From:	Wu, Jennifer
To:	Gene Foster; SEEDS Joshua; jeffrey.lockwood@noaa.gov; TARNOW Karen E
Cc:	Henning, Alan
Subject:	FW: Letter to OR Board of Forestry
Date:	Wednesday, September 03, 2014 11:37:17 AM
Attachments:	Board of Forestry Ltr 9 2 2014.pdf

FYI on EPA's letter to the BOF re: the riparian rule.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10
1200 Sixth Avenue, Suite 900
Seattle, WA 98101-3140

September 2, 2014

OFFICE OF
WATER AND
WATERSHEDS

Mr. Doug Decker, State Forester
2600 State Street
Salem, Oregon 97310

Dear Mr. Decker:

I would like to thank you for the opportunity to present the Environmental Protection Agency's (EPA) views regarding Oregon's protection of cold water (PCW) criterion and the Oregon Forest Practice Rules at your June 23 Board Riparian Workshop. I would also like to take this opportunity to highlight some key points from our presentation and the workshop for your consideration as you proceed with the rule review and update process.

First, as we noted in our presentation, the PCW is an integral part of Oregon's temperature water quality standards to protect salmonid fishes. Oregon's numeric temperature criteria were established to reflect the "warmer end" of the optimal thermal range for bull trout (12°C) and salmon/trout juvenile rearing (16°C) and reflect "tolerance levels" that are warmer than the optimal range for salmon/trout rearing and migration (18°C) and for salmon migration corridors (20°C). These criteria were established based on scientific data and principles that indicate that attainment of these criteria at the furthest downstream portion of where these fish uses are designated would generally necessitate colder temperatures upstream. The PCW helps to ensure downstream criteria are attained and that fish have access to optimal temperatures by minimizing warming in upstream stream reaches.

Second, research has demonstrated that timber harvest under the current Oregon Forest Practice Rules results in stream temperatures that exceed the PCW 0.3°C incremental allowance criterion. The "Ripstream" studies have reported that the average temperature increase at a single harvest unit is 0.7°C but in many cases it can be higher, up to 2.5°C. Further, in many watersheds there are multiple harvest units, which can lead to cumulative temperature increases downstream of the harvest units. Thus, even in a stream reach with current temperatures of 13°C, multiple harvest units can contribute to temperatures that exceed the numeric temperature criteria downstream (e.g., 16°C) as well as exceed the PCW criterion at the locations of the single harvest units.

Third, some stakeholders at the Board Riparian Workshop expressed the view that, although timber harvest under the Oregon Forest Practice Rules violates the PCW, the fish are not adversely affected. The EPA respectfully disagrees with this view. In the scenario described in the previous paragraph, cumulative temperature increases from multiple harvests can result in excedences of downstream temperature criteria which can adversely affect salmon and trout by increasing disease risk, increasing competition with cool water species, and decreasing juvenile growth rates. As many ODEQ temperature TMDLs demonstrate, cumulative anthropogenic increases of heat in the downstream direction is common in Oregon streams and rivers due to the absence of sufficiently extended undisturbed reaches to re-equilibrate temperatures.

Lastly, the upper portions of Pacific Northwest (PNW) watersheds currently contain the remaining high quality thermally optimal habitat for summer salmonid rearing and spawning due to anthropogenic impacts downstream (see attachment). These remaining strongholds are vital for the protection and recovery of salmonid species. Unfortunately, global climate change is predicted to increase Baseline PNW stream temperatures over the next 20 years and beyond, including warming of the current thermally optimal habitat in the upper portions of Oregon's watersheds. In light of this, the EPA believes that the PCW criterion serves an important role to help protect and minimize the loss of thermally optimal salmonid habitat in the upper portion of Oregon's watersheds.

The EPA recommends that the Board proceed with revisions to the Oregon Forest Practices Rules in order to ensure sustainable and viable forest practices that meet water quality standards and protect salmonid species in Oregon. We would be glad to attend future Board meetings to discuss any of these issues further. Thank you for your consideration of our comments. If you have any questions, feel free to contact Mr. John Palmer of my staff at (206) 553-6521 or by e-mail at palmer.john@epa.gov.

Sincerely,

Christine Psyk for

Daniel D. Opalski, Director
Office of Water and Watersheds

Attachment

Cc: Mr. Tom Imeson, Board of Forestry Chairman
Ms. Sybil Ackerman-Munson, BOF Member
Mr. Gary Springer, BOF Member
Ms. Cindy Deacon-Williams, BOF Member
Mr. Mike Rose, BOF Member
Mr. Nils Christoffersen, BOF Member
Mr. Tom Insko, BOF Member
Mr. Richard Whitman, Oregon Governor's Office
Mr. Dick Pedersen, ODEQ
Ms. Kim Kratz, NMFS

EPA-6822_002139

Attachment

Reduced Salmon/Steelhead Thermal Habitat -Common Pattern in Pacific Northwest Streams

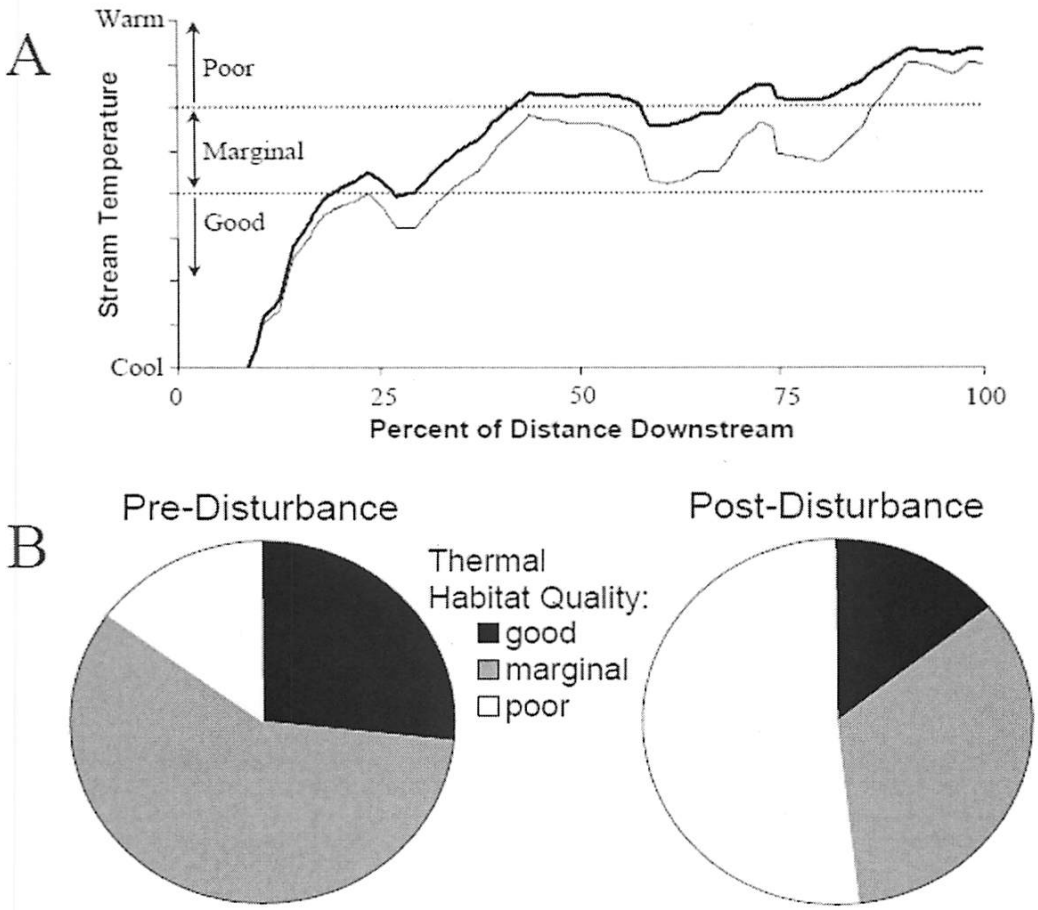

Figure 6. Quantitative depiction of results from a conceptual model of stream warming. (A) Thinner "pre-disturbance" line represents historic downstream temperature trend; thicker "post-disturbance" line represents the effects of a hypothetical change in stream structure that results in a cumulative 2.5% increase per stream km in the rate at which water approaches an assumed equilibrium temperature of 22.5°C. Zones demarcated by dashed lines show associated habitat quality of a hypothetical species of concern. (B) Resulting change in thermal quality of habitat after the hypothetical structural change (after Poole and Berman in press).

Source: EPA Issue Paper 3 – Spatial and Temporal Patterns of Stream Temperature (2001)