1989.3

C. Key Aspects of Water Quality Affected by the WOPR

Section 303 of the Act protects beneficial uses of regulated waters. Water quality is critical to maintaining beneficial uses including agricultural, industrial, domestic and municipal water supplies, recreation, power generation, and maintaining populations and habitat of salmon and other aquatic organisms.

1. Importance of non-perennial waters

Attainment of §303 water quality standards cannot be meaningfully discussed without reference to the condition of headwater streams, many of which exhibit only seasonal flow, and wetlands. Intermittent streams play an important role in storing and processing organic materials, later transporting the products downstream.[5] Intermittent streams also store sediment, later providing it to larger streams.[6] Wetlands contribute to meeting water quality standards by accumulating nutrients, trapping sediments and pollutants, and transforming substances.[7] Hydrologic pathways such as precipitation, surface runoff, groundwater, tides, and flooding rivers transport energy and nutrients to and from wetlands.[8] Additionally, by reducing flood flow amounts and velocities, wetlands reduce erosion.[9] Because wetlands receive, store, and release water in various ways, including through contact with ground water and surface water,[10] filling or discharging pollutants to wetlands can have water quality impacts in other parts of a watershed.

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[5] FEMAT (Forest Ecosystem Management Team). 1993. Forest ecosystem management: an ecological, economic, and social assessment. Report of the Forest Ecosystem Management Assessment Team. U.S. Government Printing Office 1993-793-071. U.S. Government Printing Office for the U.S. Department of Agriculture, Forest Service; U.S. Department of the Interior, Fish and Wildlife Service, Bureau of Land Management, and National Park Service; U.S. Department of Commerce, National Oceanic and Atmospheric Administration and National Marine Fisheries Service; and the U.S. Environmental Protection Agency, at V-36.

[6] *Id.*

[7] *See e.g.* National Research Council, Committee on Characterization of Wetlands. 1995. Wetlands: Characteristics and Boundaries, at 31, *citing* Mitsch, W.J., C.L. Dorge, and J.R. Wiemhoff. 1979. Ecosystem dynamics and a phosphorus budget of an alluvial cypress swamp in southern Illinois. Ecology 60:1116-1124; Lowrance, R.R., R.L. Todd, and L.E. Asmussen. 1984a. Nutrient cycling in an agricultural watershed, I. Phreatic movement. J. Environ. Quality 13:22-27; Lowrance, R.R., R.L. Todd, J. Fail, O. Hendrickson, R. Leonard, and L. E. Asmussen. 1984b. Riparian forests as nutrient filters in agricultural watersheds. BioScience 34:374-377; Whigham, D.F., C. Chitterling, and B. Palmer. 1988. Impacts of freshwater wetlands on water quality: A landscape perspective. Environ. Mgmt. 12:663-671; aulkner, S.P., and C.J. Richardson. 1989. Physical and chemical characteristics of freshwater wetland soil. Pp. 41-72 in Constructed Wetlands for Wastewater Treatment, D. A. Hammer ed. Chelsea, MI: Lewis Publishers; Johnston, C.A. 1991. Sediment and nutrient retention by freshwater wetlands: Effects of surface water quality. Critical Reviews in Environmental Control. 21:491-565; and FEMAT 1993 (*see* supra note 14), Appendix V-E, *citing* National Research Council, Committee on Restoration of Aquatic Ecosystems. 1992. Restoration of Aquatic Ecosystems. National Academy Press. 552 p.

[8] Mitsch, W.J., and J.G. Gosselink. 2000. Wetlands. John Wiley & Sons, New York. 920 pp.

[9] *Id.*

[10] Wetland Functions and Values Training Module, EPA. On the web at: http://www.epa.gov/watertrain/wetlands/text.html

Failing to protect from management-caused degradation all waters that are hydrologically connected to "navigable" or other waters will, in some cases, result in the "discharge of pollutants"[11] and failure to meet water quality criteria and fully protect beneficial uses.

2. Sediment and watershed processes

Any forest practice that disturbs the surface of the soil will increase the likelihood of surface erosion through several mechanisms. First, compaction of the surface and subsurface soil horizons reduces both the total pore space (porosity) and the mean pore diameter. This reduces the amount of water-holding capacity and the infiltration rate (Everest, et al., 1987; Spence, et al., 1996) while increasing the soil bulk density (Froelich, 1988) and strength (i.e., makes it a better construction material but a worse growth medium). These conditions increase the likelihood of saturation (occurs in smaller precipitation events) and lengthen the period of saturation during the water year. This increases the likelihood of saturation overland flow (Dunne and Leopold, 1978). It may in many cases reduce the infiltration capacity of the soil to less than expected rainfall rates causing Horton overland flow to occur (Dyrness, 1967). This has been shown to increase the potential for surface runoff or overland flow (e.g., Purser and Cundy, 1992). Runoff over bare soil such as might exist on a skid trail or cable haul path is likely to cause surface erosion.

Second, removal or displacement of the litter and surface soil horizons exposes the subsoil which is almost always less porous and often less cohesive. The exposed soil and compacted conditions create the perfect scenario for surface erosion. This is common on skid trails or cable log paths within cut units (e.g., Johnson and Beschta, 1980; Fredricksen and Harr, 1981). Different forest harvest methods lead to different levels of compaction and different levels of surface disturbance. Full-suspension skyline logging would be the least disturbing while a logger's choice tractor yarded unit would be the most disturbed. The one-end suspension cable-yarding and feller buncher harvesting are intermediate in their impacts; however, it should be noted that feller-buncher harvesting can compact up to 40% of a harvest unit (Spence, et al., 1996). Compaction and displacement of soil also negatively affects site productivity.

Roads contribute more sediment than all other forest activities combined on a per unit area basis (Furniss, et al., 1991), making road treatments the highest priority for sediment reduction on the industrial forest landscape. However, the relationship between this source and overland sources should not be overlooked or inappropriately dismissed as "not a problem" – roads are delivery systems for slope-derived sediments. *See e.g.* Wemple et. a. 1996; Trombulak and Frissell, 2000; Seyedbagheri, 1996.

Section 303 Clean Water Act beneficial uses that are adversely affected by high sediment loads and turbidity include agricultural, industrial, domestic and municipal water supplies, power generation, water storage, and maintenance of fish and other aquatic populations and habitat. For power generation, turbidity increases wear on the turbines and increases water treatment

[11] 33 U.S.C. 1362(12), CWA §502(12) defines "discharge of pollutants" to mean "(A) any addition of any pollutant to navigable waters from any point source, (B) any addition of any pollutant to the waters of the contiguous zone or the ocean from any point source other than a vessel or other floating craft."

costs.[12] Increased sedimentation in reservoirs can significantly decrease the life of the structure.[13] Fish are adversely impacted by siltation and turbidity in numerous ways. The following summary of these impacts is excerpted from *An Ecosystem Approach to Salmonid Conservation.*[14]

> Siltation and turbidity adversely affect fish at every stage of their life cycle. In general, deposited sediments have a greater impact on fish than do suspended sediments: spawning and incubation habitats are most directly affected. Particulate materials physically abrade and mechanically disrupt respiratory structures (e.g., fish gills) or surfaces (e.g., respiratory epithelia of benthic macroinvertebrates) in aquatic vertebrates and invertebrates. Sediment covers intergravel crevices which fish use for shelter, thereby decreasing the carrying capacity of streams for young salmon and trout. Fish vacate pools in summer after heavy accumulation of sediments. Finally, turbidity affects light penetration, which in turn affects the reactive distance of juvenile and adult salmonids for food capture (citations omitted)

Siltation and turbidity also impact stream-dwelling amphibians by, for example, filling intergravel crevices which juveniles and adults use for cover and by scouring algae (the main food source for juveniles) from gravel and streambed surfaces.

Achievement of water quality standards relating to sediment (reduced turbidity and narrative standards) relies in significant part on reducing anthropogenic sediment inputs to headwater streams, many of which exhibit only seasonal flow. For example, forestry related activities tend to cause acute sediment loading in smaller streams but smaller, chronic relative increases in sediment loading in larger-order streams.[15] The result is a continual increase and accumulation of sediment in a downstream direction.[16]

In Oregon, the connection between forestry impacts on small, seasonal streams and the impairment of downstream beneficial uses is well recognized by both EPA and NOAA. For example, in their 1998 Findings regarding Oregon's Coastal Nonpoint Pollution Control Program, submitted pursuant to § 6217(a) of the Coastal Zone Act Authorization Amendments of 1990, the agencies stated: "Oregon has a number of species, in particular anadromous salmonids, that are endangered, threatened, or otherwise seriously at risk, due in part to forestry activities that impair coastal water quality and beneficial uses, including salmon spawning, breeding, and rearing habitat." EPA and NOAA specifically expressed concerns about adequate protection of seasonal, non-fish bearing, small and medium streams. In their Findings, the agencies expressed specific concerns that:

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[12] Reid, L.M. 1993. Research and Cumulative Watershed Effects. USDA Forest Service Gen. Tech. Rep. PSW-GTR-141, at 90.
[13] *Id.*
[14] Spence et al. 1996 at §5.1.2, *see* supra note 3.
[15] Beschta, R. L., J. R. Boyle, C. C. Chambers, W. P. Gibson, S. V. Gregory, J. Grizzel, J. C. Hagar, J. L. Li, W. C. McComb, M. L. Reiter, G. H. Taylor, and J. E. Warila. 1995. Cumulative effects of forest practices in Oregon. Oregon State University, Corvallis. Prepared for the Oregon Department of Forestry, Salem, Oregon, at §7.6-134.
[16] *Id.*

> (U)nder existing State forest practices, medium, small, seasonal, and non-fish bearing streams may be subject to loss of sediment retention capacity, increases in delivery of fine sediments, and increases in temperature due to loss of riparian vegetation. Another concern is provision of adequate long-term supplies of large woody debris in medium, small, seasonal, and non-fish bearing streams, a shortage of which can result in decreases sediment storage in upstream tributaries increased transport and deposition downstream, and overall adverse impacts to beneficial uses.

These problems motivated the agencies to call for stronger protection under state rules for "medium, small, and non-fish bearing streams, including intermittent streams."[17] The ecological principles behind these concerns apply on all landownerships nationwide.

The 1998 CZMA Findings also recognize that land management induced mass wasting impairs water quality and prevents full support of beneficial uses in Oregon's Coast Range. Landslides and debris flows often occur in steep headwater systems. Intermittent channels are sites of land management-initiated debris flows, which can significantly impact aquatic habitat.[18] EPA and NOAA identified "protection of areas at high risk for landslides" as one of the areas "where existing practices under the (Oregon Forest Practices Act) and (Oregon Forest Practices Rules) should be strengthened to attain water quality standards and fully support beneficial uses."[19] In January 2003, the EPA and NOAA reiterated their concerns regarding the need to protect headwater streams and associated landslide-prone areas in Oregon.[20]

Regulation of Roads Discharges. The Clean Water Act contemplates that state programs to control polluting activities would differ as between "point" sources and "nonpoint" sources, with point sources having a stringent permitting requirement.[21] The prevailing practice is for states to consider discharges from forest roads to be "exempt" from the Act's permitting requirements. However, there is a strong argument that owners and operators of forest roads must obtain discharge permits because they discharge stormwater associated with industrial activity and/or pollutants from point sources along logging roads to navigable waters of the United States.[22] Significantly, a permit requirement would make the BLM accountable for monitoring and reporting of roads discharges.

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[17] *Id.* (emphasis added).
[18] FEMAT 1993at V-72.
[19] EPA & NOAA. 1998. Findings for the Oregon Coastal Nonpoint Program.
[20] EPA & NOAA. 2003. 6217 Boundary Decision and Response to Oregon's Supplemental Information in response to the Federal Findings of January 1998, submitted April 1999, January 2002 and October 2002. (noting that Oregon's nonfederal forest practices rules were inadequate to meet temperature and sediment targets in approved TMDLs).
[21] Section 301(a) of the Clean Water Act, 33 U.S.C. §1311(a), prohibits the discharge of pollutants from point sources to navigable waters of the United States unless such discharges are in compliance with a National Pollutant Discharge Elimination System (NPDES) permit issued pursuant to Section 402 of the Clean Water Act, 33 U.S.C. §1342. Additionally, U.S. EPA regulations require NPDES permits for stormwater discharges associated with industrial activity such as logging. 40 C.F.R. 122.26.
[22] Northwest Environmental Defense Center v. Marvin Brown, et. al. (filed September 2006 in Oregon District Court)

As discussed in the expert report of Weaver and Hagans, the BLM estimates that about 36%, or 5100 miles of its roads are hydrologically connected; this very likely undestimates the actual extent to which roads are delivering directly to stream. Yet, none of the action alternatives "contain management objectives, management actions or targets for the reduction of hydrologic connectivity and associated fine sediment delivery from the existing road network." Weaver & Hagans at 15.

3. Stream temperature

Increases in stream temperature can retard or preclude meeting §303 beneficial uses including agricultural, industrial, domestic and municipal water supplies, and maintenance of fish, amphibians and other aquatic populations and habitat.

Following is list, excerpted from *An Ecosystem Approach to Salmonid Conservation,*[23] of some of the important physiological and ecological processes with regards to salmonids that are affected by temperature:

- Decomposition rate of organic materials
- Metabolism of aquatic organisms, including fishes
- Food requirements, appetite, and digestion rates of fishes
- Growth rates of fish
- Developmental rates of embryos and alevins
- Timing of life-history events including adult migrations, fry emergence, and smoltification
- Competitor and predator-prey interactions
- Disease-host and parasite-host relationships
- Development rate and life history of aquatic invertebrates

Stream temperature can be affected by point sources and also suffers from nonpoint source impacts. Improvement in stream temperature is a classic target of TMDLs. In the forestry context, ample studies demonstrate stream temperature increases in headwater streams after riparian vegetation removal. Negative impacts can accrue to fish, amphibians and other aquatic species that depend for part of their life cycles on these small streams. Another important adverse fisheries impact of heating up these headwater streams is the loss of the cold water refugia that forms where the normally cold headwater stream enters a larger fish-bearing stream. These areas are often critical for fish survival during warm months.

Deficiencies w/r/t stream Temperature: With regard to protection of stream temperature regimes necessary to support salmonids and other aquatic life beneficial uses, the BLM's findings that stream temperatures will be adequately maintained to protect aquatic life and meet water quality standards is based on a "limited and selective view of riparian science," that "is heavily skewed

[23] Spence et al. 1996 at §5.1.2, *see* supra note 3.

toward consideration only of the shade function," despite other important factors determinant of stream temperature. (McCullough at 5 and 12). The McCullough report finds that the BLM's proposed riparian management would allow significant degradation of riparian conditions, including reductions in existing levels of effective shade, that will have impacts on stream temperatures, fish, and other aquatic biota. FWS, EPA and NMFS have evaluated data regarding the impacts of harvest in riparian areas on stream temperature and that these findings were apparently not considered in the DEIS. (Oregon Department of Forestry and Department of Environmental Quality 2002; National Marine Fisheries Service 2001)

4. Stream Flow Regimes

§303 beneficial uses affected by stream flow include agricultural, industrial, domestic and municipal water supplies, recreation, aesthetic enjoyment, power generation, water storage and maintenance of fish and other aquatic populations and habitat.

An Ecosystem Approach to Salmonid Conservation summarizes some of the impacts that altered flow regimes have on salmonids[24]:

> Stream discharge strongly influences the amount of habitat available to salmonids and the physical characteristics of those habitats; thus hydrologic changes influence salmonids in a variety of ways. Increases in peak flows can scour spawning gravels, change substrate size, redistribute large woody debris within the channel, facilitate channel incision or widening, and accelerate bank erosion. Reduced summer low flows can dewater stream reaches, prevent or inhibit fish migration, and produce higher summer temperatures. Changes in the seasonal timing of flows may disrupt the migration of salmonid juveniles and adults, and may increase the frequency with which disturbances occur during specific life stages (e.g., the incidence of spawning gravel scouring during early fall). In addition, natural flood and drought cycles are important for normal establishment of riparian vegetation. Hydrologic changes in watersheds may indirectly affect salmonid habitats by altering soil moisture content and stability, which affect the rate of sediment delivery to streams via mass failures and surface erosion.

As discussed in the expert review of J. Rhodes, there are serious flaws in the BLM's analysis of impacts on hydrologic regimes from the proposed management alternatives. In sum, the BLM omitted relevant, credible and available science; it used the wrong scale when analyzing peak flow impacts; it focused too narrowly on single processes, ignoring other relevant ones; and its analysis is not transparent as to sources of potential error. Given the significant impacts that altered peak flows have on aquatic ecosystems and species, these defects render the DEIS inadequate with respect to aquatic resources.

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[24] Spence et al. 1996 at §14.2.1, *see* supra note 3.

5. *Channel morphology*

§303 beneficial uses that can be impacted by changes in channel morphology include fish, amphibians and other aquatic organism populations and habitat, and recreation. Land management can either aggrade or incise channels, and these changes in channel morphology can affect stream temperature, aquatic habitat, and how a channel moves sediment and water. Fish and other aquatic species can be adversely affected by changes in channel morphology in several ways including loss of preferred spawning gravels and loss of rearing and winter habitats.[25]

Increasing sediment supply to a stream beyond its capacity to move the sediment may result in channel aggradation.[26] Conversely, increases in the erosive power of the stream without increases in sediment supply can result in erosion of the channel.[27] Changes in channel morphology can impact other stream parameters. For example, the Water Quality Management Plan for the Grande Ronde, Oregon TMDL[28] contains these items on a list of processes that raise stream temperatures in the watershed:

> 4. Removal of riparian vegetation contributes to stream bank and hill slope failures. Roads also contribute to these failures.
> 5. Bank and slope failures contribute sediment to streams and increase the width depth ratio.
> 6. Solar radiation increases when streams become wider and shallower (creating a larger surface area exposed to the sun in relation to volume – higher width depth ratio).

Any loss of protection for waters that results in additional sediment inputs to streams, and/or loss of sediment storage in a watershed (including in wetlands), may potentially result in changes to downstream channel morphology. Similarly, changes in stream discharge, such as increases in the frequency or magnitude of peak flows, that could result from filling in wetlands could also result in changes channel morphology.

6. *Headwater Function affects physical aquatic habitat for fish.*

Headwater stream function is critical to maintaining and restoring watershed function and fully protecting beneficial uses. Attainment of §303 beneficial uses relating to fish cannot be meaningfully discussed without reference to the condition of headwater streams, many of which exhibit only seasonal flow, and wetlands. In addition to the critical role that these areas play regarding water quality as discussed above, small, non-navigable streams –including non-perennial stream- are critical to fish both because they provide habitat themselves and because their management strongly affects the physical formation of fish habitat in the larger streams lower in the watershed.

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[25] Reid 1993 at p. 82-83, *see* supra note 21.
[26] Beschta et al. 1995 at §7.5-79, *see* supra note 24.
[27] *Id.*
[28] http://www.deq.state.or.us/wq/TMDLs/TMDLs.htm

In the Pacific Northwest, headwaters make up 85% of total stream miles, taking the form of seeps, rivulets and cascading flows.[29] As one author explains, "If riparian vegetation is the "aorta of an ecosystem" (Wilson 1979), then headwaters should be considered as the capillaries of the system; they also must be healthy if the system is to function properly."[30]

Intermittent streams play an important role in creating and maintaining the physical habitat structure that fish rely on. Headwater systems provide a functional link between terrestrial processes and fish bearing streams.[31] Employing the River Continuum Concept[32] to riparian protection measures would result in the greatest protection occurring in headwater zones.[33] Importantly, intermittent streams store large wood, later providing it to larger streams.[34] Near natural movement of sediment and organic matter in watersheds is required to ensure creation of adequate habitat conditions for aquatic species and to preserve their food resources.

Small streams and wetlands also provide breeding and rearing habitat for fish that later move downstream. For example, coho salmon spawn and the juveniles rear in smaller, upper tributaries and spring Chinook spawn in the headwaters.[35] Other native fishes including sculpins and suckers also spawn in large numbers in secondary channel branches and in floodplain tributary channels, including those that go dry as surface waters and groundwater tables recede in the summer months. In addition, wetlands may contribute to maintaining variable, but moderate streamflows; cool, well oxygenated, unpolluted water; relatively sediment-free streambed gravel; an adequate food supply; and instream structural diversity provided by woody debris all of which are required by salmonids.[36] Many of these areas receive no special protection under any statutes other than the CWA's water quality standards and section 404 provisions (although in practice smaller floodplain wetlands and channels are too often neglected).

Many species depend on small stream and wetlands for one or more portions of their life cycle, and the Act's protection for these areas likely plays an important role in preventing the conditions that would lead to listing more species as threatened and endangered under the Endangered Species Act (ESA). If fully implemented, the CWA offers protection to wetlands

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[29] Bury, R. Bruce. 1988. Habitat relationships and ecological importance of amphibians and reptiles. Pp. 61-76. In K.J. Raedeke, Ed. Streamside management: riparian wildlife and forestry interactions. Institute of Forestry Resources, University of Washington, Contribution Number 59.
[30] Bury 1988, *see* supra note 47.
[31] Gomi, T., R.C. Sidle, and J.S. Richardson. 2002. Understanding processes and downstream linkages of headwater systems. Bioscience 52(10):905-916.
[32] Vannote, R.L., G.W. Minshall, K.W. Cummins, J.R. Sedell, and C.E. Cushing. 1980. The river continuum concept. Canadian Journal of Fisheries and Aquatic Sciences 37:130-136.
[33] Noss, R.F. ed. 2000. The redwood forest: History, ecology, and conservation of the coast redwoods. Island Press. Covelo, California.
[34] *Id.*
[35] Lichatowich, J. 1999. Salmon Without Rivers. Island Press. 317 pp.
[36] Spence et al. 1996 at §6.10.3, *see* supra note 3, *citing* Cederholm, C.J. 1994. A suggested landscape approach for salmon and wildlife habitat protection in western Washington riparian ecosystems. Pages 78-90 *in* A. B. Carey and C. Elliot, editors. Washington Forest Landscape Management Project Progress Report. Washington Department of Natural Resources, Olympia, Washington.

and small streams that can provide proactive maintenance of healthy populations of a myriad of species that depend on these areas.

7. *Non perennial waters provide important physical aquatic habitat for fauna other than fish, including amphibians, reptiles and fresh water mollusks.*

"Temporary" streams, wetlands, and wet meadows provide important breeding, rearing, and dispersal habitat for many endangered and at-risk amphibian species.[37] For example, within the planning area, some amphibian species breed only in mountain streams including the tailed frog and Cope's salamander, and torrent salamander – all Bureau special status species.[38] The red-legged frog breeds in intermittent waters.[39] In addition, some reptile species and many fresh water mollusks depend on wetlands and small streams. Western pond turtles – a Bureau Sensitive Species -- rely on wetlands,[40] and many freshwater mollusk species are restricted to single stream systems, seeps and springs.[41]

We note that page LVII of the WOPR DEIS concedes that the habitat needs of species associated with intermittent streams would not be met under alternatives 2 and 3. These findings conflict with the federal agency duty to meet Clean Water Act requirements to maintain water quality for aquatic organisms.

D. The Agency's proposal must comply with Oregon's Antidegradation Policy implementing the Clean Water Act. OAR 340-041-0004 et. seq.

Oregon's Antidegradation Policy applies broadly to all "decisions that affect water quality" and is intended to prevent "unnecessary further degradation from new or increased point and nonpoint sources of pollution . . . . and to protect, maintain, and enhance existing surface water quality to ensure the full protection of all existing beneficial uses." OAR 340-041-004. With certain enumerated exceptions, decisions which would degrade water quality are required to undergo an "antidegradation review."

1. Waters Meeting Standards (High Quality Waters). The duty not to degrade these high quality waters without a showing is non-discretionary. Where water quality standards are being met, Oregon's policy is "that level of water quality must be maintained and protected," unless – after intergovernmental and public participation processes are completed – it is determined that: (1)

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[37] *See e.g.*, Knutson, M.G., J.R. Sauer, D.A. Olsen, M.J. Mossman, L.M. Hemesath, and M.J. Lannoo. 1999. Effects of Landscape Compositions and Wetland Fragmentation on Frog and Toad abundance and Species Richness in Iowa and Wisconsin, U.S.A. Conservation Biology 13:1437-1446; and Lowe, W.H. and D.T. Bolger. 2002. Local and landscape scale-predictors of salamander abundance in New Hampshire headwater streams. Conservation Biology 16:183-193.
[38] FEMAT 1993, Appendix V-E
[39] *Id. citing* O'Connell, M.A., J.G. Hallet and S.D. West. 1993. Wildlife use of riparian habitats: A literature review. TFW-WL1-93-001, *citing* Hayes, M.P., Jennings M.R. 1986. Decline of ranid frog species in western North America: Are Bullfrogs (*Rans catesbeiana)* responsible? Journal of Herpetology 20: 490-509.
[40] FEMAT 1993
[41] *Id.*

the action is "necessary," i.e. benefits outweigh environmental costs; (2) water quality standards are met, and; (3) federal threatened and endangered species "***will not be adversely affected***". (emphasis added).

The rules note that "Insignificant temperature increases . . . ,are not considered a reduction in water quality." OAR 340-041-0004 (3)(c). However, based on the analysis of Dale McCullough, PRC finds that there is not a rational scientific basis to find that the proposed reduction in riparian protection will not lead to a significant increase in stream temperatures. (McCullough Report, passim). The rules also note that Short Term Water Quality Degradation with substantial and desirable environmental benefits may be allowed, but the weakened aquatic conservation measures proposed in the DEIS would not meet this exemption from antidegradation review.

2. Impaired/303d Waters. Where water quality already is impaired, further degradation will only be allowed upon the application of an exception by the Oregon Environmental Quality Commission or ODEQ based on certain required findings in addition to those required to degrade waters meeting or exceeding standards. OAR 340-041-0004 (9).

3. Outstanding Resource Waters have the smallest allowance for exceptions to the state policy's presumption against water quality degradation. OAR 340-041-004 (8). X

The DEIS does not address the proposal's compliance with the antidegradation aspect of water quality standards in any meaningful way.

Antidegradation compliance has been flagged as a priority in Oregon. According to its the State Watershed Recovery Plan "DEQ will implement its antidegradation water quality standard to address degradation of water quality that is currently cleaner than parameter specific water quality standards would allow . . . . and will work with . . . . federal natural resource agencies to ensure the antidegradation standard is implemented for nonpoint sources."

E. Stream Temperature Analysis Demonstrates Misplaced Reliance on USFS/BLM TMDL Implementation Strategies Guidance (USFS/BLM, September 9, 2005).

The basis for the agency's findings with regard to management impacts on shade and stream temperature relies on a mis-interpretation of the applicable water quality standards (these must include approved TMDL load allocations) and an over-interpretation of existing guidance which itself lacks technical merit. BLM appears to have decided that all they need to do at most is meet 80% effective shade, not the TMDL targets or the actual temperature standards.

In sum, the BLM has used EPA/DEQ approval of a guidance document that attempts to describe what kind of discretion federal managers have under the Northwest Forest Plan to do riparian management and thinning in an attempt to undermine the whole approach. This reliance is misplaced for numerous reasons detailed in the McCullogh Report.

We note that the BLM/USFS Implementation Strategy is peppered with caveats such as: "The proposal is not intended to depart from the precautionary principle but is intended to accommodate, with regulatory certainty, active management of riparian areas.:). See particularly pages 11 ("Eighty percent does not represent a minimum threshold, standard, or load allocation but simply that point beyond which a reduction in stream temperature as a function of shade may not be measurable) and 15 (Riparian reserve sufficiency) and pages 17 et. seq. ("When effective shade increases beyond 80%, the trees behind the trees that block solar radiation provide minimal additional shade. Thus, it is assumed that an insignificant change in temperature would result as a function of increasing effective shade beyond 80% "(Figure 2) (page 20)

The intent of the Implementation Strategy was to help the federal management agencies propose riparian management projects that minimize reductions in effective shade at the site level – not to create a landscape-wide plan for managing all riparian areas for logging. The BLM seems to have nonetheless ignored all of the caveats at the top of page 25 about riparian management.

F. The BLM does not demonstrate compliance with approved TMDLs.

The existing Northwest Forest Plan provisions have been approved by EPA in numerous instances as adequate to provide reasonable assurance that the load allocations determined in TMDLs for both sediment and temperature will be met. No such supportable finding is made in the DEIS.

G. Conclusion: The DEIS Fails to Demonstrate Compliance with the Clean Water Act

Water quality standards under the Clean Water Act apply not only to fishbearing, perennial, or "high intrinsic potential" streams, but to all waters of the state. In order for the BLM's management plan to meet minimum water quality requirements, it must ensure that water quality standards and the beneficial uses they are designed to protect are, in fact, fully protected. These uses include all aquatic life -- not just salmonids.

The default riparian buffers and prescriptions of the Northwest Forest Plan's ACS – including the overarching principle that deviation from these defaults requires watershed analysis that demonstrates that any management within the buffers (Riparian Management Areas, RMAs) promotes maintenance or recovery of riparian function – remain the best available science to ensure these requirements are met.

As a matter of public policy, it is a waste of public resources for the federal government to engage in revisions to its management plans which do not result in a high likelihood that the new management practices will be sufficient as implementation mechanisms to meet water quality standards, including those which have been translated into watershed-specific Total Maximum Daily Loads. The expenditure of political and financial resources needed to make changes to the existing program should not be wasted on a process that must be repeated time and again in individual watersheds.

We remind the BLM again that compliance with water quality standards means more than attainment of numeric or narrative "criteria." Antidegradation obligations and the overarching duty to "fully protect beneficial uses" also apply.

V. The BLM has not demonstrated compliance with the Endangered Species Act

Under Section 7(a), the BLM has an affirmative duty to conserve species and habitats affected by its management. This duty goes beyond simply avoidance of "jeopardy" for listed species and requires the BLM to use its full authority and discretion to advance species conservation purposes independently of the mandates of other legal authorities. Furthermore, when faced with alternative policy choices, the conservation duty compels the BLM to choose the alternative that best achieves species conservation where non-conservation purposes would be equally served.

PRC finds that the DEIS does not provide us with a rational basis to conclude that the BLM will meet its conservation duty by implementing any of the action Alternatives. Because there are numerous ESA listed species that may be adversely affected by this proposal, PRC also notes that the DEIS does not include analysis to support a "no jeopardy" finding for listed salmon, steelhead, suckers, bull trout and chub. Because ESA compliance is a stated important, in fact determinative, decision standard for this process, it would best serve public policy to refrain from issuance of any final decision until the public has been afforded the opportunity to review the Biological Opinions that must be prepared by USFWS and NOAA Fisheries.

A. The BLM has an Affirmative Conservation Duty toward the species and habitats under its management

The duty under section 7(a)(1) of the ESA to conserve threatened and endangered species directs that all federal agencies "shall, in consultation with and with the assistance of [FWS and NMFS], utilize their authorities in furtherance of the purposes of [the ESA] by carrying out programs for the conservation of endangered species and threatened species ...." Section 2(c)(1) further "declare[s] . . . the policy of Congress that all Federal departments and agencies shall seek to conserve endangered species and threatened species and shall utilize their authorities in furtherance of the purposes of [the ESA]." Conservation under the ESA means "to use and the use of all methods and procedures which are necessary to bring any endangered or threatened species to the point at which t he measures provided pursuant to [the ESA] are no longer necessary."

The conservation provision was interpreted by the Supreme Court in Tennessee Valley Authority (TVA) v. Hill, where the Court concluded that the ESA's call for federal agencies to carry out programs for the conservation of endangered and threatened species is "no less than "stringent, mandatory language" that "reveals an explicit congressional decision to require agencies to afford first priority to the declared national policy of saving endangered species." TVA v. Hill, 437 U.S. 153 (1978) at 183, 185. In essence, this means that the ESA gives "endangered species priority over the primary missions of federal agencies." Id. at 185.

Importantly, the BLM's conservation duty goes beyond that which is required to avoid jeopardy – the focal requirement of the Section 7 consultation process that will ensue prior to a Record of Decision on WOPR. *See e.g.* Carson-Truckee Water Conservancy District v. Watt, 741 F. 2nd 257, at 261-262 (9th Cir. 1984) cert. denied, 470 U.S. 1083 (1985) (finding Section 7(a)(1) grants wide discretion to administer all programs to advance conservation and is not limited to jeopardy-avoidance actions). The BLM, therefore, need not skimp on species conservation for fear of running afoul of its other mandates – including the O & C Act – because the ESA grants broad discretion to advance species conservation purposes that supercede the mandates of other legal authorities.[42]

When faced with alternative policy choices, the ESA's conservation duty also restricts the agency's discretion to choose among alternatives. Caselaw tells us that if an alternative to a challenged action would be equally as effective at serving the BLM's non-conservation interests, but would enhance conservation to an equal or greater degree then the agency must adopt the better conservation alternative. Pyramid Lake Paiute Tribe v. United States Department of the Navy, 898 F.2d 1410 (9th Cir 1990) (balancing conservation duty against conflicting discretionary duties).

The caselaw also indicates that to the extent the BLM chooses management actions which do not maximize species conservation, that is should be prepared to articulate the rational connection between some set of relevant factors at the management decision being made. NWF v. Hodel, 23 Env't Rep. Cas. (BNA) 1089, 1092 (E.D. Cal Aug. 26, 1985).

Where recovery plans have been established, this conservation duty extends to implementing the relevant provisions of these plans to accomplish the Act's goal of recovery. *See* Southwest Center for Biological Diversity et. al. v. Bartel et. al, Case No. 98-CV-2234-B(JMA) (finding that the ESA requires the FWS to follow through with measures identified in recovery plans). The DEIS does not mention the BLM's duties arising from recovery plans that do exist, such as that for the Oregon chub,[43] and make no specific commitments based on the fulfillment of recovery plan objectives.

B. ESA duties can include an obligation to actively address the continuing adverse impacts of past management actions, most notably including the existing road system

Natural resource damage from roads is a thorny policy issue, largely because most problems stem from poor road location and design choices that were made decades ago, and because active restoration and significant investment usually are needed. Nonetheless, the legal and financial

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[42] We note, however, that even the ESA does not authorize a federal agency to do something that it has no power to do under its enabling statutes. Sierra Club v. Babbitt, 65 F.3d 1502 (9th Cir. 1995) (maintaining the NWFP's aquatic protections would not require the BLM to go beyond the powers it is given in FLPMA).

[43] U.S. Fish and Wildlife Service. 1998. Oregon Chub(Oregonichthys crameri) Recovery Plan. Portland, Oregon. 69+ pp; http://ecos.fws.gov/docs/recovery_plans/1998/980903b.pdf.

responsibility for road-related public natural resource damage on BLM lands belongs to the agency.

Roads management has received specific objectives to be achieved through watershed analysis in influential biological opinions on forest plans affecting wide-ranging salmon, steelhead and bull trout. Some opinions have required that watershed analyses be conducted to: serve as the "primary process for integrating and interpreting amended road information, inventories and other potential information," (NMFS, Salmon and Steelhead BO, 1998), and to address "the design and prioritization of . . . culvert replacement upgrades and road decommissioning actions." (USFWS, Bull Trout Biological Opinion, 1998).

Relevant direction includes current NOAA Fisheries guidance for federal lands consultations, which recognizes a series of indicators that relate directly to the impacts of roads on salmonids in making jeopardy determinations. These indicators include:

- Road density: properly functioning is characterized as being less than 1 mi^2 for bull trout watersheds and < 2 mi^2 for salmon and steelhead watersheds.
- Road location: the existence and extent of valley bottom roads are deemed relevant to proper watershed function.
- Increase in drainage network: properly functioning is defined as zero or minimum increases in active channel length correlated with human caused disturbance (e.g. trails, roadside ditches, compaction, impervious surfaces etc.)
- Change in peak/base flows: "watershed hydrograph indicates peak flow, base flow, and flow timing characteristics comparable to an undisturbed watershed of similar size, geology and geography."
- Floodplain connectivity: channel able to interact with floodplain at higher flows.
- Substrate character and embeddedness: gravels/cobbles have clear interstitial spaces, reach embeddedness < 20%.
- Physical barriers: human-made barriers present in watershed allow upstream and downstream fish passage at all flows.
- Suspended sediment/intergravel dissolved oxygen/turbidity. Turbidity in NTUs is preferred indicator, "low" values desired. Ballpark values for intergravel and surface fines.[44] [45]

C. Conservation Needs of Unlisted Stream-Associated Amphibian Species Include Headwater Protection

With regard to unlisted species, the BLM has a duty to avoid taking actions that would contribute to the need to list. In Seattle Audubon Society v. Lyons, 871 F. Supp. 1291 (W.D. Wash 1994),

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[44] USDA-FS, NOAA-NMFS, USDI-BLM, USDI-FWS, "Analytical Process for Developing Biological Assessment for Federal Actions Affecting Fish Within the Northwest Forest Plan Area," Appendix A, Table of Population and Habitat Indicators, November 2004.

[45] Oregon Department of Environmental Quality. 2002. Nestucca Bay Watershed Total Maximum Daily Load. April 2002 (p 2, 63, 72).

the court held that the BLM appropriately construed Section 7(a)(1) to authorize actions necessary to minimize the need to list species in the future. Id at. 1314. The O&C Lands Act did not limit the BLM's discretion to manage federal lands so as to minimize future listings. As the court states, "the BLM is a steward of these lands, not merely a regulator." Id.

The WOPR proposals do not demonstrably avoid contributing to the need to list stream-dependent amphibians. Amphibians such as the inland tailed frog, Cascade and Columbia torrent salamanders, and the Foothill yellow-legged frog are stream-associated species that require breeding and rearing habitat above stream reaches occupied by salmonids. Conservation of these species therefore depends on the effective conservation of smaller perennial and nonperennial headwater reaches. As discussed elsewhere in these comments, the WOPR proposes management prescriptions are not demonstrably effective to protect these smaller stream reaches against logging-related impacts harmful to headwater stream functions and processes, and therefore to amphibians. We note that the proposed plan falls short in some key respects of the minimum protections deemed necessary to protect amphibians in Washington's statewide Forests Practices HCP. (Washington State Department of Natural Resources, Draft Forest Practices Habitat Conservation Plan, December 2004, chpt. 4) (50 foot no-cut provided on more stream types than Alternative 2). The WOPR management alternatives area likely to leave significant stretches of important streams and site-specific habitat open to logging, including large clearcuts, and associated activities, leading to local extirpations and increased habitat fragmentation.

Studies have specifically linked clearcut units and unbuffered streams with reductions in populations of tailed frogs. (Bury and Corn, 1988, Corn and Bury, 1989, Welsh 1990, Bury et. al. 1991, Bull and Carter, 1996, Dupuis and Stevenson 1999). To the extent that large clearcuts in upland areas still are allowed under the WOPR, these activities are likely to severely limit the populations of tailed frogs, as well as other amphibians sensitive to intensive harvest.

Research on effective size and configuration of buffer areas, though not entirely clear, puts the effectiveness of the WOPR as a conservation plan for amphibians squarely in question. Olson et. al. 2007 supports the protection of entire headwater patches that retain connectivity between subdrainages at the 6th field watershed scale. The FWS has recognized that riparian and aquatic strategies consisting of buffers averaging less than 100 ft. may not be adequate on small streams, and the extreme sensitivity of some wetlands, seeps, springs, and source areas may necessitate even larger minimum buffers. USFWS (1998).

Furthermore, although maximum shading capacity may be within a width of 25 m with 90% of that capacity occurring at 17 m (see Budd et al. 1987), it appears that widths of 30 m or more are needed to stabilize microclimates within streamside riparian zones (Brosofske et al. 1997). To reduce sediment flow and maintain other riparian functions, the minimum buffer width may need to be 60–80 m wide (Ledwith 1996, Welsh et al. 1998) or up to 100 m (McComb et al. 1993). Vesely and McComb (2002) reported that minimum buffer strips on most private forests (6.1 m along medium-sized streams and no buffers along headwaters in Oregon) may not be sufficient to ensure that amphibian communities in managed stands remain as diverse as in unlogged

forests, recommending buffers on all permanent headwater streams and buffer strips 20 m wide or more on all streams. (Bruce M. Bury, Personal communication, 2004).

Once impacted, populations may not recover for many decades. Bury and Pearl found that stream amphibians in the Oregon Coast Range had not recovered 35-50 years after clearcut harvesting. (Bury and Pearl 1999; Major and Bury, 2001). Harvest of stands every 60-70 years may be too frequent for sensitive species (e.g., torrent salamander and tailed frog) to recover. (Bruce Bury, personal communication, 2004).

D. A Biological Opinion, or at least the rationale for a Section 7 determination should be published with opportunity for public comment

Because the minimum requirements of the Endangered Species Act, including those under Section 7, are key decision standards for the proposed action, meaningful public review requires scrutiny of the proposed action's likely compliance with the ESA. Therefore, it would be highly appropriate to include at least a draft biological opinion in the public review package.

We note that the public policy reasons for integrating ESA compliance with NEPA review have led the Services to begin integrating section 7 consultation into the public participation phase of Habitat Conservation Plans, treating the two processes as "concurrent and related, not independent and sequential, processes." USFWS and NMFS HCP Handbook, 1996 at 3-16. Using the same logic, it would be highly appropriate to include at least a draft biological opinion in this review package

VI. The BLM has not adequately met its legal obligations regarding Wild and Scenic Rivers

The DEIS does not adequately evaluate the proposal's impacts on protected values of designated, eligible or suitable Wild and Scenic River segments or on factors relevant to segment classification as wild, scenic or recreational. Specifically, reasonably foreseeable impacts from land management changes within, upslope and/or upstream of river corridors are not disclosed, nor are water quality impaired segments given any consideration. Further, the DEIS does not meaningfully demonstrate how the action alternatives will provide adequate protection to designated, eligible and suitable rivers segments. Lastly, the there is no evidence in the available public documents that potential additions to the National Wild and Scenic River System were considered during this planning process, as required by statute and implementing rules and guidance.

A. The DEIS does not Adequately Evaluate the Proposal's Impacts on Designated, Eligible or Suitable Wild and Scenic Rivers

The DEIS fails to consider potential additions to the WSR System in this planning action, as required by statute and implementing rules and guidance. There is no evidence in the available public documents that potential additions were considered during this planning process.

Protective management under the Wild and Scenic Rivers Act of federal lands begins at the time a river segment is found eligible. Identified Outstandingly Remarkable Values (ORVs) must be afforded adequate protection, subject only to valid existing rights. Adequate protection requires sound resource management decisions based on National Environmental Policy Act (NEPA) analysis.

According to the Interagency Wild & Scenic Rivers Council, management prescriptions for eligible river segments should provide protection as follows:

> *Free-flowing Values.* The free-flowing characteristics of eligible river segments cannot be modified to allow stream impoundments, diversions, channelization and/or rip-rapping to the extent authorized under law.
>
> *River-related Values.* Each segment shall be managed to protect Outstandingly Remarkable Values (subject to valid existing rights) and, to the extent practicable, such values shall be enhanced.
>
> *Classification Impacts.* Management and development of the eligible river and its corridor should not be modified, subject to valid existing rights, to the degree that its eligibility or tentative classification would be affected (i.e., its tentative river area classification cannot be changed from wild to scenic, or from scenic to recreational).

The WOPR DEIS does not adequately evaluate the impact of any of the Action Alternatives on either free flowing or river-related values, nor on the classification of eligible, suitable or designated segments. The BLM further fails to fulfill its duty to consider potential additions to the Wild and Scenic River System in this planning process.

B. The BLM is Required to, but did not, Consider Potential Additions to the National Wild and Scenic Rivers Act in the Plan Amendment Process

As noted during scoping, the BLM is required by the National Wild and Scenic Rivers Act of 1968 (as amended) (WSRA) to consider potential additions to the National Wild and Scenic Rivers System during plan amendment.

> "In all planning for the use and development of water and related land resources, consideration shall be given by all Federal agencies involved to potential national wild, scenic and recreational river areas, and all river basin and project plan reports submitted to the Congress shall consider and discuss any such potentials. The Secretary of the Interior and the Secretary of Agriculture shall make specific studies and investigations to determine which additional wild, scenic and recreational river areas within the United States shall be evaluated in planning reports by all Federal agencies as potential alternative uses of the water and related land resources involved."[46]

[46] National Wild and Scenic Rivers Act of 1968, 16 U.S.C. § 1276(d)(1).

The BLM Manual (8351) elaborates on this Congressional directive and provides instructions on how to implement it.[47] Additional clarification is found in a BLM Instruction Memorandum issued by the Washington Office.[48] As noted in scoping on the proposed action by A. Kerr, this direction from the BLM Director is detailed and unambiguous but in previous planning efforts BLM nonetheless failed adequately identify and evaluate many potential wild, scenic and recreational rivers in Western Oregon. (Kerr, 2005).

According to the WSRA and BLM Manual, the BLM must consider potential additions to the National Wild and Scenic Rivers System as an integral part of revising the six BLM resource management plans for Western Oregon.[49] BLM must include in each plan revision: (1) A Free-Flowing River Inventory; (2) An Eligibility Determination; (3) Protective Management for Eligible Rivers; (4) A Suitability Determination; (5) Public Participation.

1. Free-Flowing River Inventory. An inventory of free-flowing ("Existing of flowing in natural condition without impoundment, diversion, straightening, rip-rapping, or other modification of the waterway")[50] "rivers" ("A flowing body of water or estuary or a section, portion, or tributary thereof, including rivers, streams, creeks, runs, kills, rills, and small lakes")[51] within "BLM administered lands and related waters."[52] The presence of dams or diversions on a river, either upstream or downstream of the free-flowing segment, does not disqualify it from consideration.[53] The inventory of free-flowing rivers must be comprehensive:

a. There is no minimum length for free-flowing segments. The BLM Manual states "Congress has designated a segment as short as .4 miles. A river segment is of sufficient length if a specific outstandingly remarkable value(s) can be protected (a factor in the suitability determination, not eligibility determination) should the segment be designated."[54]

b. A "river" need not be perennially flowing or even "floatable or boatable" at any time of the year. A seasonal or episodic flow does not, per se, disqualify a free-flowing river from inclusion in a free-flowing river inventory.[55]

c. Adjoining land need not be entirely BLM land. According to the BLM Manual, "(i)n cases where a particular river segment is *predominately* non-federal in ownership

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[47] BLM Manual 8351. Wild and Scenic Rivers – Policy and Program Direction for Identification, Evaluation and Management (Dec. 22, 1993), *hereinafter* "BLM Manual."
[48] Director, National Landscape Conservation System, Bureau of Land Management. Clarification of Policy in the BLM Manual Section 8351, Wild and Scenic Rivers, with Respect to Eligibility Criteria and Protective Management. Instruction Memorandum No. 2004-196. (June 21, 2004), *hereinafter* "BLM IM No. 2004-196."
[49] BLM Manual 8351.06B (Evaluation) at 10.
[50] BLM Manual 8351 (Glossary of Terms) at 38.
[51] BLM Manual 8351 (Glossary of Terms) at 39.
[52] BLM Manual 8351.01 (Purpose) at 5.
[53] BLM Manual 8351.31B (Free-Flowing) at 16.
[54] BLM Manual 8351.24A at 14.
[55] BLM Manual 8351.31B.1 at 16, *also* BLM IM No. 2004-196.

and contains interspersed BLM-administered lands, BLM shall evaluate only its segment as to eligibility and defer to either the State or private landowners' discretion as to their determination of eligibility" (emphasis added).[56] Predominately means "for the most part: MAINLY."[57] BLM lands in Western Oregon are predominantly—but not exclusively—a checkerboard configuration of land ownership with other federal, state and private lands. Where a free-flowing river flows through a checkerboard configuration, BLM must first determine if it is the majority (predominant) landowner. If it is, BLM must evaluate the entire river segment for eligibility (see below). If it is not, BLM must evaluate only its portions of the river of the free-flowing river segment for eligibility.

2. Eligibility Determination. "To be eligible, a river segment must be 'free-flowing' and must possess at least one river-related value considered to be 'outstandingly remarkable.'... No other factors are considered in determining the eligibility of a river segment."[58] "Determinations of eligibility must be documented ... prior to the formulation of alternatives but no later than the release of the draft RMP [Resource Management Plan], or plan amendment."[59]

a. Outstandingly Remarkable Values (ORVs). The BLM Manual defines "outstandingly remarkable values" as "(v)alues among those listed in Section 1(b) of the [National Wild and Scenic Rivers] Act: 'scenic, recreational, geological, fish and wildlife, historical, cultural, or other similar values....' Other similar values may be hydrological, scientific or research values."[60] In determining what constitutes an outstandingly remarkable value, we recommend that BLM rely not only on the guidance provided in its manual,[61] but to review (1) the vast array of specific and distinctive ORVs that have been ascribed to the various units of the National Wild and Scenic Rivers System (NWSRS), particularly (2) those units of the NWSRS in Oregon and especially Western Oregon and (3) Forest Service potential Wild and Scenic River WSRA eligibility determinations, as specified in their land and resource management plans, especially in Western Oregon.

b. Tentative Classification. After a river segment is determined eligible for inclusion in the NWSRS, BLM must recommend the classification of the segment as either "wild," "scenic" or "recreational."[62]

3. Protective Management. Upon a determination of eligibility and assignment of tentative classification(s), BLM must provide "adequate protection" to the free-flowing

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[56] BLM Manual 8351.06B (Evaluation) at 10.
[57] Merriam-Webster's 11th Collegiate Dictionary, Macintosh Computer Edition, Ver. 3.0.
[58] BLM Manual 8351.31A at 15.
[59] BLM Manual, 8351.31 at 15.
[60] BLM Manual 8351 (Glossary of Terms) at 39.
[61] BLM Manual 8351.31C (Outstandingly Remarkable Values) at 16-17.
[62] BLM Manual 8351.32 (Classification and Protective Management) at 18-19.

nature of the "river," the ORV(s) and the tentative classification (a "wild" classification cannot be allowed to degrade into a "scenic" classification, etc.).[63]

4. Suitability Determination. "Each eligible river segment is further evaluated in the RMP process to assess whether or not it would be suitable for inclusion in the NWSRS."[64] "In most cases, BLM will assess river suitability in the RMP process and document the tentative classification of the appropriate segment(s) (wild, scenic and/or recreational). In assessing eligible river segments in the planning area, the RMP must prescribe measures to ensure protection for the segment as well as adjacent lands pending a final suitability determination and, if applicable, subsequent action by Congress. "Where a suitability determination cannot be made in the RMP, a separate EIS may be required to make that determination.... The projected schedule for completing the suitability evaluation, and other relevant information shall also be set forth in the RMP...." "...(A)ll eligible river segments shall be evaluated for suitability or nonsuitability using the BLM RMP process." (emphasis in original).[65]

5. Public Participation. BLM is required to consider for potential eligibility status, "(r)iver segments identified in public scoping during the RMP process."[66] The current DEIS makes *no* mention of BLM's significant obligations under BLM Manual 8351 to satisfy the Congressional command of the Wild and Scenic Rivers Act. The BLM has a duty to conduct a supplemental process that specifically asks the public to make WSRA nominations.

Caselaw confirms the scope of agencies' duties under the to discover rivers eligible for inclusion in the National Wild and Scenic River System. Center for Biological Diversity v. Veneman, 394 F. 3d at 1110; see also Washington County, Utah, et. al., 147 IBLA 373, 377 (March 4, 1999) (discussion of section 5 (d) mandate); SUWA, 132 IBLA 255 (April 19, 1995) (rejecting groups challenge to section 5 (d) inventory as pre-decisional).

Once identified, such potential additions to NWSRS or eligible rivers are to be taken into account by Federal agencies in all planning activities (at either the programmatic or site specific level). In sum, section 5 (d)(1) "requires all [Federal agencies] to take into account potential scenic river areas in their planning activities and directs the Secretary of the Interior and the Secretary of the Agriculture to determine what scenic river areas there are that should be taken into account by such agencies." H.R. Report 90-1623 at 3811.3

According to the Ninth Circuit, section 5 (d)(1) of the WSRA requires federal agencies to "consider specific rivers when planning for specific projects. For example, the Forest Service's failure to consider a specific [eligible] river when granting a license to permit livestock grazing

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[63] BLM Manual 8351.32C (Protective Management) at 19.
[64] BLM Manual 8351.33 (Determination of Suitability) at 20.
[65] BLM Manual 8351.33A. (RMP Preference) at 20.
[66] BLM Manual 8351.23 (Other Sources) at 14.

within the watershed of that specific river" could be deemed a violation of section 5 (d)(1) of the WSRA. Center for Biological Diversity v. Veneman, 394 F. 3d at 1114. Once a "potential addition" or eligible river is identified by federal agencies, the procedural obligations of section 5 (d)(1) are triggered. [67]

C. What analysis did the BLM do and why is it deficient?

Wild and Scenic River resources are discussed most prominently in Chapter 2 (Alternatives) in Table 58 "District-specific designated wild and scenic rivers and river segments,"; Table 59, "District-specific suitable wild and scenic rivers and river segments; " and Table 60, "District-specific eligible wild and scenic rivers and river segments," DEIS pages 146-152.

In sum, there are 12 affected designated river segments totaling 104 miles; 9 affected "Suitable" segments totaling 117.9 miles, and a staggering 101 eligible segments totaling 1753.9 miles that are affected by this proposal. Rivers found eligible are supposed to be managed so that their Wild and Scenic values are preserved until a designation decision is made.

Although the charts list river miles and BLM acres, nowhere does BLM present such relevant but easily calculable statistics as the proportion of BLM acres in the river corridor (which we know are available because totals by river class are included in Table 128), nor are alternatives compared using any method for their differential impact on Wild and Scenic Rivers.

There is very little ink given to Wild and Scenic River resources and impacts in Chapters 3 (Affected Environment) or 4 (Environmental Consequences) of the DEIS. Discussion is concentrated in two areas of Chapter 3: Visual Resources, at pp. 420-421 (clarifying that rivers designated as wild are visual resource inventory Class I); National Landscape Conservation System pp. 422-424 and one page in Chapter 4, "Environmental Consequences: National Landscape Conservation System."

Although the DEIS states that "all wild and scenic river corridors would not be included in the harvest land base under all four alternatives" only wild rivers are withdrawn from timber harvest. DEIS at 793. With regard to designated, eligible or suitable river segments, the DEIS nonetheless concludes that outstandingly remarkable values would be protected because:

- Designated, suitable and eligible "wild" segments are withdrawn from timber harvest (Table 28, page 424), and
- In "scenic" or "recreational," eligible and suitable segment corridors "harvesting would be done in a manner that would not impair their free-flowing character,

[67] Id. The Fourth Circuit has adopted a different interpretation of section 5 (d) of the WSRA – determining that the identification of "potential additions" or eligible rivers – such as those documented in the NRI – does not "impose any particular obligations on federal agencies." Hughes River Watershed Conservancy, 81 F. 3d at 450, but the law of the 9th circuit is appropriately applied to the WOPR DEIS.

> classification or outstandingly remarkable values," and because it would be "designed to have either a positive or neutral effect on a river segment's classification." DEIS at 793.

The public must go to some considerable trouble to learn anything relevant to Wild and Scenic Rivers and BLM landownership from the maps, because neither individual segments nor watersheds are labeled. Even with some limited GIS mapping capability – not available to the general interested public -- PRC was unable to generate comprehensible, informative maps on this issue.

We note that the DEIS makes no reference to the underlying documents and history of the eligible or suitable rivers and the planning processes through which they were identified. We note that if a river is determined by the agency to be both free-flowing (as defined in the WSRA) and to posses at least one ORV, then it is per se eligible for inclusion in the NWSRS. *See* Center for Biological Diversity (CBD) v. Veneman, 394 F. 3d at 1111; 16 U.S.C. § 1273 (b) (defining eligibility). Federal agencies may not legally forgo their procedural and substantive obligations in the WSRA by arguing that a particular river or segment thereof is only "potentially" eligible or suitable should be challenged. If the agency makes the requisite findings with respect to eligibility or suitability, then the river qualifies as eligible or suitable and the procedural and substantive obligations of the WSRA apply.

In sum, the BLM's analysis with respect to Wild and Scenic River resources is deficient in at least the following respects:

1. Meaningful Impacts Analysis is Lacking. It does not provide information that allows the public to assess the impacts of the proposed decision on protected segments. For example, it would seem logical to provide data regarding the acres of BLM land in each land classification either within or draining to segment corridors, the land management classifications being proposed for these acres, how these classifications differ from the current ones, and the likely impacts of these changes on the relevant values of the designated segments.

2. Adequate Protection of Identified Segment Values is not Demonstrated. All action alternatives merely restate that the standards of the WSRA will be applied at the project level without an accompanying determination about whether or why the proposed management will meet these standards. The BLM has a duty to disclose the impacts on these river segments that are reasonably foreseeable from the replacement of the existing management plan with each of the alternatives. It does not fulfill this duty.

3. Downstream/Upslope Impacts Are Likely and Should Have Been Presented. The DEIS does not in any way account for the environmental impacts inside river corridors of increased timber harvest outside of river corridors. Such impacts are capable of evaluation, and in fact appear to be likely given the significant reductions in riparian protection and increased timber harvest proposed under this action – management changes which are inadequately explained and which lack a rational basis in a plethora of reasons stated elsewhere in these comments and supporting expert reports.

4. Impaired Segments not Particularly Identified. There is no special consideration given for segments that are already suffering from water quality impairment. We note that as of 1997, PRC estimated that at least 50% of the wild and scenic river segments in Oregon were wholly or partially listed as not meeting water quality standards under the DEQ's 303(d) List.

VII. The BLM's proposed action alternatives are arbitrary and capricious under the APA

The BLM has failed to explain how the WOPR action alternatives will meet the agency's substantive obligations under the O&C Act, the CWA, and the ESA, in violation of the APA. It has also failed to address the concerns that led to the adoption of the NWFP. To withstand arbitrary and capricious review, the BLM must "articulate a satisfactory explanation for its action including a rational connection between the facts found and the choice made" and show that the decision was based on "consideration of the relevant factors." Motor Vehicle Manufacturers Assoc. v. State Farm Mutual Auto. Ins. Co., 463 U.S. 29, 43 (1983). "An agency must cogently explain why it has exercised its discretion in a given manner." *Id.* at 49. For all of the reasons stated in the various sections of these comments, the BLM has failed to meet this standard.

VIII. CONCLUSION

The pervasive and systematic biases, flaws, errors, and oversights in this DEIS preclude it serving as an adequate NEPA document. It is our view that BLM must markedly improve these analyses if BLM is to meet its obligation of disclosure and reasoned analysis, and issue a supplemental DEIS before proceeding with a Final EIS and decision. Alternatively, BLM could withdraw the DEIS and revert to NWFP authority.

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