

**COMMITTEE ON ENERGY AND NATURAL RESOURCES HEARING ON
“CHALLENGES AND OPPORTUNITIES FOR IMPROVING FOREST MANAGEMENT
ON FEDERAL LANDS” (June 24, 2013)**

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Mr. Chairman and Members of the Committee, I am submitting this statement as a forest ecologist with 30 years experience in forest ecosystems globally and in the forests of Oregon and the greater Pacific Northwest. I am particularly concerned that efforts to increase logging on Bureau of Land Management lands (BLM) in western Oregon, specifically the so called O&C and Coos Bay Wagon Road lands, will unduly harm public values that are crucial to clean water, salmon, federally threatened species, and the role of federal lands in climate change preparation.

In my statement, I emphasize the need for inclusive consideration of the science underlying proposals to increase logging in mature forests under the guise of so-called “ecological forestry” (e.g., Franklin and Johnson 2012) being considered by the Committee, as the science on this matter is far from settled. I would also like to submit for the record information from prior studies on the importance of BLM lands in western Oregon and how many ecological values that the public supports would be at-risk from increased logging. These at-risk BLM lands contain ecosystem assets that are greatly diminished by industrial logging on surrounding nonfederal lands, particularly in the so-called “checkerboard” ownerships in southwest Oregon. In my closing statement, I request that Senator Wyden and the Committee allow for a more thorough review of the science as you deliberate on how best to provide guidance to the BLM and because the ecological forestry provisions have not gone through rigorous peer review. Their inclusion in the critical habitat determination and recovery plan of the federally threatened northern spotted owl have been repeatedly challenged by professional societies, including The Wildlife Society, American Ornithologists’ Union, and Society for Conservation Biology¹.

BLM Lands Are Greater-Than-The Sum of Their Ecosystem Parts

There have been a number of scientific studies on the importance of BLM lands in western Oregon (DellaSala et al. 2005, Staus et al. 2010, TNC and Wild Salmon Center 2012). BLM lands are strategically vital to the integrity of the Northwest Forest Plan and surrounding nonfederal lands with Habitat Conservation Plans (HCPs) whereby private landowners are issued incidental “take” permits from the U.S. Fish & Wildlife Service to degrade owl sites based, in part, on the assumption that federal lands will provide the bulk of protections for this species. Reducing protections on BLM lands may therefore invalidate many of the assumptions of landowner HCPs as further discussed below.

¹ www.fws.gov/oregonfwo/Species/Data/NorthernSpottedOwl/CriticalHabitat/default.asp

Using computer-mapping analysis in a geographic information system (GIS), DellaSala et al. (2005) documented the importance of BLM lands in western Oregon (includes all BLM western Oregon lands: public domain, O&C, and Coos Bay Wagon Road) as well as the late-successional reserves (LSRs) and Riparian Reserves on these lands. Here, I summarize these values for the Committee as they would be compromised by increased logging:

- *Essential habitat for hundreds of late-successional species* – BLM LSRs and Riparian Reserves provide habitat for hundreds of species associated with unlogged older forest conditions that have been greatly reduced across the entire region, especially on non-federal lands. The reserve network was deemed by U.S. District Court Judge Dwyer and by FEMAT (1993) as the bare minimum necessary to comply with laws requiring viability of old-growth associated species, including the federally threatened northern spotted owl and marbled murrelet. The reserve network therefore is the “backbone” of species protections across the region. Any reductions in reserve allocations would reduce viability of many at risk species.
- *Mature and Old-growth Forests* - BLM lands and reserves contain 900,000 acres of old growth (>150 years) and 590,000 acres of mature (80-150 years) forest, 22% and 15% of the old and mature forests in western Oregon, respectively.
- *Recovery of northern spotted owl* - Western Oregon contains 3.7 million acres of critical owl habitat, 1 million acres (27%) of which is on BLM land. BLM LSRs contain nearly 600,000 acres of owl habitat—which is 58% of the suitable owl habitat on BLM land in western Oregon. Collectively, BLM LSRs contain 16% and 25% of the total owl critical habitat in western Oregon and the Coast Range, respectively. Due to the tightly integrated nature of the reserve network, the loss of reserves or logging of older forests outside reserves will diminish the likelihood that Forest Service can continue to meet its Northwest Forest Plan objectives.
- *Recovery of marbled murrelet* - There are 1.5 million acres of marbled murrelet critical habitat in western Oregon—nearly 40% of the total critical habitat in the Pacific Northwest—mostly in the Coast Range. BLM lands contain 485,000 acres (32%) of critical murrelet habitat, 83% of which is found within LSRs. BLM LSRs account for 27% of the total critical habitat for marbled murrelets in western Oregon. Without the full network of LSRs (both USFS and BLM), it will likely be impossible to meet the goals of the recovery plan for this species.
- *BLM lands contain important habitat for at-risk salmonids* - depending on how BLM intends to manage its lands in the future, the foundations of salmon conservation in Oregon could be seriously undermined. There are 1.8 million acres of coho ESU areas on BLM land in western Oregon and 650,000 acres of coho ESU’s in BLM LSRs—35% of the ESU area on BLM land. Of the 6,297 miles of spawning and rearing habitat within western Oregon, 12% of it is located on BLM lands, 100% is in Riparian Reserves, and 44% of this is within LSRs. There are 370,000 acres of Chinook ESU habitat on BLM land in western Oregon: 16% of BLM land in western Oregon contains Chinook ESU’s and half

of the BLM lands in Salem and Eugene districts contain Chinook ESU habitat. Further, there are 63,000 acres of Chinook ESU habitat in BLM LSRs—17% of the total ESU area on BLM land. Additionally, there are 218,000 acres of steelhead ESU habitat on BLM land in western Oregon, all of which is found in the Salem and Eugene districts. Nine percent of BLM land in western Oregon contains steelhead ESU acres with 35,000 steelhead ESU acres in BLM LSRs—16% of the total ESU area across BLM land.

- *BLM lands contain significant inclusions of Key Watersheds* – these watersheds act as a network of reserves for aquatic species and are important to proper stream functions. Western Oregon contains 3.9 million acres of Key Watersheds, 154,000 (4%) of which are located within BLM LSRs. In the Coast Range, LSRs protect 9% of Key Watersheds overall, encompassing over 25% of 10 of the 38 key watersheds in this area.
- *Riparian Reserves on BLM lands are essential to the proper functioning of terrestrial and aquatic ecosystems and stream flows* - these reserves help maintain connectivity across aquatic and terrestrial ecosystems and improve travel and dispersal conditions for hundreds of species that depend on them. They are also vital to proper ecological function and stream flow. Any attempts to eliminate these reserves or shrink the buffers will undermine the integrity of the Aquatic Conservation Strategy of the Northwest Forest Plan.
- *BLM lands provide essential habitat for rare species* - of the 404 survey and manage species (primarily rare species at risk of local extirpation) recognized in the Northwest Forest Plan, 149 species are found on BLM land and 93 are found within BLM LSRs. LSRs in the Salem BLM District contain the highest concentration of these species (54), followed by Roseburg (39), and Coos Bay (35). Rare or at risk species include red tree vole, an important food source for spotted owls that the U.S. Fish & Wildlife Service deemed warranted but precluded for listing under the Endangered Species Act, and many species of vascular plants, mollusks, lichens, fungi, and bryophytes.
- *Cumulative actions from reductions in protections on federal and non-federal lands could trigger jeopardy decisions for listed species as well as future listings or up listings* - in the Coos Bay District, there are two large parcels with HCPs (located between two isolated BLM LSRs) that are meant to increase habitat connectivity and complement management within LSRs: the privately owned Weyerhaeuser-Millicoma and the Elliott State Forest. Collectively, these parcels increase the potential dispersal area for northern spotted owls and marbled murrelets by 309,000 acres. They are also important to coho salmon, tripling the spawning and rearing habitat in the District and increasing the rearing and migration habitat ten-fold. Non-federal HCPs appear not to be meeting recovery objectives and thus BLM, along with the cooperating agencies (US Fish and Wildlife Service, National Marine Fisheries Service), need to consider cumulative actions of reduced protections on both federal and non-federal lands during Section 7 consultations. Protections for federally listed species will need to be increased on State and private lands, especially if BLM reduces its role in recovery of listed species lest additional listings or up listings (from threatened to endangered) may ensue.

- *BLM roadless areas are vital as salmon strongholds and refugia for sensitive species* – there are 268,181 acres of unroaded areas (>1,000 acres) spread over 146 areas across all BLM allocations; 76 of these are small unroaded areas totaling 105,000 acres within BLM LSRs. The majority of unroaded acres are within one large LSR adjacent to Wild Rogue Wilderness in the Medford BLM District – the Zane Grey Roadless Area. The Geos Institute appreciates the efforts of Senator Wyden to designate and expand the Wild Rogue Wilderness to include the Zane Grey Roadless Area.

Ecological Importance of BLM O&C and Coos Bay Wagon Road Holdings For Clean Water, Salmon, Old Forests, and Carbon Storage

The Geos Institute would also like to call the Committee’s attention to a subset of these BLM lands that also have been the subject of congressional interest to increase logging to help resolve the 18 O&C counties fiscal problems – 2.1 million acres of BLM O&C and Coos Bay Wagon Road (CBWR) holdings in western Oregon. These BLM lands include 79 Surface Water Source Areas that supply clean drinking water to over 1.5 million people from Medford to Molalla, Oregon.² Some notable rural examples of Public Water Systems having significant O&C and CBWR lands include the City of Cave Junction servicing 1,380 people (8% overlap of SWSAs with O&C lands); City of Riddle servicing 1,225 people (41%); City of Canyonville servicing 1,265 people (54%); City of Grants Pass servicing 24,000 people (37%); as well as larger metropolitan areas like the Medford Water Commission servicing 131,000 people (19%). Increased logging in these watersheds could add to higher water treatment costs for municipalities to remove sediments. Notably, in 1996, the City of Salem spent ~\$100 million on new treatment facilities after logging in upper watersheds created conditions leading to mass sedimentation following storms (DellaSala et al. 2011).

These particular BLM lands also include over 434,640 acres of older forests (less than 150 years) with high biomass (carbon) values that, if logged, would increase the state’s greenhouse gas pollution. For instance, it is estimated that high-biomass forests in this region store 500 tons of above ground live carbon per acre mostly in large trees, dense foliage, and productive soils (Krankina et al. in review). These forests are collectively storing the carbon dioxide equivalent of ~38 times the state’s annual greenhouse gas emissions. Logging them would release most of this stored carbon as a greenhouse gas pollutant through rapid decomposition of logging slash left behind after logging operations, soil oxidation, and burning of fossil fuels in the transport and manufacturing of wood products. Planting young trees that are typically managed on short-rotation cycles and that act as carbon emitters for at least the first 15 years of their growth does not make up for this carbon debt. It is also not made up for in the storage of carbon in wood products (Harmon et al. 1990). Notably, the Government Accountability Office recently concluded “the Bureau of Land Management has not established a strategic direction for addressing climate change impacts but is planning to develop a high-level

²<http://www.geosinstitute.org/images/stories/pdfs/Publications/FederalLandsManagement/BLMOCvaluesJune2013opt.pdf>

climate change adaptation strategy by the end of the summer of 2013.” President Obama also recently called on federal land agencies to “manage our public lands and natural systems to store more carbon.” BLM forests in western Oregon are considered global champions in storing carbon long-term (Smithwick et al. 2002), if they are not cut down.

Notably, by the end of the century, climate change is likely to increase summertime temperatures in western Oregon by 8-15° F with more rain in the winter and less snow pack (Doppelt et al. 2008). This will only place even greater burdens on water supplies given that regional snowpack is the lifeline to Public Water Utilities and agricultural economies. Logging will likely exacerbate projected climate changes, particularly if stream buffers are reduced in size, or logging is increased in the uplands, especially those with surface water intakes. The combination of increased logging and greater winter precipitation (rain) could also trigger landslides and flooding in creek-side areas.

Ecological Shortcomings of Ecological Forestry

I personally toured BLM pilots in southwest Oregon as well as served as a lead author on a critique of ecological forestry provisions advanced by Drs. Jerry Franklin and Norm Johnson (DellaSala et al. in press). In sum, the provisions of ecological forestry that Senator Wyden has relied on in his framework for O&C lands have seven major ecological shortcomings. They include: (1) oversimplified forest classifications of dry and moist forest types that will be difficult to implement in the field, leading to misclassifications in regions with complex vegetation types and inappropriate thinning; (2) lack of recognition for the importance of mature forests in the 80-150 year old age classes in moist and dry forests that will over time increase the deficit of old-growth forests if these mature forests fail to become future old growth because of logging; (3) lack of an appropriate baseline for restoration in mixed severity fire regions that will lead to heavy thinning in areas that may not require such active management; (4) inadequate attention to aquatic impacts from extensive thinning, potential reductions to riparian buffers, and high road densities needed to access sites for thinning; (5) inadequate attention to how thinning impacts the prey base of northern spotted owl and how thinning might exacerbate competitive pressure from barred owls in spotted owl territories; (6) inadequate attention to the difference between complex early seral forest vegetation generated by mixed severity fires that are rich in biodiversity and are a natural part of the fire cycle of many regions vs. simplistic early seral forests generated by partial clearcuts that are lacking in biodiversity; and (7) lack of recognition of how partial clearcuts proposed by ecological forestry will fragment mature forests at the landscape scale.

Conclusions

In closing, BLM lands in western Oregon are a vital contributor to the viability of the Northwest Forest Plan. Any reductions in forest protections of older forests, streamside areas, or watersheds with drinking water intakes could undermine the integrity of the Northwest Forest Plan and may pass greater conservation responsibilities on to the Forest Service, Public Water Utilities, and landowners holding HCPs in order to avoid potential jeopardy determinations for listed species and other damages. These BLM lands (all of

them in western Oregon) and especially the subset of BLM O&C and CBWR holdings provide irreplaceable ecosystem benefits to the public in the form of outdoor recreation, healthy salmon, recovering threatened wildlife, clean water, carbon storage, and climate change insurance. Increased logging will produce short-term economic benefits but at the expense of the greater ecosystem services provided by BLM lands given the forests in this region already have been heavily logged and this is all that remains of what was once a vibrant forest ecosystem. The Geos Institute recommends that Senator Wyden consider lowering the age at which forests are included for protection in his framework principles from 120 years to 80 years in both moist and dry forests to improve the scientific foundation of his principles and reduce the ecological footprint of logging on BLM lands. Allowances can be made for fire-suppressed trees based on ecologically appropriate thinning in places. In addition, riparian standards and guidelines under the Northwest Forest Plan have resulted in measurable improvements to water quality in the region (Reeves et al. 2006) and should be maintained. The Geos Institute encourages the committee to consider how volume is already coming off of non-controversial timber sales on BLM lands that do not involve mature forest logging and that restoration-based forest management can produce significant amounts of timber volume and jobs (Kerr 2011) without jeopardizing at-risk public values.

Finally, the Geos Institute encourages the Committee to review more of the science than has been presented on “ecological forestry” as it remains controversial as currently implemented in BLM pilots, particularly within spotted owl and marbled murrelet critical habitat, has not received the benefit of rigorous scientific review by wildlife and fisheries biologists, and was challenged by the scientific societies for its inappropriate inclusion in the recovery and critical habitat determinations of the northern spotted owl. Thank you for this opportunity to submit my comments to the congressional record.

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