THE OSPREY

A Newsletter Published by the Steelhead Committee
Federation of Fly Fishers

Dedicated to the Preservation of Wild Steelhead • Issue No. 54 • MAY 2006

Historic Steelhead Abundance
The Appropriate Baseline

by Peter W. Soverel
— Wild Salmon Center & Steelhead Committee —

Author Pete Soverel is a member of The Osprey *editorial committee and founder of The Wild Salmon Center.*

Says Soverel: "Much of the data cited in what follows is based upon archival research conducted by Bill McMillan and Nick Gayeski in a project funded by the Wild Salmon Center to determine historic levels of steelhead abundance in Washington State based upon commercial and sports catch records dating back to the early 1890s. This work will soon be published by the Wild Salmon Center. What follows herein are my conclusions about the management implications that arise from the state's failure to make use of this data and how that failure imperils steelhead management and recovery plans. The Wild Salmon Center and I, not to mention the few remaining steelhead, are indebted to Bill and Nick for their pioneering work."

Incredibly, there is a continuing debate by the agencies on whether abundance targets should be included in steelhead recovery plans.

That steelhead are in serious trouble from the mid-Canadian coast to the southern limit of their range is, of course, an established fact. Virtually all stocks in this vast, once productive, region are either at elevated risk of near-term extinction or are already extinct. Even stocks deemed "healthy", as we shall see below, are at levels of only one to six percent of historic abundance that stretches the definition of "healthy" beyond credibility.

As the region struggles to develop comprehensive management regimes to restore or, in the case of "healthy" stocks, maintain current levels of

Continued on Page 4

For the Love of Wild Steelhead

by Steve Raymond
— Whidbey Island, Washington —

Noted angling author Steve Raymond gave this talk at a Wild Steelhead Coalition benefit function on November 19, 2005.

Steve Raymond has written nine books on fly fishing, most recently Nervous Water: Variations on a Theme of Fly Fishing. *He was also editor of two angling magazines,* The Flyfisher *and* Fly Fishing in Salt Waters, *and has written for many others, including* Sports Illustrated, Fly Fisherman *and* FlyFishing. *He was also an editor at The* Seattle Times *for 30 years. He now lives on Whidbey Island in Puget Sound.*

It seems only yesterday that I last spoke to this group, although it was actually nine months ago. But I'm glad to be here again, and I want to thank you for inviting me back; for some reason, that doesn't seem to happen very often. And I'm especially glad you invited me to join tonight's celebration of the miracle of wild steelhead.

Continued on Page 8

IN THIS ISSUE:

FROM THE PERCH — EDITOR'S MESSAGE

History, the Fifth 'H'

by Jim Yuskavitch

Just how many fish our rivers can hold is at the core of the debate that has raged over steelhead and salmon management in the Pacific Northwest and beyond for decades now. The usual suspects take their familiar positions. For some, producing steelhead and salmon in hatcheries is the method of choice for keeping those species in our streams and rivers over the long term. Others, myself included, say that healthy, viable populations of wild fish are our only hope for sustaining these wonderful creatures along with the economic, social and cultural benefits they provide to society. Readers of *The Osprey* are more than familiar with the debate.

One of the primary arguments for proponents of hatcheries over wild fish is the supposition that rivers and streams in steelhead country simply cannot support fish in large numbers. Indeed, a few years ago I sat in on a meeting of salmon and steelhead anglers on the Oregon coast where a number of attendees flatly proclaimed that hatcheries were necessary because wild fish were doomed to extinction in the not-too-distant future. The reason? The coastal rivers of Oregon, in their view, simply will never support fishable numbers of wild salmon and steelhead. Notably, all the people in the room have lived and fished in the period of steelhead and angling history when a majority of our fish are hatchery-bred.

This brings us back to the "how many" question. In this issue's cover story, *Historic Steelhead Abundance*, Pete Soverel, Steelhead Committee member and founder of The Wild Salmon Center, takes us back in time for a hard look at how many steelhead historically populated the rivers of Washington and finds that far more wild fish swam in the those waters in the past than many people often realize. In fact, steelhead, generally assumed to be the least historically abundant of the salmon tribe, returned in much greater numbers than you might have thought. In addition, old records show that they brought a higher price at market than even the famed Chinook salmon and thus were a more valuable commodity.

Even more importantly, Soverel points out that fisheries managers seem to ignore historical abundance when setting baseline goals for wild fish recovery and instead typically aim for recovery levels that are just a fraction of what a given river may, in fact, be capable of producing.

History has always been one of my favorite subjects, along with the admonition that those who ignore it are doomed to repeat it. Perhaps, for steelhead and salmon, there is an opposite corollary: Those who ignore the past's lessons of success are doomed never to repeat them.

It was David Montgomery who, in his book, *King of Fish: The Thousand-Year Run of Salmon*, broached the idea of history as the fifth 'H' along with hatcheries, harvest, hydro and habitat. Soverel's article only further confirms the wisdom and value of that idea.

Letters to the Editor

Dear Editor:

I wanted to thank you for the latest edition of *The Osprey*. I always devour it as soon as it arrives. At least there are a few things going more right for the fish than at some times in the past.

Keep up the good work. Best fishes.

John Rogers
via e-mail

Sorry About That!

Loyal reader of *The Osprey*, John Rogers, donated $50 to the cause in 2005. Unfortunately, we neglected to mention him in our 2005 Honors List published in the January 2006 issue of *The Osprey*.

We do our best to recognize our valued contributors, but on occasion, we inadvertently leave someone out. Our apologies to John along with a heartfelt thank you to him and all the rest of you whose donations keep us going in the cause of wild fish.

THE OSPREY

Chairman
Bill Redman

Editor
Jim Yuskavitch

Contributing Editors
John Sager • Pete Soverel
Bill Redman • Stan Young
Norm Ploss

Contributors
Peter W. Soverel • Steve Raymond
Bill Bakke • Bill Redman
Patrick Trotter • Jeff Miller
Norm Ploss

Layout
J. Yuskavitch Resources

Letters To The Editor
The Osprey welcomes submissions and letters to the editor. Submissions may be made electronically or by mail.

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

The Osprey is a publication of The Federation of Fly Fishers and is published three times a year. All materials are copy protected and require permission prior to reprinting or other use.

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.

FEDERATION OF FLY FISHERS
CATCH AND RELEASE

THE OSPREY IS PRINTED ON RECYCLED PAPER USING SOY INK

CHAIR'S CORNER

Upper Columbia Steelhead Lack Protection

by Bill Redman
— *Steelhead Committee* —

This is the first of a two-part article on Upper Columbia Steelhead. The September 2006 issue of The Osprey *will conclude with a brief discussion of some of the science related to local broodstock hatchery reform (heavily used with Upper Columbia Steelhead) and a review of some alternative strategies for recovery.*

The Upper Columbia Steelhead "Distinct Population Segment" has been defined by NOAA Fisheries as the steelhead whose natal waters are the mainstem Columbia and its tributaries above the mouth of the Yakima upstream to the impassible Chief Joseph Dam. In practical terms this means the Wenatchee, Okanogan/Similkameen, Entiat, and Methow watersheds in North Central Washington.

History

Fifty years ago, only two or three of the mainstem Columbia dams below Grand Coulee were in place and the steelhead runs were entirely wild fish. Fishing was very good but little known. As the rest of the staircase of nine dams and reservoirs between Chief Joseph and salt water was completed, mostly in the 1960s and early 70s, they were accompanied by "mitigation" in the form of massive infusions of hatchery fish, mostly from distant watersheds.

By the 1980s, steelhead returns were a mix of wild and hatchery fish, ocean conditions were good, and hatchery steelhead returns were profiting from heavy stocking without some of the longer term consequences of hatchery programs. Fishing was good.

By the early 1990s, ocean conditions became much less favorable; the incessant attrition of the hydrosystem on the migrating fish accumulated, especially on downstream migrating smolts; and steelhead returns, both wild and hatchery, plummeted.

In 1996 and shortly thereafter, ten of the 15 groups of steelhead stocks in the lower 48 states were listed as Endangered or Threatened under the Endangered Species Act. In the Pacific Northwest, only the Upper Columbia Steelhead were listed as Endangered, the category closest to extinction, because of extremely low wild fish returns. All sport fishing in these once outstanding streams was terminated shortly after the Endangered listing was finalized.

The emphasis on hatchery supplementation over protecting wild steelhead habitat strikes us as a "give up on the wild fish" strategy by the agencies.

Prior to about 2000, all hatchery steelhead were stocked with their adipose fins removed to distinguish them from wild steelhead. In about 2000, the Columbia treaty tribes brought legal action in U. S. District Court. They requested that large numbers of hatchery steelhead smolts be released with their adipose fins intact, thus requiring release as "wild fish" by non-tribal commercial and sport fishers. The tribes argued that they were not getting their 50 percent share of the steelhead harvest. Federal District Court Judge Malcolm Marsh ruled in their favor. Now in the Upper Columbia tributaries, half of all hatchery steelhead are stocked with adipose fins in place, making them indistinguishable from true wild steelhead to the average observer.

In about 1999 or 2000, the ocean turned favorable again, and adult returns improved. For the last several years, a limited sport fishery has been allowed on the Methow, which is managed primarily as a hatchery production stream, with catch and release of "wild" fish (adipose fins in place) and harvest of fin clipped hatchery fish.

There are indications now that the ocean has become hostile again, and the outlook for steelhead is clouded.

Against overwhelming scientific evidence, NOAA Fisheries late in 2005 finalized its new hatchery policy, which puts wild and hatchery fish on an equal footing for ESA protection if they are genetically similar.

As mentioned briefly in the January 2006 issue of *The Osprey*, NOAA Fisheries at the same time downlisted Upper Columbia Steelhead from Endangered to Threatened based on good numbers of hatchery steelhead, even though wild steelhead populations continue to be extremely weak.

There is no question that the dams and reservoirs of the Columbia hydrosystem continue to be the primary cause of the decline of all interior stocks of sea-run salmonids in the system. Until effective steps are taken to improve mainstem fish passage, especially downstream passage, the outlook will not be bright.

But I think there is something else going on with the Upper Columbia Steelhead. It is an overemphasis on hatchery supplementation and a lack of emphasis on protection of wild steelhead and their spawning and fresh water rearing habitat. This strikes us as a serious mistake, a "give up on wild fish" strategy at both the federal (NOAA Fisheries) and state (Washington Department of Fish and Wildlife) levels.

Continued on page 19

Historic Steelhead Abundance, Continued from page 1

abundance, one cannot help but be struck by the general absence of historical context. Surely, if we aim to recover salmon and steelhead populations, we must have some quantitative notions of what recovery looks like. It is not difficult to establish quantifiable metrics: overall abundance, life history and genetic diversity, run and spawn timing, adult and juvenile migration requirements and timing, and how/when and under what conditions steelhead, in all phases of their lives, utilize specific riverine habitats, and so on. The obvious metrics in any other science or management portfolio include such quantifiable indices. Even in wildlife agencies, such indices are used in game management. Elk herds — even healthy and abundant herds — are managed to keep certain population goals in mind: total abundance; ratio of mature males to breeding age females; summer and winter range carrying capacity; natural mortality; and so on, which are then used to set hunter harvest quotas. In the case of depressed populations such as California bighorn sheep, even greater caution is exercised, with careful population surveys to determine overall abundance, age structure, and so on. This data is then used to set quotas, usually very low quotas, for harvest. I, for one, am mystified why such basic management techniques are almost universally absent from modern steelhead management.

For example, state and federal authorities, pestered by the public and ordered by the federal court, have yet to develop a recovery plan that has passed the test of the law for listed Columbia River basin stocks. Incredibly, there is continuing debate among those responsible for developing a recovery plan as *to whether actual abundance targets should be incorporated into the plan.* Huh? A recovery plan that does not, even in the most general terms, describe what recovery looks like? As an old Vietnam era warrior, I am reminded of the failed U.S. strategy there. Since we had almost no idea what we were trying to do, any course of action was suitable. Our measure of success (body count) was unconnected to any policy objective. Of course, none of the various strategies worked because none of them prevented our enemy from achieving his objective. No surprise then that we lost the war.

At its heart, fisheries science is about numbers. How many? This question can be posed in a variety of ways: how many adults returned last year; how many fish could use a particular reach of the river for spawning; how many returning adults result from how many eyed eggs; how many juveniles can a tributary over-winter; how many smolts can a system produce; how many adults result from those smolts; are there differential rates of returns between rivers and among different river populations; how does current productivity compare to historic productivity; what accounts for changes, over time, in system productivity; are there connections between salmon and steelhead abundance; and when and where does mortality occur? These are just a few examples of the wide array of how the "how many" question can be posed.

Setting escapement at one to six percent of historic levels and accepting them as management goals is ridiculous.

Fisheries scientists are trained to seek answers to such questions relying on field data collected by trained biologists. On the surface, this approach sounds reasonable enough. However, in practice, this approach has not been effective, at least regarding management of West Coast anadromous stocks, because frequently such data is largely unavailable in the traditional sense: it was never collected; it was collected sporadically using different methodologies; it has been lost or historical (archival) data has, either purposely or through ignorance, been excluded. Management agencies and biologists alike have failed to make use of historical data to establish management baseline and abundance goals. There are many sources for such work: U.S. Fish Commission data from the 19th century; cannery records from the 19th and early 20th centuries; early sports-harvest data from the 1940s and 1950s prior to hatchery introductions; Indian catch data; anecdotal reports/diaries from early settlers and Indians; etc. All of these are valuable assets that facilitate assessments of current steelhead (and salmon) health, the causes of declines and reasonable management goals for the future.

In the case of Washington, the Department of Fish & Wildlife (WDFW), when formulating steelhead management plans for both Boldt treaty and non-treaty rivers as well as when conducting stock inventories — called the Salmon and Steelhead Stock Inventory (SASSI) — ignored this gold mine of historical data and even ruled out their own steelhead catch data from the 1940s, 1950s and 1960s, which pre-dated hatchery introductions.

Ignoring historical data has been especially harmful because, without such data and analysis, the state has grossly underestimated the very great risk of near-term extirpation of local steelhead stocks, because the management plans were predicated on the assumption that then current levels of abundance represented the appropriate management baselines. Nothing could have been further from the true situation. In the late 1970s when these management/harvest regimes were developed, wild steelhead abundance in most systems was at one to five percent of historic abundance and only six to 10 percent of abundance as recently as the late 1950s, as will be illustrated below. Secondly, the population structure of wild steelhead stocks had been radically altered by the mid-1970s because of: wide-spread hatchery introductions; harvest regimes that targeted early returning wild stocks that were co-mingled with the introduced stocks; harvest models (Maximum Sustained Yield) that prevented stocks from recovering.

Explicit in the WDFW approach were the assumptions that steelhead represented minority salmonid populations in our river systems, they could manage differential harvest of wild and

Continued on next page

Continued from previous page

hatchery stocks, and hatcheries would not harm wild stocks. Each assumption was wrong. Let's consider a few examples that illustrate the consequences of such approaches.

In the period 1890-1925 steelhead were an important commercial species. They were incredibly abundant and returned in great numbers in both the winter and summer. Steelhead were canned and, more importantly, shipped as fresh fish because they retained their quality longer than other salmonid stocks. Fresh steelhead brought $0.03/pound, while Chinook salmon only brought $0.02/lb, which confirms the commercial value of steelhead. The commercial catch records from this period are largely confined to canned fish, although there are records indicating that several million pounds were shipped fresh.

Puget Sound

In 1895, by which time the runs of steelhead according to the U.S. Fish Commission had already been severely depleted, cannery records indicate the canned catch of Puget Sound steelhead was in the range of 200,000 fish annually. Converting this catch into total run involves several assumptions:

1. Wastage (head, guts, fish dumped at the cannery and so on): Jim Myers of NOAA Fisheries suggests the appropriate figure at 70 percent, which may actually be conservative since fishermen were often required to simply dump their catch if the cannery had already met its quota;

2. Catch rate: Meyers suggests a catch rate of 30 to 50 percent of total. This might be conservative given the rapid depletion of wild stocks from 1890 to 1925. However, we know from Situk River, Alaska data (discussed later) that harvest rates as low as 30 percent prevent steelhead from recovering the populations. Herein I have assumed a 50 percent catch rate.

Using those two parameters (70 percent wastage and 50 percent catch rate) gives a total Puget Sound steelhead population of 1.3 million. Even assuming no wastage, the total population was at least 400,000. In either case, these are almost certainly conservative estimates since commercial fishing was generally restricted to the larger rivers. Many of the smaller rivers were left unfished and contributed significantly to the overall population total. The most recent ten-year (1995-2004) Puget Sound steelhead run size averaged 13,083 (NOAA and WDFW data) or between .9 percent and three percent of historic abundance.

It is worth noting that the 1992 WDFW Salmon and Steelhead Stock Inventory (SASSI – 1994)) classified most Puget Sound steelhead stocks as "healthy." Think of it, three percent of historic abundance and the stocks were considered healthy!

Stillaguamish River

The U.S. Fish Commission reported that 20 citizens, netting the lower six miles of the Stillaguamish, landed 180,000 pounds of winter steelhead in 1895. Further, the Commission noted that at least that number of fish was caught by citizens upstream. In other words, the catch from this small river was about 360,000 pounds of steelhead or, at 8 pounds/fish, about 45,000 steelhead landed with a total run of about 90,000. Note that these landings are not included in the commercial cannery totals tallied above and do not include any wastage. The current WDFW escapement goal for the Stillaguamish — that is the escapement level that will insure long-term health and productivity of the stock — is 1,800: two percent of historic. I wonder what would constitute depressed?

It is also worth noting that the escapement goal has only been realized once in the past twenty years and that was twenty years ago (1985). The ten-year average run size is 840 steelhead, or less than one percent of historic abundance. Furthermore, the trend is sharply downward. Even more alarming, the total run was less than 500 fish for several of those years, or less than four tenths of one percent of historical levels. These figures notwithstanding, WDFW classified the Stillaguamish population as "healthy" in the 1992 SASSI, downgraded to "depressed" in the 2002 SASSI. *Depressed!* The most recent runs were less than one percent of historic abundance. How about on the verge of extinction?

It is also worth noting that, following the pattern of the past two decades, none of the management agencies thought any of these Puget Sound populations warranted listing under the Endangered Species Act. Instead, citizens had to petition for protection. WDFW hopes to avoid listing these stocks.

The patterns described above apply to Washington as a whole including the Pacific Northwest coast, perhaps especially to the coast, where much of the habitat is in pristine condition inside Olympic National Park, where one should reasonably conclude that those river systems should be capable of producing at something approximating historical levels. Instead, from the Quinault to the Quileute, steelhead and salmon runs are one to five percent of historic abundance.

Not only has overall steelhead abundance been grossly depleted, stock diversity has also been severely compromised. Wild steelhead typically display great diversity in terms of run timing, which insures their ability to fully utilize the greatest amount of riverine habitat, from small headwater rivulets to the first runs above tidewater. Historically, wild winter-run steelhead entered the rivers in very large numbers in the period late November through February, with the runs tapering off in March, April and May. Summer runs, which were present in significant numbers in most systems, started building in June/July and typically peaked in September/October. The Quileute, Hoh, Queets, Quinault, Nisqually, Snohomish, Stillaguamish, Skagit and Nooksak all had substantial runs of summer runs. Most of these runs are now virtually extinct.

These patterns of natural run timings are completely at odds with the WDFW management/harvest regimes which are based on the assertion that hatchery steelhead are temporally separated from wild stocks. This is simply nonsense and is not supported by the historical record. For example, the Queets harvest totals over the period 1934-1979 (i.e. prior to widespread hatchery introductions into that system) show that only 11 percent of the total catch occurred in March/April

Continued on next page

Continued from previous page

with all the rest caught between November and February. In fact, it is interesting to note that the November landings exceed the total landings for March/April by six percent. Yet the current WDFW management/harvest plans are based on the false premise that wild stocks are concentrated in March and April, which, historically was the *smallest* component of the natural run. The current management regimes and hatchery practices have provided no effective protection for naturally occurring, wild summer stocks, which have largely been extirpated.

The fish themselves have demonstrated that they are capable of remarkably rapid recoveries. During that rapacious commercial fishing period of 1890 to 1925, steelhead stocks were reduced to almost current levels of depletion. When the state closed commercial fishing for steelhead (marine waters in 1925, all waters 1934), steelhead began to rapidly recover. By the late 1940s (i.e. 20 years), they had rebounded dramatically, with many Puget Sound rivers supporting individual runs of 13,000-25,000 (Skagit, Green, Puyallup, Snohomish, Nisqually, Nooksak) consisting of 100 percent wild steelhead. Habitat conditions were far from ideal and the fish remained exposed to significant harvest oriented sports and tribal fisheries.

A similar pattern occurred on Alaska's Situk River, about which Bill McMillan has written previously. Steelhead stocks were reduced to perhaps as low as a few hundred by 1934, but in less than two decades the fish had rebuilt themselves into very robust runs of 15,000 to 20,000. In 1952, the weir count was an incredible 25,000-30,000 steelhead kelts — fish known to have spawned and survived the winter from a river with a drainage of only 11 percent of the Stillaguamish.

I personally witnessed a similar recovery on the Kamchatka Peninsula of the Russian Far East. When I first visited the Kvachina and Utkholok rivers in 1994/1995, their steelhead stocks had been dramatically depleted by commercial poaching. The Wild Salmon Center/Moscow State University presence on those rivers ended the poaching. In ten years, the populations had returned to historic life-history patterns and their overall abundance had skyrocketed. Closer to home in a physical sense, consider the case of Snoqualmie wild coho salmon. While not steelhead, their tale is instructive. Through the rest of Puget Sound, WDFW plants large numbers of coho. The Snoqualmie on the other hand is managed for wild coho production. Currently, about 100,000 wild coho return annually, which is by far the largest run of wild coho in Puget Sound.

In each instance, it is important to note that recovery was not aided (more correctly not impeded) by hatchery supplementation or other artificial interventions. Indeed, we can conclude based upon the evidence that the fish were able to recover themselves precisely because they were not exposed to interactions with hatchery fish:

1. The fish did it themselves.

2. Harvest was constrained.

3. There were no hatchery introductions.

I find it particularly distressing that our fish management agencies persist with practices that are known to be

Continued on next page

Comparison of steelhead histories in Puget Sound, and the Stillaguamish, Hoh, Queets, Quileute, Quinault rivers in Washington and the Situk River in Alaska.

River/Region	Drainage Area (in square miles)	Historic Date	Historic Steelhead Numbers	Most Recent Estimate
Hoh River	299	1953 1948-1961	Summer 507 - 837 Winter 7,938 -13,230	100 (1994-05) 4,501(5-yr. av.)
Puget Sound	N/A	1895	327,592-818,980	13,083 (10-yr. av.)
Stillaguamish R.	684	1895	60,000 - 90,000	593 (5-yr. av.)
Queets River	450	1953 1923	Summer 1,204-2,007 Winter 48,980-81,633	100 (10-yr. est.) 6,188 (10-yr. av.)
Quileute River	629	1972 1948-1961	Summer 1,236 - 2,060 Winter 17,614 avg.	100 - 150 (02-05) 14,568 (1962-05)
Quinault River	434	1953 1952	Summer 1,268 - 2,113 Winter 19,000	<50 (2005 survey) 4,892 (5-yr. av.)
Situk River	77	1952	25,000 - 30,000	12,368 (04 - 05)

Source: The Wild Salmon Center

Continued from previous page

harmful, especially the continued utilization of industrial grade hatcheries. Our steelhead stocks cannot recover if we do not permit each local population to express each of the life history patterns best suited to their environment. Our current WDFW director, Jeffrey P. Koenings, knows this firsthand from his own work on sockeye salmon recovery on Alaska's Karluk River system. He and fellow investigators concluded that recovery depended upon insuring the continued wide diversity in run timing and juvenile migration patterns, which facilitate full utilization of habitat. I find it strange that these conclusions are not applied within the agency that he directs.

The current practices (over harvest of early returning winter fish, hatchery introductions, elimination of summer-runs, etc.) prevent steelhead from expressing those levels of diversity that are so critical to their long-term abundance, indeed, even survival.

We can all agree that current habitat conditions are not pristine and are, in most cases, a far cry from historic conditions. We can even agree that it is not likely that many of our steelhead runs can return to historic levels of abundance. However, I suggest that we set our sights far too low when we establish escapement goals in the range of one to six percent of historic abundance. Surely, in West Coast Olympic Peninsula streams, with much, even most of the habitat protected in Olympic National Park, we should expect steelhead runs to represent a substantial percentage of historic abundance. Similarly, most of the Skagit watershed is in commercial timber production or protected in the Glacier Peak Wilderness Area, North Cascades National Park and rivers designated under the Wild & Scenic Rivers Act. The Skykomish is a state wild and scenic river with much of its upper watershed protected in the Alpine Lakes Wilderness Area. Each of these systems historically supported extremely abundant and diverse steelhead populations. They should now.

In almost all cases, the reproductive potential of our rivers is far greater than one to three percent of historic abundance. Setting escapement/run size goals at one to six percent of historical levels and accepting them as the management goals for the future is ridiculous. We have every right to expect management and recovery regimes to set abundance goals that are representative of the each system's reproductive potential, rather than accepting current, depleted levels of abundance as future goals.

Percent of Present Steelhead Population Size Compared to a Known Historic Population Size for the Puget Sound ESU and the Stillaguamish, Hoh, Queets, Quileute, Quinault rivers in Washington and the Situk River, Alaska.

River/Race/Historic Date	Percent of Present Population to Historic Population
Hoh R./Summer/1953	11.9 - 19.7
Hoh R./Winter/1948-1961	34 - 56
Puget Sound/Winter/1895	1.6 - 4
Stillaguamish/Winter/1895	0.7 - 0.9
Queets R./Summer/1953	5.0 - 8.3
Queets R./Winter/1923	7.6 - 12.6
Quileute R./Summer/1972	4.9 - 12.1
Quileute R./Winter/1948-1961	82.7
Quinault/Summer/1953	3.9
Quinault/Winter/1952	25.7
Situk R./Fall & Spring/1952	49.5-41.2 (3.3-6, historic low)

Source: The Wild Salmon Center

Works consulted for this article:

Busby, P.J., *et. al.* 1996. *Status review of West Coast steelhead from Washington, Idaho, Oregon, and California*. NOAA Tech. Memo. NMFS-NWFSC-27. Seattle

Chilcote, M.W., Leider, S.A., and Loch, J.J. 1986. *Differential reproductive success of hatchery and wild summer-run steelhead under natural conditions. Trans. of the American Fisheries* Society 115: 726-735.

Lichatowich, James A. 1999. *Salmon Without Rivers: A History of the Pacific Salmon Crisis*. Island Press. Washington, DC.

Meyers, J. 2005. *Historical abundance estimates*. (Unpublished report of Puget Sound steelhead numbers and distribution.) NOAA Fisheries, Northwest Fisheries Science Center, Seattle, WA.

McMillan, B. 2004. *Comparisons of Steelhead Abundance in Alaska's Situk River with Washington's Skagit River*. Wild Steelhead Coalition, Seattle, WA report

Royal, L.A. 1972. *An examination of the anadromous trout program of the Washington State Game Department*. Washington Department of Game. Olympia

(SASSI). 1994. *1992 Washington State Salmon and Steelhead Stock Inventory.* Washington Department of Fish and Wildlife and Western Washington Treaty Indian Tribes, Olympia, WA.

(SaSI). *2003. 2002 Washington State Salmonid Stock Inventory.* Washington Department of Fish and Wildlife, Olympia, WA.

Love of Steelhead, Continued from page 1

For that, as I perceive it, is the reason we are here. We come from many different walks of life and a great diversity of backgrounds, but a love for wild steelhead is the one thing we all have in common. It has given us this opportunity to visit with old friends, hear some outrageous fish stories, share a good dinner, try our luck in the raffle and risk our fortunes in the auction, all to benefit the cause of preserving wild steelhead.

And that's as it should be. But I think there's a bit more going on here than that. The love we all share for wild steelhead is a complex and mysterious thing that defies easy explanation or analysis. After all, what else could compel us to stand for countless hours in cold rivers, often under rain, casting endlessly in the single-minded hope that perhaps the very next cast will result in the thing we most desire: The shock of a heavy strike or the thrilling sight of a graceful rise.

Not very many people understand this. To be charitable about it, most people think we're crazy. And if you're honest about it, you'd probably have to admit there have been times when you thought so yourself. The truth of the matter is that we don't really understand our own behavior very well.

But I don't think insanity is the answer. I think there are some perfectly rational reasons why wild steelhead have such a magnetic hold over us, why they command us to pursue them with dogged devotion even under the very worst of conditions. And those reasons are what I propose to talk about this evening.

Before venturing any opinions of my own, however, I thought it would be prudent to see what others have had to say about this subject. So I began with a review of the literature of steelhead and steelhead fishing. This didn't take very long because, sadly, there aren't many books about steelhead. In fact, if you compare what has been written about steelhead with what has been written about Atlantic salmon, you quickly find a great disparity. Why should there be such a great difference?

Well, one obvious reason is that the history of fishing for Atlantic salmon goes back much further than the history of steelhead fishing. People have been fishing for steelhead only a little more than a hundred years while the roots of Atlantic salmon fishing date back well before the founding of the republic. So the Atlantic salmon fishermen have had a lot more time to write books than we have.

Another reason is that in the early days of steelhead fishing there was great confusion over the difference between steelhead and Pacific salmon, and those who wrote about it often said they were catching salmon when actually they were probably catching steelhead.

The love we all share for wild steelhead is a complex and mysterious thing that defies easy explanation or analysis.

But those aren't the only reasons; the angling historian Paul Schullery has offered a couple of other interesting explanations. He notes that "fishing-book publishing was essentially an Eastern industry; publishers knew the Eastern market and rarely showed interest in the Western market. Something like that may be self-perpetuating; fishermen who grow up with no books about their fishing may well not learn to see fishing as a reader's sport."

Another reason, he says, is that "if you look at the . . . biographies of famous pioneer steelheaders . . . you'll notice that a great many of them were blue-collar workers; this was a different social group than the one that gathered along the shores of the exclusive salmon rivers of Eastern Canada, and it was a group much less likely to have the leisure and inclination to write books, especially books of gracious, companionable prose."

I think Schullery is probably right in his assessments, which suggest that steelhead fishermen have always occupied a lower rung on the social ladder than East Coast salmon fishermen. But I don't think we have any reason to feel badly about that; on the contrary, our Western tradition of public waters has made steelhead fishing available to just about everybody, and ours has become a truly egalitarian sport—which is much more than you can say about Atlantic salmon fishing. If the price we've had to pay for that is fewer books about steelhead fishing, then I still believe we've gotten the better end of the bargain.

But let's take a look at some of those books and see what they say about the appeal of wild steelhead. The short answer is: Not much. This is especially true in the early days. Most of the first writers on the sport were preoccupied describing the appearance and habits of steelhead and their legendary fighting qualities. For example, Zane Grey, the famous Western novelist, provided this description of the first steelhead he ever saw, captured by another angler on a visit to Deer Creek in 1918:

"It was a strikingly beautiful fish, graceful, symmetrical, powerfully built, with great broad tail and blunt, pugnacious nose. The faint pinkish color, almost a glow, shone from a background of silver and green." The fish weighed only 4 pounds, but the man who caught it said "'you never could have made me believe he didn't weigh twice'" as much.

Grey, like most other early writers, seems to have assumed the steelhead's appearance and game qualities were the reasons why people fished for them. Neither he nor they bothered to inquire any further.

In *The Western Angler*, published in 1939, Roderick Haig-Brown provided an even better description of the steelhead, but his focus, too, was mainly on its appearance and habits, not on its emotional appeal to anglers.

Another Canadian writer, Francis C. Whitehouse, praised the fighting qualities of wild steelhead in his 1945 book, *Sport Fishes of Western Canada*. "The steelhead is an instinctive leaper, and on a fly it will put up an amazing performance," he wrote. "The wild rushes, as if to leave the pool downstream, however, are usually 'bluff;' but if [the fish] actually does so, in some of our rivers, it is just too bad!"

Continued on next page

Continued from previous page

For Whitehouse, as for other writers, the fight was the thing, and he didn't offer any other explanation for his regard for steelhead. But a year later, in 1946, Roderick Haig-Brown returned to the scene with his marvelous book, *A River Never Sleeps,* which almost single-handedly made up for all the previous void in steelhead literature. This book gives us more quotable passages about steelhead than I think can be found in all earlier books put together.

Here's one of my favorites: "The steelhead, with the brightness of the sea still on him, is livest of all the river's life. When you have made your cast for him, you are no longer a careless observer. As you mend the cast and work your fly well down to him through the cold water, your whole mind is with it, picturing its drift, guiding its swing, holding it where you know he will lie. And when the shock of his take jars through you to your forearms and you lift the rod to its bend, you know that in a moment the strength of his leaping body will shatter the water to brilliance, however dark the day."

Nobody ever said it better. But even that vivid description begs the question: What is it, besides the way they look and the way they fight, that we love so much about wild steelhead?

John Atherton, better known as Jack, was an artist and angler who published a highly praised book called *The Fly and the Fish* in 1951. Atherton is remembered mostly as an East Coast angler, but he lived for a time on the Pacific Coast and devoted a chapter of his book to steelhead. And he had this to say about them: "It has always seemed to me that the best fish is the one I am fishing for at the time. But if I could invariably have my choice of locality, river and type of fishing, I am inclined to believe that my favorite would be a fresh-run steelhead in a clear, fast stream. For sheer high explosives on the rod they can hardly be surpassed, and if one eventually beaches this streamlined dynamo, it is mainly due to the grace of the good Lord and a strong wrist."

Again, it was the steelhead's fight that impressed Atherton, and he had little to say about the other qualities of steelhead.

Enos Bradner, my old friend and mentor, was usually more concerned with the nuts and bolts of steelhead fishing than he was with the contemplative aspects of the sport. As outdoor editor of the *Seattle Times,* he had to be. But in 1960, when he received a letter from a teenage boy named Tim, asking for advice on how to become a steelhead fly fisherman, Bradner wrote a reply in which he came as close as he ever did to describing what it feels like to fish for wild steelhead. Here's what he said:

"Everything connected with this sport tugs at the heart . . . You get out right at dawn, walking up a gravel bar to the riffle you hope holds a fish. Anticipation builds up as you step into the water and start working out your sinking fly line . . . The river pushes your waders tight against the body as you work chest-deep into the current. You are alone with and become part of the stream.

"But, Tim, you must have a mountain of patience . . . You must be willing to take long hours of fruitless casting. Perhaps days will go by without the slightest nibble. But then, some enchanted morning, or perhaps even at midday, there will come with startling abruptness a jolt that almost jerks the rod out of your hand. Your reel starts screaming as the steelhead streaks downstream faster than any other game fish can swim. You become alive in every fiber of your system, with adrenaline coursing through your arteries.

"If you are lucky, you finally lead the fish into the shallows and onto the gravel. It lies there, a silver form with maybe a touch of red, as fine a trout as ever was created."

I think that passage captures the essence of steelhead fishing as well as anything ever written. But even in this case I believe some of the real reasons we fish for steelhead are left unsaid.

Trey Combs, in his fine book *Steelhead Fly Fishing,* tells of catching a steelhead and asking it: "'Where have you been?' . . . What collaboration of instincts, what fusion of natural forces sends a hundred smolts to sea and returns to me this single adult? Beyond her own good fortune, what special traits for survival has she brought back for the next generation? Her ocean world is alien to me, and she carries few messages hinting of her past. But these have grown into the small understandings that fill me with admiration for her spirit and wandering ways—characteristics at the core of my romance with this gamefish, and why I am jubilant on this dreary winter day." So, perhaps without realizing it, when Combs asked "where" he really came up with an answer that had more to do with "why" he fishes for steelhead.

Author Steve Raymond wading in a favorite steelhead stream. Photo courtesy Steve Raymond.

But again it was Haig-Brown who first really addressed that question squarely, and his answer left us with one of the most familiar quotations in all of angling literature: "I don't know why I fish or why other men fish, except that we like it and it makes us think and feel. But I do know that if it were not for the strong, quick life of rivers, for their sparkle in the sunshine, for the cold grayness of them under rain and the feel of them about my legs as I set my feet hard down on rocks or sand or gravel, I should fish less often. A river is never quite silent; it can never, of its very nature, be quite still; it is never quite the same from one day to the next. It has its own life and its own beauty, and the creatures it nourishes are alive and beautiful also. Perhaps fishing is, for me, only an excuse to be near rivers. If so, I'm glad I thought of it."

That paragraph, I think, goes a long way toward explaining what motivates us as anglers, and we all share Haig-Brown's excuse: Fishing gives us a reason to be near rivers, and we love wild

Continued on next page ➢

Continued from previous page

steelhead because they come to us in rivers.

But even as hypnotic and attractive as they are, I don't think rivers are the sole explanation for our passion. If it weren't for wild steelhead, I'm sure we would all spend less time around rivers. There's something more involved here, some other reason why these fish have such a powerful attraction for us. What is it that we find so compelling about them?

Most of the writers I have quoted remarked on the beauty and fighting qualities of wild steelhead, which are obvious things. But there are other things about steelhead, less obvious, that I think appeal to us on a deeper, perhaps even subconscious level. One of them, I believe, is that we intuitively realize steelhead are the most honest and uncompromising creatures we will ever meet, and we can meet them only on their terms. No steelhead has ever been indicted, and I daresay none will ever be. If only we could say as much for the members of our own species.

Yet there's even more to it than that, some other quality about these fish that makes them almost irresistible to us. I have thought deeply about this, trying to figure out the nature of this powerful attraction, and I think for the answer we must ultimately look to ourselves, not to the fish. And if we do that, I think we will find that deep down, at some primal level of our being, we share a powerful emotional link with wild steelhead.

How could this be? How can we, as intelligent, warm-blooded, air-breathing beings, have some sort of deep-seated connection with an instinctive, cold-blooded creature that dwells in a world completely different from our own? The answer is that wild steelhead possess the very qualities we most deeply admire among ourselves: Perseverance, courage, and lonely survival against great odds.

Consider: A steelhead born of the river, who lives long enough to escape to the sea, who makes his way a thousand miles or more across the trackless ocean, stalked by predators every inch of the way, who survives to return and find the river of his birth, and who then fights his way upstream against the relentless weight of water that opposes every millimeter of his progress, and who finally spawns and fulfills the purpose of his life—such a creature is a hero, an inspiration, a model for us all. Small wonder that we should admire it so, or seek, even subconsciously, to emulate its virtues. Small wonder that we should marvel at its achievements, especially during a time in our history when wild steelhead are threatened over so much of their native range.

So that, I think, is what really brings us together here tonight: Our common devotion to a fish whose virtues we not only admire but wish we shared. And that devotion, I believe, is what drives our efforts to preserve wild steelhead, the noble purpose to which this organization has dedicated itself.

I need not tell you that the task of preservation will be difficult, because we who love wild steelhead represent the very smallest minority of society. We face the hostility of all who would destroy steelhead habitat for personal gain, plus the vast apathy and indifference of the great majority of our fellow citizens, people who have never known the excitement or experienced the emotional voltage of a connection with wild steelhead.

Yet that's no cause for discouragement; instead, we should feel grateful, for we are among the few who have been fortunate enough to catch a wild steelhead, to experience one of life's greatest thrills, one that most people will never know. It would be well to remember that on those occasions when it seems as if all the world is indifferent or opposed to us.

And there will be such occasions. The road ahead will offer defeats as well as victories, and defeat often brings despair. But this organization cannot afford the luxury of despair, because there is only one way the battle to preserve wild steelhead will ever end — and that is if you surrender.

So let the steelhead be your example. When things get tough, when the situation seems hopeless, remember the qualities we most admire about wild steelhead: Perseverance, courage, and lonely survival against great odds.

Without such an inspiration, you cannot succeed; with it, you cannot fail.

Judge Declares 2005 BiOp Violates ESA

A coalition of fishing businesses and conservation groups won a major victory for Pacific Northwest salmon recovery efforts on May 24 when federal district court Judge James A. Redden declared illegal a federal plan for operating Bureau of Reclamation water storage projects in the Snake River basin in Idaho.

In his ruling, Judge Redden declared that the federal government's 2005 NOAA Fisheries Biological Opinion of the Bureau's Upper Snake projects violates the Endangered Species Act and relies heavily on the illegal 2004 Federal Columbia River Power System Plan (FCRPS), which governs federal dam operations on the Columbia and lower Snake rivers.

Last May, the same court ruled the 2004 FCRPS plan to be illegal, citing its failure to adequately address recovery of ESA-listed Snake River fish, while treating dams as an immutable part of the natural environment. It is currently being redrafted.

Noting that there must be "a comprehensive evaluation of the effects of water use in the upper Snake River and the down-river dam operations," and that a "combined consultation will be more likely to achieve the comprehensive analysis required by the ESA," Judge Redden ordered the remand of the 2005 Upper Snake BiOp to be joined with the remand of the 2004 BiOp.

As the court observed, "Rebuilding salmon to healthy, harvestable levels will come in large part from addressing the impacts of the down-river dam operations that do the most harm to salmon. Even so, the water of the upper Snake projects and its uses must be an integral part of the analysis."

In his ruling, the Judge left it to the discretion of the action agencies whether to produce this is as one biological opinion or two. He did mandate that any analysis must examine the cumulative effects of any federal actions on salmon in the upper and lower Snake and Columbia Rivers.

Return to the River

By Bill Bakke
— *The Native Fish Society* —

Bill Bakke, executive director of The Native Fish Society, reviewed Return to the River *for* The Osprey. *Edited by Richard N. Williams, Ph.D.,* Return to the River *is published by Elesvier Academic Press, 2006.*

Grasping the idea of salmon requires perspective, a context within which we can place our personal experience.

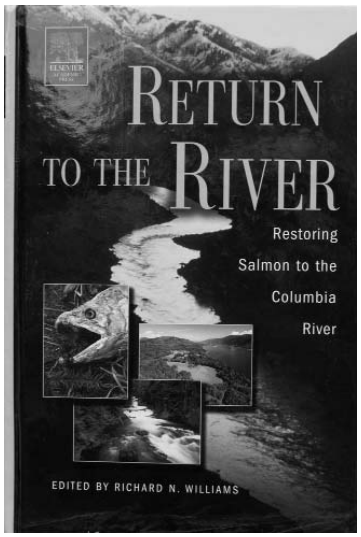
On April 23 of this year 487 spring Chinook had surmounted Bonneville Dam, the first of eight they must pass before reaching their spawning grounds in the Snake River. The ten-year average for this time of year is 70,998 spring chinook. In 1883 more than 40 million pounds (about three million fish) of salmon were commercially harvested in the lower Columbia, and most of these were spring-run fish. Since Lewis and Clark traveled up the Columbia in 1806, the river has been emptied of its salmon. In terms of time, this is a dramatic "accomplishment" for the Northwest, and we have spent more than $6 billion to reverse this trend. So something more than throwing money at the problem is called for.

The recently published book, *Return To The River*, documents this remarkable "accomplishment" and makes suggestions about how we could change our ways to actually recover salmon now listed under the Endangered Species Act.

This book is not just your insightful concern for the salmon; it is an intelligent assessment by a group of scientists who have studied the problems and recommend a completely new approach. It is clearly written and easily absorbed. It is the history and the perspective we need to shift the future to one safe for wild salmon in what was once the greatest salmon stream in the world.

Rick Williams is a geneticist working out of Boise, Idaho, and is the lead writer and editor of *Return To The River*. He said, "I realized that most of my work on Columbia River salmon issues had a short shelf-life and a book was needed to make a long term contribution to the history of this great river and its salmon and steelhead. Reports disappear and are not widely distributed due to politics, so it was time to create a complete, independent assessment."

The book updates previous scientific reports submitted to the Northwest Power and Conservation Council (NPCC) by independent scientific panels. There were opponents who wanted to bury those reports and this book.



Since few are willing to read technical reports and especially those published on the Internet, Rick believed it was time for a book and the lasting power a book provides. It is an informing history and a call for action.

Williams is a veteran of fish science and knows the difficulty of informing the politics of management. He says, "There is a certain reluctance to implement what the scientists say and that cannot be overcome by the scientists, it can only be effective when the public embraces the message and works for institutional change." *Return To The River* creates the record; it is not just a history, but a fertile ground of ideas with a scientific basis that can shape the future in the hands of a public that is willing to use it.

"We can't accomplish anything by just publishing in professional journals," Rick says. The journal publications can advance one's career, but working for social and political change on behalf of salmon requires more. With regard to *Return To The River*, Rick said, "It felt like my dissertation done right."

The Decline

The Columbia River is the 18th largest river in the world in terms of flow and the second largest river in the United States. The river is said to drain a basin the size of France with a watershed of 258,000 square miles including most of Oregon, Washington and Idaho, a major portion of British Columbia, western Montana and small parts of Nevada, Utah, and Wyoming.

The Columbia River once produced the world's largest Chinook salmon runs, as well as significant runs of coho salmon, sockeye, and steelhead. In the lower river, below Celilo Falls, there were large populations of chum salmon and a few pink salmon populations.

It is believed that the abundance of salmon was composed of more than 200 distinct populations, and overall numbers were seven to 30 million fish. However, present conditions are not so bright. Most chum, pink and coho populations are extinct. For example, wild coho were once abundant in the Snake River but went extinct in 1986 and were once also abundant in tributaries of the upper Columbia in Washington state. The only two wild populations of any size are now found in the lower Columbia River basin in the Sandy and Clackamas rivers.

Most wild populations of salmon and steelhead in the Columbia Basin are now listed under the Endangered Species Act and are vulnerable to extinction. By the late 1990s only nine salmon and steelhead stocks were considered healthy and in 1995 only 750,000 fish returned. Except for a brief improvement in abundance (pri-

Continued on next page

Continued from previous page

marily hatchery fish) due to improved ocean productivity in 2001-2003, the wild runs continue to decline. This rapid loss of salmon biological diversity and the threat of extinction began when European-Americans settled the basin in the mid-1800s. In about 160 years this once great biological complex has collapsed under the weight of "civilization."

The Response To Decline

There have been many efforts to mitigate for the lack of salmon. The first and favorite is to construct hatcheries in the attempt to mitigate for habitat damage and over-harvest. Maintaining the supply of salmon was the unrealized goal. If those advocating hatcheries had kept their promise, would the salmon runs still be 30 million fish strong? The first hatchery was created by salmon canners in the lower Columbia on the Clackamas River in 1878 and later run by the state of Oregon. This worked out so well as a ploy to counter the destruction of salmon runs that we now have hundreds of hatcheries releasing 235 million juvenile salmon and steelhead each year. But these are not the wild salmon listed under the ESA, so the National Marine Fisheries Service adopted a policy to include hatchery fish so they count not only toward recovery of wild salmon, but can be used to determine whether a salmon run should even be listed. The hatchery has become the politically popular way to replace habitat and cover up excessive killing. It requires gobs of public money, enhancing agency budgets, and politicians are given a way out of the habitat protection controversy.

This response to salmon and steelhead decline is the old paradigm, and it persists even though the salmon do not. It persists because it is a cozy fit in our cultural view (i.e. converting salmon to a commodity). *Return To The River* would change that cultural view, describing a new path.

The New Conceptual Framework

"This book presents a review of salmon and steelhead management in the Columbia Basin and suggests a new conceptual foundation for salmon management in the 21st century. The region's failure to halt the decline in salmon populations is the result of numerous social, economic, and scientific issues, most of which are generally recognized and have been discussed extensively (e.g. National Research Council 1996). What is less recognized is the lack of an explicit and scientifically based conceptual foundation and the consequences of this on salmon management and recovery actions. A conceptual foundation or 'world view' (Costanza 2000) is fundamental to how we interpret the "facts" garnered from observation or scientific investigation, and in turn, to how we manage humans interactions with the environment. The commodities-driven conceptual foundation that guided much of 20th century fishery management was based first on the belief in nearly inexhaustible resources and later on faith in technology to replace natural functions lost as a result of human actions (Bottom 1997). The decline of salmon in the Columbia Basin over the course of the 20th century, despite massive infusions of money and technology, proves the failure of the old paradigm and the need for a new conceptual foundation for salmon management. On the basis of our review of existing salmon restoration efforts in the Columbia Basin, we present a conceptual foundation for 21st century salmon management that stresses the role of the environment — with all its variability and complexity — in shaping species performance and persistence. This foundation is based less on the notion of engineering nature to fit the needs of human society and more on the idea that human activities can be managed to facilitate natural processes that shape the environment and ensure resiliency of species."

The conceptual foundation provided above is based on the independent scientific review of the Northwest Power and Conservation Council's (NPCC) fish and wildlife program for the Columbia River. The scientists reviewing the program became "convinced of the need to develop an explicit conceptual foundation that could be critically examined, and one that incorporated contemporary scientific thought on species and their environment." This was and is a major step ahead for reconstructing salmon management and research into a rational exercise. Prior to independent scientific review of measures to restore the salmon runs, the money was doled out to the state, federal and tribal agencies based on their own selection process. There was considerable grumbling about inserting scientific standards before this superfund of salmon money could be allocated because getting it meant that projects had to have explicit and measurable goals and could actually be evaluated. The NPCC program and Bonneville Power Administration funds are the golden goose to agencies ($240 million a year) that are faced with shrinking budgets, and without this chest of ratepayer gold, they would have little ability to solve problems in the basin. By adding scientific rigor to this process, the salmon recovery program is both strengthened and potentially self-correcting.

The fresh approach taken by the scientists in this project for restoring salmonids in the Columbia River is based on the conclusion that "efforts to apply technology to sustain salmon production in the absence of ecological functions (i.e. engineer substitutes for ecological functions) have generally proven unsuccessful, largely because the efforts have failed to understand and incorporate the ecological processes they wished to replace. Instead, they often created something totally artificial." Technology must operate within the context of restoring and maintaining necessary ecosystem functions; it must mimic natural conditions rather than interrupt and run counter to them. This vision is being incorporated into the salmon recovery process conducted by state, federal and tribal agencies. It is a great experiment dependent upon compliance, goal setting, evaluation, and correction. To the extent that compliance is weak, the funding for salmon recovery devolves to its original politically driven condition where agencies derive the monetary benefit rather than salmon. This experiment is vulnerable because the public is largely uninvolved in this process — a process that is difficult in which to become involved. And although it is funded by ratepayer dollars, the public has little oversight. This major weakness may

Continued on next page

Continued from previous page

corrupt the process, allowing the states, tribes and federal agencies to return to the comfortable good old days where science has little traction over what gets funding. But then again the public has many goals and not all of them support salmon recovery. It is important, however, that those for whom it is important to have strong, healthy wild salmon and steelhead in their home waters be engaged in this experiment.

The authors of the book state: "In our opinion, failure to adopt an ecologically based conceptual foundation and to change the approach to salmon restoration in the basin will lead to more listings of salmon and other species under the Endangered Species Act, continued expenditures, and little progress toward the Council's rebuilding goals. Temporary increases in some populations may occur in response to fluctuations in ocean and climatic conditions, but the overall downward trend in returns…will likely continue. To us, the continued failure of restoration to date calls for the region to question the basic premise of its fish and wildlife recovery effort and to consider alternatives."

The "conceptual foundation" advanced by the scientists contributing to the book recognizes two important factors: 1) The Columbia River is a natural-cultural system affected by human development, and the consequences of that development are an integral part of the ecosystem; and 2) The natural biophysical processes of the river are integral to the creation and maintenance of healthy salmon habitat and fulfillment of salmon and steelhead life history functions. It is critical for salmonid recovery to be based on maintaining the complexity and the interconnected habitats so that the full expression of salmonid life history diversity is possible. This allows the affected species to spread the risk of mortality in constantly changing environments. In this way the salmon and steelhead can become sustainable.

Of major concern is the altered state of the mainstem Columbia caused by hydro-dam construction. The authors state, "The ecological and biophysical attributes of the pre-development river represent the norms or standards under which salmon…evolved. Management actions that restore or improve these attributes will also improve ecological conditions for salmon and aid in their restoration."

Recommendations

Below I have summarized the actions recommended by *Return to the River*:

1. A conceptual foundation must be adopted by the Power Planning and Conservation Council and the fish and wildlife agencies. A rigorous program of evaluation, monitoring, research and adaptive management derived from this conceptual foundation is required.

2. The region has to explicitly recognize the importance of maintaining the existing biological diversity of salmonids.

3. Freshwater habitats that support all life history stages must be protected and restored. This work includes re-regulating flows to restore spring high-water peaks and floods, stabilizing daily flow fluctuations and protecting and restoring riparian habitat on spawning and rearing streams.

4. Reduce the sources of mortality at mainstem dams. Rather than use flow to flush fish downstream, use the natural flows and spill rates to pass both adults and juveniles. Reduce gas bubble disease. Transport juvenile salmon only if it is determined that habitats in the mainstem cannot be restored and only when all life history types are included. Restore mainstem floodplain and estuary habitats to natural conditions.

5. Improve the effectiveness of mitigation actions associated with habitat restoration, hatcheries, and harvest management to control inadvertent but negative impacts on salmonids. This means there must be a higher priority given to monitoring and evaluation and more money spent on it.

6. Habitat restoration in the mainstem and in the tributaries must be given a much higher priority.

7. Hatcheries must be viewed as an experiment rather than assumed to be a proven technology for supplying fish for harvest or recovery of wild populations. Monitoring and evaluation of hatcheries, the authors say, "Has been avoided too long."

8. Harvest must be controlled, and a full accounting is necessary to support recovery and deliver nutrients to watersheds.

9. Estuary and ocean productivity is now recognized as a major factor in salmon survival and productivity. Maintaining biological diversity is key to salmon and steelhead survival in constantly changing environments, including the marine habitat. Pollution impacts on salmon survival in the estuary and ocean are of critical concern. Releases of hatchery salmonids should be curtailed during periods of low ocean productivity. Researching salmonid use of the estuary and predation is a major investment need.

10. Establishing salmonid reserves in the basin by focusing on core populations and habitats is essential to salmon and steelhead recovery. Application in tributaries to maintain viable populations is important, and the authors say "We believe priority should be given to…the confluence of the Snake and Columbia rivers and the Hanford Reach as reserve areas."Roadless areas should be protected in the basin."

I have presented here a sketch of *Return To The River* and its recommendations for reforming salmon and habitat management in the basin. This book contains a powerful message that is scientifically based and illuminating. I hope you will take the time to read this book and learn from it. The scientists involved have made a statement that we all ignore at our own peril. The detail and supporting evidence are enlightening. They have made the proposal. Now it is up to us to give it life and apply it in each watershed. Their message is ecologically based but today's salmonid management and our cultural approach to salmon are not. This book contains the scientific rationale for a new vision of salmon recovery, but it is up to us to give society reasons to embrace it.

A Kalama River Dam?

By Patrick Trotter
— *Seattle, Washington* —

Seattle resident Patrick Trotter is a consulting fisheries biologist who specializes in the conservation biology of rare, threatened, and endangered cold-water fishes. His articles have appeared in Fly Fisherman, Fly Tyer, *and* Flyfishing *magazines. He is author of* Cutthroat: Native Trout of the West, *and a co-author of* Fly Fishing for Pacific Salmon. *He was honored by the Washington Council of FFF as its Federator of the Year in 1991.*

Earlier this year, with little fanfare, the Washington Department of Ecology issued a 180-page report titled *Columbia River Mainstem Storage Options, Washington, Off-Channel Storage Assessment Pre-Appraisal Report.*

With a title like that, it's little wonder that this report slipped under the radar screens of the region's sport fishing and fish conservation groups. To my knowledge, only one such organization took any notice, and that was the Portland, Oregon-based Native Fish Society, whose executive director, Bill Bakke, sounded an initial alarm in his January, 2006 Conservation Report.

But everybody with an interest in the status and plight of our wild native steelhead, salmon, and trout populations should scrutinize this report thoroughly and carefully, for what it does is identify viable sites for new dams and water storage reservoirs on Washington tributaries of the Columbia River. Undertaken at the direction of our former governor, Gary Locke, to address how future demands for Columbia River water could be met, the report states: "As the demand for both consumptive and non-consumptive uses of Columbia River water increases and the supply remains static or, as in recent years, decreases, it becomes more important to understand both the needs and the best beneficial uses of the available supply in order to satisfy the economic, environmental and social requirements of the region." Alas, however, as Bill Bakke pointed out, wild steelhead, salmon, and trout have never competed well under western water law for the so-called "beneficial uses of the available water supply."

Of the many new dam and reservoir sites identified in this report, the one that disturbs me most is a site proposed for the Kalama River in southwest Washington. As I read the description of this storage reservoir and comprehended just how much and what portion of the Kalama River drainage would be affected, a flood of memories came rushing back to me.

I remembered my first trip into that country, a backpacking expedition, an exciting adventure indeed for a 12 year old, with my Boy Scout buddies back in 1947. The first part of that trip was relatively easy. We were driven in a car caravan up the old county road to its end at Pigeon Springs, where the state maintained a ranger station and an old resort had occupied a site on the south side of the river. But from there it was "shank's mare." We hoisted our packs and with grim determination and much anticipation, set out up the trail. Our ultimate destination was the upper Kalama Falls, but on the way in and then out again, we camped along the way at a couple of places where access could be had to tributaries that one of the adults accompanying our party had told us were particularly good fishing for native cutthroat and rainbow trout. Elk Creek was one of those tributaries, I remember, and Wolf Creek was another. Our campsite near Wolf Creek was across the river from the Wolf Creek confluence and not far from another state ranger cabin that was set near the riverbank. I also remember the deep tracts of old-growth forest we hiked through and crossing a couple of rather deep tributary gullies on rough bridges hewn out of large logs that had fallen across. Crude wooden hand rails that somebody had nailed onto the sides steadied our crossing.

It was also up here that I got a quick glimpse of the one and only cougar I have ever seen in the wild. It was flattened on its belly atop a low rock outcropping at the water's edge on the opposite side of the river from our overnight camp, overlooking a small, sandy beach where animals could come down to the water to drink. Nice place for an ambush. When I stepped out of the trees on my side of the river that morning and glanced across, there the big cat was, looking back at me. We made eye contact—and in a flash, it was gone.

The Kalama River at the beginning of the fly-only water near the mouth of Summers Creek. Photo by Patrick Trotter.

I didn't know it at the time, of course, but by 1947 the waters of the upper Kalama River were already legendary for the fishing they afforded for wild, native summer-run steelhead. Portlander and later Seattleite Mike Kennedy, one of steelhead fly fishing's pioneer anglers, fished these waters with great success in the 1930s and early 1940s, and in doing so, popularized the Kalama Special steelhead fly, a yellow-bodied white bucktail pattern with a palmered badger hackle and red

Continued on next page

Continued from previous page

tail originally tied by Mooch Abraham, another legendary Portland area fly fisher. It was Mike Kennedy who christened the holding pools and runs immediately downstream from Pigeon Springs as the Holy Water, a name well-known to Kalama River steelheaders to this day. Noted steelhead fly fishers from the Puget Sound region, men who pioneered the sport on the Stillaguamish, the Skykomish, and the Skagit, also visited the Holy Water and its environs frequently, including Walt Johnson, Rick Miller, and Ralph Wahl. Another Seattleite, Enos Bradner, in his book, *Northwest Angling*, first published in 1950 and republished in 1969, called the Kalama River "a wonderful steelhead stream with a fine winter run and *one of the best runs of summer fish in the state*" (emphasis added).

In recent years, that fabulous run of Kalama River summer steelhead has dwindled to a whisper, along with all of the other wild steelhead populations comprising the Lower Columbia River Evolutionarily Significant Unit for steelhead, which is listed as threatened under the federal Endangered Species Act. Construction of a new water storage reservoir on the Kalama River, as proposed in the *Columbia River Mainstem Storage Options* report, would, in my view, all but doom any chance for recovery of the Kalama River wild population.

According to the report, the proposed dam would be sited at river mile 13.3, which would place it about 2.5 river miles upstream from the lower Kalama Falls and the Washington State fish hatchery located just above. Back in the "good old days," prior to the fish hatchery and construction of a fishway, lower Kalama Falls marked the upstream limit of winter steelhead distribution in the Kalama River. Seasonal flows were such that the Kalama Falls was passable only by the summer-run fish that then held in the deep, clear pools and runs of the waters upstream of the falls for the next several months until they spawned. With the opening of the fishway, winter fish could also occupy these waters.

At the site of the proposed dam, the terrain pinches in sufficiently to make it feasible to impound a reservoir with a full-pool surface elevation of 800 ft. Using my mapping software, I printed out and matched up a set of maps of the upper Kalama River drainage. I then traced out the 800-foot contour and colored in the proposed reservoir. I was even more disturbed by what that revealed. At full pool, the reservoir would extend up the mainstem Kalama as far as river mile 29.1, or just under 16 river miles, to just about the place where my Boy Scout party had camped below the Wolf Creek confluence back in 1947. Submerged completely would be the present fly fishing-only water from Summers Creek upstream to the closure just above Pigeon Springs, including Mike Kennedy's fabled Holy Water where steelhead fly fishing on the Kalama had its beginning. Pigeon Springs itself would be submerged, as would the site of Weyerhaeuser's old Camp Kalama logging camp a few miles further upstream.

At full pool, the reservoir would extend 16 river miles to just about where my Boy Scout party had camped back in 1947.

In addition to the almost 16 miles of prime summer steelhead holding water and spawning riffles in the mainstem, several tributary streams important for spawning and early rearing would be flooded as well, including: 3.3 miles of the Little Kalama River; the lower 1.5 miles each of Summers Creek and Knowlton Creek; 2.8 miles of Wild Horse Creek; 4.4 miles of Gobar Creek, including the rearing pond where the Washington Department of Fish and Wildlife now rears winter steelhead and spring chinook salmon (also listed under the Endangered Species Act as threatened); and the lower 2.3 miles of Arnold Creek.

Further, the confluences of numerous other tributaries would also be flooded, including those of Jacks Creek, Lost Creek, and Elk Creek (where we fished for summer trout).

To be sure, summer-run steelhead do utilize more of the Kalama River than just the segment that would be impounded. A state fisheries biologist once told me that a few fish swim up the North Fork Kalama, which joins the mainstem at about river mile 34.3, a little more than five river miles above the head of the proposed reservoir, and I have personally seen summer steelhead as far upriver as river mile 36.3, where Weyerhaeuser and later the University of Washington operated a fishery research station. For reference, the upper Kalama Falls, our destination in 1947 and a beautiful spot I have returned to many times since, is located at about river mile 36.8. But the waters that comprise the heart of Kalama River summer steelheading, and provide by far the major portion of the river's already depressed wild summer steelhead production, would be flooded out by the proposed reservoir.

Will this water storage reservoir actually be built? That remains to be seen. Political and policy debate has evidently not yet started on this or any other candidate site listed in the report. But a few more dry winters such as we had in 2004-2005, and who knows? The time to voice concerns about what stands to be lost is now.

The *Columbia River Mainstem Storage Options* report lists many other tributary sites as candidates for water storage reservoirs in addition to the Kalama River. I'm sure readers will find others that will upset them as much or more than this Kalama River proposal disturbs me. You can download your own copy off the internet; you'll find it listed in pdf format on the Washington Department of Ecology web site at www.ecy.wa.gov/programs/wr/cwp/cwphome.html. Be warned, however, that it's a monster file at 7.4 MB. If that's too much to handle, I'm sure you can request a paper copy by contacting the Washington Department of Ecology at (360) 407-6000.

Alameda Creek Steelhead Recovery

By Jeff Miller
— *Alameda Creek Alliance* —

Author Jeff Miller is director of the Alameda Creek Alliance. Based in Canyon City, California this organization has been on the forefront of wild steelhead recovery in the San Francisco Bay area.

An eleven-pound steelhead has a way of commanding your attention, respect and awe, especially when you have just netted it from a seemingly unlikely location, say the somewhat sterile flood control channel of your local urban creek. The powerful 31-inch steelie thrashing about in my net, an impressive male we later named "Brutus", was one of dozens of wild steelhead spotted by our volunteers this winter in the lower Alameda Creek flood control channel in Fremont, California, attempting to migrate upstream to spawn. Brutus and five other adult steelhead blocked by a migration barrier ten miles from San Francisco Bay were caught in March and moved upstream (under state and federal permits) to more suitable spawning and rearing habitat in the Niles Canyon reach of the creek. A largely symbolic gesture dramatizing the need for fish passage at this barrier, these fish rescues have taken place in lower Alameda Creek for the past nine winters, documenting at least 100 to 150 wild adult steelhead since 1998, but only resulting in 27 fish successfully caught and moved upstream. Nevertheless, the presence and persistence of these fish offer a glimmer of hope and have galvanized public support for restoring Alameda Creek and its native fishes.

When Central California Coast steelhead were listed as a threatened species under the Endangered Species Act in 1997, I cast about for a local stream where steelhead could be restored, and the obvious choice of Alameda Creek slapped me in the face like a wet fish tail. Alameda Creek is a remarkable gem, an urban creek in its lower reaches and above the Sunol Valley a remote foothill stream that offers probably the best opportunity for restoring anadromous fish in the San Francisco Bay Area. The 680-square-mile watershed drains two-thirds of the East Bay, from the southern slopes of Mount Diablo to the occasionally snow-dusted peaks of Mount Hamilton, east to Altamont Pass. Though the creek is not perennial and water is reduced to isolated pools in the scorching heat of the Diablo Range during summer and fall, impressive flows can rip through after winter storms; 18,000 cubic feet/second of runoff came through the flood control channel during the epic New Year's storm this winter.

"Brutus" the eleven-pound Alameda Creek steelhead was captured by researchers in March 2006. Photo courtesy Alameda Creek Alliance.

The lower creek is highly modified and constrained in a flood control channel surrounded by urban Fremont, Union City and Newark. Upper Alameda Creek holds the promise for coldwater fish, since it contains long reaches of relatively intact stream and riparian habitat surrounded by protected land in public ownership or remote ranch lands. The San Francisco Public Utilities Commission (SFPUC) manages 36,000 acres of upper Alameda Creek watershed lands for drinking water supply, and the East Bay Regional Park District protects land within Sunol and Ohlone Regional Wilderness. Alameda Creek still harbors at least a dozen kinds of native warm water and coldwater fish, including resident rainbow trout and the anadromous and under-appreciated Pacific lamprey. More importantly, the SFPUC's Calaveras and San Antonio reservoirs southeast of Sunol both contain landlocked populations of steelhead trout above the dams, descendants of the creek's original steelhead run. The good news is these landlocked trout appear to still be anadromous; recent fish trapping studies show that some fish are smolting and appear capable of migrating to saltwater to complete their life cycle as steelhead. These fish are the potential gene pool for supplementing a restored native steelhead population below the dams.

Historical photos, reports and reminisces from local fishermen offer evidence that steelhead were once plentiful in the watershed and that Alameda Creek also had a population of coho salmon. The completion of Calaveras Dam in 1916 cut off access for migratory fish to the best habitat and altered the hydrology of Alameda Creek. San Antonio and Del Valle reservoirs followed, capturing the entire runoff of the sub-watersheds and also blocking access to ocean-run fish. The usual litany of stream abuses, including other barriers, numerous water diversions, urban development with its attendant stream channelization, pollution, and urban runoff took their toll on native fish, particularly steelhead and salmon. Although the California Department of Fish and Game informally concluded that the steelhead fishery in Alameda Creek was no longer viable in the 1950s, remnant annual steelhead and silver (coho) salmon runs persisted at least until 1964.

Continued on next page

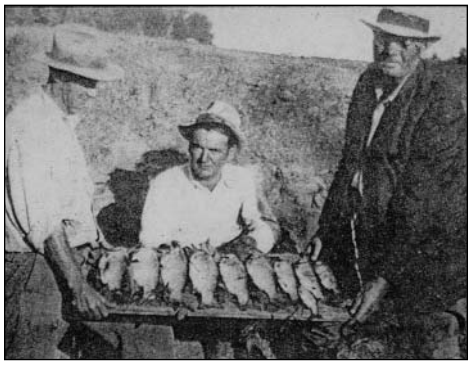
Continued from previous page

With regulatory agencies not requiring fish passage for instream projects, flood control and water supply projects in the 1960s and 1970s put the final nail in the coffin for the creek's steelhead and salmon runs. The 12-foot-high sloping cement drop structure that blocked Brutus and other steelhead from heading upstream is known locally as the "BART weir", a grade stabilization structure that protects Bay Area Rapid Transit and railroad tracks crossing the creek and an absolute migration barrier for steelhead. It was installed as part of a U.S. Army Corps of Engineers flood control project completed in 1972 that straightened and channelized lower Alameda Creek. Three inflatable rubber dams were also installed in the channel in the 1970s and 1980s by the Alameda County Water District (ACWD) to divert water into adjacent quarry pits for groundwater recharge. Interest in the fishery never died, with local fishermen organized in the 1980s as "friends of Alameda Creek" occasionally moving fish past barriers in the lower creek and advocating for steelhead restoration. In 1980 the California Department of Water Resources identified Alameda Creek as the top priority stream in the state for urban stream restoration, due to its popularity for recreation, the threat of future development, and potential resources for stream flow augmentation to enhance habitat.

After years of inaction, I formed the Alameda Creek Alliance (ACA) in 1997, with the goal of restoring viable runs of steelhead and salmon to Alameda Creek. The first task was confirming the fish stories told by local flyfishers that steelhead were trying to spawn in the creek, and proving that they were native to the area, if not the creek. Wild adult steelhead have been photographed or captured at the BART weir during attempted spawning migrations every winter for the past nine years. Genetic tests of fin clips taken from these fish demonstrated they are wild steelhead and part of the federally listed threatened population. A multi-agency assessment completed in 2000 estimated that up to 25 miles of suitable spawning and rearing habitat in the watershed could be made available to steelhead if fish passage barriers were removed or modified.

Finally, years of organizing within the watershed and advocacy with the water agencies have paid off. The Alameda Creek Alliance now has more than 750 members and 70-plus local and regional fishing and conservation groups supporting our steelhead restoration goals. Restoration of Alameda Creek's fisheries is gaining steam with more than a dozen local, state and federal agencies working cooperatively on planned fish passage projects and a draft restoration plan. Our first dam removals began in 2001 with two small swim dams removed from upper Alameda Creek in Sunol Regional Wilderness. Three more dams are scheduled to come down this year, including one of the ACWD rubber dams and two abandoned SFPUC dams in Niles Canyon. A stakeholder group is pursuing funding for several other fish passage projects, including fish ladders at the BART weir and the ACWD's upper rubber dam and installation of fish screens at all water diversions. The Northern California Council of the Federation of Fly Fishers and the Golden West Women's Fly Fishers are pursuing modification of a barrier at a U.S. Geological Survey gauging station. Our first two fish ladders were built in 2003 in the Arroyo Mocho tributary in Livermore by Zone 7 Water Agency. Zone 7 is contemplating removal or modification of a dozen smaller instream barriers and structures in Pleasanton and Livermore, restoration of stream channels, and replanting of native riparian vegetation as part of stream management plan, to allow steelhead the potential to migrate to habitat in the Arroyo Mocho Gorge southeast of Livermore.

The biggest unanswered restoration question is whether sufficient water will be kept in the stream for habitat and flow.



Workmen building Calaveras Dam in the 1920s pose with steelhead caught during a lunch break. Photo courtesy SFPUC.

Recent National Marine Fisheries Service status assessments concluded that Alameda Creek has the potential to contribute significantly to restoring steelhead populations in South Bay streams and in the greater Central California Coast region. The future for fish in Fremont would look downright rosy were it not for one of the West's most contentious issues: water. The biggest unanswered question in the restoration is whether sufficient water will be kept in the stream or made available to provide suitable habitat, water temperatures, and out-migration flows to sustain a viable steelhead run. Adequate stream flows are required by law and are needed to allow steelhead to again thrive in the creek, particularly late-summer cold water rearing flows and flows for out-migration of steelhead smolts to reach the bay. Eighty-six percent of the stream flows of upper Alameda Creek above the Sunol Valley are currently diverted for water supply demand, and neither of the SFPUC reservoirs releases any minimum flows for fish and other aquatic wildlife. With efforts to provide fish passage underway, much of the hope for restoring Alameda Creek's anadromous fish runs now hinges on the City of San Francisco's project to replace the seismically challenged Calaveras Dam.

Last year 68 Bay Area conservation groups, joined by fishing groups such as California Sport Fishing Protection Alliance, CalTrout, Northern California Council of the Federation of Fly Fishers, Trout Unlimited and five local flyfishing clubs, called on the SFPUC to restore steelhead in Alameda Creek by providing instream

Continued on next page

Continued from previous page

flows below their reservoirs, restoring stream and riparian habitat, and removing the Alameda Diversion Dam, a 32-foot concrete plug and final upstream barrier that, if removed in conjunction with other fish passage efforts, would open Alameda Creek for fish migration from the Bay to its headwaters. The SFPUC intends to replace Calaveras Dam by 2011, providing an opportunity to release minimum flows throughout important fisheries reaches of upper Alameda Creek and to reconnect fish populations in the reservoirs with steelhead below the dams. The ACA, other conservation groups, and state and federal regulatory agencies are calling for restoration of a self-sustaining steelhead run below the dam as part of the mitigations for the project.

Discussions and negotiations have begun over required water flows and potential habitat restoration and enhancement projects in the watershed. All of the watershed stakeholders recently agreed to jointly fund and conduct flow studies to estimate the range, magnitude, timing, duration, frequency and location of flows necessary to restore steelhead, while also considering other native fishes and riparian communities in the Alameda Creek watershed. Water for fish rearing and out-migration flows will have to be balanced with the water supply operations of three water agencies within the watershed, and will likely consist of water releases that vary during normal, dry and critically dry years.

The potential for Alameda Creek steelhead restoration has captured the imagination of East Bay residents, involved hundreds of people in watershed protection and restoration efforts, and changed agency attitudes about Alameda Creek. With your help, Alameda Creek can become one of the success stories in urban stream restoration. Volunteers are needed to monitor fish populations, rescue steelhead and participate in small scale habitat restoration projects.

For more information visit the Alameda Creek Alliance web site at www.alameda creek.org, or contact the ACA: phone (510) 499-1985, e-mail alamedacreek@hotmail.com.

Northern California Council Federation of Fly Fishers Fish Passage Project on Alameda Creek

By Norm Ploss
Northern California Council Federation of Fly Fishers

In 2003 the Northern California Council Federation of Fly Fishers (NCCFFF) Steelhead Committee began participating extensively in fish passage barrier removal in California. The Committee received an initial grant from the national Federation of Fly Fishers. Central to the grant is development of a "model project" for fish passage and finding partners and additional funds to complete the project. Later grants include one from the Golden West Women's Fly Fishers and another from the NCCFFF. Other components of the grants include engaging in discussion and commentary of the California State Coastal Conservancy Fish Passage Data Base Project.

The model project is located on Alameda Creek in Alameda County, California in the San Francisco Bay region. The project includes a land survey by a civil engineer, fish passage assessment, development of an AutoCAD base map, and preparation of a concept plan to resolve the high, moderate and low flow passage of steelhead at the concrete weir on Alameda Creek.

The main impediments to restoring steelhead and salmon runs in Alameda Creek are fish passage barriers that prevent adult fish from moving upstream to suitable spawning habitat in the upper watershed. Some of these barriers also pose problems for juvenile fish attempting to complete their life cycle by moving from freshwater rearing habitat downstream to San Francisco Bay.

The concrete apron drop structure near the U.S. Geological Survey Gauging Station A is the sixth upstream barrier on Alameda Creek. Upstream and downstream barriers have been identified by the Alameda Creek Fisheries Restoration Workgroup, comprised of 15 governmental agencies and stakeholder groups, as higher priority largely because the owner is a public entity and the high cost of modification or removal. Gauging Station A is the last barrier, and therefore needed a "champion" to pursue its modification. The concrete weir and apron near the gauging station was initially considered to be a barrier to juvenile and adult steelhead migration at moderate and low flows. A fish passage assessment indicated the weir is a barrier at all flows. It is a project that is perfect for a non-governmental organization to demonstrate its capabilities.

U.S. Geological Survey Gauging Station A on Alameda Creek. Photo courtesy Northern California Council FFF.

Chair's Corner
Continued from page 3

Confronting the Government

Now the battle has been joined by legal action. In April of this year, Trout Unlimited, the Wild Steelhead Coalition, American Rivers, Pacific Rivers Council, the Native Fish Society, and the Sierra Club filed suit against NOAA Fisheries under the Endangered Species Act to overturn the downlisting of the Upper Columbia Steelhead from Endangered to Threatened and, with it, the NOAA Hatchery Policy. The Federation of Fly Fishers will be added as a plaintiff at about the time this issue of *The Osprey* is mailed.

We recommended that FFF become a plaintiff in this suit for five reasons:

1. Since this downlisting is based entirely on hatchery steelhead numbers, the suit will provide a way to challenge the new NOAA Hatchery Policy in a specific "Distinct Population Segment," the Upper Columbia Steelhead.

2. The wild steelhead populations in this Evolutionarily Significant Unit are very weak, and need to be protected in the highest classification of the ESA, Endangered. A majority of NOAA's Biological Review Team recommended the Endangered classification, although the team was divided. It was NOAA management that decided to downlist, not the scientists.

3. In this ESU, an unclipped adipose fin doesn't necessarily mean a wild fish. Half of the hatchery steelhead smolts released in this area have intact adipose fins as a result of the court decision described earlier. However, these fish give a false impression of large numbers of wild fish.

4. Endangered status offers more protection than Threatened. NOAA can specify exceptions to the prohibition against "take" of Threatened fish under the 4d Rule of the ESA, whereas under Endangered status, there are intended to be no exceptions to the "take" prohibition.

5. The ESA is intended to "provide a means whereby ecosystems upon which endangered species and threatened species depend may be conserved." Counting hatchery fish in this ESU allows a way to boost stocks, at least temporarily, without doing a thing about improving habitat, which is necessary for the long term recovery of wild steelhead stocks.

Unfortunately for anglers, it is more difficult to justify a sport fishing season with "Endangered" than "Threatened" classification. Under Threatened, sport fishing seasons with single, barbless hooked artificial lures and flies, with catch and release of wild (unmarked) fish and harvest of hatchery fish, are routinely allowed. Under Endangered (e.g., the Methow), every year has been a new battle to allow sport fishing with the same rules as regularly allowed under Threatened. There is no sport fishing allowed in the Wenatchee and the Entiat. In general, there is likely to be less sport fishing opportunity with Endangered than Threatened. We support sport fishing seasons because they offer two advantages in wild fish protection: (1) less poaching due to anglers on stream; and (2) continued angler interest in championing the recovery of these rivers and their steelhead.

Ultimately, we need to ask ourselves a fundamental question: Is our conservation mission to protect the fish or the sport fisheries? If we decide it's the sport fisheries, we may end up fighting with the commercial fishers and the tribes over the last fish. If we can protect and recover the fish, the sport fishing will follow.

To receive *The Osprey,* please return this coupon with your check made out to The Osprey - FFF

THE OSPREY

NAME

ADDRESS

CITY/STATE/ZIP

PHONE

E-MAIL

Yes, I will help protect wild steelhead

- ❑ $15 Basic Subscription
- ❑ $25 Dedicated Angler Level
- ❑ $50 For Future Generations of Anglers
- ❑ $100 If I Put Off Donating, My Fish Might Not Return Home
- ❑ $_____ Other, Because _____

Thanks For Your Support

I am a . . .

- ❑ Citizen Conservationist
- ❑ Commercial Outfitter/Guide
- ❑ Professional Natural Resources Mgr.
- ❑ Other _____

The Osprey — Steelhead Committee
Federation of Fly Fishers
215 E. Lewis St., Suite 305
Livingston, MT 59047

THE OSPREY

Federation of Fly Fishers
215 E. Lewis St.
Suite 305
Livingston, MT 59047

Address Service Requested