



# THE OSPREY

A Newsletter Published by the Steelhead Committee  
Federation of Fly Fishers



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## Still Upstream: Columbia and Snake River Salmon and Steelhead Recovery

by Pat Ford

— Save Our Wild Salmon Coalition —

It's been a frustrating ten years for conservationists fighting to save the wild steelhead and salmon runs of the Columbia and Snake rivers. Fantastic sums of money have been thrown at the problem, countless studies conducted and endless recommendations and policy directives issued. A decade later, little has really changed. Even worse, much of the effort on the part of the various Federal agencies charged with developing, implementing and monitoring wild fish conservation strategies seem little more than pretense.

In this issue's cover story, Pat Ford, executive director of Save Our Wild Salmon Coalition, brings us up to date on this long-standing issue and fills us in on the possibility for making real progress in the not-too-distant future.

"People cannot restore wild salmon. But people can create the conditions that allow wild salmon to restore themselves."

Wild Salmon Forever: A Scientific Blueprint, 1994

Where stands the effort to restore abundant wild salmon and steelhead to the Columbia and Snake River basins? I sketch here a necessarily partial answer which focuses on the dam-and-reservoir degraded or obliterated habitats in both rivers — not because it is all that matters, but because it matters a lot, and it is our coalition's focus on behalf of our diverse fishing and conservation members. And I will ask, not for the first or last time, for some help from each of you.

In what follows, I will say "salmon" for brevity, while generally meaning salmon and steelhead.

### THE SALMON

The 2001 adult return of wild salmon to both basins was the largest in over a decade, delivering the good news that at least one year-class of Snake and Columbia salmon is in decent if still not healthy condition. Most scientists cite

as the primary reasons the well above-average flow conditions in 1999 when most of these returning adults went to sea, and much improved ocean conditions. Dr. Rick Williams, former chairman of the Independent Scientific Advisory Board for salmon, said a few months ago, "People's actions have had little if anything to do with this good return."

Jack counts for 2001 indicate that the 2002 wild adult return will likely be less than 2001, but still well above the average for the last 10 years.

At the same time, the 2001 outmigration of juvenile salmon to the ocean was the worst in at least a decade. Extreme drought conditions and the Bonneville Power Administration's terrible river management led to extremely poor survival for salmon migrating through the reservoirs. As many salmon as could be captured were put in barges and trucks. If the past is any guide, survival rates of those fish will also be very low. Which means adult returns in 2003 are likely to

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FROM THE PERCH — EDITOR'S MESSAGE

# Homeland Defense

by Jim Yuskavitch

**I**t's a new year and life goes on, although I suspect most of us entered 2002 with a different perspective and perhaps some new priorities than we had a year ago.

Foremost on that list of priorities is "defending the homeland," to keep American citizens safe in our own country and to protect our freedoms so they can be passed on to those who come after us.

The defense of the American homeland has manifest itself in a variety of forms, not the least of which has been the deployment of U.S. troops to the battlefields of Afghanistan. Here at home we donate blood and money, fly flags and patiently cooperate with tighter airport security. We're at war now. Things are different, we're told, perhaps never to be the same again.

For conservationists, it's been a dilemma. How to criticize an aggressively anti-environmental administration without seeming unpatriotic? We want to defend the homeland, too.

Last fall, just after the terrorist attacks, Secretary of the Interior Gale Norton came to Portland, Oregon and spoke to the Society of Environmental Journalists. Among the many topics discussed was oil drilling in the Arctic National Wildlife Refuge. It was necessary, she said, for reasons of national security. In the battle to end recreational gold mining in the Klamath and Siskiyou mountains of southern Oregon and northern California — an activity particularly destructive to salmon and steelhead streams — a miner says that this is no time to "lock up" mineral resources. A letter to the editor in my local newspaper declares that it is time to increase logging on our national forests for "the war effort." It seems that, in the aftermath of September 11, increased natural resource extraction and less stewardship is the patriotic thing to do.

President George W. Bush has been compared recently to Theodore Roosevelt, presumably because his decisive action in Afghanistan is reminiscent of T.R.'s no-nonsense foreign policy. The President has even been seen toting

around the latest biographical blockbuster "Theodore Rex" by Edmund Morris.

There was much more to T.R.'s presidency. Roosevelt broke corporate monopolies, established national wildlife refuges, railed against the timber barons of his day who would "skin the earth and move on," and created forest reserves throughout the country to keep the insatiable clearcutters at bay.

In 1907, Western Republicans, livid with Roosevelt's Forest Reserve designations of formerly public domain lands, added an amendment to an agriculture bill removing 16 million acres of public lands in the West from Forest Reserve protection. In response, Roosevelt added 13 new Western forest reserves — then signed the bill.

Roosevelt was long gone by the start of World War II, but his chief forester Gifford Pinchot was still around and in his mid-70s. In 1942, former associates tipped him off that logging companies in Pennsylvania were severely overcutting public lands.

Writes Char Miller, author of "Gifford Pinchot and The Making of Modern Environmentalism," "Not even a national emergency could excuse this mismanagement of public lands. 'The war calls for wood, but not for forest destruction,' Pinchot said for we will 'have need of our forests after the war is won.'"

On a bright day in 1903, Theodore Roosevelt and the naturalist John Muir were together at the Grand Canyon. Roosevelt was awestruck at its grandeur and beauty. He was so taken that later that year at a speech in Sacramento, California he admonished his audience to care for and preserve the Nation's natural wonders thundering, "We are not building this country of ours for a day. It is to last through the ages."

He was bringing the message of conservation and stewardship of natural resources to the American citizenry. He was driving home the point that for our country to be strong it needed to use its natural bounty carefully and wisely, with an eye to the future. He was defending the homeland. And so are we. Bully!



# THE OSPREY



**Chairman**  
Bill Redman

**Editor**  
Jim Yuskavitch

### Contributing Editors

John Sager • Pete Soverel  
Bill Redman • Stan Young  
Terry Davis

### Contributors

Bill Redman • Pat Ford  
Patti Goldman • Bill Bakke  
Jeff Dose • Bill McMillan  
Robert Lackey

### Design & Layout

J. Yuskavitch Resources

### Letters To The Editor

The Osprey welcomes submissions and letters to the editor. All submissions can be made either electronically or by mail.

**The Osprey**  
P.O. Box 1228  
Sisters, OR 97759-1228  
jyusk@teleport.com  
(541) 549-8914

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The Federation of Fly Fishers (FFF) supports conservation of all fish in all waters. FFF has a long standing commitment to solving fisheries problems at the grass roots. By charter and inclination, FFF is organized from the bottom up; each of its 360+ clubs, all over North America and the world, is a unique and self-directed group. The grass roots focus reflects the reality that most fisheries solutions must come at that local level.





## CHAIR'S CORNER

## PACIFIC RIM WILD SALMON &amp; STEELHEAD CONFERENCE

by Bill Redman  
— Steelhead Committee —

In early November 2001 I had the opportunity to attend the Wild Salmon Center's Pacific Rim Wild Salmon & Steelhead Conference in Portland. Just seven years ago, the Wild Salmon Center was only a gleam in the eye of Pete Soverel, a former chair of the FFF Steelhead Committee. Today it is an organization with a small but capable staff, a near million dollar budget contacts with scientists and salmon management people all over the North Pacific Rim, and the mission to protect healthy salmon and steelhead habitat and stocks.

More than half of the conference was devoted to reports on the status of salmon and steelhead stocks in their native range by speakers from Japan around the North Pacific Rim to California. They reviewed the current status of their stocks, reasons for decline of depressed stocks and threats to healthy stocks, and actions required for protection and recovery. The same themes recurred again and again. This paper reviews some of the major themes.

### HUMAN CAUSES OF DECLINE

Wild salmon and steelhead are placed at risk primarily because man uses natural resources. Recovery will require significant reduction of these risks. The human causes of decline are well known and are similar on both sides of the Pacific, although the impact of each cause varies by area and watershed. They include the usual well documented litany under the four H's: habitat, hydro, hatcheries, and harvest.

Some fascinating correlations were made regarding the health of salmon populations. The risks tend to increase as human population increases, as the size of the individual stock decreases, as the time juveniles spend in fresh water increases, as the distance of fresh water migration increases, and in the southern parts of their range (probably related to the population factor).

The history of salmon decline also demonstrates repeatedly that man's

meddling with natural processes causes unexpected consequences, many of them harmful.

### NATURAL CAUSES OF SALMON ABUNDANCE CYCLES

The natural cycles of salmon abundance are tied, in large part, to variations in climate and ocean conditions. Climate influences river flows during migration seasons. Climate and ocean conditions together influence ocean current movements, upwelling, water tem-

***Wild salmon and steelhead are placed at risk primarily because man uses natural resources.***

peratures, and the abundance and movements of salmon and their prey and predator species. Salmon runs are at greatest risk of extirpation when the lows in the natural cycles are amplified by the destructive acts of man. The real tests of management come at these times.

### FUTURE DIRECTIONS IN SALMON MANAGEMENT

In addition to the stock status reports, there were several featured speakers on various aspects of salmon management. Their combined insights sounded like the start of a manifesto for real salmon and steelhead recovery. The following six strategic directions were particularly compelling. The principal presenter of each direction is named at the end of the paragraph.

1. It is time to change from managing abundance, which generally doesn't work in the long run, to managing diversity. Conservation of species requires conservation of each component population and each life history variation, including those provided by the smaller stocks, which carry a disproportionate amount of the life history diversity. This diversity provides the species as a whole with the resilience to survive extreme environments. A major example of doing it the wrong way is the Columbia system, where, after decades of managing for abundance, there are now many fewer life history variations, and fewer fish, than there were historically. (Dan Bottom, Northwest Fisheries Science Center, NMFS)

2. The climate and ocean influenced cycles of salmon productivity include the Pacific Decadal Oscillation, which occurs over decades; inverse oscillations, in which relative abundance in Alaska is accompanied by scarcity in the lower 48, and vice versa a decade or two later; and a year-to-year Southern Oscillation (El Nino). Other than very limited ability to forecast El Nino one to a few seasons ahead, there is no demonstrated skill at predicting these cycles and their effects on salmon populations, especially at the individual stock level. The goal of improving prediction in such models as Maximum Sustained Yield is inherently flawed. Even if we could predict the cycles, there is no ability to change them in the foreseeable future. Therefore, the focus of salmon recovery must be entirely on the human caused problems, with plenty of conservatism to allow for the natural fluctuations. (Nate Mantua, Climate Impacts Group, University of Washington)

3. Monitoring the critical measurements of salmon stock health and the effects of management actions on them is vital to any serious attempts at protection and recovery. It allows managers to answer the question: "How are we doing?" Measurement of results has generally been the primary casualty of

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budget trade-offs. Jim Lichatowich quoted an economist speaking in a different context to describe the current state of salmon recovery as, "leaking ships firmly anchored in nonsense." Without informative data, harmful decisions are often made, sometimes by default, as fish slide toward extinction. (Jeff Rodgers, Oregon Department of Fish and Wildlife)

4. A vital piece of the riverine habitat picture is the movement of nutrients carried by salmon from the ocean upstream to the river and its flood plain. Most coastal rivers are low in nutrients, so without the salmon, the ecosystem starves. Fewer adult salmon mean less for the next generation of juveniles to eat. A healthy watershed typically demands salmon escapements several times the escapement goals set by fish management agencies today. (Jeff Cederholm, Washington Department of Natural Resources)

5. The random variation of many environmental factors emphasizes that their relationships with salmon productivity are not linear, but much more complex. Equilibrium, self-perpetuating fishery management models such as Maximum Sustained Yield are simply not real world. Their basic assumptions ignore highly changeable estuarine and marine conditions. (Bottom, Mantua, Cederholm, and Jack Stanford, Flathead Lake Biological Station, University of Montana)

6. The use of hatcheries for conservation, specifically the supplementation of wild runs — either by direct supplementation or indirect by leakage or accident — should be rejected outright. Wild fish sanctuaries where habitat protection comes first need to be established, widely separated from hatchery fish by geography and timing of spawning. Since hatchery fish are much less successful surviving and spawning in the wild than wild fish, the linkage between wild and hatchery fish needs to be broken by making the hatchery fish as different as possible from the wild fish. The speaker sees the future role of hatcheries producing these "different" fish as supporting fisheries and fish

farms in "industrial zones." (Mart Gross, Professor of Conservation Biology, University of Toronto)

My only reservation about any of these ideas is Mart Gross's apparent endorsement of salmon farms supported by hatcheries. Two reports on salmon farming were released in early December 2001. The Leggett Report, a Canadian study of the impacts of salmon net pen aquaculture in British Columbia, found that salmon farms cause major coastal environmental damage and pose a significant threat to wild fish stocks. The report made six recommendations, the first of which was to "Remove all net-cage salmon farms from the marine environment by 1 January 2005."

Not surprisingly considering its track record, the National Marine Fisheries Service reported "very little to no risk" from net pen salmon farming in the Pacific Northwest. If NMFS were a football or basketball team, its efforts on behalf of wild salmon and steelhead would be described as "soft." My trust goes with the Canadian report. The burden needs to be on the farms to prove they don't increase the risks to wild fish.

*With that one exception, this line up of science-based ideas needs to be transformed into action.*



## THE WILD SALMON CENTER

The Wild Salmon Center is a non-governmental, non-profit organization dedicated to the science, conservation and healthy economic development of salmon, trout, char, taimen and steelhead fisheries and their river ecosystems along the Northern Pacific Rim. It maintains offices in Washington, Oregon and Russia.

Projects of the Wild Salmon Center include wild salmon and steelhead research and the development of watershed conservation plans in the Russian Far East, development of a report detailing the status and threats to wild salmon and steelhead across the Northern Pacific Rim and an effort to establish wild steelhead and salmon sanctuaries in the Pacific Northwest.

To find out more about the Wild Salmon Center call them at (503) 222-1804 or visit their web site at [www.wildsalmoncenter.org](http://www.wildsalmoncenter.org).



Ocean conditions, a wild card beyond the control of humans to affect, remains a little-understood factor that impacts salmon populations from year to year, for better and for worse. Photo by Jim Yuskavitch

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mirror the very low levels which characterized the 1990s.

There are of course differences among individual species and stocks within these general results. But one broad implication from the above summary is that 2003 will be a very important year for Snake and Columbia river salmon. A large year-class of wild juveniles will be heading to the ocean from headwaters of both rivers. Given the precarious condition of other year-classes, good survival is critical. Early in 2001, Trout Unlimited released an update of its peer-reviewed extinction analysis for Snake River salmon. That analysis, which takes into account the large year-class of 2001 adults, still predicts extinctions will begin in 2016 if present trends continue.

### POLITICS AND MANAGEMENT

In December 2000, the federal government adopted a plan to restore Columbia and Snake River salmon. While admitting that Lower Snake River dam removal was the surest way to restore Snake River salmon and steelhead, the plan proposed to try a series of other measures first, with check-ins in 2003 and 2005 as to whether they are working. These measures are a familiar list: tributary and estuary habitat improvements; increased flows and spill in migratory habitats affected by dams; hatchery reform; and some additional harvest restrictions. For Columbia River salmon, particulars differed but the overall package was essentially the same. Little noticed at the time was how sketchy the plan actually was. The details — that is, what actually would occur to help fish, by whom, and when — were left for later documents to be written by other agencies. We still await those documents.

At the time, the package was estimated to cost between \$300 to \$500 million more than the roughly \$400 million already being spent annually on Columbia/Snake River salmon recovery. Neither the Bush Administration nor its agencies have released more precise cost information for the obvious reason that it has no intention of asking for or spending the money.

Since then, the big story has been the

massive failure to implement the new plan. In April 2001, BPA declared a power emergency, took control of river management, put total emphasis on generating energy and money, and spectacularly violated the flow and spill provisions of the new plan. The plan's target flows and spill guidelines in both rivers were not achieved on a single day of the 2001 salmon and steelhead out-migration. The result was the worst out-migration since Endangered Species Act listings of salmon and steelhead began in 1991. At the same time, neither the tributary nor the estuary habitat measures in the new plan, nor its hatchery reforms, were begun. Some of the plan's measures — hatchery reforms for example — cannot be implemented because what those reforms haven't

***Adopted in 2000, the federal plan to restore Columbia and Snake river steelhead and salmon was violated spectacularly in 2001.***

been specified yet. Others could be implemented but there is neither political commitment nor money to do them. Large scale water acquisition is an example of this.

Congressional salmon appropriations for 2002 held steady at the old level of about \$400 million. The Bush Administration did not seek additional funds, and with a few honorable exceptions, neither did the Northwest Congressional delegation. Nor did Congress re-direct any of the \$400 million away from technological fixes and bureaucracy toward habitat restoration.

Adopted in December 2000, the plan was spectacularly violated in 2001 by the very agencies that adopted it. It will not be implemented in 2002 due to a lack of funding and a clear lack of commitment by the Administration and the agencies. As for 2003, it is certain that

the Administration's proposed budget, when released in a few months, will at best hold salmon funding steady at the \$400 million level. It could even be cut.

We have, in other words, a continuation of the decades-long game in which federal agencies, the Northwest Power Planning Council, and Northwest states pretend to restore Columbia and Snake river salmon. Much of the Northwest Congressional delegation conspires in that pretense. With due regard to many good people within those entities who are genuinely trying to make recovery happen, overall it is an expensive and cynical game. The new federal salmon plan is not being implemented.

A few conclusions can be drawn, or reaffirmed, from these events: The Bush Administration cares little for salmon. The Northwest delegation, as a whole, pays salmon little focused, organized attention. The U.S. Congress has not and will not fund the official, legally-established salmon plan. The Bonneville Power Administration, not the National Marine Fisheries Service, is in charge of Columbia Basin salmon recovery.

### OUR RESPONSE

First, salmon advocates have an aggressive litigation response underway. Groups have filed an Endangered Species Act challenge to the new salmon plan, with a ruling anticipated in the second half of 2002. Groups are pursuing Clean Water Act litigation against the Army Corps of Engineers' management of the lower Snake River dams. We have won the first two rounds and expect a court verdict in round three perhaps as early as mid-2002. Groups have filed a Northwest Power Act lawsuit against Bonneville Power Administration for their salmon-betrayed river management in 2001. Timing of a decision in that case is hard to predict. Additional lawsuits under these same laws are likely in 2002. In most cases we are coordinating closely with legal initiatives by the Columbia River Treaty Tribes.

We are also actively defending the ESA listings in the Columbia and Snake river basins from attacks on them occasioned by Judge Hogan's recent ruling which struck down the ESA listing of Oregon coastal coho. That ruling has now been stayed by a higher court pend-

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ing review of the decision's merits.

Secondly, we are building pro-salmon initiatives in the U.S. Congress. In July 2001, U.S. Representative Jim McDermott (D-WA) introduced the Salmon Planning Act, HR2573. The bill has three provisions. It calls for scientific peer review of the new salmon plan by the National Academy of Sciences; it orders completion of planning studies (engineering, economic, and energy) needed to remove the Lower Snake River dams; and it authorizes the Army Corps of Engineers to remove the dams if federal agencies find that dam removal is necessary to comply with federal law and treaty.

McDermott gave two reasons for introducing the bill: (1) To assure sound plan-

ning which provides the region options in case the new salmon plan fails to restore salmon, and (2) to put pressure on the Bush Administration and its agencies to indeed implement the new plan. We believe the implementation failure described above validates McDermott's concern that the new plan will not be implemented unless pressure to do so is applied.

The bill now has 54 co-sponsors, including three Republicans. McDermott, as of this writing, is the only sponsor from the Northwest. We will keep working with his office through 2002 to add additional co-sponsors, with emphasis on additional Northwest and Republican co-sponsors and champions.

We will keep working in the Appropriations

process to increase salmon funding, and re-direct what is a p p r o p r i a t e d towards habitat restoration and away from technological fixes. In 2002, as Congress considers the budget for 2003, we will be seeking just over \$800 million in salmon funding. If we fail, we will seek to make it as clear as possible that the result will be a near-total failure by the federal agencies to implement the new salmon plan in its first three years of operation.

We will be paying close attention to energy legislation, seeking to assure that Bonneville P o w e r Administration and Northwest utilities are held accountable for their salmon obligations in any bills that deal with Northwest energy facilities and institutions.

While most of our 2001 work was in the House of

Representatives, we will be focusing more time in 2002 on the Senate — including Northwest Senators.

Third, we are sponsoring critical analytical work. In December, Save Our Wild Salmon released a report on the 2001 juvenile salmon migration, which showed that BPA could have provided significantly more help for salmon, especially with spill, than it did. Providing half the summer spill required by the new plan, for instance, would only have cost an average Seattle City Light residential customer 19 cents a month. Yet BPA said no. (The full report is available on our website: [www.wildsalmon.org](http://www.wildsalmon.org))

In late January we will release a broader scorecard, documenting the failure of federal agencies, the Administration, and Congress to implement the new salmon plan. Other analysis to be released in 2002 includes an independent energy impact study, economic benefit studies of the 2001 salmon fisheries, a transportation infrastructure analysis for eastern Washington and a computer simulation study of restoring a free-flowing lower Snake River.

Fourth, after a suspension due to the September terrorist attacks, we will resume our Northwest and national media work in support of Columbia and Snake River salmon.

Fifth, we will continue to build public support for Columbia and Snake River salmon recovery and for the major actions needed for recovery.

## SIGNS OF PROGRESS

When fellow conservationists ask me how it goes with salmon, their starting point is usually pessimism — a hostile Administration, an “energy crisis,” timid elected leaders, the Hogan decision, the Army Corps’ of Engineers recent announcement that dam removal is over and done with, the nation’s new focus on security and war, etc. I understand the pessimism, but I think it overlooks important signs of progress, and the fact that this effort is going to take awhile.

Take dam removal. Dam removal is a means, not an end. Even so, it can be used as a partial measure of public and political support for salmon recovery. In 2001 the Goldsborough Dam, near Shelton, Washington, was removed, restoring 14 miles of excellent spawning and rearing habitat for salmon. Agreement was

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Drought conditions in 2001 wreaked havoc for fish and people alike across the Pacific Northwest from the Klamath basin (top photo) to the Columbia River. Photos by Jim Yuskavitch



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reached among federal and state agencies, conservationists, farmers, and Oregon members of Congress to remove Savage Rapids Dam on the Rogue River — a proposal which just a few years ago provoked fierce opposition. The fund to remove the Elwha dams continued to grow, with actual removal likely to begin in 2004 or 2005.

Since most Northwest dams which harm salmon are not going to be removed, I also add to this list the application by the Yakama Nation to the Federal Energy Regulatory Commission for the license to operate Priest Rapids and Wanapum Dams on the mid-Columbia, expressly to produce



Power shortages, real and perceived have kept Columbia and Snake river salmon and steelhead smolts in barges instead of in the rivers where they belong. Photo by Jim Yuskavitch

both energy and salmon. The two dams are now operated by Grant County Public Utility District, whose management since 1955 has neither been good for salmon nor responsive to the broad public support for salmon recovery. A

decision is years away, but the application is a positive sign of changing perspectives on dams.

In 1998, the Save Our Wild Salmon Coalition board of directors voted to lead and coordinate a campaign to remove the four Lower Snake River dams — both as a necessary step to restore Snake River salmon, and to greatly expand the envelope of political possibility for salmon recovery generally. We knew at the time it would be a long and uphill effort. We have set ourselves the goal of securing authorization to remove the dams by 2005. It won't be easy, but most things worth doing aren't easy. If Snake River salmon are clearly being restored without dam removal, salmon advocates will gladly renounce dam removal. We do not believe pretending to restore salmon will restore salmon. We do not believe the people of the Northwest or nation will settle over time for the pretense rather than the reality.



## How You Can Help

Please help. In the first months of 2002, Save Our Salmon and our member groups are making a major effort to persuade specific Northwest members of Congress to join U.S. Representative Jim McDermott and Oregon Governor John Kitzhaber in public actions to restore Columbia and Snake River salmon. This effort can only succeed with a large amount of grassroots pressure from constituents. At the same time, our large and growing national network will be doing the same in targeted non-Northwest states, with special focus on moderate Republicans.

*Your Senators and Congressperson need to hear from you. Please take a few minutes to call or write your Senators and Representative. Better yet, do both.*

### In the House

Ask your Representative to co-sponsor the Salmon Planning Act, HR 2573, a common sense approach to planning for the future of wild Columbia and Snake river basin salmon and the communities that depend on them. Ask them to support increased salmon funding, with priority to habitat restoration and protection.

### In the Senate

Ask your Senators to introduce legislation to restore wild Snake River salmon and protect our communities by requiring the completion of dam removal studies and authorizing the removal of the four lower Snake River dams if it is necessary to comply with federal laws and treaties.

How to contact your Representative and Senators:

1. Write to U.S. Representative or Senator \_\_\_\_\_, Washington D.C., 20515 (Representatives) or 20510 (Senators).
2. Call the Capitol Switchboard at (202) 224-3121. All you need to know is your zip code and the operator can connect you with your Representative and Senators.

Thanks very much. To find out more, check the Save Our Wild Salmon web-site at [www.wildsalmon.org](http://www.wildsalmon.org).

# The Hogan Decision and Its Implications

by Patti Goldman

— Earthjustice Legal Defense Foundation —

On September 10, 2001 U.S. District Judge Michael Hogan ordered Endangered Species Act protection removed for Oregon coastal coho salmon. It was a decision that sent the conservation community reeling less for the delisting than for the reason why. Hogan ruled that the National Marine Fisheries Service should have taken hatchery fish into account when the agency made its determination to put Oregon coho under the protection of the ESA.

The story began in 1999 when a Philomath, Oregon banker videotaped Oregon Department of Fish and Wildlife (ODFW) staff clubbing hatchery coho salmon to death at its Fall Creek fish hatchery in the Alsea River basin to prevent them from spawning with wild fish. The videotape circulated among property rights groups who saw the potential to derail ESA listings for fish in the Pacific Northwest by having hatchery fish considered the same as wild fish. The reasoning went that if wild and hatchery fish were considered identical, then there would be no need for ESA protections since society could produce all the steelhead, salmon and trout it wanted in fish hatcheries.

This alliance of property rights, agricultural and real estate interests first brought a lawsuit against ODFW and its policy to destroy excess hatchery fish to prevent them from spawning with wild populations. When that failed, they went to the state legislature to have a law passed preventing the state from viewing wild and hatchery fish differently and therefore from managing them differently. That effort also failed.

Next, with help from the conservative law firm, the Pacific Legal Foundation, the property rights groups filed a lawsuit in federal court, where they got their favorable ruling. For now, though, all ESA protections for coho remain in place as a coalition of conservation groups plan an appeal.

In the following piece, excerpted from a longer paper, Patti Goldman,

managing attorney for the Seattle office of the Earthjustice Legal Defense Foundation gives us an overview of the *Alsea Valley Alliance v. Evans* decision (commonly called the Hogan Decision by we non-lawyers) and its potential implications for fish and for the Endangered Species Act.

Earthjustice Legal Defense Foundation is representing the conservation and fishing organizations that have intervened to appeal the Alsea Valley decision.

**T**he district court decision in *Alsea Valley Alliance v. Evans*, has unleashed tremendous confusion and uncertainty over the fate of the salmon and steelhead listings in the Pacific Northwest. As Jack de Yonge, a former Seattle Post Intelligencer editor, summarized: the “decision reminded me of a cottontail racing through the briars: First this way, then that way, and back around and finally, where in the hell are we?”

The turmoil stemmed, in part, from the delisting remedy ordered by the court, which unraveled the protective scheme for Oregon coast coho salmon with a stroke of a pen. Now that the Ninth Circuit has stayed that order pending final resolution of the appeal, the turmoil should subside and the focus should shift to the deliberate development of a long-term resolution of this controversy.

Over the coming year, the underlying legal ruling will be reviewed, refined, and applied in the courts and the National Marine Fisheries Service (NMFS). Because the hatchery populations that may be added to the equation are not self-sustaining in the wild,

and because of continuing threats to coho survival, the most likely (and only legally defensible) outcome is the continued listing of wild salmon and steelhead that have previously been found to warrant the protection of the Endangered Species Act (ESA). As a result, the Alsea Valley decision, even if upheld on appeal, will produce few, if any, changes in the ultimate protection afforded wild salmon in the region.

Nonetheless, the issues posed in Alsea Valley generate fascinating questions. Can introduced or hybrid species be protected under the ESA? Or, for that matter, could farm fish be part of, or be the reason for denying, a species listing under the ESA? Is a species recovered when it thrives in captivity but not in the wild or in the wild for only a portion of its life cycle?

This paper assesses the potential outcomes of the upcoming judicial and regulatory proceedings, concluding that, when the dust settles, wild salmon will retain ESA protection.



Unlike hatchery fish, this wild coho salmon fry is genetically adapted not only for life in the wild, but to the very stream that it hatched in, reared in and will eventually return to for spawning. Photo by Jim Yuskavitch

## THE ALSEA CASE

The Alsea Valley case began as a challenge to the closure of the Fall Creek Hatchery in Oregon within the Alsea River basin. The Fall Creek Hatchery

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had produced coho since the early 1950s for commercial and sports fishing. By the late 1990s, less than one percent of hatchery production was returning to the basin as adults. Because the program was ineffective in terms of costs and returns, and it was found to be a significant factor contributing to the decline of wild coho in the basin, the Oregon Department of Fish and Wildlife (ODFW) decided to close the hatchery in 1997. The last release of coho juveniles occurred that year.

Hatchery fish returning to the Fall Creek Hatchery in 1998 and 1999 were killed and the fish either sold to processors (with the revenue supporting future hatchery programs) or placed in streams for nutrient enrichment in the basin. The Fall Creek Hatchery became a cause celebre when a videotape captured the clubbing of the returning hatchery fish in 1999.

Alsea Valley Alliance first went to state court, seeking a preliminary injunction that would have required ODFW to allow the remaining hatchery fish to stay in the river and interbreed with the wild run. Judge Robert J. Huckleberry of the Lincoln County Circuit Court denied the motion. Alsea Valley Alliance then went to federal court seeking the same relief in the form of a temporary restraining order, which that court denied.

## THE CHALLENGE TO THE OREGON COAST COHO LISTING

Alsea Valley Alliance then amended its complaint to challenge the Evolutionary Significant Unit (ESU) and hatchery policies on their face and the application of those policies in the Oregon coast coho listing. Notably, the Fall Creek Hatchery coho were one of the four hatchery populations excluded from the Oregon coast coho ESU. Accordingly, the legal argument that ultimately carried the day for Alsea Valley Alliance would have no impact on its initial attempt to compel ODFW to allow the Fall Creek hatchery fish to spawn.

Alsea Valley Alliance presented its challenge in moralist overtones:

*NMFS interprets the ESA to protect a certain population of coho salmon not upon whether the population is the same species, but instead based upon the parentage or the method of spawning, or, worse, upon NMFS' arbitrary ideas of which particular coho bloodlines should exist for procreation, and which should be aborted. Indeed, to imply that the two terms have a genetic significance would be analogous to claiming that a fetus conceived through in-vitro fertilization is a different species than a fetus conceived naturally.*

## Can introduced or hybrid species be protected under the ESA? Is a species recovered when it thrives in captivity?

Moralistic underpinnings aside, the case sought to eliminate constraints imposed by the listing based on the theory that plentiful hatchery populations should suffice:

*[The government's hatchery policy is] skewing resources away from the salmon populations most in need of help, and toward many plentiful populations needing less attention. Too often, the policy has led to massive restrictions on land management activities, with huge and largely ignored social and economic costs, under the guise of protecting habitat for 'wild' salmon while ignoring thriving hatchery salmon.*

## THE DISTRICT COURT RULING

In an order issued September 10, 2001, the district court resolved cross-motions for summary judgment on the issues raised in the amended

complaint. While the challenges to the ESU and hatchery policies were barred by the six-year statute of limitations, the court heard the plaintiffs' challenge to NMFS' utilization of these policies in the Oregon coast coho listing.

With respect to the ESU issue, plaintiffs argued that NMFS acted illegally by aggregating coho populations from numerous river basins to comprise one distinct population segment because salmon populations from specific river basins generally do not interbreed with salmon from other basins. The court rejected this claim, holding that "[t]he NMFS interpretation of what constitutes a 'distinct population segment' is a permissible agency construction of the ESA . . . . Specifically, the NMFS creation of an ESU (Evolutionary Significant Unit) and the factors used to define it, geography and genetics, are within permissible limits under the ESA."

Turning to the hatchery issue, based solely on the ESA definition of "species" to include subspecies and "any distinct population segment . . . which interbreeds when mature," the court held that "[l]isting distinctions below that of subspecies or a DPS (distinct population segment) of a species are not allowed under the ESA." Instead, according to the court, "NMFS may consider listing only an entire species, subspecies or distinct population segment . . . . Once NMFS determined that hatchery spawned coho and naturally spawned coho were part of the same DPS/ESU, the listing decision should have been made without further distinctions between members of the same DPS/ESU."

Nothing in the district court opinion indicates whether a listing will be warranted when NMFS applies the new legal interpretation on remand. The court never scrutinized NMFS' scientific findings that the hatchery populations pose genetic and ecological threats to the wild salmon. Rather, the case turned on a purely legal question: Does the ESA permit NMFS to list only wild salmon populations when it has characterized certain hatchery populations as part of the same ESU as the wild fish? In the court's view, because NMFS had

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explicitly found that nine of the 13 hatchery populations should be included in the Oregon coast coho salmon ESU, it had tied its own hands and must list that unit on an all-or-nothing basis. Notably, however, the court's opinion holds out the possibility that NMFS could have defined hatchery populations as a separate distinct population segment in which case it could have listed only the wild salmon.

### INTERVENTION OF CONSERVATION AND FISHING GROUPS TO APPEAL

Shortly after the district court issued its decision, eight conservation and fishing organizations (Oregon Natural Resources Council, Pacific Rivers Council, Pacific Coast Federation of Fishermen's Associations, Institute for Fisheries Resources, Audubon Society of Portland, Coast Range Association, Siskiyou Regional Education Project, and Sierra Club, collectively referred to as ONRC) filed a motion seeking to intervene for purposes of appeal. By order entered on November 16, 2001, the district court granted ONRC intervention to appeal, relying on well-established Ninth Circuit precedent on timeliness of post-judgment motions to intervene for purposes of appeal and finding that the government no longer adequately represented ONRC's interests in light of its decision not to appeal. Alsea Valley Alliance is appealing the decision granting intervention to appeal.

ONRC is appealing the district court decision on two grounds: (1) that the district court erroneously concluded that the ESA prohibits a listing of coho salmon that excludes the hatchery fish under the facts presented in this case; and (2) that given the plight of Oregon coast coho salmon, the district court should not have set the listing aside but rather should have kept the listing in place during

remand to reconsider the listing decision.

### STAY OF THE DISTRICT COURT DELISTING ORDER

ONRC filed a motion for an emergency stay of the district court's delisting order, which the court of appeals granted on December 14, 2001. The Oregon coast coho listing will remain in effect until the Ninth Circuit appeal is finally resolved.



*Property rights groups want hatcheries to produce all of the Pacific Northwest's salmon and steelhead as a way to pass off the costs of, and avoid responsibility for, the destruction of public natural resources for private financial gain. Photo by Jim Yuskavitch*

### NMFS REVIEW OF THE HATCHERY POLICY AND LISTINGS DECISION

On November 9, 2001, NMFS announced that it would not appeal the Alsea Valley decision to the Ninth Circuit. Instead, NMFS has released its "Hatchery Salmon ESA Listing Review Action Plan," promising development of a new hatchery policy through notice and comment rule-making, and application of that policy to 24 salmon and steelhead listings.

The hatchery policy rulemaking is scheduled to begin in February 2002, with a proposed hatchery policy, followed by a 60-day public comment and public hearing period. NMFS plans to publish a final hatchery poli-

cy by September 2002. This process will address "how the ESA should be applied to those salmon populations that include fish reared in hatcheries."

NMFS has announced that it will propose listing determinations for the 24 potentially affected salmon and steelhead listings, including Oregon coast coho salmon, within 45 days of finalizing its new hatchery policy, producing listing decisions in December 2002. The Northwest Fisheries Science Center will update its information on the status of the various listed salmon and steelhead to be ready to apply the final hatchery policy in the fall of 2002.

The Alsea Valley decision spurred a flurry of delisting petitions and 60-day notices threatening to bring look-alike cases against other salmon and steelhead listings. Since NMFS is applying the Alsea Valley decision to develop a new hatchery policy and revisit the potentially affected listings, litigation is unnecessary to achieve this goal. Should litigation nonetheless follow, it is unlikely that a court will order a delisting, even if it agrees with the legal holding in Alsea Valley, given that new agency policies and listing determinations will

apply to that legal ruling and will soon supersede the challenged policy and listing determinations and that the Ninth Circuit granted a stay of the Oregon coho delisting order.

### POTENTIAL OUTCOMES

Alsea Valley has propelled a series of questions concerning listing of wild salmon and the role of hatchery fish to the forefront. An interplay of judicial and administrative proceedings will forge a resolution. While there are various scenarios, the bottom line is that wild salmon warrant protection under the ESA. This paper reviews the options, but explains why the end result will be close to, if not the same as, the status quo.

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## THE NINTH CIRCUIT DISTRICT COURT DECISION COULD BE OVERTURNED ON APPEAL

The district court based its decision on a narrow reading of the ESA's species definitions and the listing section which provides for promulgation of regulations that "determine whether any species is an endangered species or threatened species" because of the statutory listing factors. The Ninth Circuit may well disagree with the conclusion that all or none of a species may be listed, drawing from three features of the Act.

First, Congress unquestionably intended for the ESA to protect fish and wildlife in their natural environments and to recover populations so that they could be self-sustaining without human intervention. Mandating the inclusion of hatchery fish in an ESA listing runs counter to the ESA goal of protecting species in their natural environments. The district court's interpretation could lead to the anomaly of predicating ESA listing decisions on the well-being of populations that can survive only through human intervention and can never achieve recovery within the meaning of the ESA. This result cannot be reconciled with the ESA's purpose and jeopardy provisions, particularly when it would impede the ability of coho salmon to survive in their natural environment.

Second, the courts have construed the ESA's species definitions in a flexible manner to afford the species the protection they need. For example, in *Southwest Center for Biological Diversity v. Babbitt*, the district court concluded that the term "distinct population segment" "allows different management practices to ensure the appropriate level of protection for a species based on its actual biological status," drawing from a series of split listings, such as the listings of the Louisiana black bear and the bald eagle, in which only one portion of a species was accorded listing protection.

Third, the Act expressly identifies and regulates artificial propagation as a conservation measure without suggesting a role for artificially propa-

gated animals in listing decisions. Nothing in the Act envisions accounting for artificially propagated animals in a listing decision, although if hatchery populations have contributed to the decline of wild salmon, a listing would be warranted under the statutory listing factors. Under the ESA's conservation provisions, NMFS could, after making the listing decision, carve out appropriate protections for hatcheries that are essential for conserving, i.e., leading to the recovery, of listed salmon. This is the model incorporated into the ESA's experimental population provisions, which

***The bottom line is that wild salmon warrant protection under the ESA. The end result will be close to, if not the same, as the status quo.***

allow NMFS and the Fish and Wildlife Service to spell out the precise ESA protections that will apply to experimental populations.

An analogy may help in framing the inquiry. Consider farm fish that are comprised of the same broodstock as wild salmon. Should an ESA listing be required to consider and include the farm fish that spend their entire lives in net pens because they may be genetically similar to the wild salmon? If a technical lumping together of farm and wild fish required such a result, it would surely defy the ESA's purpose of protecting fish and wildlife in their natural environments.

It appears that Congress did not have fish-production hatcheries in mind when it crafted the ESA's species definitions and conservation provisions. However, Congress eschewed rigid species definitions and envisioned the use of artificial propagation to recover listed wild

species. The Ninth Circuit could reverse on the ground that a rigid all-or-nothing listing rule runs counter to the statutory purposes and scheme. Such a ruling would obviously preserve the status quo.

## NMFS MAY SPLIT WILD AND HATCHERY POPULATIONS INTO SEPARATE ESUS

The Alsea Valley decision arose because of how NMFS defined the ESU. NMFS included hatchery fish in the ESU and, under the legal ruling in Alsea Valley, it must list all or none of the ESU it identified for listing purposes. (To be considered a distinct population of Pacific salmon, called an ESU, it must be substantially reproductively isolated from other conspecific population units and represent an important component of the evolutionary legacy of the species.) If NMFS had instead split the wild and hatchery populations into two separate ESUs, it could list only the wild ESU under the narrow legal ruling in Alsea Valley.

The Alsea Valley decision leaves NMFS free to redefine the ESU to exclude hatchery fish. The district court recognized this possibility in Alsea Valley. Oregon Governor John Kitzhaber has asked NMFS to redefine the Oregon coast coho ESU to exclude the hatchery fish because of the harm hatchery fish pose to wild salmon and their habitat. On December 19, 2001, Trout Unlimited, joined by 13 other fishing and conservation organizations, urged NMFS to take this approach in crafting its new hatchery policy.

In its new hatchery policy, NMFS could split wild and hatchery fish into separate ESUs based on their divergences in their life histories, reproductive, physiologic, and physical environments. A split ESU would be consistent with the ESU policy. First, hatchery fish are substantially reproductively isolated since most hatchery fish do not spawn in the wild. Even those hatchery fish that stray are distinct from wild salmon because of their poor reproductive performance. Second, hatchery fish represent a different evolutionary legacy than their

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wild cousins because they have been bred for traits that increase survival in the hatchery but impede their ability to survive in the wild.

Splitting hatchery fish into a separate listing unit is also consistent with the distinct population segment policy. First, hatchery populations are discrete or markedly separate from wild salmon based on their behavioral, reproductive, and run-timing differences, as well as their susceptibility to disease and competition with wild salmon for territory and mates. Second, hatchery populations lack the same significance to the persistence of salmon in the wild. Unless the hatchery population embodies the last remnants of a population, its loss will not produce a significant gap in the species' range.

If NMFS split hatchery and wild coho salmon into two separate ESUs, listing of the wild salmon ESU would be compelled under the ESA listing factors and the NMFS' prior findings that wild salmon need ESA protection. A split ESU would, therefore, maintain the status quo for the wild salmon. This scenario would leave hatchery populations unlisted. For the Oregon coast coho, the listing would remain identical to the current listing: Naturally spawning salmon would be protected under the ESA, while hatchery fish would not be listed.

## NMFS MAY PROTECT SOME HATCHERY POPULATIONS

Even if NMFS retained its current designation of the Oregon coast coho ESU, it would need to list the entire ESU under the ESA's listing factors because of the precarious and declining state of the wild populations and the adverse impacts of the hatchery fish on coho survival and recovery in the wild. Because hatchery fish diminish the fitness and diversity of salmon populations and cannot sustain themselves without the artificial and continual intervention of humans, wild Oregon coastal coho salmon will continue to need the protection of the

ESA regardless of how the hatchery fish are characterized as a legal matter. As NMFS found in its coho listing determinations, wild coho population numbers are depressed, and their habitat is severely degraded by decades of logging, irrigation, agricultural practices, and development. The only credible scientific determination that could flow from these conditions is affording Oregon coastal coho salmon ESA protection.

If NMFS listed an ESU that lumped wild and hatchery fish together, the ESA's protections would safeguard the ability of wild coho to survive and recover in the wild and have little, if any, applicability to artificially propagated populations, unless those populations were essential for recovery.



A typical Oregon Coast Range stream provides critical rearing and spawning habitat for runs of wild salmon, steelhead and cutthroat trout.  
Photo by Jim Yuskavitch

Finally, while critical habitat and Section 7 consultations apply to federal agency actions, it is the take prohibition that reaches nonfederal activities, along with federal actions. The most likely outcome, however, is that the take prohibition will apply only to hatchery populations that are essential for recovery.

Under the ESA, the take prohibition applies immediately upon listing to endangered species. NMFS has included hatchery populations in its listings of salmon and steelhead as endangered, provided they have been categorized as within the same ESU as the wild fish. Accordingly, the take prohibition already applies to hatchery populations within endangered ESUs. This would continue to be the case.

For threatened salmon and steelhead, NMFS must promulgate a 4(d) rule which embodies the take prohibition and other safeguards that NMFS determines are necessary and advisable for the conservation of the threatened species. If NMFS has previously decided that certain hatchery populations are essential to the species' recovery, it would need to protect those hatchery fish in its 4(d) rule. Conversely, hatchery populations that are not essential for recovery would receive no protection in a 4(d) rule. The same determinations that NMFS previously made in the listing context would dictate the 4(d) protections afforded the hatchery populations.

Ironically, given Alesia Valley Alliance's motivation in bringing the lawsuit, the one scenario that is not viable is a NMFS' decision to deny protection to the wild salmon that are currently listed. Even if NMFS retains an ESU that lumps hatchery and wild fish together, the inclusion of the hatchery fish in the ESU cannot produce a no-list decision. NMFS has already found that the currently listed wild salmon are in decline because of one or more of the statutory listing factors, including the threats posed by hatchery fish. A listing is, therefore, warranted under the ESA. Hatchery fish cannot be a basis for circumventing ESA protection because they are not self-sustaining in the wild. The hatcheries could close or malfunction either temporarily or permanently. Without the constant influx of juvenile hatchery fish, the hatchery fish would no longer produce returns. Instead, hatcheries can enter the ESA equation only as a tool to promote wild salmon survival and recovery, receiving ESA protection only when they effectively serve that goal.





# Hatchery and Wild Steelhead Catch Rates Differ

by Bill Bakke

— Native Fish Society —

*Bill Bakke, executive director of The Native Fish Society, always has something interesting to say about steelhead and salmon. This article comparing catch rates for wild and hatchery steelhead on Oregon's Deschutes River is no exception.*

**A**nglers on the Columbia and Deschutes rivers say that they catch more wild steelhead than hatchery steelhead even though there are more hatchery fish in the river. Data gathered by the Oregon Department of Fish and Wildlife on Deschutes steelhead catch rates and run size from 1977 to 2000 supports this observation. This data is collected from the mouth of the river to Sherars Falls. The catch rate is based on the number of steelhead caught per 100 hours of angling.

From 1977 to 1993 the catch rate for wild steelhead is five fish compared to two hatchery fish per hundred hours of fishing. During this time period, the estimated number of wild steelhead passing Sherars Falls was 87,000 compared to 150,000 hatchery steelhead. Even though hatchery fish were more abundant their catch rate was lower. All hatchery steelhead were fin-marked beginning with the 1986 run.

From 1994 to 1997 the catch rate for hatchery fish exceeded that for wild steelhead in the Deschutes for the first time. The number of wild fish in the run also declined from an average of 5,118 fish in 1977-1993 to 1,855 for the years 1994-1997. In 1992 and 1994 the wild steelhead run dropped below a thousand fish for the first time. The 1994 run size was only 482 fish. During this period of time the hatchery run increased from an average of 8,823 fish (1977-1993) to an average of 19,620 (1994-1997). The hatchery run was more than ten times larger than the wild run. This was due primarily to a massive increase in hatchery strays from elsewhere in the Columbia Basin. In 1996 the non-native strays were over 23,000 fish.

Even though hatchery steelhead were ten times more abundant than wild fish, the catch rate for wild fish was nearly equal to that of hatchery fish. The wild fish catch rate ranged from .91 to .96 fish to 1.0 hatchery fish. The worst catch rate was in 1996 when the ratio to wild/hatchery catch was .52:1.0.

Hatchery steelhead are produced to mitigate for the loss of wild steelhead

**From 1977 to 1993,  
the catch rate for wild  
steelhead was five fish  
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of fishing compared to  
only two hatchery fish.**

due to dam construction in the Deschutes Basin. The stray hatchery fish that enter the Deschutes are mitigation fish for dams elsewhere in the Columbia Basin. There is no explanation for this difference in contribution to sport fisheries, but anglers are not getting the full benefit of mitigation since they are catching proportionally fewer hatchery fish than wild fish.

Having hatchery fish in the river also creates a more insidious problem that could reduce the number of wild fish in the fishery. In 1977 a Deschutes River steelhead study was conducted for the purpose of comparing the survival rates of hatchery and wild steelhead in natural streams and in the hatchery. That study showed that hatchery fish do not survive in streams as well as do wild steelhead and that hybridization between wild and hatchery steelhead actually reduced the number of progeny compared to wild spawners.

On the other hand, the wild steelhead did not survive in the hatchery

as well as the hatchery steelhead. This study also showed that these changes in survival happen rapidly, because the hatchery steelhead were of wild native Deschutes stock reared in the hatchery for only two generations. So selection for a hatchery type fish with lower survival in nature happens quickly. This scientific work was confirmed by a study conducted on the Kalama River showing the same results. In that study "the success of hatchery fish in producing smolt offspring was only 28 percent of that for wild fish."

When Oregon Department of Fish and Wildlife biologist, Mark Chilcote, reviewed steelhead data, he came to some startling conclusions. Chilcote says, "Seventy-two percent of the variation in productivity of a natural spawning population can be explained by the percentage of hatchery fish in the spawning population. Finally, with respect to hatchery programs, the impact of naturally spawning hatchery fish on the capacity of a population to produce recruits is universally adverse. It is a reasonable inference that wild steelhead populations are better off when returning hatchery fish are prevented from escaping into natural spawning areas."

Another study of hatchery and wild summer steelhead on Washington's Kalama River shows that wild fish are more productive than hatchery fish by a factor of ten.

The conservation ethic of releasing all steelhead, both wild and hatchery, is well developed among Deschutes River anglers. They release a lot of fish, including hatchery steelhead. Up to 57 percent of the hatchery steelhead are released in some fisheries on the Deschutes. However, this conservation ethic, when extended to hatchery steelhead, is likely to backfire on the angler. When those hatchery fish are released they may interbreed with wild steelhead and contribute to the decline of future wild steelhead abundance in the river.



# Recovery or Status Quo? The North Umpqua Settlement

by Jeff Dose

— Roseburg —

In the January 2001 issue of *The Osprey*, Jeff Dose and Jim Long gave us, in two separate articles, an in-depth look at the then-ongoing negotiations between federal and state agencies and Scottish Power for the renewal of a Federal Energy Regulatory Commission license to continue operating the North Umpqua Hydroelectric Project.

A settlement has now been reached and Dose is back to give us his take on the settlement and what it holds in store for Oregon's famed North Umpqua River and its storied wild steelhead.

Dose is a forest fish biologist on the Umpqua National Forest. The opinions expressed in this article are his own.

**A**s has been so eloquently displayed in these pages by Pete Soverel, Bill Redman, and many others, special interests, driven largely by short-term economic and political factors, play an extraordinarily large role in most decisions about the conservation and use of natural resources. Especially publicly owned resources. Those whose interests are best served by maintaining the status quo have been, to date, very successful in arguing "burden of proof" and "inadequate science" to resist any substantial change. Within the hydropower industry, these arguments have been very successful. Unfortunately, another such example is the recently announced settlement for the re-licensing of the expired North Umpqua Hydropower Project (NUHP).

The Project, first licensed in 1947, is located on the upper North Umpqua River in Oregon's southern Cascade Mountains and consists of eight dam/reservoir/powerhouse complexes, over 30 miles of flumes and canals, six miles of penstocks and tunnels, and approximately 100 miles of project related roads. It lies completely on public land within the boundaries of the Umpqua National Forest and forms the upper terminus of the 34-mile-long North Umpqua Wild and Scenic River, which includes all of its hallowed "fly

water." The project was designed and constructed with little thought for maintaining ecological processes such as sediment and large wood transport, adequate by-pass flows or passage facilities for fish or other aquatic and riparian dependent organisms. As a result, the Project has caused substantial adverse impacts to aquatic ecosystem processes and resource values, in particular sev-

**Aquatic resource measures proposed in the agreement — although lavishly funded — will not restore watershed processes.**

eral indigenous anadromous fish stocks within the basin — including the abundance and distribution of the North Umpqua's legendary wild steelhead.

On June 13, 2001, in Salem, an announcement was made that an agreement (of a sort) had been reached — through secret negotiations — between PacifiCorp (owned by Scottish Power) and a consortium of state and federal agencies regarding the terms of a new license for the project. Conservation and fishing interests, long participants in the re-licensing process, were not included. As might be expected, spokespersons expressed great optimism for the future as a result of the agreement. A question quickly arose in many peoples' minds, particularly those closest to the river, such as the Steamboaters and the few truly independent scientists, who were omitted from the secret negotiations: Is the opti-

mism justified? Will the agreement, if it actually becomes the basis for the new license, result in substantial restoration of the North Umpqua River so as to greatly benefit the people of Oregon and the nation? Sadly, the answer is no.

Nonetheless, there will clearly be some improvement over the current situation — it would be hard to get much worse. The terms specified in the agreement will fall far, far below what could be achieved by mandating more ecologically-based measures using scientific principles from restoration ecology and conservation biology. These are the same principles, based on natural processes and disturbance regimes, that provide much of the management direction for the U.S. Forest Service in much of the Pacific Northwest.

Nearly all the aquatic resource measures proposed in the agreement — although lavishly funded — will not restore watershed processes. Some are still conceptual in nature (i.e., require more study or design work), most are generally either techno-fixes or will be of minor consequence, and some will likely have continuing adverse impacts — on balance, little more than minor tweaks of the status quo.

It is in the pursuit of this tweaking that the views of local flyfishers and independent science got lost. Actions that support institutional and economic goals — rather than conservation and recovery of natural resources — rise to the fore when independent science and citizen oversight are removed from the process.

Nowhere in this deliberation is this more evident than in the secret deal that was cut between Scottish Power and the Oregon Department of Fish and Wildlife. A Memorandum of Understanding (MOU) between those two entities contains nearly all of the proposed actions and elements related to salmon and steelhead habitat management in the re-licensing. The supporting rationale for the MOU is, on balance, incomplete, inaccurate, and

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biased — some of the assumptions and most of the predicted effectiveness and outcomes have already been rejected by highly qualified, experienced, independent experts.

For one, in addition to not being even remotely related to impacts from the hydro project, the purported benefits to native fish in Rock Creek are illusory — and not based on sound ecological principles. Rock Creek, a North Umpqua tributary located 35 miles downstream from the lowermost project dam, presently has very poor existing habitat conditions for native salmonids which, at the same time, are overwhelmed by the presence of very large numbers of hatchery spring chinook, coho, and summer steelhead. Resolving this situation will require addressing and reversing the root causes that have led to the demise of native salmon and the degraded watershed conditions. The causes are: high-intensity, short-rotation clearcutting throughout most of the watershed; extremely high road densities and the presence of many miles of valley-bottom roads; and the current operation of Rock Creek hatchery and its facilities. Very little is proposed that would begin to reverse these causal factors.

Another example is the agreement to waive fish passage at Slide Creek Dam. By addressing only the present condition of the river, which has been altered by stopping all gravel transport (at upstream dams), rather than the pre-project environment, the potential benefits from restoration have been disingenuously downplayed. The area that would be accessed could be effectively restored by changing project operations upstream, and unlike at Rock Creek, once completed, would represent a genuine, substantial increase in high quality fish habitat.

Yet another is the construction of fish ladders and screens at Soda Springs Dam that would pass some, but not all, native salmon and steelhead (and certainly not most other aquatic organisms) into a highly fluctuating reservoir inhabited by native and exotic predators and a river that has its flows ramped up and down by a factor of ten on a daily basis. This creates a highly unnatural environment that may produce a few fish, but does very little to restore watershed processes such as sediment and large

wood transport or improve water quality. It also precludes the restoration of a rare, ecologically very important hot-spot for fish and other aquatic organisms that lies under the reservoir. Instead, what is proposed is a few, untried and unproven, technofixes as a replacement.

So why all this elaborate, expensive window dressing? It appears to me, that for reasons only known to them, Scottish Power decided to not take the single-most effective action for restoring the portion of the upper North Umpqua River that was historically used by native salmon and steelhead — removing Soda Springs Dam. The costs for this credible restoration are comparable to what is proposed in the agreement. By some estimates, removal would be even less expensive than what the parties have agreed to and the generation capacity loss is small — 11Mw or 6 percent of the project's total. The science is clear, removing Soda Springs Dam is the only action that would address the causal factors of decline, re-connect fragmented habitats for all organisms, and restore watershed processes to the North Umpqua River. The only one.

Once that decision was made, a remarkable sequence of secret negotiations, political strong-arming, media manipulation, and financial inducements kicked in. Coincidentally, independent science, which would have revealed the fallacy of the proceedings, was kicked out along with citizen oversight. Once those events occurred, the stage was set for agencies and elected officials to go for the deal. Some agencies were co-developers and whole-heartedly embraced it, others were more reluctant. Either way, the deal was done and all the river got was a minor tweak of the status quo.

This is the first opportunity in more than 50 years to make changes to this project to reflect changing societal values and incorporate current scientific principles. It is probably the last for at least the next 35 years, perhaps ever. Recovery grounded in the natural resilience of biological systems should be our goal. In the long run, it will be less painful, far less expensive, and infinitely more durable than dependence on the treadmill of half-way technology.

## The North Umpqua River Settlement: A Sampler

Here are a few examples of the final settlement agreement:

✓ PacifiCorp shall provide volitional upstream fish passage at Soda Springs Dam by means of a vertical-slot fish ladder that meets design criteria established by NMFS, USFWS, and ODFW for passage of adult salmonids and lamprey. These fish passage facilities shall be tested and functioning by the seventh anniversary of the New License.

✓ PacifiCorp shall provide downstream fish passage at Soda Springs Dam by the seventh anniversary of the New License.

✓ PacifiCorp shall maximize spawning habitat for anadromous fish in the main-stem North Umpqua River with a priority on Chinook salmon spawning, given the natural constraints of the river channels. PacifiCorp shall implement measures contained to restore, create, and/or enhance spawning habitat in these areas.

✓ Commencing in 2002, PacifiCorp shall commence initial test placements of boulders to evaluate how gravel deposits are affected by different sizes and configurations of boulder placements under the full range of existing flow regimes to develop design standards that are consistent with in-stream flows.

The complete settlement agreement can be found on the Oregon Department of Fish and Wildlife Web site, [www.dfw.state.or.us](http://www.dfw.state.or.us). Go to the Main Fish Page.



# Defending Reality

by Robert T. Lackey

— U.S. Environmental Protection Agency —

*In this provocative and controversial essay, Robert T. Lackey, a fisheries biologist with the Environmental Protection Agency in Corvallis, Oregon offers up a less-than-rosy view of the future of wild salmon in the Pacific Northwest. He argues that, to truly save the last of the wild runs, society needs to make major changes in the way people live and do business. Yet so far, society has not made much of an effort to curb its insatiable appetite for constant development, increased use of natural resources and a perpetually growing human population.*

*In addition, charges Lackey, fish researchers, conservationists and others involved in trying to save wild salmon and steelhead have been too optimistic with the public, with each other and with themselves over the odds of success.*

*Is it a call to surrender before the battle has been lost, a cold-eyed view of how things really are or something in between? Read on and let us know what you think.*

**A**re we professional fisheries scientists collectively guilty of encouraging delusions about the possibilities for restoring wild salmon to the Pacific Northwest?

In my informal discussions with colleagues, most conclude that the likely scenario for wild salmon numbers (even assuming implementation of hotly debated "restoration" proposals) is a continuing long-term downward trajectory in California, Oregon, Washington, and Idaho. A key basis for this sobering conclusion is that the human population in the Pacific Northwest (including British Columbia) will almost certainly grow dramatically through this century — from the current 14 million to between 40 and 100 million. Predictions of population levels a century from now are contentious, but I have yet to find anyone who disputes the presumption that there will be many more people in the region by the end of this century. Whether the number will be 40, 60, 80, or 100 million is contested, but the pop-

ulation will be several times higher. A cursory examination of regional data depicting historical human population density/development and wild salmon distribution/abundance reveals a stark negative relationship.

Speaking as a scientist and not as an advocate of any policy position or option, the assumed future level of the region's human population is simply a factor to be considered in evaluating the future of wild salmon. Given the pre-

**To visualize the future we only need look at the remnant runs of anadromous fish in the eastern U.S. Europe and the Asian Far East.**

dicted human population increase, the overall, long-term, downward trend in wild salmon abundance is nearly certain unless there are spectacular changes in the life styles of the region's inhabitants. But, apart from equivocal polling data, opaque political rhetoric, and grand statements of intent, there is little tangible evidence that most people are willing to make the substantial personal or societal changes needed to restore large runs of wild salmon. I contend that the future of wild salmon is not hopeless or foreordained, but society has collectively shown scant willingness to adopt the policy choices necessary to reverse the long-term downward trend in wild salmon.

Thus, after considering ecological and societal context, most colleagues conclude, usually "off the record," that by 2100 wild salmon in the Pacific Northwest will consist of mere remnants of pre-1850 runs. None of the

species likely will become extinct by 2100, but many stocks or populations will have disappeared, and those that remain will have small runs incapable of supporting appreciable fishing without technological interventions such as hatcheries or artificial spawning channels. To visualize the most likely future, we only need look at the remnant anadromous salmonid runs in the eastern United States, continental Europe, and the Asian Far East, especially China, Japan, and Korea. At one time each of these regions supported thriving populations of wild salmon. They no longer do, nor is there any likelihood they will in the foreseeable future.

As society's fisheries experts, should we perpetuate the delusion that the Pacific Northwest will (or could, absent pervasive life-style changes) support wild salmon in significant numbers given the current trajectory of the region's human population growth coupled with most individuals' unwillingness to reduce substantially their consumption of resources and standard of living? It is not our role as scientists to assert that society should make the changes necessary to restore wild salmon, but our implicit public optimism about restoring wild salmon perpetuates an avoidance of reality. Intended or not, we end up misleading the public. Let me illustrate with a personal example.

Recently I completed a manuscript that assessed the future of Pacific Northwest wild salmon. Any assessment dealing with salmon always stimulates scientific and policy debate, but my primary conclusion was: The near certain growth in the human population in the Pacific Northwest through this century, coupled with little indication that most people will accept the enormous life style changes necessary to perpetuate, much less restore, wild salmon, means that restoring "fishable" runs of wild salmon in California, Oregon, Washington, and Idaho is a policy objective that is not likely to be achieved.

Most of the several dozen fisheries

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scientists who reviewed the manuscript accepted the conclusion as realistic, even intuitively obvious, but the following were typical reactions to the overall message:

*"The message is correct, but it is too pessimistic."*

*"You need to look for a way to tell the story more optimistically."*

*"Such a pessimistic message isn't fair to all those fisheries biologists in the trenches trying to do their best to save salmon."*

These people were not challenging the human population trajectories presented in the manuscript. They accepted the population growth trajectory and the continuing unwillingness of most people to make the sacrifices necessary to reverse the downward trend in wild salmon. There is, of course, a possibility that society will collectively adopt "voluntary simplicity" as a dominant life style, but most readers did not expect such a change to transpire on a large scale. Even so, the message, they argued, would be better received if it was cast in more upbeat terms. How can assessing the future of wild salmon be concurrently acknowledged as accurate and too pessimistic? Should it not be a hallmark of fisheries scientists to provide realistic predictions of the future rather than either pessimistic or optimistic ones?

As expected, many reviewers offered the usual arguments about the relative importance of commercial, recreational, and Indian fishing, dams and their operation, agriculture, forestry, urbanization, roads and right-of-ways, pollution, changes in the climate of the ocean and atmosphere, competition and predation from exotic species, predation by marine mammals and birds, and various concerns about hatcheries and commercial aquaculture. However, the overall conclusion of nearly all reviewers did not differ greatly.

Most fascinating was the recurring suggestion, even a plea, to "lighten up" and be more optimistic and positive in assessing the future of wild salmon. I had written the article to be blunt, direct, and realistic, and I avoided both pessimism and optimism. How could

reviewers conclude that the manuscript was realistic in content and conclusion, but at the same time encourage me to abandon realism and honesty in favor of optimism — a suggestion that would mislead all but the most astute readers?

Several reviewers suggested that if my objective in writing the article was to help save wild salmon (it was not), then the accurate, realistic message would leave proponents dejected. This common sentiment is captured by:

*"You have to give those of us trying to restore wild salmon some hope of success."*

Conversely, a few veterans of the salmon wars confessed their regret over the "optimistic" approach that they had taken during their careers in fisheries, and they endorsed the "tell it like it is" tactic. They felt that they had, especially early in their careers, given false hope about the effectiveness of fishways, hatcheries, and the ability of their agencies to manage mixed stock fishing. I was left with a feeling that many professional fisheries scientists have been, and still are, subtly pressured by employers, funding organizations, and colleagues to "spin" fisheries science and policy realism to accentuate optimism.

Other reviewers took professional refuge in the reality that senior management or policy bureaucrats define the policy questions, and thus the research, often resulting in narrow, reductionist scientific information and assessments. Rarely are fisheries scientists empowered to provide "big picture" assessments of the future of salmon. Whether inadvertent or not, such information often misleads the public into endorsing false expectations of the likelihood of the recovery of wild salmon. For many of us, such implicit optimism is a healthy, rewarding way to go through life.

Is adopting unfounded "professional" optimism a harmless adaptive behavior of little import? After all, "think positive" slogans are a hallmark of many

self-improvement programs. What is wrong is that optimism does not convey what is happening with wild salmon, and it allows the public, elected officials, and fisheries managers to escape the torment of confronting triage.

Fisheries scientists should be realistic and avoid being either optimistic or pessimistic. This professional stance does not covertly argue in favor of an "imperative" to save wild salmon regardless of the cost of society, nor does it necessarily support a "defeatist" strategy. Such choices should be made



*Are all efforts to restore wild salmon and steelhead ultimately doomed?*  
Photo by Jim Yuskavitch

by an informed public that is aware of the difficult tradeoffs. Restoring wild salmon is only one of many competing, important priorities, and the public is entitled to be accurately informed about the long-term prospects of success.

It is easy to find comfort in debating the nuances of hatchery genetics, evolutionarily significant units, dam breaching, salmon barging, selective fishing regulations, predatory bird control, habitat restoration, atmospheric and oceanic climate, and unintentionally mislead the public about the realities of the situation with wild salmon. As discomfiting as it may be to disclose the future of wild salmon relative to society's apparent values and preferences, our most useful contribution as fisheries scientists is providing information and assessments that are policy-relevant but policy-neutral, understandable to the public and decision makers, and scrupulously realistic about the future. Otherwise, we simply squander our professional credibility to become acolytes of delusion.



# The Male Steelhead Hypothesis

by Bill McMillan

— Washington Trout —

*Last year, Bill McMillan, well-known, long-time wild steelhead and salmon advocate published a substantial paper "Males as Vectors to Hatchery/Wild Spawning Interactions And the Reshaping of Wild Steelhead/Rainbow Populations Through Fishery Management" devoted to his hypothesis that, according to Washington Trout, which is distributing the paper, "the temporal breadth for potential spawning is so broad for male steelhead/rainbow trout that it is impractical and perhaps impossible to effectively manage for temporal isolation of wild and hatchery steelhead when they cohabit mutual spawning areas."*

*With McMillan's permission we have published a short excerpt from his paper. To receive a complete copy, contact Washington Trout at (425) 788-1167 or by e-mail at [wildfish@washingtontrout.org](mailto:wildfish@washingtontrout.org).*

**O**n March 25, 1985, while walking Winkler Creek, a tributary to the Washougal River, Washington at River Mile 9, I found what appeared to be a wild female steelhead (no missing fins) spawning with two males that had missing dorsal fins, as is characteristic of many hatchery steelhead. [This was one year prior to all hatchery adults returning with adipose fin clips on the Washougal. However, stubbed dorsal fins were found in 88 percent of Kalama River hatchery steelhead. Dorsal stubbing was presumed to be a similar indicator of hatchery steelhead origin on the Washougal River.

Some 75 feet downstream, Winkler Creek emptied into the Washougal. At the mouth, yet a third male was advancing into the smaller stream's freshet. It seemed remarkable that this fish could swim against the concentrated current. Sores spotted its body. One eye was surrounded in the white mess of fungus. Its movements were slow, deliberate, and yet, driven upstream to the active redd.

Although I could not determine if he had a missing dorsal fin or not, this third male registered vividly in my mind because of his juxtaposition with the two better-conditioned hatchery males vigorously spawning with the wild female. It emphasized that steelhead, unlike Pacific salmon, do not necessarily die shortly after spawning. And while female steelhead expend their eggs in a single

**Washington state's steelhead management plans fall apart unless wild and hatchery fish are isolated from spawning together.**

spawning, males are potentially capable of generating sperm through repeated spawnings.

I made a number of tributary walks on the Washougal River in late March and April 1985. It was purely the accident of needing moderate exercise to recover from a hernia operation. I lingered and watched with less hurry than on most spawning surveys. Due to the leisurely pace, maybe I was more inclined to mentally explore what I observed.

On March 26, 1985, in a quarter-mile search of an unnamed tributary that some call Slough Creek (River Mile 8), I found one steelhead spawning pair — both wild (no missing fins). The male was large for the small size of the creek and was distinctively colored.

On April 2, 1985 (seven days later), I returned to Slough Creek. No active spawning was found, but I did see the same distinctively sized and colored

male as observed actively spawning on March 26th. He seemed to be waiting for other females to arrive and gave every appearance of being a vital, strong and reproductively capable fish.

## A HYPOTHESIS BEGINS TO TAKE FORM

It was something simple and elemental in the general understanding of the differences between being male and female.

Because of the prolonged time span for potential male spawning, it may be virtually impossible to temporally isolate hatchery from wild steelhead on the spawning grounds while preserving the diversity of wild steelhead spawning timings necessary for effective adaptation to differing habitat niches, variations in annual weather conditions, or longer term climatic fluctuations.

However, March 15th is the date that the Washington Department of Fish and Wildlife has chosen to determine hatchery from wild steelhead spawning as a blanket management tool for Washington steelhead streams. Spawning activity on, or prior to, March 15th is assumed to be that of hatchery steelhead in Washington. Spawning activity thereafter is assumed to be that of wild steelhead. The assumption that hatchery steelhead are effectively isolated from spawning with wild steelhead is fundamental to Washington's steelhead management.

If March 15th is not an effective criteria for determining the separation of hatchery from wild steelhead spawning, Washington's steelhead management plans fall apart unless hatchery and wild steelhead are effectively isolated from spawning together by some other mechanism.

If genetic diversity of wild steelhead (one aspect of which is breadth of spawning timing) is a fisheries management goal, or if reduced

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diversity is considered a risk to long-term wild steelhead/rainbow survival as a species in the broader interests of science and other facets of human culture, then male steelhead, in particular, would seem to be a particular problem. If their potential spawning timing is longer than for females, then hatchery selection for early spawning females may not temporally isolate hatchery males from wild females, nor wild males from hatchery females.

A resulting failure to temporally isolate hatchery and wild steelhead would perpetually introduce hatchery steelhead characteristics that reduce spawning success in riverine environments into wild steelhead/rainbow populations on an annual basis. Due to the resulting high mortality of hatchery/wild steelhead crosses, evidence of such crosses may never show up through genetic evaluations — the steelhead carrying the genetic evidence of such wild/hatchery crosses having largely died before maturity. Those time periods when hatchery/wild spawning interactions most overlap might result in an eventual gap in wild steelhead entry times, wild steelhead spawning times, and in wild steelhead numbers to fill those habitat niches in which that specific spawning timing may be critical to survival.

### THE MALE STEELHEAD HYPOTHESIS TAKES THE FORM OF A WIDER STORY

Lacking direct means to test the suspicion about the part that male steelhead play in extending the likelihood of hatchery/wild steelhead spawning interactions, it wasn't until a fishing experience eight years later that I began to see the potential magnitude of the implications. These implications then took the form of a larger story that subsequent experiences and a search for more evidence would have to confirm.

On an angling tip from a friend, I hiked to the hatchery tributary's junction with the main Washougal River on March 1, 1993. As he said, steelhead were spread in visible "rafts" through a 200-foot section of water.


After two hours of fishing I hooked five but only managed to bring one to hand for examination — an adipose clipped male. All of those hooked or seen appeared to be dark-colored males and all likely hatchery origin. Hatchery females had been done and gone for nearly two weeks. [Over the next two weeks I did not fish. But ending with a freshet of high water on March 15th that made the river unfishable for a week thereafter, my friend returned three times to the same piece of water near the hatchery tributary. I asked him to record the sex and origin of what he caught. He landed 12 steelhead. All were dark hatchery males.]

Satisfied that I was going to catch nothing but ripe hatchery males from the water near the hatchery tributary that day, I returned to my cabin to fish a favorite run. Just before dark I caught and released a large wild female. Despite her bright silver sides, her swollen belly and distended vent indicated she would be spawning within a few days. It wasn't until reaching the cabin door that I remem-

bered the gauntlet of hatchery males that she would have to pass through a half-mile upstream.

She was the only wild steelhead I was to catch all winter. What few wild males that had been waiting may have spent themselves in the previous month's spree with plentiful and mature hatchery females. Even if they had not, through sheer numbers she was left primarily to the horde of lingering hatchery males. Some would hound her and follow her to wherever she was destined. The hatchery males had no other options, nor did the wild female. It was the destiny that modern steelhead management has created — a component of the spiral to depletion of wild steelhead. What has happened was built on a flawed supposition: Sufficient spawn timing differences between wild and hatchery steelhead exist to minimize crosses between the two. The error in that supposition has been based on the fallacy that the potential spawning timing of hatchery and wild steelhead holds the same for males as for females.





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