BEFORE THE OREGON STATE LEGISLATURE
SENATE COMMITTEE ON ENVIRONMENT AND NATURAL RESOURCES
Informational Hearing on Forestry, Fish and Water

Statement of Mary Scurlock
M. Scurlock & Associates
1 July 2015

My name is Mary Scurlock and I am pleased to have been asked to share my perspective on the impacts of forest harvest on fish and water, with an emphasis on nonfederal lands in Oregon. This is an important topic that should include the state's science experts at DEQ, ODFW, ODF, EPA, NOAA and many others. I will speak from my experience in the policy arena, where I have gained familiarity with the scientific literature and issues. (I have included a short description of some of my professional experience in my written statement, only some of which I will include in my oral remarks).

Affiliations and Experience: I am an independent freshwater policy consultant currently representing two conservation-oriented coalitions, both of which deal exclusively with forest practices as they affect aquatic ecosystems on private lands.

In Oregon, I currently serve as the coordinator of the Oregon Stream Protection Coalition, a 23-member ad hoc group of conservation and fishing industry groups united in support of stronger baseline stream protection rules under the Oregon Forest Practices Act. In this capacity I have appeared consistently before the Board of Forestry for the last four years in connection with the design of stream protection rules that are capable of meeting the Board of Forestry's duty to implement management practices that fully comply with water quality standards for stream temperature. This work relates back to issues raised during my two years of service on the state's Forest Practices Advisory Committee, concluding in 2000.

In Washington state, since 2012 I have served as the Forests and Fish Conservation Caucus representative to the Timber, Fish and Wildlife Policy Committee, a standing multi-stakeholder committee of the Washington Forest Practices Board and an integral part of the state's landmark statewide forest practices aquatic habitat conservation plan (WA DNR, 2005) and its adaptive management program.

Prior to 2012, I worked for over twenty years on forest issues as an advocate for freshwater ecosystem conservation across the west at Pacific Rivers Council. My work involved evaluation of a suite of state forest practices rules as well as advocacy for Congressional funding for road-related watershed restoration on federal lands. Projects included evaluation of risks associated with federal forest thinning in riparian areas and coordination of expert science input and comments on numerous state and federal forest policies, including a series of multi-species aquatic conservation habitat conservation plans under the Endangered Species Act in Oregon (Weyerhauser, Elliott State Forest, Tillamook and Clatsop State Forests), Washington (Simpson/Green Diamond & Forests and Fish), Montana and Idaho (Plum Creek) and California (Simpson/Green Diamond). I was educated at Duke University (BA, 1985) and Boston University School of Law (JD, 1989). I am an inactive member of the Oregon State Bar.

Mary Scurlock M. Scurlock & Associates 10717 NW Skyline Boulevard, Portland, Oregon, 97231
503.320.0712 (m) 503.946.8628 (o)

I. FOREST PRACTICES IMPACTS ON STREAMS AND FISH

The potential effects of forest practices on streams, fish and other aquatic species is a broad subject, and includes not only the effects of logging itself, but chemical application and every aspect of moving trees from where they stand out of the forest, i.e. skid trails and roads. In general, however, the more harvest that takes place the near streams the greater the harm to fish and water quality, and the greater the proportion of a drainage basin that is harvested at the same time, the greater the impacts. Forest practices rules in Oregon and elsewhere tend to limit activities in the near stream environment at the site level only -- i.e. in the riparian area and sometimes around other sensitive sites-- and don't generally explicitly limit cumulative watershed effects.

As described by ODFW biologists, there are four key habitat factors influencing fish productivity:

- Stream Complexity
- Large Wood
- Spawning habitat quality
- Water quality

ODFW described the key aspects of these factors that are affected by forest management as:

- Large wood delivery
- Riparian stand condition
- Beaver dams
- Fine sediment
- Cold water[i]

Leaving forest chemical impacts aside for this discussion, the overarching adverse impacts to fish habitat from private timber harvest in Oregon today are caused by:

1) Ground disturbance close to streams, allowing sediment delivery and stream habitat impairment;

2) Reduction of near-stream forest canopies, decreasing shade and allowing solar penetration that warms surface waters and disrupts thermal regimes;

3) Increased risk of landslides from forest removal and road-related slope destabilization;

4) Perpetuation of predominantly young forests or clearcuts in riparian areas, depriving streams of the larger downed wood necessary to regulate instream sediments and form the types of instream habitats with which our wild native fishes evolved.

Numerous authoritative sources are available supporting the need to increase stream protection from logging on private lands in Oregon in order to protect and restore native fish. These include but are not by any means limited to a 1995 report to the Oregon legislature[ii], a 1999 report by the state's own science independent science team,[iii] and a series of findings by a host of federal agencies in connection with Endangered Species Act salmon listings,[iv] water quality standards compliance under the Clean Water Act,[v] and coastal water pollution control under the Coastal

Mary Scurlock M. Scurlock & Associates 10717 NW Skyline Boulevard, Portland, Oregon, 97231
503.320.0712 (m) 503.946.8628 (o)

Zone Management Act.[vi] .

I quote here but a few examples:

- In 1999, when reviewing essentially the same rules in force today, the IMST found that: "Current rules for riparian protection, large wood management, sedimentation, and fish passage are not adequate to reserve depressed stocks of wild salmonids," a common goal of Oregon state policy and the federal Endangered Species Act.[vii]

- In 2001, three federal agencies found: "The evidence is . . . overwhelming that forest practices on private lands in Oregon contribute to widespread stream temperature problems and degraded salmonid habitat conditions. . . . [P]ractices under the [Oregon] FPA adversely affect temperature-related factors such as shade levels, surface erosion, landslide rates, stream morphology and substrate, and landscape-scale conditions." [viii]

- In 2009, a science team's review of the status of Oregon Coast coho salmon, by NOAA's National Marine Fisheries Service did not find evidence to support the adequacy of the Oregon's logging rules to to protect coho salmon, concluding that: "On some streams, forestry operations conducted in compliance with [the OFPA] are likely to reduce stream shade, slow the recruitment of large woody debris, and add fine sediments. Since there are no limitations on cumulative watershed effects, road density on private forest lands, which is high throughout the range of this ESU, is unlikely to decrease." [ix]

- In 2009, an Oregon Department of Forestry study confirmed the implications of prior studies and reviews that harmful stream warming occurs on a widespread basis after harvest in compliance with current forest practices rules intended to protect streams in violation of applicable water quality criteria. In 2012 this study supported a finding by the Board of Forestry "there is evidence that forest practices conducted under existing regulations do not insure forest operations meet the state water quality standard for protecting cold water on small and medium fish streams) and directed the Department to begin the rule analysis process that could lead to revision of the riparian protection standards to increase the maintenance and promotion of shade on small and medium fish streams." (A specific rule proposal will be considered by the Board on July 23, 2015).[x]

- In January 2015, NOAA and EPA "disapproved" Oregon's Coastal nonpoint pollution control program citing the need for found additional management measures (beyond thoese in FPA rules and the voluntary programs) for riparian protection around medium-sized and small fish-bearing streams and along at least some nonfish streams. Concerns were also raised about management of landslide prone areas and legacy roads.[xi]

II. IMPORTANCE OF PRIVATE FOREST LANDS TO NATIVE FISH CONSERVATION

There are 10.6 million acres of private forestland in Oregon, much of which encompasses streams that provide direct habitat for fish and the remainder of which feed into downstream fish-bearing waters. The connection between recovery of native salmon and adequate riparian protection on these lands has been repeatedly made in federal ESA listing and status review

Mary Scurlock M. Scurlock & Associates 10717 NW Skyline Boulevard, Portland, Oregon, 97231
503.320.0712 (m) 503.946.8628 (o)

decisions, particularly for two coho salmon populations listed on the Oregon Coast and in relation to stream temperature, large wood recruitment, road construction, unstable slope management and cumulative effects.[xii]

It is well-established that federal lands management policies alone cannot provide for recovery of wild salmonids. The science report that provided the basis for the 1994 Northwest Forest Plan which established large riparian reserves around streams on federal forests – and which still governs federal lands in western Oregon was clear that despite the low-risk approach proposed for federal lands, private forest streams comprise too much of the landscape for federal lands to carry the full conservation burden for fish recovery in Oregon: "state forest practices rules do not adequately protect ecological effectiveness nor provide any margin of error to accommodate natural disturbances or uncertainties in knowledge. To succeed, the federal Aquatic Conservation Strategy should be accompanied by companion strategies for nonfederal lands."[xiii]

In sum, nonfederal forestlands are a key factor limiting the recovery of native fish. This is true despite the fact that historically there was a great deal more high quality habitat on what is now agricultural land. Federal recovery plans for ESA listed Coho salmon have consistently called for review and improvement of forest practices rules on nonfederal forestlands in Oregon.[xiv]

How are Oregon's fishes and fish habitat doing?

The status of fish populations is largely determined by the interplay between ocean conditions and freshwater habitat conditions, as well as hatchery and harvest practices. Under current management on federal, state and to a lesser extent, private lands, degradation has slowed in the past two decades. We are not at the point where the status quo can support the recovery state and federal policy seeks, especially when ocean conditions are poor.

> "Habitat complexity is generally decreasing in the [Oregon Coast coho] ESU; given the large amount of impaired habitat and pace of continued disturbance, degradation still outpaces restoration." (Stout et. al. 2010)

Although ODFW habitat monitoring data show some mild recovery of riparian forests from the intense logging and poor practices of the 1950s-90s, and some localized benefits from active restoration projects, this improvement is offset by declining conditions in other streams. From an historical perspective, we still have a long way to go in terms of overall fish numbers over a sustained period (using coastal coho as an example):

Mary Scurlock M. Scurlock & Associates 10717 NW Skyline Boulevard, Portland, Oregon, 97231
503.320.0712 (m) 503.946.8628 (o)

Figure 1: ODFW Spawner and Harvest Numbers` for Oregon Coast Coho (pre 2014)

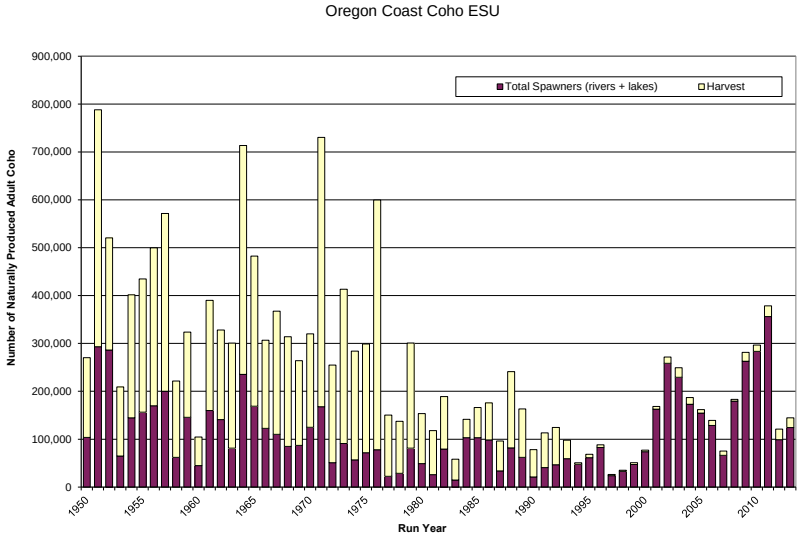
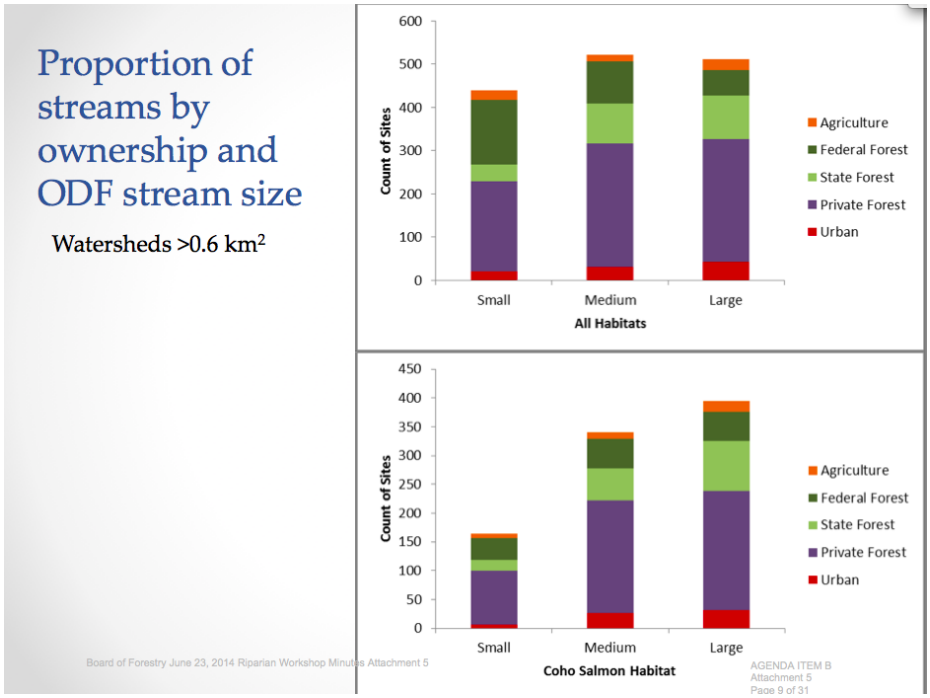


Figure 1. Estimated numbers of naturally produced adult coho in the Oregon Coast Coho ESU (run years 1950 to 2013). Number of adult coho spawning in the wild, and harvest impacts (both landed and non-landed).

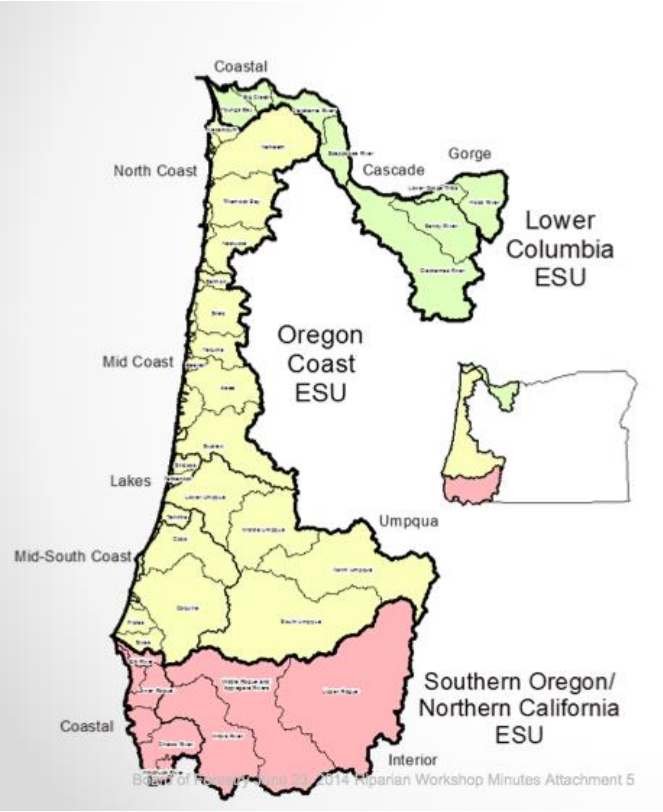
Oregon Department of Fish and Wildlife, Oregon Adult Salmonid Inventory and Sampling Project

Figure 2: ODFW Depiction of Stream Use by Fish with Land Ownership
(from presentation to Oregon Board of Forestry, June 2014)



Mary Scurlock M. Scurlock & Associates 10717 NW Skyline Boulevard, Portland, Oregon, 97231
503.320.0712 (m) 503.946.8628 (o)

Figure 3: ESA listed salmon and steelhead in Western Oregon (Source: ODFW)



III. CURRENT POLICY CHANGES UNDER CONSIDERATION AT THE BOARD OF FORESTRY TO PREVENT HARVEST-RELATED STREAM WARMING

Issue Summary: The conservation of cold water is a fundamental goal of Oregon's water quality standards that is critical to species conservation and recovery in the face of climate change. Many of Oregon's streams and rivers are too warm and exceed temperature standards required by the Clean Water Act because of land use impacts. Warm streams can stress or kill native fish and other aquatic species, help spread invasive species, and promote extinctions.

Oregon's logging rules governing timber harvest on private lands provide significantly less stream protection than those in Washington and California. (See Attachment 1, comparison graphs prepared by the Oregon Stream Protection Coalition).[xv]

Since 1994 no changes have been made to the size of the riparian (streamside) buffer that must be protected from logging, or to the protection required within these buffers.

This has caused legal problems for the Oregon. For example, the National Marine Fisheries Service (NMFS, the agency responsible for threatened and endangered salmon and steelhead) and the Environmental Protection Agency (EPA, administrator of the Clean Water Act) have "disapproved" Oregon's coastal water quality program largely due to inadequate stream protection on private lands. The two agencies want less logging and more protection of stream

Mary Scurlock M. Scurlock & Associates 10717 NW Skyline Boulevard, Portland, Oregon, 97231
503.320.0712 (m) 503.946.8628 (o)

temperatures, as well as more protection from road- and landslide-related sediment. Failure to correct these problems jeopardizes over $2 million in federal funds annually to DEQ and the Department of Land Conservation and Development.[xvi]

- **The RipStream Rulemaking: stream rule change now under consideration**

Oregon's Forest Practices Act requires that the Board's logging rules meet water quality standards developed by DEQ.[xvii] The presumed adequacy of the rules to protect water quality is why landowners can't be prosecuted by DEQ for water quality standards violations if they comply with the rules. Inadequate rules could leave landowners vulnerable to water quality enforcement.

The ability of the Board's logging practices to prevent logging-related stream warming in violation of DEQ water quality standards has been in question since the 1990s, but the Board didn't believe it had enough information to warrant a rule change. Between 2002 and 2010, ODF conducted the "RipStream" research study[xviii] finding that, on average, logging on under current rules caused stream temperatures to increase by 0.7˚ C -- a conservative average given that it included sites that left more trees than required by current rules. (On sites that were harvested down to the minimum required, temperatures increased by an average of 1.9˚ C).

In January 2012, the Board of Forestry determined, on the basis of "RipStream,"[xix] that resource degradation exists because current rules allow removal of too many trees in the riparian areas of small and medium fish-bearing streams causing warming in violation of a water quality standard called the "Protecting Coldwater Criterion" (PCW).[xx] The PCW is a Department of Environmental Quality (DEQ) standard that limits stream warming to protect the natural thermal regime of Oregon streams and is part of DEQ's temperature water quality standard. The finding triggered the Board's process to develop new rules to prevent continued violations of the PCW in accordance with the Board's duty under state law.[xxi]

The Board has made several public decisions in support of a rule change,[xxii] and the Department of Forestry (ODF) staff scientists have developed an analytical model to identify how many trees are needed to meet the PCW standard. The Departments's extensive analytical process indicates that substantially more trees must be left standing to meet the PCW. Whereas current requirements often are limited to just leaving 20 feet of trees in the riparian buffer, ODF is showing that meeting the PCW may require the equivalent of about a 100-120 foot no-cut buffer.

The rationale for setting strict limits on measurable human-caused stream warming is scientifically and legally sound

- Allowable stream warming is small because the goal of the standard is to ensure that allowable warming is <u>not harmful</u> to fish and coldwater communities. (DEQ, 2003, Temperature Technical Advisory Team Report)
- The standard is designed to protect the temperature regimes and entire aquatic ecosystems from both acute and chronic human-cased warming, especially short-term, reach level impacts.

Mary Scurlock M. Scurlock & Associates 10717 NW Skyline Boulevard, Portland, Oregon, 97231
503.320.0712 (m) 503.946.8628 (o)

- Meeting the standard is necessary to preserve the capacity of Oregon's surface waters to to assimilate natural fluctuations in temperature due to year-to-year climate variations and to better maintain cold-water communities in a warming climate.
- The mandate for Oregon's Protecting Coldwater Standard is deeply embedded in state and federal law embedded in state and federal law; the Clean Water Act prohibits the degradation of existing high quality waters without an explicit public decision of economic necessity.
- DEQ and EPA technical staff and the expert advisory panels these agencies have assembled should be consulted in matters related to Oregon's stream temperature standards.

IV. FUTURE POLICY CHANGES STILL ARE NEEDED

All fish streams need stronger protection. The focus of current ODF policy proposals is on a portion of the fishbearing network bearing listed salmon, steelhead and bull trout, which comprise a small fraction of all fishbearing streams. Also, depending on the buffers selected to meet the Protecting Coldwater Criterion, large wood supplies may not be ensured by buffers designed to meet only this criterion.

Nonfish, headwater streams are essential to fish conservation and recovery. The science is clear that headwater stream protection is important for fish downstream. Research shows sediment and hydrologic change from logging headwater streams. The effects of logging soil disturbance are substantial and pervasive, but can be largely avoided through no cutting, yarding or felling in ~30 m buffers where needed to capture inner gorges. (Rashin et al. 2006). Even with buffers, logging increases runoff, causing channel and gully erosion and persistently elevated sedimentation. Effective expansion of channelized flow generates new sediment and connects new and existing sediment sources to surface waters with sustained elevated turbidity as a primary effect which extends downstream. However, buffers alone may not be adequate to mitigate hydrologic effects that are a function of high cumulative watershed disturbance levels. (Reid et al. 2010; Keppler 2012; Klein et al. 2012).

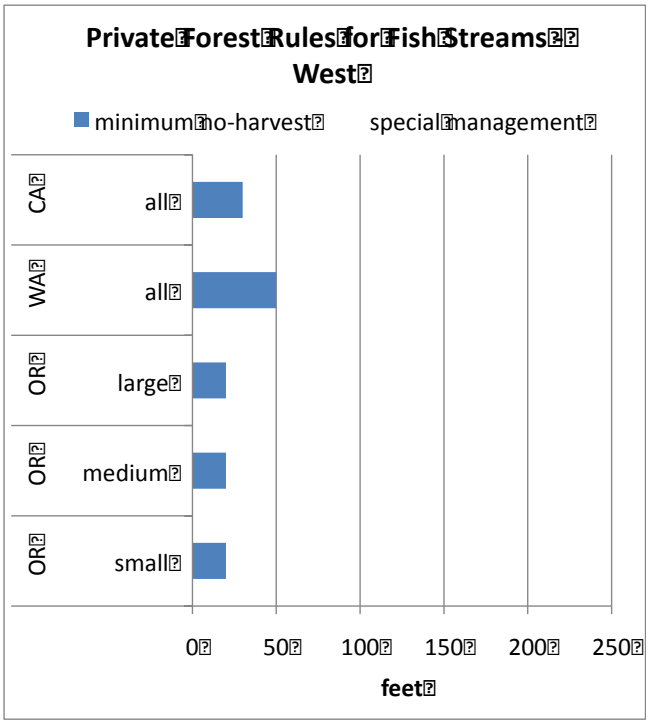
Improved management is needed on landslide prone slopes that do not pose a public safety risk but the logging of which will increase landslide rates beyond backgroiund levels .

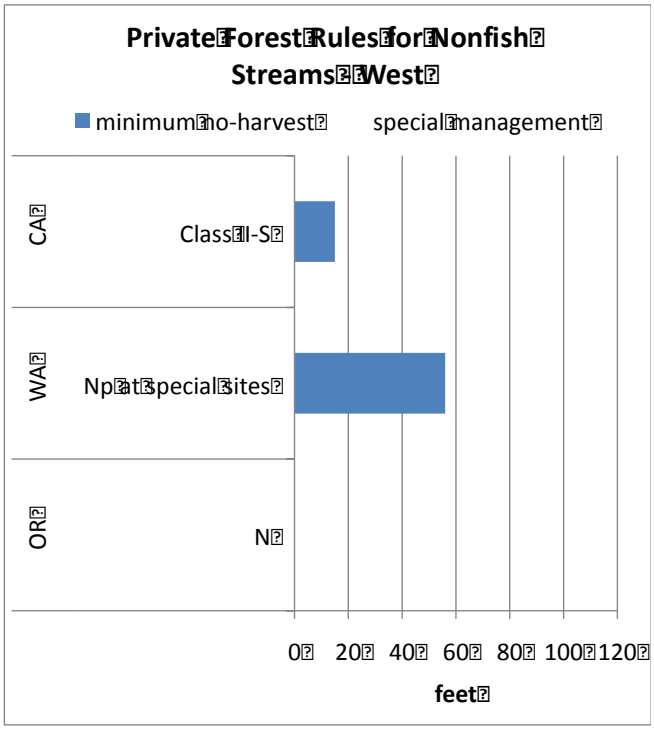
The impacts of older, legacy road systems need addressing through a variety of mechanisms.

Mary Scurlock M. Scurlock & Associates 10717 NW Skyline Boulevard, Portland, Oregon, 97231
503.320.0712 (m) 503.946.8628 (o)

ATTACHMENT 1

Oregon's logging rules governing timber harvest on private lands provide significantly less stream protection than those in Washington and California[xxiii]





Mary Scurlock M. Scurlock & Associates 10717 NW Skyline Boulevard, Portland, Oregon, 97231
503.320.0712 (m) 503.946.8628 (o)

ENDNOTES

[i] June 23, 2014 presentation to the Oregon Board of Forestry by Kim Jones, ODFW available on Board of Forestry website.

[ii] Sobel, M. J., Nisbet, R. A., Botkin, D. B., Center for the Study of the Environment. (1994). *Status and future of salmon of Western Oregon and Northern California.* Santa Barbara, Calif.: Center for the Study of the Environment (know as "the Botkin Report" to the Oregon Legislature, finding Oregon forest practices rules inadequate for recovery of aquatic ecosystems in western Oregon, particularly with respect to large wood supplies).

[iii] Independent Multidisciplinary Science Team. 1999. Recovery of Wild Salmonids in Western Oregon Forests: Oregon Forest Practices Act Rules and the Measures in the Oregon Plan for Salmon and Watersheds. Technical Report 1999-1 to the Oregon Plan for Salmon and Watersheds, Governor's Natural Resources Office, Salem, Oregon. http://www.fsl.orst.edu/imst/reports/1999-1.pdf (including recommendations to increase tree retention in riparian buffers, and to apply buffers to medium and small non-fishbearing streams).

[iv] *See for example* NOAA-NMFS, 2010. 75 Federal Register 29489-29506 *Listing Endangered and Threatened Species: Completion of a Review of the Status of the Oregon Coast Evolutionarily Significant Unit of Coho Salmon; Proposal to Promulgate Rule Classifying Species as Threatened (*May 26, 2010). http://www.gpo.gov/fdsys/pkg/FR-2010-05-26/html/2010-12635.htm (based on science team's review of the status of Oregon Coast coho salmon, NOAA made findings in this proposed rule (final as of June 20, 2011) regarding the adequacy of the Oregon Forest Practices Act's administrative framework to protect coho salmon, specifically identifying uncertainty over (1) whether the widths of riparian management areas are sufficient to fully protect riparian functions and stream habitats; (2) whether operations allowed within riparian management areas degrade stream habitats; (3) what operations are appropriate on high-risk landslide sites; and (4) whether watershed-scale effects, including those from roads, are adequately controlled. NMFS concluded that: "Based on the available information, we are unable to conclude that the Oregon Forest Practices Act adequately protects OC coho habitat in all circumstances. On some streams, forestry operations conducted in compliance with this act are likely to reduce stream shade, slow the recruitment of large woody debris, and add fine sediments. Since there are no limitations on cumulative watershed effects, road density on private forest lands, which is high throughout the range of this ESU, is unlikely to decrease." (FR at 29499-500). *See also* Stout *et al*. 2011. Scientific conclusions of the status review for Oregon Coast coho salmon (*Oncorhynchus kisutch*) (Draft revised report of the Oregon Coast Coho Salmon Biological Review Team. NOAA/NMFS/NWFSC, Seattle, WA)

[v] EPA and NOAA-NMFS. June 12, 2008. *NOAA and EPA Preliminary Decisions on Information Submitted by Oregon to Meet Coastal Nonpoint Program Conditions of Approval* (12 pp)("Oregon lacks adequate management measures under the Oregon Forest Practices Act (FPA) rules for protecting water quality;" "Oregon still lacks adequate measures for protecting riparian areas of medium, small and non-fish bearing streams, high risk landslide areas, and for addressing the impacts of legacy roads. A broad body of science continues to demonstrate that the FPA rules do not adequately protect water quality[.];" "While we acknowledge Oregon's extensive voluntary efforts, and its incremental progress on the regulatory front, NOAA and EPA do not believe the progress made is adequate. . . . . additional revisions to Oregon's FPA rules are needed to fully protect water quality and beneficial uses." (pp. 10-12).

[vi] *See e.g.* 2010 Oregonian Article on Coastal Zone Lawsuit; *See e.g*. Frissell Declaration supporting CZARA disapproval - OR Logging Rules-3-14-14.pdf

[vii] IMST, Report 1999-1, 1999.

[viii] EPA-FWS-NMFS, 2/28/01 Stream Temperature Sufficiency Analysis Letter to ODF and ODEQ.

[ix] NOAA-NMFS, 2010. 75 Federal Register 29489-29506 at 29499-500, Listing Endangered and Threatened Species: Completion of a Review of the Status of the Oregon Coast Evolutionarily Significant Unit of Coho Salmon; Proposal to Promulgate Rule Classifying Species as Threatened (May 26, 2010). *http://www.gpo.gov/fdsys/pkg/FR-2010-05-26/html/2010-12635.htm* *See also* Stout, H.A., P.W. Lawson, D. Bottom, T. Cooney, M. Ford, C. Jordan, R. Kope, L. Kruzic, G.Pess, G. Reeves, M. Scheuerell, T. Wainwright, R. Waples, L. Weitkamp, J. Williams and T. Williams. 2011. Scientific conclusions of the status review for Oregon Coast coho salmon (*Oncorhynchus kisutch*). Draft revised report of the Oregon Coast Coho Salmon Biological Review Team. NOAA/NMFS/NWFSC, Seattle, WA.

[x] *See* minutes of January 4, 2012 Board of Forestry Meeting at http://www.oregon.gov/odf/board/docs/2012_january/bofmin_20120104_minutes.pdf

[xi] NOAA-EPA. 2015. NOAA/EPA Finding that Oregon Has Not Submitted a Fully Approvable Coastal Nonpoint Program. 23 pp. http://coast.noaa.gov/czm/pollutioncontrol/media/ORCZARAdecision013015.pdf

[xii] *See e.g*. 62 FR 24588, May 6, 1997 (listing of Southern Oregon/Northern California Coastal coho) and NMFS, 2009 (status review of Oregon Coast salmon).

[xiii] Federal Ecosystem Management Assessment Team Report, 1993 at V-61.

[xiv] *See e.g.* NOAA-NMFS, 2914, Final SONCC Recovery Plan, 3-54.

Mary Scurlock M. Scurlock & Associates 10717 NW Skyline Boulevard, Portland, Oregon, 97231
503.320.0712 (m) 503.946.8628 (o)

[xv] Washington's rules are two to three times more protective of streams than Oregon's rules. *See for example* http://www.deq.state.or.us/wq/dwp/docs/TurbidityReports/Effect of logging incident Falls City.pdf (quoting EPA senior staff David Powers comparing the two states' logging rules). *See also* Olsen *et al.* 2007 at page 92 for a comparison of forest practices policies in the Pacific Northwest (article entitled *Biodiversity management approaches for stream–riparian areas: Perspectives for Pacific Northwest headwater forests, microclimates, and amphibians)*, and analysis done by Pacific Rivers Council and Washington Forest Law Center available on their websites.

[xvi] 2010 Oregonian Article on Coastal Zone Lawsuit

[xvii] The Forest Practices Act requires the Board to: "establish best management practices and other rules applying to forest practices as necessary to insure that to the maximum extent practicable nonpoint source discharges of pollutants resulting from forest operations on forestlands do not impair the achievement and maintenance of water quality standards established by the Environmental Quality Commission for the waters of the state." ORS 527.765. It is the purported sufficiency of the rules that justifies exemption of logging operations from direct enforcement by DEQ against landowners and operators for standards violations. ORS 468B.110(2).

[xviii] RipStream resulted in two peer-reviewed publications: Groom *et al.* 2011, *Response of Western Oregon (USA) stream temperatures to contemporary forest management,* Forest Ecology and Management, 262: 1618-1629; Groom *et al*. 2011, *Stream Temperature Change detection for state and private lands in the Oregon Coast Range*. Water Resources Research 47.ODF

[xix] Groom *et al*. 2011, *Response of Western Oregon (USA) stream temperatures to contemporary forest management*, Forest Ecology and Management, 262: 1618-1629.

[xx] The PCW prohibits a 0.3˚ C or greater increase in stream temperature from logging on certain fish-bearing streams. *See* Subsections (a) and (c) of OAR 340-041-0028 (11) which read: "(a) Except as described in subsection (c) of this rule, waters of the State that have summer seven-day-average maximum ambient temperatures may not be warmed by more than 0.3 degrees Celsius (0.5 degrees Fahrenheit) above the colder water ambient temperature. This provision applies to all sources taken together at the point of maximum impact where salmon, steelhead or bull trout are present....(c) The cold water protection narrative criteria in subsection (a) does not apply if: (A) There are no threatened or endangered salmonids currently inhabiting the water body; (B) The water body has not been designated as critical habitat; and (C) The colder water is not necessary to ensure that downstream temperatures achieve and maintain compliance with the applicable temperature criteria." *See also* ODEQ, 2011. Internal Management Directive: Nonpoint Source Compliance with the Protecting Coldwater Criterion of the Temperature Standard

[xxi] The Oregon Forest Practices Act requires an affirmative finding of resource degradation for the Board to increase logging restrictions to protect environmental values. A finding that a water quality standard is not met by the rules is legally adequate to serve as a resource degradation finding. (See e.g. 6/23/14 statement of counsel at Board Riparian Rules Workshop and 2005 Opinion of Assistant Attorney General Jas. Adams).

[xxii] Board decisions to date include: 1) Current rules on small and medium fish streams don't meet the PCW ("the degradation finding") (January 2012); 2) acceptance of a "Scientific Evidence Review" Report that reviews and synthesizes available scientific information relevant to the riparian rulemaking and the relationship between riparian harvest/protection and stream temperature (final report approved November 2013); 3) Conceptual agreement on how "maximum extent practicable" will be defined for this rulemaking (November 2012).

[xxiii] Washington's rules are two to three times more protective of streams than Oregon's rules. *See for example* http://www.deq.state.or.us/wq/dwp/docs/TurbidityReports/Effect of logging incident Falls City.pdf (quoting EPA senior staff David Powers comparing the two states' logging rules). *See also* Olsen *et al.* 2007 at page 92 for a comparison of forest practices policies in the Pacific Northwest (article entitled *Biodiversity management approaches for stream–riparian areas: Perspectives for Pacific Northwest headwater forests, microclimates, and amphibians).*

Mary Scurlock M. Scurlock & Associates 10717 NW Skyline Boulevard, Portland, Oregon, 97231
503.320.0712 (m) 503.946.8628 (o)