

Spring Issue 2023

OREGON Fish & Wildlife JOURNAL

Forest Management Benefits Wildlife

Furthering The Concept of Multiple Use of Our Lands For 45 Years!

What's INSIDE...

My Voice... *By Cristy Rein ... 5*

Steelheading vs. Fence Building... *By Cam Ghostkeeper... 7*

Go Back To The Drawing Board on Habitat Conservation Plan... *By Cyrus Javadi... 13*

Scientists Push Back Against Anti-Forestry Misinformation In The Courtroom... *Nick Smith, Healthy Forests, Healthy Communities... 15*

Poor Man's Trout... *By Jim Griggs... 17*

Grey Ghosts In The Blue Mountains... *By Jim Petersen, Evergreen ... 21*

Can Collaboration Save Our Federal Forests?... *By Kristin Rasmussen, Hampton Lumber... 23*

New Bill To Delist The Yellowstone Grizzly... *31*

Let There Be Light: The ABCs of HCPs... *By Bob Zybach, Ph.D... 33*

How Forest Management Benefits Bears, Bobcats, Moose, Owls and Bunnies... *By Healthy Forests, Healthy Communities... 43*

Kotek Mansion Gets Natural Gas Fix While Denying Others... *By Taxpayers Association of Oregon ... 49*

Kotek \$500K Donation Tied To Stolen Teacher Fund... *By Taxpayers Association of Oregon ... 49*

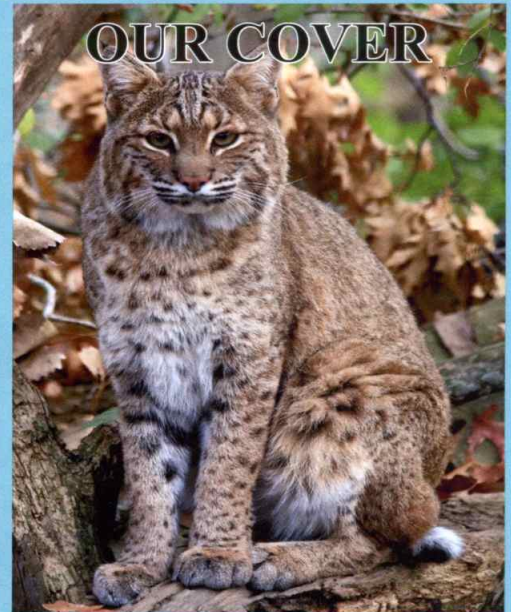
Department of Forestry Mishandles Plan for State Forests... *By Oregon Forest Industries Council ... 51*

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Volume 45, Number 2

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Our cover photo is of a bobcat.

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Oregon Fish & Wildlife Journal is published quarterly by R-Z Publishing, Inc. Unsolicited editorial contributions are welcome but should be accompanied by return postage. Editorial contributions will be handled with care; however, the Publisher assumes no responsibility for safety of artwork, manuscripts or photographs. Publisher is not liable for any claim based on contents of published advertising. Publisher is not liable for content supplied by contributing editors.

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Oregon Fish&Wildlife Journal

OREGON **Fish&Wildlife** JOURNAL



To Subscribe: 503-657-6962 • Fax 503-657-3410

PO Box 1325, Clackamas, Oregon 97015 • email RZPublish@aol.com

One Year (4 issues) \$24.95 • Two Years (8 issues) \$46.50 • Four Years (16 issues) \$83.95

My Voice

By Cristy Rein

Often we have people comment on the content of our magazine not being completely in align with our name. The name suggests an outdoor magazine, which seems to make most people think of only outdoor recreation; hunting, fishing, camping and other activities. But, would any of those activities be possible without healthy forests and science based resource management?

Going back 45 years, we started out as “just” an outdoor recreational magazine. As I became aware of the problems with our mostly government controlled lands, I knew we had to show our content, as our lands should be, multiple-use. Without proper forest management wildlife would have no food or shelter.

Look at California when they severely cut back on harvesting timber, the fires came, the terrain changed, mudslides started happening; it’s a domino effect! So we started covering all the related issues.

Growing up a city girl I had a lot to learn! There was no Google, I spent hours making phone calls to find information to make sure I was portraying the problems accurately. It was instantly obvious I could not count on the TV news or newspaper, even back then, they had an agenda!

This made me think that most people only got information from the TV news and newspapers, and, if they weren’t accurate... what then?! I believed then and I still believe that if people knew the facts there would be no controversy about harvesting timber and managing our lands.

It always seemed they were trying to create a scenario for people where the question was, “Do you want to save the last tree or cut it down?” Which is ridiculous. The “anti” groups were always drawing on emotion to distract you from facts. Reforestation has been a law for decades as has sustainable forestry, which simply put, means you can’t cut a tree where you can’t grow a new one! In Oregon alone we have more than 2 million acres of lands set aside in permanent protection, so no one has ever been trying to cut down all the trees!

To counter this we starting sending free magazines into medical offices for their waiting rooms and we still do! Keeping all the recreation articles, someone will pick up this magazine to read a fishing story, and the next article will tell

them how thinning out dead and diseased trees benefits fish! It’s the perfect one-two punch of facts!

Following the politics of resource management it became clear from the legislation introduced, that our elected representatives got most of their information from the same agenda-driven sources of TV and newspapers. Politics should not play a role in how or why we take care of our lands and resources, but people who fund campaigns have their agenda and money talks!

So, we started sending free magazines to every member of Congress, all US Senators and all of the Executive Committees. Trying our best to make sure they had facts!

In 2019 California counted 15 million dead trees by 2022 the count reached 36.3 million dead trees. This is what happens to unmanaged forests. No one is saving the trees!

The government controls most of the land in the western United States so because of this we wanted to make sure the state elected officials in these areas have a source of facts. In Oregon the federal government controls almost 60% of our lands. Now we send free magazines to all state level elected officials in: Oregon, Washington, Montana, Idaho, Nevada, California, Utah, Arizona and New Mexico.

Lots of free magazines to educate rather than argue with! I ask all our readers to please share our content with people who are uninformed.

Today I read about Yale Forest School scientists on “Proforestation.” Proforestation, which the working group recommends, is a recent political movement that aims to prevent all forest management in the United States under the assumption that excluding humans from the forest will serve as a climate change mitigation tool.

Here are some our most “educated” recommending the worst possible treatment of our forests based on centuries of learning from foresters and biologists. Since 1994 when Clinton passed his Northwest Forest Plan, which reduced harvesting and management by 80%, is when we have continually seen forest fires increase in size and frequency. Neglecting our forests is the worst possible answer, ever!

We will continue working to get out facts to try and counter all the misinformation and ask you to help us by sharing with whoever you may know who needs it!



Let There Be Light: The ABCs of HCPs

By Bob Zybach, Ph.D



Dr. Mike Newton, Oregon State University forest scientist, attaches a thermistor one foot above Big Rock Creek, Polk County, July 7, 2003. These record air and water temperatures every 1/2 hour for seven years as the basis of the Cole/Newton 2013 study of forest management effects on stream temperatures. Photo by Liz Cole.

In an earlier version of this article, published here in 2016, the explanatory subtitle was in the form of an apology: “Note: This article is about government-funded science, so there will be a lot of acronyms. The most important are EPA, ESA, BOF, DEQ, and PCW. Sorry.”

Now we have HCPs in the news. And for the same reasons: government bureaucrats and political activists attempting to stop active management of our fish-bearing forest streams through arbitrary regulations based on “modeling.” Not on common sense, relevant experience, or actual science.

The following facts and statistics are based on the work and research of Mike Newton, a friend and mentor since the

1980s. Mike was recognized as an international expert on the use of forest herbicides and was a much-trusted advisor regarding the safe and effective use of these products in the course of my work as a reforestation contractor.

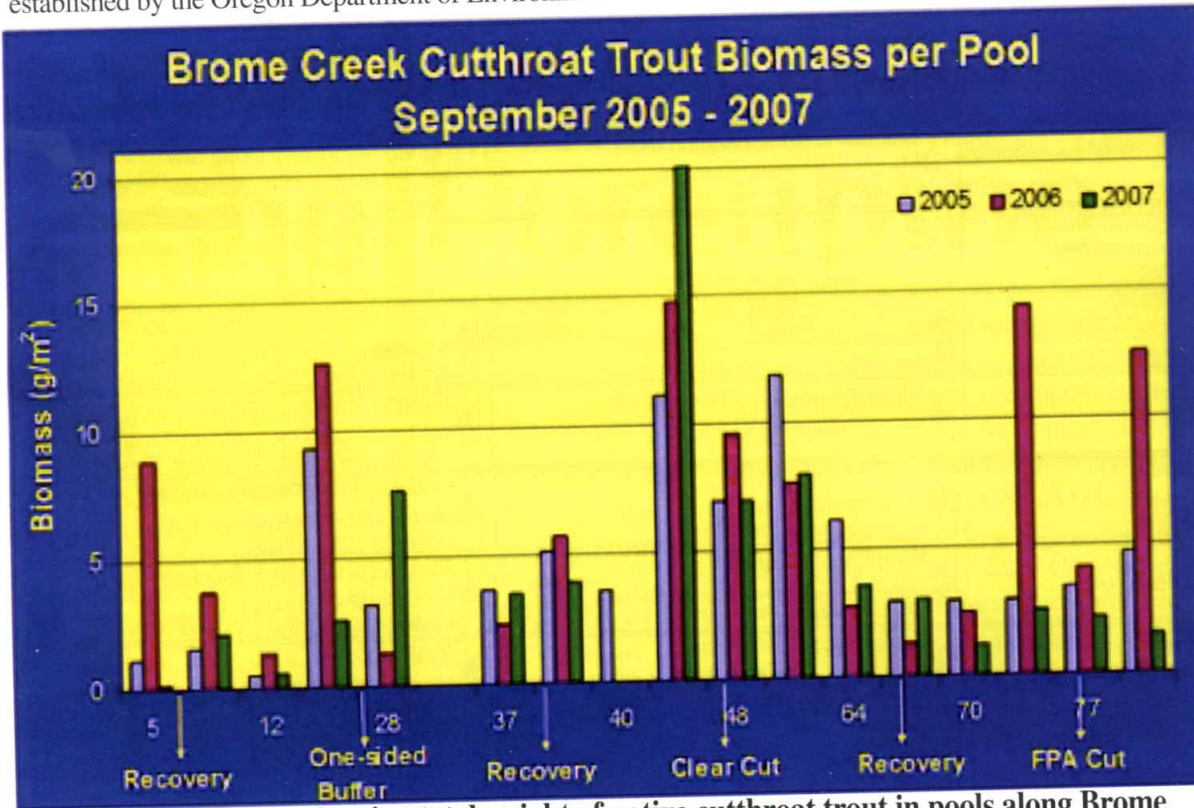
Sadly, Mike passed on last year after a lengthy and debilitating illness. Still, his research on riparian buffers should be front and center in the current debate regarding HCPs (“Habitat Conservation Plans”).

The Oregon Board of Forestry (BOF) is a seven-member citizen Board charged with directly supervising the State Forester and Oregon Department of Forestry (ODF), implementing policies, and adopting rules and regulation that

“promote sustainable management of Oregon’s public and private forests.”

The BOF is also charged with implementing, through the Oregon Forest Practices Act (FPA), water quality standards established by the Oregon Department of Environmental

-- maintained along creeks and rivers in order to minimize water temperature gains. They are regulated as either a fixed minimum width beyond the high-water mark of a stream, or as a fixed minimum number and size of trees that must be retained during a harvest operation.



ODFW histogram showing total weight of native cutthroat trout in pools along Brome Creek in Douglas County for each of three years following three kinds of harvests. The three harvests occupied 1000 feet of stream length for each unit and were individually separated by 1000 feet of unharvested forest (“Recovery”), where water cooled. The numbers along the horizontal axis are consecutively numbered pools along Brome Creek, of which three pools in each cut or uncut unit were inventoried. Pool 5 was at the downstream end of the study.

Quality (DEQ) and approved by the national Oceanic and Atmospheric Administration (NOAA) and the Environmental Protection Agency (EPA). A recent focus of their assignment is the EPA Protecting Cold Waters Rule (PCW, of course) that was adopted in 2003 by the Environmental Quality Commission (EQC) on a 3 to 2 vote.

The DEQ criterion for applying the PCW is: 1) when the ambient temperature in a stream is below 64-degrees F.; and 2) salmon, steelhead, or bull trout are present; then 3) there can be no human caused increases in a stream’s “seven-day moving average of daily maximum temperatures” of 0.5 degrees F. or more. This would apply downstream of logging operations. A major problem is that the 0.5-degree F. variation is the minimum increment that can be technically measured -- and there is reasonable speculation this may have been the primary reason that number was chosen.

Despite this difficulty, the BOF voted 4-3 on November 5, 2015, to adopt new riparian rule to meet the PCW standard when regulating streamside buffers on private and state forestlands. “Buffers” are vegetation -- preferably trees

Regulated buffers in western Oregon contain some of the potentially most valuable timberlands in the world, and border some of the world’s finest fishing streams. **PURPOSE**

Ostensibly, the adoption of rules to meet the PCW by the BOF is intended to protect local salmon, trout (steelhead), and char (bull trout) species (“salmonids”) listed by the Endangered Species Act of 1973 (ESA). Yet, this decision was apparently reached in part by

purposefully ignoring ODF’s own scientific studies of the past 20 years that directly challenge the need for an arbitrary EPA/EQC/DEQ/BOF/FPA PCW Rule requirement in the first place.

In addition to this suspect “one size fits all” regulatory approach to homogenizing western Oregon streams and fish, much of the public discussion by BOF members and multiple “expert witness” EPA and NOAA representatives seemed based on several erroneous assumptions and beliefs contradicted by previous research: e.g., that salmonids are very sensitive to minute changes in water temperature; that direct sunlight is bad for fish; that trees on the north side of a stream somehow contribute to cooling its waters; that warming of headwater streams is cumulative downstream, rather than ephemeral.

That is how the BOF voted 4-3 -- displaying all of their apparent beliefs, assumptions, and biases, and after having been scientifically demonstrated to be wrong. At least four members must have simply been convinced to ignore fact for some reason and adopt a highly suspect and arbitrary PCW standard instead: one that would be extremely expensive to

enact and likely counterproductive to the BOF's stated intent (and legal obligation?) of "protecting" ESA fish with "the best scientific data available."

In 2016 a "rule advisory committee" was formed to meet with ODF staff to write new rule language to bring to the BOF for approval, with a September target date.

This expected "new rule," when enacted, will predictably -- in common with current proposed HCP rules: 1) cost private sector jobs, 2) reduce potential income to landowners, 3) reduce tax revenues to state and federal governments, 4) increase government jobs and expenditures, and 5) likely reduce the size and numbers of fish within newly regulated streams.

Further, the newly adopted standard and supporting assumptions seem to have little logical or scientific value, despite all the acronyms. How did this circumstance come about? And can it be fixed?

LOCAL PROBLEMS

In the 50+ years since enactment of the 1963 Clean Air Act and the 1964 Wilderness Act, several additional major bureaucracies have been created by the federal government to "protect the environment" by using the "best available science" (yep, BAS): EPA became law in 1970, ESA was created in 1973, the Clean Water Act (CWA) and the Department of Energy (DOE) in 1977, and the NW Forest Plan (NWFP) in 1994, as examples.

Computerized "models" of "habitat" and "climate" and "fire return intervals" and the number of government scientists, politicians, technicians, and support teams and services needed to develop and implement these products into policies and management plans accelerated rapidly following the creation of these agencies.

These new squadrons of specially-trained federal bureaucrats seemingly had a mission. Everyone went to court over the new laws and regulations, "peer reviewed" publications became a cottage industry, and lawyers became wealthy on both sides. At least that's how I remember it.

While these new bureaucracies focused on the environment and the management of the nation's air, water, minerals, forests, grazing lands, and wildlife (ostensibly for the "benefit of all Americans"), rural Oregon businesses, counties, families and communities -- in common with many other throughout the western US -- were being directly affected by unemployment, bankruptcy, family problems, severely degraded infrastructures, and the increasing threat and frequency of deadly catastrophic wildfires.

Meantime, national wealth, power, and privilege have become increasingly centered in Washington DC. By many estimates this circumstance has been due, in large part, to the myriad new federal laws, policies, regulations, and passive resource management decisions of the past 50 years -- based largely on legally required "best available science" approaches to the management, care, and "wise use" of our nation's common resources. West of the Rockies.

Many of these unfavorable situations have been brought about by insidious and incremental changes in federal and state environmental policies and the new rules and regulations that result -- an almost invisible process by which private landowners and businesses can be legally required to abandon the use of their own properties, to strictly adhere to contradictory resource management laws, and/or deal with exponential increases in required paperwork filings and tax payments needed to pay for these changes.

The option is, of course, to "hire a lawyer and go to court" -- where agency scientists, modelers, and technicians will be paid by taxpayers to be "expert witnesses" for the government.

The recent BOF decision to use an arbitrary federal standard to somehow rationalize increasing streamside buffers on private forests and timberlands -- supposedly to protect endangered salmonids -- is a good illustration of this process. It is difficult to comprehend the great amount of time and resources that has made it possible, or the exact thinking of those who have promoted these results.

RELEVANT RESEARCH

John Westall is an environmental and analytical chemist who taught at Oregon State University (OSU) for almost 30 years and conducted peer-reviewed research for EPA and DOE before his retirement. In 2014 he wrote a detailed and comprehensive 37-page analysis of the scientific basis for the PCW Rule. This work has been referenced by the Oregon Small Woodlands Association (OSWA), of which he is a member.

Westall's studied conclusion: there was no apparent

The Great Fires



Indian Burning and Catastrophic Forest Fire Patterns of the Oregon Coast Range 1491-1951

By Dr. Bob Zybach

Reprinting of Dr. Zybach's 2003 PhD dissertation. Includes: 364 pages, full text; 60 maps (47 color); 38 figures (17 color), and 26 tables.

Available now on Amazon Books.



**Native rainbow trout in full sunshine, Blue River headwaters, Lane County, August 24, 2013.
Photo by Aaron L. Zybach.**

logical or scientific basis in the documentation for the PCW Rule decision. There was only guidance from the EPA, with no specific reference to any scientific studies that justified their advice. Somebody apparently just made it up, maybe only because they could. The actual science that addresses these issues was seemingly ignored, and apparently because it challenged the Rule.

Most of what we know about salmonids and water temperature came from research on this topic conducted over a 40-year period by Geoffrey Green and J. R. "Roly" Brett. The two scientists operated independent of one another, beginning about 1950 and continuing (Brett) until the 1990s. Their findings remain true to this time:

- The warmer the water, the more productive for well-fed salmonids, up to about 64-degrees F.; above which temperature growth tends to decline.
- The "maximum steady temperature limit" for salmonids is about 77 degrees F., with prolonged exposure to higher temperatures increasingly lethal.
- Salmonids are very resilient to changes in water temperature and typically recover fairly rapidly and completely from non-lethal temperatures.

To summarize: most salmonids and other native fish species do best when the water temperature averages about 64 degrees F. Prolonged temperatures of 77 degrees F. and higher can be fatal; however, salmonids recover rapidly from higher (and lower) temperatures after being subjected to them when they are not fatal. Naturally, fish can swim and moderate their own temperature in most streams when the sun is out, so localized stream temperatures are not the only factor in their survival and growth.

In 1995 ODF began increasing the size of required

buffers along fish-bearing streams, mostly for stated reasons of keeping the water cool for fish. About the same time they began hiring Mike Newton and others to study the effect of these buffers on water quality. This research demonstrated that minor temperature effects of sunlight directly heating water in clearcut logging units completely disappear within 500 feet of leaving the operation and entering a shaded area.

ODF RipStream. This study was implemented following the adoption of the PCW as a joint effort between State and private landowners "to address the potential for Small and Medium Type F Streams to experience 'short-term temperature increases' with the current forest practice rules." A total of 33 western Oregon streams were studied with buffers on planned logging units following the existing FPA guidelines. Eighteen were private sites with planned clearcuts and 15 were State lands, with eight clearcuts and seven partial cuts. Temperatures were measured for two years before harvest and several years following harvest. A number of private sites showed no temperature gain, and average temperature gains were about 1.0-degree F. for all units.

Fish, oddly, were not evaluated. Stream reaches with some direct sun on them were the most productive for both the food chain and the fishery, as determined by Oregon Department of Fish & Wildlife (ODFW) biologists -- if they didn't exceed 71 degrees F. So far as known, none of the 33 RipStream study area streams ever even reached that temperature.

The study was eventually found to be poorly designed and plagued with implementation and maintenance problems. Greg Peterson, an environmental engineer with 40 years' experience as a civil engineer and project manager in water/wastewater systems, produced a highly detailed analysis

of these problems for OSWA. His conclusion was that RipStream's "study results and fundamentally flawed computer model have some major limitations." His detailed assessment rightfully calls into question much of the value of the project's published findings.

OSU WRC. In 2002 OSU collaborated with Roseburg Forest Products (RFP) and ODFW to conduct a 10-year paired watershed study on Hinkle Creek, a tributary of the Umpqua River in Douglas County. This work was part of the OSU Watershed Research Cooperative (WRC), an organization with two other large watersheds under close examination. Study streams ranged from eastern Douglas County to northern Lincoln County, all in western Oregon, in both the Coast and Cascade Mountain ranges.

- Streams in the WRC study ranged from summer temperatures of 50 to 68 degrees F. -- all well within the desired range for salmonids.

- Paired watershed studies clearly show minor and temporary increases in stream temperature create no harm to fish and could likely be a benefit because of the positive impact to organisms ("food") fish feed on.

Cole/Newton 2013. The research design and methods developed by Newton and Liz Cole to conduct a seven-year study on four watersheds in western Oregon are the current gold standard by which stream temperatures are monitored in the Douglas Fir Region. Peterson openly praises the quality of their work and the reliability of their findings and conclusions.

The four streams studied by Cole and Newton were low to medium elevation headwater subbasins of 600 to 1000 acres each. Following two years of discharge, and air and water temperature readings in the absence of harvest units, three treatments were made in each subbasin: 1) a clearcut removing all vegetation to both edges of 1,000 feet of stream; 2) a clearcut with a single 40-foot buffer on the south side of 1,000 feet of stream; and 3) a clearcut with 50-foot buffers on both sides of 1,000 feet of stream.

Each harvest unit was separated from adjacent harvests by 1,000 feet of stream of untouched forest cover. Between 24 and 32 thermistors were installed at intervals of 330 feet for about 8,000 feet along each stream and above and below every confluence to measure changes in air and water temperature every 1/2 hour in summer and fall.

By good fortune, Cole and Newton were able to correlate their findings on temperature with fish biomass (total size and weight) measure on Brome Creek, collected under the direction and supervision of ODFW fish biologist Jim Brick. The Brome Creek histogram illustrates their findings: full sunlight on the unbuffered stream produced twice as much biomass as any unharvested unit -- and each of all three harvested units produced more fish than any one of the uncut units. As predicted.

CONCLUSIONS

The DEQ standard of 64 degrees F. for most salmonids and their habitats in western Oregon fits neither the streams nor the fishery. The streams vary so much, and the environments in which they flow vary so much, that one standard cannot be made to adapt the fisheries that are

acclimated to those particular streams. Neither the water or the fish are as static or as homogeneous as the standards -- they never have been, and they never can be.

Observations of highest stream fish productivity occurred when streams were fully exposed to sun; sometimes when summer temperature peaks were well above standard criteria (64-degrees F.), revealing serious and costly flaws in the regulatory process. The occurrence of a brief period of relatively very high temperature may well be masked by the rapid growth fish may show before and after that event.

Stream reaches with some direct sun on them were the most productive for both the food chain and the fishery, as long as they didn't exceed 71-degrees F. To this point, none of the 33 RipStream study area streams ever reached that level.

The notion of requiring more shade when less shade equates to more biological productivity of streams represents a conflict between regulatory convenience (meeting an arbitrary numerical criterion) and resource sensitivity (increasing fish biomass).

Many streams are far too cold for optimum fish metabolism, yet the PCW prohibits operations that would provide both a more productive temperature range for fish, and a more efficient (safer and more profitable) harvesting operations.

The EQC's adoption of the PCW as a state water quality standard was apparently driven by EPA guidance that suggested any human-caused temperature increases in a forest stream will stay with the water downstream. This turns out to be incorrect. These studies show the increase temperatures from a timber harvest is ephemeral, and temperatures recover downstream quickly because of the dynamics associated with water temperatures in forest streams.

POTENTIAL SOLUTIONS

What can be done to correct this systemic and largely self-inflicted problem? Some specific ideas have been suggested by several people close to this situation over the past few years:

Due Process. The BOF has the statutory option to petition the EQC if it feels a standard conflicts with research and monitoring findings. This is clearly such a conflict. Is it worth the effort?

Common Sense. Greg Peterson recommended that any BOF policy "should be based on actual outcome from scientific research, common sense, and practical experience to meet the PCW for forest streams."

Logic. John Westall argued for a more logical approach to management of resources, to "consider the entire habitat carefully, evaluate the evidence, and make the best rational, scientifically based decision that we can."

New Rules. Mike Newton believed science-based rules should be adaptable to "allow data-driven flexibility so that rules fit environments, and where management options and streamside vegetation management converge to improve both timber and fisheries."

Last Word. My view is: "let there be light." Both for the sake of the fish and for the transparent review of scientific research funded with taxpayer dollars. Then maybe this type of costly misdirection will stop happening. HCPs say probably not.

