

*Bill Robinson brought this up  
under Exhibit B.5.e*

Exhibit B.1.a  
Supplemental NMFS Report  
March 2003

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**PFMC**



**UNITED STATES DEPARTMENT OF COMMERCE**  
**National Oceanic and Atmospheric Administration**  
NATIONAL MARINE FISHERIES SERVICE  
Northwest Region  
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Seattle, Washington 98115-0070

**MAR 7 2003**

Dr. Hans Radtke  
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Portland, Oregon 97220-1384

Dear Dr. ~~Radtke~~, *Hans*

Amendment 14 to the Pacific Coast Salmon Fishery Management Plan (Salmon FMP) requires that the Pacific Fishery Management Council (PFMC or Council) manage their fisheries consistent with consultation standards developed by the National Oceanic and Atmospheric Administration (NOAA), National Marine Fisheries Service (NOAA Fisheries) regarding actions necessary to protect species listed under the Endangered Species Act (ESA). This letter summarizes NOAA Fisheries' consultation standards and provides guidance for the 2003 season for listed species.

**GENERAL COMMENT: MARK-SELECTIVE FISHING**

NOAA Fisheries is well aware and generally supportive of the trend toward increased use of mark selective fisheries for chinook and coho salmon throughout much of the Northwest. This trend has been enabled in recent years by the development and availability of automated mass marking technology, which is used to efficiently remove the adipose fin from juvenile hatchery fish produced for harvest. Mark selective fisheries allow targeting on abundant hatchery fish while limiting impacts on weaker, often listed stocks, and thus provide a potential means to achieve fishery objectives consistent with conservation and recovery of listed species.

The adipose fin clip is an efficient and effective means for enabling mark selective fisheries, and no similarly-suitable alternative has been identified. Unfortunately, using the adipose clip for mark selective fisheries is not without consequences. For nearly three decades, the adipose fin clip was sequestered coastwide as the flag to indicate the presence of a coded wire tag (CWT). Now an adipose clipped fish may or may not have a CWT. As a result, recovery of CWTs now requires processing of many more fish head samples and/or the use of expensive electronic tag detection equipment by trained samplers over a geographically broad area. Additionally, new analytical approaches are required to preserve the critical attributes of the coastwide CWT system under these new circumstances.

Due to the implications of mass marking and mark selective fisheries to the Pacific Salmon Treaty, the Pacific Salmon Commission has directed much effort to this issue. Advised by its Selective Fisheries Evaluation Committee (SFEC), the Commission established an agreed protocol for U.S. and Canadian management agencies to facilitate the necessary coastwide

coordination. Additionally, the SFEC has overseen the development of a number of innovative technical and analytical measures to address the very complex problems presented by mass marking and mark selective fisheries. These measures include the double index tagging approach, broad-scale use of electronic tag detection, templates to guide exchanges of proposals involving mass marking and mark selective fisheries, and analytical methods for evaluating the impacts of mark selective fisheries on stocks. Nevertheless, the SFEC continues to struggle with, and has not totally solved, some of the analytical problems. Moreover, the measures that have been developed, despite their high costs and potential ramifications, have had only limited real-world testing, and even less critical analyses of actual data. As a result, serious uncertainties surround the continued viability and utility of the coastwide coded wire tag system. This, in turn, has serious implications for the Pacific Salmon Treaty and domestic abundance based management regimes for coho and chinook salmon.

NOAA Fisheries is particularly concerned about how the potential degradation of the coastwide CWT system may affect our ability to evaluate fisheries in the context of ESA listed fish. As they proceed through the preseason management process and consider mark selective fisheries, the managers are strongly urged to proceed with due caution and deliberation, and employ an appropriately risk-averse approach to uncertainties. This is especially pertinent when considering new mark selective fisheries for chinook salmon in mixed stock areas, which invoke the most complex issues with respect to the viability of the CWT system. Preseason plans for new mark selective fisheries should be explicitly coupled with rigorous monitoring programs that, among other things, focus on the key variables that eventually will spell the success or failure of mark selective fisheries. These variables include the proportion of marked and unmarked fish present in a fishery, the encounter (handling) rate of unmarked fish (both legal and sub-legal size), and the mortality rates associated with these encounters. Though monitoring is expensive, the success of mark selective fisheries and the ability to employ them more broadly, especially in the context of ESA listed fish, ultimately may depend on the quality and implementation of these monitoring plans.

## **CHINOOK SALMON**

### **Puget Sound Chinook Salmon**

This is the fourth year that NOAA Fisheries will provide guidance to the Council related to the Puget Sound chinook Evolutionarily Significant Unit (ESU). Procedurally, the Council forum and associated North of Falcon process, provide the appropriate forums for doing the necessary management planning. Under the current management structure, PFMC fisheries are included as part of the suite of fisheries that comprise the fishing regime negotiated each year by the co-managers under U.S. v. Washington to meet management objectives for Puget Sound and Washington Coastal salmon stocks. The comprehensive nature of the management objectives and the management planning structure strongly connect PFMC and Puget Sound fisheries. Therefore, in adopting its regulations, the Council must determine that its fisheries, when combined with the suite of other fisheries impacting this ESU, meet the management targets set for stocks within this ESU.

Having established the connection between Council and Puget Sound fisheries, it is also appropriate to acknowledge that impacts on Puget Sound chinook stocks in Council fisheries are generally quite low. NOAA Fisheries estimated in its 2000 PFMC opinion that the exploitation rates on Puget Sound spring chinook and fall chinook stock aggregates have been three percent or less, respectively, in recent years. Management actions taken to meet exploitation rate targets will therefore occur primarily in the Puget Sound fisheries, but the nature of the existing process is such that ocean fishery impacts be accounted for, and are potentially subject to constraint to meet particular targets.

Over the past several years, NOAA Fisheries has developed Recovery Exploitation Rates for eight of the twenty-two Puget Sound chinook populations (see attached table). Puget Sound chinook returns in 2003 are expected to be similar to or slightly above returns of recent years. Puget Sound chinook escapements have responded positively to exploitation rates since the implementation of the co-managers' new management approach in 2001.

In April, 2001, NOAA Fisheries exempted fishery activities conducted in accordance with a Resource Management Plan (RMP) submitted under Limit 6 of the 4(d) rule (65 FR 42422, 66 FR 31603) from ESA section 9 take prohibitions. This RMP will expire on May 1 of this year. NOAA Fisheries is currently evaluating another RMP provided by Washington Department of Fish and Wildlife and the Puget Sound Treaty tribes for the 2003 fishing year, but will not complete its evaluation until after the March Council meeting. Consequently, it will be necessary to ensure that the state, tribal, and Federal participants are confident that the range of options developed at the March meeting are sufficiently broad to encompass the foreseeable outcomes of the evaluation. Therefore, the options adopted at the March Council meeting should include at least one that meets all current RERs for Puget Sound chinook and, for the remainder of Puget Sound chinook stocks, the average of the total exploitation rates projected in 2001-2002 (Table 1). NOAA Fisheries may provide further guidance to the Council in April pending its evaluation of the co-managers proposed resource management plan under the requirements of the 4(d) Rule.

**Table 1. Guidance on ESA listed Puget Sound chinook for the 2003 PFMC salmon fisheries.**

Management Unit	RER	Avg. Projected ER in 2001-02 (FRAM runs 1601 & 0802)
Nooksack	17%	
Skagit Summer/Fall	49%	
Skagit Spring		22%
Stillaguamish	24%	
Snohomish	24%	
Lake Washington		27%
Green	53%	
White River		17%
Puyallup		49%
Nisqually		64%
Skokomish		56%
Mid-Hood Canal		26%
Dungeness		19%
Elwha		19%

### Lower Columbia River Chinook

The Lower Columbia River (LCR) chinook ESU is comprised of a spring component, a far north-migrating bright component, and a component of north-migrating tules. The three

remaining spring stocks within the ESU include those on the Cowlitz, Kalama, and Lewis rivers. The historic habitat for these spring chinook stocks is now largely inaccessible due to impassable dams. Although some spring chinook spawn naturally in each of these rivers, these are presumed to be largely hatchery-origin fish with little resulting natural production. The remaining spring stocks are therefore dependent, for the time being, on the associated hatchery production programs. The hatcheries have met their escapement objectives in recent years, and are expected to do so again in 2003, thus ensuring that what remains of the genetic legacy is preserved until a more comprehensive recovery program designed to reestablish self-sustaining populations is implemented. No additional management constraints in PFMC fisheries are considered necessary.

Three natural-origin bright stocks have been identified in the LCR ESU. The North Fork Lewis stock is used as a harvest indicator stock for ocean and in-river fisheries. The North Fork Lewis stock has exceeded its escapement objective of 5,700 every year since 1980, except that it was below goal in 1999 with an escapement of about 3,200 adults. The escapement shortfall has been attributed to severe flooding in 1995 and 1996. Escapements for the last two years have again been well above goal with returns of 11,300 and 13,300 in 2001 and 2002, respectively. Given the long history of healthy returns, NOAA Fisheries does not anticipate the need to take specific management actions in the ocean to protect the bright component of the LCR ESU in 2003. NOAA Fisheries does expect that the management agencies will continue to take appropriate actions through their usual authorities, to ensure that the escapement goal continues to be met.

Unlike the spring stocks or the bright component of the ESU, LCR tule stocks are impacted substantially in PFMC fisheries. There are four self-sustaining populations of tule chinook in the Lower Columbia River (Coweeman, East Fork Lewis, Clackamas, and Sandy) that are not substantially influenced by hatchery strays. Apart from these stocks, the system is dominated by hatchery production and whatever natural spawning does occur is heavily influenced by hatchery strays. The effect of hatchery operations on the ESU is currently the subject of a separate ESA review process. Tule production in the lower River has already been reduced by more than half as a result of funding reductions.

NOAA Fisheries reviewed the status of LCR tules in recent biological opinions related to the 1999 Pacific Salmon Treaty Agreement (PST) and the 2002 fall season fisheries in the Columbia River. Tules will benefit substantially from the ocean harvest regime in the PST agreement because of their ocean distribution, which is centered off the west coast of Vancouver Island and the Washington coast. NOAA Fisheries developed a preliminary Rebuilding Exploitation Rate (RER) for the Coweeman population of 65% as part of the PST consultation. NOAA Fisheries has since reviewed the available information and provided a revised RER of 49%. Although further review of this estimate is warranted, NOAA Fisheries believes that an RER of 49% for the Coweeman stock is consistent with its continued survival and recovery, and expects the 2003 PFMC fisheries to be managed such that the total exploitation rate from all fisheries does not exceed that level. Further work on the tule component of the LCR ESU is needed, but NOAA Fisheries believes that the appropriate course is to integrate future harvest management actions with recovery planning efforts that will seek to rebuild a broad range of self-sustaining, naturally producing tule stocks.

**Upper Columbia River Spring Chinook  
Upper Willamette River Chinook Salmon  
Snake River Spring/Summer Chinook**

Spring stocks from the Upper Columbia River and Willamette River Basins and spring/summer stocks from the Snake River are rarely caught in PFMC fisheries. Management actions designed to limit catch from these ESUs beyond what will be provided by harvest constraints for other stocks are therefore not considered necessary.

**Snake River Fall Chinook Salmon**

NOAA Fisheries' guidance with respect to Snake River fall chinook is unchanged from that of the last several years. NOAA Fisheries requires that the Southeast Alaska, Canadian, and PFMC fisheries, in combination, achieve a 30% reduction in the total age-3 and age-4 adult equivalent exploitation rate relative to the 1988-1993 base period. The PFMC fisheries therefore must be managed to ensure that the 30% base period reduction criterion for the aggregate of all ocean fisheries is achieved.

**California Coastal Chinook Salmon**

The California Coastal chinook ESU was listed as threatened effective November 15, 1999. The absence of reliable estimates of ocean exploitation rates on Central Valley chinook and the uncertainty regarding population abundance and short term trends for California coastal chinook populations make it difficult to assess the potential for coastal chinook populations to recover under the existing Salmon FMP conservation objectives and ESA requirements. The April 18, 2000 biological opinion for coastal chinook considered the uncertainty regarding population trends and the magnitude of ocean harvest rates on the populations in the ESU. The opinion concluded that ocean fisheries would likely jeopardize the continued existence of coastal chinook if ocean harvest rates on coastal chinook were to rise substantially above those observed in recent years. The opinion required that the age-4 ocean harvest rate forecast for Klamath River fall chinook not exceed 0.17, which was the maximum observed between 1996 and 1999. In 2002, the Salmon Technical Team adopted new procedures for calculating the age-4 harvest rate on Klamath River fall chinook. Consistent with the revised definition of age-4 harvest rate, management measures developed under the Salmon FMP must achieve a projected age-4 ocean harvest rate on Klamath River fall chinook of 0.16 or less.

**Sacramento River Winter Chinook Salmon**

In 2002, NOAA Fisheries issued a biological opinion and incidental take statement for the 2002 and 2003 fishing seasons that specified a reasonable and prudent alternative for winter chinook. The opinion was intended to accommodate the anticipated process of amending the Salmon FMP to include recovery and long term conservation objectives for Sacramento River winter chinook and Central Valley spring chinook. While progress towards an amendment has been made, an amendment will not be in place in time for the 2004 fishing seasons, and NOAA Fisheries will issue a supplemental biological opinion for winter chinook prior to the 2004 seasons. NOAA

Fisheries' guidance for the 2003 fishing seasons with respect to winter chinook is the reasonable and prudent alternative of the 2002 opinion:

1. The duration and timing of the 2002 and 2003 recreational salmon seasons south of Point Arena shall not change substantially relative to the 2000 and 2001 seasons.

The delays in the opening of recreational seasons south of Point Arena implemented by the California Fish and Game Commission in 2000 and continued in 2001 provide significant protection for Sacramento River winter chinook and shall continue. For the 2002 and 2003 seasons, the area between Point Arena and Pigeon Point shall open no earlier than the Saturday nearest April 15, and close no later than the Sunday nearest Nov 7; the area between Pigeon Point and the U.S.-Mexico border shall open no earlier than the Saturday nearest April 1, and close no later than the Sunday nearest September 30.

2. The duration and timing of the 2002 and 2003 commercial salmon seasons south of Point Arena shall not change substantially relative to the 2000 and 2001 seasons.

In 2002 and 2003, commercial fishing will continue to be controlled by the Salmon FMP management objective for Klamath River fall chinook and by the NOAA Fisheries 2000 biological opinion on California Coastal chinook, which limits the age-4 harvest rate on Klamath fall chinook to 0.16. In 2002 and 2003, commercial seasons south of Point Arena shall open no earlier than May 1 and close no later than September 30, with the exception of a two week October season off San Francisco similar to that which occurred in 2001.

### **Central Valley Spring Chinook Salmon**

The Central Valley spring chinook ESU was listed as threatened effective November 15, 1999. NOAA Fisheries' April 18, 2000, biological opinion on the effects of ocean harvest on Central Valley spring chinook and California coastal chinook, concluded that ocean salmon fisheries, as regulated under the Salmon FMP and NOAA Fisheries' biological opinions for winter chinook, were not likely to jeopardize the continued existence of Central Valley spring chinook. The opinion noted that the two week delay in the opening of the recreational seasons south of Point Arena implemented for the 2000 season would provide additional protection to spring chinook. For the 2003 season, NOAA Fisheries has no ESA requirements in addition to those for Sacramento River winter chinook and California Coastal chinook.

### **COHO SALMON**

NOAA Fisheries considered the effects of west coast ocean fisheries on listed populations of coho salmon in a supplemental biological opinion dated April 28, 1999. The opinion provided ESA consultation standards for the three listed coho ESUs in Oregon and California: Oregon Coastal Natural (OCN), Southern Oregon/Northern California Coastal (SONCC), and Central California Coastal (CCC) coho salmon. The requirements of that opinion, which are summarized below, will remain in effect for the 2003 season.

## **Oregon Coastal Coho Salmon**

Amendment 13 provides separate exploitation rate targets for four OCN sub-stocks that depend on measures of escapement during the applicable brood year and ocean survival. NOAA Fisheries requires that the three northern sub-stocks be managed according to the provisions of Amendment 13. The southern sub-stock is part of the SONCC coho ESU and will be managed in accordance with the requirements for that ESU.

When the PFMC adopted Amendment 13 in 1997, they stipulated that it be reviewed and updated on a periodic basis. The first review, conducted by an ad hoc OCN Work Group, was completed in November, 2000. The Work Group's report recommended several changes to the original management matrix including a lower range of exploitation rates when spawner abundance and marine survival are very low. At its November, 2000 meeting, the Council adopted the OCN Work Group report as "expert biological advice to help guide Council management of OCN coho." For the 2003 season, the applicable parental spawner status is in the "low" category, because one of the sub-stocks is so categorized (the other three sub-stocks are "high"), and the marine survival index is in the "medium" category. Under this circumstance, both the Work Group report and the exploitation rate matrix in Amendment 13 require that exploitation rates be limited to no more than 15%.

NOAA Fisheries is also aware of efforts by the State of Oregon to integrate management for OCN coho and Lower Columbia River (LCR) coho. LCR coho are listed as endangered under the State's ESA. LCR coho are a candidate for listing under the federal ESA, but are not currently listed or proposed for listing. Oregon has developed a management matrix for LCR coho that is conceptually equivalent to that used for OCN coho. Using that matrix, the circumstances related to LCR coho in 2003 lead to a recommendation that ocean fishery impacts not exceed a 20% exploitation rate, greater than the 15% allowable impacts for OCN coho. Under these circumstances, the guidance provided for OCN coho would apply and would provide more conservative management of LCR coho in ocean fisheries than that required by the State of Oregon.

## **Southern Oregon/Northern California Coastal Coho Salmon**

The Rogue/Klamath hatchery stock is used as an indicator of the effects of fisheries on Southern Oregon/Northern California Coastal (SONCC) coho. NOAA Fisheries' 1999 biological opinion requires that management measures developed under the Salmon FMP achieve an ocean exploitation rate on Rogue/Klamath hatchery stocks of no more than 13%. The allowable exploitation rate for SONCC coho this year is therefore less than that for OCN coho.

## **Central California Coastal Coho Salmon**

Little information on past harvest rates or current hooking mortality incidental to chinook fisheries exists for Central California Coastal coho. For the 2003 season, coho-directed fisheries and coho retention in chinook-directed fisheries will continue to be prohibited off California.

**CHUM SALMON**

**Hood Canal Summer Chum**

Chum salmon are not targeted or caught incidentally in PFMC salmon fisheries. Management constraints in ocean fisheries for the protection of Hood Canal summer chum are also not considered necessary.

**SOCKEYE SALMON**

**Snake River Sockeye Salmon  
Ozette Lake Sockeye Salmon**

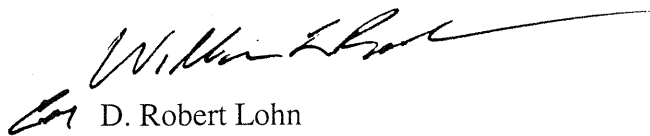
Sockeye salmon are not targeted or caught incidentally in PFMC salmon fisheries. Management constraints in ocean fisheries for the protection of listed sockeye salmon are therefore not considered necessary.

**STEELHEAD**

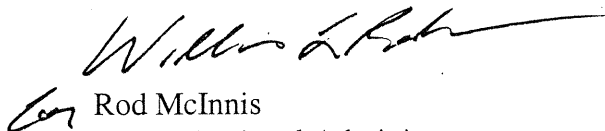
NOAA Fisheries has listed two ESUs of steelhead as endangered and seven ESUs as threatened in Washington, Oregon, Idaho, and California. Steelhead are rarely caught in ocean fisheries and ocean fishery management actions that seek to shape fisheries to minimize impacts to steelhead are not considered necessary. The Council and states should prohibit the retention of steelhead in ocean recreational fisheries to minimize the effect of whatever catch may occur.

Please call if you have additional questions.

Sincerely,



D. Robert Lohn  
Regional Administrator  
Northwest Region



Rod McInnis  
Acting Regional Administrator  
Southwest Region