



Strong Runs

Wild is the Future

Newsletter of the Native Fish Society

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When management ignores science

Sulfite egg cure update

Strategies to restore the South Umpqua

Nehalem salmon and steelhead politics

McKenzie trout debate

Failure to incorporate science into fishery management is costly

by **Bill Bakke**
Executive Director



Introduction

The 2009 study “Failures to Incorporate Science into Fishery Management and Recovery Programs: Lessons from the Columbia River” as printed in the American Fisheries Society is an examination of the road not taken. The consequences of fish management not taking the science-based road has led to ESA protection, extinction, and reduced fisheries at the expense of billions to the public that funds this work.

The authors, James Lichatowich and Richard Williams, present a lucid and distressing account of what has taken place in the name of fish management, presenting a time-line of events that comprise a series of decision points that could have meant salmon and steelhead recovery rather than degradation. If salmonid sustainable decisions had been made it is likely that there would be fewer fish listed for protection under the ESA because they would be healthy and productive. But that was not the road taken.

Fish management is deaf to science, turning away from a factual and rational fish management program to one that is based more on agendas, politics, and funding than it is on healthy wild salmonids in productive watersheds.

The outcome for these decisions is that we now have a future that is likely to cause the extinction of salmonids, hatchery and wild, in the Pacific Northwest. As fish managers try to compensate for bad decisions they are delivering a likely outcome that is expensive biologically and a waste of public funds. The

public is paying for it with billions of dollars and lost opportunity. This study is important to read because it sets out a history of our collective failure to be effective stewards of our salmon and steelhead. Knowing how we failed paves the way for correcting this 150 year dedication to it.

Report abstract

The Pacific Northwest states of Oregon, Washington, California and Idaho are en-

Photo by Matt Stansberry

On the Cover: The McKenzie River has been stocked with hatchery trout since 1921, and the river remains one of only a handful of streams in Oregon that is not managed for wild trout. Wild fish advocates have mounted a campaign to reduce or remove the stockings and their efforts are paying off. See page 10 for more information.

gaged in a massive effort to restore depleted populations of Pacific salmon *Oncorhynchus* spp.

The region's largest watershed, the Columbia Basin, is the focus of what has been called the world's largest attempt at ecosystem restoration. After 26 years of implementation, the failure of the program to achieve its modest recovery goal was the result, in part, of a failure to incorporate the latest science into the program. The fundamental assumptions and principles that guide the selection of recovery tasks and their implementation were not based on the latest scientific understanding of the salmon production system.

Three impediments to the incorporation of science into management and recovery programs are identified: an inadequate conceptual foundation, fragmented institutional structures, and political interference. Each impediment is illustrated and discussed using case histories from the Columbia River.

The timeline

1893: R.D. Hume, recognized differences in salmon populations from different streams and incorporated those observations into management recommendations.

1933: Anticipating the work of Hume and later the research of Willis Rich on salmon management, some fish culturists recognized the implications of the stock concept of management that was not desirable, so the Oregon Fish Commission constructed salmon management units to facilitate harvest regulations and these artificial constructs were sometimes referred to as stocks. The importance of biological stocks received little attention for the next several decades.

1939: However, it was not until 1939 that Willis Rich, after reviewing the results of salmon tagging experiments, describes the importance of the stock concept for Pacific salmon to describe the biological organization of salmonids.

1970s: Interest in biological stocks surfaced again and in the 1980s and 1990s management agencies began inventorying biological salmon stocks.

1995: Fifty-seven years after Rich identified stocks as the basic unit of management,

researchers reported that one of the factors contributing to the decline of the lower Columbia River stocks of coho salmon was the continued stocking of universal donor coho stocks in the lower river tributaries, essentially ignoring the stock concept.

2010: Today, 71 years after Rich's paper, the harvest of salmon in the Columbia River is not based on escapement targets for biological stocks, but on mixed stock aggregates defined as fish passing convenient counting sites such as mainstem dams. This

“The incorporation of the latest science into management and recovery programs is not automatic...impediments exist to the incorporation of fishery science into the Columbia Basin's principle salmon recovery program.”

approach does not take into account the different productivities of the individual stocks or the variation in habitat quality of the different tributaries. This is not limited to the Columbia River. Fisheries science has recognized the importance of the biological stock as the basis of sustainable management; however, that realization has not yet been incorporated into all appropriate management activities in Columbia River Basin.

Power Planning and Conservation Council timeline

1980: The U.S. Congress enacted the Northwest Power Planning and Conservation Act. One purpose of the act was to create parity between fish and power production from dams. To implement this act, Congress created the Northwest Power and Conservation Council made up of two representatives from the states of Oregon, Washington, Idaho, and Montana and directed them to develop a fish and wildlife restoration program funded by the Bonneville Power Administration using power revenues. (It should be noted here that the National Marine Fisheries Service had already initiated a review of upper Columbia River and Snake River salmon and steelhead for protection under the Endangered Species Act, but this effort was dropped in the belief that the Power Council and the authority given it by Congress would provide the funds and

measures to save the salmon.

1982: “The first fish and wildlife program was adopted by the Council characterized as the largest ecosystem restoration program in the world. The Council estimated the pre-development salmonid abundance in the Columbia River was 10-16 million. This abundance has declined to an average of 2.5 million fish, most of which are of hatchery origin. A goal was set to “double the run” a common goal at the time, but have failed to do so. The total run ranged from 750,000 to 3 million fish, largely the result of improved ocean environments. However, from 1982 to 2003 the Council spent 1.16 billion in direct funding of the fish recovery program. When indirect expenses such as for-

gone power production to improve fish passage at dams is included the total cost during this time period is \$6.45 billion dollars.”

1982 to 2002: After 20 years the fish and wildlife program has failed to reach its goal of doubling the runs.

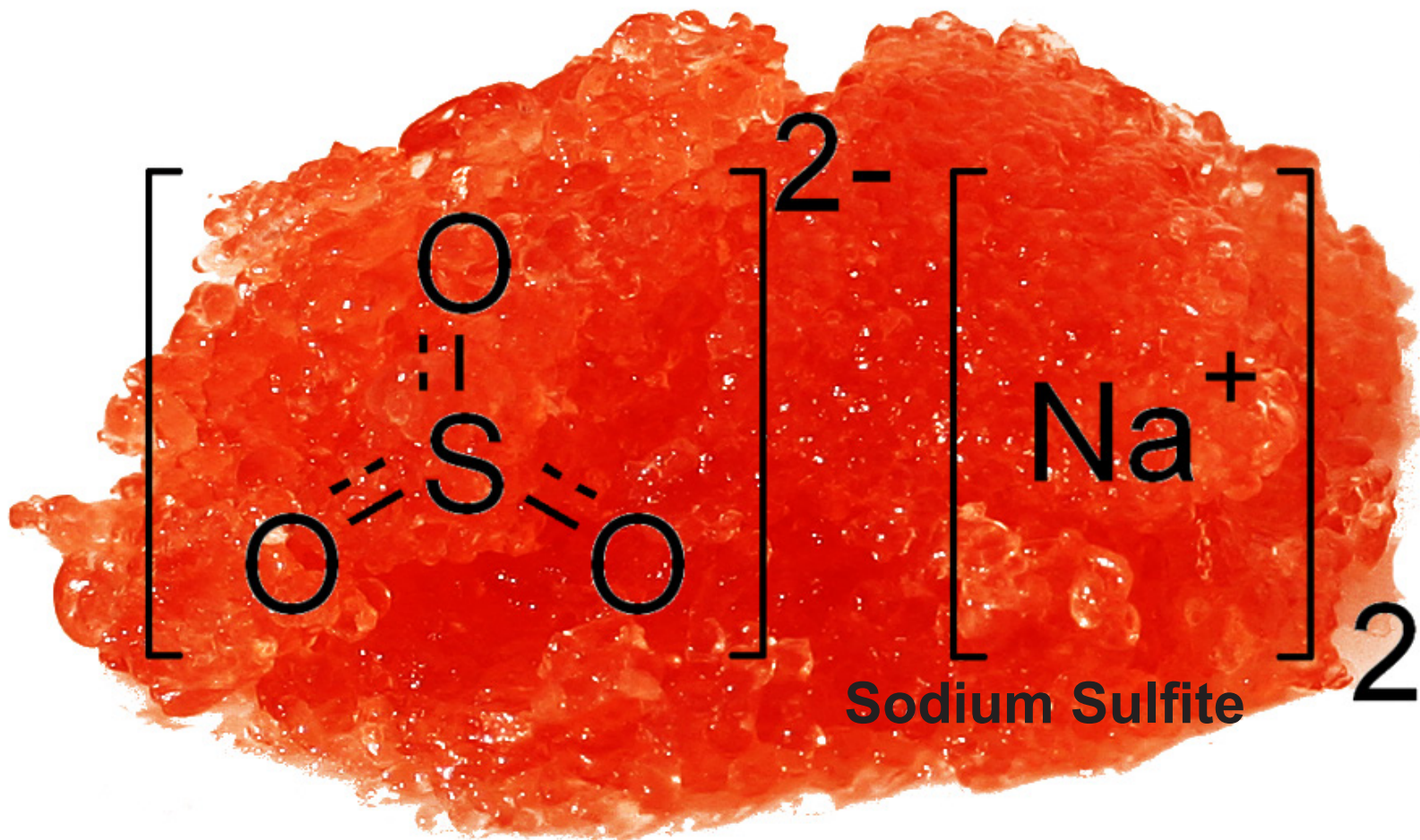
1999: The Independent Science Group (ISG) was asked by the Council to review the scientific foundation of the Council's fish and wildlife program (FWP) when the run declined to 750,000 fish in 1995. The ISG reported in 1999: “After reviewing the science behind salmon restoration and the persistent trends of declining abundance of Columbia River salmon, we concluded that the FWP's implied conceptual foundation did not reflect the latest scientific understanding of ecosystem science and salmon restoration.”

The authors of this paper ask, “How could the Council's salmon recovery program, with its massive financial backing, fail to incorporate the latest science?”

The authors make a “distinction between fishery science and fishery management including restoration programs. Fishery science includes the body of research conducted by academic and fish and wildlife management institutions, and others. Fisheries management includes programs and policies intended to conserve and/or recover fish resources and their habitats.”

“The incorporation of the latest science into management and recovery programs is not automatic...impediments exist to the

See Costly, Page 14



Egg cures kill juvenile salmon and steelhead at rates as high as 35%

by **Jeff Mishler**
Special to Strong Runs

Background

One would think that once a lethal toxin was identified in a readily available commercial product, a product intended for use in waterways, responsible, sensible people would support a ban on the use of that toxin. Not so in the case of sodium sulfite, used pervasively as a preservative and bite enhancer in commercially available egg cures and cured eggs.

Sodium sulfite is listed as a regulated toxin by EPA and regulated under the Toxic Substance Control Act. In the wake of a study conducted by the Oregon Department of Fish and Wildlife at an Oregon State University research facility, (results released in December 2009), the staff at ODFW Fish Division have only recommended that the use of sodium sulfites cease and are not willing to regulate the use of sulfites by adopting new rules.

According to EPA, a toxin must only cause harm, not mortality, before regulation under TSCA guidelines must be enforced. As noted in the study's summary, sodium sulfite present in cured salmon eggs and used as bait by sport anglers caused mortality on juvenile salmon and steelhead at rates as high as 35 percent.

See ODFW press release and study results: <http://www.dfw.state.or.us/news/2009/december/121609.asp>

Fishermen use cured salmon eggs 12 months a year on waterways and lakes from Alaska south to California and east to the Great Lakes, where the use of bait is allowed. Eggs are fished using a variety of methods: back bouncing, drift fishing, bobber or float fishing, diver and bait, and plunking. Of the techniques used by egg fishermen, bobber fishing presents the bait for the long intervals in the slow water zones inhabited by juveniles. Back bouncing and diver techniques present the bait near the bottom at a very slow rate of downstream travel for long periods of time. Plunking presents the stationary bait very near the bottom indefinitely. Drift fishing presents the bait near the bottom traveling downstream at a rate slightly slower than the current for an interval of less than one minute per cast.

Anglers target spring chinook, fall chinook, coho, late winter steelhead, summer steelhead and resident trout with chemically cured salmon eggs. These proprietary chemical cures contain powerful sulfites, formaldehydes and other toxic chemicals. Cured egg use in the spring and summer coincides with the out migration of young salmon and steelhead. It also coincides with increased consumption of food by all resident salmonids, driven by an increase

in water temperatures, post spawning metabolism, and increases in the abundance of aquatic food sources. When presented a bait of chemically-cured salmon eggs, juveniles can be observed feeding on it aggressively.

In a real world fishing situation, with an abundance of juveniles present, it is not uncommon to observe 100 or more juveniles of varying age classes attack an egg presentation when it is paused only momentarily at the side of the boat, before making another cast. I also witness discarded baits attacked voraciously by juveniles.

Impacts of juveniles in the wild

As the author of the ODFW study designed to determine the impacts of sodium sulfite on juvenile salmonids, I believe sport anglers are impacting populations of wild fry, out-migrating smolts, one and two year-old juvenile steelhead, resident and sea run cutthroat trout, and resident rainbow trout by choosing to fish with chemically-cured salmon eggs.

The impacts on juvenile populations could be profound when one figures (the physiological impact of one exposure) x (the number of chemically cured egg presentations made by one angler) x (the total number of anglers fishing chemically-cured eggs on a given day) x (the number of angling days). Millions of juveniles are exposed to the toxin sodium sulfite daily during peak angling seasons.

“The impacts of exposure could be profound where adult spring chinook and various age classes of juveniles share freshwater sanctuaries. This is a no brainer to me. You’re either with the fish, or you’re not.”

Next Steps

How do we get the ball rolling towards an enforceable ban on the use of sulfites in baits?

1) Add the two words “fish and” to ORS 498.046.

Current rules state:

498.046 Making toxic substances accessible to wildlife prohibited. No person shall place any toxic substance where it is accessible to wildlife unless the substance used and the method of application is approved by the state governmental agencies having authority to prescribe or implement environmental control programs. [1973 c.723 §81]

Proposed change:

498.046 Making toxic substances accessible to wildlife prohibited. No person shall place any toxic substance where it is accessible to (fish and) wildlife unless the substance used and the method of application is approved by the state governmental agencies having authority to prescribe or implement environmental control programs. [1973 c.723 §81]

This is a simple fix that will in essence protect millions of juvenile salmon and steelhead, some stocks listed under the ESA as endangered or threatened, from unnecessary exposure to a known lethal toxin.

We spend hundreds of millions of dollars a year trying to recover

stocks on the Lower Columbia alone. Ethically, it’s wrong to place toxins in the water, ever. Fishing with chemically-cured eggs and baits is voluntary and without a change in the language of law, there is no incentive for fishing guides who depend on catching salmon and steelhead, at all costs, to change behavior regardless of ODFW’s soft recommendations. Who could argue against the rule change?

What, they support placing poisons in the river, through voluntary actions of sport fishermen?

2) Ask the Oregon Fish and Wildlife Commission to reconsider ORS 498.208 in light of the ODFW/OSU study findings.

Currently, the Fish and Wildlife Commission allows the use of eggs as bait as an exception to the rule:

498.208 Use of electricity or foreign substances to take game fish prohibited; rules. (1) Except as the State Fish and Wildlife Commission by rule may provide otherwise, no person shall:

(a) Use in any body of water any electric current that may attract, frighten, retard, stun, kill or obstruct the movement of any game fish.

(b) Place in any body of water any foreign substance such as blood or fish offal or any gas, chemical, drug or powder that may attract, frighten, retard, stun, kill or obstruct the movement of any game fish.

(c) Use in any body of water any explosive device for the purpose of taking game fish.

(2) No person shall possess any game fish that the person knows or has reason to know was taken in violation of subsection (1) of this section. [1973 c.723 §92]

In the light of the study results, they have not reconsidered this exception. I believe they should.

3) File a Citizen’s Petition with EPA to begin enforcement of Toxic Substance Control Act provisions. EPA will be required to conduct additional studies to determine safe levels of sodium sulfite in commercial bait cures and enforce reporting from manufacturers of such products.

Conclusion

Prohibiting the use of the preservative sodium sulfite in cured salmon/steelhead eggs (used as fish bait) is a common sense response in light of evidence proving exposure to the toxin is lethal to young salmonids. Unfortunately, there are those who value angling opportunity and business profits more than the recovery or survival of stocks balanced on the brink of extinction.

We don’t know whether salmon and steelhead adult populations experience net impacts after exposure to sodium sulfite as juveniles. Many of these stocks are struggling populations in freshwater environments where summertime flows are low and water temperatures high. The impacts of exposure could be profound where adult spring chinook and various age classes of juveniles share freshwater sanctuaries.

This is a no brainer to me. You’re either with the fish, or you’re not.

Watershed strategies for the South Umpqua River

by Stan Petrowski
South Umpqua Steward

Despite decades of watershed degradation, hope remains for South Umpqua native fish

The South Umpqua River, like so many streams in the State of Oregon and the West Coast of the United States, is extremely degraded.

Urban development, as well as agricultural and timber harvest management practices, has ruthlessly intruded upon natural ecological processes with heavy equipment and total disregard for stream-system aquatic-habitat ecology.

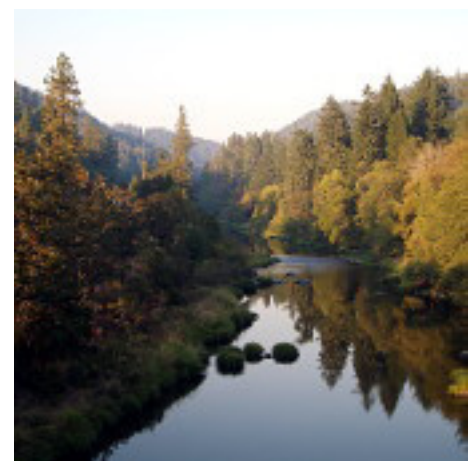
The general consensus was that the ecosystem was infinitely resilient and that only short term damage would be done in exchange for time and money. “Get the cut out” was the mantra of post WWII – 1990s western Oregon logging operations. Even before then in the late 1800s and early 1900s it was a common practice to place trash and old vehicles down into the riparian zone. An acquaintance of mine calls it “Detroit Rip-Rap”.

The streams were the place that cleansing took place. It was deemed that no amount of disturbance to the complex web of life could be permanently damaging. Perhaps in many cases it wasn’t even a consideration.

As always, the political process was very slow to address what has become a tragic expenditure of the resource bank of “*Life Reserves*” stored by the verdant environment of Oregon.

Some geographical areas have seen greater impact than others. Usually the most productive was affected first. The South Umpqua watershed is one of these. Large tracts of the flat alluvial flood plains were the first to be harvested of stalwart old growth timber. This included the shade trees of the riparian zone right up to mainstem stream and river banks. Quickly these plains were domesticated and incorporated into heavily fertilized hay crop and agriculturally productive food sources.

As a result, waterways quickly incised down to bedrock. The energy dissipation of water hydraulics began moving laterally to erode the unstable watercourse banks. Stream bank calving events became common as seasonal high water swept rich alluvial top soil down to the Pacific Ocean. Water temperatures skyrocketed. Water turbidity smothered native fish redds. Invasive exotic predatory fish species like the smallmouth bass began to become abundant



in numbers, threatening the salmonids and lamprey.

The waterway ecology and native fish runs languished to the point of extinction. Steelhead and chinook runs blipped off the radar screen of life. The South Umpqua cutthroat trout, and unique wild coho salmon runs suffered under the panicked response of hatchery fish solutions propagated by State agencies. For a moment aquatic life stood poised in a final gasping desperation to live.

Organizations like the Native Fish Society began to wake up the community. Politically and scientifically savvy individuals began pooling academic, fiscal and political clout to STOP, THINK and MAKE CHANGE.

Social pressure and funding initiated feeble attempts to back track to life. Attempts

to heal the ecological wounds were fraught with failures that always attend experiments under pressure. The learning curve has been steep but the rewards profound. The task of restoring *Life Reserves* and natural processes to the system is expensive and extensive – no different than the difficulty of pushing things uphill that were once bulldozed down.

However, nature IS resilient. The ancient impulse of the wild fish runs to survive is strong. They have negotiated ice ages, massive volcanic disturbances and the upheaval of continental shelves, but can they survive the insipid relentless impact of modern man?

If the stream restoration efforts taking place in the South Umpqua Basin watershed are a sampling of nature's response to our hope of fixing our mistakes, the answer is a resounding *yes*.

Take one small subwatershed as an example. Here on our Singing Falls ranch located in the South Umpqua Elk Creek watershed we are monitoring and marveling at the increase in the size and number of wild coho salmon and steelhead in the stream system.

Our first spawning runs (circa 2006) left behind a mere 700 juniors in the creek system. Our annual June fish count monitoring efforts have been witnessing a progression ever since. June of 2009 racked up a whopping 5,885 salmonid juniors with only an

approximate 80 percent success of count capture.

We implemented the heavy lifting of the restoration project in the summer of 2006. An extensive record of the Joe Hall Creek Aquatic Habitat Restoration Project and its aftermath can be found at <http://www.singingfalls.com/stream>. There you will find documented the “*from the ground up*” reaction to the “*from the top down*” results of political efforts by groups like the Native Fish Society. The policy changes are fruiting profound results. Take the time to review those web pages carefully.

There is still much work to be done. Of great concern to me as the South Umpqua River Steward, is the policy, well entrenched in the system, that allocates the limited funds designated for restoration work in a fashion I consider counter intuitive. The emphasis to date has been to shore up and invest resources in segments of the river system deemed to have endured less negative impact than others.

The “protect the best and restore the rest” policy has been interpreted to mean stream sections in reaches with minimal disturbance should be shored up while segments that have been truly hammered wait for the allocation of funds. It is like concentrating on trimming someone's beard when an amputated appendage needs a tourniquet.

One of the reasons for this misplaced attention is the fact that the prime low gradient spawning habitat of the river system is usually located in the context of private land ownership. While agencies are reaping the results of implementing past bad policies from the private sector, they are wont to expose themselves to angry land owners who mistrust and eschew them.

Landowners themselves are rarely willing to buck the traditions that set the habitat in disarray in the first place. That would mean fessing up to past mistakes and a possible disturbance of present operational practices. Bridging the gap of social, political, and fiscal breaches in the restoration processes is an up hill task for sure, but a worthy one.

The Native Fish Society River Steward Program and the Native Fish Society as a whole has a significant role to play in this entire arena, one that I am both humbled by and proud to participate in. Your engagement of this process has ramifications far and beyond a wild fish run.

The strength and size of the native fish runs are an indicator of river system health. They are a living witness and builder of the watershed river system *Life Reserves*. By giving, by acting, by changing policy – you become a vital link on the path of return. Talk to your neighbors.

Truly, there are no sacrifice rivers!

Your help is needed to protect Oregon's Water, Parks and Wildlife

Oregon's only dedicated funding source for rivers, streams, parks and wildlife habitat is about to expire. If that happens, the work Oregonians do to restore healthy streams, protect our natural areas and preserve our wildlife habitats will be in jeopardy. Furthermore, we could lose ALL our state funding for our state and local parks, beach access and much of what makes Oregon special.

This funding, 15 percent of Oregon State Lottery dollars, is the backbone behind efforts in every county in Oregon to protect important habitats like salmon habitat on the Rogue and other rivers, Zumwalt Prairie in Eastern Oregon, create new parks like Stub Stewart State Park, and keep places like Tryon Creek State Park safe and accessible.

If this initiative fails, all these vital community investments will be lost. This important measure requires no tax increase and no cuts to any other vital services. It DOES renew Oregon's only fund dedicated to protecting our water, parks and wildlife.

A broad coalition has launched a critical initiative that would amend the state constitution to renew this vital funding source. To access the ballot in November, volunteers must first collect 60,000 signatures to ensure that this fund will continue to work for Oregon's

future. We invite you to join many others across the state to gather signatures for the Water, Parks and Wildlife initiative, educate your community about this pressing issue, take part in grassroots democracy. Volunteers are needed to gather signatures with fellow volunteers at key locations and major events.

Remember this important measure will:

Continue a successful funding structure for clean water, vibrant wildlife habitat, and our cherished public lands and historical sites.

Protect our local economy and the jobs connected to conservation and state parks.

Preserve federal matching funds in Oregon that would otherwise go to other states for their parks and natural areas.

Renew Oregon's only dedicated fund for water, parks and wildlife, with no increase in taxes, and no cuts to other vital services.

There's too much at stake for Oregon and for our children to lose this crucial funding to preserve our natural heritage. Please lend a hand to help protect Oregon.

Volunteer to gather signatures today by calling the campaign headquarters at 503-206-8933.

For more information, please go to www.waterparkswildlife.org.

Nehalem success? You be the judge

by **Rob Russell**
Nehalem River Steward

Most North Coast fly anglers know the Nehalem as a refuge for wild steelhead. From December through April, the big Nehalem puts out some impressive sea-run rainbows. But from July through December, the Nehalem is a playground for wild salmon.

During the peak of 2002/2003, chinook returns climbed to roughly 30,000 fish. Coho peaked last fall at similar levels. At those numbers, the Nehalem felt alive, with salmon rolling in every pool. Anglers who witnessed the mass migrations that occurred during those peaks could barely believe what they saw.

Nehalem chinook were due to decline after the 2002/2003 peak, and, like clockwork, ocean productivity slumped. By 2006 the summer run was barely showing. By 2007, fall returns fell below ODFW's escapement goal of roughly 6,000 fish. I freaked out and begged the Tillamook office to close the fishery, but they ignored my pleas.

The forecast was for a slight rebound in 2008. But when the 2008 data was crunched, the run had declined even further. With the help of some high-level biologists, a handful of dedicated anglers convinced ODFW to close the chinook fishery in 2009.

By the end of the fall season last year, ODFW Nehalem managers were thoroughly brow-beaten by Nehalem-area business owners and their own leadership. I heard these words: "We'll probably never do that again." As in: the chinook closure wasn't worth all the grief they took, and it may have created a monster, in the form of a proposed wild-broodstock hatchery program for fall chinook.

The more I dug, the more references were made to pressure from ODFW senior leadership. Reportedly, the agency was not pleased about what they viewed as an unjustified closure, when the primary objective for the agency was to increase angling opportunity and harvest.

The inner-agency conflict clearly demonstrated a serious conflict of interest for agency leadership who oppose a closure. How could they be an effective advocate for wild fish if their primary objective was to increase hatchery production, angling opportunity and license sales?

The truth is there are those within the agency who see their primary role as the bread-winner for the agency, and the way they plan to shore up funding is to generate more angler-participation across the state. The inverse of that perspective is that we wild fish advocates are road blocks to economic recovery.

Brian Riggers, the lead biologist for ODFW's Coastal Chinook Research & Monitoring Project, is charged with collecting and analyzing chinook data for the agency. I've kept in touch as the



Photo by Rob Russell

Summer tide floods the flats below Mohler Bridge, bringing Nehalem chinook and coho to the deep tidewater pools where they will await the first fall rains.

2009 numbers have been tallied. Preliminary numbers show that the 2009 fall chinook return buoyed to about 4,700 fish--very close to the forecast. Further refinement of that number may revise it up or down a little, but it's a fair estimate. Thankfully, it's likely to be a low estimate because high water and a barrage of wild coho drove the data-collection team off the water during some peak migration days.

"We expected to handle a few hundred coho last fall," Riggers explained. "But we ended up handling over a thousand, and some days the coho were so thick we just pulled out."

Music to my ears. Too many fish? Awesome.

The upshot is that Nehalem chinook may be pulling back from the brink, and toward another period of abundance. My heart races at the thought.

But the other upshot is this: ODFW's closure of the 2009 summer and fall chinook fisheries may have saved as many as 1,500 chinook from harvest. That's based on an accepted average exploitation rate of 30 percent for coastal kings. That's 750 pairs of spawning chinook! It is a best-case estimate, since the "bonus" coho fishery in

Nehalem Bay killed chinook. But even if exploitation of chinook was 10 percent, we still saved over 1,000 spawners.

It's too early to sound the trumpets, but I'm satisfied that the closure represents a major short-term success for the Nehalem and for the Native Fish Society's River Steward Program. I hope that fisheries managers will take pride in their decision and the results.

My heart goes out to ODFW personnel who stood up for the closure. Their bravery saved a lot of lives. Long live the Nehalem!

Due to expected higher returns, the Nehalem chinook fishery is scheduled to be open this year.



Photo by Rob Russell

A large Nehalem River king salmon takes a break after towing the author's drift boat around for awhile.

Hope for McKenzie native trout

Wild fish advocates campaign to protect native reddsides from hatchery interactions

by **Russell Bassett**
River Steward Coordinator

Oregon's flowing waters – the rivers and streams that nourish the state like arteries – are wonderfully wild when it comes to trout populations. The State now manages 98 (or so) percent of its streams for wild trout.

Oregon streams were not always managed that way. Until the late 90s, many state rivers were stocked with hatchery trout, but Oregon (for the most part) changed its policy to comply with the Native Fish Conservation Policy, and except for a few notable exceptions, decided to protect and restore the state's wild trout populations. This, of course, does not include salmon and steelhead management, which in the Columbia system alone is now comprised of an average of 80 percent hatchery salmon and steelhead.

The most notable exception to Oregon's management for wild trout in streams is the McKenzie River, where annually since 1921 roughly 100,000 catchable trout have been stocked. The McKenzie has approximately 77 miles of floatable water, and of those miles, the middle 39 miles are stocked with 9-14 inch trout every two to three weeks during the summer fishing season.

Science has made very clear that hatchery programs often have a profound long-lasting and negative effect on wild salmonids. Populations of wild trout have been shown to decline in the presence of introduced, hatchery-reared trout (Thuemmer 1975, Bachman 1982, Vincent 1975, 1985, 1997). Regarding the McKenzie, the Oregon Department of Fish and Wildlife's own research (McKenzie Fish Management Plan 1997 and McKenzie Subbasin Fish Management Plan 1988) cite the hatchery trout program as the primary culprit in depressing native trout populations on the river.

Despite the clear evidence documenting the negative impacts of hatchery trout to wild trout populations, McKenzie trout stockings remain a popular program that is supported by the McKenzie River Guides Association and many other local businesses



Photo by Matt Stansberry

The McKenzie River has a long tradition as a trout fishery. The river is the birth place of the Federation of Fly Fishers and the home of Oregon's first professional guides association. Since 1921, that tradition has included stocking hatchery trout. This popular stocking program, the largest and one of the last in Oregon, is now facing close scrutiny. An organized grassroots effort is successfully campaigning to reduce or remove the stockings in order to protect and restore the wild redband population.

and anglers.

In the past couple years, McKenzie wild trout enthusiasts have mounted a vocal campaign to reduce or remove trout stockings from the river. This campaign has been very active in engaging the local public and recent Eugene-area TV, radio and print media have covered this debate. The Native Fish Society has joined with the local Trout Unlimited chapter, The Caddis Fly Shop and other concerned citizens to reduce or remove trout stockings from the McKenzie, and this article will examine the debate from both sides, as well as compare trout management on other rivers and in the state of Montana.

Probably the biggest argument in favor of the stocking program is that it is a boon to local business. Jim Berl, a fly fishing guide and board member of the McKenzie River Guides Association, said the trout stockings provide "business for the guides. We take a lot of clients on the river, and stocked trout have a big financial impact."

NFS McKenzie River Steward and TU Chapter President Matt Stansberry, who has tirelessly worked to reduce or remove the trout stockings, admits that some local busi-

nesses could be hurt in the short term, but that over the long term, the local economy could benefit from McKenzie wild trout management.

"(The economic issue) is a reasonable concern; a lot more reasonable than other arguments made in favor of keeping the trout stockings," Stansberry said. "I personally believe that improving the McKenzie to a blue-ribbon wild fishery will bring more money to the local economy. I'm not going to be able to make guarantees, but world-class wild trout fisheries are an economic driver. If the whole river was managed for wild fish, we would grow more and bigger wild fish and more people would come to experience the fishery. The community would benefit from more wild fish. It might take some lean years to get there. That's the hard part; we won't deny that; it'll take a while. That's why we are talking about (removing hatchery trout) incrementally."

Chris Daughters, owner of The Caddis Fly Shop in Eugene, has seen his revenues increase even in a down economy, and he attributes some of this to his ardent stand for wild fish management.

“The response has been overwhelmingly positive of people coming in the store happy I took a political position for wild fish, and I didn’t have to,” Daughters said. “I’d love to think that our conservation work has contributed to the shop’s success. The local community is very appreciative of the campaign, and they are showing their support by coming in and shopping.”

Daughters said businesses that support McKenzie trout stockings are the ones with the most to gain if the stockings are stopped.

“Local business is missing a giant segment of the angling community,” he said. “There is a certain angling sector that fishes destination trout rivers, which simply is not coming here because they catch these 10-inch pellet heads and don’t come back or they know the reputation of the fishery and aren’t interested in fishing it. I think businesses like the McKenzie River Guides Association have the most to gain from removing the stockings. The guy that is worried about selling worms is off base. They just don’t get it.”

Another argument made by supporters of the hatchery program is that it offers harvest opportunity that otherwise would not be there, and that it offers opportunity for younger kids and the elderly, who wouldn’t fish the river if it was managed for wild trout only.

“There are very few places (in Oregon) where you can boat and catch and keep a



few trout,” said Berl, who noted that his clients include families with young kids, adolescents and elderly. “There is tradition of eating these trout for lunch. There are lots of people who like to eat fish on this river.”

Stansberry counters by saying, “We are trying to increase opportunity. Right now only 15-30 percent of the hatchery trout in the McKenzie are being harvested. You have to put those fish where folks can catch them, where kids can get to them, which is within a bus or bike ride of town, not in a Class 3 rapid river with wild populations.”

Like Stansberry, Daughters argues that hatchery trout placed in the McKenzie would be better utilized elsewhere.

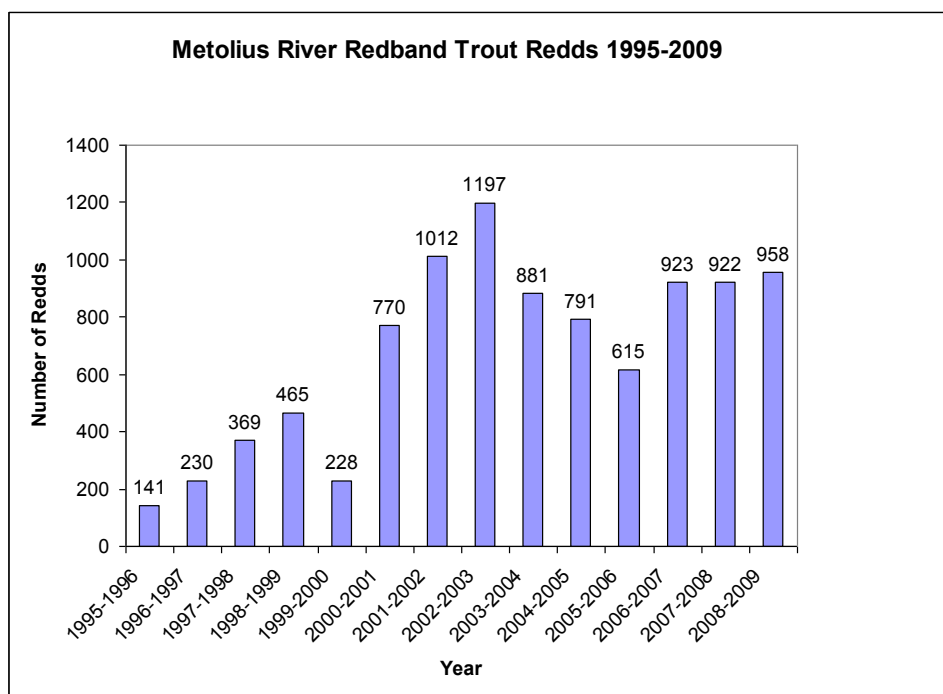
“I went to a recent presentation by Jeff Ziller, our local (ODFW) biologist, and it was striking that when you stock ponds and lakes the catch rate is 60-90 percent,” he said. “There is much more bang for the tax-payers buck in local lakes, ponds and canals. One study notes that 52 percent of the McKenzie hatchery trout that are caught are released and some numbers say the hatchery fish harvested are less than 30 percent. Success has been proven to not be in the McKenzie but in the local ponds, lakes and canals.

“That’s just nonsense that grandma and ‘Little Billy’ will not be accommodated, because we can do so much better than dumping these fish in the river where there is a wild population.”

The McKenzie is now undergoing the same debate that has occurred on many other rivers throughout Oregon. For example, businesses that earn their income from the Metolius River, which was heavily stocked with many different species of trout from 1936 to 1995, were heavily in favor of retaining the stockings.

NFS Development Director Tom Derry, who is the former owner of the Kokanee Café in Camp Sherman, said he was the only local business owner who supported managing the Metolius for wild trout.

“ODFW had a committee of stakeholders and the consensus of the group was that they ‘want a fish for every frying pan.’ The perceived economy of Camp Sherman had



U.S. Forest Service graphic

The Metolius River's rainbow trout population significantly increased after hatchery trout stockings were stopped in 1996. The increase in wild trout numbers also brought an increase of revenue to local businesses.



Photo by Matt Stansberry

been based on hatchery stocking programs for years. Tourists planned their visits to Camp Sherman in conjunction with the fish stocking truck, so local businesses were very resistant to change. After the stockings were stopped, Camp Sherman had fewer anglers, but those anglers that came to the Metolius spent more money. The quality of the fishery brought in a different customer base. The new people were more interested in a quality fishery rather than following the hatchery truck, catching their limit and going home. Everyone's business jumped up dramatically when they stopped stocking hatchery fish."

Mike Ellsworth, an NFS member who lives in Camp Sherman and has been fishing the Metolius for 50 years, said "Once they stopped planting, the wild fish got larger and much more powerful. There are 25-inch rainbows on the Metolius now, and you never saw that as a put-and-take fishery. Back then the biggest you would catch was 12-14 inches, so the fishery has gotten infinitely better."

Ellsworth also noted that the economic impact of wild fish management to Camp Sherman was positive.

"We have had more people coming to the Metolius in the last 20 years," he said. "A lot of people are coming to the Metolius, and I am seeing lots of fishermen."

Roger White, who took ownership of the Camp Sherman Store in 1996 said, "That first year was scary as hell. People kept telling me that no one would come and that we would go out of business (because the stockings had stopped). The first couple years were tough, but we saw things turn around. After three years, fish were rebounding well. As the river progressed, magazines wrote articles, and more and more people



MCKENZIE RIVER NATIVE TROUT COALITION

said 'Hey, let's give this river a try.'"

White said his income from the store increased in the years after the stockings stopped. "We had more business in 1996 than the previous owner did in 1995."

Another example of a river where this same debate occurred is the lower Deschutes River. Hatchery trout were placed in the river from the late 40s until 1978. When the Native Fish Society and others pushed for wild management, there was a large backlash from local businesses.

In the 70s, when ending the trout stockings on the Deschutes was debated, NFS Executive Director Bill Bakke was a strong voice to end the stocking program, and he described the opposition as intense.

"When I went to the meetings, I made sure my car was close by and could run for it," he said with a chuckle.

Rather than hurting business, the Deschutes has become a blue-ribbon wild trout fishery, drawing anglers from all over the world. The river is arguably the best wild

Five ways to take action

1. Take the surveys! Earlier this year we launched a survey asking people if they'd support a bait ban on the McKenzie River. We have 250 responses from people saying they'd like to see that happen, as well as detailed comments. We launched a second survey asking people if they'd be in favor of reducing or removing hatchery trout from the McKenzie River. These surveys are important for showing ODFW public support for these changes. http://www.surveymonkey.com/s.aspx?sm=jlDanPpZHGjd6PtWLLMdsA_3d_3d

2. Get your organizations on board. Let your board members know where you stand. Also, talk to the other conservation organizations you belong to and see if they will help support our efforts. Every organization that can lend a hand — and a voice — will help.

3. Write to our ODFW Commissioners: <http://www.dfw.state.or.us/agency/commission/members.asp>

4. Get writing. Local newspapers, fishing magazines, fly fishing mags, etc. all would welcome opinion pieces on this issue.

5. Join the Coalition by visiting our website at <http://mckenzierivernativetrou.org/>, and join the cause on Facebook <http://apps.facebook.com/causes/387154/35573117?m=1a240be5>

trout fishery on the planet.

Mid-Columbia District Biologist Rod French described the fishery as robust. "It is fairly high catch rates with a huge amount of effort," he said. "People come the world over to fish the Deschutes."

French said they have a "hands off" approach to Deschutes trout management, because it is doing so well on its own.

Ellsworth, who has also fished the Deschutes for half a century, said he now catches trout more than 20 inches on the Deschutes every year (which speaks more to his ability than the population) as Deschutes reddsides more than 20 inches are not commonplace. French noted that the reason the Deschutes doesn't grow 25-inch-plus rainbows is due to the population's life history: the fish typically spawn only once.

"I noted an immediate change after they stopped stocking (trout in the Deschutes) in the mid-70s," said Ellsworth. "Deschutes rainbows have gotten stronger and healthier. They are very big, not only long, but much thicker and heavier. I've been to Montana, Idaho, etc., and Deschutes trout are much stronger."

The Deschutes is very rare for Oregon in that the trout population is so robust that a limited harvest is allowed on the wild population. Estimates put wild rainbow density at around 2,000 fish per mile in the lower river, and more than 4,000 in some of its tributaries. A limit of two wild rainbows is allowed for reddsides trout caught between 10-13 inches.

"The economic impact of the Deschutes on local business has not been hurt (by stopping trout stockings)," Ellsworth said. "The argument is a little bogus that people won't fish (the McKenzie after

stocking stops). The Deschutes shows that a fishery can get better and better. I don't think trout are any more difficult to catch on the Deschutes, and they are healthier."

The Deschutes and Metolius are two famous wild trout rivers in Oregon that are clear success stories for wild trout management, but what about the many other less known rivers throughout the state?

The Molalla River near Portland is another example of a wild trout population that has rebounded after hatchery plantings were stopped. The Molalla was stocked regularly with catchable trout until 1997, and NFS Molalla River Steward Mark Schmidt has fished the Molalla for 40 years.

"I spent many hours in the Molalla snorkeling the river in the 80s,"

Schmidt said, "and we never saw large schools of 12-16 inch trout like we do now. It wasn't until the early part of this century that I became successful at catching big trout. We'd sometimes catch rainbows of 12 inches back then, but now we regularly catch trout 16-18 inches and over 20 is not unheard of. The large trout is indicative of a larger population, not just bigger fish. We have a healthy trout population in this river now and that happened only after the catch-and-release requirement came into effect and

only after they stopped the hatchery stockings."

While Oregon is mostly wild in regards to trout management, Montana has managed 100 percent of its streams for wild trout since the 1970s.

"One of our biologists postulated that hatchery-stocked fish were displacing wild fish and hatchery fish were out-competing wild fish,"

"Our license sales are good and have increased over the years. We have increasing angling trends and there is a lot of support for wild fisheries. Folks recognize that we have great fisheries the way they are."

Travis Horton

Montana Native Fish Species Coordinator



Photo by Matt Stansberry

Wild fish advocates hold McKenzie River Native Trout Coalition signs at ODFW's Inland Sport Fishing Advisory Committee meeting Feb. 8 in Springfield. More than 50 people attended the meeting to show support for reducing or removing trout stocking on the McKenzie.



Courtesy photo

NFS McKenzie River Steward and Trout Unlimited Chapter President Matt Stansberry holds a wild McKenzie redband. Stansberry describes the fish as "totally unique on the left side of the Cascades. The McKenzie has a wild, native trout population that people can fish for. The fish are huge, green backs, big green shoulders, eat big bugs. I've seen how great the fishing can be where the fish are not stocked."

said Travis Horton; Montana Fish, Wildlife and Parks Department Native Fish Species Coordinator. "We instituted a research project where we stopped stocking in some rivers and the response was an increased native population growth. From there it spread throughout the state."

Horton noted that at the time, managing for wild trout was highly controversial but now there is large support for wild management throughout the State.

"Our license sales are good and have increased over the years," he said. "We have increasing angling trends and there is a lot of support for wild fisheries. Folks recognize that we have great fisheries the way they are."

Montana's wild trout populations are so healthy that 90 percent of the state's streams allow a harvest of wild trout.

"Right now businesses see that wild trout management works," Horton said. "People flock to the state because it is seen as blue ribbon. People flock to the state to fish for our wild trout, so business is highly supportive of wild trout management."

Berl argues that these comparisons do not apply to the McKenzie.

"My response is that the McKenzie is not the Metolius or the Deschutes," he said. "The population is different and we have different people taking advantage of them. If I thought we were losing our native McKenzie trout I would be in total support of removing the hatchery fish, but as of right now, we do not feel that is happening

because of the mix of wild-trout-only and hatchery water."

Stansberry sees the situation differently.

"ODFW says there are sufficient stocks of wild fish above and below the hatchery planting zone; that's how they justify their plan," he said. "We don't believe half the river should be a sacrifice zone. It's not appropriate to depress a wild population in half a river. There is more risk in having fragmented populations at risk rather than a whole river of healthy fish. That type of management is risky for the native population."

The McKenzie River Native Trout Coalition has been very active in the past couple years to promote the reduction or removal of hatchery trout plantings on the river. Some recent efforts include sending postcards to ODFW Commission members, Lane County Commissioners and other movers and shakers that could effect this issue, posting signs and bumper stickers around Eugene, engaging the press, and rallying the public to attend meetings where this topic is discussed. On Feb. 8, more than 50 wild fish advocates packed the room at ODFW's Inland Sport Fishing Advisory Committee meeting, presenting a strong voice for wild trout management.

"We've got a huge base of great supporters coming and doing whatever we ask of them to protect and restore McKenzie native trout," Stansberry said. "It's amazing, and that's why I spend a lot of my free time working on this issue: there is an awesome group of people carrying this on. When 50 people cram into a hot meeting room instead of being home with their families, ODFW can't ignore the plight of wild rainbow trout on the McKenzie."

The campaign is already seeing positive results. For 2010, ODFW Upper Willamette District Biologist Jeff Ziller closed five miles of the river to hatchery trout stocking. This year, Bellinger Landing to Hendricks Bridge will no longer be planted with hatchery trout. In addition, the plantings that still occur will happen every three weeks rather than every two weeks, and the plantings from Forest Glen near Blue River to Fin Rock, which is about 3.5 miles, will be delayed a little over two months, until June 30. Also, Ziller is proposing a bait ban in the five miles where the stockings were stopped.

The McKenzie Flyfishers are leading a tag-and-recapture study of wild trout in the newly-closed stocking section to see how the natives bounce back now that stocking has stopped in those five miles. The project is funded by the McKenzie Trout Unlimited Chapter through a \$5,000 grant from the Flyfisher's Club of Oregon.

Ziller, who said he has wanted to close the five-mile section for some time, said the campaign is making strides, but it has a long way to go.

"They are fighting a pretty tough battle, I think, because in all reality, we have a basin plan that says we will stock from this point to this point," Ziller said. "To change that takes a pretty good effort, and they are making a good effort, but it's not something that can be done overnight. I've lived here all my life so I know what the deal is. You need to change the culture. It's not that people don't want wild fish, but there is culture that has built up around the hatchery fish, and people expect it. The expectations of the anglers need to be met from ODFW's point unless there is a conservation issue, and we don't see the McKenzie as a conservation issue because there is a strong population of wild redbands. This is basically a social issue. Do you want to catch hatchery or wild fish? Do you want to harvest or not harvest? Social change needs to be addressed."

Ziller also noted that he would not entertain a limited harvest on McKenzie wild trout, as the population is not strong enough to support it.

Costly, from Page 3

incorporation of fishery science into the Columbia Basin's principle salmon recovery program."

1994: The Council's fish and wildlife program included eight measures of importance to wild salmonids:

1. Develop a policy to protect wild spawning populations.
2. Evaluate salmon survival throughout their life history to understand the ecology and capacity of the basin.
3. Adjust hatchery releases to river carrying capacity.
4. Collect baseline data on population status and life history of wild populations.
5. Conserve genetic diversity.
6. Review procedures for conducting population vulnerability analyses.
7. Evaluate systemwide and cumulative impacts of existing and proposed artificial production projects.
8. Establish a biodiversity institute.

2000 – 2003: "Salmonid runs increased to 3 million, however, monitoring at the ecosystem level is inadequate to determine how much of this increase was due to the effects of the ocean environment or the fish and wildlife program."

The authors confirm that these are the elements that are basic to an ecosystem approach to salmon recovery in the basin. However, the fish managers disagreed and did not implement any of the measures. Instead, the managers decided to submit measures related to hatchery supplementation and new hatchery construction.

The authors say, based on recommendations of scientific panels that the "Council's attempt to incorporate an ecosystem approach to salmon recovery consistent with the latest science was thwarted by the implementation proposals submitted by salmon managers."

In conclusion the authors say, "Both the

Council and the fish managers bear responsibility for the failure to implement the 1994 fish and wildlife program consistent with the latest science."

Hatchery Production

1878: The first salmon hatchery on the Columbia was established on the Clackamas River by the commercial packers to boost the declining salmon catch.

1903: There is evidence in the record that "some biologists recognized that they had little scientific basis for their hatchery programs." Chamberlain (1903) said, "Until the salmon industry or the people choose to pay for several years of careful, expensive investigation, propagation must be taken on faith. Without this, even if our fisheries should increase, we could not be sure it was from the hatchery work..."

The authors say, "The success of hatcheries was taken on faith for another 20 years when two evaluations of artificial propagation were undertaken. The study

production. Hatcheries were relied on to make up for lost habitat, even though fish culturists had not yet demonstrated the efficacy of artificial propagation (Lichatowich 1999). Biologists still took the success of hatcheries as a matter of faith, or "idolatrous faith" as one biologist described (Cobb 1930)."

The Secretary of Interior in the 1930s responded to the construction of mainstem dams on the Columbia and assembled a board of consultants to evaluate the threat of mainstem dams to salmon. The uncertainty of hatchery mitigation led the board to recommend that hatcheries be treated as an experiment "only for so long as the results may reasonably appear to justify its continuation."

The Power Planning and Conservation Council began a review of hatchery propagation sixty years later and that review confirmed the idea that hatcheries are experimental and should be evaluated. The authors conclude, "Given the status of salmon in the Columbia Basin, it's clear

that artificial propagation failed to achieve its early objectives of maintaining the supply of fish to the fishery and its later objectives of mitigating for lost habitat."

In 2003 the Independent Scientific Advisory Board for the Council "concluded that even though it was considered experimental, (hatchery) supplementation was being carried out in a way that will make comprehensive evaluation unlikely. Implementation of 'experimental' uses of

hatcheries without actually carrying out the experiment is a persistent problem."

As a consequence, the authors conclude, "After more than a century of use... artificial propagation not only failed to meet its goals, but it has contributed to the depleted state of the salmon."

In 1991 when several populations of chinook and sockeye salmon were listed as protected species under the federal Endangered Species Act (initiated by the public not the fish managers who resisted) it was necessary to evaluate the effect of hatchery

"Given the status of salmon in the Columbia Basin, it's clear that artificial propagation failed to achieve its early objectives of maintaining the supply of fish to the fishery and its later objectives of mitigating for lost habitat."

showed that artificial propagation was no more effective than natural propagation. Following the publication of those results, hatcheries in British Columbia were closed. The statistical analysis of Columbia River hatchery releases and adult harvest did not find evidence that artificial propagation influenced the supply of salmon to the fishery; however, those findings had no effect on the operation of hatcheries in the Columbia Basin (Lichatowich 1999)."

"...managers used artificial propagation to mitigate for the expected loss of salmon

fish in the ecosystem and their impact on imperiled wild salmonids.

The question that needed an answer according to the authors: "Are artificially propagated fish equivalent to naturally propagated fish for the purposes of listing or delisting Pacific salmon?" NOAA Fisheries answered in the affirmative by counting wild and hatchery steelhead in the upper Columbia River tributaries so that endangered steelhead could be treated as threatened species, making their protection less of a burden. Environmental groups, including Trout Unlimited and the Native Fish Society, brought this issue to the attention of the federal court. Even though they prevailed in district court it was reversed on appeal by deferring to the expertise of the management agency.

According to the authors, both of whom have participated in Northwest Power Planning and Conservation Council science panels for many years, the Council's fish and wildlife program lacked an adequate conceptual foundation they describe as "a set of principles, assumptions, and beliefs about how an ecosystem and its fish production system function."

They go on to conclude that the Council's fish and wildlife program has numerous problems. They say, "Among those problems were the failure to implement any of the biodiversity measures in the 1994 version of the fish and wildlife program; the lack of stock specific escapement targets; the reluctance to deal with the impacts of artificial propagation to the ecosystem beyond the hatchery; and the reliance on an approach to salmon recovery based on half-way technology and command and control management. Halfway technology results in the natural environment and ecosystem function becoming more brittle, less resilient, and less capable of long-term sustainability (Holling and Meffe 1995)."

The Council science panels tried to correct these problems but were ignored. The Council's fish and wildlife program continued to pour billions of public funds into fish conservation measures, following the direction of the fish managers, that were bound to fail, proving in its grossest sense that money alone will not recover salmon.

The National Research Council reviewed the salmon decline on the Pacific coast and concluded, "The current set of institutional arrangements is not appropriate to the bio-regional requirements of salmon and their ecosystems," and that, "the current set of

institutional arrangements contributes to the decline of salmon and cannot halt the decline." (NRC 1996)

The authors also say, "For fisheries, (the current institutional structure), favors a conceptual foundation based on simplifying assumptions about production processes and an emphasis on harvest management and artificial propagation. Those activities cause little conflict with the activities and jurisdictions of other institutions. In fact, mitigation hatcheries can help further economic development that conflicts with salmon conservation."

No factual review of this region's failure to actually establish a credible salmon conservation management and restoration program is complete without a comment about political interference. The authors define political interference "as the attempt to present a policy decision made for political or economic reasons as the outcome of scientific analysis when the science does not support the decision."

Among many examples it is worth mentioning one of the most egregious examples accomplished by NOAA Fisheries, the federal agency with the responsibility for salmon recovery under the ESA. When they developed their draft hatchery policy and asked a science panel they appointed to review it, NOAA Fisheries rejected that science review.

The science panel said the hatchery "policy did not reflect the published scientific research on the differences between hatchery and wild salmon and the implication of those differences for management and recovery programs."

NOAA Fisheries insisted that the panel's recommendations be taken out of the report. In order to make their recommendations known, they published them in an independent scientific journal.

Further investigation points to political interference of a Bush Administration political appointee. The authors say, "when the scientists are asked to strip out their scientific findings to give cover to a salmon hatchery policy that runs counter to science, then the process has slipped into political interference."

Conclusion

This important paper documents the failure of the institutions charged to protect and recover West Coast wild salmon populations.

They have failed to establish ecological objectives for salmonids; a set of principles, assumptions and beliefs about how the ecosystem and its fish function; failure to base management on stock specific spawner abundance targets; failure to address the impacts of the hatchery program on the ecosystem and the fish; and perpetuation of a simple salmon management model dedicated to stocking salmonids for kill fisheries.

The reason this problem persists on the West Coast is that the salmonid management institutions are not accountable for their management programs and how they spend public funds to support it.

This problem has continued for 150 years and the authors of this study lay the foundation for a complete overhaul of salmonid management.

However this will not take place as long as the public remains ignorant of the cost of this institutional transgression against salmon, steelhead and trout and as long as Congress continues to fund the old system of management.

Reform of salmonid management is well beyond our grasp until the public decides to correct these problems.

Source

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