

Scientific Evaluation of the Implications of the BLM's Western Oregon Plan Revisions (WOPR) to Forests and Watersheds of Southwest Oregon

Rich Nauman (rich@nccsp.org) and Dominick A. DellaSala (dominick@nccsp.org)
National Center for Conservation Science & Policy (www.nccsp.org)

September 4, 2007

Executive Summary – The Bureau of Land Management (BLM) is revising its management plans across six districts in Western Oregon affecting approximately 2.6 million acres in response to a settlement agreement regarding interpretation of the Oregon and California Railroad and Coos Bay Wagon Road Grant Lands Act of 1937 (O&C Act) with the American Forest Resource Council and the Association of O&C Counties. BLM agreed to revise the Resource Management Plans and to develop at least one alternative that eliminates reserves established under the Northwest Forest Plan (NWFP) except as required to avoid jeopardy for listed species under the Endangered Species Act. The BLM is interpreting the O&C Act's sustained yield timber provisions as the purpose and intent of realigning its district management plans and has placed the O&C Act's timber provisions above other uses as defined in the Federal Land Policy and Management Act. Notably, BLM lands in Western Oregon provide important habitat for salmon, resident fish, other aquatic species and wildlife. The more than 20,400 miles of rivers and streams (6,700 miles are perennial) and 218,199 acres of lakes, ponds, and wetlands found on BLM lands in Western Oregon provide clean water, fish and wildlife habitat in addition to drinking water and recreational opportunities. BLM O&C lands also contain ~570,000 acres of mature and old-growth forests, including some of the last remaining tracts of low elevation, intact forests in southwest Oregon. In particular, the BLM's proposed alternative would nearly triple logging from 268 million board feet (mmbf)/year to 769 mmbf/year, including a doubling of the area of old-growth forests logged. The average annual logging levels from 1995-2003 for the entire 25 million acre NWFP planning area was 526 mmbf thus the BLM proposes increasing logging to 146% of the average NWFP level on 10% of the NWFP land base. In the first decade, BLM proposes to clearcut¹ 143,400 acres (= 224 square miles) or 12% of the harvest land base. We estimate that this rate of logging corresponds to about 10,841 football fields per year for the next ten years. In addition, the agency's preferred alternative would reduce late-successional reserves (LSRs) established under the NWFP by 47% from approximately 936,000 acres to 494,000 acres and Riparian Reserves by 57% from approximately 364,000 acres to 156,000 acres. The BLM WOPR has numerous scientific flaws, including models that predict limited or no impacts from logging to fisheries or endangered species in spite of substantial reductions in stream buffer widths and old-growth forest protections. It relies on a draft spotted owl recovery plan that recently failed scientific peer review and it is hitched to reductions in critical habitat proposed for the threatened northern spotted owl and marbled murrelet by the Fish & Wildlife Service. Southwest Oregon therefore will cumulatively experience reductions in habitat protections for listed species as a result of the BLM WOPR and related rollbacks to old-growth forest and streamside protections. We note that the courts have previously ruled

¹ Note – BLM refers to these as “regeneration harvests,” which in reality are clearcuts. Areas of treatment types taken from Table 172, Pg. 581 DEIS.

that the NWFP was the bare minimum necessary to provide for the survival needs of the northern spotted owl and other old-growth associated species. However, BLM's WOPR was apparently designed to allow the agency to come out from under the protective provisions of the NWFP by lowering the bar on old-growth forest and riparian protections and therefore may not be legal. In addition, we believe that a reduction in riparian buffers will make it difficult for BLM to comply with the Clean Water Act as the extremely narrow stream buffer widths and lack of green tree retentions in uplands will likely result in additional sediment runoff, higher stream temperatures, and greater potential for landslides and floods. Because the agency has relied on flawed science – such as the draft owl recovery plan and model outputs not supported in science – we recommend that the entire WOPR go through independent peer review. Finally, alternative management strategies that rely on logging of small trees (<80 years old) that were dismissed by BLM could actually produce a sustainable source of timber from O&C lands while protecting the last remaining stands of old-growth timber and the forests, salmon, and clean water valued by Oregonians.

KEY FINDINGS

The Bureau of Land Management (BLM) has published a Draft Environmental Impact Statement (DEIS) for the Revision of the Resource Management Plans of the Western Oregon Bureau of Land Management Districts². This plan presents three alternative management strategies that significantly increase timber harvest. Only the No Action alternative maintains current protections afforded salmon and other aquatic species as well as old forest and old-forest associated species of terrestrial organisms.

“The BLM is proposing to revise existing plans to replace the Northwest Forest Plan land use allocations and management direction...” (DEIS XLIII)

- The BLM proposes to eliminate Northwest Forest Plan (NWFP) protections of old-growth forests and old-forest associated species and abandon the NWFP Aquatic Conservation Strategy.
- The preferred alternative more than doubles the area of old-growth forest clearcut.
- The DEIS claims minimal or no-effect on fish, wildlife, peak flows, and sediment in spite of an overall 3-fold increase in logging (we can find no science in support of this finding).
- The BLM interprets the O&C Act as placing timber production above other land uses and values, including protecting watersheds, regulating stream flows, and providing recreational facilities that are specifically mentioned in the O&C Act as well as the protection of areas with special designations such as Areas of Critical Environmental Concern.
- The proposed alternatives increase fire hazard and severity throughout the plan area while reducing the resiliency of forests to fire.

² USDI 2007. Draft Environmental Impact Statement for the Revision of the Resource Management Plans of the Western Oregon Bureau of Land Management Districts of Salem, Eugene, Roseburg, Coos Bay, and Medford Districts, and the Klamath Falls Resource Area of the Lakeview District. Oregon State Office, Portland, OR 1606 pp. Available at: <http://www.blm.gov/or/plans/wopr/index.php>

- The DEIS fails to adequately assess the impacts of global climate change and does not address the effects of logging old forests on carbon sequestration.
- The DEIS underestimates the potential impacts of the exotic plant disease Sudden Oak Death and fails to disclose the effects of a large increase of logging on the spread of this emerging disease.
- Relies on a flawed draft recovery plan and proposed critical habitat determination for the Northern Spotted Owl.
- Alternative management strategies could produce a sustainable source of wood from BLM lands while protecting the last remaining stands of old-growth timber on BLM lands and the forests, salmon, and clean water valued by Oregonians.

NORTHWEST FOREST PLAN VS. THE WOPR PREFERRED ALTERNATIVE

BLM has identified a preferred alternative as required by NEPA implementing regulations, which we evaluate here. The final decision may choose one of the three action alternatives or some combination of the alternatives with or without mitigation. Alternative #2 was selected as the preferred alternative by BLM because it best fits the stated purpose and need. It also predicts the greatest logging levels and likely poses the greatest threat to other resources and values.

The BLM proposes to eliminate the NWFP protections for old-growth forests and associated species and abandon the Aquatic Conservation Strategy.

During the first decade of the plan the preferred alternative will:

- Clearcut³ 143,400 acres (= 224 square miles) or 12% of the harvest land base
- Thin 76,700 acres
- Clearcut 109,600 acres of mature forests greater than 120 years old
- Clearcut 34,800 acres of old-growth forests greater than 200 years old
- Increase logging by 2.9 times from 268 mmbf/year to 769 mmbf/year
- Reduces the late-successional reserve system by 47% from approximately 936,000 acres to 494,000 acres
- Reduces the Riparian Reserve System by 57% from approximately 364,000 acres to 156,000 acres.

IMPACTS TO FISH, WATER, AND WILDLIFE

BLM lands in Western Oregon provide important habitat for salmon, resident fish, other aquatic species and wildlife. The more than 20,400 miles of rivers and streams (6,700 miles are perennial) and 218,199 acres of lakes, ponds, and wetlands found on BLM lands in Western Oregon provide clean water, fish and wildlife habitat in addition to drinking water and recreational opportunities.

³ Note – BLM refers to these as “regeneration harvests,” which in reality are clearcuts. Areas of treatment types taken from Table 172, Pg. 581 DEIS. This rate of logging also corresponds to approximately 10,841 football fields per year (14,340 acres/year = 10,841 football fields/year).

Watersheds with BLM lands in the WOPR project area provide water for 76 communities (Table 270, DEIS Pg. 1120).

In watersheds with BLM ownership, 704 miles of stream are listed as water quality impaired under section 303d of the Clean Water Act. The most common cause of listing is temperature (569 miles). Other causes are excessive sediment (27 miles), low dissolved oxygen (65 miles), high bacteria levels (35 miles) and heavy metal contamination (8 miles; DEIS Pg. 365).

The preferred alternative makes drastic cuts to the aquatic reserve system and the Aquatic Conservation Strategy of the NWFP that will likely increase the severity of impacts to streams already experiencing water quality problems. These are summarized as follows:

- On perennial fish-bearing streams and rivers the riparian buffers are reduced to 100 feet and logging is allowed to within 25 feet of the bank (these stream widths are well below scientifically recognized stream buffers for minimizing aquatic impacts, and minimizing problems with land slides and floods).
- Yarding corridors and other operational activities associated with logging would be allowed in the Riparian Management Zone if needed to access nearby areas (DEIS Pg. 52).
- While emerging science⁴ emphasizes the importance of intermittent streams and headwater areas for the conservation of species and the functioning of watershed processes, landslide-prone intermittent streams are given a 25 foot buffer while all other intermittent streams are unprotected.
- Predicts the need to build over 600 miles of new road (DEIS Pg. 1111) and over 1000 miles of all road types (Figure 196, DEIS Pg. 585).

FIRE HAZARD AND SEVERITY

The DEIS and preferred alternative appears to be a departure from recent science regarding the ecological importance of fire in the forests of Western Oregon. The proposed alternative appears to be a return to suppression oriented fire management and consequently may actually elevate fire risk and severity.

- Across all districts in the WOPR analysis, the area of stands with a high fire hazard is from roughly 30% to 460% higher under the preferred alternative than the No Action Alternative (Figures 272-273, DEIS Pg. 768-769).
- In all but one case, the preferred alternative has the largest area of high fire severity stands.⁵

⁴ For example see: Olson et al. 2007. Biodiversity management approaches for stream-riparian areas: Perspectives for Pacific Northwest headwater forests, microclimates, and amphibians. *Forest Ecology and Management* 246:81-107

⁵ Figure 272, DEIS Pg. 768. The Roseburg District has a slightly larger area of high severity fire stands under alternative #3 than under alternative #2.

- On the Medford District, the preferred alternative will result in 200,000 more acres of high fire severity stands than the No Action Alternative (Figure 273, DEIS Pg. 769).
- On the Medford District and the Klamath Falls Resource Area, the preferred alternative would result in a significant reduction in fire resilient stands from the current condition.
- On the Medford District and the Klamath Falls Resource Area, the preferred alternative would result in roughly ¼ and ½ of the area of fire resilient stands as the No Action alternative (Figure 274, DEIS Pg. 771).
- The preferred alternative would create 14,340 acres/year of even-aged plantations that are highly susceptible to crown fire (DEIS Pg. 770).
- The Fire and Fuels Management Objectives common to all alternatives appear to conflict with the specific Management Actions and the effects of the preferred alternative. For example, the Management Objective “Promote ecosystem function and resiliency” is difficult to reconcile with the Management Action “Immediate action to control and suppress all wildfires would be taken in all areas” (DEIS Pg. 33).

We are concerned that the WOPR DEIS has used an overly broad definition of Wildland Urban Interface (WUI). The Wildland Urban Interface as depicted in Map 6 (DEIS Pg. 155) encompasses most of the Bureau of Land Management Lands in the project area. Other sources, such as the Oregon Department of Forestry, classify a much smaller part of the project area as WUI⁶. We can find no definition of WUI in the DEIS document other than general descriptions. WUI lands must be correctly identified to direct limited resources to areas where they are most needed and avoid applying treatments intended to safeguard homes to remote areas where they may have negative ecological impacts and provide little or no benefit to the protection of homes.

GLOBAL CLIMATE CHANGE

“The analysis assumes no change in climate conditions, because the specific nature of regional climate change over the next decades remains speculative.” (DEIS Pg. 491)

- The WOPR ignores the latest climate science, including recent studies demonstrating: (1) old-growth forests are carbon sinks and sequester more carbon per acre than any forests on earth⁷; and (2) logging in western Oregon forests releases significant amounts of carbon that otherwise would be sequestered by forests managed for long-term sequestration⁸.

⁶ Data available at: <http://egov.oregon.gov/ODF/GIS/gisdata.shtml>

⁷ Harmon, ME et al. (2004). Production, respiration, and overall carbon balance in an old-growth *Pseudotsuga/Tsuga* forest ecosystem. *Ecosystems* 7:498-512.

⁸ Turner, DP et al. 2007. Scaling net ecosystem production and net biome production over a heterogeneous region in the western United States. *Biogeosciences* 4:597–612.

SUDDEN OAK DEATH

Sudden Oak Death (*Phytophthora ramorum*) is a plant disease first observed in California in 1995. Its origin is unknown but is likely introduced to North America like its relative Port Orford Cedar Root Rot (*Phytophthora lateralis*). It is fatal to Tan Oaks, Coast Live Oaks, and Black Oaks. It also infects and causes disease in other species common to Western Oregon such as Rhododendron, Madrone, Evergreen Huckleberry, Bay Laurel, Bigleaf Maple, Manzanita, Coast Redwood, Douglas-fir, and Coffeeberry. It was found in Curry County, Oregon in 2002.

- The DEIS fails to assess the risks posed this introduced plant pathogen and provides a misleading interpretation of the existing science. The DEIS reports:

“Future spread of the disease into Oregon is uncertain. Models identify different levels of risk of sudden oak death spread across the planning area (Kelly et al. 2005).”⁹

and concludes:

“However, because future spread of the disease and subsequent tree mortality in the planning area is speculative, there is no basis on which this analysis can assume future changes to forest composition, structure, and process as a result of Sudden Oak Death.”

- Contrary to the conclusions of the DEIS, the General Technical Report cited, a habitat model for Sudden Oak Death created by the USDA Forest Service’s Pacific Southwest Research Station, found that all five models examined “... were consistent in their prediction of some SOD risk in coastal CA, OR and WA.” Three of the five models predict high risk for almost all of the WOPR area and a composite model placed most of the WOPR area in the highest two risk categories.¹⁰

This plant disease has already killed over one million oak and tan oak trees in 14 counties in California with devastating impacts on the wildlands and wildlife habitats.¹¹

Dismissing the threat posed by this disease as speculative fails to consider the grave implications to its spread to future forest productivity and biodiversity. Because the disease is spread through the movement of wet soil on vehicles, boots, and equipment, the activities proposed in the WOPR DEIS may increase the rate of spread. A reasonable first approximation would be that a tripling of logging as proposed by the preferred

⁹ DEIS Pg. 492

¹⁰ Kelly MD, SQ Guo, and D Liu. 2005. Modeling risk for SOD nationwide: what are the effects of model choice on risk prediction? General Technical Report PSW-GTR. Pacific Southwest research Station, U.S. Department of Agriculture, U.S. Forest Service. Available at: <http://nature.berkeley.edu/comtf/pdf/KellyetalSOD2-22-05.pdf>

¹¹ For more information on Sudden Oak Death see: <http://nature.berkeley.edu/comtf/>

alternative would triple the rate of spread on the disease through the movement of log trucks, forestry crews, and other associated activities.

- Although the DEIS reports only one infected site in Southwestern Oregon, at least 53 localities have been reported.
- The DEIS fails to use the best available science and does not cite an important comprehensive summary of the literature.¹²

AREA OF CRITICAL ENVIRONMENTAL CONCERN (ACEC) AND OTHER SPECIAL AREAS DESIGNATIONS

“This document acknowledges the primacy of O&C Act in regards to the management of timber resources. Therefore, specific changes to the current management direction for areas of critical environmental concern and research natural areas, scenic values as identified through a visual resource management inventory, and sensitive species protection are proposed across the alternatives.” DEIS Page XL

The preferred alternative eliminates or reduces areas recognized for their special values.

- Eliminates 23 existing ACECs
- Partially eliminates (O&C Act lands removed) in 13 existing ACECs

These include important areas such as:

North Santiam ACEC
Sandy River Gorge ACEC and Outstanding Natural Area
Cottage Grove Old Growth ACEC
Umpqua River Wildlife Area ACEC
North Umpqua River ACEC
North Fork Coquille River ACEC
Jenny Creek ACEC
Rough and Ready ACEC
Upper Klamath River ACEC

The DEIS provides little detail regarding the extant or impacts of removing O&C lands from these areas and combines proposed and existing special designation lands in the analysis making interpretation of the impacts to individual areas difficult.

NORTHERN SPOTTED OWL

The BLM WOPR relies on the draft spotted owl recovery plan and proposed critical habitat exemptions by Fish & Wildlife Service. However, the recovery plan recently failed scientific peer review¹³ due, in part, because it would lower habitat protections for

¹² Kliejunas, John T. 2007. Sudden Oak Death and *Phytophthora ramorum*: A Summary of the Literature. Albany, California. Pacific Southwest Research Station, Forest Service, U.S. Department of Agriculture, 42 pages. Available at: http://nature.berkeley.edu/comtf/html/sod_literature_summary.html.

¹³ Peer reviews are available at: <http://www.fws.gov/pacific/ecoservices/endangered/recovery/peer.html>

owls in relation to the Northwest Forest Plan. Further, the proposed critical habitat determination – which is also tied to the failed recovery plan – would lower critical habitat protections by 1.5 million acres range-wide with greatest losses proposed in southern Oregon.

CONCLUSIONS

BLM O&C lands contain many unique ecological values important to Oregonians, including over 20,400 miles of rivers and streams (6,700 miles are perennial), 218,199 acres of lakes, ponds, and wetlands, and ~570,000 acres of mature and old-growth forests. These lands provide access to high quality hunting and fishing areas and are essential for clean water, carbon sequestration, and wildlife habitat. Tripling logging levels to meet sustained yield provisions of a 70-year old O&C Act is inconsistent with contemporary approaches in ecosystem management and the logging levels proposed by BLM will not sustain the broader ecosystem functions provided by these forests and watersheds. As BLM notes, these logging levels will also elevate future fire risks, making forests less safe for local communities. Therefore, BLM's WOPR represents a significant departure from the more forward thinking principles of the NWFP that the courts have determined are the bare minimums needed to meet the legal requirements of the Endangered Species Act. BLM bases its preferred alternative on faulty assumptions, unscientific models that yield no significant impacts despite substantial reductions in stream buffer widths and old-growth protections, and an equally unreliable draft spotted owl recovery plan. The stepped up logging in riparian reserves is likely to worsen water quality problems by increasing sediment runoff to streams, elevate stream temperatures, and raise landslide risks, thereby presenting potential Clean Water Act problems for BLM. We recommend that BLM subject the WOPR to peer review and that the agency consider other alternatives that rely on logging of small trees rather than further liquidation of old-growth forests and riparian areas that represent irreplaceable resources to Oregonians and the nation.

Table 1. Summary of DEIS Alternatives (based on table 1 DEIS Pg. XLIX).

	No Action	Alternative 1	Alternative 2	Alternative 3
LSRs/LSMAs	NWFP	Similar area and distribution to NWFP		No LSMAs
	No treatments in stands over 80 years	Treatments to promote development of structurally complex forests	Treatments to promote development of suitable habitat	50% of assessment of area must be older than 90 years north of Grants Pass and 140 years south of Grants Pass
	MM critical habitat matches LSRs;	MM critical habitat matches LSRs;	Critical habitat of MM and NSOP partially match the LSMAs;	No special management for MM or NSO critical habitat
	NSO critical habitat partially matches LSRs	NSO critical habitat partially matches LSRs		Retains 215 acre owl activity centers until 50% target is met.
	1.1 snags/acre	2 to 6 snags/acre depending on vegetation series	2 to 6 snags/acre depending on vegetation series	2 to 4 snags/acre depending on vegetation series
	Down wood standards 120 to 240 ft./acre	Down wood standards variable but higher than alt #2 and < NA	Down wood standards variable	Down wood standards similar to NA
	Salvage allowed when disturbance is > 10 acres	No Salvage except for operational or safety reasons	Salvage for Economic Purposes	Salvage for economic purposes
Area **	936,000	728,000	494,000	None

Table 1. Continued

	No Action	Alternative 1	Alternative 2	Alternative 3
Riparian Reserves/RMAs	NWFP Fish-bearing streams – 2 site potential trees Non-fish-bearing streams – 1 site potential trees	½ NWFP Perennial streams – 1 site potential tree Intermittent non-fish-bearing streams – ½ site potential trees	Perennial streams 0-25 ft. no harvest 25-60 ft. 80% shade retention* 60-100 ft. 50% canopy retention Debris-flow prone intermittent non-fish bearing streams 0-25 ft. no harvest Other Intermittent 0-25 ft. noncommercial vegetation and 12 trees/acre	Perennial streams 0-25 ft. no harvest 25-60 ft. 80% shade retention* 60-100 ft. 50% canopy retention Intermittent non-fish-bearing streams 0-25 ft. no harvest
Area **	364,000	234,000	156,000	182,000
TMA/Matrix	Retains owl activity centers known as of Jan 1994 Green tree retention standards Snags retention standards Down wood standards	No NSO activity centers retained No Green tree Retention Noncommercial snags only Noncommercial down wood only Salvage for economic purposes	Retains no Owl activity centers in TMAs No green tree retention; Noncommercial snags only Noncommercial down wood only Salvage for economic purposes	
Area **	Salvage for economic purposes 572,000	962,000	1,274,000	1,742,000 “general landscape area”
WUI (includes much of the LSR/LSMA)		Salvage to reduce hazards across all allocations	Salvage to reduce hazards across all allocations	

* Note that this is “shade” retention and not canopy retention.

** In acres - Estimated from graphs on DEIS pages 67, 75, 89, 101 – TMA estimates include the BLM lands surrounding the Coquille Lands.