OREGON SMALL WOODLANDS ASSOCIATION

Providing Opportunity to Family Forestland Owners

June 3, 2015

Testimony of Jim James to Board of Forestry

My Name is Jim James, Executive Director for Oregon Small Woodlands Association. As you know family forest owners manage 42% of the private forests in Oregon. These forests are typically lower in the watershed and are heavily populated with fish bearing streams. Whatever decision you make on riparian rules will have a huge impact on family forest owners. Landowners who care for their land and also depend on it to provide the economic returns needed to facilitate continued forest stewardship. Family Forest Owners are as unique as the properties they manage. Each have their own story. A common theme is environmental consciousness. A few may be philanthropic and consider giving away their assets without any scientific justification fine, but without question, Oregon's family forest owners expect to be treated fairly in regard to forest regulations and expect science to be the basis for any modifications in the Forest Practices Act.

It is interesting that the Board is being asked to use science to solve a perceived problem that is not supported by science. The Protecting Cold Water criterion is purely a policy call based on federal precautionary direction to the Environmental Quality Commission. There are many scientific studies that dispel the validity of a policy that says any and all man caused increase in forest stream temperature is bad regardless of the circumstances or other factors. If is a known fact, from decades of research, that openings in forest canopies and the minor and temporary increases in temperature associated with those openings create situations where there are more fish with more biomass. There is absolutely no science that suggests such minor temporary increases in temperature are bad for fish.

OSWA member, Dr. Mike Newton, Professor Emeritus at the College of Forestry, OSU has done a lot of research on Oregon's forest streams. He could not be here today, but I am including his written testimony with mine, along with a long list of research that has been done on the impacts of forest practices on fish populations. Based on his and other's research, he is adamant that fisheries will not be improved with wider riparian buffers and that stream temperature alone is not a good surrogate for fish health.

OSWA encourages the Board to evaluate all the science available on forest streams and to acknowledge the wealth of science from the Paired Watershed studies. Please do not make a poor policy call based on a really poor policy call. OSWA supports the recommendations of the Regional Forest Practices Committee. We believe there are some things landowners could do better to address forest stream temperatures and the Regional Forest Practices Committee's recommendations will have an impact on temperatures.

Oregon Small Woodlands Association 187 High Street NE, Suite 208, Salem, OR 97301
Phone: 503.588.1813 - Fax: 503.588.1970 – Web: www.oswa.org

Sixty OSWA members sent in stream survey information for their forests. A total of 15,000 acres were surveyed. Ownership sizes ranged from 21 to 2780 acres. There is over 36 miles of small and medium fish bearing streams on these acres. The current value of the timber and land in the current riparian areas restrictions is $3.8MM. Making a 100 ft. no-touch buffer regulation would cost these landowners another $2.7MM. For many family forest owners, their timber is their 401K, their savings account, and their rainy day fund. How would you feel if someone told you they are taking 10 to 15% of your 401K because of some policy call made over a decade ago that has now been shown to be questionable at best and lacks real scientific justification.

The cost to landowners for over-reaching riparian regulations cannot be justified. Real people's livelihood is at stake and science clearly shows over-reaching regulations are not warranted.

Oregon Small Woodlands Association 187 High Street NE, Suite 208, Salem, OR 97301
Phone: 503.588.1813 - Fax: 503.588.1970 – Web: www.oswa.org

Michael Newton, Ph. D. Testimony Re: Stream Rules.

Presented by Mr. Jim James, Executive Director, OSWA

6/3/15

Thank you, Mr. James for presenting this testimony.

I am Michael Newton, Professor Emeritus at the College of Forestry, OSU, where I still conduct research on streams, shade and temperature. For 25 years, I have studied buffers, stream warming and ecology.

My family owns 295 acres of highly productive forest in Lincoln County; 20 taxable acres is in stream buffers.

I regard the comparison of the two RipStream data sets potentially leading to widening buffers for protecting the Cold Water Standard to be confounded by local biology and a non-relevant criterion. I question relevance of these data to management of the fishery. In short:

1. This proposal was triggered by failure of industrial stream buffers to meet the same temperature standard as ODF buffers, which are somewhat wider. It provides no fish data to support this proposal, without which the proposed increased buffers is without merit.
2. Failure of two sets of streams to meet the same PCWS is not relevant to the fishery. The PCWS is 0.3°C, the limit of precision of the instrument. It is not relevant at the 0.3° level for streams that naturally vary 0.3-1.5° year to year. A regulatory decision that ignores natural differences between these sets of streams will not stand up even to casual inspection.
3. The requirement for both sets of streams to remain within 0.3°C of pre-harvest temperature in nearly identical patterns requires that both sets of streams be covered by leaf area approaching absolute maximum, hence unproductive stability.
4. This condition approaches the *poorest* for a fishery that thrives on periphyton and macro-invertebrates resulting from photosynthesis. The proposal is not only counterintuitive, it is pointless without verification by fish data.
5. How would ODF go about widening buffers? Would ODF require wider buffers on *both* sides? That requires explanation. One of those sides is completely irrelevant; subject to legal action?.
6. Our data from two published studies demonstrates that a screen 40' wide, positioned so that it shades water between 9AM and 5 PM, provides temperature control comparable to two-sided buffers 50 or more feet wide. It also offers some fish food as well as harvestable timber.
7. An abundant literature from fish biologists attests to best fishing where sun reaches water.

If you plan to change buffers, please choose changes that *enhance* the fishery. First, get data.

Michael Newton

Research related to fish and forest practices

A. Responses of salmonids to water temperature
   a. Greene, G.R. 1950. Land use and trout streams. J. Soil and Water Conservation 5, No. 3. 2p.
   b. Brett, J.R. 1952. Temperature tolerance in young Pacific salmon *Oncorhynchus.* J.Fish Res. Board Can. 9:268-323.
   c. Fry, F.E.J. 1967. Responses of vertebrate poikilotherms to temperature. Pages 375-409, In: A.H. Ross (ed) Thermobiology. Academic Press, London.
   d. Brett, J.R. 1970. Temperature: fishes. In, G. Kinne (ed) Marine Ecology 1:513-560. Part 1. Wiley-Interscience, London.
   e. Edwards, R.W., J.W. Densen and P.A. Russell. 1979. An assessment of temperature as a factor controlling the growth rate of brown trout in streams. J. Anim. Ecol. 48:501-507.

B. Net responses of fish to primary productivity interacting with temperature
   a. Brett, J.R. 1956 Respones of salmonids to abundance of food and interaction with temperature. Quart. Rev. Biol. 31:75-87.
   b. Brett, J.R., J.E. Shelbourne, and C.T. Shoop. 1969. Growth rate and body composition of fingerling sockeye salmon*Oncorhyncus nerka*, in relation to temperature and ration size. J. Fish. Res. Board. Canada 26:2363-2394.
   c. Wurtzbaugh, W.A. and G.E. Davis. 1970. Effects of temperature and ration level on the growth and food conversion efficiency of *Salmo gairdneri* Richardson. J. Fish Biol. 11:87-98
   d. Brett, J.R. Clarke, W.C. and J.E. Shelbourn. 1982.. Experiments on thermal requirements for growth and food conversion efficiency of juvenile Chinook salmon, *Oncorhynchus tshawytscha.* Can. Tech. Rep. Fish. and Aquat. Sci. 1127. 29 p.
   e. Leach, J.A., R.D. Moore, S.G. Hinch and T. Gomi. 2012 Estimation of forest harvesting-induced stream temperature change and bioenergetics consequences for cutthroat trout in a coastal stream in British Columbia, Canada. Aquatic Sci. 74:427-441

C. Factors influencing benthic food supplies for fish
   a. Moore, J.W. 1980. Factors influencing the composition, structure and density of a population of benthic invertebrates. Arch. Hydrobiologica 88:202-218
   b. Newbold, J.D., D.C. Erman and K.B. Roby. 1980. Effects of logging on macroinvertebrates in streams with and without buffer strips. Can. J. Fish. Aquat. Sci. 37:1076-1085
   c. Murphy, M.L. and J.D. Hall. 1981. Varied effects of clearcut logging on predators and their habitat in small streams of the Cascade Mountains, Oregon. Can. J. Fish. Aquatic Sci. 38:137-145
   d. Murphy, M.L., C.P. Hawkins and N.H. Anderson. 1981.. Effects of canopy modification and accumulated sediment on stream communities. Trans. Am. Fish. Soc. 110:469-478.
   e. Jackson, R., C.A. Sturm and J. M. Ward. 2001. Timber harvest impacts on small headwater stream channels in the Coast Ranges of Washington. J. American Water Res. Ass'n. 37(6):1533-1549.

f. Fuchs, S.A., Hinch, S.G. and E. Mellina. 2003. Effects of streamside logging on stream macroinvetebrate communities and habitat in the sub-boreal forests of British Columbia, Canada. Can. J. For. Res. 33:1408-1415.

g. Newton, M. and E.C. Cole 2005. Linkage between riparian buffer features and regeneration, benthic communities and water temperature in headwater streams, western Oregon. In: Productivity of Western Forests: a Forest Products Focus. Edited by C. Harrington and S. Schoenholtz. USDA Forest Service, General Technical Report PNW-GTR-642. Pp 81-101.

h. Herlihy, A.T., W.J. Gerth, J. Li and J.L. Banks. 2005. Macroinvertebrate community response to natural and forest harvest gradients in western Oregon headwater streams. Freshwater Biol. 50:905-919.

D. Water temperature changes as the result of forestry practices

a. Bilby, R.E. and P.A. Bisson. 1987. Emigration and production of hatchery coho salmon (*Oncorhynchus kisutch*) stocked on streams draining an old growth and a clearcut watershed. Can. J. Fish Aquat. Sci. 44:1397-1407.

b. Newton, M. and Zwieniecki. 1996. Temperature and streamflow regulation by streamside cover. Final Report of Research to Oregon Department of Forestry, Forest Practices Division. July 29, 1996. 62 pages

c. Zwieniecki, M. and M. Newton. 1999. Influence of streamside cover and stream features on temperature trends in forested streams of western Oregon. W. J. Appl. For 14(2):106-113.

d. Story, A., R.D. Moore and J. S. McDonald. 2003. Stream temperatures in two shaded reaches below cutblocks and logging roads: downstream cooling linked to subsurface hydrology. Can. J. For.Res. 33:1383-1396

e. Rutherford, J. C., N.A. Marsh, P.M. Davies and S. E. Bunn. 2004. Effects of patchy shade on stream water temperature: how quicky do small streams heat and cool? Marine and Fisheries Research 55:737-748

f. Moore, R. D., D.L. Spittlehouse and A. Story. 2005. Riparian microclimate and stream temperature response to forest harvesting: a review. J. American Water Resources Ass'n, August, 2005. 813-818.

g. Gravelle, J.A. and T.E. Link. 2006. Influence of timber harvesting on headwater peak stream temperatures in a northern Idaho watershed. For. Sci. 53(2):189-205.

h. Wilkerson, E., J.M. Hagan, D. Siegel and A.A. Whitman. 2006. The effectiveness of different buffer widths for protecting headwater stream temperature in Maine. For. Sci. 52(3):221-231

i. Anderson, P.D., D.L. Larson and S. Chan. 2007 Riparian buffer and density management influences on microclimate of young headwater forests of western Oregon. For. Sci. 53:254-269.

j. Pollock, M.M., T.J. Beechie, M. Liermann and R.E. Bigley. 2009. Stream temperature relationships to forest harvest in western Washington. J. American Water Resources Association. 45(1):141-156

k. Groom, J. D., L. Dent and L.J.Madsen. 2011 Stream temperature change detection for state and private forests in the Oregon Coast Range. Water Resources Research 47:WOI501, doi:10.1029/2009WR00906, 2011

i. Cole, E.C. and M. Newton 2013. Influence of streamside buffers on stream and air temperature response following clearcut harvesting in western Oregon. Can. J. For. Res. (Accepted for publication, August, 2013)
l. Kreutzweiser, D.P., P.K.Sibley, J.S. Richardson and A.M. Gordon. 2012. Introduction and a theoretical basis for using disturbance by forest management activities to sustain aquatic ecosystems. Freshwater Sci. 31(1):224-231

E. Role of forest practices in changing fish productivity independent of temperature

a. Murphy, M.L. and and J.D. Hall, 1981. Varied effects of clearcut logging on predators and their habitat in small streams of the Cascade Mountains, Oregon. Can. J. Fish. Aquatic Sci. 38:137-145
b. Murphy, M.L., C.P. Hawkins and N.H. Anderson. 1981. Effects of canopy modification and accumulated sediment on stream communities. Trans. Amer. Fish. Soc. 110(4):469-478
c. Martin, D.J., E.O. Salo, S.T. White, J.A. June, W.J. Flris and G.L. Lucchetti. 1981. The impact of managed streamside timber removal on cutthroat trout and the stream ecosystem. Part 1: Summary, FRI-UW-8197. Fisheries Res. Institute, Univ. of Washington. Seattle.
d. Hawkins, C.P., M.L. Murphy, N.H. Anderson and M.A. Wilzbach. 1983. Density of fish and salamanders in relaton to riparian canopy and physical habitat I streams of northwestern United States. Can. J. Fish. Aquat. Sci. 40:1173-1185.
e. Wilzbach, M.A., K.W. Cummins, and J.D. Hall. 1986. Influence of habitat manipulations on interactions between cutthroat trout and invertebrate drift. Ecol. 67:898-911.
f. Johnson, S.W., J. Heifetz and K.V. Koski. 1986. Effects of logging on the abundance and seasonal distribution of juvenile steelhead in some southeastern Alaska streams. N. Amer. J. Fish. Manage. 6:1060-1076.
g. Bilby, R.E. and P.A. Bisson. 1987 Emigration and production of hatchery coho salmon (*Oncorhynchus kisutch*) stocked in streams draining an old growth and a clear-cut watershed. Can. J. Fish. Aquat. Sci. 44:1397-1407.
h. Gregory, S., G.A. Lamberti, D.C. Erman, K.V. Koski, M.L. Murphy and J.R. Sedell. 1987 Influence of forest practices on aquatic production. In: Streamside Management: Forestry and Fishery Interactions. E.O. Salo (Ed). College of Forest Resources, Univ. Washington. P. 233-255.
i. Bisson, P.A., J.L. Nielsen and J. W. Ward. 1988. Summer production of coho salmon stocked in Mount St. Helens streams 3-6 years after the 1980 eruption. Trans. Amer. Fisheries Soc. 117:322-335
j. Hetrick, N.J., M.A. Brusvan, E.C. Bjorn, R.M, Keith and W.R. Meehan. 1998 Effects of canopy removal on invertebrates and diet of juvenile coho salmon in a small stream in southeast Alaska. Trans. Amer. Fish Cos. 127:889-907.
k. Kiffney, P.M., J.S. Richardson and J.P. Bull. 2003 Responses of periphyton and insects to experimental manipulation of riparian buffer width along forest streams. J. Appl. Ecol. 40:1060-1076.
l. Wilzbach, M.A., B.C. Harvey, J.L. White and R.J. Nakamoto. 2005 Effects of riparian canopy opening and salmon carcass addition on the abundance and growth of resident salmonids. Can. J. Fish. Soc. 62:58=67

June 3, 2015

Written testimony to the Board of Forestry

From: Neil Westfall
Myrtle Creek, OR

My family and I own and manage 2780 acres of forestland in Coos County. My father purchased this property beginning in the 1940s through the 1960s. A large fish bearing stream, Lower Rock Creek, runs through my property along with 13,800 lineal feet of medium fish bearing streams and 1760 lineal feet of small fish bearing streams. My streams have salmon present. The current riparian rules encumber 142 acres, over 5%, of my property. The value of the timber on those acres is $695,000. The mature timber on my property ranges from 60 to 90 years old. The riparian areas average 50% hardwoods.

We have a family run business. We grow timber and raise cattle in the coast range of southwestern Oregon. We are a 5th generation business, currently with 5 families working full time to manage our business. We live on our land, take great pride in its management and know our land must be managed for the long term. My family relies on the value of the timber on our property for our livelihood. We are an active part of the community where we live. We pay our taxes and consider ourselves good citizens.

A 100 foot no-touch buffer on small and medium fish bearing streams would cause a huge economic hardship on my family. I estimate the economic loss to be in the $300,000 range. The stream buffers on our property, currently off limits for us to manage are not all in good condition. A portion is in mature alder that is dying and rotting away. We have no vested interest in managing these off limits riparian areas. If the no-touch area is widened there will be no opportunity for us to improve the current conditions near those streams. Some areas will continue to be hardwood dominated.

Fish populations in my area are healthy with the current riparian rules. Expanding the riparian buffers makes no sense when we know the minor temporary increase in stream temperature associated with compliance with the Forest Practices Act has no negative impact to fish species.