



STRONG RUNS

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FIGHTING FOR THE FUTURE OF NATIVE FISH

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Wild Coho Alcoves

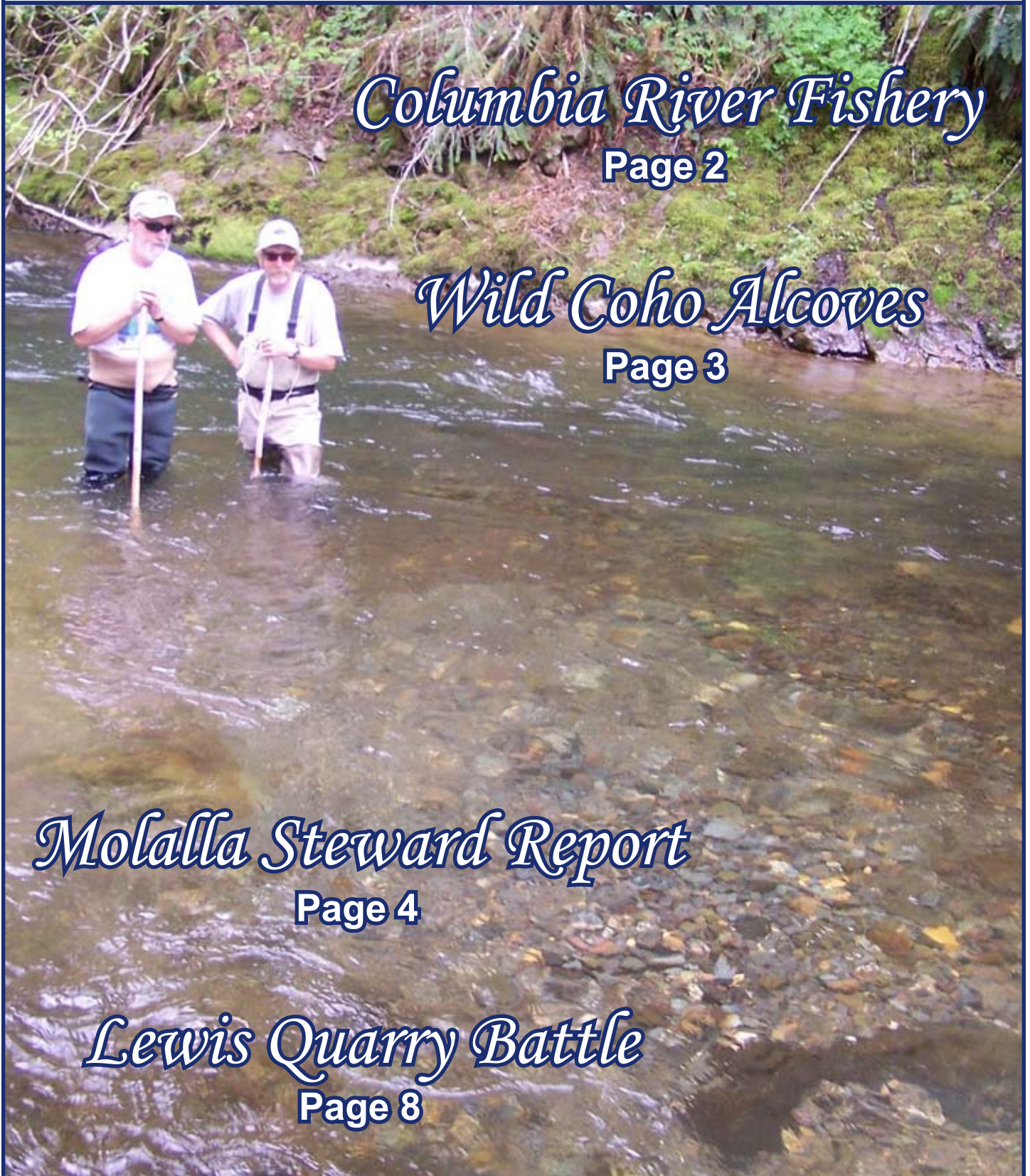
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The Columbia River Fishery

Impacts of commercial and recreational fishing on salmon and steelhead (Part 1)

by **Russell Bassett**
NFS Admin Assistant

This spring much of my free time was spent in search of the elusive Molalla River wild winter steelhead. And while my efforts did not garner a lot of fish, they did provide one glorious wild steelhead: A survivor with her own fish story to tell.

A signature tributary in the Upper Willamette Basin, the Molalla flows some 47 miles from the Table Rock Wilderness into the Willamette and then Columbia rivers.

The Molalla's native, wild winter steelhead are an amazing fish, built since before time was time to traverse Willamette Falls.

Few anglers and even fewer fly fishermen target Molalla steelhead, preferring instead to fish other rivers where hatchery fish offer harvest opportunity.

Up until March 8, if angling success was measured by number of steelhead caught, it could be said that my pursuits had been fruitless. But on this particular day, that would change.

All the conditions were right for a successful encounter with a wild Molalla River steelhead. The fish counts over Willamette Falls indicted steelhead were moving into the river. We don't have exact fish counts on the Molalla, but it's estimated that 20 percent of the wild steelhead that make it over the falls are headed to the prime rearing habitat available in all three forks of the Molalla and its tributaries.

The flow and color of the river were also ideal and prime. The cubic feet per second and clear green flow all sang "height of the run, perfect conditions."

I was even fishing my favorite stretch of river, a sweet little spot we Molalla River



Photo by Mark Schmidt

Gillnet marks, most likely from the Columbia River commercial fishery, can be clearly seen on this wild steelhead caught in the Molalla River on March 8. In the 2007 Columbia River spring chinook commercial fishery, gillnetters caught an estimated 667 steelhead, all of which had to be released back into the Columbia. Exactly how many survived the ordeal is unknown.

fly fishermen call Lower Heaven.

My casting wasn't even half bad. Casting a spey rod takes some time to learn, and I am at best a novice. But on this particular day, I was covering the water quite effectively.

And then it happened. A nice take. My heart jumped, and I yelled to my friends, "Got one."

A beautiful wild hen grabbed my fly and actually came towards me. I could not reel in my line fast enough. Then she realized her mistake and ran, taking out my line, the drag singing.

After an epic battle, the seven pound hen was landed.

"Amazing," I thought, positioning the fish

for the camera. "Wondrous."

While the pictures were being taken, it became evident that this wild steelhead had survived an even more ostentatious encounter in the past.

Gillnet marks and scale damage were easily observable along her side, and part of her gill plate had been ripped almost off.

A two-inch long strip of gill plate hung there, almost like evidence, as I released her back into the river.

The steelhead had survived both the commercial and recreational fisheries of the Columbia River.

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On the cover: NFS Molalla River Steward Tom Derry (right) and NFS Member and Molalla RiverWatch President Bill Taylor examine a steelhead spawning redd in the Molalla River last year. Native Fish Society volunteers, in cooperation with the Oregon Department of Fish and Wildlife, are currently participating in a spawning survey on the Molalla River to determine abundance of wild steelhead in the system. This year marks the second year of the Native Fish Society's Steward Program on the Molalla. For more information on the program, see page 4.

Photo by Mark Schmidt

Rearing Alcoves

NFS members help create habitat for Necanicum wild coho salmon

by **Bill Bakke**
NFS Executive Director



Photos by Doug Ray and Bill Bakke

The constructed alcove at high water (left) and low water. The project is a prime example of how land owners and volunteers can work together to create ideal fish-rearing habitat.

Walt pointed out the algae growth, an algae that is rare because its habitat is rare. It is called nitella algae, and the coho were abundant around the extensive patches of it. Doug noted the water star wart that had recolonized the alcove adding cover for the fish.

Another interesting feature of the alcove were the stumps of spruce and Douglas fir arranged in tangled clumps that had caught other woody debris during the flood waters. These stumps came from Cannon Beach. People were stuck with tree stumps left over from developing their

dream home lots in this upscale community. The town does not allow stump burning so people were relieved to bring them to the alcove to form coho habitat. In a very real sense, this alcove helped reduce smoke pollution and global warming carbon emissions.

Doug pointed out that during the day, the coho are not easily observed because they are in cover, deep within the structure provided by the stumps, old Christmas trees and aquatic vegetation.

“People can make a difference for wild fish, and their work has lasting ecological benefits.”

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Photo by Bill Bakke

NFS Member Doug Ray points out the features of the alcove in March. In it's first year, 1,200 coho utilized the man-made habitat.

Doug Ray pointed out the features of the backwater alcove he designed on private land next to the Necanicum River. Excitedly, he pointed to the little dots of brown finning over an algae mat. Most people would not notice the source of his enthusiasm and may not put together the value of that long pond with stumps and dead Christmas trees in it.

There are only four natural alcoves on this short coastal river, the home of coho salmon, winter steelhead, a meager chum salmon run, and fall chinook. Historically, the river had more such habitats before it was lined with dikes and roads, before houses were built in its flood plain and the river confined to a narrow band of flowing water rather than spreading out and wandering across its flood plain, forming sloughs, marshes and backwaters.

Herb Thompson, the owner of the land, has long made a living from this landscape and wanted to give something back to the river. He dug the alcove out with his John Deer track hoe, beat back the invasive knot weed and Himalayan black berry and replanted with native trees.

The object was to capture under ground flow from the Necanicum River just a few hundred feet beyond the dike constructed to protect his property and home. It worked. As soon as the trench was deep enough, water seeped in and filled the alcove, flooding the side ponds and meanders constructed in it for salmon habitat. A new home for coho salmon has been created. It is 470 feet long and from 10 to 30 feet wide. There were 1,200 rearing coho the first year and 800 fish this year.

As soon as the pond was completed, the salmon fry moved in with the first fall freshet. In March 2007, the time of my visit, there were young fry and yearling coho living in the alcove.

NFS Member Walt Weber, a retired ODFW district fish biologist, and NFS Member Doug Ray, wetland ecologist, teamed up to create this backwater alcove. With the help of many volunteers, they assisted Thompson in building the alcove using sweat equity rather than the estimated \$100,000 it would have cost. I asked Walt and Doug how this wetland functioned and what it does for the productivity of the river.

Both men were engrossed with the enthusiasm of fathers that had just assisted in the birth of their first child. Doug pointed out the small fruited bulrush he called scurpus and said research shows that the tiny black spider that hangs out in this bulrush is food for coho when the water rises. He named some research in Canada that verified coho made a good living in scurpus for they had the greatest growth rate and were twice as abundant in that habitat.

Steward Report

Focus on the Molalla River

by **Mark Schmidt**
NFS Molalla River Steward

Last year marked the first full year of the Native Fish Society Steward Program on the Molalla River. It is the mission of this stewardship program to identify abundance of native fish populations throughout the Molalla River drainage and to outline plans for the protection and recovery of these fish populations. Our initial work has been focused on establishing a program to determine the number and distribution of native winter steelhead adults and spring chinook salmon adults.

Native Winter Steelhead

It is believed that there are viable populations of wild winter steelhead distributed throughout the Molalla River drainage. Concentrations of spawning adults are regularly observed in the upper reaches of the three forks of the river. Reports of winter steelhead in the Pudding River tributaries and the Milk Creek drainage lead us to believe that there are small populations scattered throughout the system.

Recent studies by the Oregon Department of Fish and Wildlife identified Molalla River native winter steelhead to be the purest strain of Upriver Willamette Basin winter steelhead known to exist.

Willamette River winter steelhead begin to pass over Willamette Falls in November, and the first fish reach the upper Molalla River drainage in early January. The peak of the run traditionally enters the river between Feb. 15 and March 15, and may be observed in the spawning waters, high in the river system, from March through May.

Informal observations during the past two years have allowed our team of volunteers to familiarize themselves with river geography and provide a knowledge base from which to develop plans for an ongoing spawning survey.

Our survey is an extension of similar work conducted in prior

years by ODFW staff. Records indicate that fishery surveys were done on the Molalla River drainage as early as the 1920s.

ODFW Regional Biologist Todd Alsbury provided the NFS volunteers with a list of twelve observation reaches located throughout the headwaters of the Molalla River system. Our ongoing observations include approximately eighteen miles of the Molalla River, then focused upon the twelve miles of spawning water for formalized redd counts.

The 2006 survey was conducted in a random format. We located groups of adult steelhead in March and April. Informal observation first located activity near the confluence of the Table Rock Fork and the Copper Creek Fork on March 17. We then extended our survey upstream to the Henry Creek Falls Bridge.

Locations of spawning activity and informal redd counts were noted in daily personal journals, then compiled into a Survey Log. As spawning activity began to ebb and as river flows allowed, we walked seven reaches and recorded redd counts. The data was compiled and recorded on ODFW spawning survey forms, and submitted to ODFW personnel who have been involved in prior observations and studies on the Molalla.

As we look back upon our work during the 2006 observation season, we find that the data is incomplete. Where it is most complete, it remains inconclusive.

The value of this first year of work exists in our having established an understanding of the geographical characteristics of our survey reaches. This information is contained in the experience of the persons who performed the work and will prove invaluable in

repeating and expanding the survey in the future.

There is much more information available to conservationists and fisheries managers than that which is provided by redd counts.

The greatest benefit of performing spawning surveys comes in the form of an exponential growth in our appreciation and understanding of that which is not quantifiable.

As we walk the miles of these reaches, we sense the magnitude of creation. When we closely observe the comings and goings of one small population of wild winter steelhead, we are caused to recognize the intricacies of this minute, hidden portion of our world.

Spring Chinook Salmon

There is a population of Upper Willamette Basin spring chinook present in the Molalla River system.

Historically there was a large run of wild salmon in the river, but the current run is largely the result of an ongoing ODFW stocking program.

See **Molalla**, Page 5



Photo by Mark Schmidt

A pair of wild steelhead spawn in the upper reaches of the Molalla River last spring. Native Fish Society staff and volunteers are currently working diligently to restore the river's native fish populations.

Molalla, from Page 4

100,000 generic, Santiam River spring chinook salmon smolts are released into the upper Molalla each spring. It is commonly assumed that a true native population no longer exists; however, reports of “early returning springers” persist.

Occasional years are marked with stories of chinook salmon spawning in areas of the Molalla drainage where there has been no stocking recorded. In accordance with our mission, NFS volunteers are working in cooperation with ODFW Step Biologist Jeff Fulop to determine the number, location, and genetic background of Molalla spring chinook salmon.

We performed informal observations throughout the Molalla River drainage. In addition, we recorded formal redd and carcass counts on the Molalla River from Glen Avon Bridge to Copper Creek in the months of August through October.

We first located populations of chinook in known thermal reserves. These populations begin to gather as early as June. By August pools have been known to hold in excess of 100 adult Salmon. We observed groups of 10-15 adult salmon in August and September.

We found three large populations of chinook in our survey areas. In addition, there were small groups of salmon scattered throughout the survey area. Areas that contained large populations were notably remote. It seems that the salmon are able to exist and spawn in the Molalla River only where there is little opportunity for human contact and where water temperature is conducive for survival over the summer months.

We believe that there may have been a modest population in the lower Table Rock Fork. We did two informal observations of the North Fork. There was no indication that any salmon were using it last year.

Spawning occurred from Sept. 12 through Oct. 14. The most intense activity occurred between Sept. 20-30. Redds became obscured and carcasses were naturally removed from the shallows within seven days of spawning activity. Our survey recorded counts of redds and carcasses as large as any recorded in the last four years. Our experience indicates that these numbers are easily skewed by the timing of survey relative to spawning and by weather conditions during the spawning season.



Photo by Russell Bassett

From left: NFS Executive Director Bill Bakke, NFS Molalla River Steward Tom Derry, ODFW Biologist Todd Alsbury and NFS Molalla River Steward Mark Schmidt discuss strategies to remove a fish-barrier culvert on a Molalla River tributary last spring. NFS volunteers helped remove a culvert on another Molalla tributary, Russell Creek, which allowed fish to access prime rearing habitat.



Photo by Mark Schmidt

With the help of ODFW, NFS staff and volunteers placed 1,500 coho carcasses in the upper reaches of the Molalla River last year.

Nutrient Enrichment

In addition to compiling and publishing the Spawning Survey Reports, we spent the month of November working closely with Oregon Department of Fish and Wildlife-STEP Biologist Jeff Fulop.

He aided us in obtaining and placing in excess of 1,500 coho salmon carcasses in the upper drainage of the North Fork, Table Rock Fork and Copper Creek Fork. Additional nutrient enrichment carcasses were also placed in the upper reaches of Trout Creek and Pine Creek.

2006 Habitat Projects

- 1) Screening of irrigation ditches.
- 2) Removal of fish barrier culverts.

2007 Projects

Native Fish Surveys

- 1) Continuation and expansion of the monitoring program for native winter steelhead throughout the Molalla River Basin.
- 2) Continuation and expansion of the monitoring program for spring chinook salmon on the three forks of the river.

Stream Monitoring

- 1) Placement and monitoring of water temperature units throughout the basin.
- 2) Utilization of GPS positioning and time-relative data-recording methods.

Habitat Enhancement

- 1) Continue and consider expanding the Nutrient Enrichment Project.
- 2) Screening of irrigation ditches.
- 3) Removal of fish barrier culverts.
- 4) Placement and anchoring of large logs in co-operation with Weyerhaeuser Corporation and local logging companies.

Community Education

- 1) Initiate a signage program to educate and inform stream users regarding management goals, angling seasons and approved angling methods.
- 2) Provide educational presentations to local organizations.
- 3.) Provide news/project reports to the media.

Columbia, from Page 2

If it could, what stories would this fish tell of its encounters with the top predator?

Since the fish cannot speak for itself, I will attempt to do so for her by entering into a very emotional debate, one that has been waged for over 150 years.

Disclaimer

Catching and releasing that wild fish raised a few tough questions that have no easy answers. For starters, does the Columbia River commercial fishery have a higher mortality impact than the sport fishery on Endangered Species Act-listed salmon and steelhead? Which fishery has a more favorable impact on the economies of Oregon and Washington? And should gillnetting regulations be even more stringent?

Before I attempt to answer those questions, there are a few things I want to make clear. I believe there are many similarities between commercial and recreational fishermen. While their methods may be different, they both seek a similar objective and have worked together on several noble goals, including taking out the Lower Snake River dams.

My natural bias is to side against gillnetters, as I am an avid angler who only catches a few steelhead and salmon a year. The thought of a gillnetter catching many, many more fish than I do in a fraction of the number of days it takes me to catch those few fish does not make me happy. However, I am not going to demean commercial fishermen simply because I want to catch more salmon and steelhead. In some ways, one could argue that they have more of a right to fish than I do. For while I fish for pleasure, they fish for profit, and when hobby and livelihood are compared, livelihood is often the easy winner.

First and foremost, however, I am a fish conservationist who works for an organization whose main goal is to have more successful wild spawners return to their home rivers.

The Native Fish Society wants abundance of steelhead, salmon and trout, and we believe they should be wild and native in every watershed where hatchery fish are not keeping a nearly extinct run alive. We believe this because we know that peer-reviewed science has clearly shown that hatchery fish degrade the long-term health of wild runs.

I find it hard to believe that Columbia River gillnetters have that same goal when – on fisheries involving ESA-listed fish – they are only allowed to keep hatchery fish and must release all wild fish back to the river.

In fact, hundreds of millions of dollars are spent each year on hatchery programs, many of which are in place simply to ensure commercial harvest.

Impact on the runs

The historical impact of commercial fishing in the Columbia River is pretty well known ... but it's not pretty.

Commercial fishing in the Columbia River reached its peak in the 1860s-1880s. During that time, around three million chinook



Photo courtesy Columbia River Maritime Museum, Astoria

In the late 19th Century, commercial fishermen harvested three million chinook a year in the Columbia. Many people believe over harvest is the biggest reason for salmon decline in the river and its tributaries.

salmon a year were harvested in the river.

Some have concluded that over harvest was the single largest reason for salmon decline in the river and its tributaries. If one considers that there was an estimated average of 12 million adult salmon returning annually to the Columbia River prior to Lewis and Clark, and that between 1866-1880, 65 percent of the run was harvested, the conclusion that over harvesting was the largest reason for salmon decline could be successfully argued.

In fact, since 1938, the total number of adult chinook returners to Bonneville Dam has averaged just more than 350,000 – a small fraction of what they were before the over harvest of the late 19th Century.

Commercial fishing has clearly decimated the runs, but it was by no means the only culprit. Habitat degradation, water pollution, logging, mining, invasive species, hatcheries and dams, among others, have all played major roles in salmon decline.

I was unable to find any data on the historical impact of recreational fishing on Columbia River fish runs, but suffice to say that it has been pretty small, especially when compared to the commercial fishery and other impacts like habitat loss, pollution and dams.

Determining the present day impact of the commercial and recreational fisheries on salmon runs is a lot trickier. Today the Columbia River gillnet fishery is much more heavily regulated than it was at its peak. Each species and each seasonal run is managed differently, as are different regions of the river. Where the fish are ESA-listed, like with spring chinook, the regulations are even more stringent. And since 1975, commercial fishermen have not been able to harvest steelhead.

“The three primary things we use for commercial fishery management is time, area and gear,” explained John North, Oregon Department of Fish and Wildlife Columbia River fisheries manager. “When you restrict the amount of time (commercial fishermen) can fish, the area they can fish and what gear they are able to use, you can be fairly selective with the fisheries.”

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Managers from ODFW and the Washington Department of Fish and Wildlife meet to determine the commercial regulations for each season in what is called the Columbia River Compact. They determine where fishing will be allowed, how many days the fishery will be open and the mesh size used.

The Compact does not regulate the sport fishery, however, according to its web site, “When addressing commercial seasons for salmon, steelhead and sturgeon, the Compact must consider the effect of the commercial fishery on escapement, treaty rights and sport fisheries, as well as the impact on species listed under the Endangered Species Act. Although the Compact has no authority to adopt sport fishing seasons or rules, it is an inherent responsibility of the Compact to address the allocation of limited resources among users. This responsibility has become increasingly demanding in recent years.”

“We get pressure from all sides,” North acknowledged. “I get yelled at a lot. I can’t make either side happy.”

Each species, run and fishery is managed differently, so computing overall harvest/impact numbers is not easy. I spent weeks combing through available data and talking with fish managers and I still don’t feel confident about having accurate numbers. There are just too many variables outside of the manager’s control. For example, not every commercial boat has an observer, and it is doubtful that every fisherman reports accurately.

Computing recreational harvest is even more difficult. Tag data is outdated and spotty at best, and the current method of extrapolated observation is also suspect. However, those methods are all we have, so I will use last year’s chinook salmon numbers as an example of the overall impact on the runs by the two fisheries.

Last year commercial gillnetters harvested 4,389 chinook salmon in the winter/spring commercial Columbia River gillnet fishery, 4,819 in the summer fishery, 7,441 in the August fishery, and 26,011 in the late autumn fishery, for a total of 42,660 chinook salmon – or roughly 6 percent of the total run, according to Oregon Department of Fish and Wildlife preliminary numbers. These numbers did not include the commercial ocean harvest or the Native American harvest above Bonneville Dam.

Last year recreational fishermen harvested 4,900 summer chinook salmon in the main stem of the river below Bonneville Dam, 13,700 fall chinook, 17,000 chinook at Buoy 10, and 7,000 spring chinook, for a total of 42,600 – or, again, roughly six percent of the total run, based on ODFW preliminary numbers. This does not count the recreational harvest in any of the tributaries or the recreational harvest above Bonneville Dam.

Based on those preliminary numbers – with the total return size

estimated between 700,000-800,000 – fishermen accounted for roughly 12 percent of the 2006 chinook mortality rate in the main stem of the Columbia River below Bonneville Dam. If we were to factor in the ocean commercial fishery, Native American fishery, and recreational fishery in the tributaries and above Bonneville Dam, that percentage would at least double. North agreed. He calculated the total freshwater harvest rate of chinook entering the Columbia River in 2006 at 29.8 percent. So around a third of the fish that entered the Columbia ended up on a dinner plate rather than the spawning grounds.

The commercial and recreational fisheries took approximately the same amount of chinook in 2006, and that is typically how the fisheries are managed. Currently, spring chinook harvest is managed to be slanted 57 percent sport and 43 percent commercial, but summer chinook is managed for 50-50 and so is fall.

The data collection gets really tricky when trying to determine the impact of the gillnet fishery on steelhead. Commercial fishing for steelhead has been limited to the tribal fisheries since 1975; however,

Columbia River commercial gillnetters do catch steelhead in what is called “by-catch.”

Managers try and minimize by-catch by restricting mesh size, minimizing the amount of time nets remain in the water, regulating when the fishery is allowed to occur, and mandating the use of resuscitation boxes (or Jesus boxes).

Despite all these measures, by-catch still occurs, at what some would call an alarming rate. For example, during three of the four test fisheries in the 2007 spring chinook Columbia River gillnet fishery, more steelhead were caught than salmon.

On Feb. 25, five steelhead were caught compared to four salmon; on March 4, 11 steelhead were caught compared to eight salmon; and on March 11, seven steelhead were caught compared to one salmon. During the three days of the 2007 spring chinook commercial fishery, gillnetters caught an estimated 677 steelhead, according to North.

Mortality rates for steelhead caught in gillnets varies depending on mesh size use. It can be as high as 40 percent in the small mesh sizes, but less than 10 percent in the large mesh sizes. Four-and-one-quarter-inch mesh and eight-inch mesh are the sizes typically used in the Columbia River gillnet fishery, with the smaller size used much more frequently.

By comparison, managers figure a 2 to 10 percent mortality rate for steelhead caught and released by sport anglers. One need only look at the wild steelhead I caught on the Molalla March 8 to see that a steelhead’s survival rate is less when caught by net than by line.

Admittedly, when I caught her I exhausted her and she now has a hole in her lip from my fly, but I didn’t rip her gill plate or do scale damage to her – that was done by a gillnet.

(In the next edition of Strong Runs: Part 2 – Comparing recreational and commercial effort and calculating economic impact.)



Photo by Jon Bial, Magic Tailout Media LLC

A gillnetter retrieves his net in the Columbia River. Last year, 42,660 chinook salmon were harvested in the river’s commercial fishery, roughly the same amount as were harvested by sport anglers.

Fish win, gravel pit loses on E. Fork Lewis

by **Richard Kennon**
NFS Board Director

ESA-listed salmon and steelhead continued their win streak against Kelso-based mining company J.L. Stordahl & Sons on Feb. 16 when a Clark County judge issued a ruling that Stordahl cannot expand its proposed mining operations along the East Fork of the Lewis River.

Superior Court Judge John Nichols sided with wild fish in the long-running controversy, which ended up in his courtroom after the Clark County Commissioners voted in 2005 to deny Stordahl's proposal.

This means a zoning change will not be granted, but more specifically it means 12-million tons of sand and gravel will not be gouged out of 101 undisturbed acres along a river that is a migratory corridor for threatened species of wild steelhead and wild salmon. The fish migrate into Gifford Pinchot National Forest, and are often seen hurdling Lucia Falls. The Washington State record steelhead – over 32 pounds – was caught in the East Fork in 1978.

Before going to Judge Nichols, the proposal bounced between Clark County Commissioners and a hearing examiner three times as various aspects of it were debated. Stordahl paid to have the 100-year flood zone moved back from the river. Three of the proposed pits would have been only one inch from the flood zone. Lucky for the fish, the commissioners saw through this ploy.

The Native Fish Society supported Fish First and Friends of the East Fork along with many diverse environmental groups and citizens that said the expansion would degrade the river further and hurt federally-protected fish.

David McDonald, a Ridgefield attorney who represents Friends of the East Fork, said the real winner was the public. McDonald said he has spent almost 11 years representing the group of citizen activists against Stordahl's "juggernaut of high-priced experts with seemingly unlimited resources, politically connected consultants and talented attorneys."

The best guess is that Stordahl spent \$2-\$3 million trying to expand its damaging mining operation on the Lower East Fork Lewis.

Thursday's ruling, McDonald added, "just goes to show that might does not make right."

Stordahl attorneys have until April 21 to file an appeal.

The good news is "The Land Use Petition Act" has a provision under which a side that loses at the county and trial-court level has to pay legal fees for the winners if they also lose at the appellate court level. That makes appealing a costly gamble.

McDonald added that Judge Nichol's ruling mirrors a recent Court of Appeals, Division Two decision that said a Thurston County gravel company could not mine along the county's Black River. The decision was unpublished, meaning it can't be cited in other cases, but Division Two would also hear the Clark County case if Stordahl appeals.



Photos by Dick Dryland

This photo shows how sediment from the current Stordahl gravel pit has blocked the mouth of Dean Creek. Despite one of their gravel operations being shut down by court order three years ago, Stordahl is seeking to expand its mining operations on the East Fork Lewis. In February, a Superior Court judge upheld a ruling by the Clark County Commissioners to deny expansion of their operations.



This photo, taken 1,000 feet downstream from the gravel pits, shows how sediment has washed over the pits onto private land.



View of Stordahl's Ridgefield operation, which was shut down years ago by Clark County Commissioners due to land use zoning inconsistencies and Clean Water Act pollution issues.



Photos by Bill Bakke

When the alcove on the left was constructed, stumps were placed in it to provide cover for young coho. The picture on the right is of a natural *Necanicum* alcove, one of four in the river system. The natural alcove does not have the structure in it that the constructed one does. The combination of woody structure, aquatic plants, and nutrients make the constructed alcove an ideal home for juvenile coho.

Alcoves, from Page 3

At night they are out in the open and can be counted using a strong light.

Walt and Doug said that Herb Thompson used his wife's blender to make a gruel of razor clams and fish to provide feed for the young coho. Salmon backbones and elk trimmings make an additional treat for the young fish. The combination of woody structure, aquatic plants and nutrients make the alcove an ideal home for juvenile coho.

Good habitat for salmon is messy, said Walt, but from a distance the alcove is a lovely curving ribbon of water. Doug noted that water features such as this alcove are important for salmon productivity in the river, but they are also an aesthetic asset, increasing the value of the property.

My impression is that he must be right. It is an exciting place because the salmon are being cared for, and the alcove adds a beautiful meandering and interesting feature to the landscape.

One of the home owners had his house redesigned during construction in order to face the alcove, giving him a view of a living and interesting ecosystem.

It was news to me when Doug said the coho moved in during the first freshet of 2005 as fry with yolk sacs so that they swam like a seahorse in the shape of a question mark rather than as fully formed fry of the year.

These young fish reside in the alcove, growing to the smolt stage and migrate down

into the river and to the sea. When they return as gravid adults and spawn, some of their progeny will find this alcove and grow to smolts in it.

These backwater alcoves are the preferred habitats for wild, native coho salmon and if we are to increase the runs of these salmon, providing rearing areas for their progeny is a key factor in recovery.

Oregon's coho salmon have been listed as a threatened species under the Endangered Species Act and may well be listed again as the runs continue to decline. But landowners like Herb Thompson and people with the knowledge like Doug Ray and Walt Weber are a great team making the future of wild coho possible in our developed watersheds.

Walt took me to another alcove, a natural one further up river. After my experience on the constructed alcove, I was interested in comparing the two.

I expected the natural alcove to be more interesting and productive. That is my bias, but what I found was that the natural alcove did not have the abundance of aquatic plants or structure in it.

It did have coho fry and they were associated with the algae growth and structure. I watched fry swim up the tiny rill, only the length of a pencil wide, seeking out another pond. These fry are constantly exploring to find suitable habitat.

While the natural alcove is an important rearing area for coho salmon, it would be even better if it had some deeper water, more

structure and more aquatic plants.

During high water, when the river floods, it backs up into these alcoves, forming quiet water areas where juvenile salmon shelter. If it were not for these areas of shelter, the young salmon could be blown out of the river and perish. A river is more productive if it has over-wintering backwater areas for young salmon to escape the violence of floods and debris torrents.

Walt and Doug pointed out an important feature of the alcove fed by groundwater. During floods the alcove stays clear because the groundwater is preventing the sediment from backing up into it. This hyporheic flow also helps to keep the flooding river from blocking the mouth of the alcove with gravel and dirt so that it remains accessible to young salmon.

Paul Reimers, ODFW retired, developed numerous off-channel ponds and pioneered this habitat feature in the Coquille River basin during the 1980s. He found that coho would not use a backwater pond if it did not have surface or groundwater flow.

Wild coho salmon are declining and over the last 84 years agency plans to rebuild these runs have failed to stem the decline. The work that private landowners are doing: constructing coho rearing habitat with the expert help of people like Doug Ray and Walt Weber is important to coho salmon recovery.

People can make a difference for wild fish, and their work has lasting ecological benefits.

NATIVE FISH SOCIETY

*Fighting for the
Future of
Native Fish*

PO Box 19570
Portland, OR 97280
www.nativefishsociety.org

Executive Director:
Bill Bakke
bmbakke@qwest.net
(503) 977-0287

Development
Director:
Tom Derry
tom@molalla.net
(503) 829-7794

Administration
Assistant:
Russell Bassett
rbassett@nativefishsociety.org
(503) 977-3133

For a color copy of
Strong Runs, please
visit our website

Upcoming Events

Gathering of the NFS Clan
6 p.m. May 23
McMenamins Kennedy School

After the success of this year's annual Auction and Banquet, you told us you wanted another opportunity to get together, so we are hosting the first-ever Gathering of the NFS Clan beginning at 6 p.m. Wednesday, May 23 at the McMenamin's Kennedy School, located at 5736 N.E. 33rd Ave. in Portland.

We will be sharing stories from the winter steelhead run and discussing the upcoming fishing season. We'll also show several movies, including the popular "Trout Grass" and movies by Lee and Joan Wulff.

Included in the event is a silent auction featuring rods, gear, clothing and much more.

Cost for the event is only \$10, to be paid at the door. The first 100 people will receive a very cool commemorative T-shirt. Seating is limited so please RSVP as soon as possible by e-mailing info@nativefishsociety.org or calling 503-977-3133.

Fish-A-Thon
Any weekend in June
Wherever you decide to fish

Back by popular demand, the second annual Native Fish Society Fish-A-Thon looks to be more fun than catching a 20 pound Chinook on a 6 pound line.

While the basic principals remain the same, there are several differences from last year's Fish-A-Thon. Participants are still asked to obtain pledge donations on a fixed or per-species basis, but this year there is no prize for the total number of fish caught and released. Prizes will be awarded for most money raised, most pledges obtained and most variety of native species caught and released. Prizes will also be awarded for largest wild salmon, trout and steelhead caught and released.

This year's event is during the month of June, and participants can choose any weekend in that month to catch their fish.

To register, call 503-977-3133 or e-mail info@nativefishsociety.org.

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Native Fish Society

PO Box 19570, Portland OR 97280

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