES) and Wenatchee (WEN). If location is not listed, the dominant cover type behaved similarly across both landscapes.

Treatment trajectories appeared to be a function of both the constant goal for level and intensity of treatment and the initial vegetation class distribution. We observed a bottleneck in
area treated (i.e., the treatment area dropped to zero) between year 15 and 30 in all scenario runs (especially the N40H runs). This pattern appeared to be a function of the initial distribution of vegetation conditions. Initially, the conditions were more synchronized and concentrated in small and medium closed conditions. Fuel treatments over the first 10 years reduced the amount of closed forest so that by year 20 most of the area was in an open condition, which was not eligible for treatment. Over time, this area of medium-open and large-open forest got larger and denser, so that by year 30 there was a fair amount of medium and closed forest which was eligible for treatment. In subsequent years, there was a large area of very large closed forest that never got fully treated and wildfires created a constant supply of younger and smaller forest vegetation classes that grew into pole and small and medium-closed classes that were eligible for treatment.

Our treatment scenarios were not designed to spatially optimize fuel conditions to significantly interrupt fire flow on the Wenatchee landscape; approximately three-quarters of the landscape was exempt from treatment due to existing land allocations or ownerships. Our most aggressive fuel treatment scenario treated 40% of 25% available area, netet 10% of the Wenatchee analysis area was treated. Thus, our treatment scenarios did not produce substantial changes in fire patterns relative to the No Treatment scenario. This result is consistent with the experimental work of Finney et al. (2007).

In conclusion, to varying degrees under all management scenarios we analyzed, the two landscapes examined will be subjected to two countervailing trends: landscape successional inertia that will transition the forests to larger, closed-canopy conditions and landscape disturbance that will reset succession. Given the known processes and rates that we emphasized (as compared to less well-known processes including climate change and its cascading effects), the net balance will be an increase in late successional forest as compared to contemporary conditions. Fuel treatments can directly accelerate these transitions through active management and indirectly accelerate these transitions by protecting against the highest severity fires, although their effectiveness is currently limited by the relatively scant area available for treatment.

**Spotted Owl Habitat and Populations**

The amount of good NSO habitat increased over the 100-year simulation period for both analysis areas, but it increased much more in the Wenatchee analysis area than it did in the Deschutes. For the Wenatchee analysis area, the No Treatment scenario ended with average 275,318 ha of good NSO habitat (233% of the starting amount, averaged over 20 LADS model replicates). For the Deschutes analysis area, the No Treatment scenario ended with average 34,948 ha of good habitat (117% of starting), also averaged over 20 LADS model replicates.

Active treatment scenarios ended with more good quality NSO habitat than did the No Treatment scenario in the Deschutes analysis area, but not in the Wenatchee. The ending amount of good habitat under the treatment scenarios in the Wenatchee analysis area ranged from 235,064 ha (treatment scenario N20M: 200% of starting) to 265,779 ha (N10H: 226% of
starting). The ending amount of good habitat under the treatment scenarios in the Deschutes analysis area ranged from 35,509 ha (S40H: 119% of starting) to 41,078 ha (S10L: 138% of starting). The amount of moderate habitat increased over the simulation period on the Deschutes and decreased on the Wenatchee.

Owl populations did not increase at a rate corresponding to the increase in the amount of good habitat in the Wenatchee analysis area because of commensurate declines in the amount of moderate habitat impacted by fuels treatments (figure 3). Simulation-duration lambda (an index depicting rate of population change; lambda =1 indicates a stationary population; lambda < 1 indicates declining and lambda > 1 indicates increasing) was approximately 1.2 for the No Treatment scenario (without BDOW interactions) in the Wenatchee analysis area – that is, the 133% increase in the amount of good NSO habitat resulted in about 20% increase in the NSO population. In the Deschutes analysis area, NSO population growth corresponded more closely to the increase in the amount of good NSO habitat (figure 4). Simulation-duration lambda was 1.1 for the No Treatment scenario (without BDOW interactions) in the Deschutes analysis area – that is, the 17% increase in the amount of good NSO habitat resulted in a 10% increase in the NSO population.
Figure 3. Simulated northern spotted owl population trajectories in the Wenatchee analysis area. Lines depict median (black line), 50% quantile range (dark grey shade), and 90% quantile range (light grey shade) of the estimated number of owls through the simulation for 60 HexSim replicates for each treatment scenario (see Table 2) with and without effects of barred owls.
Figure 4. Simulated northern spotted owl population trajectories in the Deschutes analysis area. Lines depict median (black line), 50% quantile range (dark grey shade), and 90% quantile range (light grey shade) of the estimated number of owls through the simulation for 60 HexSim replicates for each treatment scenario (see Table 2) with and without effects of barred owls.
Last decade NSO population sizes broadly overlapped across the treatment scenarios, but minimum NSO population sizes were substantially different across scenarios. Last decade NSO population sizes were slightly smaller for the treatment scenarios as compared to the No Treatment scenario in the Wenatchee analysis area, and slightly larger for the Deschutes than for the Wenatchee. Minimum NSO population sizes were substantially different across treatment scenarios for all of the Wenatchee NSO population scenarios (ANOVA p <0.01) and for the NSO population scenarios without BDOW interactions in the Deschutes analysis area (ANOVA p <0.01). The larger-area, higher-intensity treatment scenarios (N40H, S40H, and NWFP) all had smaller minimum NSO population sizes across all of the NSO population scenarios. The N40H scenario produced the lowest minimum NSO population size of any treatment scenario for the Wenatchee analysis area and NSO population scenarios without BDOW interactions in the Deschutes. Minimum NSO population sizes were not different across treatment scenarios (ANOVA p>0.05) for the Deschutes population scenarios with BDOW interactions because NSO populations went to extinction for most replicates of those scenarios.

NSO population changes through time generally tracked changes in total NSO habitat (the combined amount of good and moderate NSO habitat) and showed similar patterns for the Wenatchee analysis area and the Deschutes NSO population scenarios without BDOW displacement. Decadal lambda was approximately 1 from simulation years 0 to 30 for most scenarios excepting the large-area, high-intensity treatments (N40H, S40H, and NWFP) which resulted in decadal lambdas <1 for those years. NSO population bottlenecks (temporary periods of lower than average population levels) generally occurred in both analysis areas around year 30, after treatments had been applied but before the steep accumulation of good habitat in years 30-50. All of the NSO population modeling scenarios showed a spike in decadal lambda from years 30 to 60 in response to a steep, synchronous increase in the modeled amount of good and moderate habitat.

V. Management Implications

The total area treated never exceeded 10% of each landscape analysis area, so the effects of fuel treatments on the landscape were limited by that fact alone. When we compared No Treatment with N40H for Wenatchee, we found a net reduction of about 7% in the amount of high severity fire for areas within 1 km of treatment areas. That means that the treatments, which reduce fire severity within the treated area also have the effect of reducing severity in the areas surrounding the treatments. This outcome makes sense, given the way the fire spread algorithm operates in LADS as a cellular automata approach that seeks to meet a fire area and size objective, and in which fuel treatments become a barrier to fire spread, creating wildfire “shadows” around treatments. LADS does not include time or weather conditions so it will not include decreases in fire behavior associated with longer-flow paths of fire through the landscape. Thus, our fire model cannot fully account for processes (weather and fire suppression) that would reduce fire spread, and potentially reduce fires severity, when fuel treatments are present in the landscape.
Initial landscape conditions strongly define the forest structural conditions that develop as suitable NSO habitat in the future. For example, mid-20th century selective harvesting practices in the Wenatchee analysis area resulted in relatively large areas of young forest with medium-sized trees. These areas of moderate NSO habitat in the Wenatchee analysis area became good NSO habitat over the duration of our simulations (much of it from simulation years 30 to 50). This pattern also occurred in the Deschutes analysis area, but did not produce as pronounced an increase in good NSO habitat because of the abundance of forest cover types that capable of growing into moderate but not good NSO habitat classes (e.g., ponderosa pine and mountain hemlock forests).

Higher-intensity, larger-area treatment scenarios created short-term NSO habitat and population bottlenecks, but had mixed effects on end-century NSO population sizes. Particularly for the Wenatchee analysis area, we did not find larger ending NSO population sizes from aggressive fuel reduction treatments relative to the No Treatment scenario. The presence of both good and moderate habitat contributed substantially to the suitability of an area for occupancy by a territorial NSO pair based on our analysis of habitat conditions surrounding documented NSO activity centers. Active fuel reduction activities in moderate habitat contributed to substantial short-term (simulation years 0 to 30) population declines under the larger area, higher intensity scenarios. However, our landscape-scale analysis may have failed to detect local benefits of targeted fuel reduction treatments for habitat sustainability and recruitment in specific areas. More refined, finer-scale analysis may reveal more local benefits of fuel reduction treatments for recruiting and maintaining NSO habitat.

The combination of BDOW interactions and high-intensity, larger-area treatments contributed to the most substantial NSO population bottlenecks. The combined effects of aggressive fuel reduction treatment approaches and interactions with BDOWs have the potential to contribute to increased extinction risk for NSOs in both analysis areas. We urge caution in the interpretation of our BDOW interaction modeling for the Deschutes analysis area. Due to the lack of empirical information on BDOW habitat associations in the Deschutes, we applied our BDOW habitat models from the Wenatchee analysis area to the Deschutes analysis area. Our finding that NSOs frequently became extinct under all of the scenarios that included BDOW interactions in the Deschutes analysis area suggests cause for concern regarding the effects of interactions of NSOs with BDOWs in this area. Additional information on BDOW habitat associations and interactions with NSOs in this area will be required.

Barred owl interactions had more impact on NSO population performance than treatment scenarios or assumptions regarding habitat values on non-federal lands, but NSO population growth rates (simulation-duration lambda) were higher for scenarios including BDOW interactions in the Wenatchee analysis area partly because initial NSO population sizes were much smaller, so fewer additional NSO pairs were required to have a proportionately larger effect on its population growth rate. However, our results do suggest that widespread recruitment of NSO habitat could have the potential to enhance the chances of NSO population persistence in the face of detrimental effects of competitive interactions with barred owls in some landscapes (as also suggested by Dugger et al. 2011 and Forsman et al. 2011).
VI. Relationship to other recent findings and ongoing work

Our models show that treatments have opposite effects in the two study areas on the amount of good and moderate NSO habitat over the last decade. In the Wenatchee, the No Treatment scenario resulted in more good and moderate NSO habitat than all the treatments. In the Deschutes the story is reversed, where treatments generally resulted in more NSO habitat than under no treatments. One possible explanation may have to do with the initial vegetation structural class conditions. If the Wenatchee initially has significant areas in younger (non-habitat) vegetation that have potential to grow into NSO habitat, then the treatments, which would concentrate in non-habitat areas might be taking out potential future NSO habitat. Evidence for this interpretation is supported in our analysis of NSO habitat trends, which shows a steep increase in the amount of good NSO habitat on the Wenatchee (from a 100k to an average of more than 250k ha) during the first 7 decades and an equally steep decrease in moderate NSO habitat, which must be growing into good habitat. The relative change in the Deschutes of good habitat is much less (from 30k to an average of about 33k ha), and there is relatively little change in the amount of moderate habitat. The data from the Deschutes suggest that succession is producing relatively little new habitat and that most of the non-habitat that is treated is in environments or forests types that do not have potential to develop into owl habitat through succession. If these interpretations are correct then we may have discovered an important aspect of NSO habitat dynamics—namely the initial vegetation age and size structure of the landscape and the target of treatments relative to future NSO habitat. Ager (2007) (see below) did not grow NSO habitat and evaluated only the Deschutes. Our results are consistent with his for the Deschutes. Roloff et al. (2005) (see below) allowed treatments in owl habitat and found that that active management was not consistent with owl habitat production in that particular case. It appears that management regimes that take out owl habitat through treatments (either current or potential future) do not reduce the amount of habitat that is lost to wildfire enough to make up for the habitats lost through treatments.

Ager et al. 2007 found that fuel treatments would reduce expected loss of owl habitat when the treatment area reached at least 20% of the landscape. The reduction in expected loss of owl habitat in that study went from about 2.4% to 1.3% between 0% treated and 20% of landscape treated. The Ager analysis did allow treatment in areas that were defined as owl habitat and did not assume that succession or stand development would occur (static vegetation).

Roloff et al. 2005 modeled active and no-management in fire prone landscapes in SW Oregon. They found that active management in owl foraging areas reduced owl habitat compared with no management (only losses to wildfire). They attributed the lack of effect of active management in part on the limited area available at landscape scales to treat hazardous fuels but also to the fact that their treatments reduced owl habitat quality (from nesting to foraging) but did not reduce the amount of crown fire. Their model assumed vegetation dynamics (using FVS) and simulated fire using FlamMap. In a second paper Roloff et al. 2012 analyzed a different fuel management strategy for the same area. In that paper they found that active management “was more favorable to spotted owl conservation...than no management.”
Although they used FlamMap, they did not actually burn up owl habitat with a landscape model. Instead they assumed that if 50% of the owl territory had crown fire potential then all of the territory would be lost to a fire. This assumption appears to overestimate loss of habitat to fire.

VII. Future Work Needed

- Conduct finer-scale analysis to evaluate responses to treatment within smaller landscape units (5th or 6th code hucs) and compare habitat trends across smaller landscape units that had different total proportions of area treated.

- Analysis of additional treatment scenarios that are not constrained by assumptions regarding access, ownership, and land use allocation to determine the area and spatial optimization of area that would be needed to affect habitat and NSO population outcomes. The fuel treatment scenarios that we analyzed in this project were constrained to a limited portion of the analysis landscape (the area presently available for treatment) and units were prioritized for treatment based on fire risk and other factors, not a true spatial optimization for limiting fire flow. Fewer limitations on treatment locations and using a formal spatial optimization approach to allocate treatments could produce different NSO population outcomes.

- We need more information on barred owl habitat associations and interactions with spotted owls on the Deschutes. Barred owls have been historically uncommon in this area, but detections have increased since 2010. Barred owl-specific surveys throughout the Deschutes (not just within NSO habitat) would provide important information on landscape-scale habitat associations of BDOW and overlap with NSO in this area.

VIII. Deliverables and Science Delivery

The team will deliver a full range of science and technology transfer products. We anticipate publishing 4-5 papers in peer-reviewed journals and presenting results at scientific and management conferences. A web page will describe the research progress and results. Workshops targeted at particular management and policy users will be held in OR and WA.

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<th>Deliverable Type</th>
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<td>Datasets and models</td>
<td>Integrated spatial (GIS) and modeling datasets on vegetation, fire, and Northern Spotted Owl habitat, in the eastern Cascade Mountains study area, for Forest Planning</td>
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<td>Deliverables</td>
<td><strong>LADS</strong> model of landscape dynamics</td>
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<td><strong>HexSim</strong> model Northern Spotted Owl population dynamics</td>
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<td><strong>Refereed publications</strong></td>
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<td>Several refereed publications prepared on compatibility of fuel treatments and conservation of owl habitats and populations, and integrating fuel reduction with maintaining NSO prey, including papers on:</td>
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<td>Overlap of barred owl and spotted owl habitat influences spotted owl pair site occupancy dynamics. Singleton, P.H., (and others). For: Journal of Wildlife Management.</td>
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<td>Analysis of sensitivity and uncertainty in an individual-based movement model of a threatened wildlife species. B. Marcot et al. Target journal: Environmental Modelling &amp; Software</td>
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<td>Agency report</td>
<td>US Forest Service General Technical Report submitted to JFSP with details of results by draining, etc.; or, as used in supplemental material for journal papers</td>
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<td>Workshops</td>
<td>A public workshop on dry forest restoration/fuels reduction and spotted owl management was held in Redmond, Oregon, during 2009. There were 225 attendees. A full report and recommendations can be found at: <a href="http://www.fws.gov/oregonfwo/ExternalAffairs/Topics/DryForestWorkshop/2009DryForestWorkshop.asp">http://www.fws.gov/oregonfwo/ExternalAffairs/Topics/DryForestWorkshop/2009DryForestWorkshop.asp</a></td>
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<td>Two one-day workshops were held with staff of the Okanogan-Wenatchee and the Deschutes National Forests during 2010 to discuss management strategies they use and felt necessary for us to model.</td>
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<td>Development of stand silvicultural prescriptions that integrate fuel reduction and forest restoration, and NSO prey and nesting/roosting/foraging structural habitat. This workshop of 25 select managers and scientists was held during 2012 in Hood River, Oregon. A GTR listed below is in progress with expected publication at the end of 2013.</td>
<td>2012</td>
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<td>Website</td>
<td>Summarize progress and display interim maps and other products: <a href="https://sites.google.com/a/pdx.edu/vegetation-fire-owl/">https://sites.google.com/a/pdx.edu/vegetation-fire-owl/</a></td>
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<td>Non-refereed publications</td>
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<td>Lehmkuhl, J. 2012. An overview of alternatives for dry forest restoration and Northern Spotted Owl conservation in the eastern Cascade Range and their</td>
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<td>Raphael, M.G. 2013. The Vegetation, Fire, Owl project: applications to Region 6 restoration initiatives. Presentation to Regional biologists and planners, Portland, OR.</td>
<td>presented</td>
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</table>
Citations


**Acronyms and abbreviations used in this report:**

BDOW = barred owl, *Strix varia*
DES = Deschutes landscape analysis area
GNN = gradient nearest neighbor vegetation inventory
LSOF = late-successional and old forest
LSR = late-successional [forest] reserve
NSO = northern spotted owl, *Strix occidentalis caurina*
RAWS = Remote Automatic Weather Stations
RRP = Revised Recovery Plan
USFS = U.S. Forest Service
USDA = U.S. Department of Agriculture
USFWS = U.S. Fish and Wildlife Service
WEN = Wenatchee landscape analysis area

**Model names used in this report:**

FBFM = fire behavior fuel model
FlamMap = fire simulation model
FVS = Forest Vegetation Simulator
HexSim = spatially explicit individual-based population simulation model
LADS = forest state-and-transition simulation model
October 18, 2013

The Honorable Barack Obama
President of the United States
The White House
Washington D.C. 20500

Re: Increased Protections Needed for the Threatened Marbled Murrelet

Dear President Obama:

On behalf of the Pacific Seabird Group (PSG), I am writing this letter to make you aware of the plight of the Marbled Murrelet (*Brachyramphus marmoratus*), a small, unique seabird on the west coast that is currently listed as threatened under the federal Endangered Species Act (ESA). The entire range of the Marbled Murrelet is on the North Pacific coast of the United States and Canada; hence the U.S. bears a high level of responsibility for the future of this species.

Unfortunately, we have a high level of concern about current proposals to increase logging in western forests, where the cumulative impacts of the patchwork landscape could exacerbate problems already faced by Marbled Murrelets. Of immediate concern is H.R. 1526, which would establish a timber trust on Oregon and California Railroad (“O&C”) lands currently managed by the Bureau of Land Management. With the proposed timber trust, federal lands would essentially be managed as private industrial lands to maximize tax revenues for local counties. Impacts on the Marbled Murrelet could be severe, because the lands that likely would be logged and fragmented include active murrelet nests and surrounding forest habitats.

The PSG is an international, non-profit organization that was founded in 1972 to promote the knowledge, study, and conservation of Pacific seabirds. Our 460 members—from 20 nations—include biologists and scientists who have research interests in Pacific seabirds, government officials who manage seabird refuges and populations, and representatives of nongovernmental organizations and individuals who are interested in marine conservation. For more than two
decades, PSG has provided a forum where government, academic and private-sector biologists and resource managers can discuss and resolve scientific issues related to the biology and conservation of Marbled Murrelets.

We were pleased to see the recent statement from your administration’s Office of Management and Budget indicating that they would recommend a veto of legislation, H.R. 1526, which includes the O&C Trust, Conservation, and Jobs Act. If this legislation were to reach your desk, PSG also would urge your veto. In addition, we respectfully request that you:

- Ask your natural resource departments, especially Interior and Agriculture, to review and modify their management of O&C lands to ensure the long-term conservation of Marbled Murrelets and to maintain large contiguous blocks of habitat across as much of this landscape as possible.

- Work with Senator Wyden, Chairman of the Senate Committee on Energy and Natural Resources, to craft legislation that provides an effective long-term solution that will protect habitat for the murrelet and provide a means for their recovery. Such a solution should rest on environmental protections provided under existing law and also safeguard wildlife habitat, wilderness character, water quality, and recreational opportunities.

We thank you for your leadership. The PSG and its many experts on Marbled Murrelets stand ready to assist in formulating an effective strategy for long-term conservation and management of O&C lands. The attached document provides additional details on our concerns and recommendations.

Thank you,

Stanley Senner
Vice Chair for Conservation

cc:
Sally Jewell, Secretary of the Interior
Tom Vilsack, Secretary of Agriculture
Representative Peter Defazio, Oregon
Representative Kurt Schrader, Oregon
Representative Greg Walden, Oregon
Senator Ron Wyden, Oregon
Ann Acheson, Council on Environmental Quality
Paul Souza, Deputy Assistant Director, Ecological Services, USFWS
Butch Blazer, Deputy Undersecretary, Natural Resources, USDA
Michael Bean, Counselor to the Assistant Secretary for Fish, Wildlife and Parks, USDI
Paul Henson, USFWS Portland
Ken Berg, USFWS Olympia
Bridgette Tuerler, USFWS Portland
Deanna Lynch, USFWS Olympia
Gary Falxa, USFWS Arcata
Jerome Perez, BLM Oregon State Director
Bruce Hollen, BLM Portland
Rex McGraw, BLM Coos Bay
Carol Hughes, USFS Portland
Elaine Rybak, USFS Portland
The Marbled Murrelet is a small diving seabird (Family Alcidae) that breeds in older-aged coastal forests from Alaska to central California, but also nests on the ground and on rock ledges in parts of Alaska and British Columbia (Nelson 1997). Murrelets in the genus *Brachyramphus* (i.e., Marbled *B. marmoratus*, Kittlitz’s *B. brevirostris*, and Long-billed *B. perdix*) have a breeding strategy unique among alcids. While most alcids breed nearshore in large colonies, *Brachyramphus* murrelets fly long distances inland to their solitary nests (generally up to 40 km). Marbled Murrelet populations have declined over much of their range due primarily to current and historic loss and fragmentation of older-aged forest breeding habitat (USFWS 1992, Nelson and Hamer 1995, Burger 2002, McShane et al. 2004, Peery et al. 2004, Becker and Beissinger 2006, Piatt et al. 2006, Hébert and Golightly 2007, Lynch et al. 2009, Miller et al. 2012). Despite being listed as threatened under the Endangered Species Act (ESA) in California, Oregon, and Washington in 1992 (USFWS 1992, 1997) and implementation of the Northwest Forest Plan (NWFP; USDA and USDI 1994a, b), populations in the U.S. Pacific Northwest have continued to plummet (Miller et al. 2012). While issues at sea, such as changes in prey populations, are likely also impacting murrelet populations, the primary reason for declines continues to be sustained low recruitment from the loss of quality nesting habitat and increases in predation at nest sites (McShane et al. 2004, Lynch et al. 2009, USFWS 2012).

**Marbled Murrelet Populations Continue to Decline**

The Washington, Oregon, and California murrelet population is estimated to be 16,000-26,000 birds (Miller et al. 2012, Falxa et al. 2013). Population modeling indicates that this population is declining and will be extinct in parts of Washington, Oregon and California within 100 years without positive changes in the amount and quality of nesting habitat and in demographic trends (McShane et al. 2004). Low fecundity levels across Washington, Oregon, and California, as measured by nest success, indicate a population that cannot currently maintain itself (Beissinger and Peery 2003, McShane et al. 2004). In addition to the serious habitat loss that has occurred, murrelets are also experiencing poor nest success due primarily to nest predation, which in turn is significantly affected by forest fragmentation and proximity to human developments (Raphael et al. 2002, McShane et al 2004). Thus, in order to diminish the threat of nest predation and increase
murrelet reproduction, the forest landscape and its surroundings must be protected to provide as much suitable nesting habitat in large, contiguous blocks as is possible. This means ensuring that remaining occupied and unoccupied murrelet habitat is protected and habitat is enhanced to create larger blocks of suitable habitat.

**Continued Loss of Marbled Murrelet Nesting Habitat**

The amount of mature and late-seral habitat suitable for murrelet nesting in coastal areas is significantly below historic minimums. Old-growth forests have been reduced by more than 72% in the U.S. Pacific Northwest (Booth 1991, Strittholt et al. 2006) and 96% in coastal California (Larsen 1991) from pre-logging levels. Despite the listing of the Marbled Murrelet as threatened in 1992, the amount of suitable murrelet habitat has continued to decline. The loss and degradation of habitat has resulted from: (1) logging on private, state and federal lands; (2) ill-advised federal/private land exchanges; (3) logging (including selective logging and thinning) in suitable habitat and in buffers to suitable habitat; (4) inadequate habitat conservation plans; (5) fragmentation effects from adjacent logging and thinning; and (6) a variety of natural and anthropogenic causes, including fire, windthrow, and disturbance. Under the current NWFP (USDA and USDI 1994a & b), habitat conservation plans, and other habitat management plans, new murrelet habitat will not be suitable for 50 to 200 years or more because it will take that long for the growing trees to reach sufficient size and maturity. The near-term inability to create new murrelet habitat combined with the continued harvesting of occupied and unoccupied habitat ensures a downward trend in suitable murrelet habitat into the future. For these reasons, it is imperative that all current and potential nesting habitats be conserved.

An objective of the Marbled Murrelet recovery plan (USFWS 1997) is to stabilize and then recover the population by maintaining or increasing population productivity and removing or minimizing threats to survivorship. Protecting occupied and unoccupied terrestrial habitat, including maintaining nesting habitat, protecting and enhancing as large blocks of contiguous forest cover as possible, and maintaining and enhancing buffer habitat, is essential for the long-term recovery of this species (USFWS 1997:131-146). In fact, because so much murrelet habitat has been lost or depleted, remaining suitable habitat (mature and old-growth forests) is critically important, regardless of its size, if murrelets are to have a good chance of surviving over the next 100 years.

Suitable habitat should be well distributed to reduce the probability that natural or human-caused catastrophe will threaten the survival of the species (USFWS 1996, 2006). Additionally, large contiguous blocks of nesting habitat are important for minimizing the effects of predation and windthrow. While large contiguous blocks are the best habitat, however, remaining unoccupied habitat is important, regardless of its size, in light of the fact that so little old-growth remains. Moreover, without a long-term integrated strategy for Marbled Murrelet habitat conservation on federal, state and private lands, the demise of the murrelet population will likely be accelerated. Allowing projects in suitable but presently unoccupied habitat to proceed will result in unacceptable habitat losses, which will hinder the recovery of the murrelet.
**Plans for the Oregon and California Railroad Lands**

Oregon Representatives Peter Defazio, Kurt Schrader, and Greg Walden have proposed allocating federal lands to a “timber trust” on Oregon and California Railroad (“O&C”) lands currently managed by the Bureau of Land Management. With the proposed timber trust, federal lands would essentially be managed as private industrial lands and logged to maximize tax revenues for local counties (O&C Trust, Conservation and Jobs Act, H.R. 1526). If enacted, this legislation would bypass the safeguards in place under the ESA and other environmental laws, and compromise the system of reserves established under the NWFP. Much of the habitat affected by the House bill is suitable murrelet habitat, which is critical for murrelet recovery and NWFP integrity. This plan would devastate murrelet populations and be contrary to the murrelet recovery plan (USFWS 1997), which calls for more and better habitat on the landscape, not less and more fragmented habitat. The House bill is not sustainable in the long term for the environment, murrelets, owls, salmon, drinking water, forest health, or the counties involved.

Senator Ron Wyden recently introduced a legislative framework that would allow a substantial proportion of O&C lands to be harvested. While the proposal might include keeping some environmental safeguards in place, this legislation would still have a significant negative impact on murrelets and habitat critical to their survival. We urge the Administration, Senator Wyden, and other decision-makers to work with scientists to create a new plan for federal lands in coastal Oregon. This plan should provide adequate safeguards for listed species and the environment and create means other than resource extraction to meet the economic needs of the affected counties. The plan must be comprehensive if it is to successfully provide a long-term solution to the issues at hand.

The path forward should include:

- Maintaining the system of reserves (Late Successional Reserves and Riparian Reserves) established under the NWFP. These reserves are the cornerstone of recovery for the murrelet and the Northern Spotted Owl (*Strix occidentalis*). They are also critical for watershed health and salmon recovery;
- Maintaining the integrity of the existing forests, improving them with buffers, and creating large blocks of contiguous forest. The current landscape is already highly fragmented and the current plans for the O&C lands propose further fragmentation and degradation of our native forests, the opposite of what needs to be done to save imperiled species;
- Working with scientists to create a plan that will protect all listed species in coastal Oregon counties; and
- Funding research to look at the impacts of thinning and logging forests adjacent to occupied and suitable murrelet habitat.

If the NWFP is to be altered in any way, a scientific process should be initiated whereby the entire landscape is reviewed and a new system of reserves established. This effort would be similar to that used in developing the NWFP.
Cumulative Impacts
In addition to the O&C plans discussed above, there are a series of proposed logging increases on state and federal lands in Oregon and Washington. The cumulative and interactive effects of the continued removal of murrelet habitat are already significantly impacting murrelet populations. These plans will only increase harm to murrelets and their critical habitat. The amount and distribution of quality murrelet habitat must be improved, not decreased, to reverse population declines (McShane et al. 2004).

Franklin and Johnson (2012) have proposed a restoration framework, called ecological forestry, to be implemented in young and mature forests on federal lands for the purpose of creating more early seral habitat. Their proposal does not consider the needs of most species, much less murrelets, and seems to be more motivated by forest product outputs than real ecological restoration, biodiversity conservation, or the management of fish and wildlife resources (DellaSala et al. in press). The pilot implementation of “eco-forestry” on BLM lands in Oregon has provided justification for logging as usual without consideration of impacts to listed species. This framework needs to be altered to take into account fish and wildlife resources, and studies should be funded to look at the impacts of a real and scientific ecological forestry framework on murrelets and other older forest dependent species.

In 2008, the BLM adopted the Western Oregon Plan Revision (WOPR) that would have significantly increased the harvest of mature and old-growth forests. By the BLM’s own admission the plan was flawed, as it did not provide adequate protections for murrelet critical nesting habitat and other listed species. In July 2009, then Secretary of the Interior Ken Salazar withdrew the WOPR, which meant that BLM forests would continue to be managed as they had been, under the NWFP with a much smaller annual harvest. However, in addition to the O&C plans and “eco-forestry”, the BLM is currently working on a revised WOPR that could undermine the NWFP and increase logging within and near murrelet habitat. In order to maintain and improve murrelet populations, this plan will need to protect all occupied and suitable murrelet habitat and improve habitat by providing contiguous blocks of older forest and buffers to the clearcuts on adjacent private lands.

On Department of Natural Resources (DNR) lands in western Washington, a series of murrelet reserves were established in a scientific, long-term conservation plan to ensure the survival of murrelets on state lands into the future (Raphael et al. 2008). Despite spending four years developing the plan, it was never implemented and, in the interim, DNR has continued to harvest within and adjacent to the proposed reserves, increasing the loss of murrelet habitat and further fragmenting the landscape. The long-term conservation plan will need to be redone to ensure that large, contiguous blocks of suitable habitat are provided for murrelet survival and recovery.

The Oregon Department of Forestry (ODF) has continuously harvested within occupied sites and recently introduced plans to significantly increase timber production in older-aged forests. They are also trying to sell murrelet habitat on state lands to private bidders. ODF will need to create a
long-term conservation plan for murrelets on all their lands in order to provide adequate habitat for murrelet survival and recovery.

It is essential for the continued recovery and stabilization of this threatened seabird that the federal government take a leading role in providing adequate protections for Marbled Murrelets and help these federal and state agencies create reasonable science-based logging plans. In general, the goals for creating and protecting murrelet nesting habitat and minimizing predation should include:

- Maintaining current federal and state ownership and management within the guidelines established in the NWFP and critical habitat designations on federal lands;
- Protecting all suitable and occupied habitat and minimizing fragmentation near suitable and occupied habitat;
- Providing large buffers to occupied and suitable habitat that will protect them from windthrow, microclimate changes, and predation;
- Developing and creating habitat in large blocks to create more interior habitat and thereby decreasing the possibility of avian predation;
- Improving the distribution of habitat across the listed range of the murrelet, thereby improving the distribution of their populations;
- Minimizing the size of canopy openings near or adjacent to murrelet habitat to minimize the risk of predation;
- Determining ways to create new murrelet habitat in young forests (<60 years old) through thinning without increasing the risks of predation in current habitat. This should include funding research to look at the impact of thinning on predation risk; and
- Minimizing the effects of human disturbance to murrelets and murrelet habitat by minimizing development (e.g., creating new campgrounds or picnic areas), noise, garbage, and feeding of predators.

In addition, the nearshore marine habitat should be designated as critical habitat under the ESA and a forage fish management plan should be implemented to protect marbled murrelet prey. These steps are also key to murrelet survival and recovery.

**Summary**

In summary: (1) murrelet populations continue to decline through habitat loss, low fecundity, high nest predation rates, and low adult survival; (2) significant loss of occupied, suitable and unoccupied murrelet habitat continues to occur on federal, state and private lands; (3) the amount and distribution of suitable murrelet habitat needs to be increased throughout the range of this listed species; and (4) land uses contrary to recovery objectives must be avoided within and adjacent to suitable habitats, especially ones significant to the stability and recovery of regional populations of imperiled species. Continued loss and fragmentation of habitat will increase the risk of extinction of this unique seabird. We agree with the Evaluation Report on the 5-Year Status Review (McShane et al. 2004: 6-34) for the murrelet that:
It is unrealistic to expect that the species will recover before there is significant improvement in the amount and distribution of suitable nesting habitat.

The combined proposals to increase logging on federal and state lands mentioned above could help present the case for uplisting the murrelet to endangered status and shift most of the burden of conservation of murrelets to U.S. Forest Service Lands. Without protection from further loss of suitable habitat and removing or minimizing threats to survivorship to allow for increased population productivity, Marbled Murrelets are likely to become extirpated in large portions of their range in the foreseeable future.

**Literature Cited**


U.S. Department of Agriculture and U.S. Department of Interior. 1994b. Record of decision for amendments to Forest Service and Bureau of Land Management planning documents within the range of the Northern Spotted Owl. 74pp.


Bureau of Land Management
Resource Management Plan for Western Oregon
March 2014 Public Information and Input Sessions

Public Comment Form

Please note that the following comments will be recorded as official public comment as part of the National Environmental Policy Act official public comment period for BLM’s Resource Management Plan for Western Oregon Planning Criteria. General response to comments will be provided in the Draft Environmental Impact Statement. Thank you for your input!

Name: ____Public Citizen_____________________ Email: ___________________________

Address: __ ____________City: ____Grants Pass________

Phone #: _______ Organizational Affiliation:

I would like to be added to the RMP for Western Oregon mailing list: Yes □ No

Please use the space below to provide your comments on aspects of the Planning Criteria, draft Preliminary Alternatives, and/or today’s Public Session. Before including address, phone number, email-address, or any other personal identifying information in your comments, be advised that your entire comment, including personal identifying information, may be made publicly available at any time. While individuals may request that the BLM withhold personal identifying information from public view, the BLM cannot guarantee it will be able to do so. If you wish us to withhold your personal information you must state this prominently at the beginning of your comment. We will make all submissions from organizations or businesses available for public disclosure in their entirety.

Additional comments on the draft Planning Criteria can be submitted until March 31, 2014.

Visit the BLM RMP for Western Oregon website to submit comments (http://www.blm.gov/or/plans/rmpswesternoregon/)

Habitat for owls

The entire topic of northern spotted owls as an endangered species is the subject of controversy, fraud and fallacy. Initially there is question whether the spotted owl found in the northwest is a distinct species different than those found in California and Mexico simply because it is found in a different habitat. If as DNA suggests, these birds are all the same species, then the concept that they are habitat dependent is completely refuted by the distribution of the barred owl which will interbreed with the spotted owl suggests a remarkable capacity on the part of the owls to adapt to alternative habitats.

Recreation

Recreation is a utilization of the O&C lands which is of economic significance to the local community and one of enjoyment for the general public. Depending on which of the Oregon and California railroad counties one
discussing, tourism may be a significant contribution to the local economy. Josephine County in the Medford
District is probably the most tourist dependent of all. It sits astride the wild & scenic Rogue River and is a hub for
simple tourist and of prime importance, fishermen. It must be observed that this industry is essentially maxed out.
The BLM strictly limits the number of access permits to the lower Rogue and has an annual waiting list. Short of
opening the river to more tourists, it is difficult to see what the BLM can do to expand this industry. The alternative
tourist-related recreational activity has historically been hunting and the Oregon DFW has estimations of the dollar
value of that contribution. However, this use has been downgraded since the adoption of the NWFMP. Initially
there has been a marked decline in the populations of black deer. ODFW estimates this decline to be at a minimum
25%. They attribute the decline to the lack of clear cuts. Late successional stands may provide cover habitat for
deer but they do not provide forage.

Secondary to the abandonment of the range by the deer is the issue of access. Traditionally hunters use roads-
especially old logging roads-to access the area. There are no pack-in hunters services such as Montana, Idaho and
other places offer. The BLM policy of expanding roadless areas with road closures and decommissioning is only
aggravating the situation.

If the BLM would truly aid the tourism industry, it would manage the lands as it did prior to the NWFMP. In doing
so, it provided excellent habitat for deer and the legacy roads engendered provided excellent access for hunters.

For recreational exploitation by the general public, the issue is access. As noted, that means roads. For hunting, that
means clear cut and roads. The regeneration management of these lands prior to the NWFMP satisfied those needs
ideally. The NWFMP has only served to destroy those opportunities.

There was conversation about shooting on BLM lands. If one is confronted with other people attempting to use the
same bit of land at the same time-shooting or otherwise- one simply goes somewhere else. This is not a problem
and shouldn’t be considered as one.

According to Justice Brandeis the greatest and most important right of the American people is the right to be left
alone. Historically, the Department and the Agency have done an excellent job of managing the O&C lands in a
manner that satisfied the mandate of the law and provided free people with excellent recreational opportunities.
Please do not get in the business of dictating recreation.

Old Growth Forest

The concept of an “old growth forest” has become an issue of deliberate controversy. The FSEIS for the NWFMP
provided essentially two definitions, “a forest stand usually at least 180-220 years old with moderate to high canopy
closure” and “a multi-layered multispecies canopy dominated by large overstory trees; high incidence of large trees,
some with broken tops and other indication of old and decaying wood with numerous large snags and heavy
accumulation of wood including large logs on the ground”. An immediate difficulty of course is that the second
definition works equally well as a definition of a ladder fuel laden forest stand.

It should be noted that in the Medford District true old growth, defined as 180-220 year old and older is fairly rare,
accounting for only 13.6% of the BLM forests in Josephine county. By contrast, if “old growth” were redefined as
some suggest to all ages over 80, 74.6% of the forest would be old growth and in very short order will include
regeneration stand. The idea of re-defining old growth is ill-conceived.
Clean water and healthy fish

Placer mining was the activity that initially drew populations to Southern Oregon. The entire water shed has a history of placer mining which included hydraulic mining with the use of high capacity monitors. The Rogue wild scenic corridor includes the Flannigan Mine which was one of the most extensive of hydraulic mining operations. The wild & scenic Rogue includes the Almeda Mine which was a hard rock operation adjacent to the Rogue River itself. The area is not a pristine and untamed natural forest, it has a 150 year history of perhaps the most aggressive of mining operations anywhere in the state. During that same period, it also sustained an extensive commercial fishing industry for the same salmonids. History alone puts the lie to the allegation that industrial activities involving the waters of the area are detrimental to the fish populations. The miners come & go, the fish have remained.

Provide a sustained yield of timber

The purpose of the action includes providing a sustained yield of timber. The O&C act requires that the O&C lands be managed “for permanent forest production, and the timber there on shall be sold, cut,.. And removed in conformity with the principle of sustained yield for the purpose of providing a permanent source of timber supply, protecting watersheds, regulating stream flow, and forest but contributing to the economic stability of local communities and industries, and providing recreational facilities”. 43 U.S.C. 1181a The O&C Act goes on to state that “the annual productive capacity for such lands shall be determined and declared...(p)rocided,that timber from said lands...not less than annual sustained yield capacity...shall be sold annually or so there of as can be sold at reasonable prices on a normal market” 43 U.S.C. 1181a in meeting the various requirements for managing the O&C lands the Secretary of the Interior has discretion under the O&C Act to determine how to manage the forest to provide for permanent forest production on a sustained yield basis, including harvest methods, rotation length, silvicultural regimes under which these forests would be managed or minimum level of harvest. In addition, the Federal Land Policy and Management Act (FLPMA) specifically provides that if there is any conflict between its provisions and the O&C act related to management of timber resources of the disposition of revenues from the O&C lands and resources, the O&C Act prevails (i.e. takes precedence) (43 U.S.C. 1791) Thus, the multiple use management direction of the FLPMA does not apply to the O&C lands that are suitable for timber production. The planning process established by the FLPMA is applicable to the ...because it is not in conflict with the O&C acts management Direction for these lands
Executive Summary

The Public Lands Foundation (PLF) believes that the O&C lands must stay in Federal stewardship under the management of the Bureau of Land Management: the agency that has managed them since they were revested to the United States. The PLF also believes that the O&C lands need to be professionally managed for the sustainability of the forest. This involves managing the lands for permanent timber production; wildlife and watershed conservation; recreational values and for contributing to the economic stability of western Oregon Counties and its communities. This management must take into account that these lands are unique in the Federal land portfolio with a unique history, having been granted into private ownership to encourage construction of a railroad from Portland south to the California State border. When the railroad company violated terms of the grant, the lands revested back to the Federal government with the prescribed statutory intent to harvest the timber and then to sell the lands to individuals. When sale attempts failed to provide the economic objectives intended, the lands were permanently placed into Federal ownership by Congress in the O&C Act of 1937 for the narrow and specific purpose of providing a permanent source of timber supply, protecting watersheds, regulating stream flow, contributing to the economic stability of local communities and industries, and providing recreational facilities. It is the uniqueness of these lands and their history that dictate that they warrant a unique solution. The checkerboard landscape of the O&C lands does not have the same biological capabilities as the large-block land pattern of the National Forests. The intermingled land ownership pattern of industrial and private forest land owners and the associated road network require unique expertise to efficiently manage. BLM has the expertise to do this.

Congress reaffirmed the timber management and revenue sharing mandates for the O&C lands when it enacted the Federal Land Policy and Management Act (FLPMA) in 1976. The BLM has a long history of managing lands for conservation values in Western Oregon. They have done this for permanently protected lands, such as the Table Rock Wilderness, Wild and Scenic Rivers such as the Rouge, Outstanding Natural Areas such as Yaquina Head and Cascade Siskiyou National Monument. BLM has also managed Late Successional Reserves under the Northwest Forest Plan to provide for the recovery of the Northern Spotted Owl. BLM has a proven track record and the needed expertise to manage for all of the values found on the O&C lands.

1 Alternate sections of public lands in Western Oregon along the right-of-way granted to the Oregon and California Railroad Company or the Coos Bay Wagon Road Company and subsequently revested to the United States, which are managed by the Bureau of Land Management under the authority of the O&C Lands Act.
Any solution should be scientifically-based, meet the requirements of all federal law, and consider the economic and social needs of the local communities. The work done by the BLM for the 2008 Resource Management Plans (RMP) is the most comprehensive analysis ever undertaken for these lands to date and should be considered as the basis for a solution. The PLF further believes that any solution must provide implementation certainty and this likely will require Congressional intervention. The BLM has the authority, the staff and the organization in place to manage any “solution” devised by Congress. However, successful implementation can only be achieved by enacting a solution that will allow BLM to avoid the endless loop of delays, administrative processes, court reviews and continuous planning that has, over the past 25 years, not achieved positive results.

**Background**

The O&C lands are subject to the unique mandate of the O&C Act of 1937 that lands be managed for permanent timber production under the principles of sustained yield.

These lands were originally granted to a railroad company from the public domain by the Federal Government as an incentive for construction of a rail line from Portland to the California border. The railroad company violated the terms of the land grant and the Government took back, or revested, the unsold lands. These lands were not returned to the federal public domain, but were set aside for special management. Historically, large contiguous blocks of forest in the public domain were set aside as Forest Reserves, eventually becoming part of the National Forest System. However, the O&C lands were always different and set apart from National Forest System Lands as a result of their history. At the time, lumbering practices were “cut and run” and involved the harvesting of whole watersheds; moving to the next watershed, when logging finished. This meant the lumber mill and logging camps also moved leaving ghost towns in their place. Little regard was paid to wildlife and water resources or for re-establishing a new forest after harvest. These practices were not sustainable, and eventually principles of conservation and sustained yield began to evolve. The principle of sustained yield management was seen as a solution to these problems. The O&C Act of 1937 is based on the principle of sustained yield. Sustained yield assures that the harvest level is in balance with the growth of the forest and its capabilities to provide timber for future generations. The O&C Act included a revenue sharing provision to compensate the counties along the original railroad right-of-way, since the Federal Government would not pay taxes on the revested lands. Sustained yield timber production provides a perpetual revenue stream using the forest to generate funds rather than tax dollars and simultaneously provides a forested landscape that is beneficial for wildlife, water resources and recreation.

**Discussion**

How can the O&C lands be managed to continue to provide needed resources and revenue now and into the future while conserving the conservation values on these lands?

The O&C lands were intended to be in private ownership since the railroad land grants in the 1860s. It was only after years of fraud and litigation that the Congress through the Chamberlain–Ferris Act 2.

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2 The Chamberlain–Ferris Act (39 Stat. 218) of June 9, 1916 was an Act of the United States Congress that ruled that 2,800,000 acres (11,000 km²) of the original 4,000,000 acres (16,000 km²) granted to the Southern Pacific Company (successor to the Oregon and California Railroad) in California and Oregon were revested to the United States, and put under the control of the General Land Office, which was to dispose of the lands and timber through auction sales.
revested the lands back to the Federal Government. The revesting of the land was intended to be temporary with the timber being sold and the lands sold into private ownership for the benefit of the counties where the lands exist. Because of geographical and market limitations this Chamberlain–Ferris Act failed and the counties did not receive the benefits from the lands. To correct this, Congress tried again in 1926 with another Act of Congress to dispose of the land into private ownership and provide payments to the counties. Again, the Act failed in its intended purpose. In 1937, Congress acted again by deciding to retain the O&C lands in Federal ownership for the primary purpose of contributing to the stability of local governments and providing forest products. This was to be done by providing for permanent forest production using newly developed principles of sustained yield. The counties were to be provided for by sharing receipts with the Federal Government. By using a sustained yield system and harvesting no more than the land could grow in a given period of time, the land would produce benefits to local governments in the long term.

The context of the O&C lands is also unique. The checkerboard ownership pattern of BLM lands intermingled with private industrial and rural residential ownerships is a vastly different landscape context than the continuous Forest Service lands. Given this checkerboard pattern, the biological capabilities of BLM lands for providing conservation values differ from capabilities of the large blocks of National Forest System lands. The Northwest Forest Plan applied a common set of management guidelines and allocations as a “one size fits all” approach that did not recognize the ownership uniqueness and circumstances of the O&C lands.

BLM has shown many times in previous plans that management strategies can be developed to meet multiple objectives and the vast array of federal laws guiding the management of these lands (See Appendix A for a partial listing). Management strategies can be developed to meet the objectives of all of the laws simultaneously. Evidence and NEPA analysis has shown that improved forest conditions through a balanced land allocation approach that includes adequate lands dedicated to sustained yield management would yield positive environmental, social and economic results. The success of sustained yield management under the O&C Act has been verified in BLM’s forest inventories. These sophisticated inventories have shown that after over fifty years of sustained yield management with annual harvests of over one billion board feet per year from the early 1960’s through the late 1980’s, there is more standing timber on the O&C Lands today than the 1950’s when sustained yield management began in earnest. Sustained yield management is the foundation to provide certainty for jobs, timber supply and revenues for the long term.

What is needed to provide management certainty now and in the future?

The O&C Act became law in 1937 and in 1976 Congress affirmed its timber management mandate in Section 701(b) of FLPMA. Other laws have been enacted with which the BLM must also comply. Most notable, the National Environmental Policy Act (NEPA) passed in January 1970 and the Endangered Species Act (ESA) passed in 1973. NEPA is a procedural act that requires agencies to undertake an assessment of the environmental effects of their proposed actions prior to making decisions. Two major purposes of the environmental review process are better-informed decisions and citizen involvement. The ESA requires the agencies to utilize their authorities in the furtherance of the Act and to insure that any action authorized, funded or carried out by them is not likely to jeopardize the continued existence of listed species or modify their critical habitat. It is clear that these acts and other acts did not amend or repeal the O&C Act. The authority for management of the O&C Lands remains the O&C Act. The FLPMA was subsequently passed in 1976 and affirmed the purposes of the O&C Act. Court decisions in the U.S, Ninth Circuit and the U.S. District Court of the District of Columbia have upheld the purpose of the O&C Act as late as June 2013. It is less clear how these other statutes affect the implementation of
the O&C Act. Without Congressional clarification or a comprehensive decision by the Courts, these issues will continue to be hammered out case by case in the Courts at the plan or project level, leading to continued gridlock.

The Northwest Forest Plan was conceived to end “gridlock” caused by lawsuits and controversy over the management of the Northwest Forest. This has not happened. Protests, appeals and litigation over timber sales and other actions that comply with the Northwest Forest Plan have increased tenfold since the Northwest Forest Plan.

**Public Lands Foundation Position**

**The O&C Lands must stay in Federal Ownership under BLM Management.**

Current legislative proposals retain the O&C lands in Federal ownership. However, subdividing the O&C lands into smaller and smaller parcels adds management complexity and confusion. Splitting management responsibility between two agencies is not efficient nor is it good public policy. The BLM is staffed by dedicated professional land and resource managers, and it has a proven track record for managing the complexity of the O&C Lands, and is authorized by FLPMA to manage lands for both timber production and conservation purposes. The BLM should retain management responsibility for the O&C Lands.

**The O&C forest lands need active professional management.**

The O&C Act requires the forest be managed following the principles of sustained yield. That practice has worked well since 1937 and can continue to satisfy multiple demands from the forest into the future. All of the laws related to management of the O&C forest land can be met simultaneously by a balanced approach of allocation and management of land for specific purposes. The O&C Act mandate to manage these lands according to the principles of sustained yield is fundamental to provide for timber production, revenues to support county services, raw material supporting forest management infrastructure, jobs for rural communities, significant habitat for wildlife, and quality water, now and into the future.

**The O&C Lands are unique and warrant a unique solution.**

The Northwest Forest Plan developed a one-size-meets-all approach for allocation of land and management guidelines. The Critical Habitat for the northern spotted owl designation did not evaluate altering the approach specific to the BLM lands (10% of the Northwest Forest Plan area and approximately 4% of the total northern spotted owl range). The checkerboard landscape does not have the same biological capabilities of the large-block land pattern of the National Forests. The intermingled land ownership pattern of industrial and private forest land owners and the associated road network require unique expertise to efficiently manage.

The BLM Western Oregon Plan Revisions Final Environmental Impact Statement (FEIS) completed in 2008 evaluated a variety of alternative management strategies utilizing the best available information on the O&C lands, and sophisticated land management modeling to evaluate the outcomes of these alternatives based on their effectiveness for meeting multiple objectives. This body of work was conducted over 5 years, with full interagency coordination, public involvement and full evaluation of the relevant science. This FEIS is the most comprehensive evaluation ever of the capabilities of the O&C forest lands in context of the private/industrial lands of the checkerboard and large blocks of the Forest Service land.
The preferred alternative represented a well-grounded balance of allocation and management direction that met all of the laws. (See Appendix A for details). The preferred alternative and the scientific analysis conducted for the 2008 RMPs, updated with any new scientific information, should form the basis for any solution to the management of these valuable lands.

**Implementation Certainty**

The issues that have plagued the management of the O&C lands will not be resolved until Congress intercedes and enacts legislation that clarifies the relationship of the various laws that effect the management of these lands. Legislation must include provisions that will ensure implementation certainty. Successful implementation can only be achieved by enacting a solution that will allow the BLM to get out of the endless loop of delays, administrative processes, courts and continuous planning that, to date, has not achieved positive results.
Appendix A—Laws and additional background information

Laws
The O&C Act of 1937
The O&C Act mandates that the O&C lands be managed “for permanent forest production, and the timber thereon shall be sold, cut, and removed in conformity with the principal (sic) of sustained yield for the purpose of providing a permanent source of timber supply, protecting watersheds, regulating stream flow, and contributing to the economic stability of local communities and industries, and providing recreational facilities” (43 U.S.C. §1181a). The O&C Act goes on to state that “[t]he annual productive capacity for such lands shall be determined and declared: Provided, that timber from said lands in an amount not less than one-half billion board feet, or not less than the annual sustained yield capacity when the same has been determined and declared shall be sold annually, or so much thereof as can be sold at reasonable prices on a normal market” (43 U.S.C. §1181a). When monetary receipts from the sale of timber from the O&C lands are distributed, 50% is distributed to the counties in which the revested lands are located. That 50% is distributed to the counties according to their proportion of the total assessed value of the revested lands that existed in each of the counties in 1915. In meeting the various requirements for managing the O&C lands, the Secretary of the Interior has discretion under the O&C Act to determine how to manage the forest to provide for permanent forest production on a sustained yield basis.

Federal Land and Policy Management Act of 1976 (FLPMA)
The Federal Land Policy and Management Act of 1976 (FLPMA) provides the legal authority to the Secretary of the Interior for the management of public lands. The FLPMA specifically provides that if there is any conflict between its provisions and provisions of the O&C Act related to management of timber resources or the disposition of revenues from the O&C lands and resources, the O&C Act prevails (i.e., takes precedence) (43 U.S.C. §1701). Thus, the multiple-use management direction of the FLPMA does not apply to the O&C lands that are suitable for timber production. When Congress enacted FLPMA in 1976, Congress preserved requirements of the O&C Act as they relate to the management of timber resources and the disposition of revenues to O&C Counties (FLPMA sec 701(b). FLPMA also authorizes the BLM to manage federal lands for conservation purposes.

The provisions of the Endangered Species Act applies to plants and animals that have been listed as endangered or threatened, proposed for listing, and the areas designated or proposed for critical habitat. Section 7 of the ESA requires BLM to use its legal authorities to promote the conservation of species. (The O&C Act and FLPMA are BLM’s legal authorities for management of O&C and CBWR lands.) It requires BLM to consult with U.S. F&WS and National Marine Fisheries Service to ensure that actions will not jeopardize species listed as threatened or endangered under ESA (or, in the case of critical habitat, adversely modify.) The ESA is to be complied with as BLM implements its mandates under the O&C Act and the FLPMA, but does not change the BLM’s authorizing statutes.

Clean Water and Safe Drinking Water Acts
The objective of the Clean Water Act is to restore and maintain the chemical, physical and biological integrity of the Nation’s waters. The Safe Drinking Water Act protects public health by regulating the

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3 Initially, the Act provided for a 75% share to go to the counties; however 25% was used to pay back the Federal Treasury for funds advanced to the counties under preceding Acts. This debt was satisfied in the early 1950s and the counties elected to “plowback” the 25% into management of the lands. The counties contributed over $2 billion in today’s dollars to the Plowback Fund.
The Department of Environmental Quality implements and enforces provisions of the federal Clean Water Act, the Safe Drinking Water Act and state water quality laws and policies. BLM’s management actions on O&C and CBWR lands must be in compliance with the State of Oregon’s established water quality standards.

Current Management and Land Use Plans

Timber harvest on the O&C and CBWR lands, following the principle of sustained yield, began in earnest in the late 1940's in response to the housing boom for returning GIs. Concerns about the harvest of old-growth forests and decline in the population of northern spotted owls increased in the 1980s culminating in injunctions that severely curtailed all timber harvest in the early 1990s. In April 1993, President Clinton held a Forest Conference in Portland, Oregon. He ordered a scientific and technical team to be formed that would provide recommendations for forest ecosystem management on Federal public lands within the range of the Northern Spotted Owl. Those recommendations became the basis for the Northwest Forest Plan. BLM incorporated the Northwest Forest Plan in Resource Management Plans in 1995.

The Northwest Forest Plan was to be a forest ecosystem-based plan. It not only provided protection for Northern Spotted Owl and marbled murrelet habitat but it also incorporated an Aquatic Conservation Strategy to protect at-risk species and stocks of anadromous fish. It went beyond ESA listed or at-risk species by including a substantial set of management guidelines coined “Survey and Manage,” which dealt specifically with inventory surveys and monitoring studies needed to supply information on the lesser known and potentially vulnerable species of fungi, lichens, plants and animals. In this new framework, the Northern Spotted Owl was addressed as one of many species and ecosystem components to be dealt with in forest ecosystem management (Marcot PNW-GTR-408 September 1997). The conservation strategy of the Northwest Forest Plan addressed not only the Endangered Species Act, but also the National Forest Management Act of 1976 (NFMA) and its requirement that the U.S. Forest Service “provide for diversity of plant and animal communities … to meet overall multiple-use objectives” (16 U.S.C. §1604). The Northwest Forest Plan applied the same criteria for management of habitat on both U.S. Forest Service and BLM-administered lands even though the NFMA does not apply to the BLM-administered lands (USDA Forest Service and USDI Bureau of Land Management. 1994. Record of Decision on management of habitat for late-successional and old-growth forest related species within the range of the northern spotted owl (Northwest Forest Plan). Portland, Oregon, p. 44). The Northwest Forest Plan “reserved” a large portion of the land base for uses other than permanent forest production, arguably in violation of the O&C Act.

The Northwest Forest Plan allocated 27% of the O&C forestlands to be managed for sustained yield forest management despite the fact that 82% has been classified as suitable for timber production. The harvest level is established based on a cycle of thinning and regeneration harvest, i.e. starting a new forest. This planned cycle assumes regeneration harvest will occur, generally, no sooner than when the growth of individual stands have culminated (80-120 years). To sustain the harvest level the land base (down to 27% of the productive forest land base) must remain fully available and the planned cycle of harvest implemented. Several of the management standards and guidelines included in the Northwest Forest Plan, including the Aquatic Conservation Strategy and Survey and Manage provisions, were problematic and led to litigation. Decisions from several court cases further restricted the BLM from comprehensively implementing the Northwest Forest Plan as intended. Regeneration harvest practices were nearly

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4 Sustained Yield - the yield that a forest can produce continuously at a given intensity of management (SAF Dictionary of Forestry, 2008)
completely curtailed on the lands allocated for sustained yield management. BLM turned to thinning to produce timber and feed dollars into the economic stream. Although thinning is an important silvicultural tool to meet some of the objectives of the Northwest Forest Plan, it is not sustainable without being used in conjunction with regeneration harvest. Furthermore, not implementing regeneration harvest has resulted in the BLM not harvesting the types and ages of forest stands modeled and predicted in the Resource Management Plans (RMP) and the accompanying NEPA analysis.

Monitoring conducted on the Northwest Forest Plan at years 10 and 15 of implementation found that timber and economic objectives were not being met. The BLM’s RMP evaluations in 2004 and 2010 also found that timber objectives were not being met. Planning regulations require the BLM to revise the plans if RMP objectives are not being met to a significant degree. In 2005, BLM began a 4 year multimillion dollar planning process, developed with interagency and intergovernmental cooperation, and extensive public involvement. Records of Decision were signed in December 2008.

The BLM Western Oregon Plan Revisions Final Environmental Impact Statement (FEIS) completed in 2008 evaluated a variety of alternative management strategies utilizing the best available information on the O&C lands, and sophisticated land management modeling to evaluate the outcomes of these alternatives based on their effectiveness for meeting multiple objectives. This body of work was conducted over 5 years, with full interagency coordination, public involvement and full evaluation of the relevant science. This FEIS is the most comprehensive evaluation ever of the capabilities of the O&C forest lands in context of the private/industrial lands of the checkerboard and large blocks of the Forest Service land.

The preferred alternative represented a well-grounded balance of allocation and management direction that met all of the laws. Implementation of the 2008 plan would have provided:

- Increasing levels of habitat and structurally complex forest at nearly the same level as the Northwest Forest Plan
- Guidance for implementing sustainable forest management practices to maintain the health and productive capacities of the forest to produce timber that can be harvested on a sustained yield basis as well as maintaining other values associated with the forest including water quality and old growth values.
- An ecological balance of forest succession stages such as stand development, young forest, mature forest and structurally complex forest.
- 500 million board feet of sustainable timber production – double the Northwest Forest Plan.
- Approximately 80 million board feet for 20-30 years to promote the development of spotted owl and marbled murrelet habitat.
- No harvest of stands 160 years and older conducted for the first 15 years
- A large block habitat network meeting the long established standards for Northern Spotted Owl that provides better habitat than those in the Northwest Forest Plan
- Riparian management areas that will provide high quality habitat for fish and clean water for users
- Protection of habitat for Northern Spotted Owl and marbled murrelets
- Approximately $75 million each year to O&C Counties for funding public services
- An increase of approximately 1,200 timber related jobs
- Uneven age management in Southwest Oregon to simultaneously improve forest resiliency and provide for sustainable timber production. The types of harvest are similar to those proposed by Drs. Johnson and Franklin in recent pilot projects in the Medford District
The preferred alternative and the scientific analysis conducted for the 2008 RMPs, updated with any new scientific information, should form the basis for any solution to the management of these valuable lands.

The Secretary of the Interior withdrew the Records of Decision in July of 2009; the decision to withdraw the RODs was challenged in court by the American Forest Resource Council and others. In March of 2011 the Court of the District of Columbia found that the Secretary failed to follow the procedures required by the FLPMA and the decision to withdraw the ROD because of alleged “legal error” was arbitrary, capricious, and an abuse of discretion. A coalition of environmental groups then filed suit in Federal District Court of Oregon. The Records of Decision were invalidated by the District Court of Oregon in 2012 based on a determination that the BLM failed to consult on the plans with the USFWS as required by ESA.

The political decision was made to nonetheless start over and revise the current RMPs again. BLM initiated a new planning process in 2012 with an estimated completion in 2015.

**Economic and Social Effects**

While the debate about the O&C lands are often couched in terms of sustained yield of trees and populations of spotted owls, the issue now is about the economic and social impacts of the regional economy. Job loss caused by reduced timber harvest has been devastating to the forest product industry and rural communities in western Oregon. "In Oregon, 170 mills have closed since 1990. The majority of these took place in the early 1990s. While most mill closures occurred prior to the end of 1995, at least two mills closed every year from 1990 to 2009."\(^5\) Across all Oregon study counties there was a decline in manufacturing jobs related to the timber industry as seen in the lumber and wood products sector and wood product manufacturing. Nearly 12,000 of these jobs were lost over the 20-year period. This decline is especially critical to five Oregon counties where the timber industry accounts for over 10% of total employment: Clatsop, Douglas, Jefferson, Klamath, and Tillamook."\(^6\) "Case studies, in Oregon ..., were conducted to better understand socioeconomic changes and current socioeconomic conditions ‘on the ground.’ Some key findings from these cases include...:

- Tillamook County has 24% of its children living in poverty, and 39% living in single-parent households, almost double the national average.
- Douglas County has 31% of its children living in poverty - twice the national average and 34% living in single-parent households.
- In both of these counties, but especially in Douglas County, there are significant declines in manufacturing jobs, particularly since 2008. Free and Reduced Priced Meal participation rates increased over the last four years as well, some schools by almost 20 percent.
- Over the last several decades, Josephine County saw forestry and logging jobs decline by 80%. Wages have stagnated and are two-thirds of the Oregon average. The county now ranks near the bottom of Oregon counties in health indicators and FRPM participation rate for the county is 70%."\(^7\)

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5 Sierra Institute for Community and Environment and Spatial Informatics Group, *Response to the economic analysis of critical habitat designation for the northern spotted owl by industrial economics In Response to the 2012 Critical Habitat Designation of the Spotted Owl*, (August 2012.), vi

6 Sierra Institute, *Response to the economic analysis*, vii

7 Sierra Institute, *Response to the economic analysis*, vii
The O&C Counties receive 50% of the revenue generated by the O&C lands. This money goes into the county general fund and can be used at the county’s discretion. When the Northwest Forest Plan was adopted, timber harvest was reduced by 80%, which reduced revenue accordingly. To replace lost timber revenue the Congress has made “safety net” payments to the counties. The Omnibus Reconciliation Act of 1993 and later the Secure Rural Schools and Community Self-Determination Act of 2000 (P.L. 106-393) (hereafter SRS) stabilized payments to counties and schools by providing payments to counties based on receipts during years with historically high harvest levels. The original SRS act expired in September 2006 and a one-year extension of the SRS expired in September 2007. This meant that final payments would have been received during the 2007-08 county fiscal year ending June 30, 2008. Despite efforts by the Oregon Congressional delegation and others, counties entered the 2008-09 county fiscal year without SRS funds. In October 2008, Congress reauthorized the SRS act as part of P.L. 110-343. This reauthorization, which continued payments but phased them down, expired in 2011. SRS was extended another year expiring in 2012, and recently extended again, expiring in 2014. Although the BLM has rarely met timber targets in recent years, the revenues generated from the thinning of low value timber with high logging costs produces receipts that are less than 25% of what was anticipated by the Northwest Forest Plan. The loss of revenue and uncertainty about future funding has resulted in counties closing jails, laying off deputies and curtailing vital public services. Some southwest Oregon counties are on the brink of bankruptcy.

A Search for Solutions
Job loss in timber country is not a new story, but what is unique about this economic catastrophe is that the O&C lands have the capability to produce sustainable volumes of timber, and also protect habitats for other species because they are so productive, and the BLM knows how to efficiently accomplish this in this scattered and checkerboard lands. What is needed is the political will to accomplish some type of solution.

The growing crisis with the regional economy, social impacts and timber supply issues with mills has prompted a search for solutions from several levels; the governor of Oregon, part of the U.S. House Oregon delegation, U.S. Senator Wyden, and the BLM.

Governor Kitzhaber convened a 14-member panel representing conservation interests, the timber industry and county government. The Governor asked the group to build on existing proposals and develop recommendations that help Oregon counties improve financial stability, ensure adequate sources of timber that support local mills and jobs and meet the Oregon’s water and land conservation goals. The panel failed to come to a consensus on what actions should be taken after meeting in a dozen very intense sessions. The governor ended the effort by sending a letter to the Congressional delegation highlighting several components of a solution including 1.) A stable and predictable harvest level from O&C lands at higher levels than currently exist without significant impact to old growth habitat or the aquatic ecosystem, 2.) Revenues from timber harvest or land disposition could be used to stabilize county funding, 3.) Areas that should be added to the wilderness and wild and scenic river systems, 4.) Voluntary conservation efforts on private land should be considered, and 5.) The O&C Act should be modernized to provide for more economic and environmental certainty.

Three members of the Oregon delegation to the U.S. House of Representatives, Congressmen Peter Defazio, Greg Walden, and Kurt Schrader have drafted a bipartisan legislative proposal called the “O&C
Trust, Conservation, and Jobs Act.” This draft legislation would divide the O&C lands into two components. First, land with timber stands over 125 years old and currently protected areas would be transferred to the U.S. Forest Service for management under the current Northwest Forest Plan. Second, land with stands less than 125 years old would be managed by a legislatively established trust for economic outputs. The land would remain public, but the BLM would no longer have any management responsibility in western Oregon. The legislation would also add areas to the wilderness and wild and scenic river systems. This legislation was included in H.R. 1526, the Restoring Healthy Forests for Healthy Communities Act. The House Natural Resource Committee marked up the bill and reported it out in August 2013. The House passed the bill and sent it to the Senate September 20, 2013, where the bill has been read twice and referred to the Committee on Energy and Natural Resources.

U.S. Senator Ron Wyden has released The O&C Act of 2013 legislation to reform O&C management. This legislation would keep the O&C lands under BLM stewardship while dividing the lands into two designations. Lands with timber less than 120 years old would be timber emphasis areas and managed for sustainable economic activity with timber harvest governed by rules established in the legislation using “ecological forestry” and sustained yield principles. Within the timber emphasis areas are Legacy Old Growth Protection Networks where timber not be managed for sustained yield but for general ecological and conservation. Directs that ten year landscape level plan be done for timber emphasis area and once a large-scale EIS is developed, it will serve as the environmental review document for all projects for approximately 10 years, with subsequent environmental impact statements to be developed for 10-year periods. Federal environmental laws would be modernized as they apply to the O&C lands with the intent to increase certainty in harvest levels. Areas with timber greater than 120 years old would receive a designation of conservation emphasis areas to protect general ecological and conservation values. Some lands would be added to the wilderness, Wild and Scenic River systems and Indian trust holdings. Voluntary conservation measures on private lands would be encouraged as would land exchanges to block up ownerships. Revenues from the intensively managed lands would the US Treasurer ($4 million) 25% BLM for management expenses not to exceed $20 million and the, remainders goes to the counties.

Since past RMP evaluations have documented that BLM is not meeting the sustainability objectives of existing RMPs, regulations dictate amending or revising the RMPs. Thus the BLM has initiated another Resource Management Planning process under FLPMA guidelines to attempt to administratively resolve the issues. Decisions on the new RMPs are expected in late 2015. Given BLM’s experience with past planning efforts since the late 1980s, it can be assumed that several years of litigation will follow the completion of the new plans.
March 31, 2014

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The Oregon Chapter of the Public Lands Foundation (PLF) provides the following comments on Planning Criteria and Preliminary Alternatives for RMPs for Western Oregon. The PLF has a shared interest in the management of the O&C Lands for the benefit of our communities and for future generations. The PLF is a National 501(c)(3) nonprofit organization that advocates for the retention of America’s National System of Public Lands in public hands professionally and sustainably managed for responsible common use and enjoinder. Our membership is made up primarily of retired BLM employees and represents a broad spectrum of knowledge and professional experience in public land management. Members living in Oregon and Washington have specific knowledge of these unique O&C lands and decades of experience in managing these lands to meet the BLM’s legal obligations.

At the listening sessions, a slide was shown during the presentation that was titled “The Balancing Act”. It portrayed that the O&C Act, Clean Water Act, FLPMA and The Endangered Species act must be balanced. None of those laws even suggest that their mandates can or should be balanced by making tradeoffs. As stated in the Planning Criteria the O&C Act is a dominate use act. It says “… the timber there on shall be sold, cut and removed.…” The operative word is “shall”. The Endangered Species Act “… requires agencies to ensure that their actions are not likely to jeopardize the continued existence of listed species…” It is inconceivable to think these statements would allow the BLM or any agency to make tradeoffs to balance uses. The BLM must obey all of the laws all of the time, that is what makes planning for future actions so very difficult.

The following summarizes the PLF’s comments:

- The BLM Statutory authority is correctly stated in the Planning Criteria but is ignored in the preliminary alternatives.
- The Preliminary Alternatives apply the requirements of the Endangered Species Act and Clean Water Act over the dominate use of the O&C Act. There is no explanation of why these laws trump the O&C Act which is BLM’s statutory authority. This makes it appear the BLM is arbitrary in the development of alternatives.
- There is no law that requires the protection of older forests or trees.
- There is no recognition of the checkerboard pattern of the O&C Lands and how that can limit management opportunities, and the ability to influence outcomes for various resources and ecological functions.
- There are numerous terms that are undefined. Inconsistent language is used in the document.
- Issue 1, in the Hydrology section dealing with stream shading is incomprehensible and needs to be redone.
- How data will be displayed is not consistent throughout the document.

Specific comments are provided below. Bold page number and headings refer to pages and headings in the Planning Criteria. Italics in quotes are from the Planning Criteria.

Page 2. Planning Area. Neither the discussion of planning area nor the scale of planning and analysis talks about the checkerboard pattern of the O&C Lands. This pattern means that O&C Lands are for the most part highly fragmented. This fragmentation limits BLM management and as a result BLM can only partially influence certain outcomes and ecological functions.

Page 7. 43 CFR § 1610.4–2 Development of Planning Criteria states “The District or Area Manager shall prepare criteria to guide development of the resource management plan or revision, to ensure that it is tailored to the issues previously identified and to ensure that unnecessary data collection and analyses are avoided. Planning criteria shall generally be based upon applicable law . . .” The Planning criteria contains a discussion of the O&C Act and FLPMA on page 8. It correctly states that “. . . sustained-yield timber production is the primary or dominant use of the O&C lands . . .” This is the statutory authority for the management of the O&C Lands. It goes on to say “Preparation of the RMPs and EIS will conform to these land laws as described in this section and will comply with other Federal laws, including, but not limited to, the Endangered Species Act of 1973 (16 U .S .C . §1531 et seq .), the Clean Water Act of 1970 (33 U .S .C . s/s §1251 et seq .), and the National Environmental Policy Act of 1969 (42 U .S .C . §4321 et seq .)” However, there is no discussion of how these laws apply to the O&C Lands, how they relate to the O&C Act or what they require. Without this discussion it is difficult to understand the applicability of these laws to the O&C Lands or what criteria will be used in framing alternatives and making a final decision. It is also difficult to determine if the Planning Criteria are based upon applicable law.

Page 8 continues. “In developing the range of alternatives in this planning process, the BLM will need to apply the direction set forth in the O&C Act to key issues associated with the management of areas or resources that typically arise during land use planning. These areas or resources include: . . . Lands with wilderness characteristics. . . .” There appears to be no definition of “Lands with Wilderness Characteristics” in the Planning Criteria. BLM Manual 6310 (page 5 and 6) states “In order for an area to qualify as lands with wilderness characteristics, it must possess sufficient size, naturalness, and outstanding opportunities for either solitude or primitive and unconfined recreation.” It goes on to discuss size “2) Roadless areas of less than 5,000 acres of contiguous BLM lands where any one of the following apply:

a) They are contiguous with lands which have been formally determined to have wilderness or potential wilderness values, or any Federal lands managed for the protection of wilderness characteristics. Such lands include:
(1) designated Wilderness,
(2) BLM Wilderness Study Areas,
(3) U.S. Fish and Wildlife Service areas Proposed for Wilderness Designation,
(4) U.S. Forest Service (FS) Wilderness Study Areas or areas of Recommended Wilderness, and
(5) National Park Service (NPS) areas Recommended or Proposed for Designation.
Note: If an inventory area does not meet at least one of the size criteria, it does not contain wilderness characteristics.” Given the checkerboard pattern of the O&C Lands, interspersed private lands and BLM’s own definition it is very unlikely that any O&C land can qualify as “Lands with Wilderness Characteristics”.

Page 11 Recreation Management Areas “The O&C Act contemplates that sustained yield timber production can be conducted in a manner to provide for purposes including recreation. A Special Recreation Management Area is an administrative unit where the existing recreation opportunities and recreation setting characteristics are recognized for their unique value, importance, and distinctiveness, as compared to other areas used for recreation. Consistent with the BLM Manual 8320 – Planning for Recreation and Visitor Services (USDI 2011), within a Special Recreation Management Area, recreation and visitor services management is recognized as the predominant land use plan focus, where specific recreation opportunities and recreation setting characteristics are managed and protected on a long-term basis.” Given that sustained-yield timber production is the dominant use of the O&C lands for purposes including recreation, then it follows that Special Recreation Management Areas where the predominant land use plan focus is recreation opportunities and recreation setting characteristics and not sustained-yield timber production cannot be designated on O&C lands.

Page 13. Provide a Sustained Yield of Timber. “The O&C Act goes on to state that “[t]he annual productive capacity for such lands shall be determined and declared . . . [p]rovided, [t]hat timber from said lands . . . not less than the annual sustained yield capacity . . . shall be sold annually, or so much thereof as can be sold at reasonable prices on a normal market” (43 U.S.C. §1181a).” By using ellipses, this quote leaves out an important part of the O&C Act. The Act states “Provided, That timber from said lands in an amount not less than one-half billion feet board measure, or not less than the annual sustained yield capacity when the same has been determined and declared, shall be sold annually, or so much thereof as can be sold at reasonable prices on a normal market.” Leaving out that an “amount not less than one-half billion feet board measure” substantially changes the meaning, is misleading and arbitrary.

Page 14 Conservation and Recovery of Threatened and Endangered Species “Large, Contiguous Blocks of Late-Successional Forest” and “Older and More Structurally Complex Multi-Layered Conifer Forests” are not defined. Without a definition the decision maker and the public will not be able to determine which alternative best meets the purpose and need of the revisions. The 2008 RMP/EIS provides a complete discussion of the larger blocks and needed habitat in the Spotted Owl Section in Volume 1. Providing that level of detail here would make this section easier to understand. This also applies to statements made about Marbled Murrelets and listed fish species.

“Notably, Alternative 3 in the 2008 RMP/EIS would have resulted in a total acreage of spotted owl habitat comparable to most other action alternatives, but would have failed to meet the conservation needs of the spotted owl because of the arrangement of that habitat.” What is the basis for this statement? The 2008 RMP/EIS states: “Although the landscape would support large habitat blocks in all provinces in all decades under the PRMP, No Action Alternative, and Alternatives 1 and 3, . . . Through 2056, there would be fewer large habitat blocks in the Coast Range Province under Alternative 3 than under the No Action Alternative and Alternative 1, and fewer large habitat blocks in the Klamath Province than under the PRMP, No Action Alternative, and Alternative 1 . . .” (Chapter 4 Page 656) On
the next page it does state for Alternative 2 “development of large habitat blocks would be insufficient.” This characterization of Alternative 3 is not true and must be corrected.

**Page 14. Older and More Structurally Complex Multi-Layered Conifer Forests.** “Those analyses demonstrated that alternatives that would have maintained more older and more structurally complex multi-layered conifer forests would have maintained more spotted owl habitat and would have provided better conditions for spotted owl movement between large blocks of habitat than alternatives that would have maintained less older and more structurally complex multi-layered conifer forests.” The analysis 1994, 1995 and 2008 all used different data, assumption and methods for the analysis. For instance, GIS was not used in 1994 and heavily used in 2008. Saying they all reached the same conclusion is very misleading.

**Page 16.** The headings for Provide for Recreation Opportunities and Restore Fire-Adapted Ecosystems are with the wrong text.

**Page 17. Guidance for Development of All Action Alternatives.** “Designate areas as Special Recreation Management Areas or Extensive Recreation Management Areas; lands not designated under one of these two categories are Public Lands not Designated for Recreation. Develop a range of recreation management area scenarios in relationship to various land use allocations and management objectives among the alternatives, consistent with the discussion of recreation management areas above under ‘The O&C Act and FLPMA’.” See comments above for Page 11 Recreation Management Areas. Also, WO-IM-2011-004 which provides new policy Recreation and Visitor Services state that “The RMAs are land units where Recreation and Visitor Services (R&VS) objectives are recognized as a primary resource management consideration and specific management is required to protect the recreation opportunities.” This policy is contrary to the O&C Act as described above where timber management is the primary use. The IM also does not state that RMAs are land use allocations. It states they are “land units” or “administrative units.”

**Page 19.** “Working closely with the U.S. Fish and Wildlife Service and National Marine Fisheries Service, the BLM will develop the action alternatives to provide sufficient detail in the analysis to facilitate RMP-level Endangered Species Act consultation, as well as eventual project-level consultation for management actions implementing the RMP.” Is the “sufficient detail” described in the Planning Criteria? It is not obvious if it is. Having that detail will help the decision maker and the public understand the basis for ESA consultation.

**Preliminary Alternatives for Development and Analysis**

“It would not be possible to analyze the No Action alternative as continuation of the current practices within the decision area . . .” This is true for the reason stated, but it would be possible to build an alternative based on BLM activities since the Northwest Forest Plan. This would provide a reference to see the impacts of the analyzed alternatives compared to current management.

**Action Alternatives.** None of the preliminary alternatives appear to meet the requirements of the O&C Act and may fall short of NEPA requirements. The planning criteria states “it is clear that sustained-yield timber production is the primary or dominant use of the O&C lands in western Oregon.” Yet none of the preliminary alternatives do this. All of the Preliminary Alternatives place management for other things ahead of what the O&C Act requires. “The Council on Environmental Quality guidance further explains
that, when there are potentially a very large number of alternatives, only a reasonable number of examples, covering the full spectrum of alternatives, must be analyzed and compared in the EIS (46 FR 18026).” The preliminary alternatives do not cover a “full spectrum”. The 2008RMP/EIS looked at alternatives that allocated from 25 to 48 percent of the O&C Lands for timber productions and one alternative that allocated 66% of the lands to general landscape area that produced timber on a sustained yield basis. Preliminary Alternative C reserves all timber over 160 years old, this is similar to the Proposed RMP analyzed in 2008, which only allocated 32 percent of the land for timber management. The other alternatives reserve timber at an age less than 160 years old and will result in a smaller percentage of the land base being allocated for sustained yield timber production. It is very questionable if any of the preliminary alternatives would meet the O&C Act requirement of selling one-half billion board feet per year.

Page 20. The design and management approach for a network of large blocks to be managed for late-successional forest. One of the lessons learned in the Northwest Forest Plan was that calling things reserves has unintended consequences. The authors of the NWFP intended for management to benefit water quality to take place in the riparian areas but those activities were challenged in court because they were taking place in a reserve. Similar experiences occurred in Late Successional Reserves.

Labeling areas as large blocks is also confusing. Large block is not defined. Looking at the maps during the listening sessions the size of block varied tremendously.

The protection of older forest. There is no law that requires the protection of older forest. During the listening session it was mentioned that older forest would be included under wildlife/endangered species management yet it still shows up as its own subject. If the intent is to provide habitat or connect habitats, it might be better to do a sensitivity analysis under the alternative rather than just make one assumption. Sensitivity analysis would keep everything else the same in the alternative except to vary the age for older forest. The analysis would help identify at what age the most benefits are found. It would also reflect the impact to other resources.

The age of 120 is included in three of the four Preliminary Alternatives. Why was this age used? With no rationale provided it seems BLM was arbitrary. The Preliminary Alternatives also uses the term forest, how is that defined?

The width of the riparian management area. Stream is not defined. A definition is necessary for identifying where to provide a riparian reserve. In the preliminary alternatives there are no riparian reserve width less than one site potential tree height. This must be an assumption and no rationale is provided to why it is being used. The Oregon Forest Practices Act, and State Of Oregon in State Forests require less than one site potential tree riparian zones. State of Washington Forest Practices rules use a variable width based on the stream class. Some current research out of Oregon State University is showing that less buffer width is needed in some instances. (See: Influence of streamside buffers on stream temperature response following clear-cut harvesting in western Oregon, Elizabeth Cole, Michael Newton, Department of Forest Engineering, Resources, and Management, Oregon State University, Corvallis OR 97331, USA. October 2013). In addition, the assumptions in the Hydrology sections states “The primary method to block incoming solar radiation and maintain cool stream temperatures in mountainous landscapes during summer day time hours, is streamside shade that is cast from topography and forest vegetation in the path of the sun.” Using Digital Elevation Models the BLM should
be able to model topographic shade and thus reduce the size of the riparian reserves where appropriate.

**Page 33. Air Quality.** What is $P_{2.5}$ and $P_{10}$? There are numerous other undefined terms throughout the document.

**Page 34. Geographic and Temporal Scales.** What is meant by Geographic scales and how will they be used? If they are used to display data, how will looking at the decision area, planning area and all lands really highlight any impacts caused by the alternatives? This same question applies to many of the analytical methods listed. Will there be any data displayed by District or watershed? Use of these geographic scales would help in subsequent NEPA by being able to tier to previous analysis.

**Page 39. Analytical Methods and Techniques.** It appears the Forest Vegetation Simulator is being used here to take advantage of its carbon storage extension. The Woodstock Platform also has a carbon strategies capabilities. Why is it not being used? Using two different models, can introduce unintended errors into the results because of different assumptions and algorithms in each model.

**Page 43. Fire and Fuels.** “Hazardous fuels will continue to increase within unmanaged areas.” From looking at the preliminary alternatives it appears there will be more acres of unmanaged areas then managed. Will results of the analysis be displayed by land use allocations so that the decision maker and the public can be properly informed?

**Page 44. “The BLM will assign structural stages in the vegetation modeling different levels of stand-level fire hazard. A panel of professionals will be convened to rank these structural stage classes by dry or moist strata on the merits of their resistance to control.”** The Air Quality analysis uses Fuels Characteristic Classification System (USDA 2005). It seems that same system could be used here. Would the results of the panel of professionals be a public document?

**Data Display.** Will there be maps in addition to charts and graphs to show where the areas are? This same question applies to many of the resources being analyzed.

**Page 65. Issue 1. To what extent will each alternative maintain effective shade along, streams, lakes, and wetlands?** This section is incomprehensible and needs to be redone. See following comments.

“The analysis will use perennial and fish-bearing streams from BLM GIS hydrography data layers are.” Are what?

**Page 73. “Riparian management strategies in the preliminary alternatives are substantially similar in design to alternatives already analyzed or intermediate between alternatives that had substantially similar effects.”** What does this mean? The preliminary alternatives were not analyzed in 2008. Why would the preliminary alternatives be analyzed rather than the final alternatives?

**Page 74. Analytical Assumptions for the EPA Methodology.** What is the EPA Methodology? Is it a peer reviewed methodology published somewhere? Listed in the references section (page 90) is “U.S. Environmental Protection Agency. 2013. Potential modeling approach to evaluate the effects of thinning activities on stream shade. Region 10 EPA comments on draft Planning Criteria. 11 Nov 2013. 21 pp.” Is this the source? Where is this document available? Was this “potential modeling approach” compared to other potential methodologies? Were the results documented?
Step 1a—“Determine forest stand canopy cover (%) within the total riparian management area for the No Action alternative and the no-harvest reference analysis. . .” What is a reference analysis? If there is no harvest, is there also a maximum harvest?

“Determine an average canopy cover for each HUC 12 (USGS sixth-field Hydrologic Unit Code (HUC 12), 10,000 to 40,000 acres) watershed within the total riparian management area . . .” If a HUC is a 10,000 to 40,000 acre watershed then this statement seems backward. Determining average canopy cover within the total riparian management area in a HUC would make more sense. Does this average include the non-BLM land in the HUC? What are the assumptions for management on non-BLM lands? How many HUC 12 are there in the Planning Area and what is the percentage of BLM ownership in each?

Page 74. “Step 4—“Using the EPA shade model output shade-loss screens, (1) determine how many HUC 12 watersheds exceed the EPA-recommended threshold for an alternative, and (2) determine how many fish-bearing and perennial stream miles exceed the EPA-recommended threshold for an alternative.” Determining how many HUC 12 watersheds exceed the EPA threshold may be interesting but the question that needs answering is has a BLM action caused this change? With the BLM being a minor player in many watersheds it could be hard to answer that question using this method.

Geographic Scale “The decision area.” What will using a geographic scale of the decision area tell the decision maker or the public? It seems that HUC 12 is the scale used in the analysis and should be used for data display.

TABLE 8. EPA SAMPLE TABLE 2 WITH EXAMPLE DATA. This table makes no sense. How will it be used by the decision maker?

Page 75. Issue 2 “How does timber harvest affect peak flow estimates, under the alternatives, that exceed detection limits within the rain-on-snow dominated hydro-region?” What are peak flow estimates that exceed detection limits?

Page 79. Data Needs. Grant et.al on page 32 also identified that roads have an effect on peak flows. No road data included. It appears the IMAP – LEMMA data will be used for non-BLM lands. What assumption will be used for future activities on non-BLM lands in the HUC 12s?

Page 81. “Landslide density, from the effect of vegetative cover, will be calculated using the calibration dataset in Table 10 (1996 Siuslaw National Forest extreme storms).” Using data from the Siuslaw for all of the planning area may not be appropriate because of the geology, soil and vegetation differences.

Data Display. Will the data also be displayed on maps? This would be useful for tiered NEPA analysis. This comment applies to the data display for many of the resources analyzed. The language used here is from the 2008 plan revision and is not consistent with this document.

Page 85. Step 1 “. . . using selected Washington Road Surface Erosion Model (WARSEM) parameters (formally DNR Reference Road model) and the 2008 RMP/EIS (USDI 2008) 10-Year Scenario.” The 10-yr scenario is not being implemented because the 2008 ROD was thrown out by the courts.

Page 171 Conservation Needs “Thomas et al. (1990, pp. 23-27) determined that northern spotted owl conservation requires: . . .” The Revised Recovery Plan for the Northern Spotted Owl 2011 “states that it presents the most comprehensive, up-to-date evaluation of spotted owl science, conservation needs and management alternatives.” Why are the conservation needs from 1990 still being used?
Page 180. Issue 8 “Recovery Action 32: Would the BLM alternative maintain and restore well-distributed, older and more structurally complex multi-layered conifer forests on BLM-administered lands in western Oregon while allowing for other threats, such as fire and insects, to be addressed by restoration management actions? Analytical Assumptions. The definition of “older and more structurally complex multi-layered conifer forests” will vary by alternative.” If each alternative provides a definition of “older and more structurally complex multi-layered conifer forests” than each alternative meets Recovery Action 32 and no analysis is needed. As stated before one definition of older and more structurally complex multi-layered conifer forests is needed in order to compare the alternatives.

There are more sections of the Planning Criteria that need review and more comments that should be made but the comment period is not long enough.

Sincerely,

Richard C. Prather
Public Lands Foundation Oregon Representative

Attachment 1 is the PLF position paper on the Future of the O&C Forests.

Attachment 2 is a summary of other PLF position papers that pertain to resources or issues addressed in these revisions.
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Marc 31 2014

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RE Planning Criteria fo Wester Oregon Resourc Managemen Plans

Dea BLM,

Than yo fo providin a opportunit fo th publi t hav inpu int th propose Resourc Managemen Pla (RMP fo Wester Oregon’ forests Th genera publi fo th purpose o hiking. camping boating kayaking fishing and huntin utilize thes forests Bu ther ar indirect use to these forest suc a climat chang mitigation fres breathabl air an clea drinkin water Pleas consider thes comment i development of th EI fo th Resourc Managemen Pla (RMP revision fo weste Oregon BL districts.

Purpose an Need

In the BLM’s “Purpose and Need Statement” fo th Resourc Managemen Plan (RMP fo Western Oregon it’s states the following outcomes for the revised RMP.

- Provide a Sustained Yield o Timber
- Conservation and Recover o Threatened and Endangered Species
- Provide Clea Wate i Watersheds
- Restor Fir Adapte Ecosystems
- Provide fo Recreatio Opportunities
- Coordinat Managemen Land Surrounind th Coquille Fores wit th Coquille Tribe

A th Marc 5 2014 publi meetin in Springfield Virginia Grilley (District Manager Eugen District BLM) spok abou th Purpos an Nee o th propose RMP Sh state tha th timbe industr was approaching the BL wit complaints tha th agenc has no live u t thei expectatio o providin sustabl yiel o timbe an was hopin t expan o loggin opportunities o public lands I is apparen tha the BL i yielding t these request b compromisinn five o the si outcome o th Purpose an Need B doin so the BL wil d irreparable har b livin u t one expectatio o the timber industry whil havin th publi sufferin b not livin u t th other outcomes.

Th BL need t rethin thei ow standing'an no bo dow t the timbe industr bu instea liste t thos the ar intendte o serving th taxpayin citizenry Th BL ha bee give set of tool t us to protec publi lands: Clean Water Act, Clean Air Act, and the Endangered Species Act. Thes tool are i line wit the intendte need o the taxpaying public an are pu i place a a protectio fo wha essentia an vital These law are no intendte t be roadblock fo the timbe industr t pressure the BL to circumven and ignor

In each of the proposed alternatives there are no indications of strengthening the protections of publi lands, but instead show signs of whittling away what has protected what little is left of our ancien forests I fact i th available information given to th publi i look a i th BL i proposin to strip Surve an Manage fro al o the alternatives Surve an Manage i necessar t implemen Endangere Specie Act. I thi i lin wit th Purpos an Nee No i i inlin wit servin th timber

1 Resourc Managemen Plan fo Western Oregon Bureau o Land Management: Purpose an Nee
industry by removing the most effective tool in protecting ancient forests. Proposal include a survey and a map of the alternatives for removing the exemption of pre-disturbance survey for the red tree. (Aborimus longicaudusin) in Matrix and AMA or a combination of Matrix/AMA and Riparian Reserves allocation identifies non-high priority sites.

A shown by the sales and success of the Whit Castl Variabl Retentio Harvest the BL has used as a demonstration pilot project to circumscribe current protections. In order to release timber reserves, each of the alternatives there are an indication that the proposed large block reserves (LBR) can stand up to other proposed pilot projects. Proposal include a line protection for critical habitat areas and large block reserves that can stand up to proposed pilot projects.

All of the proposed alternative have narrow riparian reserves. The existence of two sites has increased scientific understanding of the Northwes Fores Plan B removing the tw ST from an of the alternative does not support an of the outcome. Purposes an Need especially providing clarity to watersheds and provide for recreation opportunities. Onl provide for management action. B removing the buffer with direct affect quality of the watershed. A well as a focus corridor for macr fauna such as deer and elk. Also with the one o climate change drastically affect our land area so we that need to keep as many trees in this to prevent further erosion. An flood that affect everyone downstream. Loo at the landslides at Oso Washington acres. Proposal include the WSST buffer into one of the action alternatives.

In none of your alternatives, the BLM has not provided any projected yields for each proposal. The alternative to which the alternative best suit their needs would be best to what has the direct outcome of each alternative. Proposal provide project the time yield for each of the proposed alternative based on current timber practices.

The proposed alternative provide a focus and attachment of contiguous area with wilderness aspect. On the United State Forest Service areas on place with wilderness designations. Wh can the look at the view of wilderness area with an interagency review. Proposal convene an interagency review at the public land that have wilderness areas move to propose those areas a federal protected wilderness area regardless of agencies boundaries.

In compiling these comments, the BLM has been helpful in providing information in the way of public meetings. The have got the area length has information available so the public can make an effective decision on the fate of public lands. Unfortunately no all information has been made readily available. During the aforementioned public comments meeting with the made known about spreadsheets used by interdisciplinary team (IDT) that held a detail about each of the alternatives. The spreadsheet was referenced numerous times when asking pointed questions about each of the alternatives. When asked to make the spreadsheet available the public for critique an utilization in making comments, it has been denied on numerous occasions and fronts. What does the BL have to hide but no making the document available. The documents seem to hold the key answer to who in stor with the proposed RMP and in essential to it is made readily available in a timely fashion. Proposal have a digital.

2 Fores Service File Code 2630 Bureau of Land Management Instruction Memorandu No OR-2003-062

3 Whit Castl Variabl Retentio Harvest Rosebur Secretaria Demonstration Pilo Projec
Environmenta Assessmnen DOI-BLM-OR-R050-2011-0006-EA

4 Intergovernmental Panel on Climate Change, Fifth Assessment Report, March 20, 2014
The complexity of the RMP is no clearly seen without using alternatives. The best for presenting information is on such a grand scale is with maps and geographical information system (GIS) data. This data can be presented as a simple GIS map of the area. The manipulation of these files should include all facets of the RMP including such as reserves, timber cutting, riparian protections, ACEC's recreation opportunities, etc. Proposal: Make these files available via the BL GIS gateway and other GIS files already available, for public use.

On the outcome of the Purpose an Nee statement dealing with the Coquille Tribe on the management of the Coquille National Forest. The planning criteria does not sufficiently state how timber will be done. What is the desire of the Coquille Tribe in regard to the RMP and how the RMP will affect them? Proposal: Have parts of the RMP include statements of concern from the Coquille Nation in order to further public interest whether the RMP is consistent with their wishes.

I would like to be included on all future communications in regards to the RMP revision for Western Oregon in digital and hard copy.

Respectfully Submitted,

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03-25-14

RE: PLANNING CRITERIA FOR RMP BLM/OR/WA/PL-14/012+1972

TO WHOM IT MAY CONCERN:

Please accept my comments on the Planning Criteria for Resource Management Plans for Western Oregon.

I PURPOSE AND NEED

A. Documents Used as part of this process.
The 2008 RMP should not be used in formulating this new plan because certain criteria were not considered adequate to meet the requirements of the Northwest Forest Plan.

B. Need
New information is required that updates plans from the 1995 RMP, the new NSO Recovery Plan, and information on Fisheries, Aquatics, Recreation (off-road vehicles) and Fire/Fuels programs. Please also consider updating requirements for Watershed Analyses as they were completed in the 90s and new information is available. A statement in the EIS about Watershed Analysis would be helpful as it is an important part of the NWFP.

C. Purpose
1. To deliver a sustainable and predictable supply of timber from BLM administered lands (Required by the O&C Act). Although a goal for long term Sustained Yield could be established, this would have to be adjusted each year because a long term predictable supply may not be possible due to changing climate and other unforeseen circumstances.
2. Conservation and recovery of Threatened and Endangered species within the planning area (ESA)
NSO, Marbled Murrelet. Anadromous fish, and other species such as the Fisher and Red Tree Vole must be protected. Large structurally complex forests required for the survival of these species were not found in previous plans. A more expanded definition and clarity about these habitats are needed. It might be difficult to provide these requirements on the ground, given the checkerboard pattern of ownership with private lands, most of which are owned by private timber companies that are not subject to Federal laws.

3. Provide Clean Water in the Watersheds (CWA)
Many of the watersheds in the southern Oregon dry forest areas have water quality limited streams and streams that dry up during drought years in the summer. Restoration of Riparian Vegetation and wide “no cut” streamside buffers could make a difference in water quality and quantity.

4. Fire Adapted ecosystems
Large blocks of complex forests are naturally fire resistant, plantations are not. Controlled periodic burns of understories in appropriate seasons can lighten the fuel load and reduce the threat of stand replacement fire. Thinning of areas where small diameter wood predominates would also contribute to a lighter fuel load.

5. Recreation Opportunities
The extensive use of motorized and off-road transportation for recreation, demands that new codes are adopted that delineate where and how this may take place on federal lands. The damage done by OHVs to streams and landscapes has, in some areas, been severe. This type of recreation must be provided for but there should be clearly marked areas which should be monitored to prevent damage to sensitive landscapes. Diverse recreational demands highlight incompatible needs requiring separate venues for those different uses.

6. Sensitive Species
Undertake protective action before a species is listed under the ESA. The agency will endeavor to protect these species but will this ultimately be compatible with Sustained Yield?

7. Coquille Forest
The tribes should dictate as much as possible how these lands are managed.

II VISION AND GOALS
A. There should be a balance between human and environmental goals. This may or may not be possible since there are many types of human needs. Humans are ultimately in control and these landscapes are not wilderness.
B. Reduce the need for single resource species management. This could apply to the macro and micro environments such as tree plantations, fish, and wildlife especially with an emphasis on reintroducing native species where possible.
C. Ability to recognize when change is needed and implement it. Public feedback could be important in this process

III ALTERNATIVE DEVELOPMENT

A. The Range of Alternatives being offered could be broader. I will suggest another Alternative in the Alternatives section.

B. Large Forest Reserves are a good idea. These need to be more clearly defined as to size and complexity. Critical Habitat for the NSO should be connected to this and be part of this. The boundary of the Reserve should match Critical Habitat. It was unclear if these forests will match current NSO habitat or be built from plantations and early seral landscapes.

C. Timber Harvest
   1. Thinning - Aggressively thin plantations and young stands. This is the best plan in dry forests of Southern Oregon for species as well as to meet timber targets. Some of the mills have been retooled to handle smaller material
   2. Reneneration/Clear Cut - This type of management is very hard on the landscape and should be limited as much as possible. It dries out the soil and allows brush species to predominate. According to the literature, this type of harvest requires fewer roads. However, the combination of extreme road density and this type of harvest creates increased fire hazard and contributes to stream sedimentation.
   3. Uneven aged management in dry forests would be preferable to clear cuts.
   4. Replant with mixed species most suitable to climatic conditions in the area.
   5. O&C Act
       Even though the O&C act frames the alternatives and Sustained Yield is a requirement, there should be an adjustable volume that would meet the O&C requirement and protect Species, waters and soils upon which a healthy forest depends.

D. Riparian
   To insure clean water and healthy streams for fish, the “no-cut” boundary should be large enough to filter out upland sediment. 60 Ft is too short. What is recommended on pg 68-70 is 100-120 Ft. or 1-2 site trees, is preferable. Thinning if done in the outer zone should be done by hand and canopy closures should be 70%. Heavy equipment should be located outside the Riparian Zone and existing roads in the zone should be decommissioned. Planting native species such as Willow on the edge of the stream channel could also be implemented.

E. Cumulative Effects
   The given definition for Cumulative Effects is from 40CFR1508. “Cumulative Effects result from the incremental impact of an action when added to other past, present and foreseeable future actions.”
   BLM has consistently violated this rule by adding new timber harvest projects to old ones that are adjacent on in close proximity. This increases the range of affects in the area. The changes in the ecosystem, though separated by time, still enlarge the cumulative footprint on the land.
F. Key Issues Associated with Management

1. ACEC-These are unusual areas that have special management needs. I hope BLM will continue to recognize those areas that have already been chosen for this status and add other areas when they are noted by the public and management.

2. Lands with Wilderness Characteristics- When these are acknowledged stop new timber sale project activities from encroaching on them. According to the Planning Criteria document, these lands are incompatible with Sustained Yield. If the majority of acres in an area fit this category, the small part that is for timber production should be removed from the area and the rest of the land remain within the “Wilderness Characteristic” category.

3. Visual Resources-According to the Planning Criteria document the Visual Resource Management Inventory is part of management specified by Congress in legislation. In this way visual resources that would conflict with Sustained Yield would protect scenic values. If they are compatible with Sustained Yield, timber extraction could take place in such a way that would not conflict with the visual resource. This expands the possibility for protection of resources for public enjoyment.

4. Recreation Management Areas
   a. Special Recreation Management Areas
   b. Extensive Recreation Management Areas

   These explanations were hard to understand as given. It would have been helpful to have specific examples of each one.

5. Sensitive Species

   Undertake protective action before a species is listed under the ESA. The agency will endeavor to protect species but will this ultimately be compatible with Sustained Yield?

IV. ALTERNATIVES

A. Reserves

   1. The land base for these in terms of acres is not clear. The number of acres or a range of acreage for each part of each Alternative should be given in the EIS. Because of forest fragmentation and checkerboard land ownership, it may be difficult to find a land base large enough to accommodate the goals of a large contiguous forest reserve. The situation in use at present does not work properly because connectivity blocks that should act as reserve areas for the NSO are being used partly for timber production. It is unclear if the same system of connectivity blocks will be present in this system. If so it will have the same problems as the current one. This species needs large amounts of contiguous complex forest to survive without human interference and noise. Any disturbance will affect this species.

   Nothing was said about Recreation except in Alternative A which said it would be minimal. Recreation was not mentioned in the other Alternatives.
B. Alternatives

1. #A

Critical Habitat and the Large Reserves would have overlapping boundaries. This is important. Thinning in dry forests up to 80 years would be acceptable. Hopefully there will be dry forests that are older that will provide habitat until the 80 year forests reach maturity. Without knowing the size of these reserves and critical habitat it is difficult to tell if this species will be protected. 120 years old or more for protected forests is appropriate.

Riparian Reserves – Protection for the Riparian reserves are adequate. The inner no-cut buffer is most important of 120 Ft on fish bearing streams. No commercial removal of timber would take place within the Moist Forest. Dry Forest is not mentioned and needs to be. No cutting should take place in the “no-cut” buffer area in either forest type.

Timber Management- Thinning is OK. Clear-cuts are not. This new approach is intended to make up what is lost by not cutting the older forest. However, management needs to decide if the negative effects of this type of management are worth the extra volume.

Recreation- Other than the fact that this Alternative would provide minimum recreational opportunities no particulars are given. What type of Recreation opportunities would be available? How many acres would be devoted to this?

2. #B

Critical Habitat and Large Reserves would not have overlapping boundaries. Critical Habitat could be logged. This is unacceptable. Why have critical habitat for a species that needs it when Regeneration harvest could take place there. Productivity needs to be more clearly defined when discussing older forests.

Riparian Reserves – The 60 Ft “no-cut” buffer is not enough. The outer boundary is not as important as the “no-cut’ buffer.

Timber Management – Cutting inside Critical Habitat is not OK. The higher retention for Regeneration cuts for Dry Forests is similar to what we currently have. Thinning outside of Critical Habitat is OK but there is too much Regeneration harvest in this Alternative

3. #C

Critical Habitat and Large Reserves- It was not clear if this was a contiguous reserve or just blocks in different places that would make up the reserve. This is too much like the connectivity blocks that we currently have that don’t work. The age of the forest is not as important as the contiguous landscape.

Riparian Reserves The no-cut buffers are not wide enough

Timber Management for this Alternative is unacceptable.

4. #D

This alternative places younger stands in Critical Habitat which does not make sense since the Reserves are for species that reside in older complex forests. Timber harvest strategies still use regeneration harvest. This is a better Alternative for streams as buffers are no-cut at 120 Ft. for all streams. Again, the size of the Reserves is not given. The uneven aged management for Dry Forests is better than Regen or Clear cutting.
5. #E A new Alternative Suggestion

**Critical Habitat and Large Reserves** have overlapping boundaries. They include forests over 120 years old and NSO habitat is contiguous and includes streams. Reserves should provide enough habitats to recover owls and other species dependent on older complex forests. No management of any kind takes place in the reserves and Critical Habitat.

**Riparian Reserves- One**-two tree heights on all streams with a no-cut buffer of 120 Ft.

**Timber Management** - On all lands outside of the reserves Thinning, Density Management, and Uneven-aged management could occur. Aggressive small diameter thinning is encouraged.

**Recreation**- Small areas of motorized and non-motorized transportation could occur outside the Reserves and Critical Habitat.

**V VEGETATION MODELING**

A. New models- Should “ground-truthing” be done (or has it been done) on Project Criteria lands to verify that the new system works and that it reflects the outcomes that are realistic and verifiable on the ground?

B. Are there changes in the **foundational information** set up in the models being used that make the information generated by the model different from what we have been using currently? If so, they should be part of the public discussion. ie- TPCC, Forest Ops Inventory, Current Vegetation Surveys and others that could be included in the EIS.

C. **Climate change** could lead to unpredictable results on the ground. This information may not be reliable through model predictions because we don’t know what those changes will be.

**VI RESOURCES/RESOURCE USES**

A. **Air Quality**

1. The dominant source of air pollution was listed as prescribed burning. However, wildfire can pollute a larger area. 2013 wildfire data would provide for the worst case scenario.

B. **ACEC**-discussed in Section III under F.

1. This is connected to the Alternatives and needs maps as well as tables.

C. **Climate Change**

Thank you for including this issue in the Criteria. Much more will be added as the planning process continues.

1. Don’t count harvested, milled wood in this category. Count only sequestered carbon in the live forest and other natural areas.

2. **No net changes in soil carbon stocks etc.**

   What type of forest did this refer to? It is not clear if this referred to harvested forest or uncut forest, wet or dry.
3. **Climate change does not substantially alter carbon storage across the analysis area etc.**
These bullet points do not address the topic of how BLM forest management effects carbon storage-long or short term. The comparison of two measurements might be helpful; uncut forested lands and lands at various stages of harvest.

4. How does BLM management of the forest and other landscapes affect Climate Change?

5. The reference section needs to be expanded. Contact Geos Institute at geosinstitute.org, 541-4824459, located in Ashland, Oregon. This organization has done lots of work on this issue. See header “Banking on Forests” on the website as a place to start.

**D. Cultural Paleontological Resources**
1. Because a large number of lands have not been surveyed, this information will be an ongoing study in which it will be hard to reach definitive answers due to changes in the landscape over many years. Management activities throughout the years might have covered up what went on in the past. Also, so few original Native Cultures that used to exist in the area are still present.

**E. Fire and Fuels**
1. **WUI (Wildland Urban Interface)**
   This area needs the most protection. Concentrate suppression in this area. Cut small diameter material and ladder fuels closest to structures.

2. In the forest, start with road edges and work inward. Cultivating large tracts of complex forest should reduce fire danger by encouraging a moist environment even in dry forests and dry years

3. **Uneven aged forest management** should be encouraged. Legacy trees that are fire resistant should be retained. Clear the smaller material around the legacy trees.

4. **Regeneration Cuts and Clear Cuts** should be minimized and preferably eliminated. This reduces the need for single species plantations and brush species which are fire prone.

5. **Alternatives affect fire resiliency in fire adapted dry forests**
   Conditions in historically dry forests were more fire resilient because:
   - Fire suppression and fuels buildup
   - Logging and road building has made dynamic changes in the landscape and there are more early seral forests
   - Leaving and cultivating large green trees is important and this has not happened historically
   - Extreme road density has fragmented the forest. Road edges influence forest habitat

6. **Alternatives affect the number of acres in need of surface fuels treatments**
   Alternative A would probably be the most resilient as it retains the most complex forest structure. Eliminate Clear Cuts and even age/species plantations. Also consider an added Alternative E in the ALTERNATIVES section.
F. Fisheries

1. Down Wood is lacking in the planning area streams. Years of logging down to stream edges have eliminated Riparian vegetation that now needs to be replaced. The Riparian buffers addressed under “Riparian” are a way to start rectifying this. Planting native vegetation would also be helpful. BLM has also placed wood in the streams as a part of various timber sale projects. This will probably be helpful but it is a long process that may or may not produce desired results in the short term.

2. Stream Sediment is a problem due to roads, mining, and clear cutting upland vegetation. To counter this, wide no-cut stream buffers are needed. 35-60 Ft is not enough. The 120 Ft suggested in Alternative A for fish bearing streams seems appropriate. New information concerning sediment loads is necessary.

3. Critical Habitat Streams in Critical Habitat must be protected for NSO use.

4. Shade/Stream Temperature is a critical problem. Anadromous fish especially need low stream temperatures. In some streams the summer temperatures reach close to 80 degrees. Wide no-cut stream buffers and replanting Riparian zones near streams with native vegetation could be helpful. If slopes above streams are steep enough, planting trees that will reach appropriate heights would also be helpful.

5. Peak Flow Review historical forest management for Regeneration and Clear Cuts in the TSZ and decrease these activities in these areas in the future. Develop plans to add wood to streams and find ways to protect Riparian vegetation.

G. Forest Management

The following are questions on this section:

1. Will there be changes to the organization of foundational documents of the Harvest Land base such as the Forest Operations Inventory and the TPCC?

2. Will there be ground-truthing to go with the computer modeling for the analysis?

3. Forest Restoration has not been discussed in the document until this section. Will harvest from the Reserves be considered a process of Reforestation? Plans for Restoration should have their own section and be discussed in detail. Although forest Restoration is important, Owls and Complex forest species could be disturbed by this process as well as by timber harvest. Practice restoration in areas where multiple extractions have taken place and leave the Reserves alone.

4. Will the findings from the historic and current information from the computer modeling be available to the public in the EIS? This is important because future plans will depend on it. Will future projections include possible changes in climate, fire and other unpredictable events?

5. Special Forest Products—According to the Criteria, these may be produced regardless of disturbance although they are of different types. Will the projected findings of the Computer Models for this issue be in the EIS?
H. Grazing
1. This issue was not addressed specifically in the Alternatives except for the fact that it is Non-forest land.
2. What happens to lands not meeting Rangeland Health Standards when grazing is not the cause. Management opportunities were not discussed.

I. Hydrology
1. Shade on streams requires vegetation to control water temperature and is measured by slope and tree height. The information in the literature shows maximum shade at 80-100 Ft. depending on slope. Why is BLM recommending the use of a 60 Ft no-cut buffer when site potential trees are 120-240 Ft(180 Ft being the average)? Figure 6 shows shade loss increases at less than 100 Ft(pg 68). 60Ft is listed in three Alternatives. Table 4 is misleading because it shows two sides of the stream. Were the buffer widths on each side, or did they span the whole stream (i.e. 60 Ft on each side or 60 Ft on both sides-30Ft on each side).

   a. Pg. 78 Analytical Assumptions for EPA Methodology:
      Method A is unacceptable. The RMP for 2008 was eliminated and therefore should not be a reference point.
      Method B is a long complex process that will probably not be used because of its complexity although models exist to do it.

b. NWFP- ACS S&Gs could be used for reference which is 1-2 site trees

2. Peak Flows
I did not find enough information to comment on this. Yet there have historically been peak flows in the TSZ with roads that created sediment flow.

3. Landslide Density This depends on the soil type and heavy rain. Some soils slump naturally and ground based yarding should be avoided on those soils. Some roads turn into creeks during heavy rains. This might be predicted ahead of time so roads will not be built in places that can’t sustain them properly.

4. Road Construction Road density is a major problem in the planning area, especially in Southern Oregon. Sediment delivery to streams is one of the major consequences of this. Consider a program to decommission more roads and build fewer new ones. BLM has made improvements in road construction but roads will continue to erode and be a problem as long as road density continues to grow. Riparian buffers act as a filter for this road sediment but if disturbance in the Riparian Zone continues this problem will be ongoing. This is an important reason to maintain wide Riparian buffers and high canopy closures. The tables on pgs. 86-87 will be helpful in the future but it would also be interesting to take data that is available from past timber sale projects to show current information.

J. Invasive Species
1. Roads spread invasive species especially in Riparian areas.
2. Human contact contributes to spread.
3. Invasive Species are associated with recreation, timber harvest, road management, grazing and OHV use, and increased light. This situation is difficult to control because the agency is in the business of creating disturbances.

4. **Possible Solutions**- Eliminate road building and timber harvest in Riparian Zones and decommission roads that exist in these areas. The Analytical Conclusions section (pg. 96) is good. It may be helpful in cutting down on these populations. Aquatic species may be easier to control if Recreation Activities are avoided in heavily impacted areas.

5. **Sudden Oak Death**- A map of infested areas would be helpful to note how wide spread this problem is.

K. **Minerals**

1. Nothing was mentioned about gold dredging in streams and stream banks. A process needs to be developed to deal with this problem. Are these areas considered open at all times? There are state laws governing this but nothing federal. Is this part of the 1872 Mining Law?

2. **Reclamation of quarries** that are no longer being used is a good thing. This is happening now.

3. Long term storage of Mineral Waste
   It was surprising to learn that this was not considered hazardous waste and could be stored on site.

4. There was no discussion of mining for heavy metals and gold.

5. It would be helpful to have maps of existing mining claims and if they are currently active.

L. **Rare Plants and Fungi**

1. How will disturbances of various kinds affect special status plants when only part of the Planning Area has been surveyed?

2. How will current BLM management deal with special species plants during timber sale projects?

3. This section could have been more fully developed. Will the information shown on the tables be used to influence management decisions?

M. **Recreation** (also see pages 2-3)

1. The Landscape Conservation system was mentioned in the title of this section but was not discussed. Please discuss this system in detail in the EIS.

2. For SMRAs and ERMAS the definitions were not clear. Examples of these types of areas would be helpful with the explanations and definitions.

3. Map the various recreation areas for the different districts that would be included in the EIS.

4. Delineate and map which lands are available to the public and for what purpose. Post reasons that public access is not allowed and issue permits when necessary (other than the ones BLM already does).
5. **Wild & Scenic Rivers protection**
It was unclear how the Riparian Zones on these rivers is managed. Are there buffer zones and public access in certain areas? Please clarify this in the EIS. A map of these river segments and access areas would be helpful. ½ mile corridors seem arbitrary. The term “no surface occupancy” and “instant study areas” are unclear and need a definition in the glossary. “Motorized and “non-motorized venues of transportation should be separated.

N. **Roads**
1. **Extreme road density** has caused forest fragmentation. Large blocks of complex forest may not be available for protection of species that depend on it.
2. **Deferred Maintenance Backlog**
   A backlog of money, usually used for road building and repair, is available. If the money is not being used for current projects, use it for decommissioning unused roads and restoration of Riparian areas. Restore these road sites and the forest areas around them. There are still major haul routes through riparian areas that need to be diverted to more suitable landscapes. This type of work creates more sediment in the short term but will be beneficial in the long term.

O. **Socioeconomics**
1. **Goods and services** people use-identify each type and note the Alternative it corresponds to:
   a. Timber harvest-wood products, county payments, jobs
   b. Recreation/tourism requires keeping the forest intact
2. **Estimate the value of Ecosystem Services** provided to the public by clean water, healthy fisheries and intact forests, and carbon sequestration.
3. **Environmental Justice issues**-would Native Americans be affected by this and how?
4. **Community Resiliency**
   As we change from a timber based economy in Southern Oregon to one that is based more on tourism, some people have been left behind because timber based jobs have diminished and jobs that have replaced it are low wage and often temporary. Transition is often difficult. Country payments can help do not replace well paying permanent jobs.
   There is also a significant part of this community that values the quality of life we have here. We appreciate the Forests and Streams as they are and want to see them protected.

P. **Soil Resources**
Soils are the foundation of all Forest Resources. Healthy forests depend on soil productivity. High road density and extensive timber harvest in the past (including ground based yarding) have left soils depleted in many of our forests.
1. **Ground based yarding** has improved over the years as land managers recognized tractor damage being done to soils. However, there are many improvements to be made. Part of the problem is that slope is currently the only parameter used when determining which yarding method to use. Criteria include but are not limited to, slope shape (convex or concave), soil texture and abruptness of changes in textures, soil drainage, topographic shapes, soil depth, mineralogy, parent material and porosity. This does not seem to be recognized by BLM managers who always Tractor Yard on slopes less than 35%.

2. **Clay soils** can be especially problematic when wet. There are lots of clay soils in the Project Area especially in Southern Oregon. Ripping clay soils when wet is not a good idea because the clay becomes hardened and compacted. Many temporary roads are used repeatedly that have this type of soil. What is the effect of this on soil health?

3. What is the effect of different harvest methods such as Regeneration, Thinning etc? on soil productivity and health, in terms of exposure to direct sunlight and drying in dry forests?

4. **OHVs** - The agency assumes that OHV users will stay on designated trails and respect closed areas. This has not been the case in the past and some method of supervision is necessary.

5. Aside from the major damage that **cows** do to soils mentioned in the literature, they can also break down stream banks and add silt to the streams if no fencing exists.

**Q. Sustainable Energy**

1. **Biomass** that is burned adds to air particulate matter
2. **Soil Nutrients** - How long does it take green slash to break down into soil nutrients? Can we actually call this a sustainable process?
3. **LNG pipelines** will cause irreparable damage to watersheds, people and fisheries. This is in no way sustainable. BLM is not really responsible for this but it could be a problem on BLM as well as private land.
4. **Tribal Interests** - Tribal First Nations were the original stakeholders and should be guaranteed the right to follow their traditional practices on these lands. BLM should continue to work out agreements to make that possible regardless of agency plans.

**R. Wild Horses** - Continue this practice as it exists

**S. Wildlife**

1. **Northern Spotted Owl**
   a. **Forest fragmentation** exacerbated by logging in connectivity blocks and critical Habitat has created a loss of habitat and diminished populations of birds. The Barred owl is a symptom of this problem not the cause. Protected areas are getting smaller with pronounced edge effects in which species such as the Barred Owl thrive.
   b. **Structurally complex forests**, if large enough are fire resistant and large fires should not be a problem in these areas.
c. There should be few plantations in this type of forest where legacy trees predominate. Plantations started now and within the last ten years may or may not become suitable owl habitat.

d. This shy retiring bird does not do well with human centered activity. The noise and disturbance, even 1 mile away, would have an effect. If we want this species to survive, we must stay out of Critical Habitat and make the Reserves large enough.

e. Seasonal Timber Sale restrictions are invalid because the rearing of young involves several years.

I am unfamiliar with Ecological Forestry prescriptions and therefore will not comment on them.

2. Marbled Murrelet- I do not have enough knowledge about this species to comment. However, extensive logging of the coast range has been hard on this bird’s survival.

3. Fisher
This species has had a documented presence in Southwest Oregon in the Butte Falls Resource Area of the Medford District and has been impacted by BLM timber sales. It is unclear if it remains in the same area as where it was originally sited. Although this species can cover large tracts of land it should be researched and mapped when possible.

4. Red Tree Vole
This species has been documented in the Medford District and has also been impacted by BLM timber sales. Buffering a single tree does little good when a whole ecosystem is undergoing drastic changes.

5. Important Species not mentioned
a. Northern Goshawk-This is supposed to be a Bureau Sensitive Species but was not mentioned at all in the Planning Criteria in the literature or the tables. The primary reason for the Special Status is widespread habitat degradation/removal by logging. Please address this species in the EIS.

b. Western Tanager was not mentioned anywhere in the literature-a land bird that is not endangered or threatened but its Neotropical migration patterns indicate habitat sensitivity.

c. Tables 42, 43, and 44 were generally informative. “Legacy Features” needs to be clearly defined in the glossary.

This concludes my comments. Keep me on the Mailing List for the EIS.
Thank you for your consideration

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Jerome E Perez, State Director
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RE: Planning Criteria for Western Oregon Resource Management Plans

Dear Mr. Perez:

On behalf of tens of thousands of members and supporters of our organizations, please accept these comments on the Planning Criteria for Western Oregon Resource Management Plans. BLM forests in Oregon support abundant salmon, steelhead and wildlife that provide outstanding sightseeing, fishing, hunting, camping, hiking and wild river boating opportunities for all Americans.

These public land forests purify drinking water for thousands of Oregonians, sequester large amounts of carbon thereby mitigating climate change, and provide a proven ecological defense against wildfire due to their older stand age. We want these important amenities and environmental services to continue on all BLM lands in western Oregon and not become degraded as a result of timber-dominant management.

We greatly appreciate the public review period for the planning criteria and the open house forums. We also appreciate the inclusion of threatened and endangered species recovery as a part of the BLM’s Purpose and Need statement. However, we are troubled by aspects of the Planning Criteria, including the shrinking the riparian buffers and old growth reserves, proposing clearcut logging, proposing logging in older forest stands and logging in critical habitat for endangered species. The BLM is emphasizing the timber primacy of the O&C Act and ignoring other court opinions that require the BLM to recover endangered species and promote clean water and older forest habitats.
In addition, we object to your lumping of all BLM lands. The **O&C Lands Act does not apply to the Public Domain, acquired and other BLM lands.** The non-O&C lands do not suffer from BLM’s interpretation of the O&C Act that calls for timber maximization constrained only by other federal law.

The **range of alternatives** is unduly narrow. We suggest you develop and evaluate three additional alternatives that fully evaluate the range of potential consequences of management schemes being proposed for Western Oregon BLM lands.

**1) DeFazio-Walden Legislative Proposal**

The US House of Representatives has passed the H.R. 1526, Title III "O&C Trust, Conservation, and Jobs Act" This bill is supported by three members of the Oregon Congressional Delegation. Our organizations do not endorse this proposal, but evaluating the impacts of this bill would contribute to the discussion about the appropriate management of these public forests.

**2) Wyden Legislative Proposal**

A hearing has been held in the Senate for the S.1784 "The Oregon and California Land Grant Act of 2013" Our organizations do not endorse this proposal, but evaluating the impacts of this bill would contribute to the discussion about the appropriate management of these public forests.

If a new legislative proposal were to become law, it would essentially dictate the content of the revised BLM RMPs in western Oregon. Similarly, the two pending legislative proposals are worthy of BLM evaluation. If they do not meet the BLM’s Purpose and Need statement, please explain how and why they do not.

**3) Northwest Forest Plan**

The Northwest Forest Plan provides the best current model for managing forests on BLM lands in Oregon. The Aquatic Conservation Strategy, Late-Successional Reserves and the Survey and Manage program are essential elements of the plan. Please include an alternative that builds upon the Northwest Forest Plan. All the core science and rationale supporting adoption of the Northwest Forest Plan remains sound. New information since the plan was adopted 20 years ago indicates a need for more older forest conservation, not more aggressive logging. Global climate change is a new and significant issue that requires BLM to consider an alternative that emphasizes carbon storage by protecting all mature and old-growth forests and allow young forests more time to grow. Increased logging will accelerate the transfer of carbon from the forest to the atmosphere, while increased conservation will keep carbon out of the atmosphere and help mitigate global warming and ocean acidification. In addition, the recent invasion and expansion of the range of the barred owl, which competes with spotted owls for both territory and food,
requires that BLM consider an alternative that protects all suitable nesting, roosting, foraging habitat. This will increase the chances that the two owls can co-exist instead of competitively exclude each other, and contribute to meeting the conservation requirements of the Endangered Species Act.

Finally, we thank you for your willingness to collaborate with all stakeholders on these important matters affecting public lands in western Oregon. We look forward to working with you as you advance new plans for Western Oregon BLM forests. Thank you for your consideration.

Sincerely,

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On behalf of:

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Randi Spivak, Center for Biological Diversity
Chant Thomas, Threatened and Endangered Little Applegate Valley
Chuck Willer, Coast Range Association
Francis Eatherington, Cascadia Wildlands
Dave Willis, Soda Mountain Wilderness Council
Bob Sallinger, Audubon Society of Portland
Susan Jane Brown, Western Environmental Law Center
Rikki Seguin, Environment Oregon

cc: Oregon Congressional Delegation