



# THE OSPREY

A Newsletter Published by the Steelhead Committee  
Federation of Fly Fishers



Dedicated to the Preservation of Wild Steelhead • Issue No. 42 • MAY 2002

## Klamath Basin Water Wars De-mystified

by Steve Pedery

— WaterWatch of Oregon —

Last year's drought conditions had dire effects on salmonids and other fish across the Pacific Northwest. But nowhere was the battle between human beings and fish over a diminished supply of water more fierce than in the Klamath basin along the Oregon-California border. Virtually every daily newspaper and evening newscast carried stories of the conflict, involving farmers, Native Americans, commercial fishermen and conservationists and loud, sometimes threatening, protests by "wise use" advocates against providing water for the basin's fish populations.

Many of those news reports were confusing, even conflicting, making it difficult for the public to understand the complexities of the issues involved amid the rhetoric and vitriol. In this issue's cover story, Steve Pedery, public outreach director for the Portland, Oregon-based organization WaterWatch of Oregon explains the situation to us in lucid detail. To find out more about WaterWatch and its role in the Klamath Basin water wars, check out their web site at [www.waterwatch.org](http://www.waterwatch.org)

Mark Twain once wrote that in the West, "...whiskey is for drinking, and water is for fighting over." He may not have had the arid Klamath River Basin in mind when he penned those words, but the metaphor certainly applies.

Last summer Klamath water woes grabbed news headlines across the nation. At the center of the controversy was the Bureau of Reclamation's 200,000-acre Klamath Irrigation Project and efforts by federal agencies to protect endangered fish and wildlife, and a punishing drought.

With water reserves at critical levels, federal officials set aside much of what was available for the survival of endangered species, igniting a firestorm of opposition among irrigators, "wise use" advocates, and anti-government protesters. Onlookers were left scratching their heads.

Already shaping up to be a below average water year, 2002 promises even more controversy. But is the Klamath

water crisis really the result of the Endangered Species Act gone awry? Or is it simply a case of promising too much water to too many interests, and ignoring the decline of fish and wildlife?

### A Western Everglades

The high desert along the Oregon-California border would seem an unlikely place for a vast natural network of lakes, marshes, and rivers. Much of the region is very dry, particularly on the east side of the Cascades. The upper Klamath Basin receives as little as 12 inches of rain a year (Portland, in contrast, receives 40), making the basin more suitable for growing sagebrush and junipers than alfalfa and potatoes. Yet while rain is scarce, snow is abundant in the mountains.

Spring snowmelt, combined with water from underground springs, gives life to the rivers, streams, and lakes of the Klamath Basin. Historically, as this water flowed down from the mountains

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FROM THE PERCH — EDITOR'S MESSAGE

# Back to the Future

by Jim Yuskavitch

If you are inclined to read articles and commentaries from people critical of the efforts of wild fish advocates, you, too, may have noticed a common charge these pundits make. That is, that our goal is really to take society back to some impossible, pristine 1840s condition. I read that missive over and over again by writers who are unhappy with the direction our work is taking fish management policy.

There are two implications to that criticism that always strike me as odd. The first is that healthy, viable rivers with sustainable, harvestable populations of wild steelhead, salmon and trout somehow represents a reverse of progress, as if there is some direct, positive correlation between how far a society has advanced and how degraded its ecosystems are. Some people would have us believe that working for a cleaner, healthier environment is a bad thing.

The second has to do with the improving technology and science of natural resources management that is driving our efforts (albeit, very slowly) to better manage natural resources for sustainability and to extract renewable resources with less collateral damage to the environment than in the past.

Those advances run the gamut from establishing riparian buffer zones, bio-engineering degraded streams back to health, genetic research, development of "tangle nets" to reduce the lethal bycatch of wild salmon by commercial fishermen and a host of other relatively recent techniques and practices. In my book that's going forward, not backward.

But, of course, it's not wild fish advocates who are trying to take us back to the 1800s. Its those who oppose innovations and better ways of thinking about natural resources management who want to go back — but not to the "pristine" pre-1840s. Their destination is the 1880s, when the forests were stripped of their trees and the rivers of their fish, until we almost lost it all.

Going "back" to those pristine early 19th Century conditions will take all the 21st Century technology and philosophy we can muster. Well see you there.

# Letters To The Editor

## The Fish Party?

Dear Editor:

You've done a fine job with your newsletter. However I've come to the conclusion that the immediate numbers of humans in the next 30 years will deplete all wild stocks of salmonids on this continent and especially in our beautiful country. The entire process will be completed in 40-50 years worldwide when world population reaches 12 billion people! Nobody listened to Huxley. How can we save a resource when Republicans set policy and 45 percent of the time Democrats vote in concurrence?

Who represents us? We need another political party that represents white middle-class taxpaying males. Presently, that does not exist.

It's primarily white middle-class males who do most of the fly angling worldwide. Organize that crowd and you stand a chance for everything environmental.

God bless you for trying to save the resource.

Gary Romanic  
via e-mail

## Conspiracy of Optimism

Dear Editor:

Bob Lackey's article does an excellent job of explaining for me what Jeff Dose [fish biologist and contributor to The Osprey] has been calling "The Conspiracy of Optimism." But it should not be interpreted as a call to surrender efforts to halt and reverse the decline of wild salmonids. To the contrary, understanding the reality is the first step that will allow correct choices to be made to protect salmon. Fish professionals that sugar-coat or distort the truth are either stupid or unethical. I believe that people in the PNW will make the correct choices and even sacrifices if they are presented with alternatives based on science.

Mike Piehl  
via e-mail

# THE OSPREY



Chairman  
Bill Redman

Editor  
Jim Yuskavitch

### Contributing Editors

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

### Contributors

Steve Pedery • Bill Redman  
Doug Schaad • Mike Houck  
Pollyanna Lind

### 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 is a unique non-profit organization concerned with sport fishing and fisheries

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.





## NMFS Regroups, Retreats

by Bill Redman

— Steelhead Committee —

**W**e have thought for a number of years that the National Marine Fisheries Service has been soft on salmon and steelhead recovery, inclined to slip deadlines and rarely proactive in its efforts. Almost all of its 26 listings of steelhead and Pacific salmon have come about as a result of fishing and environmental organization petitions, often backed up by the threat or actuality of legal action.

Since last fall, there has been increasing evidence that NMFS management appears to be positioning the agency to move from been soft to being hostile to the welfare of listed fish. It's too soon to make final judgments, but the indicators are there.

Let's review the actions. In September 2001, Bob Lohn was appointed Pacific Northwest Regional Administrator of NMFS, replacing Acting Administrator Donna Darm.

That same month, U. S. District Court Judge Michael Hogan ruled that the NMFS listing of Oregon Coastal Coho as threatened under the ESA was invalid. He explained that by including both hatchery and wild coho in this Evolutionary Significant Unit (ESU) and listing only the wild fish as threatened while there are significant numbers of hatchery fish present, NMFS was splitting the ESU below the level that the ESA allows. This raises the question of how vigorously NMFS defended its reasons for listing the wild fish and not the hatchery fish and what science they used to support their case.

The scientific support for focusing recovery on the wild fish is overwhelming. As just one example, the National Academy of Sciences/National Research Council Report of 1996, "Upstream: Science and Society in the Pacific Northwest" states: "Sustained productivity of anadromous (ocean going) salmon in the Pacific Northwest is possible only if the genetic resources that are the basis of such productivity are maintained ... continual erosion of the locally adapted groups (wild species) that are the basis of salmon reproduction constitutes the

pivotal threat to salmon conservation today. ... recommendations about hatcheries, fishing, and rehabilitation are founded on the importance of maintaining appropriate diversity in salmon gene pools and in population structure."

In the January 2002 issue of *The Osprey*, Patti Goldman of EarthJustice Legal Defense Fund wrote a brilliant review of the Hogan decision and its implications, concluding that "because the hatchery populations ... are not self-sustaining in the wild, ... the most likely (and only legally defensible) outcome is the continued listing of wild

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salmon and steelhead." To me, her logic and the supporting science are indisputable. My concern is that politics might trump science, logic, and might even challenge the law.

In the wake of the Hogan decision, NMFS had three choices, two of which would have been justified in defense of the wild coho.

First, it could have appealed the decision, arguing vigorously that the science provides ample distinction between hatchery and wild fish. NMFS chose not to, leaving it to conservation and fishing organizations to do so.

Second, NMFS could have declared that Judge Hogan was correct, that the hatchery coho should not have been included in the ESU after all because they will harm rather than help recovery of the wild coho, and then reinstated the threatened listing for wild coho only. It should have taken NMFS about ten minutes to figure out that would be a sci-

entifically supported response to the decision. The Oregon Council of The Federation of Fly Fishers, Trout Unlimited and other organizations petitioned NMFS to do exactly that.

NMFS chose the third alternative, to roll over and do nothing. The agency used as cover its newly announced plan to review over the following year 23 of the remaining 25 salmon and steelhead listings on the West Coast, with particular attention to the role of hatchery fish in listings and recovery. NMFS already has a hatchery policy in place, which states that hatchery populations diminish genetic diversity, reduce the fitness of salmon populations to survive in their native streams, and harm wild salmon by competing for territory and mates and by spreading disease. This is the correct policy, and for NMFS to de-list based on the presence of hatchery fish would ignore the science, jeopardize the wild runs and remove a cornerstone of ESA protection. The specter looms of an agency searching for ways to use the Hogan decision as a hook to de-list — with the presence of hatchery fish serving as justification — and acting as if none of the work that led up to the listings counts.

The Hogan decision triggered a series of follow-up legal actions. On the fish protection side, eight conservation and fishing organizations requested intervenor status on the understandable grounds that the government no longer represented their interests, and also requested a stay of the decision in order to keep listing protections in place while NMFS conducts its year long review. Judge Hogan denied the request for stay but granted the intervention. The groups, which had previously filed notice of appeal with the Ninth Circuit Court of Appeals, immediately asked the Appeals Court for a stay pending outcome of the appeal. This request was granted in December, so the listing protections remain in place for now.

As previously reported, the Hogan decision also triggered a spate of six

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look alike petitions to NMFS requesting de-listing of 15 steelhead and Pacific salmon ESU's. In the February 11, 2002 Federal Register, NMFS announced that "these petitions present substantial scientific and commercial information indicating that the petitioned actions may be warranted for 14 of the (15) petitioned ESU's. ... These status updates will be completed after a revision of agency policy regarding the consideration of hatchery fish in ESA status reviews." NMFS has one year from the September-October submission of the petitions to reach a decision on de-listing.

My question: what scientific information? Patti Goldman's statement that, "hatchery fish diminish the fitness and diversity of salmon populations and can not sustain themselves without the artificial and continual intervention of humans ... (the wild fish) will continue to need the protection of the ESA" is supported by a number of new studies.

In a separate but related legal action NMFS agreed on March 11, 2002 to rescind its current critical habitat designation for 19 salmon and steelhead populations and to define a new designation based on "sound science and economic impacts." The agency did so as part of a settlement in which the National Association of Home Builders and other groups agreed to withdraw their ESA suit against NMFS filed in 2000. NAHB argued that NMFS designated every possible habitat area (and adjacent area) without establishing that the areas were critical to salmon and steelhead. NAHB used a NMFS e-mail that said, "When we make critical habitat designations we just designate everything as critical without an analysis ... because we lack information."

This challenge spans 150 watersheds, river segments, bays, and estuaries. Again, salmon advocacy organizations quickly asked to intervene and asked the court to maintain the designations pending resolution, with no decision as of mid-April.

How can NMFS justify changing from rating these areas as 100 percent critical to presumably 100 percent not critical with a stroke of the pen? It raises red flags concerning the fundamental attitude of the agency's management toward salmon recovery. Will NMFS



The homebuilders and real estate industries have recently emerged as active foes of habitat protection for wild salmon, trout and steelhead. Photo by Jim Yuskavitch

use this decision as cover to de-fang the habitat aspects of ESA protection, which are primary among the requirements for healthy salmon populations? It is important to remember in this context that the Independent Scientific Advisory Group to the Northwest Power Planning Council stated in its 1996 report that these sea-run fish need a continuum of quality habitat to cover their life cycles, from spawning beds to ocean and return, a principle that has not been seriously challenged.

Another threat comes from a lawsuit filed by the timber industry, home builders and rural land groups against the NMFS final rule for Essential Fish Habitat (EFH) under the Magnuson-

Stevens Fishery Conservation Act and the Sustainable Fisheries Act of 1996. Scientists have gone on record in support of these designations as critical to protection. The plaintiffs say use of their property will be impaired by the EFH rule. The NMFS response to this action is unknown as of mid-April.

Finally, we note that in late March 2002, Bob Lohn of NMFS announced that the agency was drawing up preliminary targets for abundance under which salmon and steelhead ESU's could be removed from ESA listing. On

the surface it seems reasonable and necessary to establish river-by-river numeric goals for recovery, especially since they are to be set for naturally spawning wild fish over a sustained basis (at least two full life cycles or eight years). Our concern is that with limited resources and all the work yet to be done to complete recovery plans, work out the role of hatchery fish, review all the listings, and establish verifiable justification for critical habitat designations, it seems like a questionable set

of priorities to allocate time and talent to the de-listing process at this time.

It is more important than ever for conservation and fishing organizations and individuals to be aggressive and effective advocates for the wild fish, even in the courts if necessary.



## Klamath Basin, Continued from page 1

it paused in a huge network of rivers, streams, shallow lakes, and marshes, ultimately spilling out of Upper Klamath Lake and forming the Klamath River before beginning a long descent to the Pacific Ocean.

Conservationists have long dubbed the Klamath Basin the “Everglades of the West.” The name fits. The marshes and wetlands of the Klamath are important waterfowl nesting areas as well as the largest stopover for migrating waterfowl on the Pacific Flyway, sustaining millions of birds each year. Canada, white-fronted, snow and Ross’ geese, and tundra swans, as well as dozens of species of ducks, white pelicans, grebes, cranes, herons, egrets and other water and shore birds pause here to rest, feed, or raise their young. The region also supports the largest population of wintering bald eagles in the lower 48 states.

The importance of the basin to migrating birds was recognized as early as 1908 when the federal government created the Lower Klamath Lake National Wildlife Refuge in order to protect some of their vital habitat. Today six refuges dot the region.

Many types of wildlife, from river otters to elk, also depend on the basin’s waters.

Klamath fisheries are equally diverse. Pristine tributaries in the upper reaches of the basin provide bull trout with some of their last strongholds in Oregon. In the upper basin, rivers like the Sprague, the Wood, the Sycan, and the Williamson offer outstanding fishing opportunities for rainbow, brown, and brook trout. These rivers also boast incredible scenery, and are among Oregon’s most beautiful, though least known, fly fishing destinations. Sections of the Sprague and Sycan River have been designated as Wild and Scenic Rivers.

Upper Klamath Lake, the center of much of the controversy over water in the basin, still maintains an exceptional rainbow trout fishery. This shallow lake bears the twin distinctions of being the largest body of freshwater in Oregon, and suffering some of the worst water pollution in the state. Despite the water quality problems, the fertile marshes and abundant insect life combine to pro-

duce some of the largest rainbows in North America. Fish over ten pounds are not uncommon, and the unique conditions of the huge lake make them especially challenging to take on fly tackle.

The lake is also the last stronghold of the Lost River and shortnose suckers (known as Qapdo and C’wam to local Native American Tribes), both of which are federally protected endangered species. These fish have been one of the cornerstones of the culture of the Klamath Tribes for centuries, and they retain treaty rights to fish for them in traditional ways. They were also once part of an important sport fishery, with “mullet season” brining anglers from all

**Over the next century,  
the Bureau of  
Reclamation would  
drain entire lakes and  
dry up hundreds of  
thousands of acres of  
marshlands.**

over Oregon. A fish cannery on the shores of the lake also took advantage of their former abundance.

After spilling out of Upper Klamath Lake, the Klamath River heads southwest, cutting diagonally through Oregon and Northern California on its way to the Pacific Ocean. The river, like the lake, suffers from water quality problems. These woes are further complicated by chronic low flows during the summer months (due in part to irrigation diversions), and a series of hydroelectric dams that block the migration of salmon in the river, and prevent them from reaching the upper basin in Oregon.

Despite these problems, the river still flows through one of the wildest landscapes in the lower 48 states, and a section has been designated as a federal Wild and Scenic River.

Along its route to the ocean the Klamath River dips down into deep

canyons, and flows through huge rapids (whitewater rafting on the Klamath’s class IV and V rapids is a major draw, but not for the faint hearted). It also still boasts a strong trout fishery and well-known steelhead fishery, though salmon populations, particularly those of coho, have plummeted in recent decades. The Klamath was once home to the third largest salmon run on the West Coast, but today coho are listed as federal endangered species, and Klamath steelhead, chinook, and green sturgeon are all candidates for future ESA listings.

## A Balance Lost

The first European settlers to arrive in the Klamath Basin were no doubt amazed by the tremendous diversity of fish and wildlife found within this green pocket in the high desert. Many took advantage of the region’s fisheries, but old habits die hard. Almost as soon as they arrived in the basin, settlers began looking for farmland. It was not long before they set about draining lakes and marshes to make way for agriculture.

In 1868 the first irrigation ditch in the basin was dug, and small scale farming started. A massive alteration in the basin’s landscape began in 1905 when the Bureau of Reclamation began the construction of the Klamath Irrigation Project.

Over the course of the next century, the Bureau would drain entire lakes, dry up hundreds of thousands of acres of marsh, and alter the natural flow patterns of rivers and streams throughout the basin. The Lost and Klamath Rivers were connected through a series of dams, canals and a tunnel. A hole was blasted in the natural reef that formed Upper Klamath Lake so that it could be drained below natural levels. Eighty percent of the basin’s wetlands were destroyed.

The Bureau of Reclamation constructed a vast spider web of dams, canals, and pumping stations to deliver water to thirsty crops like potatoes and alfalfa. Today the basin is criss-crossed by 185 miles of canals, 516 miles of lateral ditches, 45 pumping stations, and 7 dams. The Klamath Project has replaced the natural water cycles of the basin’s rivers and streams with a complex plumbing system to irrigate over

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200,000 acres in the high desert. At the same time the states of Oregon and California continued to issue additional water rights that allow the diversion of scarce water resources to irrigate another 200,000-plus acres.

Over the years the ecological toll of the Project has been enormous. Lost habitat, radically altered water flows, polluted return flows, and unscreened diversions have led to a steep decline in fish and wildlife, to the point where several species are now considered threatened or endangered. Irrigation development above Upper Klamath Lake, within the Klamath Project, and in the Shasta and Scott rivers have exacerbated water quality problems. Flood-irrigated fields and cow pastures wash animal wastes, fertilizers, and pesticides into streams, which in turn feed the pollution into Upper Klamath Lake and the river. While the Project achieved its goal of bringing irrigated agriculture to the high desert, it has done so at a terrible cost to fish and wildlife, Native Americans, and commercial fishermen.

"This [sucker] fish meant something to my grandparents. This valley was one continuous cultural site," said Adrian Witcraft, a Klamath Basin Native American stated in *The Oregonian* on May 8, 2001. "That's all been obliterated. People don't want to look back and see what they had to do to get what they have today."

## Too Many Interests, Too Little Water

The water woes of the Klamath Basin are sometimes compared to promising a glass of water to each of four people. When you only have one glass to give, and each interest has been promised all of it, a simple solution is hard to find.

When irrigators faced cutbacks during the drought last summer, they reacted with outrage. For a century they had top priority for water releases, meaning they got their "glass" first. Though some water was released for farms and many irrigators had wells to fall back on (about half of the normal water deliveries were made to the project in 2001), protests and rallies flared at the main canal headgates on Upper Klamath Lake all summer long. They blamed the Endangered Species

Act for the water shortage, and the irrigators' efforts garnered national media attention. It also won sympathy from anti-government groups, the "Wise Use" movement, and the Bush Administration.

On the face of it, they seem to have a pretty good argument — put people before fish. But the devil, as it often is, is in the details. Irrigators have never had the most senior, or strongest, right to

affirmed that the Klamath Tribes' water rights "stretch back to time immemorial" and "supersede all other claims for water, including those held by irrigators." However, winning water in court and keeping water in the lake and river have proved to be two very different things.

A share of the basin's water was also promised to the region's six National



*The drought of 2001 struck most of the Pacific Northwest, but it was in the Klamath Basin on the Oregon-California border where its effects on both fish and people were most visible. Photo by Jim Yuskavitch*

water in the Klamath Basin, though this precious resource has long been managed as if they did.

In their 1864 treaty with the United States, the Klamath Tribes were promised the right to hunt and fish in a traditional manner. These rights are impossible to exercise if pollution from farm and ranch runoff, compounded by low water levels in Upper Klamath Lake, drive the Qapdo and C'wam to extinction.

The Klamath Tribes, like the Yurok, Karuk, and Hoopa Tribes in California, also depended on the salmon fishery of the Klamath River. However, the construction of Iron Gate Dam, which lacks any form of fish passage, eliminated salmon from the upper basin. The lower river Tribes still depend on salmon, though the runs have plummeted in recent years due to chronic low flows and water pollution.

Recent court decisions have strengthened the Klamath Tribes' hand. A 2002 U.S. District Court ruling

Wildlife Refuges. These refuges are among the oldest, and most critical, in the entire refuge system, but despite their importance for migratory birds they have historically been the last in line to get it. Much of what they do receive is irrigation run-off, which carries with it animal wastes, pesticides, and fertilizers. Worse, over 20,000 acres of land inside the refuges is leased for commercial agriculture.

Families that make their living from the salmon fishing industry also have a huge stake in the Klamath water controversy. Fishing communities from Fort Bragg, California to Coos Bay, Oregon have seen their economies decline as the salmon fishery of the Klamath River has collapsed. According to the Pacific Coast Federation of Fishermen's Associations, some 6,870 fishing dependent jobs, amounting to more than \$137 million in personal income, have been lost. While the decline of the river isn't the only

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cause of that collapse, it has been a huge factor in the economic woes of coastal fishing communities.

Finally, endangered species have been promised a share of the water as well. The Qapdo and C'wam of Upper Klamath Lake have been listed as endangered since 1988, and coho salmon have been listed as threatened for several years. Bald eagles, as well as other rare birds that use the refuges, also have a claim to water. Under federal law, stopping the extinction of endangered fish and wildlife should be the top priority of agencies like the Bureau of Reclamation.

## A Firestorm of Controversy

The 2001 water crisis began with a severe drought, which came at the same time that federal fish and wildlife agencies were forced to take decisive action to protect endangered species in the basin.

The National Marine Fisheries Service (NMFS) and the U.S. Fish and Wildlife Service (USF&W) sparked the controversy in March of 2001 with studies showing that the Bureau of Reclamation's water management practices were harming endangered fish.

NMFS found that the Klamath Project was hurting endangered coho salmon by failing to send enough water down the river. By diverting water needed by fish into irrigation canals instead, and allowing water polluted with farm run-off to enter the river, the Project had been contributing to the decline of Klamath River salmon for decades. The Bureau was forced to act or be in violation of the federal Endangered Species Act.

At the same time the salmon controversy was brewing, the U.S. Fish and Wildlife Service found that the Klamath Project caused serious harm to Lost River and shortnose suckers in Upper Klamath Lake. Pollution flowing into the lake, compounded by unnaturally low water levels and high temperatures, has often led to toxic algae blooms during the summer months. Fish populations have been decimated. Reducing lake levels below natural levels not only kills fish, but also drains over 14,000 acres of wildlife refuge wetlands, leaving nesting waterfowl high and dry.

"The fact that we have endangered

species shows that we have an environment in crisis," explained Bob Hunter, a senior staff attorney with WaterWatch. "The suckers are really the canaries in the coal mine, telling us that the entire system is dying."

The U.S. Fish and Wildlife Service's and NMFS's biological opinions required that lake levels and river flows be kept closer to natural levels in an effort to reduce the risk of fish kills. After meeting lake level needs and releasing water to help salmon in the river, any extra was to be sent to the national wildlife refuges first, to help bald eagles and other birds survive the drought. For the first time in a century, the survival of fish and wildlife was made a priority.

The controversy spawned several lawsuits. Irrigators went to court arguing that these changes in water management were *unjustified*. Conservation groups, several Native American tribes, and commercial fishing interests argued against the irrigators, pointing out that there simply was not enough water to go around. Conservationists also filed suit, when the Bush Administration chose to ignore the requirement that any extra water be sent to the refuges to support bald eagles. A federal court rejected the irrigators' arguments and ultimately ordered them, along with commercial fishermen, conservationists, and Native Americans, into mediation. The talks, aimed at working out a compromise solution to the water crisis, collapsed in late summer when the irrigators withdrew.

By the end of the summer most of the lawsuits had subsided. Conservationists won in their effort to

get more water sent to the national wildlife refuges for bald eagles. Minimum lake and river levels were maintained, and about half the farmland in the basin was irrigated normally. After the tragedy of September 11th, the controversy cooled, but the underlying problems remained.



Upper Klamath Lake, in Oregon, offers some of the best trophy rainbow trout fishing in the country. Yet the lake's waters are often marred by blooms of algae, caused by agricultural runoff. Photos by Jim Yuskavitch

"For us this fight has never been about putting farmers out of business," said Glen Spain with the Pacific Coast Federation of Fishermen's Associations. "It has always been about making sure that water is shared fairly so that in the process of providing water for farms, we don't bankrupt the entire lower river commercial fishing and tribal economies."



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## New Year, Same Problems

Heavy snows over the winter of 2001-2002 raised hopes that another Klamath crisis could be avoided this year. Unfortunately, a combination of mother nature's will and actions by the Bush Administration are once again fanning the flames.

Much of the debate thus far in 2002 has revolved around science — of both the political and biological varieties.

Last summer, during the heat of the water conflict, the Bush Administration called for a review of scientific knowledge on fish restoration efforts in the Klamath Basin. The National Academy of Sciences was given the responsibility, and formed a panel of scientists who began reviewing information provided by the Bureau of Reclamation. Their full report is not due until 2003, but a 28-page "interim review" was leaked to the news media by the Administration in February. This review was based on a two-month survey of over 10 years of data, and did not examine some of the latest scientific information.

Though the interim review concludes that severe water quality problems in the basin may undercut efforts to restore fisheries by providing them with more water, the Bush Administration has put a very different spin on it. Much of the media coverage has revolved around the incorrect notion that the report states fish in the Klamath Basin do not need more water, and that any cut back in irrigation is unjustified.

"The way the review was released, and the spin the Administration put on it, was inappropriate," said Hunter. "They have managed to turn a report that says the basin suffers from severe water quality problems, and that giving fish more hot, polluted water may not help them, into 'fish don't need water'."

At a public hearing in Medford, Oregon on March 7th, the NAS panelists got an earful of criticism regarding the

review. Don Markle, an Oregon State University biologist, was one of the most outspoken, arguing that that bad assumptions and incorrect data even rendered the panel's report unusable. "There is no sound scientific basis for this statement of yours," Markle said, referring to one of their findings.

Native Americans, conservationists, and commercial fishermen argued that while the NAS had rightly singled out water quality as one of the most urgent problems facing the basin, they had failed to consider a large amount of



The Klamath River, below Upper Klamath Lake, suffers from chronic poor water quality, low flows and a series of hydroelectric dams that block the migration of salmon populations that historically spawned in the upper basin. Photo by Jim Yuskavitch

scientific research on the benefits to fish of increased lake levels and river flows. Contrary to the NAS' assumption, water flows coming out of Upper Klamath Lake are actually cooler than river flows during the most critical months for migrating salmon, and are helpful to fish survival. Holding Upper Klamath Lake at near natural water levels is not a sure-fire solution to toxic algae blooms, but it is one of the few factors easily controlled. The NAS was also looking for simple connections between lake levels and fish mortality and failed to factor in climatic variables like wind and sun. It is hoped that the panel will consider these factors more closely as it prepares its final report over the next year.

Despite the controversy surrounding the interim review, the Bush Administration is using it as the basis for locking in a ten-year operating plan

for the Klamath Project that will perpetuate the degraded conditions under which the listed species have declined. Tremendous pressure has been put on federal biologists to sign off on the plan.

For the fragile environment of the Klamath Basin, the move to shift the lion's share of water back to irrigators could have dire consequences. The new Klamath operating plan would drop river flows even lower than initially proposed in 2001 (before a federal court judge ordered the Bureau to revise them). Lake levels, too, could be

dropped far below natural averages, increasing the risk of toxic algae blooms and drying up large chunks of the Upper Klamath Lake National Wildlife Refuge. While irrigators cheered the news that water deliveries for farms would once again be maximized, Native Americans, conservationists, and fishing groups were left fuming.

"This business-as-usual approach is a recipe for extinction," said Hunter. "Extinction is forever, and when making decisions about endangered species it is important to err on the side of caution."

Conservation groups, Tribes, and commercial fishermen were left with few options. Changing the water

management plan meant suing the Bush Administration and halting irrigation flows once again. Not suing would mean that endangered coho salmon juveniles migrating down the Klamath to the ocean could face severe low flows and water quality problems. After weighing the options carefully, commercial fishing interests and conservationists filed a lawsuit to protect coho salmon in the Klamath River on April 24th.

"We held out for as long as we could, waiting for the agencies to do the right thing," said Glen Spain. "The fish could not wait any longer."

## Solving the Klamath Basin's Water Woes

Many Klamath observers have concluded that the only way to solve the

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environmental woes of the basin is to reduce the demand for water.

"You can't continue to drain as much water from the system as we currently do and have healthy lakes and rivers," said Hunter. "We need to recognize this, and learn to share the water fairly."

One idea proposed by WaterWatch and other conservationists, along with some farmers, is a program to buy land or water rights from willing sellers and retire them.

Titled "A Voluntary Demand Reduction and Resource Enhancement Program for the Klamath Project," this joint proposal would allow for federal government buyouts of interests in water and/or farmlands from willing sellers in the Klamath Basin. The water and lands involved in the buyouts would then be used to support fish and wildlife in the Klamath National Wildlife Refuges, the Klamath River, Upper Klamath Lake and other areas in the watershed.

During the summer of 2001, approximately two dozen farm families representing as much as 30,000 acres of land within the basin signed up in support of the idea.

An amendment to the Farm Bill, introduced by Senators Ron Wyden, Gordon Smith, Barbara Boxer, and Diane Fienstein, recognized that a demand reduction program is a neces-

sary part of any solution to the basin's water crisis. Their \$175 million provision would also fund a wide variety of other restoration efforts, such as wetlands restoration, fish screening, and improved irrigation efficiency.

But despite widespread support, the provision introduced by the four Senators ran into trouble. Conservative members of Congress, including Greg Walden, objected to considering demand reduction and offered their own provision, giving legislative support to the Bush Administration's irrigators-first operating plan.

Ultimately, the \$73.5 billion Farm Bill passed by the U.S. House and Senate included only \$50 million of the original \$175 million. These funds are earmarked to help only farmers, as opposed to the initial provision which would have included assistance to tribes in the basin as well as money to buy back water contracts from farmers to reduce agricultural water demand.

The debate over the legislation mirrored the conflict over water in the Klamath Basin. "We are really at a crossroads," said Hunter. "Will we be able to bring the use of the basin's scarce water resources back into balance or will we continue to manage them for a single interest? One of the nation's most incredible natural treasures is riding on the outcome of that debate."

### USFWS and NMFS Issue Klamath Draft BiOps

As this issue of *The Osprey* went to press, both the U.S. Fish and Wildlife Service and National Marine Fisheries Service released draft biological opinions expressing concern that the 10-year plan developed by the U.S. Bureau of Reclamation to deliver water to Klamath Basin farmers threatens the survival of ESA-listed salmon and suckers.

The two primary areas of concern are habitat loss and poor water quality, that threatens to become worse.

To protect the suckers, USFWS biologists wants the Bureau to keep the suckers from being drawn through the turbines of PacifiCorps dam on the Link River, determine what the population of suckers is in the basin, establish refuges for the suckers that offer better water quality than the basin at large and develop ways to forecast water conditions that will be detrimental to the suckers.

To protect threatened coho salmon, NMFS wants the Bureau to set up a water banking system to obtain water from willing sellers, but says that the Bureau is only responsible for 57 percent of the water required by the fish.



A colony of white pelicans ensconced on an island in the Tule Lake National Wildlife Refuge on the California side of the Klamath Basin only hints at the abundance of fish and wildlife this formerly water-rich region once supported. Photo by Jim Yuskavitch

# My Little River

by Doug Schaad

— Washington Fly Fishing Club —

*For nearly 50 years Doug Schaad, co-chair of the Conservation Committee of the Washington Fly Fishing Club and Executive Director of the Whitewater Creek Conservation Association, along with his father, has served as freelance riverkeeper of a small wild steelhead stream on Oregon's north coast. Here is the story of that long and loving relationship.*

**O**ne hundred yards to the west of my home on the Oregon coast, the Pacific Ocean casts enormous globs of heavy bunker oil upon the rotting corpses of marine mammals and pelagic birds. Cedar logs wash ashore from recent flooding. Two miles to the northeast, three angry and roiling rivers converge within a small bay to face the flood tide and submerge Highway 101. These are my natal rivers. They've been a significant part of my life since the day I was born in February 1949.

One of these rivers is short and petulant. Surrounded by private property, it has been dismissed by the regulatory agencies. The second is large, with fifteen miles of tidewater before it runs free. It hosts an enormous run of fall chinook salmon and a remnant population of springers; two runs of steelhead and a plethora of drift boats full of anglers in hot pursuit. The third, my river, is unique. It flows through no towns. There are fewer than 20 residential homes from where it enters the bay to its headwaters high within the Coast Range. Over 90 percent of the watershed lies within the Siuslaw National Forest and less than one mile of the 25 miles of shoreline has roadside access. Most access points require substantial hikes, either in distance or vertical feet. An untouched Shangri-La in the middle of the Northwest!

Hardly! This little creek has seen the greatest of travesties. The clearcuts of the 1960s, 70s and early 80s — in the public's interest. The great introduction of hatchery fish, beginning in the late 50s and its suspension in the early-90s. Roadside culverts that

blocked access to small tributaries, terminating entire runs of chinook, cutthroat and coho spawning therein. And worst of all, culvert blockages that cascaded entire roads hundreds of feet into the mainstem canyons far below. Secret streams get no respect. Without a vocal constituency, they remain just another piece of the 'managed forest' of the great Pacific Northwest.

This stream, however, was my first love and friend — a friendship that has endured for 48 years. In that time, I've

***This stream was my first love and friend — a friendship that has endured for 48 years.***

moved from awe, to respect, and finally a sense of paternalism. Just as I attempt to protect my sons from the injustices in our world, I attempt to protect the fish of this stream from further trauma to its recovering ecosystem.

Despite my paternalistic attention to this stream, it isn't really mine. It actually belongs to my father. He first explored it in the winter of 1948 by hiking up and over two ridgelines and then four-plus miles of rudimentary trail. He caught fish. Now, in his 79th winter, he continues to fish the stretches that don't require a mile of hiking. A biology teacher for 34 years, he is recognized for his early introduction of ecology into a high school curriculum. The lifecycle of salmonids was his specialty. And I was among his better students. For the last 25 years we've shared the duty of riverkeeper. He brings the historical

perspective of a cynical curmudgeon, and I the power of current research and the Internet. He testifies and I provide the data. It all began a long time ago.

Forty-five days before my sixth birthday, on the first of January 1955, I caught my first steelhead. Despite my father's best coaching, I didn't land that seven-pound native hen. I remember crying in my disappointment, and my father consoling me: "Hey, it's okay. If you land 50 percent of 'em, you're doing great." Seven years later I made it to 50 percent by landing the second steelhead I ever hooked.

Since that day, I've enjoyed multiple trips each year fishing this small river. For each day of each month of each year that I've spent on the river I have a written record. Since the early 70s, I can tell you the sex, condition and genetic status of every steelhead I've landed. For a period of about 20 years, I can even tell you how many casts were made between each steelhead hooked. Weather conditions, number of fishermen seen, visibilities and unusual sightings pepper these accounts. For these diaries, I'm in debt to Enos Bradner. While he wasn't the first to document his fishing experiences, his table of fly patterns crossed by weather conditions, first published in "Fish On" (Superior Publishing, 1971), led me to a career of keeping detailed data for each day astream.

Years later when I visited an ailing Enos in the hospital, he provided a second great insight. His words were as cutting as they were true: "Data. Screw the data. While it's nice to have, it's the passion that scares the bureaucrats. They don't know anything, and most of 'em don't believe in anything. Hell, they manage rivers they've never even fished! What kind of crap is that?"

On our river, it was everything. The merging of the Fish Commission and the Wildlife Commission in Oregon brought two decades of turmoil. Employees of the Fish Commission joined with their brotherhood in the U.S. Forest Service to embrace maximum sustained yield. As the hillsides were

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raped, smolts were planted. Salmonids returned and plantations of Douglas Fir grew in uniformity. Fishing pressure grew enormously, while genetic diversity decreased. Successive floods in 1960, 1962 and 1964 swept the river with the detritus of logging residue. Spawning gravel was swept clean to bedrock and coho salmon disappeared. Yet the logging, road building and planting of smolts continued unabated.

Years before it appeared in the professional press, my father observed that clear-cuts attained their maximum instability four to seven years post-cutting. It was at this point that the residual roots lost their strength and the new plantings had failed to stabilize the soil. While the resultant landslides provided new spawning gravel, they also buried the spawn of that year; and subsequent years, as the stream began the long process of stabilization. Shoals appeared and disappeared, only to reappear further downstream. Early spawning became a liability, rather than a guarantee of early emergence. Coho runs that normally peaked in mid-November moved to mid-December. Chinook, never taken in December, were killed well into February. Wild steelhead became rare.

As the mid-80s approached, the majority of the easily accessed second-growth timber had been harvested. Hatchery production and road building for continued forest logging were coming under closer public scrutiny. In February of 1983, my father and I met with the Oregon Department of Fish and Wildlife (ODFW) representative 'in charge' of our river. It was a fortuitous meeting. I came prepared with years of data, and my father came prepared with years of passion. Though we didn't win our point at that meeting, it rapidly became clear that we knew one helluva lot more about our river than ODFW did. It was-

n't long thereafter that my father began receiving announcements from the Forest Service and ODFW on impending changes in management and regulations.

In 1986, the old guards of both systems retired. Among the files left behind was the directive that my father should be consulted about our river. He was, and things have never been the same. There's nothing quite like a 75-year-old with 50 years of experience arriving at a public hearing and saying "Now, wait a minute. That forest was harvested in 1956. The subsequent



*"Schaad's River" is wild and serene at the same time, and now abundant in both wild steelhead and solitude. Photo by Doug Schaad*

slides prevented any spawning in the tributary until 1965. Thereafter you put in a culvert, which created a hydraulic barrier. That culvert still remains and I haven't seen a chinook above that culvert since 1967. Don't talk to me about building another road across another tributary."

As the 90s began, our watershed was healing. While coho were on the verge of being listed as endangered, logging was halted due to public protests for preservation of old-growth timber. Decreasing timber prices increased the pressure to justify the logging of 'roadless' areas. Increasing

operational costs of hatcheries, with declining returns of hatchery fish, began to receive legislative and public scrutiny. Recreational values of watersheds, for other than fishery harvest, finally emerged as a priority value for the Forest Service. Selected coastal rivers were designated as 'wild' never again to see a hatchery fry or smolt. Forest Service roads were actively abandoned throughout the coastal watersheds.

This latter phenomenon deserves some serious public attention. While generally perceived as environmentally enlightened and a positive development, the near-term consequences are exceptionally severe. In the 60-odd years that my family has fished our stream, the river has only been totally blocked by landslides on three occasions. One of those massive events occurred six years after a clearcut in a particularly narrow and steeply faced tributary. The resultant debris torrent ripped the tributary to bedrock and roared into the mainstem river. Recovery from this event (which deposited enormous quantities of large woody debris into the mainstem) has been fairly swift. The other two events resulted from the official road abandonment policy.

Here's how it works. You abandon a road. You put up signs that the road is closed. You dig a barrier designed to stop an M-2 Abrams Tank and advise the public to traverse at their own peril. Every 100 yards beyond the initial tank-trap, you dig trenches designed to funnel rainwater into a channel cutting across the road. Within three months, those trenches become ravines and the road soon becomes impassable to all but the dedicated foot traveler.

However, no one removes the culverts. And, without maintenance, those culverts rapidly become clogged with

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branches, leaves, and the normal residue of a Pacific Northwest winter. With a truly memorable rain event (November 1999 being the most recent), all Hell breaks loose. As the water level builds upon the upper side of the road, it begins to percolate through the fill upon which the road was originally built. Gravity does the rest. Hundreds of yards of road collapse and descend through the recovering forest into the canyon far below. The stream is dammed, eventually breached, and another cohort of incubating eggs is destroyed by the silt that settles downstream of this 'natural' process. For the next five to 10 years, until the red alder begins to stabilize the soils, this open wound continues to bleed with the slightest precipitation. Road abandonment, without culvert removal or maintenance, sets the agenda for continuing decimation of salmonids.

Our river has been hatchery free since 1992. In that time, I've noted a massive decline in fishing pressure, especially among those who are driven to harvest fish. From an average of six-plus fisherfolk encountered per day in the '70s, my records indicate that it's

now a rare day in which we encounter even a single angler. More importantly, the composition of the fish returning to our river has changed equally dramatically. During the decade of the 1980s, fully 86 percent of the steelhead that I landed were of hatchery origin. With a few notable exceptions, all wild fish were encountered in the month of March. Over the last three years, 94 percent of the fish that I've seen played to hand were wild in origin and spanned the full season from November through March. Concomitant with this change in status, there has been a pronounced decline in the number of fish hooked. Skunks are more common. A great day is two fish, rather than five. The average weight of fish landed remains unchanged at just over 8 pounds. The average length of the fish has decreased by just under 2 inches. In essence, wild fish have shoulders!

The decrease in hatchery fish has also generated a number of unanticipated consequences. Among the most profound are: exceptional increases in the population of sea-run cutthroats and coho a return of riparian mammals (raccoon, beaver and otter and; the development of a cadre of fisherfolk that give a damn about the riparian ecosystem).

The roads that once provided easy access to the river, are now gone. As my father before me, I now walk miles to access the river — all in the hope that I'll find one wild fish willing to latch upon my offering.

A bit optimistic? You bet! I know that wild steelhead are now the norm in our river. And, it's the wild fish that I wish to deceive, admire and release. Their progeny will provide similar experiences for generations yet unborn.

In closing, let me be the first to admit that I've rambled a bit. I have found it to be exceptionally difficult to capture nearly 50 years of commitment to a single river in a few words of prose. As Americans, we decry any sense of ownership of a river. And yet we willingly travel thousands of miles to fish a 'beat' upon a well-managed stream. For the last 30 years, my father and I have advised, cajoled, guided and testified before every agency involved in the management of this river. Though we've lost numerous battles, our incremental gains have made a difference. This is now a wild river (no hatchery fish) and hasn't seen a clear-cut close to a riparian zone in 15 years. There are many fewer fish, but their numbers are building. And, with the exception of a few strays, each one of those fish reflects the genetic heritage of this unique ecosystem.

More importantly, my boys — ages 14 and 17 — have fished every yard of this river from the Pacific breakers to its managed deadline. Miles above that arbitrary line, they have watched the salmonids spawn free and wild. Forty-five years ago I stood along this river in awe of the salmonids. Today, my sons do the same. I'm hopeful that they will continue the humble tradition of being a streamkeeper.



A major blow-out in November 1999 on "Doug's River" shows the destructive power of a culvert failure. Photo by Doug Schaad





# Planning for Endangered Species, Clean Water and Quality of Life in the Urban Landscape

by Mike Houck

— Audubon Society of Portland —

Since 1979, when Portland, Oregon put in place an urban growth boundary to control urban sprawl and protect forest and farmlands, the improved quality of life it brought to metropolitan area residents became widely renowned.

Today, in the face of opposition by property rights groups and real estate and construction interests, metropolitan-area leaders are taking the next logical step — to incorporate environmental protection and restoration into the urban landscape. The idea is that cities can have healthy natural environments — including viable streams with self-sustaining populations of steelhead, salmon, trout and other wildlife.

In this article, Mike Houck explains how the Portland metropolitan area intends to pull this off, and gives us some of the philosophical and regulatory background needed to ensure the effort's success.

Houck has been the Audubon Society of Portland's urban naturalist since 1982. He is also co-founder of the Coalition For A Livable Future, a group dedicated to ensuring that fish and wildlife habitat, streams and wetlands, and a comprehensive interconnected park system are integrated into the region's growth management strategies.

Instead of laying down an arbitrary design for a region, it might be in order to find a plan that nature has already laid down...a regional design of streams and valleys that provide superb natural connectors, into the very heart of the urban area. Where continuity has been broken, the pieces should be reclaimed wherever it is at all possible.

William H. Whyte, *The Last Landscape*

The belief that the city is an entity apart from nature and even antithetical to it has dominated the way in which the city is perceived and continues to affect how it is built. The city must be recognized as part of nature and designed accordingly. The city, the suburbs, and the countryside must be viewed as a single, evolving system within nature, as must every individual park and building within that larger whole.

Anne Whistin Spinn, *The Granite Garden*

Healthy urban streams, isn't that an oxymoron? Unfortunately, healthy streams and nature in the city have been considered mutually exclusive for far too long. Portland's Healthy Portland Streams (HPS) initiative, Metro's regional fish and wildlife and greenspaces acquisition programs, and Portland's River Renaissance and Clean River Plan all refute two myths. (Metro is a regional government agency that oversees growth management and provides a variety of services in the three-county Portland metropolitan area.)

The first is that urbanites are doing nothing to protect and improve environmental quality in cities. Instead, it's alleged, environmental protection has been laid exclusively on the backs of agricultural and forest industries. The second fiction is that urban streams, rivers and wetlands should be written off as being too far gone to provide meaningful fish and wildlife habitat.

There is, in fact, some truth to the first myth. That the state wide planning program, as applied by local governments until very recently, has indeed largely failed to protect natural resources in our cities is well documented. Oregon's "State of the Environment Report, 2000," for example, reads: "The annual rate of conversion of forest and farmlands to residential and urban uses has declined dramatically since comprehensive land use planning was implemented during the 1980s. However, these laws were not written to address ecological issues, such as clean water or ecosystem function within urban growth boundaries. In order to meet the economic and social

needs of humans, native vegetation and habitats may be destroyed and converted to buildings and paved surfaces." While the report's conclusion that urban environmental quality may simply need to be sacrificed to meet the objectives of the state's planning program is both legally and programmatically unsupported, the result is nonetheless consistent with that view.

Defenders of Wildlife's "No Place



Clear-cut logging is often the first step in preparing a site in the Portland area for housing development. Photo by Jim Labbe

for Nature, Limits in Oregon's Land Use Program to protect fish and wildlife habitat in the Willamette Valley," also points out flaws in implementation of the planning program at the local level: "The land use program...tends to focus on one goal, one resource at a time. Furthermore, the land use program is implemented by a multitude of local governments. At present, the planning program carries no requirement that these entities coordinate their approaches to, for example, riparian corridors that may extend across several jurisdictions."

They also note that "the Willamette Basin is laced with riparian and upland habitats that extend across urban growth boundaries and city limits...With patience and creativity,

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urban communities can embrace the concepts of 'designing with nature' and still provide adequate buildable land for housing and job creation."

## Creating An Urban Environmental Ethic

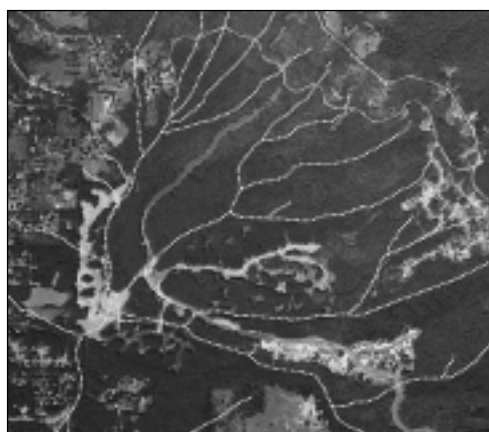
Henry David Thoreau's aphorism, "In wildness is the preservation of the world," has driven the conservation agenda for over a century and seems also to have been the philosophical basis for how Oregon's planning program has been implemented. The emphasis has been, first and foremost, the protection of the rural landscape. However, if we hope to protect rural resource lands, a 21st Century corollary to Thoreau's mantra ought to be, "in livable cities is preservation of the wild."

By creating livable urban communities we will build public support for the statewide land use program. The current backlash against "density" is, in part, due to the loss of greenspaces and park deficiencies in our neighborhoods. While creating higher density, cities will lead to enhanced protection of the rural landscape, the quid pro quo must be greatly enhanced protection and, where necessary, restoration of a vibrant network of urban streams, rivers, wetlands and other greenspaces. Healthy streams, wetlands, fish and wildlife habitat, parks, and recreational trails must become part of the urban fabric — the urban "greeninfrastructure" — where the vast majority of our population lives, in our cities.

### Land Acquisition

Critics of natural resource protection programs routinely complain that conservationists and government agencies rely solely on regulations to protect

natural resources. They have either forgotten, or are unaware, that land acquisition has been, and will continue to be, an important regional and local strategy for natural area protection. Concern over urban parks and natural areas in the Portland-Vancouver metropolitan region led us to approach Metro in 1989 to initiate a regional greenspaces acquisition program. In Portland, the Olmsted brothers, Lewis Mumford and the Columbia Region Association of Governments (CRAG,) all developed visionary schemes for the



*Aerial photos of Portland's Rock Creek basin shows the effects of development from 1990 (left) to 2002. Photos by Jim Labbe*

metropolitan region. John Charles Olmsted, in his Report of the Park Board, Portland, Oregon, 1903, presaged modern-day efforts to protect urban streams when he wrote, "Marked economy may also be effected by laying out parks, while land is cheap, so as to embrace streams that carry at times more water than can be taken care of by drain pipes. Thus, brooks or little rivers which would otherwise be put in large underground conduits at enormous public expense, may be attractive parkways."

In 1992 the Metropolitan Greenspaces Master Plan was adopted by the full Metro Council. A 1995 regional bond measure for \$135.6 million for natural area acquisition was approved by over 60 percent of the voters. As of April, 2002, Metro has purchased over 7,700 acres of land, much of it streams, rivers and wetland habitats.

### Local Park Initiatives

Significant progress has been made at

the local level as well. During the same time period that Metro was developing a regional greenspaces initiative, much was changing in Portland Parks and Recreation. Oaks Bottom Wildlife Refuge, a 160-acre wetland in the heart of downtown Portland, once coveted as a site for soccer and baseball fields and a motocross course in the late 1960s, was designated as Portland Parks' first official urban wildlife refuge. Portland has since added 902 acres to their natural areas program, including 572-acre Powell Butte Nature Park in Outer

**S**outheast Maricara, Arnold Creek in Southwest; and 300 acres in Forest Park. Portland Parks' natural area program added \$300,000 for natural area management in their year 2000 budget. Similar efforts are underway at other regional park departments.

At the policy level, newly adopted "Portland Parks Vision 2020 Plan" contains the following language relating to natural resources: "Linking natural areas into larger areas provides healthier ecological systems. Linking parks with greenways, trails and paths provide greater recreational benefit; Portland Parks will promote regional strategies to protect natural resource values of wildlife corridors, including: integrating trail planning with Metro Title 3 Water Quality and Goal 5 Protection programs; recreation planning with Portland's 'River Renaissance' Plans." Thus, for the first time since the 1903 Olmsted Master Plan, natural resources and natural resource management have been established as a legitimate element of Portland's park system.

### Regulations In A Federal, State and Regional Context

We will never have funding sufficient to fully protect healthy water-

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sheds and streams. Zoning and land use regulations are an essential tool to achieve that objective. Critics of HPS fail to acknowledge that the HPS initiative is part of a much larger, more comprehensive regional approach to natural resource protection — and restoration — and is a response to the federal Clean Water and Endangered Species Acts and Metro's Region 2040 planning process.

As stated earlier, neither local nor regional planning programs have addressed natural resource protection until very recently. This is not an indictment against the state land use planning program. On the one hand, the program has been a spectacular success and national model. The Portland metropolitan region's population expanded by 31 percent between 1980 and 2000, yet land consumption through the Urban Growth Boundary (UGB) expansion increased by only 3 percent. This is the reverse of other metropolitan regions across the country. For us the challenge is to simultaneously maintaining quality of life inside the UGB, through better natural resource protection and restoration, and provision of parks.

The most significant effort to achieve this dual goal is Metro's Region 2040 planning process. The first step in developing a regional growth management strategy that affords more natural resource protection, as a condition of higher density urban development, was the creation of a Future Vision Commission during Metro's charter amendment approved by the region's voters in 1992. The Vision Commission wrote, the region should, "Integrate urban, suburban, and rural lands in a watershed-wide perspective to ensure protection of riparian corridors and wetlands and restoration of fisheries. An interconnected system of streams, rivers, and wetlands that are managed on an ecosystem basis and restoration of currently degraded streams and wetlands are important elements of this ecosystem approach."

Next, the Regional Growth Goals and Objectives (RUGGOs) stated, the region should "Manage watersheds to protect and ensure to the maximum extent practicable the integrity of streams, wetlands and floodplains, and their multiple biological, physical, and social value," and that "A region-wide system of linked significant wildlife

habitats should be developed. This system should be preserved, restored where appropriate, and managed to maintain the region's biodiversity."

Metro next took a page from Ian McHarg's book, *Design With Nature*, by declaring over 16,000 acres of land (wetlands, 200-foot on both sides of all streams, floodplains and slopes over 25 percent) as unbuildable. This was significant because, when Metro then calculated the acreage necessary to meet the region's development needs, these lands had already been taken off the region's 'buildable' lands inventory and,

***Neither local nor regional planning programs have addressed natural resource protection until very recently.***

therefore, it could not be argued that they were necessary to meet the our development needs.

To make the case for more parkland and natural resource protection, in 1996 Metro passed a "Greenspaces Resolution" that explicitly set as a regional policy that encourages local governments to provide more parkland and protect more fish and wildlife habitat, even if it means adjusting the Urban Growth Boundary.

### **Metro Title 3: Floodplains, Water Quality and Fish & Wildlife Habitat**

It's one thing to declare areas unbuildable, another to actually protect them. Metro took the first step in that direction in 1998 by adopting Title 3 of the regional Urban Growth Management Functional Plan. Title 3 (Water Quality and Flood Management Program), which is based on Goal 6 (water quality) and Goal 7 (hazard lands) of the state wide planning program, requires "balanced cut and fill" in floodplains and 15- to 200-foot vegetated corridors along streams.

Metro is now in the midst of a region wide fish and wildlife habitat planning effort that complements the earlier Title 3 work, which focused only on water quality and floodplains as hazard lands. Once Metro adopts its regional fish and wildlife and natural resource protection and restoration program, all 24 cities and three counties within Metro's jurisdiction must amend their comprehensive plans to conform to the regional program. Much of Portland's HPS effort is in direct response to that legal requirement.

### **Endangered Species Act and Clean Water Act**

Portland must also respond to both the federal Clean Water and Endangered Species Acts. Both chinook salmon and steelhead are listed as Threatened under the Endangered Species Act, and cutthroat trout are likely to follow. There are also a host of candidate and sensitive species, both terrestrial and aquatic, waiting in the wings to be listed. Both Metro and Portland have taken a proactive approach to their ESA response. Both have embraced the ESA listings as a challenge and have adopted, as public policy, the recovery of salmonids in the Portland metropolitan region. In its draft ESA document Portland said it would "Push past the minimum standards set by the Endangered Species Act to help attain the goal of recovering native fish." Likewise, Metro adopted the following ESA-related policy: "Both protection and restoration are important in moving toward recovery of threatened and endangered salmonids, and avoiding future endangered or threatened listings of both aquatic and terrestrial species."

The entire Portland metropolitan region will also soon be implementing new TMDLs (Total Daily Maximum Loads) and stormwater permits as their commitment to addressing the federal Clean Water Act. With the increased understanding of the role of non-point pollution, pollution that enters our streams from the surrounding landscape, and a growing appreciation for the devastation wrought on streams by the sheer volume of stormwater runoff, the region will be forced to implement new Best Management Practices and

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land use regulations to better protect urban streams from the perspective of water quality and quantity. The Healthy Portland Streams program is an important step in that direction.

## Healthy Portland Streams

The Healthy Portland Streams program is an effort to address the fact that as the city developed, almost all of its streams were put into the large underground conduits predicted by John Charles Olmsted one hundred years ago. Portland is both redressing past environmental degradation as well as attempting to protect what's left.

## The Philosophy & Policy

Healthy Portland Streams includes changes in the city's Comprehensive Plan that articulate a new philosophy, reflecting Anne Spirn's admonition to integrate nature in the city. The Comprehensive plan currently reads, "Maintain and improve the quality of Portland's air, water, and land resources, and protect neighborhoods and business centers from detrimental noise pollution." The new, proposed language would add the following: "Sustain, and where necessary restore, the City's interconnected network of natural lands, open space, and waterways, and sustainable building practices to protect native species and ecological processes, reduce habitat fragmentation and threats to biodiversity, and improve the quality of life for people." This language adds a much-needed ecological grounding to Portland's environmental goals.

## The Science

The HPS program adopted a functional approach, nearly identical to Metro's, that is supported by the current state of our knowledge of how riparian systems function and how riparian areas interact with adjacent upland habitats. This approach analyzes what's needed to provide water quality; microclimate and shade; water channel dynamics; and riparian wildlife habitat and connectivity along our urban waterways.

This functional approach has been

developed with the assistance of natural resource specialists from the Oregon Department of Fish and Wildlife; U.S. Environmental Protection Agency; Oregon Department of Environmental Quality; U. S. Fish and Wildlife Service; and U. S. National Marine Fisheries Service. These areas were identified as 'significant' fish and wildlife habitat (Goal 5) resources.

**The inventory and proposed zoning code amendments are under attack by those claiming they are based on "junk science."**

## Balancing Act

Once the significant sites had been mapped Portland conducted the requisite ESEE (Energy, Social, Environmental and Economic) analysis to determine which sites should actually be protected, either fully, partially or not at all.

## The Program

Once the inventory and the ESEE analysis were completed, Portland was required by state law to develop a program that will actually achieve the desired level of protection.

The first step in that process was to develop maps that show where sites are to be fully protected (Environmental Protection Zone) or partially protected (Environmental Conservation Zone) as well as a new Transition Zone, in which development is allowed but future restoration is an explicit goal. Zoning code amendments have been proposed that implement these zones.

The most substantive change was to expand areas previously identified as Environmental Protection (EP) zones. The EP zone is intended to prohibit conflicting uses that would degrade natural

resource values. The Environmental Conservation zone has also been applied to more land. It limits development to allow some conflicting uses so long as the functional values of the stream corridor and wildlife habitat are retained.

## Healthy Streams Under Attack

The inventory and proposed zoning code amendments are currently under attack by the United We Stand Foundation, Oregonians In Action (private property rights organizations), realtors and the homebuilder industry. They claim the program is based on "junk science" and that individual property owners should not be required to protect habitat, that it's really agricultural interests, industrial polluters and others that are to blame for loss of salmon. In other words, it's 'them,' not private land owners or the home building industry that should bear the burden of stream protection and restoration.

This flies in the face of reality. Restoring salmon, avoiding future listings, and protecting rural streams must begin in the urban environment, and involve individual property owners. The HPS and Metro's regionwide natural resource programs, both regulatory and non-regulatory, are essential first steps in that effort.



## More Information

If you want more information about the Audubon Society of Portland's work go to: [www.audubonportland.org](http://www.audubonportland.org). The regional citizen-based Regional Stream and Watershed Coalition website is: [www.pdxstreams.org](http://www.pdxstreams.org).

For additional information about the Healthy Portland Streams program consult the city's website: [www.planning.ci.portland.or.us](http://www.planning.ci.portland.or.us). To learn more about Metro's natural resource protection program go to: [www.metro-region.org](http://www.metro-region.org).



# Pesticides and Pacific Salmon

by Pollyanna Lind

— Northwest Coalition for Alternatives to Pesticides —

*Steelhead and salmon need clean water. Industrial pollution has been in the sights of fish advocates and conservationists for years. But what about the extensive use of pesticides by everyone from big agriculture to suburban homeowners? What's the cumulative impact on salmonids and freshwater ecosystems in general and what can be done to minimize those impacts?*

*Pollyanna Lind, Clean Water Campaign Coordinator for the Northwest Coalition for Alternatives to Pesticides, addresses those issues and more in the following article.*

Pacific salmon are a cornerstone of our region's cultural and environmental heritage. In order to thrive, salmon need clean water. The use of pesticides by people in both rural and urban areas, however, pollutes our streams and rivers and poses a serious threat to the health of salmon runs and communities.

Pacific salmon in North America — chinook, coho, sockeye, chum, and pink salmon, as well as sea-run cutthroat trout and steelhead — start and end their lives in inland waters from southwestern California through Oregon, east into Idaho, and up through British Columbia and Alaska. According to the National Research Council, Pacific salmon have disappeared from about 40 percent of their historical ranges over the last century, and many of the remaining populations are severely depressed. In much of their range, pesticide-contaminated water is one of the major hurdles that salmon must overcome to survive.

The decline of Pacific salmon has far-reaching consequences, from causing fundamental changes in food webs to threatening economies and cultures. Salmon are indicator species and key to maintaining the balance of both aquatic and terrestrial ecosystems. Restoring salmon means protecting the region's

quality of life for both the people and the ecosystems dependent on these fish.

Pesticides can kill salmon directly, or perhaps more commonly, cause subtle damage that reduces their chance of survival. Many pesticides cause reproductive harm, reduce survival of young salmon as they transition to seawater, impair migration, or cause behavioral changes that limit survival. Pesticides can increase predation. For example, the National Marine Fisheries Service recently found that the insecticide diazinon at very low concentrations can impair salmon's sense of smell. This results in a decreased ability to detect the alarm chemicals that helps them avoid predators. Some pesticides also affect salmon indirectly by changing the abundance of food, cover, or other conditions of the aquatic environment.



*Steelhead and salmon's need for clean, pure water is at least as great as their need for quality habitat. Photo by Brett Cole*

Three federal laws are in place to protect salmon and their habitat from pesticide contamination: the Endangered Species Act, intended to protect and promote the recovery of species in danger of becoming extinct due to human activities; the Federal Insecticide, Fungicide, and Rodenticide Act, the national pesticide law that governs pesticide use; and the Clean Water Act, meant to protect waters from contamination and degradation. However,

government agencies have failed to use their full authority under these laws to protect salmon from pesticides.

The Endangered Species Act listing of twenty-six Pacific salmon runs is a wake-up call for urgent action to recover salmon. Government agencies, businesses, and individuals must all take action to ensure that pesticides no longer pollute waterways where salmon live.

Under the Endangered Species Act, the Environmental Protection Agency (EPA) is required to consult with the National Marine Fisheries Service (NMFS) on the registration of pesticides and the effects that these pesticides may have on salmon survival. The first Pacific salmon was listed over 10 years ago and the EPA has still failed its mandated responsibility to begin these consultations.

In January of 2001, the Northwest Coalition for Alternatives to Pesticides, Washington Toxics Coalition, and the Pacific Coast Federation of Fishermen's Associations sued the Environmental Protection Agency (EPA) under the Endangered Species Act for failure to protect salmon from pesticides. Patti Goldman, managing attorney of the Seattle office of Earth Justice Legal Defense Fund, is representing the groups. Settlement negotiations with EPA were entered into in spring of 2001. At that time, 37 pesticide manufacturer groups and user groups intervened in the lawsuit. The intervenors have been lobbying EPA heavily for a 'business as usual' approach that would continue to leave salmon without protection from pesticide contamination.

During the final stages of negotiations in February 2002, EPA suddenly pulled out. The necessary papers to continue the suit to seek a court order forcing EPA to protect salmon from pesticides were filed immediately by the original groups. Solutions will now once again be sought in federal court. The

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lawsuit demands include: (1) the court requires EPA to evaluate all pesticide registrations that adversely affect threatened or endangered salmon species (2) EPA enter into formal consultation with NMFS on how to alter these registrations for salmon protection, and (3) the court impose interim protections, such as buffers or other use restrictions, that will minimize contamination of surface waters while the consultation process is underway.

A compilation of available research was done to support the demands of the lawsuit. Government agency documents were analyzed and a summary of the finding has been documented in the report "Poisoned Waters: Pesticide Contamination of Waters and Solutions to Protect Pacific Salmon." The report compiles water quality testing results from the U.S. Geological Survey (USGS), which studied five major river systems in Washington, Idaho, Oregon, and California, and provides a first-time analysis of the EPA's pesticide registration documents. The report closes with practical solutions to address the risk of pesticide contamination of our waters. The full report, with complete references, is available free at <http://www.pesticide.org/CleanWaterSalmon.html>. Hard copies are available through the Northwest Coalition for Alternatives to Pesticides for \$8 each (including postage and processing) at (541)344-5044 or [info@pesticide.org](mailto:info@pesticide.org).

### **Pesticide Contamination, Widespread and Significant**

Pesticide pollution of surface water in Oregon, Washington, California, and Idaho is extremely widespread, exposing salmon and their habitat. The U.S. Geological Survey (USGS) detected 35 or more pesticides in each of five major watersheds studied in the region. Water quality testing in our region provides definitive evidence that pesticides are present at harmful levels in waters salmon need to survive.

Sixteen pesticides contaminate the region's watersheds at harmful levels. Sixteen currently-used pesticides have been found in the region's watersheds at or above aquatic life criteria, indicating they are likely to cause harm to salmon. Many other pesticides have been detect-

ed for which no criteria have been established.

The EPA findings in its pesticide registration documents reveal that approved, legal uses of at least 36 pesticides used in this region are expected to have a negative impact on salmon. These documents found that legal uses of various pesticides will exceed EPA hazard levels for aquatic organisms (i.e., invertebrates, aquatic and semi-aquatic plants, and endangered and non-endangered estuarine and freshwater fish).

***EPA ignores its own findings that allowed pesticide uses exceed hazard levels for aquatic species.***

### **Agencies Fail to Act**

Current federal restrictions on pesticide use have not kept pesticides from contaminating water. Although agency documents show that current uses of at least 36 pesticides pose risks to salmon survival, the EPA has failed to take the most basic actions to protect endangered or threatened fish species. Since the first salmon run was listed under the Endangered Species Act more than 10 years ago, the EPA has violated the Act by failing to consult with the National Marine Fisheries Service on its registration of pesticides that are likely to harm salmon. EPA ignores its own findings that allowed pesticide uses will exceed hazard levels for aquatic species and continues to allow pesticide uses that pollute water and threaten salmon.

To be effective, those involved in research on the effects of pesticides on salmon, surface water monitoring, and stream restoration efforts need to know what pesticides are being used, when and where. California is the only state with listed salmon runs that has a required pesticide use tracking system in place. Oregon's program is not yet fully functioning, and Washington and Idaho have no systems for tracking pesticide use.

Action at the state and local level is necessary for salmon protection. All states with listed salmon runs recognize the need to adopt policies at the state level for the restoration of their rivers and salmon runs. However, no state has enforceable pesticide policies for salmon protection in place. Each city and county has responsibility for reviewing its policies and practices to ensure that its actions do not result in harm to salmon. Some jurisdictions have taken steps to prevent pesticide use from harming salmon, but the majority have not.

### **Solutions**

Cleaning up our waterways to protect salmon from the impacts of pesticides will take sustained effort by government agencies, farmers, cities and counties, and individuals. For the health of the salmon and our way of life, we must take the following actions:

1. Phase out the use of pesticides that are hazardous to salmon and their habitat.
2. Adopt measures to keep pesticides out of water needed for salmon survival.
3. Establish pesticide use reporting to track pesticide use to aid in salmon recovery.
4. Promote and adopt salmon-friendly practices that reduce reliance on pesticides.

### **Recommendations**

1. EPA must comply with the Endangered Species Act by phasing out the use of pesticides that harm salmon and keeping all pesticides out of water. EPA must consult with the National Marine Fisheries Service to develop and implement methods to end pesticide uses that threaten salmon. EPA must also develop pesticide water quality criteria and use its authority to ensure they are not exceeded.

2. The National Marine Fisheries Service must enforce the Endangered Species Act to ensure that pesticides are not used in ways that harm salmon. NMFS should make sure that EPA acts to prevent pesticide use from harming



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salmon. NMFS must also ensure that local government agencies restrict and reduce pesticide use as part of salmon recovery.

3. States should stop the use of pesticide products that harm salmon or their habitat by phasing out or further restricting their use. Washington state has started this process, and other states should act using state pesticide laws and the National Pollutant Discharge Elimination System permits now required for aquatic pesticide applications.

4. Local jurisdictions should make pesticide use reduction a core element of salmon recovery. Cities, counties, schools, and park districts should serve as models of salmon-friendly pest management by adopting strong policies to phase out pesticide use. Cities and counties should also promote salmon-friendly landscaping, gardening and farming practices to reduce pesticide use by homeowners, businesses and farms.

5. Every state with listed salmon runs must develop a comprehensive pesticide use reporting system with publicly accessible data. Information about what pesticides are used, where and when they are applied, and for what reason will ensure that salmon recovery efforts are more effective.

6. Farmers should switch to effective organic and sustainable techniques to reduce their use of pesticides.

7. Land grant universities must provide resources for pesticide-free pest management. They should orient their research, education, and extension services toward sustainable pest management practices that reduce reliance on pesticide use.

8. Legislative bodies must provide more resources for surface water monitoring. Comprehensive surface water monitoring is necessary for a full understanding of the health of our waters and to determine if adopted measures are keeping pesticides out of salmon waters.

9. Individuals should make the choice to end their use of hazardous pesticides in their homes, gardens, lawns, and workplaces. Successful salmon-friendly practices are available that result in both reduced pesticide contamination in water and safer places for kids, pets, and communities.

A campaign has been established to comprehensively work to protect western waterways from pesticide contamination. The Northwest Coalition for

Alternatives to Pesticides' Clean Water for Salmon Campaign, in partnership with the Washington Toxics Coalition, is working nationally, regionally, and locally. Over fifty organizations and programs working on clean water and salmon issues across the region have joined in support of the Campaign as the Clean Water for Salmon Network.




**To learn more about the Clean Water for Salmon Campaign contact:**

Northwest Coalition for Alternatives to Pesticides  
 P. O. Box 1393  
 Eugene OR 97440  
 (541) 344-5044, ext. 17  
 salmon@pesticide.org  
 www.pesticide.org/CleanWaterSalmon.html

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