

# **NATIVE FISH SOCIETY**

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May 10, 2009

Mr. Barry A. Thom  
Acting Northwest Regional Administrator  
National Marine Fisheries Service  
7600 Sand Point Way, N.E. Building 1  
Seattle, Washington 98115

RE: Review of Oregon's proposal to harvest wild ESA-listed coho salmon in 2009

Dear Mr. Thom:

I am asking you to have NMFS Science Center evaluate ODFW's proposal to harvest ESA-listed coho salmon in terminal river fisheries in addition to incidental harvest impacts in ocean fisheries to determine the scientific basis for this fishery proposal and potential risk to wild coho salmon. An independent science review should also be provided for this proposal.

NMFS has approved Amendment 13 regulating sport and commercial fisheries on Oregon Coastal Natural (wild ESA-listed) coho salmon. However coho mortality in ocean fisheries is an estimate based on assumed encounter rates in target chinook or marked coho fisheries and assumptions of catch and release mortality in each of these encounters (ODFW March 23, 2009 page 13). Harvest management has seriously affected stocks of wild coho salmon and contributed to the population declines that led to listing under the Endangered Species Act (IMST 2000)

Given the imprecision of this methodology, what is the scientific basis for approval of Amendment 13 to recover OCN coho salmon? The Independent Multidisciplinary Science Team (MST) also finds that a continuation of the Amendment 13 harvest policies contributed only marginally to the rebuilding of salmon stocks under the Oregon Plan (IMST 2000 p. 41).

Amendment 13 regulates OCN coho salmon harvest based on harvest impact rates, not on the numbers of spawners that return to the spawning grounds (IMST December 15, 2000, page 42). Rather than using harvest rates to manage salmonids, especially those listed as federal protected species, NMFS should require fishery managers to achieve spawner abundance and productivity goals by population and for ESUs. These spawner abundance goals would be based on an estimate of watershed carrying capacity as well as attainment of ecological goals such as delivery of marine derived nutrients for support of stream productivity and dependent wildlife. Even though Amendment 13 recognizes the value of MDN in coastal rivers, there are no targets for stream enrichment. Traditionally, the ecological role of adult salmon, particularly as nutrient source for freshwater communities and young salmon has been ignored in salmon monitoring (IMST 1999). In streams where only coho are known to return, 93-155 salmon carcasses per kilometer of stream are thought to be needed in order to provide the maximum ecological benefit from MDN (Gresh et al. 2000). The historic biomass of salmon returning to the Pacific Northwest rivers was 160-226 million kg. The number of fish now returning to these rivers has

declined to 11.8-13.7 million kg. This means only 6-7% of the marine derived nutrients once delivered to streams is now reaching them (Gresh et al. 2000). Abundance goals would also maximize genetic diversity, life history diversity productivity and spatial structure of harvested populations.

Harvest rate management favors the fishery rather than salmon rebuilding, conservation, and recovery. Even though harvest rates have been dramatically reduced (from 30-90% prior to 1990 to 8-13% since 1994), desired levels of escapement of OCN coho salmon are seldom reached in Oregon coastal rivers. Improved escapement is essential for recovery of OCN coho salmon, and control of fishing mortality is the best available tool for achieving improved escapement. (IMST December 15, 2000).

The ODFW coho harvest proposal presents coho abundance that is a subset of the historical record. In order to evaluate the condition of wild coho in Oregon coastal streams, the present population abundance should be placed in the context of the complete historical record.

Prior to 1923 the annual average commercial harvest of wild coho on the Oregon Coast was 310,571 fish. This accounting did not include the fresh fish shipments or the sport catch. After 1922 the average annual harvest was 254,286 wild coho (Gharrett and Hodges 1950), indicating a substantial decline. However, these data indicate the historic productivity of Oregon coastal rivers for naturally produced coho salmon. Commercial landings in the 1900 were 762,000 fish, in 1920 there were 362,000 coho landed and in 1949 76,000 landed (McKernan et al. 1950). It behooves the (ODFW) Commission in the face of the declining fish populations to insure that escapement is improved (Gharrett and Hodges 1950). The Oregon Fish Commission was concerned about the wild coho in coastal rivers and took action to reduce harvest impact by eliminating net fisheries. In the late 1940s, coho spawner abundance was as low as low as it is today, but the state fish agency's response was to increase spawner abundance rather than open kill fisheries based on short term run size increases.

The ODFW coho kill fishery proposal is based on recent abundance of wild coho spawners from 1990 to 2008. This slice of the pie indicates spawner abundance in coastal streams that in 1950 caused the biologists to be concerned about the future of the runs. Abundance from 1970 through 2008 (including the Columbia River and coastal streams and no distinction made for wild coho abundance) was never more than 2.7 million and as low as 216,000 (PFMC Feb. 2009). In 1979 the ODFW was concerned about the decline of coastal coho and adopted a plan that called for a maintenance spawner abundance goal of 200,000 wild coho in Oregon's coastal streams. Since that time wild coho have met or exceeded that goal only 3 times (IMST 2000). The point of this is that wild coho salmon are an ESA-listed threatened species and they have been declining for decades. "Despite the progressive restrictions of the commercial river fishery during the past 50 years, the trend of the salmon populations of the coastal rivers has been downward (Gharrett and Hodges 1950). In the 59 years between 1950 and 2009 the wild coho have continued to decline and are now a federal protected species. All efforts to reverse this "downward" trend have failed, yet ODFW sees an opportunity to kill threatened coho in a sport fishery.

Based on ODFW information (2009) presented for the streams targeted for a kill fishery on wild ESA-listed coho salmon, data indicates that all these populations have recently experienced very low abundance levels and recent abundance trends for three of the four streams have shown a declining trend in recent years and two show a declining abundance predicted for 2009. The proposed wild coho kill fishery is based on recent increases in abundance and a projected increase of abundance in 2009 even though wild coho abundance has been at historic lows in recent years. The following data was taken from ODFW data (2009):

### Nehalem River

1990 – 1999 (9 years) flat trend 200-4,000  
1999-2003 (6 years) > trend 4,000 – 33,000  
2003 to 2005 (3 years) < trend 33,000 - 10,000 coho  
2005-2008 (4 years) > trend 10,000 – 15,000 coho  
2009 forecast > 22,000

Out of 18 years the wild coho population was at low level abundance or a decreasing trend in 11 years.

### Yaquina River

1990 – 1993 (three years) no trend at near zero abundance  
1993 –1995 > trend near zero –5,500  
1995 – 1997 < trend 5,500 – near zero  
1997 – 1998 no trend at near zero  
1998-1999 > trend near zero abundance to 3,000  
1999- 2000 < trend 3,000 – near zero  
2000– 2001 > trend near zero – 3,500  
2001 – 2002 > trend 3,500 – 24,000  
2002 – 2005 < trend 24,000 – 4,000  
2005-2007 no trend about 4,000  
2007-2008 > trend 3,500 –8,000  
2009 forecast < tend 8,000 –6,000

The Yaquina wild coho abundance has been very volatile in the 18 years of this data base with wild coho abundance hovering just above zero repeatedly. Of these 18 years of record, Yaquina River wild coho abundance was near zero in 5 years and with a declining trend in 9 years. Of the 18-year record used by ODFW to justify its proposed kill fishery on wild coho, abundance was near zero or declining for 14 years. The forecast for this coho population predicts a decline in spawner abundance in 2009 even though it is targeted for a wild coho salmon kill fishery.

### Coos River

1990 – 2000 this population fluctuates at low abundance from near zero to 15,000 then back to near zero and up to 5,000 coho  
2000-2001 > trend 5,000 – 44,000  
2001 –2007 < trend 44,000 – near zero  
2007-2008 > trend near zero to 1400  
2009 forecast < trend 1,300

The Coos River wild coho abundance over 18 years has repeatedly plunged to near zero spawners. In the 18-year record used by ODFW there were 16 years of low abundance including several years when the population was near zero. This population exhibits instability and is forecast to decline in abundance in 2009 when the target kill fishery is proposed.

## Coquille River

1990 – 2006 > trend 3,000 – 30,000 coho

2006-2008 < trend 30,000-10,000

2009 forecast > trend 10,000 – 21,000

The Coquille River wild coho population shows a long increasing trend with a steep decline in 2008. The forecast is for an increase in wild coho in 2009.

Three of the four wild coho populations show a spike in abundance in 2000 to 2001 followed by a steep decline. The Coquille River shows a steady increase in abundance with no spike in the years 2000 or 2001. This spike was due to lower harvest impact in ocean and in-river fisheries and an unusually productive ocean environment. There was concern prior to this spike in ocean productivity and the reason for imposing reductions in harvest impacts that coho would become extinct in major Oregon coastal rivers. If the spike in ocean productivity that so dramatically increased abundance for a few years were removed from this data base these populations would have probably remained at low abundance levels. The ODFW proposal to open a kill fishery on wild coho is largely based on this spike in productivity even though these populations when compared to the historical record their productivity remains low. The historical record shows that annual harvest was 310,000 coho salmon, but the harvest depleted the spawner abundance. For example, in 1947 the Nehalem River had 10 spawners per mile, 1948 there were 6.8 spawners per mile, and in 1949 there were 4 spawners per mile (Gharrett and Hodges 1950). Based on this depletion of coho in Oregon coastal streams, commercial net fisheries were restricted then later banned in order to save the coho runs.

It is encouraging that coho are beginning to rebuild following the spike in ocean productivity along with constraints on the ocean and in-river fisheries for wild coho salmon. This rebuilding should be allowed to continue. Allowing a kill fishery, no matter how restrictive, on wild coho at a time when they are rebuilding from historic lows is inconsistent with conservation management, state law, and the ESA.

The ODFW proposal does not include a viability analysis and risk assessment comparable to the work done by ODFW through the Interior Columbia River Technical Recovery Team (ICRTRT). In the ICRTRT viability assessment they reviewed each population according to viability criteria that includes:

- Number and arrangement of spawning area
- Analysis of gaps or continuity of spawning and rearing areas
- Phenotypic variation
- Genetic variation
- Spawner composition (potential effect of hatchery fish)
- Harvest impact on phenotypes at risk
- Hatchery impacts on population and risk assessment
- Predation impacts
- Ecological effects
- Abundance and Productivity analysis

Populations are rated for risk based on abundance and productivity as well as spatial structure and diversity risk.

Each population is analyzed according to the risk it is exposed to and rated from very high risk to very low risk and an estimate of viability based on this analysis.

In reading the ODFW proposal for a kill fishery on wild ESA-listed coho salmon in select coastal rivers I did not find a risk analysis comparable to that developed by ODFW for interior Columbia River ESA-listed salmonids by the ICTRT. I can only conclude that the risk analysis for this proposal is not sufficient to justify a kill fishery on ESA-listed coho salmon.

NMFS should ask ODFW to at least evaluate the risk according to its best science developed by the ICTRT. A kill fishery on ESA-listed coho should not be approved until a complete risk analysis is completed for NMFS by the ODFW. The existing proposal justifies the kill fishery based on a narrow time series data base on run size, ignores biological and ecological benefits of increasing spawner abundance, and does not provide a risk analysis regarding impacts on genetic variation, abundance and productivity, spatial structure and diversity. These problems with the proposal should alert NMFS to needed improvements in the proposal in order to justify a kill fishery on ESA-listed coho salmon.

Hatcheries have escapement goals in excess of their egg take needs and fisheries are closed to achieve those goals (Willamette spring chinook fishery was closed to protect hatchery fish and hatchery egg supply). It is only reasonable to have a balanced program that establishes spawner abundance goals for wild salmonids and make them hard constraints for harvest management so they can be fully implemented. A primary purpose of harvest management is to effectively secure spawner abundance needed to sustain the fishery over the long term. Harvest management decisions have the most immediate impact on spawner abundance and are therefore critical to recovery of depressed stocks of wild salmonids in Oregon. It is essential, therefore, that the meaning of recovery be defined in measurable terms to guide harvest management decision-making (IMST 2000).

Catch quotas were applied to the silver salmon fisheries in 1949 on the Coquille, Siuslaw, Alsea, Yaquina, and Nehalem rivers reduced the catches by one-half that of the previous year, improving spawner escapements in these rivers (Gharrett and Hodges 1950). Since that time harvest quotas by river have not been applied in Oregon. An exception could be sliding scale harvest quotas for salmonids in Northeast Oregon (Interior Columbia Technical Recovery Team) and coastal coho since 1982. Harvest quotas based on spawner abundance targets that would secure replacement by brood year is needed, but currently not applied by ODFW on Oregon coastal streams for coho salmon. Specific criteria for recovery of coho salmon were addressed by the IMST (1999) and their recommendation was for 1,000 to 3,000 wild spawners per basin per year or brood cycle, depending on basin size, and a minimum production of 80-120 smolts per female at or below full seeding. This would provide replacement of spawners at 3% marine survival. The ODFW threatened wild coho kill fishery proposal does not evaluate the risk to the coho salmon population or certify that doing so would not impede recovery of these ESA-listed populations.

The NMFS also recognizes that all wild coho populations are impacted by freshwater fisheries for chinook, steelhead, cutthroat and now wild coho, yet NMFS has approved these fisheries. It is our concern that human caused fishery impacts are not evaluated sufficiently to effectively achieve recovery of OCN coho. For example, When ODFW adopted a coastal cutthroat kill fishery in coastal rivers in 2009; the impact on rearing juvenile salmonids including coho salmon was not adequately addressed.

Incidental mortality and encounter rates in ocean fisheries are based on assumptions and estimates not data. A comprehensive approach to wild coho salmon recovery, including a risk

assessment, is not in place, yet ODFW would have NMFS agree with the harvest of wild coho in some Oregon coastal streams. Wild coho salmon have been declining for decades (over 100 years) and every plan devised by the state of Oregon, PFMC, and NMFS has failed to reverse that trend, yet getting a few more wild coho spawners into Oregon's rivers is viewed as a harvest opportunity rather than a conservation necessity.

We strongly oppose additional wild coho salmon mortality through direct sport harvest of wild coho in Oregon rivers.

Sincerely,

Bill M. Bakke, Executive Director

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