Exhibit C.1
Situation Summary
March 2004

UPDATE ON PACIFIC SALMON COMMISSION COHO FISHERY REGULATORY ASSESSMENT MODEL FOR 2004 SALMON MANAGEMENT

Situation: Under the salmon methodology review agendum at its November 2003 meeting, the Council recommended the Coho Fishery Regulatory Assessment Model (FRAM) data sets be further refined and error checked in the Pacific Salmon Commission (PSC) process before being implemented in 2004 Council area preseason planning. The Council recommended that if the states and tribes were satisfied with the technical modifications to the Coho FRAM and data sets for use in the Coho Technical Committee's Regional Coho Planning Model, no further review would be necessary by Council advisory bodies, and Council approval of the methodology would be implicit. The Council then directed the Salmon Technical Team (STT) to use the same version of the Coho FRAM and data sets as used by the PSC process for preseason planning of 2004 Council area fisheries.

The STT employed the revised Coho FRAM and data sets in their analysis of 2003 fishery management measures using projected 2004 abundance estimates and incorporated those results into Preseason Report I.

Council Task:

1. **Discuss implications of modifications to the Coho FRAM and associated data sets.**
2. **Provide guidance as needed for model implementation.**

Reference Materials:

1. Exhibit C.1.b, STT Report: Salmon Technical Team Comments on the Pacific Salmon Commission Regional Coho Planning Model.

Agenda Order:

a. Agendum Overview — Chuck Tracy
b. Reports and Comments of Advisory Bodies
c. Public Comment
d. Council Discussion of PSC Coho FRAM Status for 2004

PFMC
02/24/04

SALMON TECHNICAL TEAM COMMENTS ON THE PACIFIC SALMON COMMISSION REGIONAL COHO PLANNING MODEL

In 2002, the Pacific Salmon Commission (PSC) reached agreement on a management regime that constrains total fishery exploitation rates on key management units of naturally spawning coho salmon originating in Southern British Columbia, Puget Sound, and the Washington Coast. The agreement calls for the PSC Coho Technical Committee (CoTC) to develop a regional coho fishery planning model for application beginning in 2004. The CoTC has agreed to use Coho Fishery Regulatory Assessment Model (FRAM) as the core for an initial version of the regional coho fishery planning model to provide a consistent basis for fishery planning for domestic planning processes in the United States and Canada. In January 2004, the CoTC reached agreement on a new 1986-1991 base period input file for use with Coho FRAM. The new base period file reflects recoveries from an expanded list of coded-wire tag (CWT) releases to represent production for Canadian management units, fishery strata configured to better fit Canada's needs, and corrections to errors discovered in the 1986-1991 base period input file employed by the Council in 2003. The CWT recovery data covers the period from 1986-1991 recovery years for all U.S. and Canadian coho management units, with the exception of Interior Fraser. The recovery period for the Interior Fraser management unit was limited to 1987-1991 because CWT marking and recovery programs were inadequate to provide reliable data for 1986. The data and methods for generating the new base period file have been reviewed by the Council's Model Evaluation Workgroup, Scientific and Statistical Committee, and Salmon Technical Team (STT). The STT believes the new base period file is appropriate for use in modeling Council area fisheries for 2004 and has used it for evaluation of 2003 regulations given 2004 abundance projections in Preseason Report I.

PFMC
02/24/04

Exhibit C.2
Situation Summary
March 2004

REVIEW OF 2003 FISHERIES AND SUMMARY OF 2004 STOCK ABUNDANCE ESTIMATES

Situation: Mr. Dell Simmons, Salmon Technical Team (STT) Chairman, will review the results of the 2003 fisheries and the stock abundance projections for 2004. The agencies, tribes, Council advisors, and public will then be afforded an opportunity to comment on these issues. Under agency comments, the states of Oregon and Washington may also provide details of 2003 mark-selective recreational and commercial fisheries.

Council Task:

1. Receive information.

Reference Materials:

1. *Review of 2003 Ocean Salmon Fisheries* (Included with Briefing Book).
2. *Preseason Report I Stock Abundance Analysis for 2004 Ocean Salmon Fisheries* (Included with Briefing Book).

Agenda Order:

a. Report of the Salmon Technical Team (STT) — Dell Simmons
b. Reports and Comments of Advisory Bodies
c. Public Comment
d. Council Discussion

PFMC
02/18/04

SCIENTIFIC AND STATISTICAL COMMITTEE REPORT ON REVIEW OF 2003 FISHERIES AND SUMMARY OF 2004 STOCK ABUNDANCE ESTIMATES

Mr. Dell Simmons, Chair of the Salmon Technical Team (STT), reviewed the 2003 ocean salmon fisheries and preliminary salmon stock abundance estimates for 2004 for the Scientific and Statistical Committee (SSC). All natural coho salmon stocks that are not "exceptions" met their conservation objectives in 2003. There were three stocks of chinook salmon that failed to meet their conservation objectives or guidelines in 2003:

1. The 2003 ocean harvest rate of 20.6% for age-4 chinook from the Klamath River Fall stock exceeded the target rate of 16%.
2. Impacts to the Snake River fall chinook stock were underestimated in 2003 because of changes in the Canadian commercial troll fishery.
3. The conservation objective for the spring/summer natural stock in the Quillayute River was not met.

Management actions to prevent a re-occurrence of these problems in 2004 may be needed.

Ocean abundance forecasts for coho salmon in 2004 are sufficiently high that all conservation objectives are expected to be met this year. However, the expected ocean abundance of Snake River Fall chinook, in conjunction with expected impacts by the Canadian commercial troll fishery, make this a stock of concern for 2004 management.

The SSC has a few recommendations to improve the usefulness of the STT reports. Tables I-1 and I-2 in *Preseason Report I (Stock Abundance Analysis for 2004 Ocean Salmon Fisheries)* present several years of preseason predictors for coho and chinook stocks under Council management. The SSC requests the STT add postseason estimates to these tables, where available, to facilitate a reader's ability to compare abundance predictions with previous years' actual abundances. To facilitate review of the overall performance of the various preseason predictors a graphical representation of the data in Tables II-8 and III-1 would be helpful.

The SSC also requests the preseason abundance estimates include a statistical measure of variability such as confidence intervals or coefficients of variation when possible. Without variance estimates it is difficult to assess the likelihood of meeting management objectives and the risks to sensitive stocks for the proposed fishing seasons.

PFMC
03/09/04

STATE OF WASHINGTON
DEPARTMENT OF FISH AND WILDLIFE
ENFORCEMENT PROGRAM
STATEWIDE MARINE PATROL DIVISION

2003 WASHINGTON SELECTIVE SALMON FISHERY

The following report is a synopsis of enforcement activities by Washington Department of Fish and Wildlife (WDFW) Officers, for the 2003 Selective Coho Salmon Fishery. Officers from Marine Stations, along with officers from other parts of the State, were utilized to meet enforcement commitments. An early and aggressive patrol presence to address compliance issues had a bearing on our successes in ensuring an orderly fishery. Support by District Court Judges and widely advertised violation penalties also added deterrence from circumventing regulations.

Developing compliance rate estimations for fish and wildlife violations are difficult. Uniformed presence on the water or at the dock provides visible deterrence to violations, thereby altering the behavior of those who may violate natural resource laws. In some instances, the contact to violation ratio may be merely a reflection of the effectiveness of the individual officer at discovering a violation. Therefore, estimated compliance rates compiled from uniformed enforcement activity may not be an accurate measure of actual compliance, but rather, serves best as an index when comparing one area to another, or one season to the next.

The average for estimated compliance with the wild coho release rule in the four Coastal Salmon Management Catch Areas (SMCA) was 98.7%. The average for compliance with overall salmon rules was 94.8%, compared to 90.9% in 2002, for these same areas.

SMCA AREA ONE AND TWO SUMMARY

The Columbia River / South Coast Marine Detachment is directly responsible for planning patrols for these SMCA's. The season started slowly, with catch rates low enough to allow for the expansion of a five day per week fishery to seven days per week. This put more demand on enforcement to cover the extra days. The presence of pink salmon complicated fish identification for some people, and undersized Chinook and unmarked Coho Salmon were sometimes mistaken for this species. Also, Buoy 10, a terminal fishery that exists at the mouth of the Columbia River, had a more liberal limit for Coho Salmon at the same time that the SMCA One fishery was underway. This resulted in some anglers exceeding ocean limits with the intent of claiming the extra fish as Columbia River caught. This fish laundering is difficult to detect and is believed to be extensive.

AREA **ONE**
(Ilwaco, WA):

Enforcement Hours:

Docks - 390
Vessel - 89
Total - **479 hours**

Contacts: **1801 total**

LIC VIO		Arrest	**19**	Warnings	**43**	Total	**62**
GEAR VIO		A	**2**	W	**4**	T	**6**
OVERLIMIT		A	**10**	W	**4**	T	**14**
WILD COHO		A	**18**	W	**0**	T	**18**
CHINOOK		A	**6**	W	**1**	T	**7**
AREA /SEASON		A	**9**	W	**7**	T	**16**
GRND FISH		A	**0**	W	**0**	T	**0**
BOAT SAFE		A	**4**	W	**4**	T	**8**
OTHER		A	**13**	W	**4**	T	**17**

Total Citations: 81
Total Warnings: 67

Estimated compliance regarding overall salmon rules was 93.2 %*

Estimated compliance regarding the possession of wild Coho was 99 %**

AREA **TWO**
(Westport, WA.):

Enforcement Hours:

Docks - 233
Vessel - 201
Investigative - 24
Total - **438 hours**

Contacts: **2164 total**

LIC VIO		Arrest	**14**	Warnings	**90**	Total	**104**
GEAR VIO		A	**6**	W	**12**	T	**18**
OVERLIMIT		A	**5**	W	**3**	T	**8**
WILD COHO		A	**27**	W	**0**	T	**27**
CHINOOK		A	**18**	W	**2**	T	**20**
AREA /SEASON		A	**5**	W	**5**	T	**10**
GRND FISH		A	**2**	W	**2**	T	**4**
BOAT SAFE		A	**2**	W	**3**	T	**5**
WARRANT		A	**0**	W	**1**	T	**1**
OTHER		A	**30**	W	**33**	T	**66**

Total Citations: 109
Total Warnings: 151

Estimated compliance regarding overall salmon rules was 97%.*
Estimated compliance regarding the possession of wild Coho was 98.7%**

SMCA AREA THREE AND FOUR SUMMARY

The North Coast / Strait Marine Detachment has primary responsibility for patrolling these SMCA's. The development of a selective Chinook Salmon fishery inland necessitated a shift in patrol commitment. The reallocation of time was also based on noticeable declining angler participation in these two fisheries.

AREA **THREE**
(LaPush, WA.):

Enforcement Hours:

Docks - 18
Vessel 4
Total - **22 hours**

Contacts: **129total**

LIC VIO		Arrest	**1**	Warnings	**0**	Total	**1**
GEAR VIO		A	**0**	W	**0**	T	**0**
OVERLIMIT		A	**0**	W	**0**	T	**0**
WILD COHO		A		W	**0**	T	**1**
CHINOOK		A	**2**	W	**0**	T	**2**
AREA /SEASON		A	**0**	W	**1**	T	**1**
BOAT SAFE		A	**1**	W	**0**	T	**1**

Total Citations: 5
Total Warnings: 1

Estimated compliance regarding overall salmon rules was 96.2%*
The estimated compliance regarding the possession of wild coho was 99.3 **

AREA **FOUR**
(Neah Bay, WA.):

Enforcement Hours:

Docks - 31
Vessel - 122
Interagency - 8

Total - **161 hours**

Contacts: **518 total**

LIC VIO		Arrest	**11**	Warnings	**9**	Total	**20**
GEAR VIO		A	**15**	W	**1**	T	**16**
OVERLIMIT		A	**0**	W	**0**	T	**0**
WILD COHO		A	**6**	W	**0**	T	**6**
CHINOOK		A	**0**	W	**0**	T	**0**
AREA /SEASON		A	**2**	W	**0**	T	**2**
BOAT SAFE		A	**2**	W	**3**	T	**5**
OTHER		A	**1**	W	**0**	T	**1**

Total Citations: 37
Total Warnings: 13

Estimated compliance regarding overall salmon rules was 91.5%*.
The estimated compliance regarding the possession of wild Coho was 98.8%**

* % compliance with overall salmon regulations = total rule violations associated with **salmon only** (license, gear, possession, season and area) / total contacts.

** % compliance for possession of unmarked Coho = total unmarked fish violations / total contacts.

Exhibit C.3
Situation Summary
March 2004

INSEASON MANAGEMENT RECOMMENDATIONS FOR SEASONS PRIOR TO MAY 1 FOR THE COMMERCIAL FISHERY BETWEEN HORSE MOUNTAIN AND POINT ARENA (FORT BRAGG AREA)

Situation: The 2003 ocean salmon fishing regulations specify the Council will make inseason recommendations to the National Marine Fisheries Service (NMFS) at the March Council meeting for certain fisheries which may open earlier than May 1, 2004. The fishery under consideration is the commercial fishery off Fort Bragg, California between Horse Mt. and Pt. Arena.

Council Action:

1. **Consider recommendations to NMFS for inseason action to set opening dates prior to May 1 for an all-salmon-except-coho commercial fishery between Horse Mt. and Pt. Arena, California.**

Reference Materials:

1. None.

Agenda Order:

a. Agendum Overview — Chuck Tracy
b. California Department of Fish and Game (CDFG) Recommendations — Marija Vojkovich
c. Reports and Comments of Advisory Bodies
d. Public Comment
e. **Council Action:** Consider Adopting Recommendations for Early Opening Dates for the Commercial Fishery in the Fort Bragg Area

PFMC
02/18/04

IDENTIFICATION OF MANAGEMENT OBJECTIVES AND PRELIMINARY DEFINITION OF 2004 SALMON MANAGEMENT OPTIONS

Situation: Using the Salmon Advisory Subpanel (SAS) management recommendations as a base, the Council should identify the range of management elements in the options for public review (harvest ranges, special restrictions, and basic season structure). The Salmon Technical Team (STT) will attempt to collate the Council's identified management elements into coordinated coastwide options. The collated options will be returned to the Council for review and any further direction on Wednesday, March 10, 2004 followed by STT analysis and final adoption of the options on Friday, March 12, 2004. Exhibit C.4.a, Attachment 1 provides guidance for developing and assessing the options.

Before defining the options, the Council should be briefed on any pertinent management constraints resulting from: actions by the Pacific Salmon Commission, recommendations of the Klamath Fishery Management Council, action by the California Fish and Game Commission to set the allocation of Klamath River fall chinook for the inside recreational fishery, and NMFS constraints for stocks listed under the Endangered Species Act.

Any option considered for adoption that deviates from fishery management plan (FMP) objectives will require implementation by emergency rule. If an emergency rule appears to be necessary, the Council must clearly identify and justify the need for such an action consistent with emergency criteria established by the Council (Exhibit C.4.a, Attachment 2).

Council Task:

1. **Using the SAS proposals and other agency and public input, define basic management elements and alternatives for STT collation into coastwide management options.**

Reference Materials:

1. Exhibit C.4.a, Attachment 1: Guidance for Option Development and Assessment.
2. Exhibit C.4.a, Attachment 2: Emergency Changes to the Salmon FMP.
3. Exhibit C.4.f, Attachment 1: Integration of Management in Ocean and Columbia River Fisheries in 2004 to Meet Conservation Requirements for Oregon Coastal Natural and Lower Columbia River Natural Coho Salmon.
4. Exhibit C.4.g, Supplemental SAS Report: SAS Proposed Initial Salmon Management Options for 2004 Non-Indian Ocean Fisheries.

Agenda Order:

a. Agendum Overview — Chuck Tracy
b. Report from the PSC — Jim Harp
c. Report of the Klamath Fishery Management Council (KFMC) — Dan Viele
d. NMFS Recommendations — Bill Robinson
e. Tribal Recommendations — Jim Harp
f. State Recommendations — Phil Anderson/Neil Coenen/Marija Vojkovich
g. Reports and Comments of Advisory Bodies
h. Public Comment
i. Council Recommendations for Initial Options for STT Collation and Description

PFMC
02/24/04

GUIDANCE FOR OPTION DEVELOPMENT AND ASSESSMENT

Developing management options is a complex process which may be assisted by following consistent procedures wherever possible. The recommendations below were developed by the Salmon Technical Team (STT), with input from the Salmon Advisory Subpanel (SAS), and approved by the Council to help guide the option development process. They are suggested guidelines and not inflexible requirements.

1. March Management Options:

    a. To aid option assessment, the Council urges pertinent agency and tribal managers to have the Fishery Regulation Assessment Models ready to run no later than the first day of the March Council meeting.

    b. On the first day of the March meeting, the Council should provide specific guidance for the allowable level of impacts on Oregon coastal natural coho and priorities for the allocation of impacts on critical stocks (e.g., Klamath River fall chinook, Sacramento River winter chinook, Snake River fall chinook, etc.). Council staff can modify the option tables to insure these objectives are clearly identified and addressed. Each time the Council reviews the options, it should confirm or amend its guidance on the objectives and priorities.

    c. Generally, Option I should include the SAS's priority seasons and management measures. Options II and III are used to show seasons in which one group or the other gets more or less of its priorities, to illustrate the effect of other management measures (e.g., variations in bag limits for recreational fisheries), or to allow for different inside/outside allocations (e.g., options north of Cape Falcon). The final adopted options should meet basic conservation requirements.

    d. SAS representatives should clearly identify their fishery priorities (e.g., first two fish, continuous season between Point X and Y, etc.) and engage in negotiations as necessary to resolve conflicts among gear groups and areas to arrive at cohesive and coordinated options.

    e. The SAS requests assessments of impacts off California include tables with data for all harvest cells, not just those below Point Arena.

    f. Avoid adopting more than three options. The Council should attempt to identify all significant or new management measures that might be considered for final adoption. However, it is not necessary or possible to model each potential option. Many variations can simply be noted in the description of the three main options. Additional options or variations may be provided for Council consideration during the public comment period which follows the March Council meeting. This period ends with completion of public comment on the tentative adoption of final management measures during the first day of the April Council meeting (Tuesday).

2. April Meeting:

   The Council has indicated that on the last day of the March meeting, it will determine the schedule for final adoption of management measures at the April meeting (Thursday afternoon versus Friday).

PFMC
02/24/04

EMERGENCY CHANGES TO THE SALMON FISHERY MANAGEMENT PLAN
(Excerpt from Council Operating Procedures 26)

Criteria

The following criteria will be used to evaluate requests for emergency action by the U.S. Secretary of Commerce:

1. The issue was not anticipated or addressed in the salmon plan or an error was made.

2. Waiting for a plan amendment to be implemented would have substantial adverse biological or economic consequences.

3. In the case of allocation issues, the affected user representatives support the proposed emergency action.

4. The action is necessary to meet fishery management plan objectives.

5. If the action is taken, long-term yield from the stock complex will not be decreased.

Process

The Pacific Fishery Management Council (Council) will consider proposals for emergency changes at the March meeting and decide whether or not a specific issue appears to meet all the applicable criteria. If the Council decides to pursue any proposal, it will direct the Salmon Technical Team (STT) to prepare an impact assessment for review by the Council at the April meeting, prior to final action. Any proposals for emergency change will be presented at the public hearings between the March and April meetings. It is the clear intent of the Council that any proposals for emergency change be considered no later than the March meeting in order that appropriate attention be devoted at the April meeting to developing management recommendations which maximize the social and economic benefits of the harvestable portion of the stocks.

However, the Council may consider other proposals for emergency change at the April meeting if suggested during the public review process, but such proposals must clearly satisfy all of the applicable criteria and are subject to the requirements for an impact assessment by the STT.

PFMC
02/24/04

PSC SUMMARY REVIEW

The Pacific Salmon Commission met from January 12th-16th in Portland, Oregon and from Feb. 9th-13th in Vancouver, BC. The January meeting was the post-season meeting and the February meeting was the 19th annual meeting of the PSC.

The 2003-2004 PSC cycle marked the re-invigoration of the Southern Panel. This panel oversees management issues surrounding coho, chinook, and chum stocks that originate from river systems south of Cape Caution. The Southern Panel spent most of this cycle on the negotiation of a new southern chum management plan. The new Chum Agreement will be in effect through 2008 or until the replacement of Annex IV, Chapter 6 related to chum salmon. The Southern Panel is responsible for continuation of policy oversight and guidance of the implementation tasks concerning the 2002 Coho Agreement.

Relative to the interest of the Pacific Fishery Management Council, there were two issues addressed. First, the review of the Regional Coho Planning Model was completed within the Pacific Salmon Commission process. Both countries have committed to begin utilizing this model within their respective domestic fishery planning processes. Consequently, this new version of the coho FRAM model should be utilized for our domestic planning activities this season.

The second issue involved the changing nature of the Canadian chinook fisheries off the West Coast of Vancouver Island (WCVI) in response to conservation concerns for Interior Fraser coho and WCVI Chinook stocks. In-season adjustment measures, such as closures of areas with high incidence of stocks of conservation concern to Canada, are expected to continue in 2004 and should permit Canada to approach the catch level of chinook allowable under the 1999 PST Agreement (the allowable catch level will be determined once calibration of the PSC Chinook Model has been completed). The shift in the seasonal catch distribution pattern and its potential effect on U.S. stocks was discussed with the Canadian representatives. A commitment was made to provide further data regarding this new fishing pattern and a more accurate exchange of pre-season expectations at the up-coming Manager-to-Manager Meeting. This annual meeting was established in 1999 to provide for a pre-season exchange of stock status and expectations of anticipated fishery structure.

The 2004 Manager-Manager meeting is scheduled for next Monday, March 15, at the Upper Skagit Hotel and Conference Center. This year, the intent is to exchange preseason expectations of stock status and anticipated fishery structure that can readily be incorporated into model inputs. It is anticipated that the Canadian stock status and fishery structure will be similar to last year. Thompson coho remains in critical status and conservation concerns still exist over the lower Georgia Strait and WCVI chinook stocks. These concerns will shape the 2004 Canadian fisheries.

The co-managers will confer with the Salmon Technical Team regarding the information that is received at the March 15 meeting with Canadian representatives. It is anticipated that any new information obtained on the Canadian fishing levels and structure will be incorporated into our domestic pre-season planning efforts as appropriate.

Other items addressed by the PSC include:

Revision of the Terms of Reference for the Selective Fishery Evaluation Committee to increase emphasis on a clearinghouse and advisory role for consideration of mass marking and mark selective fishing proposals;

Continued deliberations by the Chinook Interface Group on moving from catch-based to total mortality based regimes for Aggregate Abundance Based Management Regimes; and

Continued organization of a small workshop to be convened this June for the purpose of addressing concerns over the capacity of the coded wire tag system to provide information required for chinook and coho management.

PFMC
03/0904

Exhibit C.4.c
Supplemental KFMC Report
March 9, 2004

KLAMATH FISHERY MANAGEMENT COUNCIL
REPORT and RECOMMENDATIONS
to the
PACIFIC FISHERY MANAGEMENT COUNCIL

ACCEPTANCE OF TECHNICAL ADVISORY TEAM REPORTS

The Council received and endorsed the following reports from the Technical Advisory Team: 1) *Ocean Abundance Projections and Prospective Harvest Levels for Klamath River Fall Chinook, 2004 Season*, and 2*) Klamath River Fall Chinook Age-Specific Escapement, 2003 Run,* dated March 1, 2004.

RESOURCE UTILIZATION

The KFMC's previous recommendations regarding resource utilization are unchanged:

The KFMC recommends full utilization of the harvestable surplus of Klamath River fall Chinook. However, other FMP conservation objectives and ESA requirements may constrain seasons more than the objective for Klamath River fall Chinook. If, as a result, the set-aside for ocean fisheries outside the KMZ sport fishery cannot be met, the fish should be utilized in the following order: (1) fisheries within the KMZ, (2) a full Klamath River sport fishery, and if additional harvestable fish remain, (3) Klamath River Tribal fisheries. Any such transfer has no effect on any party's share, entitlement, or allocation in any future year.

REGULATIONS

The KFMC recognizes that the change in the California recreational fishery regulations from bag limits to boat limits, as well as the recently modified regulations in Oregon and Washington, may affect the ability of the KOHM to accurately predict ocean recreational fishery impacts. The KFMC recommends to the PFMC that existing models be reviewed to assess their sensitivity to these regulatory changes.

2004 REGULATION OPTIONS

The KFMC recommends that the in-river recreational fishery be allocated at least 15% of the non-Tribal share.

The KFMC recommends to the PFMC a 51:49 California/Oregon sharing of Klamath River adult impacts for the commercial troll ocean fishery.

The KFMC recommends to the PFMC for modeling the KMZ recreational fishery:

- Option 1: May 15 – September 12, 7 days/week, 2 fish/day.
- Option 2: May 15 – September 12, 7 days/week, 2 fish/day, including an opportunity for

retention of marked coho between Humbug Mountain and the Oregon/California border.

- Option 3: May 15 – September 6, 7 days/week, 2 fish/day.

Exhibit C.4.d
Supplemental NMFS Recommendations
March 2004

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
Northwest Region
7600 Sand Point Way N.E., Bldg. 1
Seattle, WA 98115

MAR 5 2004

Mr. Donald K. Hansen
Chairman
Pacific Fishery Management Council
7700 NE Ambassador Place, Suite 200
Portland, Oregon 97220-1384

RECEIVED
MAR - 8 2004
PFMC

Dear Mr. Hansen,

Amendment 14 to the Pacific Coast Salmon Fishery Management Plan (Salmon FMP) requires that the Pacific Fishery Management Council (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 2004 season for listed species.

GENERAL COMMENT: MARK-SELECTIVE FISHING

Mass marking of all chinook, coho, and steelhead produced in Federal or Federally funded hatchery facilities that are intended for harvest is now mandated by a new Federal law passed by Congress. Mass marking (using the adipose fin clip) and mark selective fisheries already had been expanding rapidly in recent years for coho and chinook salmon. Marking of hatchery fish, when coupled with adequate monitoring programs, facilitates efforts to determine and monitor the status of wild populations. In addition, mass marking makes it possible for some fisheries to target abundant hatchery fish while limiting impacts on co-mingled natural origin stocks, including those that are listed under the ESA. Thus, mass marking and mark selective fisheries provide a potential means to achieve fishery objectives consistent with conservation and recovery of listed species.

Unfortunately, use of the adipose clip as a mass mark is not without consequences to the coast wide coded wire tag (CWT) program. 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. Recovering 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. Even if new analytical techniques under development prove workable, some information formerly provided by the CWT program likely will be lost with the implementation of mass marking and mark-selective fishing.

Due to the consequences of mass marking and mark selective fisheries to coho and chinook fishery management, the Pacific Salmon Commission (PSC) has directed much attention to this issue. The Commission has established agreed protocols for U.S. and Canadian management agencies to facilitate the necessary coast wide coordination. Additionally, innovative technical and analytical measures to address the very complex problems presented by mass marking and mark selective fisheries have been developed. 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. This

year, the PSC will hold a scientific workshop aimed at addressing the future direction of the coast wide CWT program, which may involve strengthening the current system and/or incorporation of new technologies.

NOAA Fisheries welcomes the improved ability to determine the status of listed fish that results from marking hatchery fish. However, NOAA Fisheries also is concerned about the potential degradation of the coastwide CWT system. As they proceed through the preseason fishery planning 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 resulting from mark selective fisheries. 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 ultimately may depend on the quality and implementation of the associated monitoring plans.

CHINOOK SALMON

Puget Sound Chinook Salmon

This is the fifth year that NOAA Fisheries will provide guidance to the Council related to the listed 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, Council 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 Council 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. Exploitation rates on Puget Sound spring chinook and fall chinook stock aggregates have been zero and 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.

In May, 2003, 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 the Washington Department of Fish and Wildlife and the Puget Sound Treaty tribes for the 2004-2009 fishing years, 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.

NOAA Fisheries found that the exploitation rates and escapements expected from the implementation of the 2003 RMP would not jeopardize the listed Puget Sound chinook ESU. For the most part, these exploitation rates and escapement goals are consistent with the exploitation rate ceilings proposed in the co-managers' 2004-2009 RMP that is currently under review by NOAA Fisheries. Puget Sound chinook returns in 2004 are expected to be similar to or slightly above returns of recent years and escapements have responded positively to exploitation rates since the implementation of the co-managers' new management approach beginning in 2001. Consequently, with two exceptions, the exploitation rates and escapement goal management anticipated to result from implementation of the 2003 RMP should be sufficiently protective of the Puget Sound Chinook ESU in 2004. The two exceptions are the Skagit spring and Snohomish summer/fall chinook management units. The harvest rate anticipated to result from implementation of the 2003 RMP for the Skagit spring and Snohomish summer/fall chinook management units were 30% and 24%, respectively. Since that time, NOAA Fisheries has derived a Rebuilding Exploitation Rate (RER) of 38% for the Skagit spring chinook management unit and revised its RER for the Snohomish summer/fall chinook management unit from 24% to 18%[1]. The 2003 exploitation rates and escapement goals, and the updated RERs are summarized in Table 1, below.

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

	Exploitation Rate		
Management Unit	**Total**	**Southern US**	**Escapement Goal**
Nooksack spring	20%	7%	
Skagit Summer/Fall	50%		
Skagit Spring	38%		
Stillaguamish	24%		
Snohomish	18%		
Lake Washington	31%		
Green			5,500
White River	20%		
Puyallup	50%		
Nisqually			1,100
Skokomish			1,200
Mid-Hood Canal	29%	13%	
Dungeness	22%	5%	
Elwha	22%	5%	

[1]RERs are developed on a brood year basis. Each RER must be converted to a calendar year FRAM equivalent value for use in preseason planning. The change in the Snohomish chinook management unit RER was not in the RER itself but in the conversion to a FRAM equivalent value.

Therefore, the options adopted at the March Council meeting should include at least one option that, when combined with Puget Sound fisheries negotiated during the North of Falcon process, meets the escapement goals and exploitation rates included in Table 1. Exploitation rates should meet either the total exploitation rate or the southern U.S. exploitation rate for each Puget Sound chinook management unit managed for an exploitation rate goal. The co-managers have indicated they will be using the 2004-2009 RMP in their negotiations to shape fisheries during the 2004 preseason planning cycle, and therefore, NOAA Fisheries assumes those rates would also be reflected in the range of options the Council adopts. The proposed RMP contains harvest management exploitation rate objectives for several management units that are higher than those rates anticipated under the implementation of the NOAA Fisheries approved 2003 RMP. Together, this should provide a range of options that encompasses the foreseeable outcomes of NOAA Fisheries evaluation of the RMP for 2004. 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.

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 2004, 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 Council fisheries are considered necessary.

Three natural-origin bright stocks have been identified in the LCR chinook ESU. The North Lewis River stock is used as a harvest indicator stock for ocean and in-river fisheries. The North Lewis River 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 3,300 adults. The escapement shortfall has been attributed to severe flooding in 1995 and 1996. Escapements for the last three years have been well above goal with returns of 13,600, 12,300, and 19,000 in 2001, 2002, and 2003, 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 chinook ESU in 2004. 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 Council 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 chinook tules in recent biological opinions related to the 1999 Pacific Salmon Treaty Agreement (PST) and the 2003 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 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 2004 Council 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 chinook 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 Council 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 Council 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 Council 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 absence of reliable estimates of short term abundance trends and ocean exploitation rates for coastal chinook make it difficult to assess the potential for coastal chinook populations to recover under the existing Salmon FMP objectives and ESA requirements for other stocks. The 2000 biological opinion on coastal chinook identified Klamath River fall chinook as the best available surrogate stock for estimating and limiting ocean harvest impacts on California coastal chinook populations. The biological opinion required that the projected age-4 ocean harvest rate for Klamath River fall chinook not exceed 17%, which was the maximum observed between 1996 and 1999. In 2002, the STT 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 no greater than 16%.

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 biological opinion was intended to accommodate the anticipated process of amending the Salmon FMP to include

recovery and long term conservation objectives for the Sacramento River winter chinook and Central Valley spring chinook. 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 season. NOAA Fisheries' guidance for the 2004 fishing seasons with respect to winter chinook is similar to the reasonable and prudent alternative of the 2002 biological opinion:

> Recreational Seasons South of Point Arena, CA: The recreational season between Point Arena and Pigeon Point shall open no earlier than the first Saturday in April and close no later than the second Sunday in November; the recreational season between Pigeon Point and the U.S.-Mexico Border shall open no earlier than the first Saturday in April and close no later than the first Sunday in October. The minimum size limit shall be at least 20 inches total length.
>
> Commercial Seasons South of Point Arena, CA: Commercial seasons between Point Arena and the U.S.-Mexico border shall open no earlier than May 1 and close no later than September 30, with the exception of an October season conducted Monday through Friday between Point Reyes and Point San Pedro, which shall end no later than October 15. The minimum size limit shall be at least 26 inches total length.

Since 1998, the California Department of Fish and Game and Council have recommended certain terminal gear restrictions, including the use of circle hooks while mooching in the recreational fishery between Horse Mountain and Point Conception, CA, which are designed to reduce hook and release mortality. Those restrictions should continue.

Central Valley Spring Chinook Salmon

The Central Valley spring chinook ESU was listed as threatened in 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' consultation standards for winter chinook, were not likely to jeopardize the continued existence of Central Valley spring chinook. The combined spawning escapements of spring chinook to Deer, Mill and Butte creeks have increased from 5,700 fish in 1999 to over 20,000 in 2003. NOAA Fisheries has no specific guidance for Central Valley spring chinook supplemental to the conclusions of the 2000 biological opinion.

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 Coast (OC), 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 2004 season.

On February 24, 2004, the Ninth Circuit Court of Appeals dismissed the appeals in the Alsea Valley Alliance case, and sent the case back to Judge Hogan. The practical effect of the decision is that there is no Federal protection under the ESA for OC coho. NOAA Fisheries will therefore not provide guidance for OC coho pursuant to our ESA authority and provisions of Amendment 14 as we have in the past. However, NOAA Fisheries expects that the Council will continue to manage Oregon Coast natural (OCN) coho consistent with applicable provisions of the Salmon FMP which are reiterated below.

Oregon Coastal Coho Salmon

Amendment 13 provides separate exploitation rate targets for four OCN sub-stocks that depend on estimates of escapement and ocean survival during the applicable brood year. The three northern sub-stocks are 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 Council 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 2004 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 rate 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 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 2004 lead to a recommendation that ocean fishery impacts not exceed a 30% exploitation rate, greater that 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 SONCC coho. NOAA Fisheries' 1999 biological opinion on listed coho requires that management measures developed under the Salmon FMP achieve an ocean exploitation rate on Rogue/Klamath hatchery stocks of no more than 13%.

Central California Coastal Coho Salmon

Little information on past harvest rates or current hooking mortality incidental to chinook fisheries exists for CCC coho. The 1999 biological opinion on listed coho requires that coho-directed fisheries and coho retention in chinook-directed fisheries be prohibited off California.

CHUM SALMON

Hood Canal Summer Chum

Chum salmon are not targeted or caught incidentally in Council 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 Council 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,

for D. Robert Lohn
Regional Administrator
Northwest Region

for Rod McInnis
Acting Regional Administrator
Southwest Region

Statement of Jim Harp
on the Preliminary Definition of 2004 Management Options
to the Pacific Fishery Management Council
March 9, 2004

Mr. Chairman, I would like make a brief statement regarding the status of the salmon resource in 2004 and the tribes' current thinking about a range of options for the ocean treaty troll fishery.

- The forecasts for coho on the Washington coast and Puget Sound for both wild and hatchery stocks are relatively healthy. We believe that these forecasts will allow for some moderate harvest this year even while taking into consideration the needs of the OCN stock and Upper Fraser coho.

- For chinook, the tule hatchery stocks should provide some harvest opportunity in the ocean fisheries this year. We continue to live up to the commitment that we made in 1988 to not increase our impacts on Columbia River chinook stocks of concern. Additional listed chinook stocks will require continued attention to work out fisheries that meet the ESA requirements for these stocks.

- The tribes still have concerns about our ability to appropriately analyze and manage selective fisheries, but we appreciate the reports that WDFW and ODFW have been providing on the monitoring and sampling of their selective fisheries. We encourage the states to continue rigorous monitoring and sampling of these fisheries and continue communication on this issue with the tribes.

- We are beginning the process of establishing, cooperatively with the Washington Department of Fish and Wildlife, a package of fisheries that will ensure acceptable levels of escapement for natural stocks of concern. We have joint Tribal/State agreement on specific 2004 management objectives for Puget Sound and Washington coastal □hinook and coho salmon.

TESTIMONY OF
THE COLUMBIA RIVER TREATY TRIBES
BEFORE PACIFIC FISHERIES MANAGEMENT COUNCIL
MARCH 9, 2004
Tacoma, WA

Good afternoon Mr. Chairman and members of the Council. My name is Terry Courtney Jr. I am a member of the Fish and Wildlife Committee of the Confederated Tribes of the Warm Springs Reservation of Oregon and a treaty fisherman on the Columbia River. I am here today to provide Testimony on behalf of the four Columbia River treaty tribes: the Yakama, Warm Springs, Umatilla and Nez Perce tribes.

The fall chinook forecasts for Columbia River stocks continue to be strong. The upriver bright forecast is the 4th consecutive year over 200,000 and the 4th largest run since 1964. While the Spring Creek Hatchery Tule is down from the returns in the last two years, it is still more than double the 10 year average. However impacts on Snake River fall chinook will likely limit both in-river fisheries and ocean fisheries.

The forecast for Columbia River coho suggests a relatively strong return. According to recent management agreements for upper Columbia River coho, 50 percent of the upriver coho must be passed to the treaty fishing area upstream of Bonneville Dam. We expect the states to monitor and include **all** sources of non-Indian fishery mortalities in the ocean and the lower river to **ensure** the adequate passage of coho past Bonneville Dam in order for the tribes to have the opportunity to harvest their share of the coho and to assist with rebuilding upriver coho populations.

The Columbia River tribes continue to question the utility of mass marking and selective fisheries as a long-term recovery strategy. WDFW and IDFG submitted terminal area selective fishing proposals for Snake River fall chinook to the PSC Selective Fishery Evaluation Committee in December. Since that time these agencies have not discussed these proposals with the tribes. The Columbia River Tribes are concerned about WDFW and IDFG

proposals and are interested to know their status. These fishery proposals will largely target the same returning supplementation fish that have been responsible for the increased runs sizes of Snake River fall chinook that we have seen in recent years. Such fishery proposals can only serve to reduce the effectiveness of the supplementation program and delay or prevent recovery of this stock that drives ocean and in-river fisheries. These selective fishery proposals if they are implemented will have a direct and negative effect on ocean fisheries by slowing the recovery of this stock.

The idea of selective fishing as a way to address wild stock concerns is seductive because it diverts attention from the real problem: low wild fish survival. In practice, selective fisheries have not reduced harvest rates on wild fish, but maintained the same overall harvest rate on the wild fish while expanding the harvest of hatchery fish. Managing this way does not reduce the number of dead wild fish. Managers are so interested in figuring out how to mass mark salmon that they haven't stopped to consider the longer term implications. Our experience with steelhead in the Columbia River indicates that mass marking and selective fishing by itself will not restore wild runs. It **is not** prudent to move ahead with mass marking and selective fishing for chinook.

We have seen cuts in Mitchell Act production of coho at Willard Hatchery and in the CEDC program. This is because funding is flat and it costs a lot to mass mark all the fish. If we didn't spend so much money marking fish, we would be able to produce more of them. Recent legislation from Congressman Norm Dicks of Washington requiring the mass marking of all Federally funded chinook, coho, and steelhead in Washington, Idaho, Oregon, and California will likely have the effect of reducing hatchery production. While the Congressman has made promises to find the money to do this, it is unlikely that he will be entirely successful and very likely we will have to cut production to pay for this unnecessary scheme.

There is an additional issue in the Columbia basin that is likely to have adverse effects on ocean fisheries. This is the Bonneville Power Administration's effort to eliminate summer spill at the Federal hydropower projects. We are very concerned that the National Marine Fisheries Service

will allow this proposal to go foreward. In the 2000 BiOp, the Federal Government seemed determined to always place the wishes of the hydro-power operators over the needs of the fish and the rights of the fishermen. Eliminating summer spill will mean that even more juvenile salmon will be killed while passing through the turbines of the dams. It is simply an unjustifiable proposal given the status of Columbia River salmon stocks and current fishery limits.

The Federal government has the legal obligation under federal law **to restrict other** activities that impact listed species **before** restricting the Columbia River treaty Indian fishery any further. This must be done to **comply** with the conservation principles established in *United States versus Oregon*. **Until everyone**, Indian and non-Indian, can resume fishing at its full potential, we can not forget the work that we have to do **together** to recover all salmon and steelhead runs for our future generations.

As the Council considers various fishery options over the next month, it should consider the following management principles.

> Harvest rates must account for **all** sources of mortalities including mortalities in groundfish fisheries and non-harvest mortality and the harvest rates be sustainable and support rebuilding of weak and depressed stocks.
>
> Non-tribal river and ocean fisheries **must** allow sufficient escapement so the tribes can harvest their fair share of the harvestable fish. The allocation between tribal and non-tribal fisheries must include mortalities from all sources, not just fishery mortalities.
>
> **Habitat** protection and restoration and stock supplementation must be a part of the long term solution.

This concludes my statement. Thank You.

Exhibit C.4.e
Supplemental WDFW/Tribal Recommendations
March 9, 2004

WDFW and Tribal 2004 Management Objectives for Puget Sound Chinook and Coho Salmon

Amendment 14 to the Pacific Coast Salmon Plan recognizes and allows for annual management targets to be established for Puget Sound chinook and coho salmon pursuant to rules and procedures established under U.S. v. Washington. It further recognized that WDFW and the effected tribes were establishing new objectives for coho salmon based on stepped exploitation rates, which would replace the previously defined management objectives. It also recognized that for Puget Sound chinook salmon, which are listed as a threatened species under the ESA, additional conservation objectives would be provided by NMFS, WDFW and the tribes.

As provided for in Amendment 14, WDFW and the effected tribes have established, pursuant to their obligations and authorities under U.S. v. Washington, management objectives for Puget Sound chinook and coho salmon. The attached tables provide the objectives for use during the 2004 regulation setting process. They are based on a similar approach to the objectives provided to the Council the past several years. The management objectives define the maximum impact levels allowed for 2004 fisheries.

For Puget Sound chinook salmon the management objectives are part of a revised and updated six year harvest plan (2004 through 2009) developed by WDFW and the Puget Sound Tribes. Specific details on interpretation and implementation of the objectives are provided in the plan document. NOAA-Fisheries is currently reviewing this six year plan to determine if it continues to meet the requirements of the ESA, under limit #6 of the 4(d) rule for the Puget Sound chinook ESU.

2004 Puget Sound Primary Natural Coho Mangement Unit Exploitation Rate Ceilings

Management Unit	Preseason Forecast of Abundance	Allowable Exploitation Rate
Strait of Juan de Fuca	35,700	60%
Hood Canal	98,700	65%
Skagit	155,800	60%
Stillaguamish	38,000	50%
Snohomish	192,100	60%

2

2004 Management Objectives for Puget Sound Chinook

WDFW and Treaty Tribes

Management objectives are stated in the WDFW & Tribal Puget Sound Chinook Harvest Management Plan, which has been submitted to NMFS for evaluation under the Endangered Species Act.

Objectives are expressed as total, southern U.S. (SUS), or pre-terminal, southern U.S. exploitation rate (ER) ceilings, and / or escapement goals for natural spawners.

Southern U.S. fisheries will be planned to meet the objectives for the weakest management units. Exploitation rates will, therefore, be below the ceiling for most units.

Natural Management Unit	2004 Objective
Nooksack Early [1]	7% SUS ER ceiling [2]
Skagit Summer Fall	50% total ER ceiling
Skagit Spring	38% total ER ceiling
Stillaguamish	25% total ER ceiling
Snohomish	21% total ER ceiling [3]
Lake Washington (Cedar River)	15% Pre-terminal SUS ER ceiling
Green	15% Pre-terminal SUS ER ceiling
White	20% total ER ceiling
Puyallup	50% total ER ceiling
Nisqually	Escapement goal 1100 natural spawners
Skokomish	15% Pre-terminal SUS ER ceiling
Mid Hood Canal [1]	12% Pre-terminal SUS ER ceiling
Dungeness [1]	6% SUS ER ceiling
Elwha	10% SUS ER ceiling
Western Strait of Juan de Fuca (Hoko)	10% SUS ER ceiling

[1] These managements units are projected to be in critical status. Their objectives may be lower, pursuant the Chinook Harvest Management Plan, depending on model prediction of the SUS ER associated with 2003 fisheries and 2004 forecast abundance.

[2] The Chinook Harvest Management Plan allows an SUS ER ceiling of 9% once every five years for the Nooksack MU, if Fraser River sockeye fisheries are expected to incur unusual incidental mortality.

[3] A SUS ER objective (15% or less) may be adopted during the planning process, depending on the scale of intercepting northern fisheries, to maintain the Minimum Fisheries Regime in the SUS waters, as specified in the Chinook Harvest Management Plan.

INTEGRATION OF MANAGEMENT IN OCEAN AND COLUMBIA RIVER FISHERIES IN 2004 TO MEET CONSERVATION REQUIREMENTS FOR OREGON COASTAL NATURAL AND LOWER COLUMBIA RIVER NATURAL COHO SALMON

Introduction

Oregon Coastal Natural (OCN) coho and lower Columbia River Natural (LCN) coho populations are assumed to have similar temporal and spatial distributions in ocean fisheries. OCN coho are listed as threatened under the federal Endangered Species Act (ESA) and LCN coho populations in Oregon have been listed as endangered under Oregon's ESA. A federally approved management plan prepared for the Pacific Fishery Management Council (PFMC) constrains overall allowable fishery impacts on OCN. A management plan for LCN coho that has been approved by the Oregon Fish and Wildlife Commission (OFWC) includes allowable overall impact rates for all salmon fisheries and separate allowable harvest rates for Columbia River salmon fisheries and ocean salmon fisheries. Whereas all salmon fisheries that affect OCN coho can be controlled under federal ESA jeopardy standards, only a few of the fisheries that impact LCN coho are within the exclusive jurisdiction of Oregon's endangered species law and the Oregon Department of Fish and Wildlife (ODFW). ODFW's goal is to achieve both federal and state management objectives for OCN and LCN coho. Beginning in 2002, ODFW requested that the PFMC consider the conservation needs for OCN and LCN coho concurrently when setting ocean salmon fisheries. What follows are synopses of management plans for OCN and LCN coho and a discussion of their integration.

Management of OCN Coho

In 1995, the National Marine Fisheries Service (NMFS) proposed coho populations in both the Oregon Coastal and Southern Oregon/ Northern California evolutionarily significant units (ESUs) for listing under the federal ESA. In August of 1998, OCN coho in the Oregon Coast ESU north of Cape Blanco were listed as threatened. In an attempt to restore OCN coho and avert the proposed ESA listings the state of Oregon initiated the Governor's Coastal Salmon Restoration Initiative (Oregon Plan). Concurrently the PFMC began to consider an amendment to their Fishery Management Plan (FMP) that would insure that fishery related impacts would not act as a significant impediment to the recovery of depressed OCN coho stocks.

The PFMC approved Amendment 13 to the FMP in November 1997 (PFMC 1999). Amendment 13 manages fisheries based upon exploitation rates, not spawner escapement objectives. Maximum allowable exploitation rates in Amendment 13 vary in response to changes in observed brood year specific parental spawner abundance and marine survival. Spawner abundance is expressed as a percent of spawners required for full seeding of high quality habitat. Full seeding is estimated from a habitat based production model. Marine survival is estimated as the jack to smolt ratio for hatcheries in the Oregon Production Index area. To implement this approach, managers constructed "Low", "Medium", and "High" categories across the range of observed historic values for both OCN coho parental spawner abundance and jack to smolt survival (marine survival). The categories for parental spawner abundance and marine survival defined the two axes of a three by three harvest management matrix. Maximum allowable exploitation rates calculated for each matrix intersection are based upon estimates of habitat production potential, for the given combination of parental spawner abundance and marine survival.

In November 1999, the PFMC approved the formation of an ad hoc OCN work group composed of representatives from ODFW, PFMC, and NMFS to complete a year 2000 review of Amendment 13. The review focused on parental spawner criteria, marine survival criteria, and allowable impact rates in the harvest management matrix. The amended matrix that the OCN work group recommended includes new "Critical" and "Very Low" parental spawner categories, a new "Extremely Low" marine survival category, allowable fishery impacts for new cells, and some adjustments of allowable impacts in pre-existing cells (Table 1). The new harvest management matrix was adopted as scientific guidance by the PFMC in November 2000.

Management of LCN Coho

Under terms of the Oregon's ESA, the OFWC listed lower Columbia River natural coho salmon as an endangered species in July 1999. Under provisions of that same law, the ODFW, with the assistance of staff from the Washington Department of Fish and Wildlife (WDFW) prepared an endangered species management plan that was adopted by the OFWC in July 2001. One of the several required elements in this plan is a description of how state agencies will manage state lands, including a harvest management plan.

The harvest management section of the endangered species management plan for LCN coho is designed to manage mortality associated with ocean and Columbia River fisheries in a manner that is consistent with the conservation and recovery of the species. The approach to accomplish this goal will be to scale annual fishery impacts to the forecast run strength of each year's return of naturally produced coho.

The method to determine the annual maximum fishery impact rates for LCN coho salmon are based upon the same two predictive variables that are used in the Amendment 13 for OCN coho; parental spawner abundance and ocean survival. The integration of these two factors in setting maximum harvest rates is accomplished using the same harvest matrix approach as described for the management of OCN stocks of coho through the Amendment 13 in the annual PFMC management process for ocean fisheries. However, for LCN coho three harvest matrices are used: one for ocean fisheries (Table 2), one for freshwater fisheries (Table 3), and one that depicts the maximum allowable cumulative fishery impact rates for ocean and freshwater fisheries combined (Table 4). In all three matrices, the index of marine survival is the same as the one used for OCN coho in Amendment 13 and parental escapement is the observed number of natural adult coho spawning in the Sandy and Clackamas rivers expressed as a fraction of full seeding. Full seeding in each case is estimated from spawner recruitment analyses. The parental status for each of the two populations is applied to the harvest matrices and a maximum harvest rate for each population is estimated. These allowable maximum harvest rates for the two populations are then averaged to obtain the overall maximum impact rate for LCN coho.

Integration of Management for OCN and LCN Coho

In many instances, fishery constraints to protect LCN coho under Oregon's ESA and fishery constraints to protect OCN coho under Plan Amendment 13 and the Federal ESA are complimentary. Management matrices for both incorporate the same marine survival index and a review of historic data indicate that the spawner abundance status for OCN and LCN coho are often the same. Furthermore, even though LCN coho are impacted at a higher rate in freshwater (due to the magnitude of Columbia River fisheries), the allowable cumulative impact rates for LCN are higher than for OCN under the respective management plans. Hence, if marine survival and parental spawner status are the same for both LCN and OCN coho and ocean impacts for both are the same, allowable constraints for LCN coho can still be achieved even with the added impacts from Columbia River fisheries.

In contrast, there may be instances when allowable cumulative fishery impacts for LCN coho (Table 4) may not be achievable if allowable impacts on OCN coho are higher. The latter instance can occur if OCN coho have a higher parental spawner status than lower Columbia River wild coho. In that instance, to balance needs of Columbia River and ocean fisheries, ODFW may request that co-mangers in the PFMC process constrain ocean fisheries beyond what is called for to protect OCN coho in Plan Amendment 13. In any case, a strong cooperative effort among co-managers in the PFMC and Columbia River management arenas will be required to successfully integrate conservation needs for OCN coho under Federal ESA standards and LCN coho under conditions stipulated by ODFW's endangered species management plan. A summary of OCN and LCN coho parental spawner status for brood years 1999-2003 (fishery years 2002-2006) is displayed in Table 5.

2002 Integration of Management for OCN and LCN Coho

The management criteria based on parental spawner status for 1999 brood OCN coho differed from that for 1999 brood LCN coho. The parental spawner category for 1999 brood year OCN coho was "Low". On

the other hand, the 1999 brood year parental spawner status for natural coho in the Clackamas River was "Critical" and in the Sandy River was "Very Low". Marine survival for OPI coho resulting from 1999 parental spawners was "Low". Hence, the maximum allowable cumulative impact rate for OCN coho in all 2002 salmon fisheries was 15% (Table 1) whereas the maximum allowable cumulative impact rate for LCN coho, including ocean fisheries, was 14% (average of 11.7% and 16.3%, Table 4). This included an average maximum allowable harvest rate of 5% on LCN in Columbia River fisheries (average of 4% and 6%, Table 3). Therefore, if co-managers in the Columbia River basin needed to craft Columbia River fisheries that utilized the full 5% harvest rate for LCN coho then they had to request that the PFMC constrain overall impacts to OCN coho to less than or equal to approximately 10.5%. This is equivalent to an ocean fishery impact rate on OCN and LCN coho of approximately 9.4% and achieves the cumulative allowable impact rate of 14% for LCN coho (Table 6). Alternatively, co-managers for Columbia River fisheries could agree to constrain in-river fishery impacts to something less than 5%. In that case, constraints on ocean fisheries could be relaxed accordingly. For example, if the harvest rate in the Columbia River fisheries is reduced to 3.5%, then the allowable overall impact rate of 14% on lower Columbia River coho could be achieved if ocean impacts on lower Columbia River coho were constrained to 10.9%. In that case, the overall impact rate on OCN coho would be approximately 12% (i.e. 10.9% in ocean fisheries and about 1.1% in freshwater fisheries, Table 6). In 2002, a strong cooperative effort among co-managers in the PFMC and Columbia River management arenas was made to integrate conservation needs for OCN coho under Federal ESA standards and LCN coho under conditions stipulated by ODFW's endangered species management plan. The ocean fishery impact rate on OCN and LCN was constrained to 11.3%, leaving approximately 2.7% and 3.7% for use in management of LCN and OCN freshwater fisheries, respectively.

2003 Integration of Management for OCN and LCN Coho

The management criteria based on parental spawner status for 2000 brood OCN coho differed slightly from that for 2000 brood LCN coho. The parental spawner category for 2000 brood year OCN coho was "High" for two sub-aggregates and "Low" for one sub-aggregate. On the other hand, the 2000 brood year parental spawner status for natural coho in the Clackamas and Sandy rivers was "Medium" for both. Marine survival for OPI coho resulting from 2000 parental spawners was "Medium". Hence, the maximum allowable cumulative impact rate for OCN coho in all 2003 salmon fisheries was 15% (Table 1) whereas the maximum allowable cumulative impact rate for LCN coho, including ocean fisheries, was 29.2% (Table 4). This included a maximum allowable harvest rate of 20% on LCN in ocean fisheries and 11.5% on LCN in Columbia River fisheries (Tables 2 and 3). Therefore, co-managers in the Columbia River basin had the ability to utilize the full 11.5% harvest rate for LCN coho and did not have to request that the PFMC constrain overall impacts to OCN coho to less than what is allowed under the federal ESA.

2004 Integration of Management for OCN and LCN Coho

The management criteria based on parental spawner status for 2001 brood OCN coho again differed slightly from that for 2001 brood LCN coho. The parental spawner category for 2001 brood year OCN coho was "High" for two sub-aggregates and "Low" for one sub-aggregate. On the other hand, the 2001 brood year parental spawner status for natural coho in the Clackamas and Sandy rivers was "High" for both. Marine survival for OPI coho resulting from 2001 parental spawners was "Medium". Hence, the maximum allowable cumulative impact rate for OCN coho in all 2004 salmon fisheries is 15% (Table 1) whereas the maximum allowable cumulative impact rate for LCN coho, including ocean fisheries, is 40.5% (Table 4). This includes a maximum allowable harvest rate of 30% on LCN in ocean fisheries and 15% on LCN in Columbia River fisheries (Tables 2 and 3). Therefore, co-managers in the Columbia River basin could utilize the full 15% harvest rate for LCN coho and not have to request that the PFMC constrain overall impacts to OCN coho to less than what is allowed under the federal ESA.

Curt Melcher
Fish Division
ODFW
February 12, 2004

Table 1. OCN work group revisions to the harvest management matrix in Plan Amendment 13 showing allowable fishery impacts and ranges of resulting recruitment for each combination of parental spawner abundance and marine survival.

Parent Spawner Status [1/]	Marine Survival Index (based on return of jacks per hatchery smolt)			
	Extremely Low (<0.0008)	**Low** (0.0008 to 0.0014)	**Medium** (>0.0014 to 0.0040)	**High** (>0.0040)
High Parent Spawners > 75% of full seeding	**E** ≤ 8%	**J** ≤ 15%	**O** ≤ 30%	**T** ≤ 45%
Medium Parent Spawners > 50% & ≤ 75% of full seeding	**D** ≤ 8%	**I** ≤ 15%	**N** ≤ 20%	**S** ≤ 38%
Low Parent Spawners > 19% & ≤ 50% of full seeding	**C** ≤ 8%	**H** ≤ 15%	**M** ≤ 15%	**R** ≤ 25%
Very Low Parent Spawners > 4 fish per mile & ≤ 19% of full seeding	**B** ≤ 8%	**G** ≤ 11%	**L** ≤ 11%	**Q** ≤ 11%
Critical [2/] Parental Spawners ≤ 4 fish per mile	**A** 0 - 8%	**F** 0 - 8%	**K** 0 - 8%	**P** 0 - 8%

Sub-aggregate and Basin Specific Spawner Criteria Data

Sub-aggregate	Miles of Available Spawning Habitat	100% of Full Seeding	"Critical"		Very Low, Low, Medium & High		
			4 Fish per Mile	12% of Full Seeding	19% of Full Seeding	50% of Full Seeding	75% of full Seeding
Northern	899	21,700	3,596	NA	4,123	10,850	16,275
North - Central	1,163	55,000	4,652	NA	10,450	27,500	41,250
South - Central	1,685	50,000	6,740	NA	9,500	25,000	37,500
Southern	450	5,400	NA	648	1,026	2,700	4,050
Coastwide Total	4,197	132,100	15,636		25,099	66,050	99,075

1/ Parental spawner abundance status for the OCN aggregate assumes the status of the weakest sub-aggregate.

2/ "Critical" parental spawner status is defined as 4 fish per mile for the Northern, North-Central, and South-Central sub-aggregates. Because the ratio of high quality spawning habitat to total spawning habitat in the Rogue River Basin differs significantly from the rest of the basins on the coast, the spawner density of 4 fish per mile does not represent "Critical" status for that basin. Instead. "Critical" status for the Rogue Basin (Southern Sub-aggregate) is estimated as 12% of full seeding of high quality habitat.

Table 2. Harvest management matrix for LCN coho salmon showing maximum allowable **OCEAN** fishery mortality rates.

Parental Escapement [1/]		**Marine Survival Index** (based on return of jacks per hatchery smolt)			
		Critical (<0.0008)	Low (< 0.0015)	Medium (< 0.0040)	High (> 0.0040)
High	> 0.75 full seeding	< 8.0%	< 15.0%	< 30.0%	< 45.0%
Medium	0.75 to 0.50 full seeding	< 8.0%	< 15.0%	< 20.0%	< 38.0%
Low	0.50 to 0.20 full seeding	< 8.0%	< 15.0%	< 15.0%	< 25.0%
Very Low	0.20 to 0.10 of full seeding	< 8.0%	< 11.0%	< 11.0%	< 11.0%
Critical	< 0.10 of full seeding	0 – 8.0%	0 – 8.0%	0 – 8.0%	0 – 8.0%

[1/] Full Seeding: Clackamas River = 3,800
Sandy River = 1,340

Table 3. Harvest management matrix for LCN coho salmon showing maximum allowable **FRESHWATER** fishery mortality rates.

Parental Escapement [1/]		**Marine Survival Index** (based on return of jacks per hatchery smolt)			
		Critical (<0.0008)	Low (< 0.0015)	Medium (< 0.0040)	High (> 0.0040)
High	> 0.75 full seeding	< 4.0%	< 7.5%	< 15.0%	< 22.5%
Medium	0.75 to 0.50 full seeding	< 4.0%	< 7.5%	< 11.5%	< 19.0%
Low	0.50 to 0.20 full seeding	< 4.0%	< 7.5%	< 9.0%	< 12.5%
Very Low	0.20 to 0.10 of full seeding	< 4.0%	< 6.0%	< 8.0%	< 10.0%
Critical	< 0.10 of full seeding	0.0 – 4.0%	0.0 – 4.0%	0.0 – 4.0%	0.0 – 4.0%

[1/] Full Seeding: Clackamas River = 3,800
Sandy River = 1,340

Table 4. Likely cumulative exploitation rates for LCN coho under the combined management protocols proposed for setting ocean and in-river fishery harvest rates.

Parental Escapement [1/]		**Marine Survival Index** (based on return of jacks per hatchery smolt)			
		Critical (<0.0008)	Low (< 0.0015)	Medium (< 0.0040)	High (> 0.0040)
High	> 0.75 full seeding	**< 11.7%**	**< 21.4%**	**< 40.5 %**	**< 57.4%**
Medium	0.75 to 0.50 full seeding	**< 11.7%**	**< 21.4%**	**< 29.2%**	**< 49.8%**
Low	0.50 to 0.20 full seeding	**< 11.7%**	**< 21.4%**	**< 22.7%**	**< 34.4%**
Very Low	0.20 to 0.10 of full seeding	**< 11.7%**	**< 16.3%**	**< 18.1%**	**< 19.9%**
Critical	< 0.10 of full seeding	**0.0 – 11.7%**	**0.0 – 11.7%**	**0.0 – 11.7%**	**0.0 – 11.7%**

[1/] Full Seeding: Clackamas River = 3,800
Sandy River = 1,340

Table 5. Parental spawner status for OCN and LCN coho for brood years 1999-2002 which translates into fishery years 2002-2006.

Fishery Year	**Parent Spawner Year**	**Parental Spawner Category**		
		OCN [1/]	**LCN Clackamas**	**LCN Sandy**
2002	1999	Low	Critical	Very Low
2003	2000	Low	Medium	Medium
2004	2001	Low	High	High
2005	2002	High	Low	Low
2006	2003	High	Medium	High

[1/] Category represents the status of the lowest sub-aggregate.

Table 6. Maximum allowable cumulative exploitation rates on LCN coho and how they relate to maximum allowable harvest rates on LCN coho in freshwater fisheries, harvest rates on LCN coho in ocean fisheries, and cumulative exploitation rates on OCN coho. Shaded cells depict in-river harvest rates or overall exploitation rates for LCN coho that exceed the maximum allowable in 2002 given the status of the parental spawners and the marine survival for the 1999 brood year production.

IMPACT RATES ON SURROGATE OCN COHO		FISHERY HARVEST RATES ON LOWER COLUMBIA RIVER NATURAL COHO											
			INRIVER										
OVERALL	FRESHWATER	OCEAN	1.0%	1.5%	2.0%	2.5%	3.0%	3.5%	4.0%	4.5%	5.0%	5.5%	6.0%
			OVERALL EXPLOITATION RATES ON LOWER COLUMBIA NATURAL COHO										
7.0%	1.13%	5.9%	6.8%	7.3%	7.8%	8.2%	8.7%	9.2%	9.6%	10.1%	10.6%	11.0%	11.5%
7.5%	1.13%	6.4%	7.3%	7.8%	8.2%	8.7%	9.2%	9.6%	10.1%	10.6%	11.1%	11.5%	12.0%
8.0%	1.13%	6.9%	7.8%	8.3%	8.7%	9.2%	9.7%	10.1%	10.6%	11.1%	11.5%	12.0%	12.5%
8.5%	1.13%	7.4%	8.3%	8.8%	9.2%	9.7%	10.1%	10.6%	11.1%	11.5%	12.0%	12.5%	12.9%
9.0%	1.13%	7.9%	8.8%	9.3%	9.7%	10.2%	10.6%	11.1%	11.6%	12.0%	12.5%	12.9%	13.4%
9.5%	1.13%	8.4%	9.3%	9.7%	10.2%	10.7%	11.1%	11.6%	12.0%	12.5%	13.0%	13.4%	13.9%
10.0%	1.13%	8.9%	9.8%	10.2%	10.7%	11.1%	11.6%	12.1%	12.5%	13.0%	13.4%	13.9%	14.3%
10.5%	1.13%	9.4%	10.3%	10.7%	11.2%	11.6%	12.1%	12.5%	13.0%	13.4%	13.9%	14.4%	14.8%
11.0%	1.13%	9.9%	10.8%	11.2%	11.7%	12.1%	12.6%	13.0%	13.5%	13.9%	14.4%	14.8%	15.3%
11.5%	1.13%	10.4%	11.3%	11.7%	12.2%	12.6%	13.1%	13.5%	14.0%	14.4%	14.9%	15.3%	15.7%
12.0%	1.13%	10.9%	11.8%	12.2%	12.7%	13.1%	13.5%	14.0%	14.4%	14.9%	15.3%	15.8%	16.2%
12.5%	1.13%	11.4%	12.3%	12.7%	13.1%	13.6%	14.0%	14.5%	14.9%	15.4%	15.8%	16.2%	16.7%
13.0%	1.13%	11.9%	12.8%	13.2%	13.6%	14.1%	14.5%	15.0%	15.4%	15.8%	16.3%	16.7%	17.2%

SALMON ADVISORY SUBPANEL

PROPOSED INITIAL SALMON MANAGEMENT OPTIONS FOR 2004 NON-INDIAN OCEAN FISHERIES

March 9, 2004

TABLE 1. **Commercial troll** management options proposed by the SAS for non-Indian ocean salmon fisheries, 2004. (Page 1 of 7)

A. SEASON OPTION DESCRIPTIONS

OPTION I North of Cape Falcon	OPTION II North of Cape Falcon	OPTION III North of Cape Falcon
Supplemental Management Information: 1. Overall non-Indian TAC: 120,000 chinook and 275,000 coho. Trade: May be considered at the April Council meeting. 2. Non-Indian commercial troll TAC: 62,000 chinook and 68,750 coho. 3. Treaty Indian commercial ocean troll quotas of: 60,000 chinook (30,000 in May and June; 30,000 for all-salmon season July through Sept. 15 with no rollover allowed from chinook season); and 90,000 coho.	**Supplemental Management Information:** 1. Overall non-Indian TAC: 90,000 chinook and 225,000 coho. Trade: May be considered at the April Council meeting. 2. Non-Indian commercial troll TAC: 45,000 chinook and 56,250 coho. 3. Treaty Indian commercial ocean troll quotas of: 40,000chinook (20,000 in May and June; 20,000 for all-salmon season July through Sept. 15 with no rollover allowed from chinook season); and 75,000 coho.	**Supplemental Management Information:** 1. Overall non-Indian TAC: 60,000 chinook and 175,000 coho Trade: May be considered at the April Council meeting. 2. Non-Indian commercial troll TAC: 30,000 chinook and 43,750 coho. 3. Treaty Indian commercial ocean troll quotas of: 30,000 chinook (15,000 in May and June; 15,000 for all-salmon season July through Sept. 15 with no rollover allowed from chinook season); and 60,000 coho. 4. Overall Chinook TACs may need to be reduced or fisheries adjusted upon conclusion of NMFS ESA consultation for the Puget Sound Chinook Harvest Resource Management Plan.
U.S./Canada Border to Cape Falcon • May 1 through earlier of June 30 or 41,800 chinook quota. The fishery will be managed to provide a remaining quota of 800 chinook for a June 26-30 open period with a 75 fish per vessel landing limit for the five-day open period. All salmon except coho (C.6). Cape Flattery and Columbia Control Zones closed (C.4). See gear restrictions (C.2). Vessels must land and deliver their fish within the area or in Garibaldi, OR, and within 24 hours of any closure of this fishery. State regulations require that fishers south of Cape Falcon intending to fish within this area, and/or fishers fishing within this area intending to land salmon in Garibaldi, OR, notify Oregon Department of Fish and Wildlife (ODFW) before transiting the Cape Falcon line (45°46'00" N lat) at the following phone number (541) 867-0300 Ext. 252. Inseason actions may modify harvest guidelines in later fisheries to achieve or prevent exceeding the overall allowable troll harvest impacts (C.7.a).	**U.S./Canada Border to Cape Falcon** • May 1 through earlier of June 30 or 30,000 chinook quota. All salmon except coho (C.6). Cape Flattery and Columbia Control Zones closed (C.4). See gear restrictions (C.2). Vessels must land and deliver their fish within the area or in Garibaldi, OR, and within 24 hours of any closure of this fishery. State regulations require that fishers south of Cape Falcon intending to fish within this area, and/or fishers fishing within this area intending to land salmon in Garibaldi, OR, notify Oregon Department of Fish and Wildlife (ODFW) before transiting the Cape Falcon line (45°46'00" N lat) at the following phone number (541) 867-0300 Ext. 252. Inseason actions may modify harvest guidelines in later fisheries to achieve or prevent exceeding the overall allowable troll harvest impacts (C.7.a).	**U.S./Canada Border to Cape Falcon** • May 1 through earlier of June 30 or 25,000 chinook quota. All salmon except coho (C.6). Cape Flattery and Columbia Control Zones closed (C.4). See gear restrictions (C.2). Vessels must land and deliver their fish within the area or in Garibaldi, OR, and within 24 hours of any closure of this fishery. State regulations require that fishers south of Cape Falcon intending to fish within this area, and/or fishers fishing within this area intending to land salmon in Garibaldi, OR, notify Oregon Department of Fish and Wildlife (ODFW) before transiting the Cape Falcon line (45°46'00" N lat) at the following phone number (541) 867-0300 Ext. 252. Inseason actions may modify harvest guidelines in later fisheries to achieve or prevent exceeding the overall allowable troll harvest impacts (C.7.a).

TABLE 1. **Commercial troll** management options proposed by the SAS for non-Indian ocean salmon fisheries, 2004. (Page 2 of 7)

A. SEASON OPTION DESCRIPTIONS

OPTION I	OPTION II	OPTION III
U.S./Canada Border to Cape Falcon • July 2 through earlier of Sept. 15 or 20,200 preseason chinook guideline (C.7.a) or a 68,750 coho quota. Fishery is 5-days open/2-days closed. Landing limit of 150 chinook per 5-day open. All salmon (C.6). All retained coho must have a healed adipose fin clip, **except there may be an inseason conference call no earlier than August 1 for consideration of non-mark-selective coho retention.** Cape Flattery and Columbia Control Zones closed (C.4). See gear restrictions (C.2). Vessels must land and deliver their fish within the area or in Garibaldi, OR, and within 24 hours of any closure of this fishery. State regulations require that fishers south of Cape Falcon intending to fish within this area, and/or fishers fishing within this area intending to land salmon in Garibaldi, OR, notify Oregon Department of Fish and Wildlife (ODFW) before transiting the Cape Falcon line (45°46'00" N lat) at the following phone number (541) 867-0300 Ext. 252.). Trip limits, gear restrictions, and guidelines may be implemented or adjusted inseason.	**U.S./Canada Border to Cape Falcon** • July 9 through earlier of Sept. 15 or 15,000 preseason chinook guideline (C.7.a) or a 56,250 coho quota. Fishery is 5-days open/2-days closed. Landing limit of 150 chinook per 5-day open. All salmon (C.6). All retained coho must have a healed adipose fin clip. Cape Flattery and Columbia Control Zones closed (C.4). See gear restrictions (C.2). Vessels must land and deliver their fish within the area or in Garibaldi, OR, and within 24 hours of any closure of this fishery. State regulations require that fishers south of Cape Falcon intending to fish within this area, and/or fishers fishing within this area intending to land salmon in Garibaldi, OR, notify Oregon Department of Fish and Wildlife (ODFW) before transiting the Cape Falcon line (45°46'00" N lat) at the following phone number (541) 867-0300 Ext. 252.). Trip limits, gear restrictions, and guidelines may be implemented or adjusted inseason.	**U.S./Canada Border to Cape Falcon** • July 9 through earlier of Sept. 15 or 5,000 preseason chinook guideline (C.7.a) or a 43,750 coho quota. Fishery is 5-days open/2-days closed. Landing limit of 50 chinook per 5-day open. All salmon (C.6). All retained coho must have a healed adipose fin clip. Cape Flattery and Columbia Control Zones closed (C.4). See gear restrictions (C.2). Vessels must land and deliver their fish within the area or in Garibaldi, OR, and within 24 hours of any closure of this fishery. State regulations require that fishers south of Cape Falcon intending to fish within this area, and/or fishers fishing within this area intending to land salmon in Garibaldi, OR, notify Oregon Department of Fish and Wildlife (ODFW) before transiting the Cape Falcon line (45°46'00" N lat) at the following phone number (541) 867-0300 Ext. 252.). Trip limits, gear restrictions, and guidelines may be implemented or adjusted inseason.

TABLE 1. **Commercial troll** management options proposed by the SAS for non-Indian ocean salmon fisheries, 2004. (Page 3 of 7)

A. SEASON OPTION DESCRIPTIONS

OPTION I South of Cape Falcon	OPTION II South of Cape Falcon	OPTION III South of Cape Falcon
Cape Falcon to Florence South Jetty • March 15 through July 12; Aug. 1 through Aug. 20 and Sept. 1 through Oct. 31 (C.8). All salmon except coho (C.6). Chinook 27 inch minimum size limit beginning May 1 (B). See gear restrictions (C.2) and Oregon State regulations for a description of the closed area at the mouth of Tillamook Bay.	**Cape Falcon to Florence South Jetty** • March 15 through June 30 seven days per week; July 1 through Aug. 29 five days per week; and Sept. 1 through Oct. 31seven days per week (C.8). All salmon except coho (C.6). Chinook 27 inch minimum size limit beginning May 1 (B). See gear restrictions (C.2) and Oregon state regulations for a description of the closed area at the mouth of Tillamook Bay.	**Cape Falcon to Florence South Jetty** • Same as Option I.
In 2005, the season will open March 15 for all salmon except coho, with a 27 inch chinook minimum size limit. This opening could be modified following Council review at its November 2004 meeting.	In 2005, same as Option I.	In 2005, same as Option I.
Florence South Jetty to Humbug Mt. • March 15 through June 30; July 17 through July 31; Aug. 10 through Aug. 29; and Sept. 1 through Oct. 31 (C.8). All salmon except coho (C.6). Chinook 27 inch minimum size limit beginning May 1 (B). See gear restrictions (C.2).	**Florence South Jetty to Humbug Mt.** • March 15 through June 30 seven days per week; July 1 through Aug. 29 five days per week; and Sept. 1 through Oct. 31seven days per week (C.8). All salmon except coho (C.6). Chinook 27 inch minimum size limit beginning May 1 (B). See gear restrictions (C.2).	**Florence South Jetty to Humbug Mt.** • Same as Option I.
In 2005, the season will open March 1 for all salmon except coho, with a 27 inch chinook minimum size limit. This opening could be modified following Council review at its November 2003 meeting.	In 2005, same as Option I.	In 2005, same as Option I.

A. SEASON OPTION DESCRIPTIONS

OPTION I	OPTION II	OPTION III
Humbug Mt. to OR/CA Border • March 15 through May 31. All salmon except coho. See gear restrictions (C.2). • June 1 through earlier of June 30 or 2,600 chinook quota; • July 1 through earlier of July 31 or 1,400 chinook quota; • Aug. 1 through earlier of Aug. 29 or2,500 chinook quota; • Sept. 1 through earlier of Sept. 30 or 4,000 chinook quota All salmon except coho. Chinook minimum size limit of 27 inches beginning May 1. No transfer of remaining quota from earlier fisheries allowed (C.8). Possession and landing limit of 50 fish per day per vessel prior to Sept. 1; 100 fish per day in Sept. See gear restrictions (C.2). All salmon must landed and delivered to Gold Beach, Port Orford, or Brookings, and within 24 hours of closure. In 2005 the season will open March 15 for all salmon except coho with a 27 inch minimum size limit. This opening could be modified following Council review at its November 2004 meeting.	**Humbug Mt. to OR/CA Border** • March 15 through May 31. All salmon except coho. See gear restrictions (C.2). • June 1 through earlier of June 30 or 2,600 chinook quota; • July 1 through earlier of July 31 or 1,400 chinook quota; • Aug. 1 through earlier of Aug. 29 or 2,600 chinook quota; • Sept. 1 through earlier of Sept. 30 or 4,000 chinook quota. All salmon except coho Chinook minimum size limit of 27 inches beginning May 1. No transfer of remaining quota from earlier fisheries allowed (C.8).. Possession and landing limit of 50 fish per day per vessel prior to Sept. 1; 100 fish per day in Sept. See gear restrictions (C.2). All salmon must landed and delivered to Gold Beach, Port Orford, or Brookings, and within 24 hours of closure. In 2005, same as Option I.	**Humbug Mt. to OR/CA Border** • Same as Option I. In 2005, same as Option I.
OR/CA Border to Humboldt South Jetty • Sept. 1 through earlier of Sept. 30 or 10,000 chinook quota. All salmon except coho. Chinook minimum size limit of 27 inches. Possession and landing limit of 40 fish per day. All fish caught in this area must be landed within the area. See gear restrictions (C.2). Klamath Control Zone closed (C.4.).	**OR/CA Border to Humboldt South Jetty** • Same as Option I.	**OR/CA Border to Humboldt South Jetty** • Same as Option I.
Horse Mt. to Pt. Arena (Fort Bragg) • July 13 through Sept. 30. Chinook minimum size limit 27 inches prior to August 1. All salmon except coho. See gear restrictions (C.2).	**Horse Mt. to Pt. Arena (Fort Bragg)** • May 1 through May 22, and Aug. 1 through Sept. 30. All salmon except coho. See gear restrictions (C.2).	**Horse Mt. to Pt. Arena (Fort Bragg)** • July 1 through July 7 and July 20 through Sept. 30. All salmon except coho. All fish caught in this area must be landed within the area. See gear restrictions (C.2).
Pt. Arena to U.S./Mexico Border • May 1 through Sept. 30. All salmon except coho. Chinook minimum size limit 26 inches. See gear restrictions (C.2).	**Pt. Arena to U.S./Mexico Border** • Same as Option I.	**Pt. Arena to U.S./Mexico Border** • Same as Option I.

TABLE 1. **Commercial troll** management options proposed by the SAS for non-Indian ocean salmon fisheries, 2004. (Page 5 of 7)

A. SEASON OPTION DESCRIPTIONS

OPTION I	OPTION II	OPTION III
Pt. Reyes to Pt. San Pedro (Fall Area Target Zone) • Oct. 1 through Oct. 22, Monday through Friday. Inside 3 nautical miles. All salmon except coho. Chinook minimum size limit 26 inches. See gear restrictions (C.2).	**Pt. Reyes to Pt. Pan Pedro (Fall Area Target Zone)** Same as Option I	**Pt. Reyes to Pt. San Pedro (Fall Area Target Zone)** • Same as Option I

TABLE 1. **Commercial troll** management options proposed by the SASI for non-Indian ocean salmon fisheries, 2004. (Page 5 of 5)

B. MINIMUM SIZE (Inches)

	Chinook		Coho		
Area (when open)	Total Length	Head-off	Total Length	Head-off	Pink
North of Cape Falcon	28.0	21.5	16.0	12.0	None
Cape Falcon to Horse Mt.					
Prior to May 1	26.0[a/]	19.5[a/]	-	-	None
Beginning May 1	27.0[a/]	20.5[a/]	-	-	None
Horse Mt. to Pt. Arena					
Option I Prior to August 1	27.0[a/]	20.5[a/]	-	-	None
Option I Beginning August 1	26.0[a/]	19.5[a/]	-	-	None
Options II and III	26.0[a/]	19.5[a/]	-	-	None
Pt. Arena to US/Mexico Border	26.0[a/]	19.5[a/]	-	-	None

a/ Chinook not less than the minimum size limit in place for fish taken in open seasons south of Cape Falcon may be landed north of Cape Falcon only when the season is closed north of Cape Falcon.

C. REQUIREMENTS, DEFINITIONS, RESTRICTIONS, OR EXCEPTIONS

C.1. Compliance with Minimum Size or Other Special Restrictions: All salmon on board a vessel must meet the minimum size or other special requirements for the area being fished and the area in which they are landed if that area is open. Salmon may be landed in an area that is closed only if they meet the minimum size or other special requirements for the area in which they were caught.

C.2. Gear Restrictions:

a. Single point, single shank barbless hooks are required in all fisheries.

b. *Cape Falcon, Oregon to the Oregon/California border:* No more than 4 spreads are allowed per line.
Spread defined: A single leader connected to an individual lure or bait.

c. *Oregon/California border to U.S./Mexico border:* No more than 6 lines are allowed per vessel and barbless **circle** hooks are required when fishing with bait by any means other than trolling.
Circle hook defined: A hook with a generally circular shape and a point which turns inward, pointing directly to the shank at a 90° angle.
Trolling defined: Fishing from a boat or floating device that is making way by means of a source of power, other than drifting by means of the prevailing water current or weather conditions.

C.3. Transit Through Closed Areas with Salmon on Board: It is unlawful for a vessel to have troll or recreational gear in the water while transiting any area closed to fishing for a certain species of salmon, while possessing that species of salmon; however, fishing for species other than salmon is not prohibited if the area is open for such species and no salmon are in possession.

C.4. Control Zone Definitions:

a. *Cape Flattery Control Zone:* - The area from Cape Flattery (48° 23'00" N lat.) to the northern boundary of the U.S. EEZ; and the area from Cape Flattery south to 48°10'00" N lat. and east of 125°05'00" W long.

b. *Grays Harbor Control Zone* - The area defined by a line drawn from the Westport Lighthouse (46° 53'18" N. lat., 124° 07'01" W. long.) to Buoy #2 (46° 52'42" N. lat., 124°12'42" W. long.) to Buoy #3 (46° 55'00" N. lat., 124°14'48" W. long.) to the Grays Harbor north jetty (46° 36'00" N. lat., 124°10'51" W. long.).

c. *Columbia Control Zone* - An area at the Columbia River mouth, bounded on the west by a line running northeast/southwest between the red lighted Buoy #4 (46°13'35" N lat., 124°06'50" W long.) and the green lighted Buoy #7 (46°15'09' N lat., 124°06'16" W long.); on the east, by the Buoy #10 line which bears north/south at 357° true from the south jetty at 46°14'00" N lat.,124°03'07" W long. to its intersection with the north jetty; on the north, by a line running northeast/southwest between the green lighted Buoy #7 to the tip of the north jetty (46°14'48" N lat., 124°05'20" W long.), and then along the north jetty to the point of intersection with the Buoy #10 line; and, on the south, by a line running northeast/southwest between the red lighted Buoy #4 and tip of the south jetty (46°14'03" N lat., 124°04'05" W long.), and then along the south jetty to the point of intersection with the Buoy #10 line.

d. *Klamath Control Zone* - The ocean area at the Klamath River mouth bounded on the north by 41°38'48" N lat. (approximately 6 nautical miles north of the Klamath River mouth); on the west, by 124°23'00" W long. (approximately 12 nautical miles off shore); and, on the south, by 41°26'48" N lat. (approximately 6 nautical miles south of the Klamath River mouth).

C.5. Notification When Unsafe Conditions Prevent Compliance with Regulations: If prevented by unsafe weather conditions or mechanical problems from meeting special management area landing restrictions, vessels must notify the U.S. Coast Guard and receive acknowledgment of such notification prior to leaving the area. This notification shall include the name of the vessel, port where delivery will be made, approximate amount of salmon (by species) on board and the estimated time of arrival.

C. REQUIREMENTS, DEFINITIONS, RESTRICTIONS, OR EXCEPTIONS (cont'd)

C.6. Incidental Halibut Harvest: During authorized periods, the operator of a vessel that has been issued an incidental halibut harvest license may retain Pacific halibut caught incidentally in Area 2A while trolling for salmon. License applications for incidental harvest must be obtained from the International Pacific Halibut Commission (phone: 206-634-1838). Applicants must apply prior to April 1 of each year. Incidental harvest is authorized only during **May and June** troll seasons and after June 30 if quota remains and if announced on the NMFS hotline (phone: 800-662-9825). ODFW and WDFW will monitor landings. If the landings are projected to exceed the 44,554 pound preseason allocation or the total Area 2A non-Indian commercial halibut allocation, NMFS will take inseason action to close the incidental halibut fishery.

Option 1a: License holders may land no more than 1 halibut per each 3 chinook, except 1 halibut may be landed without meeting the ratio requirement, and no more than 35 halibut may be landed per trip. Halibut retained must be no less than 32 inches in total length (with head on).

Option 1b: License holders may land no more than 1 halibut per each ? chinook, except 1 halibut may be landed without meeting the ratio requirement, and no more than ?? halibut may be landed per trip. Halibut retained must be no less than 32 inches in total length (with head on).

Option 2: Designate a "C-shaped" yelloweye rockfish conservation area is an area to be avoided for salmon troll fishing. The area is defined in the Pacific Council Halibut Catch Sharing Plan in the North Coast subarea (WA marine area 3), with the following coordinates in the order listed:

48°18' N. lat.; 125°18' W. long;
48°18' N. lat.; 124°59' W. long;
48°11' N. lat.; 124°59' W. long;
48°11' N. lat.; 125°11' W. long;
48°04' N. lat.; 125°11' W. long;
48°04' N. lat.; 124°59' W. long;
48°00' N. lat.; 124°59' W. long;
48°00' N. lat.; 125°18' W. long;
And connecting back to 48°18' N. lat.; 125°18' W. long.

NOTE: Option 2 may be combined with either Option 1a or 1b.

C.7. Inseason Management: In addition to standard inseason actions or modifications already noted under the season description, the following inseason guidance is provided to NMFS:

a. Chinook remaining from the May-June non-Indian commercial troll harvest guideline north of Cape Falcon may be transferred to the July-September harvest guideline on a fishery impact equivalent basis.

b. At the March 2005 meeting, the Council will consider inseason recommendations for special regulations for any experimental April fisheries (proposals must meet Council protocol and be received in November 2004).

c. NMFS may transfer fish between the recreational and commercial fisheries north of Cape Falcon if there is agreement among the representatives of the Salmon Advisory Subpanel.

C.8. Consistent with Council management objectives, the State of Oregon may establish additional late-season, chinook-only fisheries in state waters. Check state regulations for details.

C.9. For the purposes of CDFG Code, Section 8232.5, the definition of the KMZ for the ocean salmon season shall be that area from Humbug Mt., Oregon to Horse Mt., California.

TABLE 2. **Recreational** management options proposed by the SAS for ocean salmon fisheries, 2004. (Page 1 of 7)

A. SEASON OPTION DESCRIPTIONS

OPTION I

North of Cape Falcon

Supplemental Management Information:

1. Overall non-Indian TAC: 120,000 chinook and 275,000 coho
   Trade: May be considered at the April Council meeting.
2. Recreational TAC: 58,000 chinook and 206,250 coho.
3. Area 4B add-on fishery of 0 coho; chinook retention in July only.
4. Buoy 10 fishery opens Aug. 1 with an expected landed catch of ??? coho in Aug. and ??? coho in Sept.
5. All retained coho must have a healed adipose fin clip.

U.S./Canada Border to Cape Alava (Neah Bay)

- June 20 through earlier of Sept. 30 or 21,450 coho subarea quota with a subarea guideline of 4,800 chinook.

All salmon, 7 days per week, 2 fish per day, no more than one of which may be a chinook (chinook 26-inch minimum size limit) (B). All retained coho must have a healed adipose fin clip, **except there may be an inseason conference call no earlier than September 1 for consideration of non-mark-selective coho retention beginning Sep. 7.**. See gear restrictions (C.2). Chinook non-retention east of the Bonilla-Tatoosh line (C.3.c) during Council managed ocean fishery. Inseason management may be used to sustain season length and keep harvest within the overall chinook recreational TAC for north of Cape Falcon (C.4).

OPTION II

North of Cape Falcon

Supplemental Management Information:

1. Overall non-Indian TAC: 90,000 chinook and 225,000 coho
   Trade: May be considered at the April Council meeting.
2. Recreational TAC: 45,000 chinook and 168,750 coho.
3. Area 4B add-on fishery of 0 coho (chinook nonretention)
4. Buoy 10 fishery opens Aug. 1 with an expected landed catch of ??? coho in Aug. and ??? coho in Sept.
5. All retained coho must have a healed adipose fin clip.

U.S./Canada Border to Cape Alava (Neah Bay)

- June 27 through earlier of Sept. 19 or 17,550 coho subarea quota with a subarea guideline of 4,100 chinook.

All salmon, 7 days per week, 2 fish per day, no more than one of which may be a chinook (chinook 26-inch minimum size limit) (B). All retained coho must have a healed adipose fin clip, **except there may be an inseason conference call no earlier than September 1 for consideration of non-mark-selective coho retention beginning Sept. 7.** See gear restrictions (C.2). Chinook non-retention east of the Bonilla-Tatoosh line (C.3.c) during Council managed ocean fishery. Inseason management may be used to sustain season length and keep harvest within the overall chinook recreational TAC for north of Cape Falcon (C.4).

OPTION III

North of Cape Falcon

Supplemental Management Information:

1. Overall non-Indian TAC: 60,000 chinook and 175,000 coho
   Trade: May be considered at the April Council meeting.
2. Recreational TAC: 30,000 chinook and 131,250 coho.
3. Area 4B add-on fishery of ??? coho opens upon ocean closure (C.5).
4. Buoy 10 fishery opens Aug. 1 with an expected landed catch of ??? coho in Aug. and ??? coho in Sept.
5. All retained coho must have a healed adipose fin clip.
6. Overall Chinook TACs may need to be reduced or fisheries adjusted upon conclusion of NMFS ESA consultation for the Puget Sound Chinook Harvest Resource Management Plan.

U.S./Canada Border to Cape Alava (Neah Bay)

- July 4 through earlier of Sept. 12 or 13,650 coho subarea quota (not adjusted for Area 4B add-on) with a subarea guideline of 3,200 chinook.

All salmon, 7 days per week, 2 fish per day, no more than one of which may be a chinook (chinook 26-inch minimum size limit) (B). All retained coho must have a healed adipose fin clip. See gear restrictions (C.2). Chinook non-retention east of the Bonilla-Tatoosh line (C.3.c) during Council managed ocean fishery. Inseason management may be used to sustain season length and keep harvest within the overall chinook recreational TAC for north of Cape Falcon (C.4).

TABLE 2. **Recreational** management options proposed by the SAS for ocean salmon fisheries, 2004. (Page 2 of 7)

A. SEASON OPTION DESCRIPTIONS

OPTION I

Cape Alava to Queets River (La Push)

- June 20 through earlier of Sept. 24 or 5,263 coho subarea quota with a subarea guideline of 2,550 chinook.
- Sep. 25 through Oct. 10 or 100 coho quota or 100 chinook quota: In the area north of 47° 50'00 and south of 48°00'00" (C.5).

All salmon, 7 days per week, 2 fish per day, no more than one of which may be a chinook (chinook 26-inch minimum size limit) (B). All retained coho must have a healed adipose fin clip, **except there may be an inseason conference call no earlier than September 1 for consideration of non-mark-selective coho retention beginning Sept. 7.** See gear restrictions (C.2). Inseason management may be used to sustain season length and keep harvest within the overall chinook recreational TAC for north of Cape Falcon (C.4).

Queets River to Leadbetter Pt. (Westport)

- June 20 through earlier of Sept. 30 or 76,312 coho subarea quota with a subarea guideline of 40,350 chinook.

Sun. through Thurs, except: there may be a conference call no later than Juy 28 to consider 7 days per week. All salmon, 2 fish per day, no more than one of which may be a chinook (chinook 26-inch minimum size limit) (B). All retained coho must have a healed adipose fin clip **except there may be an inseason conference call no earlier than September 1 for consideration of non-mark-selective coho retention beginning Sept. 7.**. See gear restrictions (C.2). Inseason management may be used to sustain season length and keep harvest within the overall chinook recreational TAC for north of Cape Falcon (C.4).

OPTION II

Cape Alava to Queets River (La Push)

- June 27 through earlier of Sept. 19 or 4,287 coho subarea quota with a subarea guideline of 1,950 chinook;
- Sep. 25 through Oct. 10 or 100 coho quota or 100 chinook quota: Inside area defined by a line from Teahwhit Head northwesterly to "Q" buoy to Cake Rock then true east to the shoreline (C.5).

All salmon, 7 days per week, 2 fish per day, no more than one of which may be a chinook (chinook 26-inch minimum size limit) (B). All retained coho must have a healed adipose fin clip, **except there may be an inseason conference call no earlier than September 1 for consideration of non-mark-selective coho retention beginning Sept. 7.** See gear restrictions (C.2). Inseason management may be used to sustain season length and keep harvest within the overall chinook recreational TAC for north of Cape Falcon (C.4).

Queets River to Leadbetter Pt. (Westport)

- June 27 through earlier of Sept. 19 or 62,438 coho subarea quota with a subarea guideline of 30,700 chinook.

Sun. through Thurs, except: there may be a conference call no later than Juy 28 to consider 7 days per week. All salmon, 2 fish per day, no more than one of which may be a chinook (chinook 26-inch minimum size limit) (B). All retained coho must have a healed adipose fin clip **except there may be an inseason conference call no earlier than September 1 for consideration of non-mark-selective coho retention beginning Sept. 7.**. See gear restrictions (C.2). Inseason management may be used to sustain season length and keep harvest within the overall chinook recreational TAC for north of Cape Falcon (C.4).

OPTION III

Cape Alava to Queets River (La Push)

- July 4 through earlier of Sept.12 or 3,313 coho subarea quota with a subarea guideline of 1,400 chinook.
- Sep. 25 through Oct. 10 or 100 coho quota or 100 chinook quota: In the area north of 47° 50'00 and south of 48°00'00" (C.5).

All salmon, 7 days per week, 2 fish per day, no more than one of which may be a chinook (chinook 26-inch minimum size limit) (B). All retained coho must have a healed adipose fin clip. See gear restrictions (C.2). Inseason management may be used to sustain season length and keep harvest within the overall chinook recreational TAC for north of Cape Falcon (C.4).

Queets River to Leadbetter Pt. (Westport)

- May 30 through July 1; and August 1 through Sept. 16 or attainment of the 48,563 coho quota, with a subarea guideline of 19,800 chinook. Any coho caught in other subareas and landed in the Westport subarea will count against the Westport coho quota.

Sun. through Thurs, except: there may be a conference call no later than Juy 28 to consider 7 days per week. All salmon, 2 fish per day, no more than one of which may be a chinook (chinook 26-inch minimum size limit) (B). All retained coho must have a healed adipose fin clip **except there may be an inseason conference call no earlier than September 1 for consideration of non-mark-selective coho retention beginning Sept. 7.**. See gear restrictions (C.2). Inseason management may be used to sustain season length and keep harvest within the overall chinook recreational TAC for north of Cape Falcon (C.4).

TABLE 2. **Recreational** management options proposed by the SAS for ocean salmon fisheries, 2004. (Page 3 of 7)

A. SEASON OPTION DESCRIPTIONS

OPTION I	OPTION II	OPTION III
Leadbetter Pt. to Cape Falcon (Columbia River) • June 27 through earlier of Sept. 30 or 103,125 coho subarea quota with a subarea guideline of 10,300 chinook. Sun. through Thurs, except: there may be a conference call no later than Juy 28 to consider 7 days per week. All salmon, 2 fish per day, no more than one of which may be a chinook (chinook 26-inch minimum size limit) (B). All retained coho must have a healed adipose fin clip **except there may be an inseason conference call no earlier than September 15 for consideration of non-mark-selective coho retention**. See gear restrictions (C.2). Columbia Control Zone closed (C.3.a). Closed between Cape Falcon and Tillamook Head beginning Aug.1. Inseason management may be used to sustain season length and keep harvest within the overall chinook recreational TAC for north of Cape Falcon (C.4).	**Leadbetter Pt. to Cape Falcon (Columbia River)** • July 4 through earlier of Sept. 30 or 84,375 coho subarea quota with a subarea guideline of 8,250 chinook. Sun. through Thurs, except: there may be a conference call no later than Juy 28 to consider 7 days per week. All salmon, 2 fish per day, no more than one of which may be a chinook (chinook 26-inch minimum size limit) (B). All retained coho must have a healed adipose fin clip **except there may be an inseason conference call no earlier than September 15 for consideration of non-mark-selective coho retention.**. See gear restrictions (C.2). Columbia Control Zone closed (C.3.a). Closed between Cape Falcon and Tillamook Head beginning Aug.1. Inseason management may be used to sustain season length and keep harvest within the overall chinook recreational TAC for north of Cape Falcon (C.4).	**Leadbetter Pt. to Cape Falcon (Columbia River)** • July 11 through earlier of Sept. 30 or 65.625 coho subarea quota with a subarea guideline of 5,600 chinook. Sun. through Thurs, except: there may be a conference call no later than Juy 28 to consider 7 days per week. All salmon, 2 fish per day, no more than one of which may be a chinook (chinook 26-inch minimum size limit) (B). All retained coho must have a healed adipose fin clip. See gear restrictions (C.2). Columbia Control Zone closed (C.3.a). Closed between Cape Falcon and Tillamook Head beginning Aug.1. Inseason management may be used to sustain season length and keep harvest within the overall chinook recreational TAC for north of Cape Falcon (C.4).

TABLE 2. **Recreational** management options proposed by the SAS for ocean salmon fisheries, 2004. (Page 4 of 7)

A. SEASON OPTION DESCRIPTIONS

OPTION I South of Cape Falcon	OPTION II South of Cape Falcon	OPTION III South of Cape Falcon
Cape Falcon to Humbug Mt • Except as provided below during the selective fishery, the season will be: Mar. 15 through Oct. 31 (C.5). All salmon except coho. 2 fish per day. See gear restrictions (C.2.). See Oregon State regulations for a description of a closure at the mouth of Tillamook Bay.	**Cape Falcon to Humbug Mt** • Same as Option I	**Cape Falcon to Humbug Mt** • Same as Option I
In 2005 the season will open March 15 for all salmon except coho. 2 fish per day. Same gear restrictions as in 2004. This opening could be modified following Council review at its November 2003 meeting.	In 2005, same as Option I.	In 2005, same as Option I.
Selective fishery: **Cape Falcon to OR/CA Border** • June 19 through earlier of Aug. 31 or a landed catch of 88,000 coho. 7 days per week, all salmon, 2 fish per day. All retained coho must have a healed adipose fin clip. Open days may be adjusted inseason to utilize the available quota (C.4). All salmon except coho season reopens the earlier of Sept. 1 or attainment of the coho quota.	Selective fishery: **Cape Falcon to Humbug Mt.** • June 19 through earlier of Aug. 31 or a landed catch of 75,000 coho. 7 days per week, all salmon, 2 fish per day. All retained coho must have a healed adipose fin clip. Open days may be adjusted inseason to utilize the available quota (C.4). All salmon except coho season reopens the earlier of Sept. 1 or attainment of the coho quota.	Selective fishery: **Cape Falcon to Humbug Mt.** • July 1 through earlier of Aug. 31 or a landed catch of 50,000 coho. 5 days per week (Tuesday-Saturday), all salmon, 2 fish per day. All retained coho must have a healed adipose fin clip. **2 days per week (Sunday and Monday) all salmon except coho, 2 fish per day.** Open days may be adjusted inseason to utilize the available quota (C.4). All salmon except coho season reopens the earlier of Sept. 1 or attainment of the coho quota.
Humbug Mt. to Horse Mt. (KMZ) • Except as provided above during the selective fishery, the season will be May 15 through Sept. 12. All salmon except coho. 7 days per week, 2 fish per day. See gear restrictions (C.2). Klamath Control Zone closed Aug. 1-31 (C.3.b).	**Humbug Mt. to Horse Mt. (KMZ)** • May 15 through Sept. 12. All salmon except coho. 7 days per week, 2 fish per day. See gear restrictions (C.2). Klamath Control Zone closed Aug. 1-31 (C.3.b).	**Humbug Mt. to Horse Mt. (KMZ)** • May 15 through Sept. 6. All salmon except coho. 7 days per week, 2 fish per day; no more than 6 fish in 7 consecutive days. See gear restrictions (C.2). Klamath Control Zone closed (C.3.b).
Horse Mt. to Pt. Arena (Fort Bragg) • Feb. 15 through Nov. 16. All salmon except coho. 2 fish per day. Chinook minimum size 24 inches through April 30 and 20 inches thereafter (B). See gear restrictions (C.2).	**Horse Mt. to Pt. Arena (Fort Bragg)** • Same as Option I.	**Horse Mt. to Pt. Arena (Fort Bragg)** • Same as Option I.
In 2005, season opens Feb. 14 (nearest Sat. to Feb. 15) for all salmon except coho. 2 fish per day, chinook 24-inch minimum size limit through April 30; same gear restrictions as in 2003.	In 2005, same as Option I.	In 2005, same as Option I.

TABLE 2. **Recreational** management options proposed by the SAS for ocean salmon fisheries, 2004. (Page 5 of 7)

A. SEASON OPTION DESCRIPTIONS

OPTION I	OPTION II	OPTION III
Pt. Arena to Pigeon Pt. • April 17 through Nov. 14. All salmon except coho. 2 fish per day. Chinook minimum size limit 24 inches through April 30 and 20 inches thereafter (B). See gear restrictions (C.2). In 2005, the season will open Apr. 4 for all salmon except coho. 2 fish per day, 24-inch minimum size limit and the same gear restrictions as in 2004. This opening could be modified to allow an earlier opening date following Council review at its November 2004 meeting.	**Pt. Arena to Pigeon Pt.** • Same as Option I In 2005, same as Option I.	**Pt. Arena to Pigeon Pt.** • Same as Option I In 2005, same as Option I.
Pigeon Pt. to U.S./Mexico Border • April 3 through Oct. 3. All salmon except coho. 2 fish per day. Chinook minimum size limit 24 inches through April 30 and 20 inches thereafter (B). See gear restrictions (C.2). In 2005, the season will open Apr. 4 for all salmon except coho. 2 fish per day, chinook 24-inch minimum size limit and the same gear restrictions as in 2003.	**Pigeon Pt. to U.S./Mexico Border** • Same as Option I. In 2005, same as Option I.	**Pigeon Pt. to U.S./Mexico Border** • Same as Option I. In 2005, same as Option I.

B. MINIMUM SIZE (Total Length in Inches)

Area (when open)		Chinook	Coho	Pink
North of Cape Falcon:	Options I & II	26.0	16.0	None
Cape Falcon to Horse Mt.		20.0	16.0	None, except 20.0 off CA
Horse Mountain to Pt. Arena:	Prior to May 1	24.0	-	20.0
	Beginning May 1	20.0	-	20.0
South of Pt. Arena:	Prior to May 1	24.0	-	20.0
	Beginning May 1	20.0	-	20.0

C. REQUIREMENTS, DEFINITIONS, RESTRICTIONS, OR EXCEPTIONS

C.1. Compliance with Minimum Size and Other Special Restrictions: All salmon on board a vessel must meet the minimum size or other special requirements for the area being fished and the area in which they are landed if that area is open. Salmon may be landed in an area that is closed only if they meet the minimum size or other special requirements for the area in which they were caught.

C.2. Gear Restrictions: All persons fishing for salmon, and all persons fishing from a boat with salmon on board, must meet the gear restrictions listed below for specific areas or seasons.

a. *U.S./Canada Border to Pt. Conception, California*: No more than one rod may be used per angler and single point, single shank barbless hooks are required for all fishing gear. [**Note:** ODFW regulations in the state-water fishery off Tillamook Bay may allow the use of barbed hooks to be consistent with inside regulations.]

b. *Cape Falcon, Oregon to Pt. Conception, California*: Anglers must use no more than 2 single point, single shank barbless hooks.

c. *Horse Mt., California to Pt. Conception, California:* Single point, single shank, barbless **circle** hooks (below) must be used if angling with bait by any means other than trolling and no more than 2 such hooks shall be used. When angling with 2 hooks, the distance between the hooks must not exceed 5 inches when measured from the top of the eye of the top hook to the inner base of the curve of the lower hook, and both hooks must be permanently tied in place (hard tied). Circle hooks are not required when artificial lures are used without bait.
Circle hook defined: A hook with a generally circular shape and a point which turns inward, pointing directly to the shank at a 90° angle;
Trolling defined: Angling from a boat or floating device that is making way by means of a source of power, other than drifting by means of the prevailing water current or weather conditions.

C. REQUIREMENTS, DEFINITIONS, RESTRICTIONS, OR EXCEPTIONS (Continued)

C.3. Control Zone Definitions:

a. *Columbia Control Zone* - An area at the Columbia River mouth, bounded on the west by a line running northeast/southwest between the red lighted Buoy #4 (46°13'35" N latitude, 124°06'50" W longitude) and the green lighted Buoy #7 (46°15'09' N latitude, 124°06'16" W longitude); on the east, by the Buoy #10 line which bears north/south at 357° true from the south jetty at 46°14'00" N latitude, 124°03'07" W longitude to its intersection with the north jetty; on the north, by a line running northeast/southwest between the green lighted Buoy #7 to the tip of the north jetty (46°14'48" N latitude, 124°05'20" W longitude) and then along the north jetty to the point of intersection with the Buoy #10 line; and, on the south, by a line running northeast/southwest between the red lighted Buoy #4 and tip of the south jetty (46°14'03" N latitude, 124°04'05" W longitude), and then along the south jetty to the point of intersection with the Buoy #10 line.

b. *Grays Harbor Control Zone* - The area defined by a line drawn from the Westport Lighthouse (46° 53'18" N. lat., 124° 07'01" W. long.) to Buoy #2 (46° 52'42" N. lat., 124°12'42" W. long.) to Buoy #3 (46° 55'00" N. lat., 124°14'48" W. long.) to the Grays Harbor north jetty (46° 36'00" N. lat., 124°10'51" W. long.).

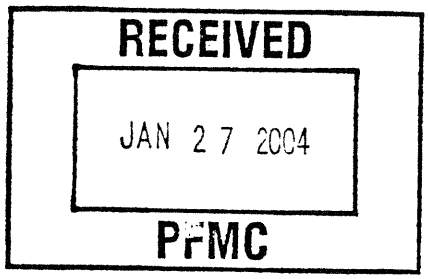
c. *Klamath Control Zone* - The ocean area at the Klamath River mouth bounded on the north by 41°38'48" N latitude (approximately 6 nautical miles north of the Klamath River mouth); on the west, by 124°23'00" W longitude (approximately 12 nautical miles off shore); and, on the south, by 41°26'48" N latitude (approximately 6 nautical miles south of the Klamath River mouth).

d. *The Bonilla-Tatoosh Line* is defined as: A line running from the western end of Cape Flattery to Tatoosh Island Lighthouse (48°23'30" N latitude, 124°44'12" W longitude) to the buoy adjacent to Duntze Rock (48°28'00" N latitude, 124°45'00" W longitude), then in a straight line to Bonilla Point (48°35'30" N latitude, 124°43'00" W longitude) on Vancouver Island, B.C.

C.4. Inseason Management: Regulatory modifications may become necessary inseason to meet preseason management objectives such as quotas, harvest guidelines and season duration. Actions could include modifications to bag limits or days open to fishing, and extensions or reductions in areas open to fishing. NMFS may transfer coho inseason among recreational subareas North of Cape Falcon to help meet the recreational season duration objectives (for each subarea) after conferring with representatives of the affected ports and the Salmon Advisory Subpanel recreational representatives north of Cape Falcon. NMFS may also transfer fish between the recreational and commercial fisheries north of Cape Falcon if there is agreement among the representatives of the Salmon Advisory Subpanel.

C.5. Additional Seasons in State Territorial Waters: Consistent with Council management objectives, the states of Washington and Oregon may establish limited seasons in state waters. Oregon state-water fisheries are limited to chinook salmon. Check state regulations for details.

Exhibit C.4.h
Supplemental Public Comment
March 2004



Sir:

Ignoring pleas from myself and other sportsmen that go fishing not only for meat but also sport, the Calif. Fish and Game commission has capitulated to the party boat owners and approved "boat limits".

Their reasons for approving boat limits are faulty. They say it will allow a father to help his daughter catch fish, etc. The way it really works is that a fish hog that happens to have a hot spot on the boat will continue to fish and catch after he already has his limit. I have seen one "sportsman" catch seven salmon on a trip. The limit is two. They do not "pass the rod" to someone else after they have a limit as the party boat owners claim, but keep them all until the boat limit is reached and the boat heads to the dock, sometimes very early in the day. They then pick out the two largest salmon and pass the smaller ones to those that did not catch fish. As most of the party boats in this area take 15 to 35 people at a time, this practice not only allows fish hogs to catch more than their limits, but effectively cheats some of us out of the fishing experience we have paid seventy dollars or more for. For bottom fish this practice has minimal effect, as the limit is plentiful, and fish caught in deep water will die if released, but for Salmon the limit is two and this practice not only effects the Salmon population, (we are supposed to be fishing, not just catching) but throws sportsmanship right out the window. Many of us would rather go home fishless than take culls from a game hog.

I understand that your mission primarily is to protect the resource, and one of the ways you do this is to set individual bag limits. I ask that in the case of Salmon you require the state of California to enforce your individual bag limit instead of "boat limits".

Jack Bradley
2414 Renfrew st
Napa ca. 94558

TESTIMONY OF TERRY COURTNEY, JR.
PFMC, MARCH 9, 2004, TACOMA, WA

Good morning Mr. Chairman and members of the Council. I am called Little Brother, my Christian name is Terry Courtney, Jr. I am a traditional platform fisherman from Warm Springs. My ancestors lived on the Columbia River for centuries at Wa-Shuks, Lone Pine Tree by The Dalles Dam.

I have here in my hands a copy of our Treaty of 1855 that states that our people RESERVED our rights to fish at all our usual and accustomed stations in common with the citizens of the United States.

Our forefathers signed this Treaty with honor and visions that our fish and our ways of life would be carried on into the unforeseen future. The Treaty is documented in the Constitution of the United States under Article 6 and states it is part of the supreme law of the land and the states must recognize the Treaty as such.

With me is Stuart Ellis, one of our many specialized staff persons that helps our Tribes. The Boldt Decision reminded the Treaty Tribes that they needed their own scientists and biologist so when they came to the table on fishing issues they should be equal.

On March 10, 1957, The Dalles Dam flooded out Celilo Falls, the last of the giant Indian fishing areas on the Columbia River. Celilo was also the last of our giant trading posts. In 1938, many Tribal people and non-tribal people, with special dignitaries from the Northwest United States were gathered on the banks of the Columbia River (NiChwana)

to witness Bonneville Dam close their headgates. As the mighty river calmed behind the huge concrete walls and the lake formed and fanned out over the old Indian fishing grounds and their village sites, one of the tribal elders voiced his concerns for the salmon and what the Columbia River would be like. The elder had tears in his eyes and his boice quavered as he saw his heritage and culture devastated. One of the dignitaries came over to the tribal elder and told him not to work. He said "Don't worry, old man. We will build fish hatcheries. You will have more fish than you've ever seen in your life."

END!!!

As long as the dams are on the Columbia River and don't go away, there are obligations by other entities that have to cover Treat trust responsibilities to the Columbia River Tribes.

========== Mitchell Act of 1938, revised in 1946 by Congress ==========

And cheap electricity in the Northwest is detrimental to all the Fishing Tribes in the Northwest. "Rates and conservation"

Exhibit G.1.c
Supplemental Public Comment
March 2004

Testimony of Terry Courtney, Jr. at PFMC
March 11, 2004, Tacoma, WA

Good morning Mr. Chairman, members. My name is Terry Courtney, Jr., Fish and Wildlife Committee, a traditional platform fisherman of the Columbia River Tribes.

From a former BPA director now a consultant for a power user group "fifteen" fish are saved during this period of summer spill flow in the Columbia River Basin. CoE has no new plans yet for pool refilling. BPA is claiming that there is economic decline in the Northwest's economy. BPA has finally persuaded NWPCC to be on their side as to eliminating summer spill flows and also to cut the Fish and Wildlife budget from $186M to about $156M and wants the option to be able to make smaller cuts within the F&W budget in future years.

The NW Power Act of 1980, equitable treatment between fish and the hydro power systems, is being ignored. The big push is to involve the average rate-payer and the savings BPA is going to pass back to the rate payers.

BPA made about $500 million last year after all pay outs of their budget obligations.

There has been no tribal consultation from BPA or NPWCC.

McNary Dam: stranding during power peaking there is 2.2 million smolts. This number is acceptable by the Federal government.

The Deschutes River fall salmon have just now rebounded to their 1960 and early 1970 numbers. The average size is now 24-30 pounds as against about 15 pounds. This last fall was the first time that I've seen salmon in the 30-50 pound range since 1981.

The Sherars Falls traditional fisherman from the Deschutes River are against any kind of unmonitored spill flows. No more empty nets. This is a bad and unjust proposal. The Tribes object to this proposal.

Exhibit C.4.i
Supplemental Tribal Management Options
March 2004

Statement of Jim Harp
On the Preliminary Definition of
2004 Management Options

March 9, 2004

I offer the following range of preliminary options for the ocean Treaty troll fishery for compilation and analysis by the Salmon Technical Team with the understanding that this is only the first step towards finalizing options this week that will be adopted by the Council to be sent out for public review.

Treaty Troll Options

	Coho	Chinook
Option I	90,000	60,000
Option II	75,000	40,000
Option III	60,000	30,000

For chinook, 50% would be taken in the May/June chinook directed fishery and 50% would be taken in the July/August/September all-species fishery.

PFMC
03/09/04

Exhibit C.5
Situation Summary
March 2004

UPDATE ON MITCHELL ACT HATCHERY NEEDS

Situation: Base level Mitchell Act hatchery funding has remained level for a number of years, resulting in decreased production and facility deterioration. In 2003, Pacific States Marine Fishery Commission (PSMFC) formed a policy group consisting of state, tribal, and stakeholder representatives to pursue a strategy for prioritizing Mitchell Act programs and communicating the effects of the funding situation to higher level administrators within NOAA.

Council Task:

1. Receive Information and provide guidance on Mitchell Act issues.

Reference Materials:

1. None.

Agenda Order:

a. Agendum Overview	Chuck Tracy
b. Report of the Policy Group	Randy Fisher
c. Reports and Comments of Advisory Bodies	
d. Public Comment	
e. Council guidance and Direction	

PFMC
02/25/04

Testimony of the Columbia River Treaty Tribes Before the Pacific Fishery Management Council March 9, 2004 Tacoma, WA

Good Morning Mr. Chairman and members of the Council. My name is Terry Courtney Jr. I am a member of the Fish and Wildlife Committee of the Warm Springs Tribes. I am here today to present comments on behalf of the four Columbia River treaty tribes; the Yakama, Warm Springs, Umatilla and Nez Perce Tribes.

The Mitchell Act was originally enacted in 1938 to "provide for the conservation of the fishery resources of the Columbia River"[1]. The Mitchell Act hatchery program originated to mitigate for the production lost due to the construction of dams on the Columbia River. It is important to remember that this mitigation obligation can not go away so long as the dams are in place.

Mitchell Act program funding has been flat in the past few years. Because of increased costs, flat funding for this program has dramatically cut the benefits of program. In 2003, USFWS was forced to eliminate the on-station coho releases at Willard Hatchery because of inadequate funding. Once again, a legislative rider that requires all production from federally funded hatcheries to be mass marked was passed by Congress, but no new funding was included with this mandate. This requires hatchery managers to use Mitchell Act hatchery funding to mass mark fish. This means there will be less money available to actually produce the fish. Past cuts in Mitchell Act programs have resulted in greater losses of above Bonneville production relative to below Bonneville production. This has been discriminatory to the tribes.

The Mitchell Act hatchery program needs to be fully funded, but it also must be reformed by the co-managers. The tribes support funding the hatchery program at 25 million dollars for fiscal year 2005, but only as part of a long term comprehensive reform of the program carried out by the co-managers. The tribes consider this amount a minimum appropriate level of funding. Only agreed to marking programs developed by the co-managers should be conducted as part of the overhaul of Mitchell Act hatchery production. Five million dollars or 20% of enacted funding should be contracted to the tribes for new or expanded supplementation projects, in addition to the programs carried out by the tribes. Additionally the Mitchell Act screening program should be funded at 20.6 million dollars for screens and passage programs as identified in the Federal Caucus Plan. Funding at any amount less than this would be inadequate to meet the needs of treaty and non-treaty fishermen dependent on these programs.

The tribes want Mitchell Act funds to produce fish "In Kind - In Place". By this we mean that funds should not simply be used for lower river programs. Most of the Mitchell Act hatcheries have been built in the lower river. In order to mitigate for lost up-river natural production, fish need to be produced in all parts of the basin. Additionally hatchery operations need to be reformed so that they can aid in restoration and utilize production to supplement natural runs. The last significant changes to the Mitchell Act program have come from tribal coho programs that were included in the Columbia River Fish Management Plan back in 1988. These coho programs have assisted in the restoration of naturally spawning coho in the Yakima, Umatilla, Klickitat, and Clearwater Rivers. These coho provide benefits to treaty and non-treaty fishermen alike.

1. P.L. 75-502, 52 Stat. 345, May 11 1938.

Mitchell Act funds should be used for conservation and restoration purposes. Funds should not be used to mass mark fish so they can be caught in non-Indian selective fisheries. All fishermen, treaty and non-treaty should be able to benefit from this production.

In closing the tribes hope the Council recognizes the critical importance the Mitchell Act plays in almost all Council area fisheries. By supporting the tribal position on Mitchell Act funding, the Council can help ensure that all fishermen can share in the benefits of the program and the Council can help work towards restoration of salmon populations.

Thank you.
This concludes my statement.

1. P.L. 75-502, 52 Stat. 345, May 11 1938.

Exhibit C.6
Situation Summary
March 2004

COUNCIL RECOMMENDATIONS FOR 2004 MANAGEMENT OPTION ANALYSIS

Situation: The Salmon Technical Team (STT) will present the Council with coordinated coastwide management options which embody, to the extent possible, the management elements identified by the Council under agenda item C.4 on Tuesday, March 9, 2004. At this time, the Council may need to clarify STT questions and should assure the options presented are those for which the Council desires full STT analysis and consideration for final adoption on Friday.

Council Task:

1. **Clarify STT questions.**
2. **Confirm management options for STT analysis.**

Reference Materials:

1. Exhibit C.6.b, Supplemental STT Report: Collation of Preliminary Salmon Management Options for 2004 Ocean Fisheries.

Agenda Order:

a.	Agendum Overview	Chuck Tracy
b.	Report of the STT	Dell Simmons
c.	Report of the KFMC	Dan Viele
d.	Reports and Comments of Advisory Bodies	
e.	Public Comment	
f.	Council Direction to the STT and Salmon Advisory Subpanel on Options Development and Analysis	

PFMC
02/24/04

Exhibit C.6.b
Supplemental STT Report
March 2004

SALMON TECHNICAL TEAM

COLLATION OF PRELIMINARY SALMON MANAGEMENT OPTIONS FOR 2004 OCEAN FISHERIES

March 10, 2004

TABLE 1. **Commercial troll** management options collated by the STT for non-Indian ocean salmon fisheries, 2004. (Page 1 of 7)

A. SEASON OPTION DESCRIPTIONS

OPTION I North of Cape Falcon	OPTION II North of Cape Falcon	OPTION III North of Cape Falcon
Supplemental Management Information: 1. Overall non-Indian TAC: 120,000 chinook and 275,000 coho. Trade: May be considered at the April Council meeting. 2. Non-Indian commercial troll TAC: 62,000 chinook and 68,750 coho. 3. Treaty Indian commercial ocean troll quotas of: 60,000 chinook (30,000 in May and June; 30,000 for all-salmon season July through Sept. 15 with no rollover allowed from chinook season); and 90,000 coho.	**Supplemental Management Information:** 1. Overall non-Indian TAC: 90,000 chinook and 225,000 coho. Trade: May be considered at the April Council meeting. 2. Non-Indian commercial troll TAC: 45,000 chinook and 56,250 coho. 3. Treaty Indian commercial ocean troll quotas of: 40,000 chinook (20,000 in May and June; 20,000 for all-salmon season July through Sept. 15 with no rollover allowed from chinook season); and 75,000 coho.	**Supplemental Management Information:** 1. Overall non-Indian TAC: 60,000 chinook and 175,000 coho Trade: May be considered at the April Council meeting. 2. Non-Indian commercial troll TAC: 30,000 chinook and 43,750 coho. 3. Treaty Indian commercial ocean troll quotas of: 30,000 chinook (15,000 in May and June; 15,000 for all-salmon season July through Sept. 15 with no rollover allowed from chinook season); and 60,000 coho. 4. Overall Chinook TACs may need to be reduced or fisheries adjusted upon conclusion of NMFS ESA consultation for the Puget Sound Chinook Harvest Resource Management Plan.
U.S./Canada Border to Cape Falcon • May 1 through earlier of June 30 or 41,800 chinook quota. The fishery will be managed to provide a remaining quota of 800 chinook for a June 26-30 open period with a 75 fish per vessel landing limit for the five-day open period. All salmon except coho (C.6). Cape Flattery and Columbia Control Zones closed (C.4). See gear restrictions (C.2). Vessels must land and deliver their fish within the area or in Garibaldi, OR, and within 24 hours of any closure of this fishery. State regulations require that fishers south of Cape Falcon intending to fish within this area, and/or fishers fishing within this area intending to land salmon in Garibaldi, OR, notify Oregon Department of Fish and Wildlife (ODFW) before transiting the Cape Falcon line (45°46'00" N lat) at the following phone number (541) 867-0300 Ext. 252. Inseason actions may modify harvest guidelines in later fisheries to achieve or prevent exceeding the overall allowable troll harvest impacts (C.7.a).	**U.S./Canada Border to Cape Falcon** • May 1 through earlier of June 30 or 30,000 chinook quota. All salmon except coho (C.6). Cape Flattery and Columbia Control Zones closed (C.4). See gear restrictions (C.2). Vessels must land and deliver their fish within the area or in Garibaldi, OR, and within 24 hours of any closure of this fishery. State regulations require that fishers south of Cape Falcon intending to fish within this area, and/or fishers fishing within this area intending to land salmon in Garibaldi, OR, notify Oregon Department of Fish and Wildlife (ODFW) before transiting the Cape Falcon line (45°46'00" N lat) at the following phone number (541) 867-0300 Ext. 252. Inseason actions may modify harvest guidelines in later fisheries to achieve or prevent exceeding the overall allowable troll harvest impacts (C.7.a).	**U.S./Canada Border to Cape Falcon** • May 1 through earlier of June 30 or 25,000 chinook quota. All salmon except coho (C.6). Cape Flattery and Columbia Control Zones closed (C.4). See gear restrictions (C.2). Vessels must land and deliver their fish within the area or in Garibaldi, OR, and within 24 hours of any closure of this fishery. State regulations require that fishers south of Cape Falcon intending to fish within this area, and/or fishers fishing within this area intending to land salmon in Garibaldi, OR, notify Oregon Department of Fish and Wildlife (ODFW) before transiting the Cape Falcon line (45°46'00" N lat) at the following phone number (541) 867-0300 Ext. 252. Inseason actions may modify harvest guidelines in later fisheries to achieve or prevent exceeding the overall allowable troll harvest impacts (C.7.a).

TABLE 1. **Commercial troll** management options collated by the STT for non-Indian ocean salmon fisheries, 2004. (Page 2 of 7)

A. SEASON OPTION DESCRIPTIONS

OPTION I	OPTION II	OPTION III
U.S./Canada Border to Cape Falcon • July 2 through earlier of Sept. 15 or 20,200 preseason chinook guideline (C.7.a) or a 68,750 coho quota. Fishery is 5-days open/2-days closed. Landing limit of 150 chinook per 5-day open. All salmon (C.6). All retained coho must have a healed adipose fin clip, **except there may be an inseason conference call no earlier than August 1 for consideration of non-mark-selective coho retention.** Cape Flattery and Columbia Control Zones closed (C.4). See gear restrictions (C.2). Vessels must land and deliver their fish within the area or in Garibaldi, OR, and within 24 hours of any closure of this fishery. State regulations require that fishers south of Cape Falcon intending to fish within this area, and/or fishers fishing within this area intending to land salmon in Garibaldi, OR, notify Oregon Department of Fish and Wildlife (ODFW) before transiting the Cape Falcon line (45°46'00" N lat) at the following phone number (541) 867-0300 Ext. 252.). Trip limits, gear restrictions, and guidelines may be implemented or adjusted inseason.	**U.S./Canada Border to Cape Falcon** • July 9 through earlier of Sept. 15 or 15,000 preseason chinook guideline (C.7.a) or a 56,250 coho quota. Fishery is 5-days open/2-days closed. Landing limit of 150 chinook per 5-day open. All salmon (C.6). All retained coho must have a healed adipose fin clip. Cape Flattery and Columbia Control Zones closed (C.4). See gear restrictions (C.2). Vessels must land and deliver their fish within the area or in Garibaldi, OR, and within 24 hours of any closure of this fishery. State regulations require that fishers south of Cape Falcon intending to fish within this area, and/or fishers fishing within this area intending to land salmon in Garibaldi, OR, notify Oregon Department of Fish and Wildlife (ODFW) before transiting the Cape Falcon line (45°46'00" N lat) at the following phone number (541) 867-0300 Ext. 252.). Trip limits, gear restrictions, and guidelines may be implemented or adjusted inseason.	**U.S./Canada Border to Cape Falcon** • July 9 through earlier of Sept. 15 or 5,000 preseason chinook guideline (C.7.a) or a 43,750 coho quota. Fishery is 5-days open/2-days closed. Landing limit of 50 chinook per 5-day open. All salmon (C.6). All retained coho must have a healed adipose fin clip. Cape Flattery and Columbia Control Zones closed (C.4). See gear restrictions (C.2). Vessels must land and deliver their fish within the area or in Garibaldi, OR, and within 24 hours of any closure of this fishery. State regulations require that fishers south of Cape Falcon intending to fish within this area, and/or fishers fishing within this area intending to land salmon in Garibaldi, OR, notify Oregon Department of Fish and Wildlife (ODFW) before transiting the Cape Falcon line (45°46'00" N lat) at the following phone number (541) 867-0300 Ext. 252.). Trip limits, gear restrictions, and guidelines may be implemented or adjusted inseason.

TABLE 1. **Commercial troll** management options collated by the STT for non-Indian ocean salmon fisheries, 2004. (Page 3 of 7)

A. SEASON OPTION DESCRIPTIONS

OPTION I South of Cape Falcon	OPTION II South of Cape Falcon	OPTION III South of Cape Falcon
Cape Falcon to Florence South Jetty • March 15 through July 12; Aug. 1 through Aug. 20 and Sept. 1 through Oct. 31 (C.8). All salmon except coho (C.6). Chinook 26 inch minimum size limit prior to May 1, 27 inches May 1 through Sept. 30, and 28 inches October 1-31 (B). See gear restrictions (C.2) and Oregon State regulations for a description of the closed area at the mouth of Tillamook Bay.	**Cape Falcon to Florence South Jetty** • March 15 through June 30 seven days per week; July 1 through Aug. 29 five days per week; and Sept. 1 through Oct. 31 seven days per week (C.8). All salmon except coho (C.6) Chinook 26 inch minimum size limit prior to May 1, 27 inches May 1 through Sept. 30, and 28 inches October 1-31 (B). See gear restrictions (C.2) and Oregon state regulations for a description of the closed area at the mouth of Tillamook Bay.	**Cape Falcon to Florence South Jetty** • Same as Option I.
In 2005, the season will open March 15 for all salmon except coho, with a 27 inch chinook minimum size limit. This opening could be modified following Council review at its November 2004 meeting.	In 2005, same as Option I.	In 2005, same as Option I.
Florence South Jetty to Humbug Mt. • March 15 through June 30; July 17 through July 31; Aug. 10 through Aug. 29; and Sept. 1 through Oct. 31 (C.8). All salmon except coho (C.6). Chinook 26 inch minimum size limit prior to May 1, 27 inches May 1 through Sept. 30, and 28 inches October 1-31 (B). See gear restrictions (C.2).	**Florence South Jetty to Humbug Mt.** • March 15 through June 30 seven days per week; July 1 through Aug. 29 five days per week; and Sept. 1 through Oct. 31 seven days per week (C.8). All salmon except coho (C.6). Chinook 26 inch minimum size limit prior to May 1, 27 inches May 1 through Sept. 30, and 28 inches October 1-31 (B). See gear restrictions (C.2).	**Florence South Jetty to Humbug Mt.** • Same as Option I.
In 2005, the season will open March 15 for all salmon except coho, with a 27 inch chinook minimum size limit. This opening could be modified following Council review at its November 2003 meeting.	In 2005, same as Option I.	In 2005, same as Option I.

TABLE 1. **Commercial troll** management options collated by the STT for non-Indian ocean salmon fisheries, 2004. (Page 4 of 7)

A. SEASON OPTION DESCRIPTIONS

OPTION I	OPTION II	OPTION III
Humbug Mt. to OR/CA Border • March 15 through May 31. All salmon except coho. See gear restrictions (C.2). • June 1 through earlier of June 30 or 2,600 chinook quota; • July 1 through earlier of July 31 or 1,400 chinook quota; • Aug. 1 through earlier of Aug. 29 or 2,500 chinook quota; • Sept. 1 through earlier of Sept. 30 or 4,000 chinook quota All salmon except coho. Chinook 26 inch minimum size limit prior to May 1, 27 inches May 1 through Aug. 29, and 28 inches Sept. 1-31. No transfer of remaining quota from earlier fisheries allowed (C.8). Possession and landing limit of 50 fish per day per vessel prior to Sept. 1; 100 fish per day in Sept. See gear restrictions (C.2). All salmon must landed and delivered to Gold Beach, Port Orford, or Brookings, and within 24 hours of closure. In 2005 the season will open March 15 for all salmon except coho with a 27 inch minimum size limit. This opening could be modified following Council review at its November 2004 meeting.	**Humbug Mt. to OR/CA Border** • March 15 through May 31. All salmon except coho. See gear restrictions (C.2). • June 1 through earlier of June 30 or 2,600 chinook quota; • July 1 through earlier of July 31 or 1,400 chinook quota; • Aug. 1 through earlier of Aug. 29 or 2,600 chinook quota; • Sept. 1 through earlier of Sept. 30 or 4,000 chinook quota All salmon except coho. Chinook 26 inch minimum size limit prior to May 1, 27 inches May 1 through Aug. 29, and 28 inches Sept. 1-31. No transfer of remaining quota from earlier fisheries allowed (C.8). Possession and landing limit of 50 fish per day per vessel prior to Sept. 1; 100 fish per day in Sept. See gear restrictions (C.2). All salmon must landed and delivered to Gold Beach, Port Orford, or Brookings, and within 24 hours of closure. In 2005, same as Option I.	**Humbug Mt. to OR/CA Border** • Same as Option I. In 2005, same as Option I.
OR/CA Border to Humboldt South Jetty • Sept. 1 through earlier of Sept. 30 or 10,000 chinook quota. All salmon except coho. Chinook minimum size limit of 26 inches. Possession and landing limit of 40 fish per day. All fish caught in this area must be landed within the area. See gear restrictions (C.2). Klamath Control Zone closed (C.4.).	**OR/CA Border to Humboldt South Jetty** • Same as Option I.	**OR/CA Border to Humboldt South Jetty** • Sept. 1 through earlier of Sept. 30 or 5,000 chinook quota. All salmon except coho. Chinook minimum size limit of 26 inches. Possession and landing limit of 30 fish per day. All fish caught in this area must be landed within the area. See gear restrictions (C.2). Klamath Control Zone closed (C.4.).
Horse Mt. to Pt. Arena (Fort Bragg) • July 13 through Sept. 30. All salmon except coho. Chinook minimum size limit of 26 inches. See gear restrictions (C.2).	**Horse Mt. to Pt. Arena (Fort Bragg)** • May 1 through May 22, and Aug. 1 through Sept. 30. All salmon except coho. Chinook minimum size limit of 26 inches. See gear restrictions (C.2).	**Horse Mt. to Pt. Arena (Fort Bragg)** • July 1 through July 7 and July 20 through Sept. 30. All salmon except coho. Chinook minimum size limit of 26 inches. All fish caught in this area must be landed within the area. See gear restrictions (C.2).

TABLE 1. **Commercial troll** management options collated by the STT for non-Indian ocean salmon fisheries, 2004. (Page 5 of 7)

A. SEASON OPTION DESCRIPTIONS

OPTION I	OPTION II	OPTION III
Pt. Arena to U.S./Mexico Border • May 1 through Sept. 30. All salmon except coho. Chinook minimum size limit 26 inches. See gear restrictions (C.2).	**Pt. Arena to U.S./Mexico Border** • Same as Option I.	**Pt. Arena to U.S./Mexico Border** • Same as Option I.
Pt. Reyes to Pt. San Pedro (Fall Area Target Zone) • Oct. 1 through Oct. 15, Monday through Friday. Inside 3 nautical miles. All salmon except coho. Chinook minimum size limit 26 inches. See gear restrictions (C.2).	**Pt. Reyes to Pt. Pan Pedro (Fall Area Target Zone)** • Oct. 1 through Oct. 15, Monday through Friday. All salmon except coho. Chinook minimum size limit 26 inches. See gear restrictions (C.2). Same as Option I	**Pt. Reyes to Pt. San Pedro (Fall Area Target Zone)** • Same as Option II

TABLE 1. **Commercial troll** management options collated by the STT for non-Indian ocean salmon fisheries, 2004. (Page 5 of 5)

B. MINIMUM SIZE (Inches)

	Chinook		Coho		
Area (when open)	Total Length	Head-off	Total Length	Head-off	Pink
North of Cape Falcon	28.0	21.5	16.0	12.0	None
Cape Falcon to Hunbug Mt.					
Prior to May 1	26.0[a/]	19.5[a/]	-	-	None
May 1 to Sept. 30	27.0[a/]	20.5[a/]	-	-	None
Oct. 1-31	28.0[a/]	21.5[a/]	-	-	None
Humbug Mt. to OR/CA Border					
Prior to May 1	26.0[a/]	19.5[a/]	-	-	None
May 1 to Aug. 31	27.0[a/]	20.5[a/]	-	-	None
Sept. 1-30	28.0[a/]	21.5[a/]	-	-	None
OR/CA Border to US/Mexico Border	26.0[a/]	19.5[a/]	-	-	None

a/ Chinook not less than the minimum size limit in place for fish taken in open seasons south of Cape Falcon may be landed north of Cape Falcon only when the season is closed north of Cape Falcon.

C. REQUIREMENTS, DEFINITIONS, RESTRICTIONS, OR EXCEPTIONS

C.1. Compliance with Minimum Size or Other Special Restrictions: All salmon on board a vessel must meet the minimum size or other special requirements for the area being fished and the area in which they are landed if that area is open. Salmon may be landed in an area that is closed only if they meet the minimum size or other special requirements for the area in which they were caught.

C.2. Gear Restrictions:

a. Single point, single shank barbless hooks are required in all fisheries.

b. *Cape Falcon, Oregon to the Oregon/California border:* No more than 4 spreads are allowed per line.
Spread defined: A single leader connected to an individual lure or bait.

c. *Oregon/California border to U.S./Mexico border:* No more than 6 lines are allowed per vessel and barbless **circle** hooks are required when fishing with bait by any means other than trolling.
Circle hook defined: A hook with a generally circular shape and a point which turns inward, pointing directly to the shank at a 90° angle.
Trolling defined: Fishing from a boat or floating device that is making way by means of a source of power, other than drifting by means of the prevailing water current or weather conditions.

C.3. Transit Through Closed Areas with Salmon on Board: It is unlawful for a vessel to have troll or recreational gear in the water while transiting any area closed to fishing for a certain species of salmon, while possessing that species of salmon; however, fishing for species other than salmon is not prohibited if the area is open for such species and no salmon are in possession.

C.4. Control Zone Definitions:

a. *Cape Flattery Control Zone*:- The area from Cape Flattery (48° 23'00" N lat.) to the northern boundary of the U.S. EEZ; and the area from Cape Flattery south to 48°10'00" N lat. and east of 125°05'00" W long.

b. *Grays Harbor Control Zone* - The area defined by a line drawn from the Westport Lighthouse (46° 53'18" N. lat., 124° 07'01" W. long.) to Buoy #2 (46° 52'42" N. lat., 124°12'42" W. long.) to Buoy #3 (46° 55'00" N. lat., 124°14'48" W. long.) to the Grays Harbor north jetty (46° 36'00" N. lat., 124°10'51" W. long.).

c. *Columbia Control Zone* - An area at the Columbia River mouth, bounded on the west by a line running northeast/southwest between the red lighted Buoy #4 (46°13'35" N lat., 124°06'50" W long.) and the green lighted Buoy #7 (46°15'09' N lat., 124°06'16" W long.); on the east, by the Buoy #10 line which bears north/south at 357° true from the south jetty at 46°14'00" N lat.,124°03'07" W long. to its intersection with the north jetty; on the north, by a line running northeast/southwest between the green lighted Buoy #7 to the tip of the north jetty (46°14'48" N lat., 124°05'20" W long.), and then along the north jetty to the point of intersection with the Buoy #10 line; and, on the south, by a line running northeast/southwest between the red lighted Buoy #4 and tip of the south jetty (46°14'03" N lat., 124°04'05" W long.), and then along the south jetty to the point of intersection with the Buoy #10 line.

d. *Klamath Control Zone* - The ocean area at the Klamath River mouth bounded on the north by 41°38'48" N lat. (approximately 6 nautical miles north of the Klamath River mouth); on the west, by 124°23'00" W long. (approximately 12 nautical miles off shore); and, on the south, by 41°26'48" N lat. (approximately 6 nautical miles south of the Klamath River mouth).

C.5. Notification When Unsafe Conditions Prevent Compliance with Regulations: If prevented by unsafe weather conditions or mechanical problems from meeting special management area landing restrictions, vessels must notify the U.S. Coast Guard and receive acknowledgment of such notification prior to leaving the area. This notification shall include the name of the vessel, port where delivery will be made, approximate amount of salmon (by species) on board and the estimated time of arrival.

C. REQUIREMENTS, DEFINITIONS, RESTRICTIONS, OR EXCEPTIONS (cont'd)

C.6. Incidental Halibut Harvest: During authorized periods, the operator of a vessel that has been issued an incidental halibut harvest license may retain Pacific halibut caught incidentally in Area 2A while trolling for salmon. License applications for incidental harvest must be obtained from the International Pacific Halibut Commission (phone: 206-634-1838). Applicants must apply prior to April 1 of each year. Incidental harvest is authorized only during **May and June** troll seasons and after June 30 if quota remains and if announced on the NMFS hotline (phone: 800-662-9825). ODFW and WDFW will monitor landings. If the landings are projected to exceed the 44,554 pound preseason allocation or the total Area 2A non-Indian commercial halibut allocation, NMFS will take inseason action to close the incidental halibut fishery.

Option 1a: License holders may land no more than 1 halibut per each 3 chinook, except 1 halibut may be landed without meeting the ratio requirement, and no more than 35 halibut may be landed per trip. Halibut retained must be no less than 32 inches in total length (with head on).

Option 1b: License holders may land no more than 1 halibut per each ? chinook, except 1 halibut may be landed without meeting the ratio requirement, and no more than ?? halibut may be landed per trip. Halibut retained must be no less than 32 inches in total length (with head on).

Option 2: Designate a "C-shaped" yelloweye rockfish conservation area is an area to be avoided for salmon troll fishing. The area is defined in the Pacific Council Halibut Catch Sharing Plan in the North Coast subarea (WA marine area 3), with the following coordinates in the order listed:

48°18' N. lat.; 125°18' W. long;
48°18' N. lat.; 124°59' W. long;
48°11' N. lat.; 124°59' W. long;
48°11' N. lat.; 125°11' W. long;
48°04' N. lat.; 125°11' W. long;
48°04' N. lat.; 124°59' W. long;
48°00' N. lat.; 124°59' W. long;
48°00' N. lat.; 125°18' W. long;
And connecting back to 48°18' N. lat.; 125°18' W. long.

NOTE: Option 2 may be combined with either Option 1a or 1b.

C.7. Inseason Management: In addition to standard inseason actions or modifications already noted under the season description, the following inseason guidance is provided to NMFS:

a. Chinook remaining from the May-June non-Indian commercial troll harvest guideline north of Cape Falcon may be transferred to the July-September harvest guideline on a fishery impact equivalent basis.

b. At the March 2005 meeting, the Council will consider inseason recommendations for special regulations for any experimental April fisheries (proposals must meet Council protocol and be received in November 2004).

c. NMFS may transfer fish between the recreational and commercial fisheries north of Cape Falcon if there is agreement among the representatives of the Salmon Advisory Subpanel.

C.8. Consistent with Council management objectives, the State of Oregon may establish additional late-season, chinook-only fisheries in state waters. Check state regulations for details.

C.9. For the purposes of CDFG Code, Section 8232.5, the definition of the KMZ for the ocean salmon season shall be that area from Humbug Mt., Oregon to Horse Mt., California.

TABLE 2. **Recreational** management options collated by the STT for ocean salmon fisheries, 2004. (Page 1 of 7)

A. SEASON OPTION DESCRIPTIONS

OPTION I North of Cape Falcon	OPTION II North of Cape Falcon	OPTION III North of Cape Falcon
Supplemental Management Information: 1. Overall non-Indian TAC: 120,000 chinook and 275,000 coho Trade: May be considered at the April Council meeting. 2. Recreational TAC: 58,000 chinook and 206,250 coho. 3. No Area 4B add-on fishery. 4. Buoy 10 fishery opens Aug. 1 with an expected landed catch of 10,500 coho in Aug. and 4,500 coho in Sept. 5. All retained coho must have a healed adipose fin clip except as noted below.	**Supplemental Management Information:** 1. Overall non-Indian TAC: 90,000 chinook and 225,000 coho Trade: May be considered at the April Council meeting. 2. Recreational TAC: 45,000 chinook and 168,750 coho. 3. No Area 4B add-on fishery. 4. Buoy 10 fishery opens Aug. 1 with an expected landed catch of 14,000 coho in Aug. and 6,000 coho in Sept. 5. All retained coho must have a healed adipose fin clip except as noted below.	**Supplemental Management Information:** 1. Overall non-Indian TAC: 60,000 chinook and 175,000 coho Trade: May be considered at the April Council meeting. 2. Recreational TAC: 30,000 chinook and 131,250 coho. 3. Area 4B add-on fishery of 6,000 coho with chinook non-retention opens upon ocean closure (C.5). 4. Buoy 10 fishery opens Aug. 1 with an expected landed catch of 17,500 coho in Aug. and 7,500 coho in Sept. 5. All retained coho must have a healed adipose fin clip. 6. Overall Chinook TACs may need to be reduced or fisheries adjusted upon conclusion of NMFS ESA consultation for the Puget Sound Chinook Harvest Resource Management Plan.
U.S./Canada Border to Cape Alava (Neah Bay) • June 20 through earlier of Sept. 30 or 21,450 coho subarea quota with a subarea guideline of 4,800 chinook. All salmon, 7 days per week, 2 fish per day, no more than one of which may be a chinook (chinook 24-inch minimum size limit) (B). All retained coho must have a healed adipose fin clip, **except there may be an inseason conference call no earlier than September 1 for consideration of non-mark-selective coho retention beginning Sep. 7.** See gear restrictions (C.2). Chinook retention east of the Bonilla-Tatoosh line in July only (C.3.c) during Council managed ocean fishery. Inseason management may be used to sustain season length and keep harvest within the overall chinook recreational TAC for north of Cape Falcon (C.4).	**U.S./Canada Border to Cape Alava (Neah Bay)** • June 27 through earlier of Sept. 19 or 17,550 coho subarea quota with a subarea guideline of 4,100 chinook. All salmon, 7 days per week, 2 fish per day, no more than one of which may be a chinook (chinook 26-inch minimum size limit) (B). All retained coho must have a healed adipose fin clip, **except there may be an inseason conference call no earlier than September 1 for consideration of non-mark-selective coho retention beginning Sept. 7.** See gear restrictions (C.2). Chinook non-retention east of the Bonilla-Tatoosh line (C.3.c) during Council managed ocean fishery. Inseason management may be used to sustain season length and keep harvest within the overall chinook recreational TAC for north of Cape Falcon (C.4).	**U.S./Canada Border to Cape Alava (Neah Bay)** • July 4 through earlier of Sept. 12 or 12,540 coho subarea quota (not adjusted for Area 4B add-on) with a subarea guideline of 3,200 chinook. All salmon, 7 days per week, 2 fish per day, no more than one of which may be a chinook (chinook 26-inch minimum size limit) (B). All retained coho must have a healed adipose fin clip. See gear restrictions (C.2). Chinook non-retention east of the Bonilla-Tatoosh line (C.3.c) during Council managed ocean fishery. Inseason management may be used to sustain season length and keep harvest within the overall chinook recreational TAC for north of Cape Falcon (C.4).

TABLE 2. **Recreational** management options collated by the STT for ocean salmon fisheries, 2004. (Page 2 of 7)

A. SEASON OPTION DESCRIPTIONS

OPTION I

Cape Alava to Queets River (La Push)

- June 20 through earlier of Sept. 24 or 5,263 coho subarea quota with a subarea guideline of 2,450 chinook.
- Sep. 25 through Oct. 10 or 100 coho quota or 100 chinook quota: In the area north of 47° 50'00 and south of 48°00'00" (C.5).

All salmon, 7 days per week, 2 fish per day, no more than one of which may be a chinook (chinook 24-inch minimum size limit) (B). All retained coho must have a healed adipose fin clip, **except there may be an inseason conference call no earlier than September 1 for consideration of non-mark-selective coho retention beginning Sept. 7.** See gear restrictions (C.2). Inseason management may be used to sustain season length and keep harvest within the overall chinook recreational TAC for north of Cape Falcon (C.4).

Queets River to Leadbetter Pt. (Westport)

- June 20 through earlier of Sept. 30 or 76,312 coho subarea quota with a subarea guideline of 40,350 chinook.

Sun. through Thurs, except: there may be a conference call no later than July 28 to consider 7 days per week. All salmon, 2 fish per day, no more than one of which may be a chinook (chinook 24-inch minimum size limit) (B). All retained coho must have a healed adipose fin clip **except there may be an inseason conference call no earlier than September 1 for consideration of non-mark-selective coho retention beginning Sept. 7.**. See gear restrictions (C.2). Inseason management may be used to sustain season length and keep harvest within the overall chinook recreational TAC for north of Cape Falcon (C.4).

OPTION II

Cape Alava to Queets River (La Push)

- June 27 through earlier of Sept. 19 or 4,287 coho subarea quota with a subarea guideline of 1,850 chinook;
- Sep. 25 through Oct. 10 or 100 coho quota or 100 chinook quota: Inside area defined by a line from Teahwhit Head northwesterly to "Q" buoy to Cake Rock then true east to the shoreline (C.5).

All salmon, 7 days per week, 2 fish per day, no more than one of which may be a chinook (chinook 26-inch minimum size limit) (B). All retained coho must have a healed adipose fin clip, **except there may be an inseason conference call no earlier than September 1 for consideration of non-mark-selective coho retention beginning Sept. 7.** See gear restrictions (C.2). Inseason management may be used to sustain season length and keep harvest within the overall chinook recreational TAC for north of Cape Falcon (C.4).

Queets River to Leadbetter Pt. (Westport)

- June 27 through earlier of Sept. 19 or 62,438 coho subarea quota with a subarea guideline of 30,700 chinook.

Sun. through Thurs, except: there may be a conference call no later than July 28 to consider 7 days per week. All salmon, 2 fish per day, no more than one of which may be a chinook (chinook 26-inch minimum size limit) (B). All retained coho must have a healed adipose fin clip **except there may be an inseason conference call no earlier than September 1 for consideration of non-mark-selective coho retention beginning Sept. 7**. See gear restrictions (C.2). Inseason management may be used to sustain season length and keep harvest within the overall chinook recreational TAC for north of Cape Falcon (C.4).

OPTION III

Cape Alava to Queets River (La Push)

- July 4 through earlier of Sept.12 or 3,380 coho subarea quota with a subarea guideline of 1,300 chinook.
- Sep. 25 through Oct. 10 or 100 coho quota or 100 chinook quota: In the area north of 47° 50'00 and south of 48°00'00" (C.5).

All salmon, 7 days per week, 2 fish per day, no more than one of which may be a chinook (chinook 26-inch minimum size limit) (B). All retained coho must have a healed adipose fin clip. See gear restrictions (C.2). Inseason management may be used to sustain season length and keep harvest within the overall chinook recreational TAC for north of Cape Falcon (C.4).

Queets River to Leadbetter Pt. (Westport)

- May 30 through July 1; and August 1 through Sept. 16 or attainment of the 49,600 coho quota, with a subarea guideline of 19,800 chinook. **Any coho or chinook caught in other subareas and landed in the Westport subarea between July 2 and July 30 will count against the Westport subarea coho quota or chinook guideline.**

Sun. through Thurs, except: there may be a conference call no later than July 28 to consider 7 days per week. All salmon, 2 fish per day, no more than one of which may be a chinook (chinook 26-inch minimum size limit) (B). All retained coho must have a healed adipose fin clip **except there may be an inseason conference call no earlier than September 1 for consideration of non-mark-selective coho retention beginning Sept. 7**. See gear restrictions (C.2). Inseason management may be used to sustain season length and keep harvest within the overall chinook recreational TAC for north of Cape Falcon (C.4).

TABLE 2. **Recreational** management options collated by the STT for ocean salmon fisheries, 2004. (Page 3 of 7)

A. SEASON OPTION DESCRIPTIONS

OPTION I	OPTION II	OPTION III
Leadbetter Pt. to Cape Falcon (Columbia River) • June 27 through earlier of Sept. 30 or 103,125 coho subarea quota with a subarea guideline of 10,300 chinook. Sun. through Thurs, except: there may be a conference call no later than July 28 to consider 7 days per week. All salmon, 2 fish per day, no more than one of which may be a chinook (chinook 24-inch minimum size limit) (B). All retained coho must have a healed adipose fin clip **except there may be an inseason conference call no earlier than September 15 for consideration of non-mark-selective coho retention**. See gear restrictions (C.2). Columbia Control Zone closed (C.3.a). Closed between Cape Falcon and Tillamook Head beginning Aug.1. Inseason management may be used to sustain season length and keep harvest within the overall chinook recreational TAC for north of Cape Falcon (C.4).	**Leadbetter Pt. to Cape Falcon (Columbia River)** • July 4 through earlier of Sept. 30 or 84,375 coho subarea quota with a subarea guideline of 8,250 chinook. Sun. through Thurs, except: there may be a conference call no later than July 28 to consider 7 days per week. All salmon, 2 fish per day, no more than one of which may be a chinook (chinook 26-inch minimum size limit) (B). All retained coho must have a healed adipose fin clip **except there may be an inseason conference call no earlier than September 15 for consideration of non-mark-selective coho retention**. See gear restrictions (C.2). Columbia Control Zone closed (C.3.a). Closed between Cape Falcon and Tillamook Head beginning Aug.1. Inseason management may be used to sustain season length and keep harvest within the overall chinook recreational TAC for north of Cape Falcon (C.4).	**Leadbetter Pt. to Cape Falcon (Columbia River)** • July 11 through earlier of Sept. 30 or 65,625 coho subarea quota with a subarea guideline of 5,600 chinook. Sun. through Thurs, except: there may be a conference call no later than July 28 to consider 7 days per week. All salmon, 2 fish per day, no more than one of which may be a chinook (chinook 26-inch minimum size limit) (B). All retained coho must have a healed adipose fin clip. See gear restrictions (C.2). Columbia Control Zone closed (C.3.a). Closed between Cape Falcon and Tillamook Head beginning Aug.1. Inseason management may be used to sustain season length and keep harvest within the overall chinook recreational TAC for north of Cape Falcon (C.4).

TABLE 2. **Recreational** management options collated by the STT for ocean salmon fisheries, 2004. (Page 4 of 7)

A. SEASON OPTION DESCRIPTIONS

OPTION I South of Cape Falcon	OPTION II South of Cape Falcon	OPTION III South of Cape Falcon
Cape Falcon to Humbug Mt • Except as provided below during the selective fishery, the season will be: Mar. 15 through Oct. 31 (C.5). All salmon except coho. 2 fish per day. See gear restrictions (C.2.). See Oregon State regulations for a description of a closure at the mouth of Tillamook Bay.	**Cape Falcon to Humbug Mt** • Same as Option I	**Cape Falcon to Humbug Mt** • Same as Option I
In 2005 the season will open March 15 for all salmon except coho. 2 fish per day. Same gear restrictions as in 2004. This opening could be modified following Council review at its November 2004 meeting.	In 2005, same as Option I.	In 2005, same as Option I.
Selective fishery: **Cape Falcon to OR/CA Border** • June 19 through earlier of Aug. 31 or a landed catch of 75,000 coho. 7 days per week, all salmon, 2 fish per day. All retained coho must have a healed adipose fin clip. Open days may be adjusted inseason to utilize the available quota (C.4). All salmon except coho season reopens the earlier of Sept. 1 or attainment of the coho quota.	Selective fishery: **Cape Falcon to Humbug Mt.** • June 19 through earlier of Aug. 31 or a landed catch of 65,000 coho. 7 days per week, all salmon, 2 fish per day. All retained coho must have a healed adipose fin clip. Open days may be adjusted inseason to utilize the available quota (C.4). All salmon except coho season reopens the earlier of Sept. 1 or attainment of the coho quota.	Selective fishery: **Cape Falcon to Humbug Mt.** • July 1 through earlier of Aug. 31 or a landed catch of 55,000 coho. 5 days per week (Tuesday-Saturday), all salmon, 2 fish per day. All retained coho must have a healed adipose fin clip. **2 days per week (Sunday and Monday) all salmon except coho, 2 fish per day.** Open days may be adjusted inseason to utilize the available quota (C.4). All salmon except coho season reopens the earlier of Sept. 1 or attainment of the coho quota.
Humbug Mt. to Horse Mt. (KMZ) • Except as provided above during the selective fishery, the season will be May 15 through Sept. 12. All salmon except coho. 7 days per week, 2 fish per day. See gear restrictions (C.2). Klamath Control Zone closed Aug. 1-31 (C.3.b).	**Humbug Mt. to Horse Mt. (KMZ)** • May 15 through Sept. 12. All salmon except coho. 7 days per week, 2 fish per day. See gear restrictions (C.2). Klamath Control Zone closed Aug. 1-31 (C.3.b).	**Humbug Mt. to Horse Mt. (KMZ)** • May 15 through Sept. 6. All salmon except coho. 7 days per week, 2 fish per day. See gear restrictions (C.2). Klamath Control Zone closed Aug. 1-31 (C.3.b).
Horse Mt. to Pt. Arena (Fort Bragg) • Feb. 15 through Nov. 16. All salmon except coho. 2 fish per day. Chinook minimum size 24 inches through April 30 and 20 inches thereafter (B). See gear restrictions (C.2).	**Horse Mt. to Pt. Arena (Fort Bragg)** • Same as Option I.	**Horse Mt. to Pt. Arena (Fort Bragg)** • Same as Option I.
In 2005, season opens Feb. 15 (nearest Sat. to Feb. 15) for all salmon except coho. 2 fish per day, chinook 20-inch minimum size limit through April 30; same gear restrictions as in 2004.	In 2005, same as Option I.	In 2005, same as Option I.

TABLE 2. **Recreational** management options collated by the STT for ocean salmon fisheries, 2004. (Page 5 of 7)

A. SEASON OPTION DESCRIPTIONS

OPTION I	OPTION II	OPTION III
Pt. Arena to Pigeon Pt. • April 17 through Nov. 14. All salmon except coho. 2 fish per day. Chinook minimum size limit 24 inches through April 30 and 20 inches thereafter (B). See gear restrictions (C.2). In 2005, the season will open Apr. 2 for all salmon except coho. 2 fish per day, 20-inch minimum size limit and the same gear restrictions as in 2004.	**Pt. Arena to Pigeon Pt.** • Same as Option I In 2005, same as Option I.	**Pt. Arena to Pigeon Pt.** • Same as Option I In 2005, same as Option I.
Pigeon Pt. to U.S./Mexico Border • April 3 through Oct. 3. All salmon except coho. 2 fish per day. Chinook minimum size limit 24 inches through April 30 and 20 inches thereafter (B). See gear restrictions (C.2). In 2005, the season will open Apr. 2 for all salmon except coho. 2 fish per day, chinook 20-inch minimum size limit and the same gear restrictions as in 2004.	**Pigeon Pt. to U.S./Mexico Border** • Same as Option I. In 2005, same as Option I.	**Pigeon Pt. to U.S./Mexico Border** • Same as Option I. In 2005, same as Option I.

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B. MINIMUM SIZE (Total Length in Inches)

Area (when open)		Chinook	Coho	Pink
North of Cape Falcon:				
Option I		24.0	16.0	None
Options II & II		26.0	16.0	None
Cape Falcon to Horse Mt.		20.0	16.0	None, except 20.0 off CA
Horse Mountain to Pt. Arena:	Prior to May 1	24.0	-	20.0
	Beginning May 1	20.0	-	20.0
South of Pt. Arena:	Prior to May 1	24.0	-	20.0
	Beginning May 1	20.0	-	20.0

C. REQUIREMENTS, DEFINITIONS, RESTRICTIONS, OR EXCEPTIONS

C.1. Compliance with Minimum Size and Other Special Restrictions: All salmon on board a vessel must meet the minimum size or other special requirements for the area being fished and the area in which they are landed if that area is open. Salmon may be landed in an area that is closed only if they meet the minimum size or other special requirements for the area in which they were caught.

C.2. Gear Restrictions: All persons fishing for salmon, and all persons fishing from a boat with salmon on board, must meet the gear restrictions listed below for specific areas or seasons.

a. *U.S./Canada Border to Pt. Conception, California*: No more than one rod may be used per angler and single point, single shank barbless hooks are required for all fishing gear. [**Note:** ODFW regulations in the state-water fishery off Tillamook Bay may allow the use of barbed hooks to be consistent with inside regulations.]

b. *Cape Falcon, Oregon to Pt. Conception, California*: Anglers must use no more than 2 single point, single shank barbless hooks.

c. *Horse Mt., California to Pt. Conception, California:* Single point, single shank, barbless **circle** hooks (below) must be used if angling with bait by any means other than trolling and no more than 2 such hooks shall be used. When angling with 2 hooks, the distance between the hooks must not exceed 5 inches when measured from the top of the eye of the top hook to the inner base of the curve of the lower hook, and both hooks must be permanently tied in place (hard tied). Circle hooks are not required when artificial lures are used without bait.
Circle hook defined: A hook with a generally circular shape and a point which turns inward, pointing directly to the shank at a 90° angle;
Trolling defined: Angling from a boat or floating device that is making way by means of a source of power, other than drifting by means of the prevailing water current or weather conditions.

C. REQUIREMENTS, DEFINITIONS, RESTRICTIONS, OR EXCEPTIONS (Continued)

C.3. Control Zone Definitions:

a. *Columbia Control Zone* - An area at the Columbia River mouth, bounded on the west by a line running northeast/southwest between the red lighted Buoy #4 (46°13'35" N latitude, 124°06'50" W longitude) and the green lighted Buoy #7 (46°15'09' N latitude, 124°06'16" W longitude); on the east, by the Buoy #10 line which bears north/south at 357° true from the south jetty at 46°14'00" N latitude, 124°03'07" W longitude to its intersection with the north jetty; on the north, by a line running northeast/southwest between the green lighted Buoy #7 to the tip of the north jetty (46°14'48" N latitude, 124°05'20" W longitude) and then along the north jetty to the point of intersection with the Buoy #10 line; and, on the south, by a line running northeast/southwest between the red lighted Buoy #4 and tip of the south jetty (46°14'03" N latitude, 124°04'05" W longitude), and then along the south jetty to the point of intersection with the Buoy #10 line.

b. *Grays Harbor Control Zone* - The area defined by a line drawn from the Westport Lighthouse (46° 53'18" N. lat., 124° 07'01" W. long.) to Buoy #2 (46° 52'42" N. lat., 124°12'42" W. long.) to Buoy #3 (46° 55'00" N. lat., 124°14'48" W. long.) to the Grays Harbor north jetty (46° 36'00" N. lat., 124°10'51" W. long.).

c. *Klamath Control Zone* - The ocean area at the Klamath River mouth bounded on the north by 41°38'48" N latitude (approximately 6 nautical miles north of the Klamath River mouth); on the west, by 124°23'00" W longitude (approximately 12 nautical miles off shore); and, on the south, by 41°26'48" N latitude (approximately 6 nautical miles south of the Klamath River mouth).

d. *The Bonilla-Tatoosh Line* is defined as: A line running from the western end of Cape Flattery to Tatoosh Island Lighthouse (48°23'30" N latitude, 124°44'12" W longitude) to the buoy adjacent to Duntze Rock (48°28'00" N latitude, 124°45'00" W longitude), then in a straight line to Bonilla Point (48°35'30" N latitude, 124°43'00" W longitude) on Vancouver Island, B.C.

C.4. Inseason Management: Regulatory modifications may become necessary inseason to meet preseason management objectives such as quotas, harvest guidelines and season duration. Actions could include modifications to bag limits or days open to fishing, and extensions or reductions in areas open to fishing. NMFS may transfer coho inseason among recreational subareas North of Cape Falcon to help meet the recreational season duration objectives (for each subarea) after conferring with representatives of the affected ports and the Salmon Advisory Subpanel recreational representatives north of Cape Falcon. NMFS may also transfer fish between the recreational and commercial fisheries north of Cape Falcon if there is agreement among the representatives of the Salmon Advisory Subpanel.

C.5. Additional Seasons in State Territorial Waters: Consistent with Council management objectives, the states of Washington and Oregon may establish limited seasons in state waters. Oregon state-water fisheries are limited to chinook salmon. Check state regulations for details.

TABLE 3. Treaty Indian ocean troll salmon fishery management measures proposed Collated by the STT, 2004. (Page 1 of 1)

Tribe and Area Boundaries[a/]	Open Seasons	Salmon Species	Minimum Size[b/] (Inches) Chinook	Coho	Special Restrictions by Area
S'KLALLAM - Washington State Statistical Area 4B (All)	May 1 thru earlier of June 30 or chinook quota.[c/]	All except coho	24	-	Barbless hooks. No more than 8 fixed lines per boat; 72 hook maximum per boat.
	July 1 thru earliest of Sept. 15 or chinook or coho quota.[c/]	All	24	16	
MAKAH - Washington State Statistical Area 4B and that portion of the FMA north of 48°02'15" N latitude (Norwegian Memorial) and east of 125°44'00" W longitude	May 1 thru earlier of June 30 or chinook quota.[c/]	All except coho	24	-	Barbless hooks. No more than 8 fixed lines per boat or no more than 4 hand-held lines per person.
	July 1 thru earliest of Sept. 15 or chinook or coho quota[c/]	All	24	16	
QUILEUTE - That portion of the FMA between 48°07'36" N latitude (Sand Pt.) and 47°31'42" N latitude (Queets River) and east of 125°44'00" W longitude	May 1 thru earlier of June 30 or chinook quota.[c/]	All except coho	24	-	Barbless hooks. No more than 8 fixed lines per boat.[e/]
	July 1 thru earliest of Sept. 15 or chinook or coho quota.[c/d/]	All	24	16	
HOH - That portion of the FMA between 47°54'18" N latitude (Quillayute River) and 47°21'00" N latitude (Quinault River) and east of 125°44'00" W longitude	May 1 thru earlier of June 30 or chinook quota.[c/]	All except coho	24	-	Barbless hooks. No more than 8 fixed lines per boat.[d/]
	July 1 thru earliest of Sept. 15 or chinook or coho quota[c/]	All	24	16	
QUINAULT - That portion of the FMA between 47°40'06" N latitude (Destruction Island) and 46°53'18" N latitude (Point Chehalis) and east of 125°44'00" W longitude	May 1 thru earlier of June 30 or chinook quota.[c/]	All except coho	24	-	Barbless hooks. No more than 8 fixed lines per boat.[d/]
	July 1 thru earliest of Sept. 15 or chinook or coho quota[c/]	All	24	16	

a/ All boundaries may be changed to include such other areas as may hereafter be authorized by a Federal court for that tribe's treaty fishery.

b/ Applicable lengths, in inches, for dressed, head-off salmon, are 18 inches for chinook and 12 inches for coho. There are no minimum size or retention limits for ceremonial and subsistence harvest.

c/ The overall treaty troll ocean quotas are:
Option I: 60,000 chinook and 90,000 coho;
Option II: 40,000 chinook and 75,000 coho;
Option III: 30,000 chinook and 60,000 coho.
The overall chinook quota is divided into 50% of the chinook quota for the May/June chinook-directed fishery and 50% of the chinook quota for the July through Sept. all-salmon season. If the chinook quota for the May/June fishery is not fully utilized, the excess fish cannot be transferred into the later all-salmon season. The quotas include troll catches by the S'Klallam and Makah tribes in Washington State Statistical Area 4B from May 1 thru Sept. 30. The Quileute Tribe will continue a ceremonial and subsistence fishery during the time frame of September 15 through October 15; fish taken during this fishery are to be counted against treaty troll quotas established for the 2004 season.

d/ The Ceremonial and Subsistence season extends through October 15.

e/ The area within a 6 nautical mile radius of the mouths of the Queets River (47°31'42" N latitude) and the Hoh River (47°45'12" N latitude) will be closed to commercial fishing. A closure within 2 nautical miles of the mouth of the Quinault River (47°21'00" N latitude) may be enacted by the Quinault Nation and/or the State of Washington and will not adversely affect the Secretary of Commerce's management regime.

TABLE 4. Chinook and coho **harvest quotas and guidelines** (*) for STT collated ocean salmon fishery management options, 2004. (Page 1 of 1)

Fishery or Quota Designation	Chinook for Option I	Chinook for Option II	Chinook for Option III	Coho for Option I	Coho for Option II	Coho for Option III
NORTH OF CAPE FALCON						
TREATY INDIAN COMMERCIAL TROLL [a/]	60,000	40,000	30,000	90,000	75,000	60,000
NON-INDIAN COMMERCIAL TROLL						
Canada to Cape Falcon (All Except Coho)	41,800	30,000	25,000	-	-	-
Canada to Cape Falcon (All Species) [b/]	20,200	15,000	5,000	68,750	56,250	43,750
Subtotal Non-Indian Commercial Troll	62,000	45,000	30,000	68,750	56,250	43,750
RECREATIONAL [b/]						
U.S.-Canada Border to Cape Alava [b/c/]	4,800*	4,100*	3,200*	21,450	17,550	12,540
Cape Alava to Queets River [b/]	2,550*	1,950*	1,400*	5,363	4,387	3,485
Queets River to Leadbetter Pt. [b/]	40,350*	30,700*	19,800*	76,312	62,438	49,600
Leadbetter Pt. to Cape Falcon [b/]	10,300*	8,250*	5,600*	103,125	84,375	65,625
Subtotal Recreational [d/]	58,000	45,000	30,000	206,250	168,750	131,250
TOTAL NORTH OF CAPE FALCON	180,000	130,000	90,000	365,000	300,000	235,000
SOUTH OF CAPE FALCON						
COMMERCIAL TROLL (all except coho)						
Humbug Mt. to OR-CA border (June-Sept)	10,500	10,600	10,500	-	-	-
Oregon-California Border to Humboldt S. Jetty (Sept.)	10,000	10,000	5,000	-	-	-
Subtotal Troll	20,500	20,600	15,500	-	-	-
RECREATIONAL						
Cape Falcon to Humbug Mt. [b/]	-	-	-	75,000	65,000	55,000
TOTAL SOUTH OF CAPE FALCON	20,500	20,600	15,500	75,000	76,000	55,000

a/ For the Makah encounter rate study, legal sized fish retained in open periods will be included in the tribal quota.

b/ The coho quota is a landed catch of coho with a healed adipose fin clip, except that for Option I in the north of Cape falcon commercial fishery and Options I and II in the north of Cape Falcon recreational fishery, there is a provision for a potential non- selective coho fishery in a portion of the fishery. See Tables 1 and 2 for details of the proposals.

c/ Does not include Area 4B add on selective fishery of 6,000 (Option III) coho with healed adipose fin clips.

d/ Does not include Buoy 10 fishery. Option I (10,500 coho Aug, 4,500 coho Sept), Option II (14,000 coho Aug, 6,000 coho Sept) Option III (17,500 coho Aug, 7,500 coho Sept).

TABLE 5. Projected **key stock escapements** (thousands of fish) or management criteria for STT collated fishery options, 2004.[a/] (Page 1 of 3)

Key Stock/Criteria	Projected Ocean Escapement[b/] or Other Criteria (Council Area Fisheries)			Spawner Objective or Other Comparative Standard as Noted	
CHINOOK					
	Option I	Option II	Option III		
Columbia Upriver Brights	292.3	294.0	296.3	57.3	Minimum ocean escapement to attain 46.0 adults over McNary Dam, with normal distribution and no mainstem harvest.
Mid-Columbia Brights	90.4	91.0	91.7	16.6	Minimum ocean escapement to attain 5.75 adults for Bonneville Hatchery and 2.0 for Little White Salmon Hatchery egg-take, assuming average conversion and no mainstem harvest.
Columbia Lower River Hatchery Tules	77.3	79.8	82.5	23.4	Minimum ocean escapement to attain 14.3 adults for hatchery egg-take, with average conversion and no lower river mainstem or tributary harvest.
Columbia Lower River Natural Tules[e/]	46%	42%	38%	≤49%	ESA guidance met by a total adult equivalent fishery exploitation rate on Coweeman tules (NMFS ESA consultation standard).
Columbia Lower River Wild (threatened)	24.2[c/]	24.4[c/]	24.8[c/]	5.7	MSY spawner goal for North Lewis River fall chinook (NMFS ESA consultation standard).
Spring Creek Hatchery Tules	137.8	150.5	160.9	11.1	Minimum ocean escapement to attain 7.0 adults for Spring Creek Hatchery egg-take, assuming average conversion and no mainstem harvest.
Snake River Fall (threatened) SRFI	**75%**	69%	62%	≤70.0%	Of 1988-1993 base period exploitation rate for all ocean fisheries (NMFS ESA consultation standard).
Klamath River Fall	35.2	**34.2**	35.2	35.0	Minimum number of adult spawners to natural spawning areas.
Federally recognized tribal harvest	50%	50%	50%	50.0%	Equals 31.0, 31.8, and 31.0 (thousand) adult fish for Yurok and Hoopa tribal fisheries
Age 4 ocean harvest rate	14.8%	15.4%	14.8%	≤16.0%	NMFS ESA consultation standard for threatened California coastal chinook.
KMZ sport fishery allocation	14.1%	13.7%	14.2%	-	None specified for 2004.
CA:OR troll fishery allocation	**52%:48%**	**50%:50%**	**52%:48%**	51%:49%	KFMC recommendation for 2004.
River recreational fishery allocation	15.0%	15.0%	15.0%	≥15.0%	Agreed to by California Fish and Game Commission; Equals 4.7, 4.8, and 4.6 (thousand) adult fish for recreational inriver fisheries.
Sacramento River Winter (endangered)	Yes	Yes	Yes		Duration and timing of commercial and recreational seasons south of Point Arena do not differ substantially relative to those of 2000 and 2001 (NMFS ESA consultation standard).
Sacramento River Fall	Yes	Yes	Yes	122.0-180.0	Sacramento River fall natural and hatchery adult spawners.

TABLE 5. Projected **key stock escapements** (thousands of fish) or management criteria for STT collated fishery options, 2004.[a/] (Page 2 of 3)

Key Stock/Criteria	Projected Ocean Escapement[b/] or Other Criteria (Council Area Fisheries)			Spawner Objective or Other Comparative Standard as Noted	
COHO					
	Option I	Option II	Option III		
Interior Fraser (Thompson River)	**12.2%**(6.8%)	**10.9%**(5.5%)	9.9%(4.4%)	≤10%	Total exploitation rate for all US fisheries south of the US/Canada border based on 2002 PSC coho agreement.[d/]
Skagit	36%(5.9%) 130.1	35%(4.7%) 131.7	34%(3.7%) 133.1	≤60% 30.0	2004 total exploitation rate ceiling based on 2002 PSC coho agreement[d/] MSP level of adult spawners Identified in FMP.
Stillaguamish	37%(8.3%) 27.2	35%(6.7%) 27.7	35%(5.4%) 28.1	≤50% 17.0	2004 total exploitation rate ceiling based on 2002 PSC coho agreement[d/] MSP level of adult spawners Identified in FMP.
Snohomish	35%(8.3%) 132.8	34%(6.7%) 135.3	33%(5.4%) 137.5	≤60% 70.0	2004 total exploitation rate ceiling based on 2002 PSC coho agreement[d/] MSP level of adult spawners Identified in FMP.
Hood Canal	31%(5.8%) 80.5	31%(4.9%) 81.4	30%(3.7%) 82.5	≤65% 21.5	2004 total exploitation rate ceiling based on 2002 PSC coho agreement[d/] MSP level of adult spawners Identified in FMP.
Strait of Juan de Fuca	11%(6.2%) 31.9	11%(5.0%) 32.3	10%(3.9%) 32.7	≤60% 12.8	2004 total exploitation rate ceiling based on 2002 PSC coho agreement[d/] MSP level of adult spawners Identified in FMP.
COASTAL NATURAL:					
Quillayute Fall	17.5	18.1	18.6	6.3-15.8	MSY adult spawner range (not annual target). Annual management objectives may be different and are subject to agreement between WDFW and the treaty tribes under U.S. District Court orders.
Hoh	6.4	6.7	6.9	2.0-5.0	MSY adult spawner range (not annual target). Annual management objectives may be different and are subject to agreement between WDFW and the treaty tribes under U.S. District Court orders.
Queets Wild	14.6	15.0	15.4	5.8-14.5	MSY adult spawner range (not annual target). Annual management objectives may be different and are subject to agreement between WDFW and the treaty tribes under U.S. District Court orders.
Queets Supplemental	1.5	1.6	1.7	-	
Grays Harbor	102.1	104.0	105.9	35.4	MSP level of adult spawners. Annual management objectives may be different and are subject to agreement between WDFW and the treaty tribes under U.S. District Court orders.
Oregon Coastal Natural (threatened)	14.6%	13.4%	12.5%	≤15.0%	Marine and freshwater fishery exploitation rate.
Northern California (threatened)	8.5%	9.1%	8.7%	≤13.0%	Marine fishery exploitation rate for R/K hatchery coho (NMFS ESA consultation standard).

TABLE 5. Projected **key stock escapements** (thousands of fish) or management criteria for STT collated fishery options, 2004.[a/] (Page 3 of 3)

Key Stock/Criteria	Projected Ocean Escapement[b/] or Other Criteria (Council Area Fisheries)			Spawner Objective or Other Comparative Standard as Noted	
COHO (continued)					
COLUMBIA RIVER:					
Upper Columbia[e/]	**Yes?**	**Yes?**	**Yes?**	50%	Minimum percentage of the run to Bonneville Dam.
Columbia River Hatchery Early	158.9	178.9	194.3	38.7	Minimum ocean escapement to attain hatchery egg-take goal of 19.6 early adult coho, with average conversion and no mainstem or tributary fisheries.
Columbia River Hatchery Late	86.3	110.6	135.7	19.4	Minimum ocean escapement to attain hatchery egg-take goal of 15.2 late adult coho, with average conversion and no mainstem or tributary fisheries.

a/ Projections in the table assume a WCVI mortality for coho of the 2003 level; Southeast Alaska TAC of 355,000 chinook per PST agreement; WCVI troll catch of 151,826 chinook (includes chinook in the fall of 2003).

b/ Ocean escapement is the number of salmon escaping ocean fisheries and entering freshwater with the following clarifications. Ocean escapement for Puget Sound stocks is the estimated number of salmon entering Area 4B that are available to U.S. net fisheries in Puget Sound and spawner escapement after impacts from the Canadian, U.S. ocean, and Puget Sound troll and recreational fisheries have been deducted. Numbers in parentheses represent Council area exploitation rates for Puget sound coho stocks. For Columbia River early and late coho stocks, ocean escapement represents the number of coho after the Buoy 10 fishery. Exploitation rates for OCN coho include impacts of freshwater fisheries.

c/ includes minor contributions from East Fork Lewis River and Sandy River.

d/ Annual management objectives may be different than FMP goals, and are subject to agreement between WDFW and the treaty tribes under U.S. District Court orders. Total exploitation rate includes Alaskan, Canadian, Council area, Puget Sound and freshwater fisheries, and is calculated as total fishing mortality divided by total fishing mortality plus spawning escapement. These total exploitation rates reflect the initial base package for inside fisheries developed by state and tribal comanagers. It is anticipated that total exploitation rates will be adjusted by state and tribal comanagers during the preseason planning process to comply with stock specific exploitation rate constraints.

e/ Includes projected impacts of inriver fisheries that have not yet been shaped.

TABLE 7. Expected coastwide Oregon coastal natural (**OCN**) and Rogue/Klamath (**RK**) coho **exploitation** rates by fishery for STT collated ocean fisheries management options, 2004. (Page 1 of 1)

	Exploitation Rate (Percent)					
	OCN			RK		
Fishery	I	II	III	I	II	III
SOUTHEAST ALASKA	0.0	0.0	0.0	0.0	0.0	0.0
BRITISH COLUMBIA	0.1	0.1	0.1	0.0	0.0	0.0
PUGET SOUND/STRAITS	0.1	0.1	0.1	0.0	0.0	0.0
NORTH OF CAPE FALCON						
Treaty Indian Troll	1.1	0.9	0.7	0.0	0.0	0.0
Recreational	1.8	1.4	1.1	0.1	0.0	0.0
Non-Indian Troll	1.1	0.9	0.6	0.0	0.0	0.0
SOUTH OF CAPE FALCON						
Recreational:						
Cape Falcon to Humbug Mt.	4.2	3.5	3.3	0.3	0.2	0.1
Humbug Mt. OR/CA border (KMZ)	0.5	0.9	0.8	0.8	1.3	1.3
OR/CA border to Horse Mt. (KMZ)	1.0	1.0	1.0	3.0	3.0	2.9
Fort Bragg	0.6	0.6	0.6	1.4	1.4	1.4
South of Pt. Arena	0.6	0.6	0.6	0.9	0.9	0.9
Troll:						
Cape Falcon to Humbug Mt.	1.2	1.0	1.1	0.1	0.1	0.1
Humbug Mt. OR/CA border (KMZ)	0.1	0.1	0.1	0.0	0.0	0.0
OR/CA border to Horse Mt. (KMZ)	0.0	0.0	0.0	0.2	0.2	0.0
Fort Bragg	0.4	0.4	0.4	0.8	0.8	0.7
South of Pt. Arena	0.6	0.6	0.6	0.6	0.7	0.6
BUOY 10	0.3	0.3	0.3	0.0	0.0	0.0
ESTUARY/FRESHWATER	1.0	1.0	1.0	0.2	0.2	0.2
TOTAL	14.7	13.4	12.5	8.5	9.1	8.7

SALMON FISHERY MANAGEMENT PLAN AMENDMENT ISSUES

Situation: Proposals for amending the Salmon Fishery Management Plan (FMP) are under consideration for the following subjects:

1. Incorporation of the Oregon coastal natural coho (OCN) Work Group matrix for OCN conservation objectives.
2. Developing a coho allocation schedule for fisheries south of Cape Falcon.
3. Development of conservation objectives for Sacramento River winter and spring chinook.

Oregon Department of Fish and Wildlife (ODFW) is developing a technical appendix to the OCN Work Group matrix as recommended by the Council at its November 2000 meeting (Exhibit C.7.a, Attachment 1), when it accepted the matrix as expert scientific advice. ODFW is considering completing the technical appendix and submitting the matrix as a technical amendment through the salmon methodology review process.

ODFW is also considering sponsoring an FMP amendment to address allocation issues associated with the selective coho fisheries south of Cape Falcon in general, and the OCN Work Group matrix in particular.

The Sacramento River Winter and Spring Chinook Workgroup met twice this fall to continue analysis of fishery effects on the two stocks. The Workgroup report (Exhibit C.7.b) includes updates of cohort analyses and impact rates, and a proposed management framework for winter chinook.

In addition to the issues above currently under consideration, the Council should be aware of other potential FMP amendment issues, including:

4. Puget Sound and Washington coastal natural coho conservation objectives.
5. Puget Sound chinook conservation objectives.
6. National Environmental Policy Act (NEPA) requirements.
7. Essential fish habitat (EFH) updates.

Conservation objectives for Puget Sound and Washington coastal natural coho in the salmon FMP are based on maximum sustainable yield (MSY) spawner escapement goals. The FMP states that annual objectives may differ from the FMP objectives if agreed to by the parties to *U.S. v. Washington* and *Hoh v. Baldrige*. However, these annual management objectives do not reflect the criteria for a conservation alert or an overfishing concern as defined in the Salmon FMP. Exploitation rate management objectives for these natural coho stocks have been developed through procedures established in U.S. District Court and the 2002 Pacific Salmon Commission agreement for southern coho. If the parties believe these objectives are likely to remain in effect for a long period, the Council should consider an FMP amendment to incorporate the objectives, which would reduce the risk of stocks meeting the annual (exploitation rate) objective and not the FMP objective, and subsequently triggering a conservation alert or an overfishing concern.

A similar situation is occurring for Puget Sound chinook (Endangered Species Act [ESA] threatened), with FMP objectives different from those in the State/Tribal Puget Sound Resource Management Plan (RMP), which was granted an exemption under Section 4(d) of the ESA. Because Puget Sound chinook are listed under the ESA, and are also exploitation rate exceptions to the conservation alert and overfishing concerns in the FMP, the need to address the discrepancy between the FMP and the RMP is less urgent than the case for Puget Sound coho. However, it would be desirable to have consistent management objectives between the FMP and RMP, especially if the evolutionarily significant units was delisted.

Each year, the Council has been required by NMFS to prepare a NEPA analysis of the annual ocean salmon management measures. A draft analysis is prepared before the Council takes final action at the April meeting, and the analysis must be completed prior to implementation of the management measures on May 1, which significantly impacts Council Staff workload. Recently, the analysis had consisted of an Environmental Assessment (EA), which has essentially restated the information presented in the Preseason Reports. An amendment to the FMP specifying the criteria requiring additional NEPA analysis could substantially streamline the process, and preclude the need for an annual EA.

Several updates to EFH designations have been suggested to the Council, most of which have little effect on Council management, but impact other agencies required to consult with NMFS on EFH issues. At the time of the next FMP amendment process, the Council may wish to consider including an update of EFH designations.

Council Action:

1. **Provide guidance to ODFW for the development of FMP amendments for OCN coho conservation objectives and coho allocation south of Cape Falcon.**
2. **Consider the recommendations of the Sacramento River Winter Chinook and Spring Chinook Workgroup, and in particular, provide guidance for continued development of a management matrix for winter chinook.**
3. **Discuss the merits and timing of FMP amendments for Puget Sound and Washington coastal natural coho and Puget Sound chinook conservation objectives, NEPA requirements, and EFH designations.**

Reference Materials:

1. Exhibit C.7.a, Attachment 1: November 2000 minutes excerpt on the Final Report of the Oregon Coastal Natural Coho Work Group.
2. Exhibit C.7.b, SRWSC Workgroup Report: Recommendations for developing fishery management plan conservation objectives for Sacramento River winter chinook and Sacramento River spring chinook.

Agenda Order:

a. Agendum Overview — Chuck Tracy
b. Report of the Sacramento River Winter/Spring Workgroup — Dan Viele
c. Proposals of the Agencies and Tribes
d. Reports and Comments of Advisory Bodies
e. Public Comment
f. Council Discussion and Guidance

PFMC
02/24/04

B.2.d. *Council Action:* Approve Methodology Changes for 2001

There were no methodology changes for the Council to approve.

B.3. Final Report of the Oregon Coastal Natural Coho Work Group

B.3.a. Agendum Overview

Dr. Coon provided an overview of the Agenda item (Exhibit B.3, Situation Summary).

B.3.b. Report by Work Group Leader

Mr. Sam Sharr, Oregon Department of Fish and Wildlife (ODFW), summarized the Oregon coastal natural (OCN) coho review and provided the work group's recommendations:

Based upon the results of our analyses the consensus of the OCN Work Group is that the following changes to the management matrix in Amendment 13 will reduce the risk of extinction and improve the likelihood of recovery for OCN coho:

- *Add "Critical" and "Very Low" parental spawner categories to the matrix. "Critical" is defined as spawner densities less than four fish per mile in the Northern, North-Central, and South Central sub-aggregates, and as less than 12% of full seeding in the Southern sub-aggregate. "Very Low" is defined for each sub-aggregate as greater than "Critical' but less than 19% of full seeding.*
- *Retain the "Low", "Medium" and "High" parental spawner categories as defined in the existing matrix (i.e. >19% and ≤50% of full seeding, >50% and ≤75% of full seeding, and >75% of full seeding, respectively).*
- *Eliminate the provision that prevents moving to a higher harvest rate based upon one major basin having less than 10% of full seeding.*
- *Define the spawner abundance status of OCN coho based upon the status of the weakest sub-aggregate as determine by the aforementioned criteria.*
- *Add a new "Extremely Low" marine survival category that has an OPI hatchery jacks:smolts ratio of less than 0.0008.*
- *Re-define the "Low" and "Medium" survival categories. OPI hatchery jacks:smolts ranges that define the two categories should be 0.0008 to 0.0014 and greater than 0.0014 to 0.0040 respectively.*
- *Retain the existing "High" marine survival definition as an OPI hatchery jacks:smolts ratio greater than 0.0040.*
- *Adjust allowable fishery impact rates in the matrix consistent with results of the Nickelson/Lawson habitat based production model.*

In response to questions, Mr. Sharr stated that the risk assessment of the original Amendment 13 is not superseded by the work group review. The risk assessment is still valid and the extinction probabilities have not changed.

B.3.c. Report and Comments of Advisory Bodies

STT

Dr. Gary Morishima gave the report of the STT.

The Salmon Technical Team (STT) appreciates the work that went into the report of the Amendment 13 Review Committee.

Clarification of the technical basis for the Committee's recommendations: The report presents results from the Nickelson-Lawson Model and a simplified deterministic version of that model as the basis

for proposing a new decision matrix containing limitations on allowable exploitation rates. The report is not clear as to the details underlying the various technical analyses presented. The STT, therefore, recommends a technical appendix describing the detail underlying the derivation of the proposed decision matrix be produced. The appendix should provide an explanation of modeling decision points and modeling details that support the proposed new decision matrix so it can be understood and followed. Additionally, the appendix should include derivation of the model parameters for the original decision matrix established by Amendment 13, as requested by the STT and Scientific and Statistical Committee (SSC) (Amendment 13 should be attached for reference since it is referenced extensively by the Committee's Report).

Potential confusion and misinterpretation of "extinction risk": There is some potential for confusion and misinterpretation regarding the "extinction risk" presented in the report. An extinction risk analysis was completed prior to Council adoption of Amendment 13. The "extinction risk" presented in this review should not be interpreted as a substitute for or an update of that analysis. The extinction probabilities shown in Figure 9 were contrived in an attempt to generate relationships between model-estimated spawners per mile and the risk of extinction four generations later. The relationship represents model results under the assumption of prolonged periods of constant, low marine survival rates; additionally, the definition of "extinction" differs significantly in the two analyses (.05 spawners per mile over four generations in the committee's review versus 50 spawners per basin over 100 years in the Amendment 13 Risk Assessment). The relationships depicted in figure 9 should not be interpreted as true risks of extinction under actual conditions. The original risk analysis examined the risk of extinction at 0% harvest rate and the harvest rates prescribed by the matrix in Amendment 13 with a minimum harvest rate of 13%. The committee did not complete an "extinction risk" analyses comparable to that provided for Amendment 13; however, the 8% maximum exploitation rate proposed by the Committee at critical parental escapements should produce extinction risks within the bounds depicted in the Amendment 13 assessment of extinction risk.

Modified decision matrix: The STT supports the addition of the critical parental spawner status and extremely low projected marine survival rates to provide additional guidance in responding to conservation concerns. However, the STT notes that the 8% exploitation rate limit allowed under critical parental stock status is somewhat arbitrary. This rate represents the lowest preseason rate anticipated by the regulations adopted by the Council in recent years; no significant modeling or biological thresholds can be attached to this rate. The STT is concerned that application of the 8% exploitation rate limit uniformly across all expectations of marine survival may not be appropriate or consistent with the objective of achieving full seeding of high quality habitat (defined at an assumed marine survival rate of 3%). Of particular concern is the application of the limit at medium and high marine survival rates. While there is increased uncertainty regarding depensatory effects at low spawning densities and some uncertainty regarding production response at critical parental escapement and medium to high marine survival levels, the STT notes that such events have occurred historically. The STT recommends that the committee reconstruct historical production to provide an indication of what production response might be expected under such conditions. The STT also wishes to note that a limitation of exploitation rates at 8% at medium and high survival rates will increase the contentiousness of allocation issues that come before the Council. At critically low parental escapement levels and low projected marine survivals, the STT concurs that an 8% exploitation rate would likely delay the attainment of the full seeding objective. At very low projections of marine survivals and critical parental spawning escapements, the STT concurs that there is no biological justification for harvest of the OCN stock.

Modeling capacities: The STT notes that application of the deterministic Nickelson-Lawson model to individual sub-aggregates produces inconsistent results. This simplified model overpredicts spawning escapement in the north and north-central sub-aggregates while underpredicting production in the south-central and southern sub-aggregates. This could be due to a variety of factors, including differences in marine survival rates or fishery impacts, two critical elements that are assumed invariant under Amendment 13. Currently, the STT does not have the capability to evaluate differences in fishery impacts between the sub-aggregates if they exist; marine survival differences between sub-aggregates would require revision of Amendment 13.

SSC

Mr. Bob Conrad presented the SSC report.

Mr. Sam Sharr, Oregon Department of Fish and Wildlife (ODFW), reviewed the final draft report "2000 Review of Amendment 13 to the Pacific Coast Salmon Plan" for the salmon subcommittee of the Scientific and Statistical Committee (SSC). This report thoroughly addresses two items previously identified by the SSC and Salmon Technical Team as critical to the review:

- *An assessment of the current status of the Oregon Coastal Natural (OCN) stock towards rebuilding to full seeding of the spawning grounds, and*
- *A review of the marine survival and parental spawner trigger points in the harvest management matrix.*

The SSC encourages the proposed changes to the harvest management matrix, because they are based on a peer-reviewed model, reflect conditions that have been experienced in the 1990s, and provide additional protection to OCN stocks when they are at low levels of abundance. Given the continuing depressed status of OCN stocks, the recommendations to expand the harvest management matrix defined in Amendment 13 to include two new parental spawner categories ("Very Low" and "Critical") and one new marine survival category ("Extremely Low") are warranted. The recommended allowable fishery impacts in the new harvest management matrix are consistent with the historical performance of the fishery and provide escapement levels that are consistent with the goal of full seeding of the spawning grounds. The results from the model are difficult to interpret when parental spawner levels are in the "Critical" category. The SSC stresses that when stocks are in the "Critical" parental spawner category there is no biological justification for allowing harvest.

It is important to note that the risks of extinction used in the 2000 review report do not supercede the previous risk assessment developed for Amendment 13 (Appendix C). Although the extinction risks in the 2000 review were developed with the same model used for the original risk assessment in Amendment 13, they were used only to address issues pertinent to the 2000 review. The assessment developed for Amendment 13 remains the best assessment of the risk of extinction for OCN populations.

Finally, the SSC supports research that focuses on the underlying assumptions of the model, such as ODFW's life-cycle monitoring project. This research, in addition to analyses currently under way, will provide new information that can be incorporated into future reviews of Amendment 13 and the harvest management matrix. We recommend another review be conducted in 2003.

SAS

Mr. Cedergreen gave the report of the SAS.

The Salmon Advisory Subpanel reviewed the final draft of the 2000 Review of Amendment 13 to the Pacific Coast Salmon Plan.

The recommendations presented on page 32, and in Table 6 on page 30, have substantial allocation implications. Other than the last paragraph of the Executive Summary on page V, there is no discussion regarding the allocation of proposed reductions under "Critical Parent Spawner Levels" and low levels of marine survival. However, we generally support the direction of the report.

Our recommendation would be to at least adopt the report as an advisory document.

B.3.d. Public Comment

Dr. Stan Gregory, IMST, Oregon
Mr. Mark Cedergreen, Westport Charter Boat Association, Westport, Washington
Mr. Paul Englemeyer, National Audubon Society, Yachats, Oregon

B.3.e. *Council Action:* Consider Adopting Technical Adjustments to Amendment 13

Mr. Boydstun noted that if there is no biological justification for harvest when the OCN coho stock is in the lower matrix levels, then likewise there should be no allowable habitat impacts as well.

Mr. Anderson asked Mr. Sharr how the work group would address the STT comment that the 8% exploitation rate limit is somewhat arbitrary and they are concerned about using it across the board. Mr. Sharr stated that the work group had discussed at great length how to deal with our lack of knowledge about the population behavior at critically low levels. In the absence of being able to predict it, the sense of the work group was you have to see some positive ("show me") results before the harvest rates get cranked up.

Mr. Bohn recommended the Council accept the report of the work group as biological guidance to incorporate and use along with the existing Amendment 13 for the next two or three years. Another review could be instituted in 2003 as suggested by the SSC. In the interim, the work group could put together the information the STT requested in the first paragraph of their statement (i.e., "The STT, therefore, recommends a technical appendix describing the detail underlying the derivation of the proposed decision matrix be produced. The appendix should provide an explanation of modeling decision points and modeling details that support the proposed new decision matrix so it can be understood and followed."). He would also like to see the work group look further at the habitat model and report back on that information probably by the March meeting.

Mr. Bohn clarified that the work group report would be for guidance in addition to Amendment 13. It would not replace the current matrix of Amendment 13 since there is some disagreement on the technical details of the new matrix. As ocean conditions turn around, more information will be available from which to judge the matrix decision points. Mr. Bohn believes the Council is not ready to do the allocative type of process by next March for the 2001 fisheries which adopting the new matrix could trigger. Mr. Anderson agreed that the work group should address the technical issues raised by the STT and SSC, but they are not the appropriate group to consider the social and economic ramifications of a new matrix.

As proposed by Mr. Bohn, the Council agreed to accept the report of the OCN Coho Work Group as additional information to be used in conjunction with the harvest matrix of Amendment 13 and to request that the work group answer the technical questions of the STT (Motion 2).

B.4. Progress Report on Review of Queets Wild Coho Status

B.4.a. Agendum Overview

Dr. Coon presented the situation summary.

B.4.b. Report of Tribes and Washington Department of Fish and Wildlife

Mr. Anderson reported that he has not met with the Quinaults on this issue, but that Dr. Morishima will be working with Mr. Doug Milward and appropriate staff to pull together the basic data necessary for the review. Once the basic data is assembled, it can be presented to the Council, possibly by March, with a draft report completed by the June Council meeting.

Mr. Harp clarified that he does not speak for the Quinault Indian Nation on this issue. He knows there is an outline draft in development which the STT has discussed. He has reviewed the outline draft and believes the schedule that Mr. Anderson has mentioned would probably work out. The information for the escapements for the 2000 fishery should be available by January.

RECOMMENDATIONS FOR DEVELOPING FISHERY MANAGEMENT PLAN CONSERVATION OBJECTIVES FOR SACRAMENTO RIVER WINTER CHINOOK AND SACRAMENTO RIVER SPRING CHINOOK

Interagency Workgroup

Allen Grover, CDFG
Alice Low, CDFG
Paul Ward, CDFG
Jim Smith, USFWS
Michael Mohr, NMFS
Dan Viele, NMFS
Chuck Tracy, PFMC

Progress Report
February 19, 2004

CONTENTS

1 INTRODUCTION

1.1 Present Management of Winter and Spring Chinook

Winter Chinook Sacramento River winter chinook salmon were listed under the federal Endangered Species Act (ESA) as a threatened species in 1989 and reclassified as endangered in 1994. Since 1990, measures to limit the incidental take of winter chinook in the West Coast ocean salmon fishery have been developed through section 7 consultations conducted by the National Marine Fisheries Service (NMFS) under the ESA. The consultations and associated biological opinions were conducted in 1990, 1996, 1997 and 2002.

Spring Chinook Sacramento River spring chinook[1] were listed as threatened in 1999. NMFS concluded in a 2000 biological opinion that ESA requirements for winter chinook provided sufficient protection for spring chinook and additional constraints on ocean fisheries managed under the Pacific Coast Salmon Plan (FMP) were not necessary. Amendment 14 to the FMP included Sacramento River winter and spring chinook in the list of stocks and stock complexes of significance to ocean salmon fisheries and specified the conservation objective as NMFS' section 7 consultation (jeopardy) standard.

1.2 The Development of Management Goals through FMP Amendment

In November, 2001, NMFS proposed that the Pacific Fishery Management Council (Council) amend the FMP to specify recovery and long term conservation objectives for Sacramento River winter chinook and Sacramento River spring chinook. While management objectives for the two stocks could continue to be determined through section 7 consultations, NMFS believes it preferable that the Council develop conservation objectives, with full public involvement in the evaluation of alternatives. The Council, at its March 2002 meeting, directed NMFS and the California Department of Fish and Game (CDFG) to form a workgroup to develop alternatives and, if possible, a preferred alternative, for FMP conservation objectives.

A seven-member workgroup was formed consisting of representatives from the Council, NMFS, CDFG and the US Fish and Wildlife Service (USFWS). The workgroup has been compiling and evaluating the available information on fishery impacts and status of the two stocks. This progress report provides the workgroup's initial assessment of the potential of the existing data sets to predict fishery impacts on winter and spring chinook, and describes a framework for conservation objectives that the workgroup is considering for recommendation to the Council.

2 SACRAMENTO RIVER WINTER CHINOOK

2.1 Stock Description

The Sacramento River winter chinook stock consists of a single spawning group that enters the

[1] Central Valley spring chinook (the population listed under the ESA by NMFS) and Sacramento River spring chinook (the population referred to in the FMP and listed under the California Endangered Species Act) are the same population.

Sacramento River from November to June and spawns from late April to mid August, with a peak from May to June. NMFS determined that Sacramento River winter chinook represent a distinct population segment, for purposes of the ESA, in 1987 (52 FR 6041), prior to development of the NMFS species policy, and subsequently determined that the population meets the criteria to be considered an evolutionarily significant unit (Myers et al. 1998).

2.2 Population Indicators and Status

Sacramento River winter chinook historically spawned during the summer at high elevations in cold, spring-fed headwater streams, such as the upper reaches of the Little Sacramento, McCloud, and lower Pit Rivers. Shasta Dam, completed in 1943, completely blocked the migration of winter chinook to those areas, forcing adults to hold in deep pools downstream, before initiating spawning activities in the mainstem Sacramento River between Red Bluff and Keswick Dam. The population persists as a result of cool water released from Shasta Reservoir during the summer periods of spawning, incubation and rearing. Between 1970 and 1990, the spawning population declined from over 50,000 fish to less than a thousand.

2.2.1 Red Bluff Diversion Dam Counts

The completion in 1966 of a flashboard dam, Red Bluff Diversion Dam (RBDD), allowed quantitative estimates of all salmon runs to the upper Sacramento River, based on counts at fish ladders. The dam may have been operated with flashboards during some earlier phases of operation, but it is now, and has been since about 1970, an underflow dam with 11 mechanically operated gates. Beginning in 1989, the dam gates were removed for increasing periods to improve upstream passage of adult winter chinook, resulting in a smaller and smaller fraction of the adult run actually being observed. By 1993, observation of the run through the fish ladders was limited to the time between May 15 and September 15. The current expansion of the observed number of fish passing the dam to the total run size is based on the

Table 1 Spawning population estimates for Sacramento River winter chinook

	Estimate Based on Passage at RBDD[a]			Carcass Survey Jolly-Seber Estimate[b]	
CY	Total Population	Adults	3-Year Replacement Rate Adults[c]	Total Population	Total Females
1970	40,409	32,085			
1971	53,089	32,225			
1972	37,133	28,592			
1973	24,079	19,456			
1986	2,596	2,101			
1987	2,186	1,909			
1988	2,886	1,878			
1989	696	571	0.3		
1990	430	387	0.2		
1991	211	192	0.1		
1992	1,240	1,160	2.0		
1993	387	250	0.6		
1994	186	62	0.3		
1995	1,297	1,267	1.1		
1996	1,337	708	2.8		
1997	880	528	8.5		
1998	3,002	2,079	1.6		
1999	3,288	822	1.2		
2000	1,352	563	1.1	4,343	3,551
2001	5,523	1,696	0.8	7,171	4,686
2002	9,169	7,614	9.3	7,337	5,745
2003	9,757	6,172	11.0	8,133	5,179

Methodologies for estimating the spawning population from the carcass survey are under review and estimates are preliminary.

a/ Estimate expanded for spawning below RBDD.

b/ Estimate expanded for spawning below survey area.

c/ The 3-year replacement rate is calculated as the return of fish in year *n* divide by the return of fish in year *n*-3

fraction of the winter chinook spawning migration that passed the dam between May 15 and September 15 for years 1982-1986. Although the mean observed fraction was 15%, annual observations ranged between 3% and 48% (Snider et al. 2000). Similar variation in run timing presumably continues to occur, and as a result, the accuracy of the estimates of the total run size probably varies greatly.

2.2.2 Carcass Surveys

Since 1996, CDFG and USFWS have conducted mark-recapture carcass surveys in a 14 mile reach of the Sacramento River downstream from Keswick Dam, which is the primary spawning area for winter chinook. Since the improvement of passage at Anderson Cottonwood Irrigation District diversion dam, most of the spawning activity now occurs upstream from the dam, in an area in which it is more difficult to observe carcasses. CDFG has used several methodologies for estimating the spawning population from the observed carcasses, including the Jolly-Seber model (Table 1).

2.2.3 Population Status

Maturation rates estimated from cohort reconstructions of hatchery fish (Table 2) indicate that the large majority of winter chinook return to spawn as age 3 fish. Therefore, the 3-year replacement rate of adults or females can be used as an index of the cohort replacement rate. The 3-year replacement rate for adults (RBDD estimate) has exceeded 1.0 for 8 of the 9 years since 1995 (Table 1). The time series of spawning population abundance suggests a fairly consistent increase in the size of succeeding cohorts since 1995.

2.3 Fishery Interactions

2.3.1 Marked Wild Fish - Brood Years 1969-1971

In 1969, CDFG initiated a study to estimate the contribution of Sacramento River winter chinook to ocean fisheries and spawning escapement (Hallock and Reisenbichler 1980, Hallock and Fisher 1985). The study utilized 720,000 wild winter chinook juveniles which were captured immediately upstream from Red Bluff Diversion Dam during September and October of 1969, 1970, and 1971, marked with a fin clip and then released back to the river. Marked fish were recovered in ocean fisheries and at RBDD. The objectives of the study were to determine the return rate (contribution) of winter chinook to the ocean fisheries and spawning escapement. Difficulties associated with the study include: 1) the marked fish were an unknown mixture of the winter and late fall chinook; 2) the same mark was used for both 1970 and 1971 brood years and assigning recovered marked fish to the correct brood was accomplished by aging adults from their scales; 3) 1968 brood Trinity River chinook and 1972 brood Willamette chinook, marked with the same fin clip, may have confounded recoveries of marked winter chinook north of Ft. Bragg; 4) marked fish were not sampled in the river sport fishery. A cohort reconstruction of the pooled recoveries of the 1969 and 1970 brood years formed the basis of the Winter Chinook Ocean Harvest Model (CDFG 1989).

2.3.2 Coded Wire Tagged Hatchery Population

Beginning in 1955 the USFWS made several attempts, with varying levels of success, to propagate winter chinook at Coleman National Fish Hatchery. In 1998, the program was shifted to Livingston Stone National Fish Hatchery, located just below Shasta Dam and constructed specifically to produce winter chinook. All winter chinook produced at Livingston Stone are marked with adipose clips and coded wire tags, as was the case at Coleman (USFWS 2001). Even with the increased production at Livingston Stone, the numbers of coded wire tagged fish recovered are less than those from the 1969 or 1970 brood years; however the CWT data are free of many of the confounding factors associated with the earlier marking experiments and should provide an improved basis for evaluation of fishery impacts.

2.3.3 Harvest Distribution

Figure 1 displays the distribution of ocean recoveries of coded wire tagged winter chinook from 1993 to 2003, expanded for sample size. Over 95% of all recoveries occurred south of Point Arena, California, and 74% of all recoveries occurred in the recreational fishery south of Point Arena.

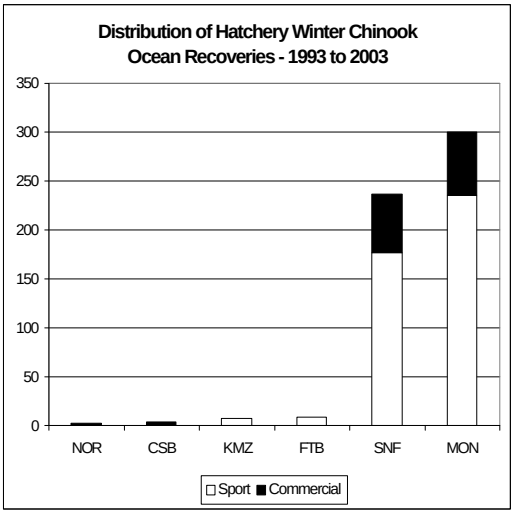

Figure 1. Landing distribution of Coleman and Livingston Stone hatchery produced winter chinook recovered from 1993 to 2003

2.3.4 Cohort Analysis

Cohort reconstruction estimates the number of fish of a single cohort that are alive at monthly intervals from the time at which fish first become vulnerable to fisheries through the spawning run of the oldest maturing fish. The aging convention for winter chinook and variables associated with the cohort reconstructions are explained in Appendix I, and the reconstructions of the 1998, 1999, and 2000 cohorts produced at Livingston Stone Hatchery are presented in Appendix II. The cohort analysis yields age-specific maturity rates, fishery contact rates and impact rates.

Maturation Rates Age-specific maturation rates are estimated in the cohort reconstruction as the fraction of the cohort at the beginning of March that leaves the ocean to spawn. The maturation rate for age 3 fish is estimated at over 90% for the 1998, 1999, and 2000 brood years (Table 2). The relatively high age 3 maturation rate of winter chinook leaves correspondingly few age 4 fish available for harvest.

Table 2. Life history and fishery interaction statistics for winter chinook .

Brood year		1998	1999	2000
Maturation rates	age 2	0.01	0.17	0.06
	age 3	0.96	0.96	0.97
	age 4	1.00	1.00	1.00
Age 3 impact rate:		0.23	0.20	0.21[1]
Age 4 impact rate:		0.57	0.74	NA
Spawner reduction rate:		0.26	0.23	0.24[1]

1 Preliminary estimate; brood escapement not complete.
NA: No estimate; brood escapement not complete.

Contacts Age-, month- and area-specific fishery contacts are estimated by dividing the landings for a given month and area by the proportion of the cohort that is above the minimum size limit. The contacts associated with the 1998 brood year are displayed in Table 3 and are similar in distribution to those of 1999 and 2000 brood years

(Appendix II). Seventy-four percent of all winter chinook contacts occurring between 2000 and 2003 (brood years 1998 through 2000) consisted of age 3 fish in the sport fishery south of Point Arena.

Table 3. Winter chinook contacts, 1998 hatchery cohort.

	Sport				Commercial			
	South of Point Arena		North of Point Arena		South of Point Arena		North of Point Arena	
Age	3	4	3	4	3	4	3	4
Mar	0	0	0	0	0	0	0	0
Apr	9	0	0	0	0	0	0	0
May	0	0	0	0	0	5	0	0
Jun	40	0	0	0	23	0	0	0
Jul	50	0	0	0	0	0	7	0
Aug	6	0	8	0	0	0	0	0
Sep	4	0	0	0	0	0	0	3
Oct	9	0	0	0	0	0	0	0
Nov	0	0	0	0	0	0	0	0
Total	118	0	8	0	23	5	7	3

Contact Rates Age-, month-, and fishery sector-specific contact rates are estimated by dividing contacts by the cohort abundance for that age at the beginning of that month. Each cohort reconstruction yields a single estimate of contact rate for a given month, age and fishery sector. Contact rates are provided in the cohort reconstructions in Appendix II.

Impact Rates Impact rates and spawner reduction rates for the 1998, 1999, and 2000 cohorts are summarized in Table 2. Age-specific ocean impact rates are estimated by dividing the fishery impacts (landings, hook-and-release mortality, and dropoff mortality) associated with an age class by the cohort abundance at the beginning of that age. The spawner reduction rate is the fraction of the cohort's potential spawners killed by the fishery, that is, the observed fishery mortality in terms of adult-equivalents divided by the predicted number of spawners that would survive natural mortality in the absence of fishery mortality. Spawner reduction rates were estimated with a cohort projection using the maturation and contact rates of the respective cohort reconstruction.

The high maturation rate of age 3 fish and the vulnerability of age 3 fish to recreational harvest result in the majority of ocean fishery impacts being age 3 fish. As an annual management objective, the age 3 impact rate is a better index of the cohort spawner reduction rate than the age 4 impact rate.

2.4 Conservation Objective for Winter Chinook

2.4.1 Predictive Models

The workgroup is considering a methodology for predicting winter chinook impact rates similar to that used in the Klamath Ocean Harvest Model (KOHM), in which "contact rate-effort" and "effort-days open" submodels are coupled to predict the contact rates and the resulting impact rates associated with proposed fishing seasons.

Contact Rate - Effort Relationship When a sufficient number of contact rate estimates become available, a ratio estimator is fit to the contact rates and respective observed effort. The slope of the ratio estimator provides a basis for predicting contact rates associated with varying levels of effort. Figures 2 and 3 show ratio estimators fit to the three available sets of monthly estimates of age 3 contact rates and the respective observed effort for recreational and commercial fisheries

south of Point Arena. Sets of contact rate - effort estimators can also be characterized for age 4 fish for both recreational and commercial fisheries.

Effort - Days Open Relationship Ratio estimators of the relationship between observed effort and days open are used in the KOHM "effort-management" submodel to predict the expected effort resulting from a given number of fishing days in monthly increments for specific areas and fishery sectors. This submodel could be modified to meet time and area requirements associated with winter chinook management.

Impact Rate Prediction The coupling of the two submodels would allow prediction of winter chinook contact rates associated with proposed recreational and commercial seasons south of Point Arena. Predicted contact rates, incorporated into a cohort projection, would allow prediction of the recreational age 3 impact rates and commercial age 3 and age 4 associated with proposed seasons and minimum size limits.

2.4.2 General Considerations

Measurable Effects The workgroup recommends that FMP conservation objectives for listed salmon stocks be expressed in terms of measurable effects that fisheries have on stock dynamics. An estimate of fishery impact rates is a critical element in evaluating the effects. Methodologies necessary to implement the objective, as well as assess whether the objective has been achieved, should be identified and made available.

Reliability of Predictive Models "Risk averse" management is appropriate in the case of listed species. In order to assess the degree of risk involved with fishery management decisions, the Council, NMFS and public should be provided with estimates of the uncertainty associated with the methodologies and monitoring programs used to measure and predict fishery effects. The workgroup recommends that management objectives for winter chinook include consideration of the uncertainty in estimating variables such as contact rates and effort, as well as with the use of the relatively small number of contact rate estimates which exist for winter chinook.

2.4.3 Management Framework Proposal

The workgroup is considering an FMP conservation objective for winter chinook in the form of a cap on the age 3 ocean fishery impact rate (i_{max}). Annual preseason impact rate targets would be determined by parent spawner status, marine survival, and the uncertainty associated with the impact rate forecast. Determination of whether the conservation objective has been met would be based on a post-season comparison of the realized (observed) impact rate, i_{post}, with i_{max}. Annual preseason impact rate targets, i_{pre}, would be set to provide a reasonable likelihood that i_{post} will not exceed i_{max}. The workgroup has discussed two alternatives for implementing the framework. Both approaches would allow annual preseason impact rate targets to vary with ocean productivity, parent spawner status, and changes in uncertainty in predicting impact rates. Changes in uncertainty are expected to result from the expansion of the data sets used to estimate contact rate - effort relationships.

Alternative A - Variable Maximum Impact Rates and Fixed Risk The conservation objective would consist of a matrix of impact rates, i_{max}, which would vary with parent spawner status and marine survival. A second matrix would provide the preseason impact rate targets, i_{pre} , such that i_{post} will not exceed i_{max} with some fixed level of probability. As additional estimates of contact rates accrue and uncertainty associated with impact rate prediction change, the preseason impact rate targets associated with a given category of marine survival and parent spawner status will also change.

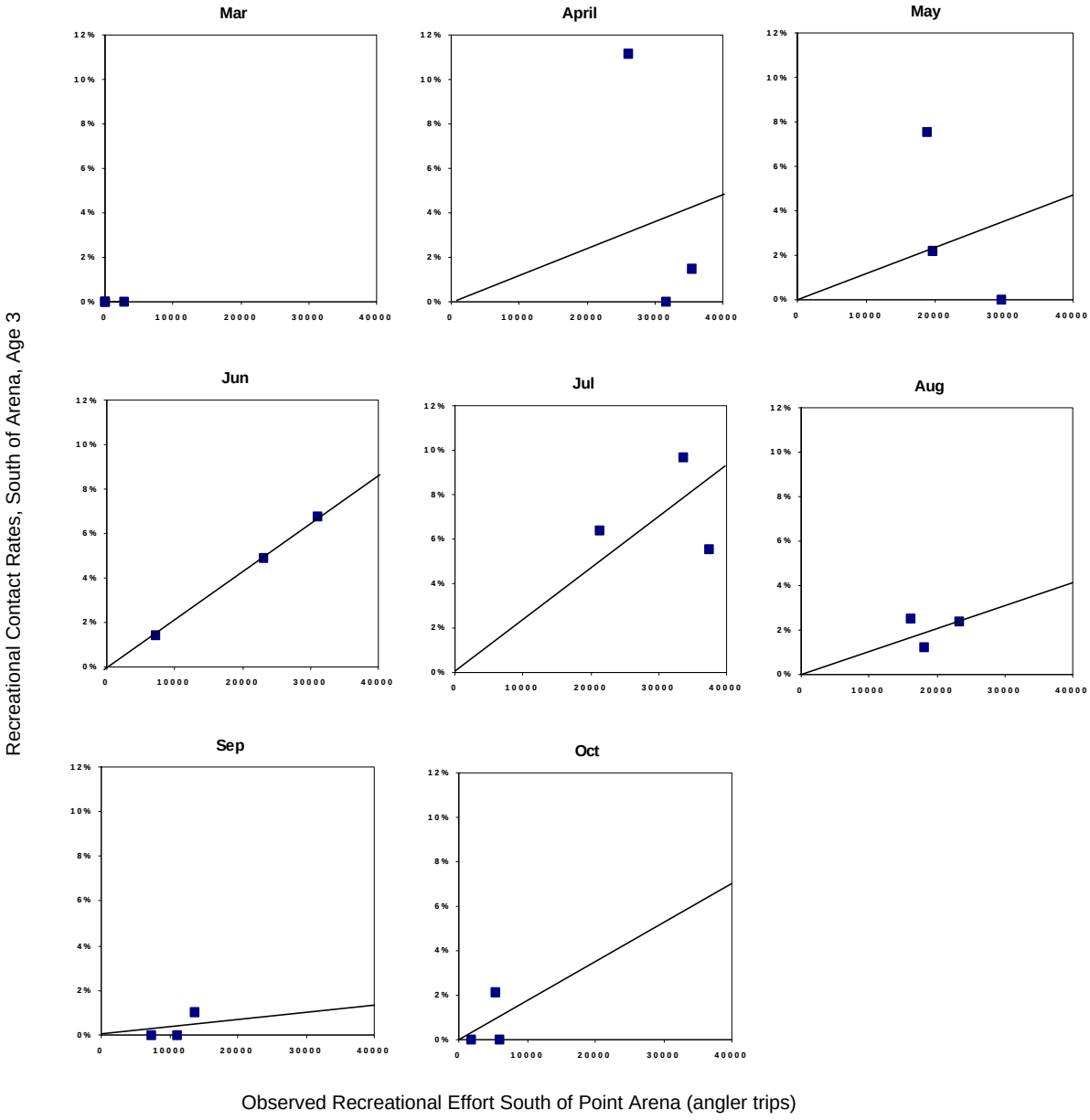

Figure 2 Contact rates of age 3 winter chinook plotted against effort for the recreational fishery south of Point Arena from cohort analyses of the 1998, 1999 and 2000 brood years. Contact rates are from Appendix II; effort estimates are from PFMC 2003.

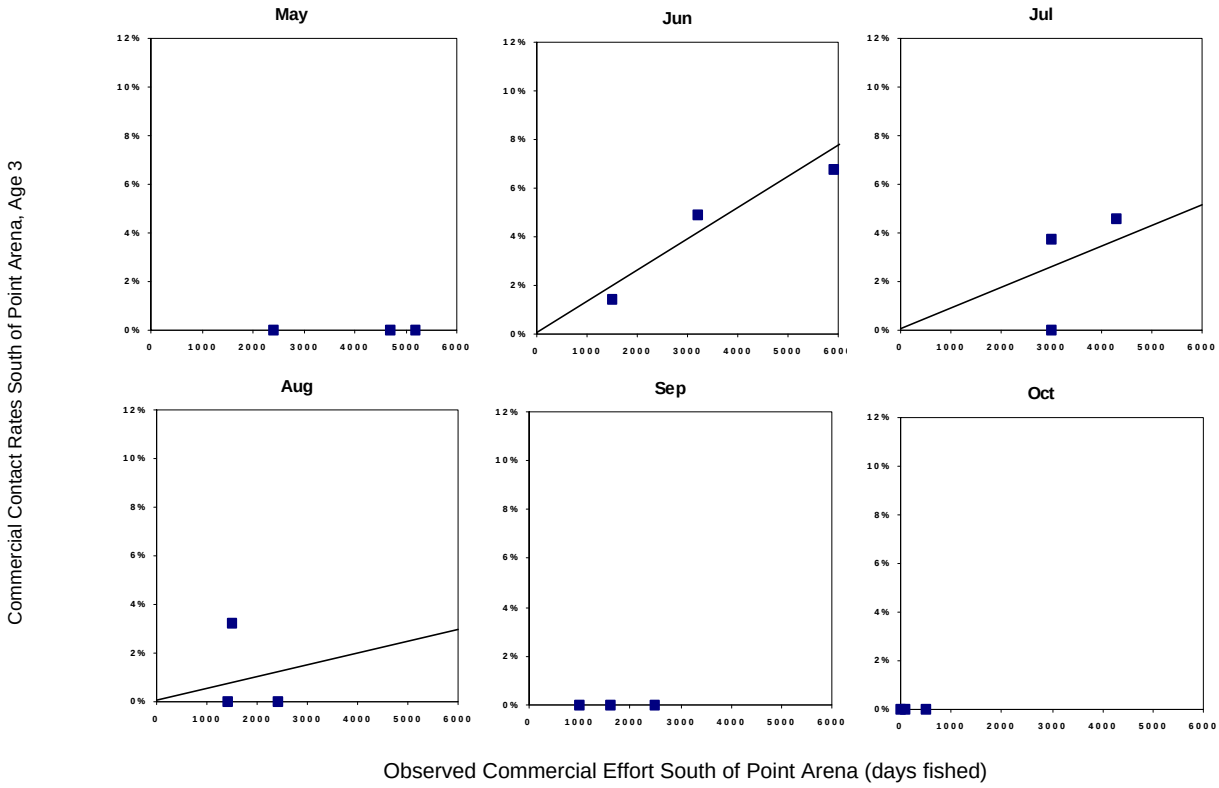

Figure 3 Contact rates of age 3 winter chinook plotted against effort for the commercial fishery south of Point Arena from cohort analyses of the 1998, 1999, and 2000 brood years. Contact rates are from Appendix II; effort estimates are from PFMC 2003.

Example *Values are for illustrative purposes only.* Table 4 is an example of a matrix of maximum impact rates associated with varying levels of marine survival and parent spawner status. Table 5 shows the associated preseason impact rate targets (i_{pre}) that would provide some fixed probability (.70 in this case) that the observed postseason impact rate (i_{post}) would not exceed the conservation objective (i_{max}). The values of i_{pre} would be expected to change as additional estimates of contact rates accrue.

Alternative B - Fixed Maximum Impact Rate and Variable Risk The conservation objective would consist of a single maximum impact rate (i_{max}) which would apply under all conditions of marine survival and parent spawner status. The annual preseason impact rate target (i_{pre}) would be determined through a matrix associating values of i_{pre} with the probability that the observed impact rates will not exceed the fixed maximum impact rate (i_{max}) given i_{pre}, i.e. $p(i_{post} \leq i_{max} \mid i_{pre})$.

Example *Values are for illustrative purposes only*. Assume i_{max} = 30%. Table 6 contains a matrix of probabilities that represent the risk that management believes appropriate for ensuring that i_{max} is not exceeded at various levels of parent spawner status and marine survival. Table 7 shows the preseason impact rate targets that would be associated with the different levels of risk set out in Table 6. As in Alternative A, the values of i_{pre} would be expected to change as additional estimates

of contact rates accrue. Substitution of the preseason impact rate targets of Table 7 for the corresponding risk levels in Table 6 produces a matrix of preseason impact rate targets (Table 8) associated with various levels of parent spawner status and marine survival.

Table 4 Maximum impact rates (i_{max})

		Marine Survival Index		
		Low	Medium	High
Parent Spawner Status Females	High (delisted)	28%	32%	36%
	Medium	20%	24%	28%
	Low	16%	18%	20%
	Critically Low	8%	8%	8%

Table 5. Preseason imact rate targets (i_{pre}) such that $p(i_{post} \leq i_{max} \mid i_{pre}) \leq .70$

		Marine Survival Index		
		Low	Medium	High
Parent Spawner Status Females	High (delisted)	22%	26%	30%
	Medium	15%	18%	22%
	Low	11%	13%	15%
	Critically Low	5%	5%	5%

Table 6 . Matrix of acceptable risks (probabilities) that an observed impact rate will not exceed the conservation objective.

		Marine Survival Index		
		Low	Medium	High
Parent Spawner Status Females	High (delisted)	.60	.55	.50
	Medium	.70	.65	.60
	Low	.80	.75	.70
	Critically Low	.90	.90	.90

Table 7. Preseason impact rate targets (i_{pre}) and probability that the postseason impact rate (i_{post}) will not exceed the fixed conservation objective (i_{max}).

i_{pre}	5%	11%	13%	15%	18%	22%	26%	30%
$p(i_{post} \leq i_{max} \mid i_{pre})$	.90	.80	.75	.70	.65	.60	.55	.50

Table 8. Resulting impact rates targerts (i_{pre})

		Marine Survival Index		
		Low	Medium	High
Parent Spawner Status Females	High (delisted)	22%	26%	30%
	Medium	15%	18%	22%
	Low	11%	13%	15%
	Critically Low	5%	5%	5%

2.4.4 Comments and Concerns for Implementation

The management framework described above is similar to that used by the Council for Oregon coastal natural coho, except that it: 1) explicitly considers the uncertainty associated with the predictive methodology, and 2) recognizes that uncertainty may change as data accumulates. Most components of the framework are "data-driven". However, two key elements, the maximum impact rate and the appropriate risk levels, would be specified by policy decisions. As a result, the difference between the two alternatives is primarily in the way in which uncertainty is integrated into the framework. Depending on the selected levels of risk and maximum impact rates, the same matrix of preseason impact rate targets, i_{pre}, could result from either alternative, as in the hypothetical examples presented here (Tables 5 and 8).

Commercial and Recreational Impacts North of Point Arena not Predicted In evaluating postseason impact and spawner reduction rates, the framework would incorporate all observed marine and freshwater recoveries. However, the preseason prediction of age 3 impact rates would only utilize effort and contact rate/unit effort estimates for fisheries south of Point Arena. As a result, marine impacts north of Point Arena will not be included in the age 3 impact rate prediction. About 5% of the available CWT recoveries occurred above Point Arena. A possible solution would

be the assumption, for purposes of modeling, that recoveries from north of Point Arena were caught south of Point Arena, similar to the approach taken in the KOHM for recoveries that occur outside the KOHM catch area partitions.

Inland Recreational Hook and Release Impacts not Included in Cohort Reconstruction The California Fish and Game Commission limits river recreational impacts on winter chinook by prohibiting retention of salmon in the Sacramento River recreational fishery during periods of time when winter chinook are present. As a result of recoveries of tagged winter chinook in late December 2000 and January 2001, the Fish and Game Commission advanced the no-retention date to January 1. No estimate is available for fishery impacts associated with releasing sport caught winter chinook. In 2003, CDFG suspended monitoring of Central Valley recreational fisheries for chinook due to budgetary constraints.

No Cohort Analysis of Naturally Spawning Population Although scales are collected from naturally produced fish sampled in the spawning surveys, they have yet to be aged. Therefore, no age-structured analysis of the naturally spawning population exists and a cohort reconstruction of the naturally spawning population is not available. The age structure of the naturally spawning population, while containing no additional information on fishery impact rates, would improve the assessment of certain aspects of stock dynamics, in particular cohort replacement rates.

Index of Marine Survival An appropriate index of marine survival for Central Valley chinook stocks, e.g. return rate of jacks per hatchery smolt, would have to be developed, and an appropriate number of levels selected to trigger changes in impact rates.

Management Line at Pigeon Point If significantly different contact rates per unit effort are observed in the San Francisco and Monterey catch areas, consideration of a management line at Pigeon Point might offer more flexibility in controlling winter chinook impacts.

Parent Spawner Status An appropriate index of parent spawner status, such as spawning abundance of the cohort that produced the age 3 year class vulnerable in the fishing season under consideration, or an indicator of stock productivity, would need to be identified.

3 SACRAMENTO RIVER SPRING CHINOOK

3.1 Stock Description

Like winter chinook, spring chinook evolved to exploit spawning habitats at high elevations, generally above 1,500 feet; fish enter the river in the spring when higher elevation habitats are accessible, hold through the summer and spawn in the fall. The spring run of chinook salmon enters the Sacramento River from March to July and the fish spawn from late August through early October in the Sacramento River and its tributaries.

3.2 Population Indicators and Status

3.2.1 Spawning Surveys

Spring chinook salmon once occupied the headwaters of all major river systems in California's Central Valley. Commercial fish landings suggest the population of Central Valley spring chinook in the 1880s ranged from 127,000 to 604,000 fish (CDFG 1998). Self sustaining populations of spring chinook are now found in Mill, Deer, and Butte creeks, where they still have access to the spawning habitats historically utilized. Butte Creek spring chinook are genetically distinct from the Deer and Mill Creek populations and enter their natal stream earlier than the Deer and Mill Creek runs. Spring chinook appear sporadically in other tributaries to the Sacramento River, such as Beegum, Clear, Cottonwood, Antelope and Big Chico creeks. These remaining wild populations are small, isolated, and the range of suitable spawning habitat is restricted. Various methods have been used to evaluate the size of spring chinook spawning populations in the Sacramento River tributaries (Table 9). Most recent estimates have been based on snorkel surveys (Deer Creek), ground and aerial redd surveys (Mill Creek), and, in the case of Butte Creek, snorkel and carcass surveys.

Table 9 Recent spawning escapement estimates for Sacramento River spring chinook populations.

Return Year	Mill	Deer	Butte	Butte Carcass[a]	Antilope	Beegum	Big Chico
1995	320	1,295	7,500		7	8	200
1996	252	614	1,413		1	6	2
1997	200	466	635		0		2
1998	424	1,879	20,259		154	477	369
1999	560	1,591	3,529		40	102	27
2000	544	637	4,118		9	120	27
2001	1,104	1,622	9,605	18,312	8	245	39
2002	1,594	2,185	8,785[b]	16,328[c]	46	130	0
2003	1,426	2,751	4,398[d]	17,294[f]	46	73	81

a. Schaefer estimate
b. No prespawning mortalities added
c. Includes an estimated 3,431 prespawning mortalities
d. Snorkel survey estimate of Butte (no prespawn mortalities)
f. Includes estimated 11,231 prespawn mortalities

The largest self sustaining population of spring chinook occurs in Butte Creek. In 1995, CDFG initiated a study project to define life history characteristics of spring chinook in Butte and Big Chico Creeks (Ward et al. 2001, 2002, 2003). The project traps emigrating spring chinook fry at four locations along Butte Creek. At the uppermost site, directly downstream of the spring chinook spawning habitat, juveniles are marked with adipose clips and coded wire tags and released downstream from the trapping location. Table 10 shows the numbers of fish tagged and released since 1998.

In 2001, the project initiated a carcass survey of spring chinook spawning in Butte Creek, primarily for the purpose of recovering CWT marked fish. The survey was expanded to include estimates of the large numbers of pre-spawn mortalities during 2002 and 2003, and provides a spawning population estimate based on standard carcass survey methodologies (Table 5). The present range of spring chinook in Butte Creek is similar to the historic range. However Butte Creek does not conform to typical spring chinook habitat in that the accessible spawning areas are all below 1000 ft elevation and water temperatures frequently exceed lethal levels. As a result, high levels of prespawning mortality are not unexpected. Conducting a carcass survey on Butte Creek in future years will be important, both for assessing the status of the population as well as estimating harvest impacts.

Historically, spring chinook spawned in the upper reaches of the Feather River in substantial numbers. Early hydropower and agricultural diversions blocked access to much of the spring-run spawning habitat in the upper watershed. The construction of Oroville Dam blocked further upstream migration, but the release of cold reservoir water created conditions below the dam that support an early run of chinook salmon which are regarded as a spring-fall hybrid (CDFG 1998), a condition exacerbated by operations of the Feather River Hatchery. Like winter chinook, spring chinook may also have spawned in the mainstem Sacramento River below Keswick, but because of the lack of physical and temporal separation with the fall run, they have likely hybridized with fall chinook.

3.3 Status

Deer and Mill Creek Estimates of spawner abundance are available for Deer and Mill Creeks from as early as 1940 (CDFG 1998). These time series from the early 1940s through the mid 1970s indicate abundances that fluctuate around means of about 1,800 and 2,000 fish in Mill and Deer creeks respectively. Abundance declined during the late 1970s and early 1980s to levels generally fewer than 500 fish, and then increased beginning in the late 1990s. The average return over the past three years has been 1,375 and 2,186 to Mill and Deer Creeks respectively, suggesting these populations are recovering to levels approaching those of the 1940s and 1950s.

Butte Creek The carcass surveys of 2001, 2002, and 2003 estimated river escapements of approximately 18,000, 16,000 (3,000 pre-spawn mortality; 13,000 spawning), 17,000 (11,000 pre-spawn mortality; 6000 spawning). In 2002 and 2003, large numbers did not survive the holding period to spawn, due to an outbreak of two pathogens caused by elevated water temperatures and high densities of holding fish. In the record of spawner abundance estimates for Butte Creek spring chinook dating back to 1954 (CDFG 1998), abundance exceeded 6,100 fish only once. Like the estimates for Deer and Mill Creek, standardized survey methods were not consistently applied in Butte Creek and the series must be interpreted with some caution. However, the high prespawning mortality observed in the past two years, and the utilization of most of the available spawning habitat in Butte Creek, may indicate that the numbers of spring chinook that survive to spawn can not be expected to increase substantially over current levels.

3.4 Fishery Interactions

3.4.1 Harvest Distribution

Figure 4 displays the distribution of ocean recoveries of coded wire tagged Butte Creek spring chinook from 1998 to 2003, expanded for sample size, which includes recoveries from the relatively small numbers of fish marked from the 1995 and 1997 cohorts. Of the total recoveries, 58% were in the commercial fishery, 64% were in fisheries south of Point Arena, California, and 39% in the commercial fishery south of Point Arena.

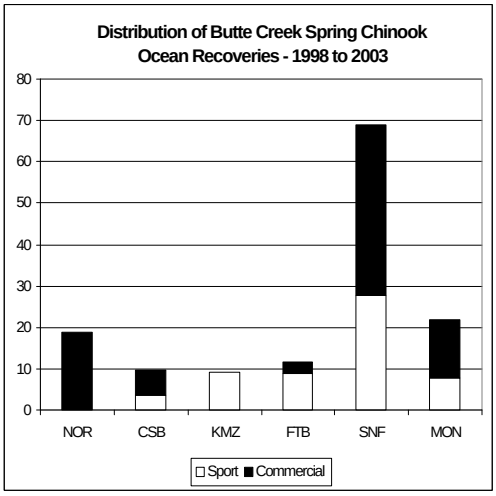

Figure 4. Landing distribution of marked Butte Creek spring chinook recovered from 1998 to 2003

The number of spring chinook CWT recoveries available for cohort reconstruction is less than a fifth of that for winter chinook. Compared with winter chinook, the recovery rate (sum of expanded ocean and river recoveries divided by release numbers) for each of the Butte Creek spring chinook broods has been about 15% of the recovery rate for winter chinook. The difference may be due to higher mortality rates experienced by spring chinook between the time they are tagged and the time they recruit to ocean fisheries; winter chinook are tagged as smolts, while Butte Creek spring chinook are tagged as fry. Table 10 compares the numbers of Butte Creek spring chinook and winter chinook tagged and recovered since 1998.

Table 10 Summary of releases and expanded recoveries of winter and spring chinook for brood years 1998 through 2000

	Livingston Stone Winter Chinook				Butte Creek Spring Chinook			
Brood Year	Tagged and Released	Expanded Ocean Recoveries	Expanded River Recoveries	Recovery Rate	Tagged and Released	Expanded Ocean Recoveries	Expanded River Recoveries	Recovery Rate
1998	141,482	147	381	0.37%	106,690	32	32	0.06%
1999	30,035	78	368	1.48%	58,854	54	68	0.21%
2000	162,198	90	315	0.25%	166,570	19	41	0.04%

The existence of the yearling life history component of spring chinook complicates the analysis of fishery impacts. A very small fraction (0.4%) of the marked 1998 brood year Butte Creek spring chinook were trapped and tagged as yearlings, however 3 of the 9 ocean recoveries were yearlings. It is not known whether that fraction is representative of either the fraction of the cohort out-migrating as yearlings, or the fraction of the cohort available as yearlings at age of recruitment to ocean fisheries.

3.4.2 Cohort Analysis

The cohort reconstructions of the 1998, 1999, and 2000 cohorts of tagged naturally produced Butte Creek spring chinook are presented in Appendix III; they are similar in construction to the winter chinook reconstructions. The notable differences are the aging convention (see Appendix I), and the addition of age 5 fish.

Maturation Rates Age-specific maturation rates are shown in Table 11. The relatively low age 3 maturation rate of spring chinook leaves significant numbers of age 4 fish and even a small number of age 5 fish available for harvest.[2]

Table 11. Butte Creek spring chinook life history and fishery interaction statistics

Brood year		1998	1999	2000
Maturation Rates	age 2	0.00	0.01	NA
	age 3	0.40	0.28	NA
	age 4	0.67	1.00[1]	NA
	age 5	1.00[2]		NA
Age 3 impact rate:		0.08	0.05	0.12[1]
Age 4 impact rate:		0.62	0.55	NA
Spawner reduction rate:		0.36	0.42[1]	NA

1. Preliminary estimate, brood escapement not complete
2. No age 5 recoveries have occurred in the river; one age 5 fish was recovered in the ocean.

NA No estimate, brood escapement not complete

Impact Rates The impact rates, summarized in Table 11, suggest that spring chinook are less available to ocean fisheries at age 3 than are winter chinook. The age 4 impact rates, similar to those of winter chinook, reflect the vulnerability of spring chinook to both recreational and commercial harvest. The combined maturity schedule and exposure to commercial harvest result in spawner reduction rates, 0.36 and 0.42, higher than those estimated for winter chinook. Seventy-four percent of the ocean recoveries of Butte Creek spring chinook have been age 4, and for purposes of an annual management objective, the age 4 impact rate would be the better index of the cohort spawner reduction rate.

The age-4 impact rates occurring in 2001 (0.62) and 2002 (0.55) are similar to one another, as are the CVI harvest rate indices for 2001 and 2002 (26% and 35%) (PFMC 2004, Table II-1). If Butte Creek spring chinook impact rates are well correlated with those for Central Valley fall chinook, Butte Creek spring chinook impact rates were likely substantially higher over the past 30 years than the 0.36 and 0.42 estimated here.

3.5 Recommendations

Cohort reconstructions of CWT marked naturally produced Butte Creek spring chinook provide the best available estimate of fishery impacts on listed stocks of Sacramento River spring chinook. However, the number of recoveries are not sufficient to allow fine scale assessments of ocean impacts, and given that the results are derived from just two cohorts, the impact rates should be interpreted with some caution. Confidence in future results would increase in proportion to the numbers of tagged fish that are released.

Without substantially more information on the magnitude and distribution of ocean fishery impacts on naturally spawning spring chinook populations, the development of FMP conservation objectives that specify measurable fishery effects on the stock will be difficult. In principle, a conservation objective for Butte Creek spring chinook, expressed as an age 4 ocean impact rate, is possible and should be considered. Implementation of such an objective would require a continuation and increase in the commitment of resources for the Butte Creek spring chinook life history

[2] The workgroup's concern regarding the small number of Butte Creek spring chinook CWT recoveries available for the cohort reconstruction is illustrated by the effect of a single recovery on estimated maturation rates: the ocean recovery of one age 5 fish of the 1998 cohort produces an age 4 maturation rate of .67. Had the recovery not occurred, the rate would have been 1.0, as estimated for the 1999 cohort.

investigation. The project is scheduled to terminate in 2004 due to lack of available funding. The numbers of CWTs recovered in ocean fisheries and spawning surveys from releases of less than 200 thousand tagged fry are currently small, probably too small to serve as a reliable basis for a cohort analysis.

The workgroup is generally skeptical of the use of Feather River Hatchery spring chinook as a surrogate for naturally spawning spring chinook populations. The “spring chinook” produced at Feather River Hatchery are genetically more similar to fall chinook than they are to Deer, Mill or Butte Creek spring chinook, at least in part due to the difficulty in distinguishing between the progeny of Feather River Hatchery fall- and spring-runs on the basis of run timing. Tagging studies at the hatchery show that significant numbers of fall chinook return early enough to be mistakenly spawned as spring chinook (CDFG 1998). The use of Feather River Hatchery spring chinook CWT data set, which is large, should be conditioned on a demonstration that the stock exhibits similarities with naturally spawning spring chinook populations with respect to ocean distribution and run timing.

Spawner reduction rates on Butte Creek spring chinook in the range of .36 to .42 constitute a significant source of mortality on the population. The Deer and Mill Creek populations most likely experience similar rates. These impact rates however, under the current fresh water and ocean conditions, have been low enough to allow spawning populations to increase, provided suitable holding and spawning habitat is available. The workgroup believes that lowering the impact rate through reductions in recreational and commercial fishing effort would be necessary should Sacramento River spring chinook populations experience a reversal in the recent trends in recovery. Reducing impact rates under the current conditions of ocean productivity would likely increase the growth rate of the Deer and Mill Creek populations and benefit efforts to establishing spring runs in newly accessible reaches of Battle and Clear Creeks. In contrast, a reduction of fishing impacts under current fresh water and ocean conditions may not increase the numbers of fish surviving to spawn in Butte Creek. In 2002 and 2003, 21% and 65% of the spring run entering the river died as a result of high temperatures and disease prior to spawning.

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Appendix I Description of Cohort Reconstructions

1 Aging Conventions

Sacramento River Winter Chinook Based on the appearance of adults at Red Bluff Diversion Dam, winter chinook are believed to enter the San Francisco Bay between November and May. Spawning occurs between April and July. Fry emerge in the fall and emigrate to the ocean during the winter and spring. Winter chinook become vulnerable to ocean fisheries towards the end of their second calendar year of life as age 3 fish (Figure 1). Age increments on March 1, unless fish enter the river; the date is intended to represent the time when the majority of fish destined to mature in a given year have left the ocean. Under this convention, fish are designated as age 2 soon after they emigrate to the ocean, although they are still in their first calendar year of life.

Butte Creek Spring Chinook Spring chinook enter Butte Creek about six weeks earlier than do the populations of Deer and Mill Creeks. Fry emerge in the fall and the emigration of juveniles occurs primarily in January and February for young of the year and from September to May for yearlings. The aging convention is similar to that used for winter chinook, except the age of fish increments on May 1, unless they enter the river to spawn. They first appear in ocean fisheries during June and July of their second calendar year of life as age 3 fish (Figure 2). Age 5 CWT recoveries have occurred in ocean fisheries but not in carcass surveys.

Figure 1. Aging convention for Sacramento River winter chinook.

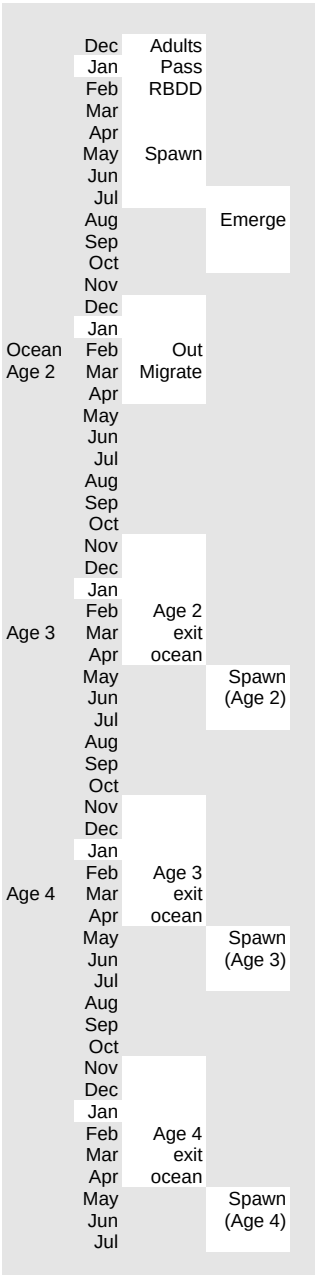
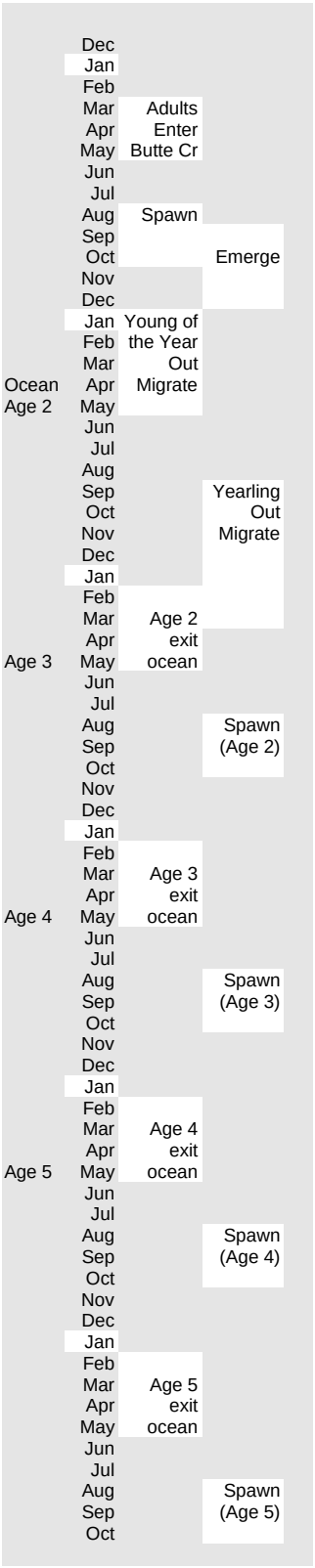


Figure 2. Aging convention for Butte Creek spring chinook



2 Cohort Reconstruction Variables and Parameters

Each cohort (brood year) is treated separately. The cohort reconstructions start with the oldest observed recoveries in a cohort, e.g. ocean recoveries of age 5 spring chinook, or the spawning population of age 4 winter chinook, and proceed backward in monthly intervals, with the population increased by estimated natural mortality, fishery impacts, and spawning escapement. The reconstructions end at the point of the youngest tag recoveries for the cohort (usually age 2 spawning population).

Variables associated with reconstruction include: the number of fish that contact fishing gear and either drop off before landing (includes sea lion predation), or are landed and then either retained (legal size) or released (sublegal size); the number of fishery impacts (landed mortality, hook and release mortality, and drop-off mortality) during the month; the number of fish alive in all areas of the ocean at the beginning of each month; the number of fish that mature and leave the ocean as age 2, age 3, and age 4 fish; the number of fish that are removed by river recreational fisheries; the number of fish that are available to spawn.

Landings are estimated by expanding the observed numbers of CWTs to account for sample size and losses of CWTs during processing and decoding (Goldwasser et al. 2000). Contacts are estimated by dividing landings (legal sized fish) by the proportion of the cohort that is legal size (P_{legal}). P_{legal} is estimated as 1 - normative cumulative density evaluated at the minimum size limit in effect for the specified mean and standard deviation of the winter chinook length at monthly intervals. The means are interpolated from measurements of the 1969 and 1970 brood winter chinook spawners; standard deviations are based on Sacramento River fall chinook (CDFG, 1989). The size at age relation for winter chinook is also used in the spring chinook reconstructions, pending development of independent estimates.

Hook and release mortality is estimated by multiplying sub-legal contacts by the hook and release mortality rates. The hook and release mortality rate is fishery-, time- and area-specific, as adopted by the Council's Salmon Technical Team. Sub-legal contacts are estimated by subtracting landings from contacts.

Drop-off mortality is estimated by multiplying contacts by .05. Drop-off mortality is intended to account for the mortality associated with pinniped and shark depredation, the release mortality of hooked but non-landed fish, and unreported landings.

Fishery impacts are the sum of landings, hook and release mortality, and drop-off mortality.

Ocean escapement estimates of tagged fish include river recreational harvest (if observed), recoveries in spawning and pre-spawning mortality carcass surveys and, in the case of winter chinook, fish taken for hatchery brood stock. Butte Creek spring chinook escapement is increased by 1% to account for poaching. Bear predation is very apparent in Butte Creek, but the removals are believed to be primarily dead carcasses.

Appendix II Winter Chinook Cohort Reconstructions

Winter Chinook 1998 Cohort

LANDINGS: Coded wire tag recoveries expanded for sampling

	Sport				Commercial			
	South		North		South		North	
Month	Age 3	Age 4	Age 3	Age 4	Age 3	Age 4	Age 3	Age 4
Mar	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Apr	2.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0
May	0.0	0.0	0.0	0.0	0.0	4.7	0.0	0.0
Jun	39.0	0.0	0.0	0.0	10.5	0.0	0.0	0.0
Jul	49.7	0.0	0.0	0.0	0.0	0.0	3.8	0.0
Aug	5.6	0.0	7.6	0.0	0.0	0.0	0.0	0.0
Sep	4.3	0.0	0.0	0.0	0.0	0.0	0.0	2.5
Oct	9.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Nov	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total	110.3	0.0	7.6	0.0	10.5	4.7	3.8	2.5

CONTACTS: Landings divided by proportion legal

	Sport				Commercial			
	South		North		South		North	
Month	Age 3	Age 4	Age 3	Age 4	Age 3	Age 4	Age 3	Age 4
Mar	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Apr	9.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
May	0.0	0.0	0.0	0.0	0.0	4.8	0.0	0.0
Jun	39.7	0.0	0.0	0.0	22.6	0.0	0.0	0.0
Jul	50.3	0.0	0.0	0.0	0.0	0.0	6.9	0.0
Aug	5.7	0.0	7.7	0.0	0.0	0.0	0.0	0.0
Sep	4.3	0.0	0.0	0.0	0.0	0.0	0.0	2.6
Oct	9.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Nov	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total	118.3	0.0	7.7	0.0	22.6	4.8	6.9	2.6

IMPACTS: landings + shaker deaths + drop off deaths

	Sport				Commercial			
	South		North		South		North	
Month	Age 3	Age 4	Age 3	Age 4	Age 3	Age 4	Age 3	Age 4
Mar	0	0	0	0	0	0	0	0
Apr	5	0	0	0	0	0	0	0
May	0	0	0	0	0	5	0	0
Jun	41	0	0	0	15	0	0	0
Jul	52	0	0	0	0	0	5	0
Aug	6	0	8	0	0	0	0	0
Sep	5	0	0	0	0	0	0	3
Oct	9	0	0	0	0	0	0	0
Nov	0	0	0	0	0	0	0	0
Dec	0	0	0	0	0	0	0	0
Jan	0	0	0	0	0	0	0	0
Feb	0	0	0	0	0	0	0	0
Total	119	0	8	0	15	5	5	3

BY 1998 WINTER CHINOOK COHORT ANALYSIS: mortality applied in monthly increments (50% annual age 2 and 20% annual age 3 and 4). Alive is population at beginning of month. Impacts precede escapement, escapement precedes natural mortality

	Age 4		Age 3		Age 2	
Month	Impacts	Alive	Impacts	Alive	Impacts	Alive
Mar	0	13	0	626	0	0
Apr	0	13	5	614	0	0
May	5	13	0	598	0	0
Jun	0	8	56	587	0	0
Jul	0	8	57	521	0	0
Aug	0	8	14	456	0	0
Sep	3	7	5	433	0	0
Oct	0	5	9	421	0	0
Nov	0	5	0	404	0	0
Dec	0	5	0	397	0	0
Jan	0	4	0	389	0	0
Feb	0	4	0	382	0	671
Total	8		146		0	
Escapement		4		368		8

Maturation Rates		Age 3 impact rate:	0.23
Age 2	0.01	Age 4 impact rate:	0.57
Age 3	0.96		

BY 1998 CONTACT RATES: number of contacts (age area month) divided by the total ocean pop (age month)

	Sport				Commercial			
	South		North		South		North	
Month	Age 3	Age 4	Age 3	Age 4	Age 3	Age 4	Age 3	Age 4
Mar								
Apr	1.5%							
May						37.3%		
Jun	6.8%				3.9%			
Jul	9.7%						1.3%	
Aug	1.2%		1.7%					
Sep	1.0%							34.7%
Oct	2.1%							
Nov								

Winter Chinook 1999 Cohort

LANDINGS: Coded wire tag recoveries expanded for sampling

	Sport				Commercial			
	South		North		South		North	
Month	Age 3	Age 4	Age 3	Age 4	Age 3	Age 4	Age 3	Age 4
Mar	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Apr	14.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
May	4.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Jun	4.0	0.0	0.0	0.0	0.0	5.2	0.0	0.0
Jul	23.8	3.6	8.4	0.0	5.6	0.0	0.0	0.0
Aug	8.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sep	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Oct	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Nov	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total	55.0	3.6	8.4	0.0	5.6	5.2	0.0	0.0

CONTACTS: Landings divided by proportion legal

	Sport				Commercial			
	South		North		South		North	
Month	Age 3	Age 4	Age 3	Age 4	Age 3	Age 4	Age 3	Age 4
Mar	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Apr	48.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
May	8.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Jun	5.5	0.0	0.0	0.0	0.0	5.3	0.0	0.0
Jul	24.1	3.6	8.5	0.0	14.0	0.0	0.0	0.0
Aug	8.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sep	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Oct	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Nov	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total	95.2	3.6	8.5	0.0	14.0	5.3	0.0	0.0

IMPACTS: landings + shaker deaths + drop off deaths

	Sport				Commercial			
	South		North		South		North	
Month	Age 3	Age 4	Age 3	Age 4	Age 3	Age 4	Age 3	Age 4
Mar	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Apr	26.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
May	6.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Jun	4.6	0.0	0.0	0.0	0.0	5.5	0.0	0.0
Jul	25.1	3.8	8.8	0.0	8.5	0.0	0.0	0.0
Aug	8.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sep	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Oct	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Nov	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dec	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Feb	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total	70.7	3.8	8.8	0.0	8.5	5.5	0.0	0.0

BY 1999 WINTER CHINOOK COHORT ANALYSIS: mortality applied in monthly increments (50% annual age 2 and 20% annual age 3 and 4). Alive is population at beginning of month. Impacts precede escapement, escapement precedes natural mortality

	Age 4		Age 3		Age 2	
Month	Impacts	Alive	Impacts	Alive	Impacts	Alive
Mar	0	12	0	442		
Apr	0	12	26	434		
May	0	12	6	400		
Jun	5	12	5	387		
Jul	4	6	42	375		
Aug	0	2	9	327		
Sep	0	2	0	312		
Oct	0	2	0	307		
Nov	0	2	0	301		
Dec	0	2	0	295		
Jan	0	2	0	290		
Feb	0	2	0	285	0	563
Total	9		88		0	
Escapement		2		272		94

Maturation Rates

Age 2 0.17

Age 3 0.96

Age 3 impact rate: 0.20

Age 4 impact rate: 0.74

BY 1999 CONTACT RATES: number of contacts (age area month) divided by the total ocean pop (age month)

	Sport				Commercial			
	South		North		South		North	
Month	Age 3	Age 4	Age 3	Age 4	Age 3	Age 4	Age 3	Age 4
Mar								
Apr	11.2%							
May	2.2%							
Jun	1.4%					44.8%		
Jul	6.4%	58.6%	2.3%		3.7%			
Aug	2.5%							
Sep								
Oct								
Nov								

Winter Chinook 2000 Cohort

LANDINGS: Coded wire tag recoveries expanded for sampling

	Sport				Commercial			
	South		North		South		North	
Month	Age 3	Age 4	Age 3	Age 4	Age 3	Age 4	Age 3	Age 4
Mar	0.0	4.0	0.0	0.0	0.0	0.0	0.0	0.0
Apr	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
May	17.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Jun	15.1	0.0	0.0	0.0	5.2	2.9	0.0	0.0
Jul	21.2	0.0	0.0	0.0	9.5	0.0	0.0	0.0
Aug	8.0	0.0	0.0	0.0	6.7	0.0	0.0	0.0
Sep	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Oct	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Nov	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total	62.2	4.0	0.0	0.0	21.3	2.9	0.0	0.0

CONTACTS: Landings divided by proportion legal

	Sport				Commercial			
	South		North		South		North	
Month	Age 3	Age 4	Age 3	Age 4	Age 3	Age 4	Age 3	Age 4
Mar	0.0	4.1	0.0	0.0	0.0	0.0	0.0	0.0
Apr	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
May	18.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Jun	15.4	0.0	0.0	0.0	11.2	2.9	0.0	0.0
Jul	21.4	0.0	0.0	0.0	17.5	0.0	0.0	0.0
Aug	8.1	0.0	0.0	0.0	10.9	0.0	0.0	0.0
Sep	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Oct	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Nov	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total	63.8	4.1	0.0	0.0	39.6	2.9	0.0	0.0

IMPACTS: landings + shaker deaths + drop off deaths

	Sport				Commercial			
	South		North		South		North	
Month	Age 3	Age 4	Age 3	Age 4	Age 3	Age 4	Age 3	Age 4
Mar	0.0	4.2	0.0	0.0	0.0	0.0	0.0	0.0
Apr	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
May	19.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Jun	15.9	0.0	0.0	0.0	7.3	3.0	0.0	0.0
Jul	22.3	0.0	0.0	0.0	12.4	0.0	0.0	0.0
Aug	8.4	0.0	0.0	0.0	8.3	0.0	0.0	0.0
Sep	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Oct	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Nov	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dec	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Feb	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total	65.7	4.2	0.0	0.0	28.0	3.0	0.0	0.0

BY 2000 WINTER CHINOOK COHORT ANALYSIS: mortality applied in monthly increments (50% annual age 2 and 20% annual age 3 and 4). Alive is population at beginning of month. Impacts precede escapement, escapement precedes natural mortality

	Age 4		Age 3		Age 2	
Month	Impacts	Alive	Impacts	Alive	Impacts	Alive
Mar	4	7	0	455		
Apr	0	3	0	447		
May	0	3	19	439		
Jun	3	3	23	412		
Jul	0	0	35	381		
Aug	0	0	17	340		
Sep	0	0	0	318		
Oct	0	0	0	312		
Nov	0	0	0	306		
Dec	0	0	0	300		
Jan	0	0	0	295		
Feb	0	0	0	289	0	515
Total	7		94		0	
Escapement		NA		282		33

Maturation Rates

Age 2 0.06

Age 3 0.97

Age 3 impact rate: 0.21

Age 4 impact rate: NA

NA: No estimate, brood year not yet complete

BY 2000 CONTACT RATES: number of contacts (age area month) divided by the total ocean pop (age month)

	Sport				Commercial			
	South		North		South		North	
Month	Age 3	Age 4	Age 3	Age 4	Age 3	Age 4	Age 3	Age 4
Mar		55.4%						
Apr								
May	4.3%							
Jun	3.7%				2.7%	96.5%		
Jul	5.6%				4.6%			
Aug	2.4%				3.2%			
Sep								
Oct								
Nov								

Appendix III Butte Creek Spring Chinook Cohort Reconstructions.

Butte Creek Spring Chinook brood year 1998
LANDINGS: Coded wire tag recoveries expanded for sampling

	Sport				Commercial			
	South		North		South		North	
Month	Age 3	Age 4	Age 3	Age 4	Age 3	Age 4	Age 3	Age 4
May	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Jun	3.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Jul	0.0	0.0	0.0	13.9	0.0	2.8	0.0	0.0
Aug	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.8
Sep	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.5
Oct	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Nov	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dec-Feb	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Mar	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Apr	0.0	0.0	0.0	0.0	0.0	0.0	3.6	0.0
Total	3.3	0.0	0.0	13.9	0.0	2.8	3.6	5.3

CONTACTS: Landings divided by proportion legal

	Sport				Commercial			
	South		North		South		North	
Month	Age 3	Age 4	Age 3	Age 4	Age 3	Age 4	Age 3	Age 4
May	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Jun	3.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Jul	0.0	0.0	0.0	13.9	0.0	2.9	0.0	0.0
Aug	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.8
Sep	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.6
Oct	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Nov	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dec-Feb	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Mar	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Apr	0.0	0.0	0.0	0.0	0.0	0.0	3.8	0.0
Total	3.3	0.0	0.0	13.9	0.0	2.9	3.8	5.3

IMPACTS: landings + shaker deaths + drop off deaths

	Sport				Commercial			
	South		North		South		North	
Month	Age 3	Age 4	Age 3	Age 4	Age 3	Age 4	Age 3	Age 4
May	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Jun	3.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Jul	0.0	0.0	0.0	14.6	0.0	3.0	0.0	0.0
Aug	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.9
Sep	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.7
Oct	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Nov	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dec-Feb	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Mar	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Apr	0.0	0.0	0.0	0.0	0.0	0.0	3.8	0.0
Total	3.5	0.0	0.0	14.6	0.0	3.0	3.8	5.6

BY 1998 BUTTE CREEK SPING CHINNOOK COHORT ANALYSIS mortality applied in monthly increments (50% annual age 2 and 20% annual age 3 and 4) Alive: alive at beginning of month. Impacts precede escapement, escapement precedes natural mortality

	Age 5		Age 4		Age 3		Age 2	
Month	Impcts	Alive	Impcts	Alive	Impcts	Alive	Impcts	Alive
May	0	3	0	37	0	86		
Jun	0	3	0	37	3	85		
Jul	3	3	18	36	0	80		
Aug	0	0	3	18	0	78		
Sep	0	0	3	15	0	77		
Oct	0	0	0	12	0	75		
Nov	0	0	0	12	0	74		
Dec	0	0	0	12	0	73		
Jan	0	0	0	11	0	71		
Feb	0	0	0	11	0	70		
Mar	0	0	0	11	0	69		
Apr	0	0	0	11	4	67	0	91
Total	3		23		7		0	
Escapement		0		7		25		0

Maturation Rates		Age 3 impact rate:	0.08
Age 2	0.00	Age 4 impact rate:	0.62
Age 3	0.40		
Age 4	0.67		

BY 1998 CONTACT RATES: number of contacts (age area month) divided by the total ocean pop (age month)

	Sport				Commercial			
	South		North		South		North	
Month	Age 3	Age 4	Age 3	Age 4	Age 3	Age 4	Age 3	Age 4
May								
Jun	3.9%							
Jul				38.5%		8.0%		
Aug								15.3%
Sep								17.1%
Oct								
Nov								
Dec-Feb								
Mar								
Apr							5.6%	

Note: the workgroup has not yet finalized the procedure for expanding CWTs recovered in the Butte Creek carcass surveys. Escapement numbers reported in the Butte Creek spring chinook cohort reconstructions are provisional.

Butte Creek Spring Chinook brood year 1999
LANDINGS: Coded wire tag recoveries expanded for sampling

	Sport				Commercial			
	South		North		South		North	
Month	Age 3	Age 4	Age 3	Age 4	Age 3	Age 4	Age 3	Age 4
May	0.0	0.0	0.0	0.0	0.0	10.9	0.0	0.0
Jun	0.0	7.2	0.0	0.0	0.0	12.3	0.0	0.0
Jul	0.0	0.0	0.0	1.7	0.0	9.9	0.0	2.7
Aug	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sep	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.6
Oct	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Nov	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dec-Feb	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Mar	4.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Apr	0.0	0.0	0.0	0.0	0.0	0.0	3.2	0.0
Total	4.4	7.2	0.0	1.7	0.0	33.1	3.2	4.3

CONTACTS: Landings divided by proportion legal

	Sport				Commercial			
	South		North		South		North	
Month	Age 3	Age 4	Age 3	Age 4	Age 3	Age 4	Age 3	Age 4
May	0.0	0.0	0.0	0.0	0.0	11.3	0.0	0.0
Jun	0.0	7.2	0.0	0.0	0.0	12.5	0.0	0.0
Jul	0.0	0.0	0.0	1.7	0.0	10.1	0.0	2.8
Aug	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sep	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.6
Oct	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Nov	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dec-Feb	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Mar	4.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Apr	0.0	0.0	0.0	0.0	0.0	0.0	3.4	0.0
Total	4.5	7.2	0.0	1.7	0.0	33.9	3.4	4.4

IMPACTS: landings + shaker deaths + drop off deaths

	Sport				Commercial			
	South		North		South		North	
Month	Age 3	Age 4	Age 3	Age 4	Age 3	Age 4	Age 3	Age 4
May	0.0	0.0	0.0	0.0	0.0	11.6	0.0	0.0
Jun	0.0	7.6	0.0	0.0	0.0	13.0	0.0	0.0
Jul	0.0	0.0	0.0	1.8	0.0	10.5	0.0	2.9
Aug	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sep	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.7
Oct	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Nov	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dec-Feb	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Mar	4.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Apr	0.0	0.0	0.0	0.0	0.0	0.0	3.5	0.0
Total	4.6	7.6	0.0	1.8	0.0	35.0	3.5	4.6

BY 1999 BUTTE CREEK SPING CHINNOOK COHORT ANALYSIS
mortality applied in monthly increments (50% annual age 2 and 20% annual age 3 and 4) Alive: alive at beginning of month. Impacts precede escapement, escapement precedes natural mortality

	Age 5		Age 4		Age 3		Age 2	
Month	Impacts	Alive	Impacts	Alive	Impacts	Alive	Impacts	Alive
May	0	0	12	88	0	164		
Jun	0	0	21	75	0	161		
Jul	0	0	15	54	0	158		
Aug	0	0	0	38	0	155		
Sep	0	0	2	37	0	152		
Oct	0	0	0	35	0	149		
Nov	0	0	0	34	0	147		
Dec	0	0	0	34	0	144		
Jan	0	0	0	33	0	141		
Feb	0	0	0	32	0	139		
Mar	0	0	0	32	5	136		
Apr	0	0	0	31	3	129	0	176
Total	0		49		8		0	
Escapement		NA		31		36		2

Maturation Rates		Age 3 impact rate:	0.05
Age 2	0.01	Age 4 impact rate:	0.55
Age 3	0.28		
Age 4	NA		

NA: brood year not yet complete
BY 1999 CONTACT RATES: number of contacts (age area month) divided by the total ocean pop (age month)

	Sport				Commercial			
	South		North		South		North	
Month	Age 3	Age 4	Age 3	Age 4	Age 3	Age 4	Age 3	Age 4
May						12.7%		
Jun		9.5%				16.6%		
Jul				3.2%		18.7%		5.2%
Aug								
Sep								4.3%
Oct								
Nov								
Dec-Feb								
Mar	3.3%							
Apr							2.7%	

Butte Creek Spring Chinook brood year 2000
LANDINGS: Coded wire tag recoveries expanded for sampling

	Sport				Commercial			
	South		North		South		North	
Month	Age 3	Age 4	Age 3	Age 4	Age 3	Age 4	Age 3	Age 4
May	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Jun	0.0	0.0	0.0	0.0	0.0	2.9	0.0	0.0
Jul	8.6	0.0	0.0	4.3	0.0	3.6	0.0	0.0
Aug	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sep	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Oct	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Nov	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dec-Feb	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Mar	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Apr	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total	8.6	0.0	0.0	4.3	0.0	6.5	0.0	0.0

CONTACTS: Landings divided by proportion legal

	Sport				Commercial			
	South		North		South		North	
Month	Age 3	Age 4	Age 3	Age 4	Age 3	Age 4	Age 3	Age 4
May	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Jun	0.0	0.0	0.0	0.0	0.0	2.9	0.0	0.0
Jul	8.7	0.0	0.0	4.3	0.0	3.7	0.0	0.0
Aug	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sep	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Oct	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Nov	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dec-Feb	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Mar	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Apr	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total	8.7	0.0	0.0	4.3	0.0	6.6	0.0	0.0

IMPACTS: landings + shaker deaths + drop off deaths

	Sport				Commercial			
	South		North		South		North	
Month	Age 3	Age 4	Age 3	Age 4	Age 3	Age 4	Age 3	Age 4
May	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Jun	0.0	0.0	0.0	0.0	0.0	3.0	0.0	0.0
Jul	9.1	0.0	0.0	4.5	0.0	3.8	0.0	0.0
Aug	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sep	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Oct	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Nov	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dec-Feb	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Mar	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Apr	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total	9.1	0.0	0.0	4.5	0.0	6.8	0.0	0.0

BY 2000 BUTTE CREEK SPING CHINNOOK COHORT ANALYSIS
mortality applied in monthly increments (50% annual age 2 and 20% annual age 3 and 4) Alive: alive at beginning of month. Impacts precede escapement, escapement precedes natural mortality

	Age 5		Age 4		Age 3		Age 2	
Month	Impacts	Alive	Impacts	Alive	Impacts	Alive	Impacts	Alive
May	0	0	0	12	0	75		
Jun	0	0	3	11	0	74		
Jul	0	0	8	8	9	72		
Aug	0	0	0	0	0	62		
Sep	0	0	0	0	0	61		
Oct	0	0	0	0	0	60		
Nov	0	0	0	0	0	59		
Dec	0	0	0	0	0	58		
Jan	0	0	0	0	0	57		
Feb	0	0	0	0	0	55		
Mar	0	0	0	0	0	54		
Apr	0	0	0	0	0	53	0	79
Total	0		11		9		0	
Escapement		NA		NA		42		0

Maturation Rates
Age 2 0.00
Age 3 NA
Age 4 NA

Age 3 impact rate: 0.12
Age 4 impact rate: NA

NA: brood year not yet complete

BY 2000 CONTACT RATES: number of contacts (age area month) divided by the total ocean pop (age month)

	Sport				Commercial			
	South		North		South		North	
Month	Age 3	Age 4	Age 3	Age 4	Age 3	Age 4	Age 3	Age 4
May								
Jun						25.5%		
Jul	12.1%			51.3%		44.4%		
Aug								
Sep								
Oct								
Nov								
Dec-Feb								
Mar								
Apr								

Appendix IV CWT Recoveries Winter Chinook (Livingston Stone National Fish Hatchery)

Ocean Recoveries

Brood Year	Sector	Recov Date	Age	Recovery Location	Est No	Tag Code	ID
1991	Sport	5/27/93	3	PIGEON PT.-POINT SUR	7.08	0501010406	50426
1991	Sport	7/23/93	3	FORT ROSS-PIGEON PT	5.46	0501010405	51610
1991	Troll	5/6/94	4	FORT ROSS-PIGEON PT	3.41	0501010406	55024
1992	Sport	6/19/94	3	FORT ROSS-PIGEON PT	3.60	0501010713	53145
1992	Sport	3/26/94	3	PIGEON PT.-POINT SUR	6.50	0501010702	55500
1992	Sport	3/20/94	3	FORT ROSS-PIGEON PT	4.92	0501010610	55619
1992	Sport	5/21/94	3	FORT ROSS-PIGEON PT	4.49	0501010609	55374
1992	Sport	7/11/94	3	FORT ROSS-PIGEON PT	3.62	0501010611	15608
1992	Sport	4/14/94	3	FORT ROSS-PIGEON PT	5.49	0501010711	55313
1992	Sport	4/4/94	3	PIGEON PT.-POINT SUR	4.42	0501010711	55212
1992	Sport	4/14/94	3	FORT ROSS-PIGEON PT	5.49	0501010609	55311
1992	Sport	7/31/94	3	PIGEON PT.-POINT SUR	4.33	0501010609	49678
1992	Sport	6/18/94	3	PIGEON PT.-POINT SUR	4.29	0501010608	49638
1992	Sport	4/20/94	3	PIGEON PT.-POINT SUR	4.45	0501010614	55221
1992	Troll	7/11/94	3	PIGEON PT.-POINT SUR	9.84	0501010614	49652
1992	Troll	7/12/94	3	POINT SUR-CA/MEX.BOR	9.84	0501010705	55825
1992	Troll	9/14/94	3	FORT ROSS-PIGEON PT	11.20	0501010611	53586
1992	Troll	7/16/94	3	FORT ROSS-PIGEON PT	7.22	0501010614	15620
1992	Troll	7/15/94	3	FORT ROSS-PIGEON PT	5.80	0501010703	7920
1992	Troll	7/19/94	3	POINT SUR-CA/MEX.BOR	9.84	0501010609	55827
1993	Sport	4/28/95	3	FORT ROSS-PIGEON PT	3.23	0501010902	4409
1993	Sport	7/30/95	3	FORT ROSS-PIGEON PT	5.14	0501010907	11536
1993	Sport	5/28/95	3	POINT SUR-CA/MEX.BOR	9.21	0501010905	12429
1993	Sport	7/29/95	3	PIGEON PT.-POINT SUR	4.81	0501010810	10939
1993	Sport	4/26/96	4	PIGEON PT.-POINT SUR	5.00	0501010907	5342
1994	Sport	3/30/96	3	POINT SUR-CA/MEX.BOR	4.52	0501011015	5024
1994	Sport	3/15/96	3	FORT ROSS-PIGEON PT	3.87	0501011113	1058
1994	Sport	5/30/97	4	FORT ROSS-PIGEON PT	4.54	0501011102	878
1994	Sport	3/16/97	4	POINT SUR-CA/MEX.BOR	4.11	0501011105	9011
1994	Troll	4/22/97	4	POINT SUR-CA/MEX.BOR	1.51	0501011115	8758
1994	Troll	7/3/97	4	PIGEON PT.-POINT SUR	3.80	0501011011	14017
1994	Troll	4/15/97	4	POINT SUR-CA/MEX.BOR	1.57	0501011101	9513
1994	Troll	4/22/97	4	POINT SUR-CA/MEX.BOR	1.51	0501011012	8862
1994	Troll	6/25/97	4	PIGEON PT.-POINT SUR	4.18	0501011106	13682
1994	Troll	4/20/97	4	POINT SUR-CA/MEX.BOR	1.51	0501011112	9685
1994	Troll	9/30/97	4	FORT ROSS-PIGEON PT	3.40	0501011201	19439
1995	Sport	8/24/97	3	FORT ROSS-PIGEON PT	4.78	0501011409	15958
1995	Sport	8/11/97	3	FORT ROSS-PIGEON PT	4.82	0501011413	15494
1995	Sport	7/12/97	3	PIGEON PT.-POINT SUR	4.37	0501011412	16556
1995	Sport	7/23/97	3	PIGEON PT.-POINT SUR	6.64	0501011301	45545
1998	Sport	8/11/99	2	FORT ROSS-PIGEON PT	4.02	0501020913	39803
1998	Sport	8/13/99	2	FORT ROSS-PIGEON PT	4.02	0501020813	39358
1998	Sport	8/11/00	3	BIG LAG.-CENTERV.BEA	4.42	0501020903	42738
1998	Sport	8/21/00	3	PIGEON PT.-POINT SUR	2.87	0501020812	41788
1998	Sport	8/16/00	3	BROOKINGS SPORT 6	3.21	0501020913	J5319
1998	Sport	7/15/00	3	PIGEON PT.-POINT SUR	3.94	0501020913	41341
1998	Sport	7/14/00	3	PIGEON PT.-POINT SUR	3.94	0501020913	35299
1998	Sport	7/2/00	3	PIGEON PT.-POINT SUR	3.94	0501020913	35234
1998	Sport	7/16/00	3	PIGEON PT.-POINT SUR	3.72	0501020909	41740
1998	Sport	7/2/00	3	PIGEON PT.-POINT SUR	3.94	0501020811	41315
1998	Sport	6/24/00	3	PIGEON PT.-POINT SUR	3.98	0501020814	43402
1998	Sport	6/17/00	3	PIGEON PT.-POINT SUR	3.98	0501020813	43836
1998	Sport	7/7/00	3	PIGEON PT.-POINT SUR	3.94	0501020815	41328
1998	Sport	6/17/00	3	PIGEON PT.-POINT SUR	3.98	0501020903	43833
1998	Sport	6/25/00	3	PIGEON PT.-POINT SUR	3.98	0501020814	43413
1998	Sport	7/9/00	3	PIGEON PT.-POINT SUR	3.94	0501020903	41732
1998	Sport	6/10/00	3	PIGEON PT.-POINT SUR	4.35	0501020906	43338
1998	Sport	9/19/00	3	PIGEON PT.-POINT SUR	4.30	0501020814	34453
1998	Sport	7/8/00	3	PIGEON PT.-POINT SUR	3.94	0501020814	41330
1998	Sport	6/23/00	3	PIGEON PT.-POINT SUR	3.98	0501020905	43392
1998	Sport	7/25/00	3	PIGEON PT.-POINT SUR	3.72	0501020904	34423
1998	Sport	6/29/00	3	PIGEON PT.-POINT SUR	3.98	0501020815	43469
1998	Sport	7/25/00	3	PIGEON PT.-POINT SUR	3.72	0501020909	41360
1998	Sport	6/6/00	3	FORT ROSS-PIGEON PT	3.27	0501020911	43328
1998	Sport	10/9/00	3	FORT ROSS-PIGEON PT	4.43	0501020913	35334
1998	Sport	7/22/00	3	FORT ROSS-PIGEON PT	3.28	0501020903	34148
1998	Sport	6/19/00	3	FORT ROSS-PIGEON PT	3.51	0501020902	40529
1998	Sport	7/21/00	3	PIGEON PT.-POINT SUR	3.72	0501020914	34406
1998	Sport	7/3/00	3	PIGEON PT.-POINT SUR	3.94	0501020813	41725
1998	Sport	8/2/00	3	FORT ROSS-PIGEON PT	2.77	0501020815	34163
1998	Sport	10/20/0	3	FORT ROSS-PIGEON PT	4.52	0501020814	34627
1998	Sport	4/27/00	3	FORT ROSS-PIGEON PT	2.72	0501020910	22627
1998	Sport	6/23/00	3	PIGEON PT.-POINT SUR	3.98	0501020914	43390
1998	Troll	6/17/00	3	PIGEON PT-CA/MEX.BOR	2.51	0501020915	28763
1998	Troll	6/7/00	3	POINT SUR-CA/MEX.BOR	2.97	0501020902	28710
1998	Troll	6/27/00	3	PIGEON PT-CA/MEX.BOR	2.51	0501020901	28789
1998	Troll	6/23/00	3	PIGEON PT-CA/MEX.BOR	2.51	0501020914	19972
1998	Troll	7/19/00	3	COOS BAY TROLL 5	3.76	0501020912	J4538
1998	Troll	5/16/01	4	POINT SUR-CA/MEX.BOR	4.66	0501020908	34857
1998	Troll	9/19/01	4	NEWPORT TROLL 4	2.54	0501020815	G2886
1999	Sport	7/17/01	3	C.VIZCAINO-NAVARR.HD	3.69	0501021306	47400
1999	Sport	7/21/01	3	PT.SN.PEDRO-PIGN.PT.	3.63	0501021208	29885
1999	Sport	7/25/01	3	PT.REYES-PIGEON PT.	3.63	0501021306	50756
1999	Sport	7/2/01	3	C.VIZCAINO-NAVARR.HD	4.66	0501021306	44912
1999	Sport	6/18/01	3	PT.ARENA-PT.REYES	4.03	0501021214	47150
1999	Sport	7/20/01	3	PT.REYES-PIGEON PT.	3.63	0501021213	48489
1999	Sport	8/4/01	3	PT.REYES-PIGEON PT.	4.12	0501021213	35656
1999	Sport	8/11/01	3	PT.REYES-PIGEON PT.	4.12	0501021303	27149
1999	Sport	4/13/01	3	PIGEON PT.-POINT SUR	4.82	0501021304	28617
1999	Sport	7/1/01	3	PIGEON PT.-POINT SUR	4.30	0501021307	48178
1999	Sport	4/9/01	3	POINT SUR-CA/MEX.BOR	4.82	0501021302	34804
1999	Sport	5/17/01	3	PIGEON PT.-POINT SUR	4.72	0501021303	46695
1999	Sport	7/13/01	3	PIGEON PT.-POINT SUR	4.30	0501021301	48206
1999	Sport	7/14/01	3	PIGEON PT.-POINT SUR	4.30	0501021208	48212
1999	Sport	3/31/01	3	POINT SUR-CA/MEX.BOR	4.53	0501021302	34801
1999	Sport	7/18/02	4	PT.ARENA-PT.REYES	3.63	0501021305	51661
1999	Troll	7/13/01	3	PT.REYES-PIGEON PT.	2.80	0501021302	49151
1999	Troll	7/10/01	3	PT.ARENA-PT.REYES	2.80	0501021303	50080
1999	Troll	6/14/02	4	PT.REYES-PIGEON PT.	2.59	0501021214	56970
1999	Troll	6/14/02	4	PT.ARENA-PT.REYES	2.59	0501021214	54109
2000	Sport	8/22/02	3	PT.SN.PEDRO-PIGN.PT.	3.81	0501030204	58199
2000	Sport	6/22/02	3	PT.REYES-PIGEON PT.	3.60	0501030305	57601
2000	Sport	5/4/02	3	PT.REYES-PIGEON PT.	2.88	0501030107	46963
2000	Sport	7/11/02	3	PT.REYES-PIGEON PT.	4.31	0501030403	58750
2000	Sport	6/9/02	3	POINT SUR-CA/MEX.BOR	3.84	0501030309	51936
2000	Sport	6/17/02	3	PIGEON PT.-POINT SUR	3.83	0501030302	55611
2000	Sport	6/19/02	3	POINT SUR-CA/MEX.BOR	3.83	0501030403	55303
2000	Sport	5/25/02	3	PT.SN.PEDRO-PIGN.PT.	4.40	0501030306	51765
2000	Sport	7/21/02	3	PT.REYES-PIGEON PT.	3.63	0501030301	59425
2000	Sport	8/18/02	3	PIGEON PT.-POINT SUR	4.20	0501030305	57339
2000	Sport	7/22/02	3	PIGEON PT.-POINT SUR	4.46	0501030303	60068
2000	Sport	7/10/02	3	PT.REYES-PIGEON PT.	4.31	0501030307	58743
2000	Sport	5/24/02	3	PIGEON PT.-POINT SUR	3.54	0501030108	46895
2000	Sport	5/24/02	3	PIGEON PT.-POINT SUR	3.54	0501030407	46893
2000	Sport	7/26/02	3	PIGEON PT.-POINT SUR	4.46	0501030206	57325
2000	Sport	5/25/02	3	PIGEON PT.-POINT SUR	3.54	0501030207	53846
2000	Sport	3/29/03	4	PIGEON PT.-POINT SUR	4.00	0501030107	60005
2000	Troll	6/14/02	3	PT.REYES-PIGEON PT.	2.59	0501030402	54098
2000	Troll	7/11/02	3	PT.REYES-PIGEON PT.	3.26	0501030402	57153
2000	Troll	7/19/02	3	PIGEON PT.-POINT SUR	3.41	0501030107	60066
2000	Troll	6/14/02	3	PT.ARENA-PT.REYES	2.59	0501030309	53268
2000	Troll	7/10/02	3	PIGEON PT.-POINT SUR	2.80	0501030202	54939
2000	Troll	8/1/02	3	PT.ARENA-PT.REYES	6.65	0501030301	58241
2000	Troll	6/12/03	4	PT.REYES-PIGEON PT.	2.87	0501030201	66928
2001	Sport	5/21/03	3	PT.REYES-PIGEON PT.	3.08	0501030903	61557
2001	Sport	7/11/03	3	PIGEON PT.-POINT SUR	5.01	0501030802	61957
2001	Sport	7/26/03	3	PT.REYES-PIGEON PT.	4.02	0501030903	68657
2001	Sport	7/18/03	3	PIGEON PT.-POINT SUR	4.03	0501030806	62580
2001	Sport	6/27/03	3	PT.REYES-PIGEON PT.	3.57	0501030705	66526
2001	Sport	6/27/03	3	PT.REYES-PIGEON PT.	3.57	0501030904	66524
2001	Sport	6/27/03	3	PT.REYES-PIGEON PT.	3.57	0501030904	65760
2001	Sport	5/22/03	3	PT.REYES-PIGEON PT.	3.08	0501030705	62027
2001	Sport	5/21/03	3	PT.REYES-PIGEON PT.	3.08	0501030705	62256
2001	Sport	5/9/03	3	PT.REYES-PIGEON PT.	2.95	0501030707	61542
2001	Sport	6/14/03	3	PT.REYES-PIGEON PT.	4.51	0501030802	65725

Total Recoveries: 135

Carcass Survey CWT Recoveries

Brood Year	Method	Recovery Date	Age	Est #	CWT Code
1998	Carcass	7/14/01	3	2.94	0501020914
1998	Carcass	6/8/01	3	2.94	0501020911
1998	Carcass	7/20/01	3	2.94	0501020911
1998	Carcass	7/23/01	3	2.94	0501020910
1998	Carcass	6/13/01	3	2.94	0501020913
1998	Carcass	6/13/01	3	2.94	0501020913
1998	Carcass	7/9/01	3	2.94	0501020913
1998	Carcass	7/9/01	3	2.94	0501020913
1998	Carcass	6/28/01	3	2.94	0501020912
1998	Carcass	8/2/01	3	2.94	0501020905
1998	Carcass	7/8/01	3	2.94	0501020914
1998	Carcass	8/4/01	3	2.94	0501020911
1998	Carcass	6/29/01	3	2.94	0501020905
1998	Carcass	6/28/01	3	2.94	0501020905
1998	Carcass	7/8/01	3	2.94	0501020905
1998	Carcass	6/17/01	3	2.94	0501020905
1998	Carcass	6/14/01	3	2.94	0501020905
1998	Carcass	7/21/01	3	2.94	0501020905
1998	Carcass	7/29/01	3	2.94	0501020905
1998	Carcass	7/30/01	3	2.94	0501020905
1998	Carcass	8/1/01	3	2.94	0501020905
1998	Carcass	7/5/01	3	2.94	0501020914
1998	Carcass	8/13/01	3	2.94	0501020813
1998	Carcass	6/16/01	3	2.94	0501020811
1998	Carcass	7/8/01	3	2.94	0501020811
1998	Carcass	7/14/01	3	2.94	0501020811
1998	Carcass	6/22/01	3	2.94	0501020811
1998	Carcass	7/11/01	3	2.94	0501020811
1998	Carcass	7/5/01	3	2.94	0501020811
1998	Carcass	6/23/01	3	2.94	0501020811
1998	Carcass	7/20/01	3	2.94	0501020811
1998	Carcass	6/22/01	3	2.94	0501020811
1998	Carcass	6/19/01	3	2.94	0501020911
1998	Carcass	7/20/01	3	2.94	0501020813
1998	Carcass	7/8/01	3	2.94	0501020911
1998	Carcass	7/2/01	3	2.94	0501020813
1998	Carcass	7/17/01	3	2.94	0501020903
1998	Carcass	7/29/01	3	2.94	0501020903
1998	Carcass	5/11/01	3	2.94	0501020902
1998	Carcass	7/11/01	3	2.94	0501020902
1998	Carcass	7/5/01	3	2.94	0501020906
1998	Carcass	7/23/01	3	2.94	0501020911
1998	Carcass	7/29/01	3	2.94	0501020911
1998	Carcass	7/1/01	3	2.94	0501020912
1998	Carcass	7/12/01	3	2.94	0501020813
1998	Carcass	5/11/01	3	2.94	0501020908
1998	Carcass	6/26/01	3	2.94	0501020814
1998	Carcass	6/14/01	3	2.94	0501020814
1998	Carcass	7/9/01	3	2.94	0501020814
1998	Carcass	7/17/01	3	2.94	0501020815
1998	Carcass	7/24/01	3	2.94	0501020815
1998	Carcass	7/30/01	3	2.94	0501020812
1998	Carcass	7/12/01	3	2.94	0501020812
1998	Carcass	8/7/01	3	2.94	0501020812
1998	Carcass	7/9/01	3	2.94	0501020908
1998	Carcass	7/6/01	3	2.94	0501020908
1998	Carcass	6/22/01	3	2.94	0501020906
1998	Carcass	6/16/01	3	2.94	0501020908
1998	Carcass	7/27/01	3	2.94	0501020812
1998	Carcass	7/17/01	3	2.94	0501020814
1998	Carcass	6/19/01	3	2.94	0501020909
1998	Carcass	7/15/01	3	2.94	0501020912
1998	Carcass	7/8/01	3	2.94	0501020909
1998	Carcass	7/29/01	3	2.94	0501020909
1998	Carcass	6/28/01	3	2.94	0501020909
1998	Carcass	6/16/01	3	2.94	0501020901
1998	Carcass	7/24/01	3	2.94	0501020901
1998	Carcass	7/5/01	3	2.94	0501020908
1998	Carcass	7/12/01	3	2.94	0501020908
1998	Carcass	7/30/01	3	2.94	0501020907
1998	Carcass	7/5/01	3	2.94	0501020904
1998	Carcass	6/25/01	3	2.94	0501020904
1998	Carcass	7/5/01	3	2.94	0501020815
1998	Carcass	5/14/01	3	2.94	0501020904
1998	Carcass	6/19/01	3	2.94	0501020815
1998	Carcass	7/26/01	3	2.94	0501020907
1998	Carcass	7/15/01	3	2.94	0501020812
1998	Carcass	8/8/01	3	2.94	0501020905
1998	Carcass	7/1/01	3	2.94	0501020906
1998	Carcass	5/8/01	3	2.94	0501020905
1998	Carcass	6/7/01	3	2.94	0501020906
1998	Carcass	7/8/01	3	2.94	0501020904
1998	Carcass	7/14/01	3	2.94	0501020815
1998	Carcass	8/19/01	3	2.94	0501020907
1998	Carcass	5/4/02	4	2.15	0501020905
1998	Carcass	6/25/02	4	2.15	0501020812
1998	Keswick	7/2/01	3	1.00	0501020909
1998	Keswick	6/13/01	3	1.00	0501020813
1998	Keswick	6/6/01	3	1.00	0501020905
1998	Keswick	6/13/01	3	1.00	0501020905
1998	Keswick	6/6/01	3	1.00	0501020906
1998	Keswick	6/13/01	3	1.00	0501020811
1998	Keswick	6/6/01	3	1.00	0501020905
1998	Keswick	7/2/01	3	1.00	0501020914
1998	Keswick	5/30/01	3	1.00	0501020815
1998	Keswick	6/13/01	3	1.00	0501020910
1998	Keswick	6/13/01	3	1.00	0501020812
1998	Keswick	6/13/01	3	1.00	0501020914
1999	Carcass	7/8/01	2	2.94	0501021307
1999	Carcass	5/30/01	2	2.94	0501021214
1999	Carcass	5/24/01	2	2.94	0501021214
1999	Carcass	6/26/01	2	2.94	0501021212
1999	Carcass	7/23/01	2	2.94	0501021213
1999	Carcass	7/12/01	2	2.94	0501021213
1999	Carcass	6/28/01	2	2.94	0501021215
1999	Carcass	7/11/01	2	2.94	0501021215
1999	Carcass	7/6/01	2	2.94	0501021214
1999	Carcass	6/20/01	2	2.94	0501021302
1999	Carcass	7/8/01	2	2.94	0501021305
1999	Carcass	7/2/01	2	2.94	0501021304
1999	Carcass	6/22/01	2	2.94	0501021301
1999	Carcass	7/14/01	2	2.94	0501021305
1999	Carcass	7/5/01	2	2.94	0501021305
1999	Carcass	7/1/01	2	2.94	0501021306
1999	Carcass	6/19/01	2	2.94	0501021210
1999	Carcass	7/17/01	2	2.94	0501021301
1999	Carcass	7/8/01	2	2.94	0501021303
1999	Carcass	7/20/01	2	2.94	0501021208
1999	Carcass	6/17/01	2	2.94	0501021306
1999	Carcass	6/23/01	2	2.94	0501021306
1999	Carcass	6/23/01	2	2.94	0501021302
1999	Carcass	6/28/01	2	2.94	0501021215
1999	Carcass	7/6/01	2	2.94	0501021213
1999	Carcass	7/5/01	2	2.94	0501021210
1999	Carcass	7/26/01	2	2.94	0501021307
1999	Carcass	6/29/01	2	2.94	0501021215
1999	Carcass	7/5/01	2	2.94	0501021302
1999	Carcass	6/16/01	2	2.94	0501021213
1999	Carcass	6/26/01	2	2.94	0501021302
1999	Carcass	7/24/01	2	2.94	0501021215
1999	Carcass	7/24/02	3	2.15	0501021305
1999	Carcass	6/30/02	3	2.15	0501021210
1999	Carcass	6/30/02	3	2.15	0501021306
1999	Carcass	7/3/02	3	2.15	0501021306
1999	Carcass	6/9/02	3	2.15	0501021306
1999	Carcass	6/15/02	3	2.15	0501021306
1999	Carcass	5/22/02	3	2.15	0501021306
1999	Carcass	7/18/02	3	2.15	0501021207
1999	Carcass	5/28/02	3	2.15	0501021306
1999	Carcass	6/25/02	3	2.15	0501021306
1999	Carcass	7/15/02	3	2.15	0501021306
1999	Carcass	7/3/02	3	2.15	0501021306
1999	Carcass	6/25/02	3	2.15	0501021306
1999	Carcass	6/25/02	3	2.15	0501021305
1999	Carcass	6/30/02	3	2.15	0501021210
1999	Carcass	5/16/02	3	2.15	0501021210
1999	Carcass	5/25/02	3	2.15	0501021210
1999	Carcass	6/12/02	3	2.15	0501021212
1999	Carcass	7/18/02	3	2.15	0501021212
1999	Carcass	7/15/02	3	2.15	0501021212
1999	Carcass	7/15/02	3	2.15	0501021212
1999	Carcass	7/15/02	3	2.15	0501021205
1999	Carcass	5/31/02	3	2.15	0501021205
1999	Carcass	6/3/02	3	2.15	0501021305
1999	Carcass	5/28/02	3	2.15	0501021305
1999	Carcass	6/30/02	3	2.15	0501021306
1999	Carcass	6/25/02	3	2.15	0501021303
1999	Carcass	6/21/02	3	2.15	0501021209
1999	Carcass	5/25/02	3	2.15	0501021209
1999	Carcass	6/25/02	3	2.15	0501021209
1999	Carcass	6/4/02	3	2.15	0501021209
1999	Carcass	5/22/02	3	2.15	0501021209
1999	Carcass	7/3/02	3	2.15	0501021307
1999	Carcass	7/4/02	3	2.15	0501021207
1999	Carcass	7/9/02	3	2.15	0501021207
1999	Carcass	7/21/02	3	2.15	0501021207
1999	Carcass	7/6/02	3	2.15	0501021207
1999	Carcass	7/18/02	3	2.15	0501021208
1999	Carcass	6/21/02	3	2.15	0501021208
1999	Carcass	6/9/02	3	2.15	0501021209
1999	Carcass	6/25/02	3	2.15	0501021303
1999	Carcass	7/9/02	3	2.15	0501021209
1999	Carcass	6/15/02	3	2.15	0501021303
1999	Carcass	5/22/02	3	2.15	0501021303
1999	Carcass	6/25/02	3	2.15	0501021303
1999	Carcass	7/12/02	3	2.15	0501021215
1999	Carcass	6/6/02	3	2.15	0501021215
1999	Carcass	7/12/02	3	2.15	0501021215
1999	Carcass	6/12/02	3	2.15	0501021215
1999	Carcass	6/25/02	3	2.15	0501021215
1999	Carcass	6/25/02	3	2.15	0501021215
1999	Carcass	6/15/02	3	2.15	0501021215
1999	Carcass	7/6/02	3	2.15	0501021215
1999	Carcass	6/18/02	3	2.15	0501021215
1999	Carcass	6/21/02	3	2.15	0501021208
1999	Carcass	5/19/02	3	2.15	0501021301
1999	Carcass	7/9/02	3	2.15	0501021305
1999	Carcass	7/27/02	3	2.15	0501021305
1999	Carcass	7/27/02	3	2.15	0501021305
1999	Carcass	6/21/02	3	2.15	0501021305
1999	Carcass	7/15/02	3	2.15	0501021305
1999	Carcass	6/21/02	3	2.15	0501021305
1999	Carcass	6/30/02	3	2.15	0501021305
1999	Carcass	6/15/02	3	2.15	0501021305
1999	Carcass	7/15/02	3	2.15	0501021213
1999	Carcass	6/9/02	3	2.15	0501021213
1999	Carcass	7/6/02	3	2.15	0501021213
1999	Carcass	7/6/02	3	2.15	0501021213
1999	Carcass	6/3/02	3	2.15	0501021209
1999	Carcass	6/21/02	3	2.15	0501021301

Brood Year	Method	Recovery Date	Age	Est #	CWT Code
1999	Carcass	5/13/02	3	2.15	0501021301
1999	Carcass	6/22/02	3	2.15	0501021301
1999	Carcass	7/9/02	3	2.15	0501021301
1999	Carcass	7/12/02	3	2.15	0501021206
1999	Carcass	7/12/02	3	2.15	0501021206
1999	Carcass	6/27/02	3	2.15	0501021206
1999	Carcass	5/16/02	3	2.15	0501021214
1999	Carcass	5/16/02	3	2.15	0501021214
1999	Carcass	5/29/02	3	2.15	0501021214
1999	Carcass	6/1/02	3	2.15	0501021214
1999	Carcass	5/10/02	3	2.15	0501021214
1999	Carcass	7/3/02	3	2.15	0501021214
1999	Carcass	7/6/02	3	2.15	0501021213
1999	Carcass	6/25/02	3	2.15	0501021304
1999	Carcass	6/21/02	3	2.15	0501021304
1999	Carcass	5/22/02	3	2.15	0501021304
1999	Carcass	7/3/02	3	2.15	0501021304
1999	Carcass	5/22/02	3	2.15	0501021304
1999	Carcass	7/6/02	3	2.15	0501021304
1999	Carcass	6/21/02	3	2.15	0501021304
1999	Carcass	7/6/02	3	2.15	0501021304
1999	Carcass	6/21/02	3	2.15	0501021304
1999	Carcass	5/10/02	3	2.15	0501021302
1999	Carcass	6/6/02	3	2.15	0501021304
1999	Carcass	5/22/02	3	2.15	0501021211
1999	Carcass	6/15/02	3	2.15	0501021304
1999	Carcass	5/22/02	3	2.15	0501021304
1999	Carcass	6/21/02	3	2.15	0501021304
1999	Carcass	5/29/02	3	2.15	0501021211
1999	Carcass	6/12/02	3	2.15	0501021211
1999	Carcass	7/15/02	3	2.15	0501021211
1999	Carcass	5/13/02	3	2.15	0501021307
1999	Carcass	6/25/02	3	2.15	0501021307
1999	Carcass	6/18/02	3	2.15	0501021304
1999	Carcass	8/5/02	3	2.15	0501021307
1999	Carcass	5/16/02	3	2.15	0501021302
1999	Carcass	7/18/02	3	2.15	0501021307
1999	Carcass	7/9/02	3	2.15	0501021307
1999	Carcass	6/30/02	3	2.15	0501021307
1999	Carcass	6/21/02	3	2.15	0501021307
1999	Carcass	5/31/02	3	2.15	0501021307
1999	Carcass	7/24/02	3	2.15	0501021307
1999	Carcass	6/12/02	3	2.15	0501021302
1999	Carcass	6/15/02	3	2.15	0501021302
1999	Carcass	6/6/02	3	2.15	0501021302
1999	Carcass	6/30/02	3	2.15	0501021302
1999	Carcass	5/4/02	3	2.15	0501021302
1999	Carcass	6/3/02	3	2.15	0501021302
1999	Carcass	6/21/02	3	2.15	0501021307
1999	Carcass	6/9/02	3	2.15	0501021302
1999	Carcass	6/21/02	3	2.15	0501021302
1999	Carcass	5/28/02	3	2.15	0501021302
1999	Carcass	7/17/03	4	2.44	0501021305
1999	Keswick	5/1/02	3	1.00	0501021211
1999	Keswick	4/17/02	3	1.00	0501021306
1999	Keswick	4/17/02	3	1.00	0501021213
1999	Keswick	4/17/02	3	1.00	0501021307
1999	Keswick	4/24/02	3	1.00	0501021211
2000	Carcass	7/9/02	2	2.15	0501030201
2000	Carcass	7/15/02	2	2.15	0501030302
2000	Carcass	7/18/02	2	2.15	0501030206
2000	Carcass	7/15/02	2	2.15	0501030307
2000	Carcass	6/25/02	2	2.15	0501030306
2000	Carcass	7/7/02	2	2.15	0501030408
2000	Carcass	7/15/02	2	2.15	0501030401
2000	Carcass	7/15/02	2	2.15	0501030207
2000	Carcass	7/4/02	2	2.15	0501030306
2000	Carcass	7/10/02	2	2.15	0501030308
2000	Carcass	7/16/02	2	2.15	0501030308
2000	Carcass	7/3/02	2	2.15	0501030205
2000	Carcass	7/16/02	2	2.15	0501030308
2000	Carcass	7/2/03	3	2.44	0501030203
2000	Carcass	5/27/03	3	2.44	0501030403
2000	Carcass	7/9/03	3	2.44	0501030403
2000	Carcass	7/8/03	3	2.44	0501030402
2000	Carcass	7/20/03	3	2.44	0501030202
2000	Carcass	7/23/03	3	2.44	0501030401
2000	Carcass	6/29/03	3	2.44	0501030401
2000	Carcass	6/2/03	3	2.44	0501030403
2000	Carcass	7/9/03	3	2.44	0501030401
2000	Carcass	7/8/03	3	2.44	0501030401
2000	Carcass	7/11/03	3	2.44	0501030401
2000	Carcass	7/20/03	3	2.44	0501030203
2000	Carcass	7/8/03	3	2.44	0501030203
2000	Carcass	7/21/03	3	2.44	0501030204
2000	Carcass	7/11/03	3	2.44	0501030205
2000	Carcass	7/11/03	3	2.44	0501030203
2000	Carcass	7/8/03	3	2.44	0501030203
2000	Carcass	7/14/03	3	2.44	0501030203
2000	Carcass	5/21/03	3	2.44	0501030205
2000	Carcass	7/8/03	3	2.44	0501030204
2000	Carcass	7/11/03	3	2.44	0501030204
2000	Carcass	7/17/03	3	2.44	0501030204
2000	Carcass	7/14/03	3	2.44	0501030204
2000	Carcass	7/5/03	3	2.44	0501030203
2000	Carcass	8/7/03	3	2.44	0501030308
2000	Carcass	7/11/03	3	2.44	0501030202
2000	Carcass	7/29/03	3	2.44	0501030201
2000	Carcass	7/2/03	3	2.44	0501030404
2000	Carcass	7/11/03	3	2.44	0501030202
2000	Carcass	8/1/03	3	2.44	0501030406
2000	Carcass	7/18/03	3	2.44	0501030307
2000	Carcass	7/20/03	3	2.44	0501030202
2000	Carcass	6/29/03	3	2.44	0501030307
2000	Carcass	7/23/03	3	2.44	0501030308
2000	Carcass	7/8/03	3	2.44	0501030308
2000	Carcass	5/15/03	3	2.44	0501030107
2000	Carcass	5/15/03	3	2.44	0501030107
2000	Carcass	6/8/03	3	2.44	0501030107
2000	Carcass	7/23/03	3	2.44	0501030107
2000	Carcass	7/14/03	3	2.44	0501030202
2000	Carcass	6/23/03	3	2.44	0501030306
2000	Carcass	7/2/03	3	2.44	0501030402
2000	Carcass	7/2/03	3	2.44	0501030402
2000	Carcass	7/2/03	3	2.44	0501030309
2000	Carcass	7/2/03	3	2.44	0501030305
2000	Carcass	7/9/03	3	2.44	0501030306
2000	Carcass	7/26/03	3	2.44	0501030109
2000	Carcass	7/29/03	3	2.44	0501030306
2000	Carcass	7/12/03	3	2.44	0501030402
2000	Carcass	6/23/03	3	2.44	0501030108
2000	Carcass	7/5/03	3	2.44	0501030108
2000	Carcass	7/5/03	3	2.44	0501030108
2000	Carcass	7/29/03	3	2.44	0501030307
2000	Carcass	6/29/03	3	2.44	0501030307
2000	Carcass	8/4/03	3	2.44	0501030307
2000	Carcass	6/29/03	3	2.44	0501030306
2000	Carcass	9/1/03	3	2.44	0501030302
2000	Carcass	8/4/03	3	2.44	0501030209
2000	Carcass	7/30/03	3	2.44	0501030209
2000	Carcass	7/2/03	3	2.44	0501030209
2000	Carcass	7/11/03	3	2.44	0501030301
2000	Carcass	6/24/03	3	2.44	0501030301
2000	Carcass	6/29/03	3	2.44	0501030404
2000	Carcass	7/8/03	3	2.44	0501030408
2000	Carcass	7/8/03	3	2.44	0501030206
2000	Carcass	8/4/03	3	2.44	0501030408
2000	Carcass	7/26/03	3	2.44	0501030408
2000	Carcass	7/6/03	3	2.44	0501030408
2000	Carcass	7/14/03	3	2.44	0501030408
2000	Carcass	7/23/03	3	2.44	0501030209
2000	Carcass	6/2/03	3	2.44	0501030408
2000	Carcass	8/1/03	3	2.44	0501030302
2000	Carcass	7/2/03	3	2.44	0501030302
2000	Carcass	7/20/03	3	2.44	0501030302
2000	Carcass	7/23/03	3	2.44	0501030303
2000	Carcass	7/26/03	3	2.44	0501030303
2000	Carcass	8/7/03	3	2.44	0501030303
2000	Carcass	7/20/03	3	2.44	0501030304
2000	Carcass	7/11/03	3	2.44	0501030304
2000	Carcass	8/4/03	3	2.44	0501030304
2000	Carcass	7/8/03	3	2.44	0501030409
2000	Carcass	7/8/03	3	2.44	0501030409
2000	Carcass	8/7/03	3	2.44	0501030409
2000	Carcass	6/17/03	3	2.44	0501030408
2000	Carcass	7/23/03	3	2.44	0501030206
2000	Carcass	7/24/03	3	2.44	0501030404
2000	Carcass	7/29/03	3	2.44	0501030404
2000	Carcass	6/2/03	3	2.44	0501030404
2000	Carcass	5/19/03	3	2.44	0501030404
2000	Carcass	6/18/03	3	2.44	0501030405
2000	Carcass	6/29/03	3	2.44	0501030405
2000	Carcass	6/23/03	3	2.44	0501030405
2000	Carcass	7/29/03	3	2.44	0501030206
2000	Carcass	7/5/03	3	2.44	0501030208
2000	Carcass	7/11/03	3	2.44	0501030206
2000	Carcass	7/8/03	3	2.44	0501030206
2000	Carcass	7/20/03	3	2.44	0501030206
2000	Carcass	7/11/03	3	2.44	0501030206
2000	Carcass	6/27/03	3	2.44	0501030206
2000	Carcass	7/6/03	3	2.44	0501030207
2000	Carcass	7/8/03	3	2.44	0501030406
2000	Carcass	6/29/03	3	2.44	0501030208
2000	Carcass	6/17/03	3	2.44	0501030208
2000	Carcass	8/7/03	3	2.44	0501030406
2000	Carcass	6/5/03	3	2.44	0501030406
2000	Carcass	6/12/03	3	2.44	0501030406
2000	Carcass	8/1/03	3	2.44	0501030406
2000	Carcass	6/17/03	3	2.44	0501030207
2000	Carcass	7/17/03	3	2.44	0501030207
2000	Carcass	7/2/03	3	2.44	0501030206
2000	Carcass	7/17/03	3	2.44	0501030207
2000	Carcass	7/29/03	3	2.44	0501030207
2000	Keswick	6/12/02	2	1.00	0501030409
2000	Keswick	4/17/02	2	1.00	0501030108
2000	Keswick	6/12/02	2	1.00	0501030306
2000	Keswick	4/23/03	3	1.00	0501030301
2000	Keswick	4/23/03	3	1.00	0501030304
2000	Keswick	3/11/03	3	1.00	0501030302
2000	Keswick	6/4/03	3	1.00	0501030206
2000	Keswick	5/14/03	3	1.00	0501030202
2000	Keswick	6/4/03	3	1.00	0501030305
2001	Carcass	6/14/03	2	2.44	0501030803
2001	Carcass	7/20/03	2	2.44	0501030705
2001	Carcass	8/1/03	2	2.44	0501030705
2001	Carcass	6/29/03	2	2.44	0501030705
2001	Carcass	6/5/03	2	2.44	0501030705
2001	Carcass	7/3/03	2	2.44	0501030705
2001	Carcass	7/24/03	2	2.44	0501030705
2001	Carcass	7/24/03	2	2.44	0501030806
2001	Carcass	7/6/03	2	2.44	0501030903
2001	Carcass	6/29/03	2	2.44	0501030802
2001	Carcass	7/14/03	2	2.44	0501030802
2001	Keswick	6/18/03	2	1.00	0501030803

Total Recoveries: 409

River Recreational Recoveries

Brood Year	Recovery Location	Recovery Date	Age	Est #	CWT Code
1998	AMER.R. TO COLUSA	1/7/01	3	8.26	0501020905
1998	AMER.R. TO COLUSA	1/7/01	3	8.26	0501020908
1998	COLUSA TO RBDD	1/14/01	3	22.4	0501020908
1998	COLUSA TO RBDD	1/6/01	3	22.4	0501020906
1998	COLUSA TO RBDD	1/6/01	3	22.4	0501020906
1998	AMER.R. TO COLUSA	12/28/00	3	8.2	0501020907
1998	CARQUINEZ TO AMER. R	12/29/00	3	13.7	0501020811
1998	Submitted by angler	1/4/01	3	1	0501020904

Appendix V Coded Wire Tag Recoveries Butte Creek Spring Chinook

Ocean Recoveries

Brood Year	Sector	Recovery Date	Age	Recovery Location	Est No	Tag Code	ID
1995	Sport	4/29/98	3	FORT ROSS-PIGEON PT	2.64	B61202	36704
1995	Sport	4/17/98	3	FORT ROSS-PIGEON PT	2.64	B61202	36406
1995	Troll	5/8/98	4	POINT SUR-CA/MEX.BOR	2.86	B61201	23378
1997	Sport	6/10/00	4	FORT ROSS-PIGEON PT	3.27	0601120201	43589
1997	Troll	5/23/00	4	FORT ROSS-POINT SUR	4.75	0601120205	42801
1997	Troll	7/20/00	4	FORT ROSS-PIGEON PT	2.05	0601120112	34313
1997	Troll	9/25/01	5	PT.REYES-PIGEON PT.	3.16	0601120206	47136
1998	Sport	6/13/00	3	FORT ROSS-PIGEON PT	3.27	0601120211	29505
1998	Sport	7/1/01	4	SPAN.FLAT-C.VIZCAINO	4.66	0601120215	45767
1998	Sport	7/1/01	4	CA/OR BOR-FA.KLAM.RC	4.36	0601120214	48539
1998	Sport	7/30/01	4	BIG LAG.-CENTERV.BEA	4.88	0601120212	35565
1998	Sport	7/5/02	5	PIGEON PT.-POINT SUR	3.34	0601120307	54991
1998	Troll	4/23/01	3	NEWPORT TROLL 4	3.57	0601120215	J0304
1998	Troll	7/11/01	4	PT.ARENA-PT.REYES	2.80	0601120209	50227
1998	Troll	8/18/01	4	NEWPORT TROLL 4	2.75	0601120307	J8571
1998	Troll	9/18/01	4	NEWPORT TROLL 4	2.54	0601120307	J8939
1999	Sport	3/31/02	3	PIGEON PT.-POINT SUR	4.38	0601120311	52114
1999	Sport	6/29/02	4	PT.REYES-PIGEON PT.	3.60	0601120309	52271
1999	Sport	7/15/02	4	MARINE AREA 2	1.74	0601120308	
1999	Sport	6/25/02	4	PT.ARENA-PT.REYES	3.60	0601120310	56801
1999	Troll	4/23/02	3	COOS BAY TROLL 5	3.24	0601120311	J2015
1999	Troll	6/5/02	4	POINT SUR-CA/MEX.BOR	4.54	0601120310	54374
1999	Troll	9/25/02	4	GARIBALDI TROLL 3	1.59	0601120312	D2544
1999	Troll	7/12/02	4	PT.REYES-PIGEON PT.	3.26	0601120313	58078
1999	Troll	6/13/02	4	PT.REYES-PIGEON PT.	4.54	0601120311	54407
1999	Troll	6/28/02	4	PT.REYES-PIGEON PT.	3.22	0601120310	57913
1999	Troll	7/14/02	4	PT.REYES-PIGEON PT.	3.26	0601120313	56676
1999	Troll	7/25/02	4	PT.REYES-PIGEON PT.	3.41	0601120311	59550
1999	Troll	5/22/02	4	PT.REYES-PIGEON PT.	5.45	0601120310	46835
1999	Troll	7/24/02	4	SPAN.FLAT-PT.ARENA	1.37	0601120311	59211
1999	Troll	7/24/02	4	SPAN.FLAT-PT.ARENA	1.37	0601120311	44358
1999	Troll	5/28/02	4	PIGEON PT.-POINT SUR	5.45	0601120310	54325
2000	Sport	7/11/02	3	PT.REYES-PIGEON PT.	4.31	0601000201	58756
2000	Sport	7/3/02	3	PT.REYES-PIGEON PT.	4.31	0601120404	58415
2000	Sport	7/21/03	4	SPAN.FLAT-PT.ARENA	4.25	0601120408	63283
2000	Troll	7/1/03	4	PT.REYES-PIGEON PT.	3.62	0601120402	65133
2000	Troll	6/5/03	4	PT.REYES-PIGEON PT.	2.87	0601120406	64545

Total Recoveries: 37

River Recoveries

Brood Year	Comment	Recovery Date	Age	Est #	Tag Code
1995		10/13/99	4	1.00	B61201
1997		9/18/01	4	1.80	0601120113
1997		9/27/01	4	1.80	0601120113
1998		6/11/01	3	1.80	0601120212
1998		9/25/01	3	1.80	0601120215
1998		9/27/01	3	1.80	0601120213
1998		10/2/01	3	1.80	0601120210
1998		10/2/01	3	1.80	0601120212
1998		10/2/01	3	1.80	0601120214
1998		10/3/01	3	1.80	0601120211
1998		10/4/01	3	1.80	0601120212
1998		10/4/01	3	1.80	0601120303
1998		10/4/01	3	1.80	0601120210
1998		10/4/01	3	1.80	0601120212
1998		10/9/01	3	1.80	0601120213
1998		10/11/01	3	1.80	0601120212
1998		10/11/01	3	1.80	0601120212
1998		8/13/02	4	2.07	0601120210
1998		10/10/02	4	2.07	0601120213
1998	Stray	10/29/02	4	1.00	0601120307

River Recoveries Continued

Brood Year	Comment	Recovery Date	Age	Est #	Tag Code
1999		7/31/02	3	2.07	0601120310
1999		8/21/02	3	2.07	0601120311
1999		9/24/02	3	2.07	0601120310
1999		9/26/02	3	2.07	0601120309
1999		10/1/02	3	2.07	0601120309
1999		10/1/02	3	2.07	0601120310
1999		10/3/02	3	2.07	0601120311
1999		10/3/02	3	2.07	0601120309
1999		10/3/02	3	2.07	0601120311
1999		10/3/02	3	2.07	0601120310
1999		10/3/02	3	2.07	0601120311
1999		10/10/02	3	2.07	0601120312
1999		10/10/02	3	2.07	0601120310
1999		10/10/02	3	2.07	0601120310
1999		10/10/02	3	2.07	0601120312
1999		10/10/02	3	2.07	0601120311
1999		10/17/02	3	2.07	0601120313
1999		9/25/03	4	1.53	0601120309
1999		10/2/03	4	1.53	0601120312
1999		10/2/03	4	1.53	0601120310
1999		10/9/03	4	1.53	0601120310
1999		10/9/03	4	1.53	0601120313
1999		10/9/03	4	1.53	0601120313
1999		10/23/03	4	1.53	0601120311
1999	PreSpawnMort	7/31/03	4	2.03	0601120310
1999	PreSpawnMort	8/12/03	4	2.03	0601120309
1999	PreSpawnMort	8/12/03	4	2.03	0601120310
1999	PreSpawnMort	8/12/03	4	2.03	0601120313
1999	PreSpawnMort	8/13/03	4	2.03	0601120309
1999	PreSpawnMort	8/13/03	4	2.03	0601120309
1999	PreSpawnMort	8/18/03	4	2.03	0601120312
1999	PreSpawnMort	8/18/03	4	2.03	0601120312
1999	PreSpawnMort	8/28/03	4	2.03	0601120309
1999	PreSpawnMort	9/2/03	4	2.03	0601120310
2000		9/30/03	3	1.53	0601120406
2000		9/30/03	3	1.53	0601120405
2000		10/2/03	3	1.53	0601120407
2000		10/7/03	3	1.53	0601120402
2000		10/7/03	3	1.53	0601120405
2000		10/9/03	3	1.53	0601120405
2000		10/9/03	3	1.53	0601000205
2000	PreSpawnMort	5/23/03	3	2.03	0601120406
2000	PreSpawnMort	8/5/03	3	2.03	0601000202
2000	PreSpawnMort	8/7/03	3	2.03	0601120402
2000	PreSpawnMort	8/12/03	3	2.03	0601120407
2000	PreSpawnMort	8/12/03	3	2.03	0601120406
2000	PreSpawnMort	8/12/03	3	2.03	0601120405
2000	PreSpawnMort	8/13/03	3	2.03	0601120408
2000	PreSpawnMort	8/13/03	3	2.03	0601120406
2000	PreSpawnMort	8/13/03	3	2.03	0601120405
2000	PreSpawnMort	8/13/03	3	2.03	0601000202
2000	PreSpawnMort	8/18/03	3	2.03	0601120406
2000	PreSpawnMort	8/21/03	3	2.03	0601120404
2000	PreSpawnMort	8/26/03	3	2.03	0601120403
2000	PreSpawnMort	8/28/03	3	2.03	0601000201
2000	PreSpawnMort	8/28/03	3	2.03	0601120406

Total Recoveries: 77

Appendix VI Expansion of Coded Wire Tags Recoveries in Carcass Surveys Methodology

[To be completed]

Exhibit C.8
Situation Summary
March 2004

COUNCIL DIRECTION FOR 2004 MANAGEMENT OPTIONS

Situation: If necessary, the Salmon Technical Team (STT) will request clarification or direction regarding the management elements identified by the Council under agenda item C.4 on Tuesday and/or C.5 on Wednesday. The Council should assure the options presented are those for which the Council desires full STT analysis and consideration for final adoption on Friday.

Council Task:

1. Clarify STT questions.
2. Additional direction on management option development and STT analysis, as necessary.

Reference Materials:

1. None.

Agenda Order:

a. Agendum Overview	Chuck Tracy
b. Report of the STT	Dell Simmons
c. Reports and Comments of Advisory Bodies	
d. Public Comment	
e. Council Guidance and Direction	

PFMC
02/18/04

SALMON TECHNICAL TEAM

INITIAL ANALYSIS OF PRELIMINARY SALMON MANAGEMENT OPTIONS FOR 2004 OCEAN FISHERIES

March 11, 2004

TABLE 1. **Commercial troll** management options for initial STT analysis of non-Indian ocean salmon fisheries, 2004. (Page 1 of 7)

A. SEASON OPTION DESCRIPTIONS

OPTION I North of Cape Falcon	OPTION II North of Cape Falcon	OPTION III North of Cape Falcon
Supplemental Management Information: 1. Overall non-Indian TAC: 120,000 chinook and 275,000 coho. Trade: May be considered at the April Council meeting. 2. Non-Indian commercial troll TAC: 62,000 chinook and 68,750 coho. 3. Treaty Indian commercial ocean troll quotas of: 60,000 chinook (30,000 in May and June; 30,000 for all-salmon season July through Sept. 15 with no rollover allowed from chinook season); and 90,000 coho.	**Supplemental Management Information:** 1. Overall non-Indian TAC: 90,000 chinook and 225,000 coho. Trade: May be considered at the April Council meeting. 2. Non-Indian commercial troll TAC: 45,000 chinook and 56,250 coho. 3. Treaty Indian commercial ocean troll quotas of: 40,000 chinook (20,000 in May and June; 20,000 for all-salmon season July through Sept. 15 with no rollover allowed from chinook season); and 75,000 coho.	**Supplemental Management Information:** 1. Overall non-Indian TAC: 60,000 chinook and 175,000 coho Trade: May be considered at the April Council meeting. 2. Non-Indian commercial troll TAC: 30,000 chinook and 43,750 coho. 3. Treaty Indian commercial ocean troll quotas of: 30,000 chinook (15,000 in May and June; 15,000 for all-salmon season July through Sept. 15 with no rollover allowed from chinook season); and 60,000 coho. 4. Overall Chinook TACs may need to be reduced or fisheries adjusted upon conclusion of NMFS ESA consultation for the Puget Sound Chinook Harvest Resource Management Plan.
U.S./Canada Border to Cape Falcon • May 1 through earlier of June 30 or 41,800 chinook quota. The fishery will be managed to provide a remaining quota of 800 chinook for a June 26-30 open period with a 75 fish per vessel landing limit for the five-day open period. All salmon except coho, and no chum retention north of Cape Alava during August and September. (C.6). Cape Flattery and Columbia Control Zones closed (C.4). See gear restrictions (C.2). Vessels must land and deliver their fish within the area or in Garibaldi, OR, and within 24 hours of any closure of this fishery. State regulations require that fishers south of Cape Falcon intending to fish within this area, and/or fishers fishing within this area intending to land salmon in Garibaldi, OR, notify Oregon Department of Fish and Wildlife (ODFW) before transiting the Cape Falcon line (45°46'00" N lat) at the following phone number (541) 867-0300 Ext. 252. Inseason actions may modify harvest guidelines in later fisheries to achieve or prevent exceeding the overall allowable troll harvest impacts (C.7.a).	**U.S./Canada Border to Cape Falcon** • May 1 through earlier of June 30 or 30,000 chinook quota. All salmon except coho, and no chum retention north of Cape Alava during August and September. (C.6). Cape Flattery and Columbia Control Zones closed (C.4). See gear restrictions (C.2). Vessels must land and deliver their fish within the area or land their fish in Garibaldi, OR; and within 24 hours of any closure of this fishery. State regulations require that fishers south of Cape Falcon intending to fish within this area, and/or fishers fishing within this area intending to land salmon in Garibaldi, OR, notify Oregon Department of Fish and Wildlife (ODFW) before transiting the Cape Falcon line (45°46'00" N lat) at the following phone number (541) 867-0300 Ext. 252. Inseason actions may modify harvest guidelines in later fisheries to achieve or prevent exceeding the overall allowable troll harvest impacts (C.7.a).	**U.S./Canada Border to Cape Falcon** • May 1 through earlier of June 30 or 25,000 chinook quota. All salmon except coho, and no chum retention north of Cape Alava during August and September.(C.6). Cape Flattery and Columbia Control Zones closed (C.4). See gear restrictions (C.2). Vessels must land and deliver their fish within the area or in Garibaldi, OR, and within 24 hours of any closure of this fishery. State regulations require that fishers south of Cape Falcon intending to fish within this area, and/or fishers fishing within this area intending to land salmon in Garibaldi, OR, notify Oregon Department of Fish and Wildlife (ODFW) before transiting the Cape Falcon line (45°46'00" N lat) at the following phone number (541) 867-0300 Ext. 252. Inseason actions may modify harvest guidelines in later fisheries to achieve or prevent exceeding the overall allowable troll harvest impacts (C.7.a).

TABLE 1. **Commercial troll** management options for initial STT analysis of non-Indian ocean salmon fisheries, 2004. (Page 2 of 7)

A. SEASON OPTION DESCRIPTIONS

OPTION I	OPTION II	OPTION III
U.S./Canada Border to Cape Falcon • July 2 through earlier of Sept. 15 or 20,200 preseason chinook guideline (C.7.a) or a 68,750 coho quota. The 68,750 coho quota includes a subarea quota of 10,000 coho for the area between the U.S./Canada border and the Queets River. Fishery is 5-days open/2-days closed. Landing and posession limit of 150 chinook per 5-day open period. All salmon (C.6). All retained coho must have a healed adipose fin clip, **except there may be an inseason conference call no earlier than August 1 for consideration of non-mark-selective coho retention.** Cape Flattery and Columbia Control Zones closed (C.4). See gear restrictions (C.2). Vessels must land and deliver their fish within the area or in Garibaldi, OR, and within 24 hours of any closure of this fishery. State regulations require that fishers south of Cape Falcon intending to fish within this area, and/or fishers fishing within this area intending to land salmon in Garibaldi, OR, notify Oregon Department of Fish and Wildlife (ODFW) before transiting the Cape Falcon line (45°46'00" N lat) at the following phone number (541) 867-0300 Ext. 252.). Trip limits, gear restrictions, and guidelines may be implemented or adjusted inseason.	**U.S./Canada Border to Cape Falcon** • July 9 through earlier of Sept. 15 or 15,000 preseason chinook guideline (C.7.a) or a 56,250 coho quota. Fishery is 5-days open/2-days closed. Landing and posession limit of 150 chinook per 5-day open period. All salmon (C.6). All retained coho must have a healed adipose fin clip. Cape Flattery and Columbia Control Zones closed (C.4). See gear restrictions (C.2). Vessels must land and deliver their fish within 24 hours of any closure of this fishery except Oregon licensed limited fish sellers are not required to offload catch within 24 hours. These vessels are required to provide updated catch information to the Oregon Department of Fish and Wildlife at (541) 867-0300 extension 271 within 24 hours of any closure of the fishery. Notification shall include vessel name and number and number of salmon by species. Any vessel intending to land or deliver in Oregon south of Cape Falcon must notify the Oregon Department of Fish and Wildlife one hour prior to landing or transporting outside the area. Notification shall be made by calling (541) 867-0300 extension 271 with vessel name and number, number of salmon by species, location of delivery, and estimated time of delivery. Inseason actions may modify harvest guidelines in later fisheries to achieve or prevent exceeding the overall allowable troll harvest impacts (C.7.a). Trip limits, gear restrictions, and guidelines may be implemented or adjusted inseason.	**U.S./Canada Border to Cape Falcon** • July 9 through earlier of Sept. 15 or 5,000 preseason chinook guideline (C.7.a) or a 43,750 coho quota. Fishery is 5-days open/2-days closed. Landing and posession limit of 50 chinook per 5-day open period. All salmon (C.6). All retained coho must have a healed adipose fin clip. Cape Flattery and Columbia Control Zones closed (C.4). See gear restrictions (C.2). Vessels must land and deliver their fish within the area or in Garibaldi, OR, and within 24 hours of any closure of this fishery. State regulations require that fishers south of Cape Falcon intending to fish within this area, and/or fishers fishing within this area intending to land salmon in Garibaldi, OR, notify Oregon Department of Fish and Wildlife (ODFW) before transiting the Cape Falcon line (45°46'00" N lat) at the following phone number (541) 867-0300 Ext. 252.). Trip limits, gear restrictions, and guidelines may be implemented or adjusted inseason.

TABLE 1. **Commercial troll** management options for initial STT analysis of non-Indian ocean salmon fisheries, 2004. (Page 3 of 7)

A. SEASON OPTION DESCRIPTIONS

OPTION I South of Cape Falcon	OPTION II South of Cape Falcon	OPTION III South of Cape Falcon
Cape Falcon to Florence South Jetty • March 15 through July 17; Aug. 1 through Aug. 20 and Sept. 1 through Oct. 31 (C.8). All salmon except coho (C.6). Chinook 26 inch minimum size limit prior to May 1, 27 inches May 1 through Sept. 30, and 28 inches October 1-31 (B). See gear restrictions (C.2) and Oregon State regulations for a description of the closed area at the mouth of Tillamook Bay.	**Cape Falcon to Florence South Jetty** • March 15 through July 6; July 10-13, 17-20, 24-27, 31-Aug. 3; Aug. 7-10, 14-17, 21-24; and Aug. 28 through Oct. 31 (C.8). All salmon except coho (C.6) Chinook 26 inch minimum size limit prior to May 1, 27 inches May 1 through Sept. 30, and 28 inches October 1-31 (B). See gear restrictions (C.2) and Oregon state regulations for a description of the closed area at the mouth of Tillamook Bay.	**Cape Falcon to Florence South Jetty** • March 15 through July 15; Aug. 1 through Aug. 20 and Sept. 1 through Oct. 31 (C.8). All salmon except coho (C.6). Chinook 26 inch minimum size limit prior to May 1, 27 inches May 1 through Sept. 30, and 28 inches October 1-31 (B). See gear restrictions (C.2) and Oregon State regulations for a description of the closed area at the mouth of Tillamook Bay.
In 2005, the season will open March 15 for all salmon except coho, with a 27 inch chinook minimum size limit. This opening could be modified following Council review at its November 2004 meeting.	In 2005, same as Option I.	In 2005, same as Option I.
Florence South Jetty to Humbug Mt. • March 15 through June 30; July 16 through July 31; Aug. 10 through Aug. 29; and Sept. 1 through Oct. 31 (C.8). All salmon except coho (C.6). Chinook 26 inch minimum size limit prior to May 1, 27 inches May 1 through Sept. 30, and 28 inches October 1-31 (B). See gear restrictions (C.2).	**Florence South Jetty to Humbug Mt.** • March 15 through July 6; July 10-13, 17-20, 24-27, July31-Aug. 3; Aug. 7-10, 14-17, 21-24; and Aug. 28 through Oct. 31 (C.8). All salmon except coho (C.6). Chinook 26 inch minimum size limit prior to May 1, 27 inches May 1 through Sept. 30, and 28 inches October 1-31 (B). See gear restrictions (C.2).	**Florence South Jetty to Humbug Mt.** • March 15 through June 30; July 17 through July 31; Aug. 10 through Aug. 29; and Sept. 1 through Oct. 31 (C.8). All salmon except coho (C.6). Chinook 26 inch minimum size limit prior to May 1, 27 inches May 1 through Sept. 30, and 28 inches October 1-31 (B). See gear restrictions (C.2).
In 2005, the season will open March 15 for all salmon except coho, with a 27 inch chinook minimum size limit. This opening could be modified following Council review at its November 2003 meeting.	In 2005, same as Option I.	In 2005, same as Option I.

TABLE 1. **Commercial troll** management options for initial STT analysis of non-Indian ocean salmon fisheries, 2004. (Page 4 of 7)

A. SEASON OPTION DESCRIPTIONS

OPTION I	OPTION II	OPTION III
Humbug Mt. to OR/CA Border • March 15 through May 31. All salmon except coho. See gear restrictions (C.2). • June 1 through earlier of June 30 or 2,600 chinook quota; • July 1 through earlier of July 31 or 1,400 chinook quota; • Aug. 1 through earlier of Aug. 29 or 2,500 chinook quota; • Sept. 1 through earlier of Sept. 30 or 4,000 chinook quota All salmon except coho. Chinook 26 inch minimum size limit prior to May 1, 27 inches May 1 through Aug. 29, and 28 inches Sept. 1-31. No transfer of remaining quota from earlier fisheries allowed (C.8). Possession and landing limit of 50 fish per day per vessel prior to Sept. 1; 100 fish per day in Sept. See gear restrictions (C.2). For seasons from June 1 through Sept. 30, vessels must land and deliver their fish in Gold Beach, Port Orford, or Brookings, and within 24 hours of closure, except that fishers may transport and deliver their catch to other locations after first landing in one of these ports if they notify Oregon Department of Fish and Wildlife prior to transport away from the port of landing by calling (541) 867-0300 extension 271, with vessel name and number, number of salmon by species, location of delivery, and estimated time of delivery. In 2005 the season will open March 15 for all salmon except coho with a 27 inch minimum size limit. This opening could be modified following Council review at its November 2004 meeting.	**Humbug Mt. to OR/CA Border** • March 15 through May 31. All salmon except coho. See gear restrictions (C.2). • June 1 through earlier of June 30 or 2,400 chinook quota; • July 1 through earlier of July 31 or 1,300 chinook quota; • Aug. 1 through earlier of Aug. 29 or 2,600 chinook quota; • Sept. 1 through earlier of Sept. 30 or 4,000 chinook quota All salmon except coho. Chinook 26 inch minimum size limit prior to May 1, 27 inches May 1 through Aug. 29, and 28 inches Sept. 1-31. No transfer of remaining quota from earlier fisheries allowed (C.8). Possession and landing limit of 50 fish per day per vessel prior to Sept. 1; 100 fish per day in Sept. See gear restrictions (C.2). All salmon must landed and delivered to Gold Beach, Port Orford, or Brookings, and within 24 hours of closure. In 2005, same as Option I.	**Humbug Mt. to OR/CA Border** • March 15 through May 31. All salmon except coho. See gear restrictions (C.2). • June 1 through earlier of June 30 or 2,600 chinook quota; • July 1 through earlier of July 31 or 2,000 chinook quota; • Aug. 1 through earlier of Aug. 29 or 2,700 chinook quota; • Sept. 1 through earlier of Sept. 30 or 4,000 chinook quota All salmon except coho. Chinook 26 inch minimum size limit prior to May 1, 27 inches May 1 through Aug. 29, and 28 inches Sept. 1-31. No transfer of remaining quota from earlier fisheries allowed (C.8). Possession and landing limit of 50 fish per day per vessel prior to Sept. 1; 100 fish per day in Sept. See gear restrictions (C.2). All salmon must landed and delivered to Gold Beach, Port Orford, or Brookings, and within 24 hours of closure. In 2005, same as Option I.
OR/CA Border to Humboldt South Jetty • Sept. 1 through earlier of Sept. 30 or 10,000 chinook quota. All salmon except coho. Chinook minimum size limit of 26 inches. Possession and landing limit of 40 fish per day. All fish caught in this area must be landed within the area. See gear restrictions (C.2). Klamath Control Zone closed (C.4.).	**OR/CA Border to Humboldt South Jetty** • Same as Option I.	**OR/CA Border to Humboldt South Jetty** • Sept. 1 through earlier of Sept. 30 or 5,000 chinook quota. All salmon except coho. Chinook minimum size limit of 26 inches. Possession and landing limit of 30 fish per day. All fish caught in this area must be landed within the area. See gear restrictions (C.2). Klamath Control Zone closed (C.4.).
Horse Mt. to Pt. Arena (Fort Bragg) • July 14 through Sept. 30. All salmon except coho. Chinook minimum size limit of 26 inches. See gear restrictions (C.2).	**Horse Mt. to Pt. Arena (Fort Bragg)** • May 1 through May 22, and Aug. 1 through Sept. 30. All salmon except coho. Chinook minimum size limit of 26 inches. See gear restrictions (C.2).	**Horse Mt. to Pt. Arena (Fort Bragg)** • July 1 through July 7 and July 21 through Sept. 30. All salmon except coho. Chinook minimum size limit of 26 inches. All fish caught in this area must be landed within the area. See gear restrictions (C.2).

TABLE 1. **Commercial troll** management options for initial STT analysis of non-Indian ocean salmon fisheries, 2004. (Page 5 of 7)

A. SEASON OPTION DESCRIPTIONS

OPTION I	OPTION II	OPTION III
Pt. Arena to U.S./Mexico Border • May 1 through Sept. 30. All salmon except coho. Chinook minimum size limit 26 inches. See gear restrictions (C.2).	**Pt. Arena to U.S./Mexico Border** • Same as Option I.	**Pt. Arena to U.S./Mexico Border** • Same as Option I.
Pt. Reyes to Pt. San Pedro (Fall Area Target Zone) • Oct. 1 through Oct. 15, Monday through Friday. Inside 3 nautical miles. All salmon except coho. Chinook minimum size limit 26 inches. See gear restrictions (C.2).	**Pt. Reyes to Pt. Pan Pedro (Fall Area Target Zone)** • Oct. 1 through Oct. 15, Monday through Friday. All salmon except coho. Chinook minimum size limit 26 inches. See gear restrictions (C.2). Same as Option I	**Pt. Reyes to Pt. San Pedro (Fall Area Target Zone)** • Same as Option II

TABLE 1. **Commercial troll** management options collated by the STT for non-Indian ocean salmon fisheries, 2004. (Page 5 of 5)

B. MINIMUM SIZE (Inches)

	Chinook		Coho		
Area (when open)	Total Length	Head-off	Total Length	Head-off	Pink
North of Cape Falcon	28.0	21.5	16.0	12.0	None
Cape Falcon to Hunbug Mt.					
Prior to May 1	26.0[a/]	19.5[a/]	-	-	None
May 1 to Sept. 30	27.0[a/]	20.5[a/]	-	-	None
Oct. 1-31	28.0[a/]	21.5[a/]	-	-	None
Humbug Mt. to OR/CA Border					
Prior to May 1	26.0[a/]	19.5[a/]	-	-	None
May 1 to Aug. 31	27.0[a/]	20.5[a/]	-	-	None
Sept. 1-30	28.0[a/]	21.5[a/]	-	-	None
OR/CA Border to US/Mexico Border	26.0[a/]	19.5[a/]	-	-	None

a/ Chinook not less than the minimum size limit in place for fish taken in open seasons south of Cape Falcon may be landed north of Cape Falcon only when the season is closed north of Cape Falcon.

C. REQUIREMENTS, DEFINITIONS, RESTRICTIONS, OR EXCEPTIONS

C.1. Compliance with Minimum Size or Other Special Restrictions: All salmon on board a vessel must meet the minimum size or other special requirements for the area being fished and the area in which they are landed if that area is open. Salmon may be landed in an area that is closed only if they meet the minimum size or other special requirements for the area in which they were caught.

C.2. Gear Restrictions:

a. Single point, single shank barbless hooks are required in all fisheries.

b. *Cape Falcon, Oregon to the Oregon/California border.* No more than 4 spreads are allowed per line.
Spread defined: A single leader connected to an individual lure or bait.

c. *Oregon/California border to U.S./Mexico border:* No more than 6 lines are allowed per vessel and barbless **circle** hooks are required when fishing with bait by any means other than trolling.
Circle hook defined: A hook with a generally circular shape and a point which turns inward, pointing directly to the shank at a 90° angle.
Trolling defined: Fishing from a boat or floating device that is making way by means of a source of power, other than drifting by means of the prevailing water current or weather conditions.

C.3. Transit Through Closed Areas with Salmon on Board: It is unlawful for a vessel to have troll or recreational gear in the water while transiting any area closed to fishing for a certain species of salmon, while possessing that species of salmon; however, fishing for species other than salmon is not prohibited if the area is open for such species and no salmon are in possession.

C.4. Control Zone Definitions:

a. *Cape Flattery Control Zone:*- The area from Cape Flattery (48° 23'00" N lat.) to the northern boundary of the U.S. EEZ; and the area from Cape Flattery south to 48°10'00" N lat. and east of 125°05'00" W long.

b. *Grays Harbor Control Zone* - The area defined by a line drawn from the Westport Lighthouse (46° 53'18" N. lat., 124° 07'01" W. long.) to Buoy #2 (46° 52'42" N. lat., 124°12'42" W. long.) to Buoy #3 (46° 55'00" N. lat., 124°14'48" W. long.) to the Grays Harbor north jetty (46° 36'00" N. lat., 124°10'51" W. long.).

c. *Columbia Control Zone* - An area at the Columbia River mouth, bounded on the west by a line running northeast/southwest between the red lighted Buoy #4 (46°13'35" N lat., 124°06'50" W long.) and the green lighted Buoy #7 (46°15'09' N lat., 124°06'16" W long.); on the east, by the Buoy #10 line which bears north/south at 357° true from the south jetty at 46°14'00" N lat.,124°03'07" W long. to its intersection with the north jetty; on the north, by a line running northeast/southwest between the green lighted Buoy #7 to the tip of the north jetty (46°14'48" N lat., 124°05'20" W long.), and then along the north jetty to the point of intersection with the Buoy #10 line; and, on the south, by a line running northeast/southwest between the red lighted Buoy #4 and tip of the south jetty (46°14'03" N lat., 124°04'05" W long.), and then along the south jetty to the point of intersection with the Buoy #10 line.

d. *Klamath Control Zone* - The ocean area at the Klamath River mouth bounded on the north by 41°38'48" N lat. (approximately 6 nautical miles north of the Klamath River mouth); on the west, by 124°23'00" W long. (approximately 12 nautical miles off shore); and, on the south, by 41°26'48" N lat. (approximately 6 nautical miles south of the Klamath River mouth).

C.5. Notification When Unsafe Conditions Prevent Compliance with Regulations: If prevented by unsafe weather conditions or mechanical problems from meeting special management area landing restrictions, vessels must notify the U.S. Coast Guard and receive acknowledgment of such notification prior to leaving the area. This notification shall include the name of the vessel, port where delivery will be made, approximate amount of salmon (by species) on board and the estimated time of arrival.

C. REQUIREMENTS, DEFINITIONS, RESTRICTIONS, OR EXCEPTIONS (cont'd)

C.6. Incidental Halibut Harvest: During authorized periods, the operator of a vessel that has been issued an incidental halibut harvest license may retain Pacific halibut caught incidentally in Area 2A while trolling for salmon. License applications for incidental harvest must be obtained from the International Pacific Halibut Commission (phone: 206-634-1838). Applicants must apply prior to April 1 of each year. Incidental harvest is authorized only during **May and June** troll seasons and after June 30 if quota remains and if announced on the NMFS hotline (phone: 800-662-9825). ODFW and WDFW will monitor landings. If the landings are projected to exceed the 44,554 pound preseason allocation or the total Area 2A non-Indian commercial halibut allocation, NMFS will take inseason action to close the incidental halibut fishery.

Option 1a: License holders may land no more than 1 halibut per each 3 chinook, except 1 halibut may be landed without meeting the ratio requirement, and no more than 35 halibut may be landed per trip. Halibut retained must be no less than 32 inches in total length (with head on).

Option 1b: License holders may land no more than 1 halibut per each 3 chinook, except 1 halibut may be landed without meeting the ratio requirement, and no more than 25 halibut may be landed per trip. Halibut retained must be no less than 32 inches in total length (with head on).

Option 2: Designate a "C-shaped" yelloweye rockfish conservation area is an area to be avoided for salmon troll fishing. The area is defined in the Pacific Council Halibut Catch Sharing Plan in the North Coast subarea (WA marine area 3), with the following coordinates in the order listed:

48°18' N. lat.; 125°18' W. long;
48°18' N. lat.; 124°59' W. long;
48°11' N. lat.; 124°59' W. long;
48°11' N. lat.; 125°11' W. long;
48°04' N. lat.; 125°11' W. long;
48°04' N. lat.; 124°59' W. long;
48°00' N. lat.; 124°59' W. long;
48°00' N. lat.; 125°18' W. long;
And connecting back to 48°18' N. lat.; 125°18' W. long.

NOTE: Option 2 may be combined with either Option 1a or 1b.

C.7. Inseason Management: In addition to standard inseason actions or modifications already noted under the season description, the following inseason guidance is provided to NMFS:

a. Chinook remaining from the May-June non-Indian commercial troll harvest guideline north of Cape Falcon may be transferred to the July-September harvest guideline on a fishery impact equivalent basis.

b. At the March 2005 meeting, the Council will consider inseason recommendations for special regulations for any experimental April fisheries (proposals must meet Council protocol and be received in November 2004).

c. NMFS may transfer fish between the recreational and commercial fisheries north of Cape Falcon if there is agreement among the representatives of the Salmon Advisory Subpanel.

C.8. Consistent with Council management objectives, the State of Oregon may establish additional late-season, chinook-only fisheries in state waters. Check state regulations for details.

C.9. For the purposes of CDFG Code, Section 8232.5, the definition of the KMZ for the ocean salmon season shall be that area from Humbug Mt., Oregon to Horse Mt., California.

TABLE 2. **Recreational** management options for initial STTanalysis of ocean salmon fisheries, 2004. (Page 1 of 7)

A. SEASON OPTION DESCRIPTIONS

OPTION I North of Cape Falcon	OPTION II North of Cape Falcon	OPTION III North of Cape Falcon
Supplemental Management Information: 1. Overall non-Indian TAC: 120,000 chinook and 275,000 coho Trade: May be considered at the April Council meeting. 2. Recreational TAC: 58,000 chinook and 206,250 coho. 3. No Area 4B add-on fishery. 4. Buoy 10 fishery opens Aug. 1 with an expected landed catch of 10,500 coho in Aug. and 4,500 coho in Sept. 5. All retained coho must have a healed adipose fin clip except as noted below.	**Supplemental Management Information:** 1. Overall non-Indian TAC: 90,000 chinook and 225,000 coho Trade: May be considered at the April Council meeting. 2. Recreational TAC: 45,000 chinook and 168,750 coho. 3. No Area 4B add-on fishery. 4. Buoy 10 fishery opens Aug. 1 with an expected landed catch of 14,000 coho in Aug. and 6,000 coho in Sept. 5. All retained coho must have a healed adipose fin clip except as noted below.	**Supplemental Management Information:** 1. Overall non-Indian TAC: 60,000 chinook and 175,000 coho Trade: May be considered at the April Council meeting. 2. Recreational TAC: 30,000 chinook and 131,250 coho. 3. Area 4B add-on fishery of 6,000 coho with chinook non-retention opens upon ocean closure (C.5). 4. Buoy 10 fishery opens Aug. 1 with an expected landed catch of 17,500 coho in Aug. and 7,500 coho in Sept. 5. All retained coho must have a healed adipose fin clip. 6. Overall Chinook TACs may need to be reduced or fisheries adjusted upon conclusion of NMFS ESA consultation for the Puget Sound Chinook Harvest Resource Management Plan.
U.S./Canada Border to Cape Alava (Neah Bay) • June 20 through earlier of Sept. 30 or 21,450 coho subarea quota with a subarea guideline of 4,800 chinook. All salmon, 7 days per week, 2 fish per day, no more than one of which may be a chinook (chinook 24-inch minimum size limit) (B). All retained coho must have a healed adipose fin clip, **except there may be an inseason conference call no earlier than September 1 for consideration of non-mark-selective coho retention beginning Sep. 7.** See gear restrictions (C.2). Chinook retention east of the Bonilla-Tatoosh line in July only (C.3.c) during Council managed ocean fishery. Inseason management may be used to sustain season length and keep harvest within the overall chinook recreational TAC for north of Cape Falcon (C.4).	**U.S./Canada Border to Cape Alava (Neah Bay)** • June 27 through earlier of Sept. 19 or 17,550 coho subarea quota with a subarea guideline of 4,100 chinook. All salmon, 7 days per week, 2 fish per day, no more than one of which may be a chinook (chinook 26-inch minimum size limit) (B). All retained coho must have a healed adipose fin clip, **except there may be an inseason conference call no earlier than September 1 for consideration of non-mark-selective coho retention beginning Sept. 7.** See gear restrictions (C.2). Chinook non-retention east of the Bonilla-Tatoosh line (C.3.c) during Council managed ocean fishery. Inseason management may be used to sustain season length and keep harvest within the overall chinook recreational TAC for north of Cape Falcon (C.4).	**U.S./Canada Border to Cape Alava (Neah Bay)** • July 4 through earlier of Sept. 12 or 12,540 coho subarea quota (not adjusted for Area 4B add-on) with a subarea guideline of 3,000 chinook. All salmon, 7 days per week, 2 fish per day, no more than one of which may be a chinook (chinook 26-inch minimum size limit) (B). All retained coho must have a healed adipose fin clip. See gear restrictions (C.2). Chinook non-retention east of the Bonilla-Tatoosh line (C.3.c) during Council managed ocean fishery. Inseason management may be used to sustain season length and keep harvest within the overall chinook recreational TAC for north of Cape Falcon (C.4).

TABLE 2. **Recreational** management options for initial STTanalysis of ocean salmon fisheries, 2004. (Page 2 of 7)

A. SEASON OPTION DESCRIPTIONS

OPTION I

Cape Alava to Queets River (La Push)

- June 20 through earlier of Sept. 24 or 5,263 coho subarea quota with a subarea guideline of 2,450 chinook.
- Sep. 25 through Oct. 10 or 100 coho quota or 100 chinook quota: In the area north of 47° 50'00 and south of 48°00'00" (C.5).

All salmon, 7 days per week, 2 fish per day, no more than one of which may be a chinook (chinook 24-inch minimum size limit) (B). All retained coho must have a healed adipose fin clip, **except there may be an inseason conference call no earlier than September 1 for consideration of non-mark-selective coho retention beginning Sept. 7.** See gear restrictions (C.2). Inseason management may be used to sustain season length and keep harvest within the overall chinook recreational TAC for north of Cape Falcon (C.4).

Queets River to Leadbetter Pt. (Westport)

- June 20 through earlier of Sept. 12 or 76,312 coho subarea quota with a subarea guideline of 40,350 chinook.

Sun. through Thurs, except: there may be a conference call no later than July 28 to consider 7 days per week. All salmon, 2 fish per day, no more than one of which may be a chinook (chinook 24-inch minimum size limit) (B). All retained coho must have a healed adipose fin clip **except there may be an inseason conference call no earlier than September 1 for consideration of non-mark-selective coho retention beginning Sept. 7.**. See gear restrictions (C.2). Inseason management may be used to sustain season length and keep harvest within the overall chinook recreational TAC for north of Cape Falcon (C.4).

OPTION II

Cape Alava to Queets River (La Push)

- June 27 through earlier of Sept. 19 or 4,287 coho subarea quota with a subarea guideline of 1,850 chinook;
- Sep. 25 through Oct. 10 or 100 coho quota or 100 chinook quota: Inside area defined by a line from Teahwhit Head northwesterly to "Q" buoy to Cake Rock then true east to the shoreline (C.5).

All salmon, 7 days per week, 2 fish per day, no more than one of which may be a chinook (chinook 26-inch minimum size limit) (B). All retained coho must have a healed adipose fin clip, **except there may be an inseason conference call no earlier than September 1 for consideration of non-mark-selective coho retention beginning Sept. 7.** See gear restrictions (C.2). Inseason management may be used to sustain season length and keep harvest within the overall chinook recreational TAC for north of Cape Falcon (C.4).

Queets River to Leadbetter Pt. (Westport)

- June 27 through earlier of Sept. 12 or 62,438 coho subarea quota with a subarea guideline of 30,700 chinook.

Sun. through Thurs, except: there may be a conference call no later than July 28 to consider 7 days per week. All salmon, 2 fish per day, no more than one of which may be a chinook (chinook 26-inch minimum size limit) (B). All retained coho must have a healed adipose fin clip **except there may be an inseason conference call no earlier than September 1 for consideration of non-mark-selective coho retention beginning Sept. 7**. See gear restrictions (C.2). Inseason management may be used to sustain season length and keep harvest within the overall chinook recreational TAC for north of Cape Falcon (C.4).

OPTION III

Cape Alava to Queets River (La Push)

- July 4 through earlier of Sept.12 or 3,380 coho subarea quota with a subarea guideline of 1,200 chinook.
- Sep. 25 through Oct. 10 or 100 coho quota or 100 chinook quota: In the area north of 47° 50'00 and south of 48°00'00" (C.5).

All salmon, 7 days per week, 2 fish per day, no more than one of which may be a chinook (chinook 26-inch minimum size limit) (B). All retained coho must have a healed adipose fin clip. See gear restrictions (C.2). Inseason management may be used to sustain season length and keep harvest within the overall chinook recreational TAC for north of Cape Falcon (C.4).

Queets River to Leadbetter Pt. (Westport)

- July 11 through earlier of Sept. 30. or 49,600 coho subarea quota, with a subarea guideline of 20,500 chinook.

Sun. through Thurs, except: there may be a conference call no later than July 28 to consider 7 days per week. All salmon, 2 fish per day, no more than one of which may be a chinook (chinook 26-inch minimum size limit) (B). All retained coho must have a healed adipose fin clip. See gear restrictions (C.2). Inseason management may be used to sustain season length and keep harvest within the overall chinook recreational TAC for north of Cape Falcon (C.4).

TABLE 2. **Recreational** management options for initial STTanalysis of ocean salmon fisheries, 2004. (Page 3 of 7)

A. SEASON OPTION DESCRIPTIONS

OPTION I	OPTION II	OPTION III
Leadbetter Pt. to Cape Falcon (Columbia River) • June 27 through earlier of Sept. 30 or 103,125 coho subarea quota with a subarea guideline of 10,300 chinook. Sun. through Thurs, except: there may be a conference call no later than July 28 to consider 7 days per week. All salmon, 2 fish per day, no more than one of which may be a chinook (chinook 24-inch minimum size limit) (B). All retained coho must have a healed adipose fin clip **except there may be an inseason conference call no earlier than September 15 for consideration of non-mark-selective coho retention**. See gear restrictions (C.2). Columbia Control Zone closed (C.3.a). Closed between Cape Falcon and Tillamook Head beginning Aug.1. Inseason management may be used to sustain season length and keep harvest within the overall chinook recreational TAC for north of Cape Falcon (C.4).	**Leadbetter Pt. to Cape Falcon (Columbia River)** • July 4 through earlier of Sept. 30 or 84,375 coho subarea quota with a subarea guideline of 8,250 chinook. Sun. through Thurs, except: there may be a conference call no later than July 28 to consider 7 days per week. All salmon, 2 fish per day, no more than one of which may be a chinook (chinook 26-inch minimum size limit) (B). All retained coho must have a healed adipose fin clip **except there may be an inseason conference call no earlier than September 15 for consideration of non-mark-selective coho retention**. See gear restrictions (C.2). Columbia Control Zone closed (C.3.a). Closed between Cape Falcon and Tillamook Head beginning Aug.1. Inseason management may be used to sustain season length and keep harvest within the overall chinook recreational TAC for north of Cape Falcon (C.4).	**Leadbetter Pt. to Cape Falcon (Columbia River)** • July 11 through earlier of Sept. 30 or 65,625 coho subarea quota with a subarea guideline of 5,200 chinook. Sun. through Thurs, except: there may be a conference call no later than July 28 to consider 7 days per week. All salmon, 2 fish per day, no more than one of which may be a chinook (chinook 26-inch minimum size limit) (B). All retained coho must have a healed adipose fin clip. See gear restrictions (C.2). Columbia Control Zone closed (C.3.a). Closed between Cape Falcon and Tillamook Head beginning Aug.1. Inseason management may be used to sustain season length and keep harvest within the overall chinook recreational TAC for north of Cape Falcon (C.4).

TABLE 2. **Recreational** management options for initial STTanalysis of ocean salmon fisheries, 2004. (Page 4 of 7)

A. SEASON OPTION DESCRIPTIONS

OPTION I South of Cape Falcon	OPTION II South of Cape Falcon	OPTION III South of Cape Falcon
Cape Falcon to Humbug Mt • Except as provided below during the selective fishery, the season will be: Mar. 15 through Oct. 31 (C.5). All salmon except coho. 2 fish per day. See gear restrictions (C.2.). See Oregon State regulations for a description of a closure at the mouth of Tillamook Bay.	**Cape Falcon to Humbug Mt** • Same as Option I	**Cape Falcon to Humbug Mt** • Same as Option I
In 2005 the season will open March 15 for all salmon except coho. 2 fish per day. Same gear restrictions as in 2004. This opening could be modified following Council review at its November 2004 meeting.	In 2005, same as Option I.	In 2005, same as Option I.
Selective fishery: **Cape Falcon to OR/CA Border** • June 19 through earlier of Aug. 31 or a landed catch of 75,000 coho. 7 days per week, all salmon, 2 fish per day. All retained coho must have a healed adipose fin clip. Open days may be adjusted inseason to utilize the available quota (C.4). All salmon except coho season reopens the earlier of Sept. 1 or attainment of the coho quota.	Selective fishery: **Cape Falcon to Humbug Mt.** • June 19 through earlier of Aug. 31 or a landed catch of 65,000 coho. 7 days per week, all salmon, 2 fish per day. All retained coho must have a healed adipose fin clip. Open days may be adjusted inseason to utilize the available quota (C.4). All salmon except coho season reopens the earlier of Sept. 1 or attainment of the coho quota.	Selective fishery: **Cape Falcon to Humbug Mt.** • July 1 through earlier of Aug. 31 or a landed catch of 55,000 coho. 5 days per week (Tuesday-Saturday), all salmon, 2 fish per day. All retained coho must have a healed adipose fin clip. **2 days per week (Sunday and Monday) all salmon except coho, 2 fish per day.** Open days may be adjusted inseason to utilize the available quota (C.4). All salmon except coho season reopens the earlier of Sept. 1 or attainment of the coho quota.
Humbug Mt. to Horse Mt. (KMZ) • Except as provided above during the selective fishery, the season will be May 15 through Sept. 12. All salmon except coho. 7 days per week, 2 fish per day. See gear restrictions (C.2). Klamath Control Zone closed Aug. 1-31 (C.3.b).	**Humbug Mt. to Horse Mt. (KMZ)** • May 15 through Sept. 12. All salmon except coho. 7 days per week, 2 fish per day. See gear restrictions (C.2). Klamath Control Zone closed Aug. 1-31 (C.3.b).	**Humbug Mt. to Horse Mt. (KMZ)** • May 15 through Sept. 6. All salmon except coho. 7 days per week, 2 fish per day. See gear restrictions (C.2). Klamath Control Zone closed Aug. 1-31 (C.3.b).
Horse Mt. to Pt. Arena (Fort Bragg) • Feb. 15 through Nov. 16. All salmon except coho. 2 fish per day. Chinook minimum size 24 inches through April 30 and 20 inches thereafter (B). See gear restrictions (C.2).	**Horse Mt. to Pt. Arena (Fort Bragg)** • Same as Option I.	**Horse Mt. to Pt. Arena (Fort Bragg)** • Same as Option I.
In 2005, season opens Feb. 15 (nearest Sat. to Feb. 15) for all salmon except coho. 2 fish per day, chinook 20-inch minimum size limit through April 30; same gear restrictions as in 2004.	In 2005, same as Option I.	In 2005, same as Option I.

TABLE 2. **Recreational** management options for initial STTanalysis of ocean salmon fisheries, 2004. (Page 5 of 7)

A. SEASON OPTION DESCRIPTIONS

OPTION I	OPTION II	OPTION III
Pt. Arena to Pigeon Pt. • April 17 through Nov. 14. All salmon except coho. 2 fish per day. Chinook minimum size limit 24 inches through April 30 and 20 inches thereafter (B). See gear restrictions (C.2). In 2005, the season will open Apr. 2 for all salmon except coho. 2 fish per day, 20-inch minimum size limit and the same gear restrictions as in 2004.	**Pt. Arena to Pigeon Pt.** • Same as Option I In 2005, same as Option I.	**Pt. Arena to Pigeon Pt.** • Same as Option I In 2005, same as Option I.
Pigeon Pt. to U.S./Mexico Border • April 3 through Oct. 3. All salmon except coho. 2 fish per day. Chinook minimum size limit 24 inches through April 30 and 20 inches thereafter (B). See gear restrictions (C.2). In 2005, the season will open Apr. 2 for all salmon except coho. 2 fish per day, chinook 20-inch minimum size limit and the same gear restrictions as in 2004.	**Pigeon Pt. to U.S./Mexico Border** • Same as Option I. In 2005, same as Option I.	**Pigeon Pt. to U.S./Mexico Border** • Same as Option I. In 2005, same as Option I.

TABLE 2. **Recreational** management options collated by the STT for ocean salmon fisheries, 2004. (Page 6 of 7)

B. MINIMUM SIZE (Total Length in Inches)

Area (when open)		Chinook	Coho	Pink
North of Cape Falcon:				
Option I		24.0	16.0	None
Options II & II		26.0	16.0	None
Cape Falcon to Horse Mt.		20.0	16.0	None, except 20.0 off CA
Horse Mountain to Pt. Arena:	Prior to May 1	24.0	-	20.0
	Beginning May 1	20.0	-	20.0
South of Pt. Arena:	Prior to May 1	24.0	-	20.0
	Beginning May 1	20.0	-	20.0

C. REQUIREMENTS, DEFINITIONS, RESTRICTIONS, OR EXCEPTIONS

C.1. Compliance with Minimum Size and Other Special Restrictions: All salmon on board a vessel must meet the minimum size or other special requirements for the area being fished and the area in which they are landed if that area is open. Salmon may be landed in an area that is closed only if they meet the minimum size or other special requirements for the area in which they were caught.

C.2. Gear Restrictions: All persons fishing for salmon, and all persons fishing from a boat with salmon on board, must meet the gear restrictions listed below for specific areas or seasons.

a. *U.S./Canada Border to Pt. Conception, California*: No more than one rod may be used per angler and single point, single shank barbless hooks are required for all fishing gear. [**Note:** ODFW regulations in the state-water fishery off Tillamook Bay may allow the use of barbed hooks to be consistent with inside regulations.]

b. *Cape Falcon, Oregon to Pt. Conception, California*: Anglers must use no more than 2 single point, single shank barbless hooks.

c. *Horse Mt., California to Pt. Conception, California:* Single point, single shank, barbless **circle** hooks (below) must be used if angling with bait by any means other than trolling and no more than 2 such hooks shall be used. When angling with 2 hooks, the distance between the hooks must not exceed 5 inches when measured from the top of the eye of the top hook to the inner base of the curve of the lower hook, and both hooks must be permanently tied in place (hard tied). Circle hooks are not required when artificial lures are used without bait.
Circle hook defined: A hook with a generally circular shape and a point which turns inward, pointing directly to the shank at a 90° angle;
Trolling defined: Angling from a boat or floating device that is making way by means of a source of power, other than drifting by means of the prevailing water current or weather conditions.

C. REQUIREMENTS, DEFINITIONS, RESTRICTIONS, OR EXCEPTIONS (Continued)

C.3. Control Zone Definitions:

a. *Columbia Control Zone* - An area at the Columbia River mouth, bounded on the west by a line running northeast/southwest between the red lighted Buoy #4 (46°13'35" N latitude, 124°06'50" W longitude) and the green lighted Buoy #7 (46°15'09' N latitude, 124°06'16" W longitude); on the east, by the Buoy #10 line which bears north/south at 357° true from the south jetty at 46°14'00" N latitude, 124°03'07" W longitude to its intersection with the north jetty; on the north, by a line running northeast/southwest between the green lighted Buoy #7 to the tip of the north jetty (46°14'48" N latitude, 124°05'20" W longitude) and then along the north jetty to the point of intersection with the Buoy #10 line; and, on the south, by a line running northeast/southwest between the red lighted Buoy #4 and tip of the south jetty (46°14'03" N latitude, 124°04'05" W longitude), and then along the south jetty to the point of intersection with the Buoy #10 line.

b. *Grays Harbor Control Zone* - The area defined by a line drawn from the Westport Lighthouse (46° 53'18" N. lat., 124° 07'01" W. long.) to Buoy #2 (46° 52'42" N. lat., 124°12'42" W. long.) to Buoy #3 (46° 55'00" N. lat., 124°14'48" W. long.) to the Grays Harbor north jetty (46° 36'00" N. lat., 124°10'51" W. long.).

c. *Klamath Control Zone* - The ocean area at the Klamath River mouth bounded on the north by 41°38'48" N latitude (approximately 6 nautical miles north of the Klamath River mouth); on the west, by 124°23'00" W longitude (approximately 12 nautical miles off shore); and, on the south, by 41°26'48" N latitude (approximately 6 nautical miles south of the Klamath River mouth).

d. *The Bonilla-Tatoosh Line* is defined as: A line running from the western end of Cape Flattery to Tatoosh Island Lighthouse (48°23'30" N latitude, 124°44'12" W longitude) to the buoy adjacent to Duntze Rock (48°28'00" N latitude, 124°45'00" W longitude), then in a straight line to Bonilla Point (48°35'30" N latitude, 124°43'00" W longitude) on Vancouver Island, B.C.

C.4. Inseason Management: Regulatory modifications may become necessary inseason to meet preseason management objectives such as quotas, harvest guidelines and season duration. Actions could include modifications to bag limits or days open to fishing, and extensions or reductions in areas open to fishing. NMFS may transfer coho inseason among recreational subareas North of Cape Falcon to help meet the recreational season duration objectives (for each subarea) after conferring with representatives of the affected ports and the Salmon Advisory Subpanel recreational representatives north of Cape Falcon. NMFS may also transfer fish between the recreational and commercial fisheries north of Cape Falcon if there is agreement among the representatives of the Salmon Advisory Subpanel.

C.5. Additional Seasons in State Territorial Waters: Consistent with Council management objectives, the states of Washington and Oregon may establish limited seasons in state waters. Oregon state-water fisheries are limited to chinook salmon. Check state regulations for details.

TABLE 3. Treaty Indian ocean troll salmon fishery management measures for initial analysis by the STT, 2004. (Page 1 of 1)

Tribe and Area Boundaries[a/]	Open Seasons	Salmon Species	Minimum Size[b/] (Inches) Chinook	Coho	Special Restrictions by Area
S'KLALLAM - Washington State Statistical Area 4B (All)	May 1 thru earlier of June 30 or chinook quota.[c/]	All except coho	24	-	Barbless hooks. No more than 8 fixed lines per boat; 72 hook maximum per boat.
	July 1 thru earliest of Sept. 15 or chinook or coho quota.[c/]	All	24	16	
MAKAH - Washington State Statistical Area 4B and that portion of the FMA north of 48°02'15" N latitude (Norwegian Memorial) and east of 125°44'00" W longitude	May 1 thru earlier of June 30 or chinook quota.[c/]	All except coho	24	-	Barbless hooks. No more than 8 fixed lines per boat or no more than 4 hand-held lines per person.
	July 1 thru earliest of Sept. 15 or chinook or coho quota[c/]	All	24	16	
QUILEUTE - That portion of the FMA between 48°07'36" N latitude (Sand Pt.) and 47°31'42" N latitude (Queets River) and east of 125°44'00" W longitude	May 1 thru earlier of June 30 or chinook quota.[c/]	All except coho	24	-	Barbless hooks. No more than 8 fixed lines per boat.[d/]
	July 1 thru earliest of Sept. 15 or chinook or coho quota.[c/]	All	24	16	
HOH - That portion of the FMA between 47°54'18" N latitude (Quillayute River) and 47°21'00" N latitude (Quinault River) and east of 125°44'00" W longitude	May 1 thru earlier of June 30 or chinook quota.[c/]	All except coho	24	-	Barbless hooks. No more than 8 fixed lines per boat.[d/]
	July 1 thru earliest of Sept. 15 or chinook or coho quota[c/]	All	24	16	
QUINAULT - That portion of the FMA between 47°40'06" N latitude (Destruction Island) and 46°53'18" N latitude (Point Chehalis) and east of 125°44'00" W longitude	May 1 thru earlier of June 30 or chinook quota.[c/]	All except coho	24	-	Barbless hooks. No more than 8 fixed lines per boat.[d/]
	July 1 thru earliest of Sept. 15 or chinook or coho quota[c/]	All	24	16	

a/ All boundaries may be changed to include such other areas as may hereafter be authorized by a Federal court for that tribe's treaty fishery.

b/ Applicable lengths, in inches, for dressed, head-off salmon, are 18 inches for chinook and 12 inches for coho. There are no minimum size or retention limits for ceremonial and subsistence harvest.

c/ The overall treaty troll ocean quotas are:
Option I: 60,000 chinook and 90,000 coho;
Option II: 40,000 chinook and 75,000 coho;
Option III: 30,000 chinook and 60,000 coho.
The overall chinook quota is divided into 50% of the chinook quota for the May/June chinook-directed fishery and 50% of the chinook quota for the July through Sept. all-salmon season. If the chinook quota for the May/June fishery is not fully utilized, the excess fish cannot be transferred into the later all-salmon season. The quotas include troll catches by the S'Klallam and Makah tribes in Washington State Statistical Area 4B from May 1 thru Sept. 15. The Quileute Tribe will continue a ceremonial and subsistence fishery during the time frame of September 15 through October 15; fish taken during this fishery are to be counted against treaty troll quotas established for the 2004 season.

d/ The area within a 6 nautical mile radius of the mouths of the Queets River (47°31'42" N latitude) and the Hoh River (47°45'12" N latitude) will be closed to commercial fishing. A closure within 2 nautical miles of the mouth of the Quinault River (47°21'00" N latitude) may be enacted by the Quinault Nation and/or the State of Washington and will not adversely affect the Secretary of Commerce's management regime.

TABLE 4. Chinook and coho **harvest quotas and guidelines (*)** for initial STT analysis of ocean salmon fishery management options, 2004. (Page 1 of 1)

Fishery or Quota Designation	Chinook for Option			Coho for Option		
	I	II	III	I	II	III
NORTH OF CAPE FALCON						
TREATY INDIAN COMMERCIAL TROLL [a/]	60,000	40,000	30,000	90,000	75,000	60,000
NON-INDIAN COMMERCIAL TROLL						
Canada to Cape Falcon (All Except Coho)	41,800	30,000	25,000	-	-	-
Canada to Cape Falcon (All Species) [b/]	20,200	15,000	5,000	68,750	56,250	43,750
Subtotal Non-Indian Commercial Troll	62,000	45,000	30,000	68,750	56,250	43,750
RECREATIONAL [b/]						
U.S.-Canada Border to Cape Alava [b/c/]	4,800*	4,100*	3,000*	21,450	17,550	12,540
Cape Alava to Queets River [b/]	2,550*	1,950*	1,200*	5,363	4,387	3,485
Queets River to Leadbetter Pt. [b/]	40,350*	30,700*	20,500*	76,312	62,438	49,600
Leadbetter Pt. to Cape Falcon [b/]	10,300*	8,250*	5,200*	103,125	84,375	65,625
Subtotal Recreational [d/]	58,000	45,000	29,900	206,250	168,750	131,250
TOTAL NORTH OF CAPE FALCON	180,000	130,000	89,900	365,000	300,000	235,000
SOUTH OF CAPE FALCON						
COMMERCIAL TROLL (all except coho)						
Humbug Mt. to OR-CA border (June-Sept)	10,500	10,300	11,300	-	-	-
Oregon-California Border to Humboldt S. Jetty (Sept.)	10,000	10,000	5,000	-	-	-
Subtotal Troll	20,500	20,300	16,300	-	-	-
RECREATIONAL						
Cape Falcon to Humbug Mt. [b/]	-	-	-	75,000	65,000	55,000
TOTAL SOUTH OF CAPE FALCON	20,500	20,300	16,300	75,000	76,000	55,000

a/ For the Makah encounter rate study, legal sized fish retained in open periods will be included in the tribal quota.

b/ The coho quota is a landed catch of coho with a healed adipose fin clip, except that for Option I in the north of Cape falcon commercial fishery and Options I and II in the north of Cape Falcon recreational fishery, there is a provision for a potential non-selective coho fishery in a portion of the fishery. See Tables 1 and 2 for details of the proposals.

c/ Does not include Area 4B add on selective fishery of 6,000 (Option III) coho with healed adipose fin clips.

d/ Does not include Buoy 10 fishery. Option I (10,500 coho Aug, 4,500 coho Sept), Option II (14,000 coho Aug, 6,000 coho Sept) Option III (17,500 coho Aug, 7,500 coho Sept).

TABLE 5. Projected **key stock escapements** (thousands of fish) or management criteria for initial STT analysis of ocean fishery options, 2004.[a/] (Page 1 of 3)

Key Stock/Criteria	Projected Ocean Escapement[b/] or Other Criteria (Council Area Fisheries)			Spawner Objective or Other Comparative Standard as Noted	
CHINOOK					
	Option I	Option II	Option III		
Columbia Upriver Brights	291.7	293.4	295.1	57.3	Minimum ocean escapement to attain 46.0 adults over McNary Dam, with normal distribution and no mainstem harvest.
Mid-Columbia Brights	90.2	90.7	91.3	16.6	Minimum ocean escapement to attain 5.75 adults for Bonneville Hatchery and 2.0 for Little White Salmon Hatchery egg-take, assuming average conversion and no mainstem harvest.
Columbia Lower River Hatchery Tules	80.0	82.6	85.1	31.1	Minimum ocean escapement to attain 14.1 adults for hatchery egg-take, with average conversion and no lower river mainstem or tributary harvest.
Columbia Lower River Natural Tules[e/]	45%	41%	37%	≤49%	ESA guidance met by a total adult equivalent fishery exploitation rate on Coweeman tules (NMFS ESA consultation standard).
Columbia Lower River Wild (threatened)	24.3[c/]	24.6[c/]	24.7[c/]	5.7	MSY spawner goal for North Lewis River fall chinook (NMFS ESA consultation standard).
Spring Creek Hatchery Tules	144.2	157.0	167.6	11.1	Minimum ocean escapement to attain 7.0 adults for Spring Creek Hatchery egg-take, assuming average conversion and no mainstem harvest.
Snake River Fall (threatened) SRFI	**74%**	68%	63%	≤70.0%	Of 1988-1993 base period exploitation rate for all ocean fisheries (NMFS ESA consultation standard).
Klamath River Fall	35.0	35.0	35.0	35.0	Minimum number of adult spawners to natural spawning areas.
Federally recognized tribal harvest	50%	50%	50%	50.0%	Equals 31.1, 31.1, and 31.1 (thousand) adult fish for Yurok and Hoopa tribal fisheries
Age 4 ocean harvest rate	14.9%	15.0%	14.9%	≤16.0%	NMFS ESA consultation standard for threatened California coastal chinook.
KMZ sport fishery allocation	14.1%	14.1%	14.1%	-	None specified for 2004.
CA:OR troll fishery allocation	**52:48**	51:49	51:49	51:49	KFMC recommendation for 2004.
River recreational fishery allocation	15.0%	15.0%	15.0%	≥15.0%	Agreed to by California Fish and Game Commission; Equals 4.7, 4.7, and 4.7 (thousand) adult fish for recreational inriver fisheries.
Sacramento River Winter (endangered)	Yes	Yes	Yes		Duration and timing of commercial and recreational seasons south of Point Arena do not differ substantially relative to those of 2000 and 2001 (NMFS ESA consultation standard).
Sacramento River Fall	454.5	454.5	454.5	122.0-180.0	Sacramento River fall natural and hatchery adult spawners.

TABLE 5. Projected **key stock escapements** (thousands of fish) or management criteria for initial STT analysis of ocean fishery options, 2004.[a/] (Page 2 of 3)

Key Stock/Criteria	Projected Ocean Escapement[b/] or Other Criteria (Council Area Fisheries)			Spawner Objective or Other Comparative Standard as Noted
				COHO
	Option I	Option II	Option III	
Interior Fraser (Thompson River)	**12.0%**(6.5%)	**10.9%**(5.5%)	9.9%(4.4%)	≤10% Total exploitation rate for all US fisheries south of the US/Canada border based on 2002 PSC coho agreement.[d/]
Skagit	35%(4.6%) 130.4	35%(4.7%) 131.7	34%(3.9%) 132.9	≤60% 2004 total exploitation rate ceiling based on 2002 PSC coho agreement[d/] 30.0 MSP level of adult spawners Identified in FMP.
Stillaguamish	37%(8.0%) 27.3	35%(6.7%) 27.7	35%(5.5%) 28.1	≤50% 2004 total exploitation rate ceiling based on 2002 PSC coho agreement[d/] 17.0 MSP level of adult spawners Identified in FMP.
Snohomish	35%(8.0%) 133.2	34%(6.7%) 135.3	33%(5.5%) 137.3	≤60% 2004 total exploitation rate ceiling based on 2002 PSC coho agreement[d/] 70.0 MSP level of adult spawners Identified in FMP.
Hood Canal	34%(5.6%) 80.7	31%(4.9%) 81.4	33%(3.9%) 82.3	≤65% 2004 total exploitation rate ceiling based on 2002 PSC coho agreement[d/] 21.5 MSP level of adult spawners Identified in FMP.
Strait of Juan de Fuca	12%(6.1%) 31.9	11%(5.0%) 32.3	10%(4.0%) 32.7	≤60% 2004 total exploitation rate ceiling based on 2002 PSC coho agreement[d/] 12.8 MSP level of adult spawners Identified in FMP.
COASTAL NATURAL:				
Quillayute Fall	17.6	18.1	18.5	6.3-15.8 MSY adult spawner range (not annual target). Annual management objectives may be different and are subject to agreement between WDFW and the treaty tribes under U.S. District Court orders.
Hoh	6.5	6.7	6.9	2.0-5.0 MSY adult spawner range (not annual target). Annual management objectives may be different and are subject to agreement between WDFW and the treaty tribes under U.S. District Court orders.
Queets Wild	14.6	15.0	15.4	5.8-14.5 MSY adult spawner range (not annual target). Annual management objectives may be different and are subject to agreement between WDFW and the treaty tribes under U.S. District Court orders.
Queets Supplemental	1.5	1.6	1.7	-
Grays Harbor	102.1	104.0	103.8	35.4 MSP level of adult spawners. Annual management objectives may be different and are subject to agreement between WDFW and the treaty tribes under U.S. District Court orders.
Oregon Coastal Natural (threatened)	14.8%	13.4%	12.5%	≤15.0% Marine and freshwater fishery exploitation rate.
Northern California (threatened)	8.6%	9.1%	8.7%	≤13.0% Marine fishery exploitation rate for R/K hatchery coho (NMFS ESA consultation standard).

TABLE 5. Projected **key stock escapements** (thousands of fish) or management criteria for initial STT analysis of ocean fishery options, 2004.[a/] (Page 3 of 3)

Key Stock/Criteria	Projected Ocean Escapement[b/] or Other Criteria (Council Area Fisheries)			Spawner Objective or Other Comparative Standard as Noted
COHO (continued)				
COLUMBIA RIVER:				
Upper Columbia[e/]	**45%**	53%	58%	50% Minimum percentage of the run to Bonneville Dam.
Columbia River Hatchery Early	155.9	178.9	194.6	38.7 Minimum ocean escapement to attain hatchery egg-take goal of 16.0 early adult coho, with average conversion and no mainstem or tributary fisheries.
Columbia River Hatchery Late	83.3	110.6	135.6	19.4 Minimum ocean escapement to attain hatchery egg-take goal of 11.3 late adult coho, with average conversion and no mainstem or tributary fisheries.

a/ Projections in the table assume a WCVI mortality for coho of the 2003 level; Southeast Alaska TAC of 355,000 chinook per PST agreement; WCVI troll catch of 151,826 chinook (includes chinook in the fall of 2003).

b/ Ocean escapement is the number of salmon escaping ocean fisheries and entering freshwater with the following clarifications. Ocean escapement for Puget Sound stocks is the estimated number of salmon entering Area 4B that are available to U.S. net fisheries in Puget Sound and spawner escapement after impacts from the Canadian, U.S. ocean, and Puget Sound troll and recreational fisheries have been deducted. Numbers in parentheses represent Council area exploitation rates for Puget sound coho stocks. For Columbia River early and late coho stocks, ocean escapement represents the number of coho after the Buoy 10 fishery. Exploitation rates for OCN coho include impacts of freshwater fisheries.

c/ includes minor contributions from East Fork Lewis River and Sandy River.

d/ Annual management objectives may be different than FMP goals, and are subject to agreement between WDFW and the treaty tribes under U.S. District Court orders. Total exploitation rate includes Alaskan, Canadian, Council area, Puget Sound and freshwater fisheries, and is calculated as total fishing mortality divided by total fishing mortality plus spawning escapement. These total exploitation rates reflect the initial base package for inside fisheries developed by state and tribal comanagers. It is anticipated that total exploitation rates will be adjusted by state and tribal comanagers during the preseason planning process to comply with stock specific exploitation rate constraints.

e/ Includes projected impacts of inriver fisheries that have not yet been shaped, but have been reduced from 2003 preseason levels based on 2004 abundance.

TABLE 7. Expected coastwide Oregon coastal natural (**OCN**) and Rogue/Klamath (**RK**) coho **exploitation** rates by fishery for initial STT analysis of ocean fisheries management options, 2004. (Page 1 of 1)

	Exploitation Rate (Percent)					
	OCN			RK		
Fishery	I	II	III	I	II	III
SOUTHEAST ALASKA	0.0	0.0	0.0	0.0	0.0	0.0
BRITISH COLUMBIA	0.1	0.1	0.1	0.0	0.0	0.0
PUGET SOUND/STRAITS	0.1	0.1	0.1	0.0	0.0	0.0
NORTH OF CAPE FALCON						
Treaty Indian Troll	1.1	0.9	0.7	0.0	0.0	0.0
Recreational	1.9	1.4	1.1	0.1	0.0	0.0
Non-Indian Troll	1.2	0.9	0.6	0.0	0.0	0.0
SOUTH OF CAPE FALCON						
Recreational:						
Cape Falcon to Humbug Mt.	4.2	3.5	3.3	0.3	0.2	0.1
Humbug Mt. OR/CA border (KMZ)	0.5	0.9	0.8	0.9	1.3	1.3
OR/CA border to Horse Mt. (KMZ)	1.0	1.0	1.0	3.0	3.0	2.9
Fort Bragg	0.6	0.6	0.6	1.4	1.4	1.4
South of Pt. Arena	0.6	0.6	0.6	0.9	0.9	0.9
Troll:						
Cape Falcon to Humbug Mt.	1.2	1.0	1.2	0.1	0.1	0.1
Humbug Mt. OR/CA border (KMZ)	0.1	0.1	0.1	0.0	0.0	0.0
OR/CA border to Horse Mt. (KMZ)	0.0	0.0	0.0	0.2	0.2	0.2
Fort Bragg	0.4	0.4	0.4	0.8	0.8	0.7
South of Pt. Arena	0.6	0.6	0.6	0.6	0.7	0.6
BUOY 10	0.3	0.3	0.3	0.0	0.0	0.0
ESTUARY/FRESHWATER	1.0	1.0	1.0	0.2	0.2	0.2
TOTAL	14.8	13.4	12.5	8.6	9.1	8.7

TABLE 8. **Expected mark rate** for areas with initial STT analysis of **selective coho fisheries**, 2004. (Page 1 of 1)

Area	Fishery	June	July	August	September	2003 Observed
		North of Cape Falcon				
Neah Bay (Area 4)	Recreational	30%	44%	34%	40%	39%
	Non-Indian Troll	-	37%	38%	35%	NA
La Push (Area 3)	Recreational	52%	42%	47%	14%	31%
	Non-Indian Troll	-	44%	40%	33%	NA
Westport (Area 2)	Recreational	60%	58%	55%	47%	53%
	Non-Indian Troll	-	47%	53%	33%	NA
Columbia River (Area 1)	Recreational	74%	71%	64%	57%	57%
	Non-Indian Troll	-	61%	58%	54%	NA
Buoy 10	Recreational	-	-	58%	58%	61%
		South of Cape Falcon				
Cape Falcon to Humbug Mt.	Recreational	-	-	-	-	44%
Tillamook	Recreational	64%	53%	49%	-	-
Newport	Recreational	62%	59%	48%	-	-
Coos Bay	Recreational	56%	53%	38%	-	-
Brookings	Recreational	53%	39%	31%	-	-

TABLE 9. Initial STT analysis of achievement of NMFS guidance on listed Puget Sound Chinook Stocks for ocean salmon fishery options, 2004.

Management Unit	NMFS Guidance	Option I	Option II	Option III
Nooksack Spring	20% total ER (7% So.U.S ER)	**22.3%** (7.0%)	**22.1%** (6.7%)	**21.9%** (6.5%)
Skagit Summer/Fall	50% total ER	35.5%	35.4%	35.3%
Skagit Spring	38% total ER	30.7%	30.3%	30.0%
Stillaguamish	24% total ER	20.0%	19.6%	19.4%
Snohomish	18% total ER	**26.7%**	**26.2%**	**25.9%**
Lake Washington	31% total ER	**40.6%**	**39.7%**	**39.1%**
Green	5,500 escapement	7,605	7,685	7,734
White River	20% total ER	17.4%	17.2%	17.0%
Puyallup	50% total ER	**58.7%**	**58.1%**	**57.7%**
Nisqually	1,100 escapement	2,069	2,080	2,089
Skokomish	1,200 escapement	**901**	**914**	**923**
Mid-Hood Canal	29% total ER (13% So.U.S.ER)	**32.1%** **(13.2%)**	**31.0%** (12.0%)	**30.3%** (11.1%)
Dungeness	22% total ER (5% So.U.S. ER)	18.3% (4.6%)	18.1% (4.4%)	17.9% (4.2%)
Elwha	22% total ER (5% So.U.S. ER)	18.4% (4.4%)	18.1% (4.1%)	18.0% (4.0%)

Exhibit C.8.c
Supplemental EC Report
March 2004

mike Comi

ENFORCEMENT CONSULTANTS REPORT ON COUNCIL DIRECTION FOR 2004 MANAGEMENT OPTIONS

To ensure consistency and to eliminate conflict with federal law, the Council tasked the EC with developing language related to the boat limit issue. Rules from all three coastal states were reviewed and discussed. The EC discovered that each state had rules that differed slightly. Upon evaluation, we propose the following:

"In the waters of the Pacific Ocean, each angler aboard a vessel may continue to use angling gear until the daily limit of fish for all legally licensed and juvenile anglers aboard has been achieved."

This recommended language will make federal waters consistent with state waters, while still allowing the individual states to be more restrictive in their territorial waters.

PFMC
03/11/04

Exhibit C.9
Situation Summary
March 2004

ADOPTION OF 2004 MANAGEMENT OPTIONS FOR PUBLIC REVIEW

Situation: The Council will review the Salmon Technical Team (STT) impact analysis (Exhibit C.9.b, Supplemental STT Report) and advisory bodies, tribal, and public comments before adopting proposed ocean salmon fishery management options for public review. The adopted options should meet fishery management plan objectives (spawner escapement goals, allocations, etc.) and encompass a realistic range of alternatives from which the final management measures will emerge. Any need for implementation by emergency rule must be clearly noted and consistent with the Council's emergency criteria (see Exhibit C.4, Attachment 2).

Council Action:

1. Adopt final ocean salmon fishery management options for public review.

Reference Materials:

1. Analysis of Preliminary Salmon Management Options for 2004 Ocean Fisheries (Exhibit C.9.b, Supplemental STT Report).

Agenda Order:

a.	Agendum Overview	Chuck Tracy
b.	Report of the STT	Dell Simmons
c.	Reports and Comments of Advisory Bodies	
d.	Public Comment	
e.	**Council Action:** Adopt Management Options for Public Review	

PFMC
02/18/04

SALMON TECHNICAL TEAM

ANALYSIS OF PRELIMINARY SALMON MANAGEMENT OPTIONS FOR 2004 OCEAN FISHERIES

March 12, 2004

TABLE 1. **Commercial troll** management options for STT analysis of non-Indian ocean salmon fisheries, 2004. (Page 1 of 7)

A. SEASON OPTION DESCRIPTIONS

OPTION I North of Cape Falcon	OPTION II North of Cape Falcon	OPTION III North of Cape Falcon
Supplemental Management Information: 1. Overall non-Indian TAC: 120,000 chinook and 275,000 coho. Trade: May be considered at the April Council meeting. 2. Non-Indian commercial troll TAC: 62,000 chinook and 68,750 coho. 3. Treaty Indian commercial ocean troll quotas of: 60,000 chinook (30,000 in May and June; 30,000 for all-salmon season July through Sept. 15 with no rollover allowed from chinook season); and 90,000 coho. 4. Overall chinook and/or coho TACs may need to be reduced or fisheries adjusted upon conclusion of NMFS ESA consultation for the Puget Sound Chinook Harvest Resource Management Plan, or upon conclusion of negotiations in the North of Falcon and Pacific Salmon Treaty fora.	**Supplemental Management Information:** 1. Overall non-Indian TAC: 90,000 chinook and 225,000 coho. Trade: May be considered at the April Council meeting. 2. Non-Indian commercial troll TAC: 45,000 chinook and 56,250 coho. 3. Treaty Indian commercial ocean troll quotas of: 40,000 chinook (20,000 in May and June; 20,000 for all-salmon season July through Sept. 15 with no rollover allowed from chinook season); and 75,000 coho 4. Overall chinook and/or coho TACs may need to be reduced or fisheries adjusted upon conclusion of NMFS ESA consultation for the Puget Sound Chinook Harvest Resource Management Plan, or upon conclusion of negotiations in the North of Falcon and Pacific Salmon Treaty fora.	**Supplemental Management Information:** 1. Overall non-Indian TAC: 60,000 chinook and 175,000 coho Trade: May be considered at the April Council meeting. 2. Non-Indian commercial troll TAC: 30,000 chinook and 43,750 coho. 3. Treaty Indian commercial ocean troll quotas of: 30,000 chinook (15,000 in May and June; 15,000 for all-salmon season July through Sept. 15 with no rollover allowed from chinook season); and 60,000 coho. 4. Overall chinook and/or coho TACs may need to be reduced or fisheries adjusted upon conclusion of NMFS ESA consultation for the Puget Sound Chinook Harvest Resource Management Plan, or upon conclusion of negotiations in the North of Falcon and Pacific Salmon Treaty fora.
U.S./Canada Border to Cape Falcon • May 1 through earlier of June 30 or 41,800 chinook quota. The fishery will be managed to provide a remaining quota of 800 chinook for a June 26-30 open period with a 75 fish per vessel landing limit for the five-day open period. All salmon except coho, and no chum retention north of Cape Alava during August and September. (C.6). Cape Flattery and Columbia Control Zones closed (C.4). See gear restrictions (C.2). Vessels must land and deliver their fish within the area or in Garibaldi, OR, and within 24 hours of any closure of this fishery. State regulations require that fishers south of Cape Falcon intending to fish within this area, and/or fishers fishing within this area intending to land salmon in Garibaldi, OR, notify Oregon Department of Fish and Wildlife (ODFW) before transiting the Cape Falcon line (45°46'00" N lat) at the following phone number (541) 867-0300 Ext. 252. Inseason actions may modify harvest guidelines in later fisheries to achieve or prevent exceeding the overall allowable troll harvest impacts (C.7.a).	**U.S./Canada Border to Cape Falcon** • May 1 through earlier of June 30 or 30,000 chinook quota. All salmon except coho, and no chum retention north of Cape Alava during August and September. (C.6). Cape Flattery and Columbia Control Zones closed (C.4). See gear restrictions (C.2). Vessels must land and deliver their fish within the area or land their fish in Garibaldi, OR; and within 24 hours of any closure of this fishery. State regulations require that fishers south of Cape Falcon intending to fish within this area, and/or fishers fishing within this area intending to land salmon in Garibaldi, OR, notify Oregon Department of Fish and Wildlife (ODFW) before transiting the Cape Falcon line (45°46'00" N lat) at the following phone number (541) 867-0300 Ext. 252. Inseason actions may modify harvest guidelines in later fisheries to achieve or prevent exceeding the overall allowable troll harvest impacts (C.7.a).	**U.S./Canada Border to Cape Falcon** • May 1 through earlier of June 30 or 25,000 chinook quota. All salmon except coho, and no chum retention north of Cape Alava during August and September.(C.6). Cape Flattery and Columbia Control Zones closed (C.4). See gear restrictions (C.2). Vessels must land and deliver their fish within the area or in Garibaldi, OR, and within 24 hours of any closure of this fishery. State regulations require that fishers south of Cape Falcon intending to fish within this area, and/or fishers fishing within this area intending to land salmon in Garibaldi, OR, notify Oregon Department of Fish and Wildlife (ODFW) before transiting the Cape Falcon line (45°46'00" N lat) at the following phone number (541) 867-0300 Ext. 252. Inseason actions may modify harvest guidelines in later fisheries to achieve or prevent exceeding the overall allowable troll harvest impacts (C.7.a).

TABLE 1. **Commercial troll** management options for STT analysis of non-Indian ocean salmon fisheries, 2004. (Page 2 of 7)

A. SEASON OPTION DESCRIPTIONS

OPTION I

U.S./Canada Border to Cape Falcon

- July 2 through earlier of Sept. 15 or 20,200 preseason chinook guideline (C.7.a) or a 68,750 coho quota. The 68,750 coho quota includes a subarea quota of 10,000 coho for the area between the U.S./Canada border and the Queets River.

Fishery is 5-days open/2-days closed. Landing and posession limit of 150 chinook per 5-day open period. All salmon (C.6). All retained coho must have a healed adipose fin clip, except an inseason conference call may occur no earlier than August 1 to consider allowing retention of all coho. Cape Flattery and Columbia Control Zones closed (C.4). See gear restrictions (C.2). Vessels must land and deliver their fish within the area or in Garibaldi, OR, and within 24 hours of any closure of this fishery. State regulations require that fishers south of Cape Falcon intending to fish within this area, and/or fishers fishing within this area intending to land salmon in Garibaldi, OR, notify Oregon Department of Fish and Wildlife (ODFW) before transiting the Cape Falcon line (45°46'00" N lat) at the following phone number (541) 867-0300 Ext. 252.). Trip limits, gear restrictions, and guidelines may be implemented or adjusted inseason.

OPTION II

U.S./Canada Border to Cape Falcon

- July 9 through earlier of Sept. 15 or 15,000 preseason chinook guideline (C.7.a) or a 56,250 coho quota.

Fishery is 5-days open/2-days closed. Landing and posession limit of 150 chinook per 5-day open period. All salmon (C.6). All retained coho must have a healed adipose fin clip. Cape Flattery and Columbia Control Zones closed (C.4). See gear restrictions (C.2). Vessels must land and deliver their fish within 24 hours of any closure of this fishery except Oregon licensed limited fish sellers are not required to offload catch within 24 hours. These vessels are required to provide updated catch information to the Oregon Department of Fish and Wildlife at (541) 867-0300 Ext. 271 within 24 hours of any closure of the fishery. Notification shall include vessel name and number and number of salmon by species. Any vessel intending to land or deliver in Oregon south of Cape Falcon must notify the Oregon Department of Fish and Wildlife one hour prior to landing or transporting outside the area. Notification shall be made by calling (541) 867-0300 Ext. 271 with vessel name and number, number of salmon by species, location of delivery, and estimated time of delivery. Inseason actions may modify harvest guidelines in later fisheries to achieve or prevent exceeding the overall allowable troll harvest impacts (C.7.a). Trip limits, gear restrictions, and guidelines may be implemented or adjusted inseason.

OPTION III

U.S./Canada Border to Cape Falcon

- July 9 through earlier of Sept. 15 or 5,000 preseason chinook guideline (C.7.a) or a 43,750 coho quota.

Fishery is 5-days open/2-days closed. Landing and posession limit of 50 chinook per 5-day open period. All salmon (C.6). All retained coho must have a healed adipose fin clip. Cape Flattery and Columbia Control Zones closed (C.4). See gear restrictions (C.2). Vessels must land and deliver their fish within the area or in Garibaldi, OR, and within 24 hours of any closure of this fishery. State regulations require that fishers south of Cape Falcon intending to fish within this area, and/or fishers fishing within this area intending to land salmon in Garibaldi, OR, notify Oregon Department of Fish and Wildlife (ODFW) before transiting the Cape Falcon line (45°46'00" N lat) at the following phone number (541) 867-0300 Ext. 252.). Trip limits, gear restrictions, and guidelines may be implemented or adjusted inseason.

TABLE 1. **Commercial troll** management options for STT analysis of non-Indian ocean salmon fisheries, 2004. (Page 3 of 7)

A. SEASON OPTION DESCRIPTIONS

OPTION I South of Cape Falcon	OPTION II South of Cape Falcon	OPTION III South of Cape Falcon
Cape Falcon to Florence South Jetty • March 15 through July 17; Aug. 1 through Aug. 20 and Sept. 1 through Oct. 31 (C.8). All salmon except coho (C.6). Chinook 26 inch minimum size limit prior to May 1, 27 inches May 1 through Sept. 30, and 28 inches October 1-31 (B). See gear restrictions (C.2) and Oregon State regulations for a description of the closed area at the mouth of Tillamook Bay.	**Cape Falcon to Florence South Jetty** • March 15 through July 6; July 10-13, 17-20, 24-27, 31-Aug. 3; Aug. 7-10, 14-17, 21-24; and Aug. 28 through Oct. 31 (C.8). All salmon except coho (C.6) Chinook 26 inch minimum size limit prior to May 1, 27 inches May 1 through Sept. 30, and 28 inches October 1-31 (B). See gear restrictions (C.2) and Oregon state regulations for a description of the closed area at the mouth of Tillamook Bay.	**Cape Falcon to Florence South Jetty** • March 15 through July 15; Aug. 1 through Aug. 20 and Sept. 1 through Oct. 31 (C.8). All salmon except coho (C.6). Chinook 26 inch minimum size limit prior to May 1, 27 inches May 1 through Sept. 30, and 28 inches October 1-31 (B). See gear restrictions (C.2) and Oregon State regulations for a description of the closed area at the mouth of Tillamook Bay.
In 2005, the season will open March 15 for all salmon except coho, with a 27 inch chinook minimum size limit. This opening could be modified following Council review at its November 2004 meeting.	In 2005, same as Option I.	In 2005, same as Option I.
Florence South Jetty to Humbug Mt. • March 15 through June 30; July 16 through July 31; Aug. 10 through Aug. 29; and Sept. 1 through Oct. 31 (C.8). All salmon except coho (C.6). Chinook 26 inch minimum size limit prior to May 1, 27 inches May 1 through Sept. 30, and 28 inches October 1-31 (B). See gear restrictions (C.2).	**Florence South Jetty to Humbug Mt.** • March 15 through July 6; July 10-13, 17-20, 24-27, July31-Aug. 3; Aug. 7-10, 14-17, 21-24; and Aug. 28 through Oct. 31 (C.8). All salmon except coho (C.6). Chinook 26 inch minimum size limit prior to May 1, 27 inches May 1 through Sept. 30, and 28 inches October 1-31 (B). See gear restrictions (C.2).	**Florence South Jetty to Humbug Mt.** • March 15 through June 30; July 17 through July 31; Aug. 10 through Aug. 29; and Sept. 1 through Oct. 31 (C.8). All salmon except coho (C.6). Chinook 26 inch minimum size limit prior to May 1, 27 inches May 1 through Sept. 30, and 28 inches October 1-31 (B). See gear restrictions (C.2).
In 2005, the season will open March 15 for all salmon except coho, with a 27 inch chinook minimum size limit. This opening could be modified following Council review at its November 2003 meeting.	In 2005, same as Option I.	In 2005, same as Option I.

TABLE 1. **Commercial troll** management options for STT analysis of non-Indian ocean salmon fisheries, 2004. (Page 4 of 7)

A. SEASON OPTION DESCRIPTIONS

OPTION I	OPTION II	OPTION III
Humbug Mt. to OR/CA Border • March 15 through May 31. All salmon except coho. See gear restrictions (C.2). • June 1 through earlier of June 30 or 2,600 chinook quota; • July 1 through earlier of July 31 or 1,400 chinook quota; • Aug. 1 through earlier of Aug. 29 or 2,500 chinook quota; • Sept. 1 through earlier of Sept. 30 or 4,000 chinook quota All salmon except coho. Chinook 26 inch minimum size limit prior to May 1, 27 inches May 1 through Aug. 29, and 28 inches Sept. 1-30. No transfer of remaining quota from earlier fisheries allowed (C.8). Possession and landing limit of 50 fish per day per vessel prior to Sept. 1; 100 fish per day in Sept. See gear restrictions (C.2). For seasons from June 1 through Sept. 30, vessels must land and deliver their fish in Gold Beach, Port Orford, or Brookings, and within 24 hours of closure, except that fishers may transport and deliver their catch to other locations after first landing in one of these ports if they notify Oregon Department of Fish and Wildlife prior to transport away from the port of landing by calling (541) 867-0300 Ext. 271, with vessel name and number, number of salmon by species, location of delivery, and estimated time of delivery.	**Humbug Mt. to OR/CA Border** • March 15 through May 31. All salmon except coho. See gear restrictions (C.2). • June 1 through earlier of June 30 or 2,400 chinook quota; • July 1 through earlier of July 31 or 1,300 chinook quota; • Aug. 1 through earlier of Aug. 29 or 2,600 chinook quota; • Sept. 1 through earlier of Sept. 30 or 4,000 chinook quota All salmon except coho. Chinook 26 inch minimum size limit prior to May 1, 27 inches May 1 through Aug. 29, and 28 inches Sept. 1-30. No transfer of remaining quota from earlier fisheries allowed (C.8). Possession and landing limit of 50 fish per day per vessel prior to Sept. 1; 100 fish per day in Sept. See gear restrictions (C.2). All salmon must landed and delivered to Gold Beach, Port Orford, or Brookings, and within 24 hours of closure.	**Humbug Mt. to OR/CA Border** • March 15 through May 31. All salmon except coho. See gear restrictions (C.2). • June 1 through earlier of June 30 or 2,600 chinook quota; • July 1 through earlier of July 31 or 2,000 chinook quota; • Aug. 1 through earlier of Aug. 29 or 2,700 chinook quota; • Sept. 1 through earlier of Sept. 30 or 4,000 chinook quota All salmon except coho. Chinook 26 inch minimum size limit prior to May 1, 27 inches May 1 through Aug. 29, and 28 inches Sept. 1-30. No transfer of remaining quota from earlier fisheries allowed (C.8). Possession and landing limit of 50 fish per day per vessel prior to Sept. 1; 100 fish per day in Sept. See gear restrictions (C.2). All salmon must landed and delivered to Gold Beach, Port Orford, or Brookings, and within 24 hours of closure.
In 2005 the season will open March 15 for all salmon except coho with a 27 inch minimum size limit. This opening could be modified following Council review at its November 2004 meeting.	In 2005, same as Option I.	In 2005, same as Option I.
OR/CA Border to Humboldt South Jetty • Sept. 1 through earlier of Sept. 30 or 10,000 chinook quota. All salmon except coho. Chinook minimum size limit of 26 inches. Possession and landing limit of 40 fish per day. All fish caught in this area must be landed within the area. See compliance requirements (C.1) and gear restrictions (C.2). Klamath Control Zone closed (C.4.).	**OR/CA Border to Humboldt South Jetty** • Same as Option I.	**OR/CA Border to Humboldt South Jetty** • Sept. 1 through earlier of Sept. 30 or 5,000 chinook quota. All salmon except coho. Chinook minimum size limit of 26 inches. Possession and landing limit of 30 fish per day. All fish caught in this area must be landed within the area. See compliance requirements (C.1) and gear restrictions (C.2). Klamath Control Zone closed (C.4.).

TABLE 1. **Commercial troll** management options for STT analysis of non-Indian ocean salmon fisheries, 2004. (Page 5 of 7)

A. SEASON OPTION DESCRIPTIONS

OPTION I	OPTION II	OPTION III
Horse Mt. to Pt. Arena (Fort Bragg) • July 14 through Sept. 30. All salmon except coho. Chinook minimum size limit of 26 inches. See gear restrictions (C.2).	**Horse Mt. to Pt. Arena (Fort Bragg)** • May 1 through May 22, and Aug. 1 through Sept. 30. All salmon except coho. Chinook minimum size limit of 26 inches. See gear restrictions (C.2).	**Horse Mt. to Pt. Arena (Fort Bragg)** • July 1 through July 7 and July 21 through Sept. 30. All salmon except coho. Chinook minimum size limit of 26 inches. All fish caught in this area must be landed within the area. See gear restrictions (C.2).
Pt. Arena to U.S./Mexico Border • May 1 through Sept. 30. All salmon except coho. Chinook minimum size limit 26 inches. See gear restrictions (C.2).	**Pt. Arena to U.S./Mexico Border** • Same as Option I.	**Pt. Arena to U.S./Mexico Border** • Same as Option I.
Pt. Reyes to Pt. San Pedro (Fall Area Target Zone) • Oct. 1 through Oct. 15, Monday through Friday. Inside 3 nautical miles. All salmon except coho. Chinook minimum size limit 26 inches. See gear restrictions (C.2).	**Pt. Reyes to Pt. Pan Pedro (Fall Area Target Zone)** • Oct. 1 through Oct. 15, Monday through Friday. All salmon except coho. Chinook minimum size limit 26 inches. See gear restrictions (C.2). Same as Option I	**Pt. Reyes to Pt. San Pedro (Fall Area Target Zone)** • Same as Option II

B. MINIMUM SIZE (Inches)

Area (when open)	Chinook		Coho		Pink
	Total Length	Head-off	Total Length	Head-off	
North of Cape Falcon	28.0	21.5	16.0	12.0	None
Cape Falcon to Hunbug Mt.					
Prior to May 1, 2004	26.0	19.5	-	-	None
May 1 to Sept. 30, and beginning March 15, 2005	27.0	20.5	-	-	None
Oct. 1-31	28.0	21.5	-	-	None
Humbug Mt. to OR/CA Border					
Prior to May 1, 2004	26.0	19.5	-	-	None
May 1 to Aug. 31, and beginning March 15, 2005	27.0	20.5	-	-	None
Sept. 1-30	28.0	21.5	-	-	None
OR/CA Border to US/Mexico Border	26.0	19.5	-	-	None

C. REQUIREMENTS, DEFINITIONS, RESTRICTIONS, OR EXCEPTIONS

C.1. Compliance with Minimum Size or Other Special Restrictions: All salmon on board a vessel must meet the minimum size or other special requirements for the area being fished and the area in which they are landed if that area is open. Salmon may be landed in an area that is closed only if they meet the minimum size or other special requirements for the area in which they were caught.

C.2. Gear Restrictions:

a. Single point, single shank barbless hooks are required in all fisheries.

b. *Cape Falcon, Oregon to the Oregon/California border.* No more than 4 spreads are allowed per line.
Spread defined: A single leader connected to an individual lure or bait.

c. *Oregon/California border to U.S./Mexico border:* No more than 6 lines are allowed per vessel and barbless **circle** hooks are required when fishing with bait by any means other than trolling.
Circle hook defined: A hook with a generally circular shape and a point which turns inward, pointing directly to the shank at a 90° angle.
Trolling defined: Fishing from a boat or floating device that is making way by means of a source of power, other than drifting by means of the prevailing water current or weather conditions.

C.3. Transit Through Closed Areas with Salmon on Board: It is unlawful for a vessel to have troll or recreational gear in the water while transiting any area closed to fishing for a certain species of salmon, while possessing that species of salmon; however, fishing for species other than salmon is not prohibited if the area is open for such species and no salmon are in possession.

C.4. Control Zone Definitions:

a. *Cape Flattery Control Zone*:- The area from Cape Flattery (48° 23'00" N lat.) to the northern boundary of the U.S. EEZ; and the area from Cape Flattery south to 48°10'00" N lat. and east of 125°05'00" W long.

b. *Grays Harbor Control Zone* - The area defined by a line drawn from the Westport Lighthouse (46° 53'18" N. lat., 124° 07'01" W. long.) to Buoy #2 (46° 52'42" N. lat., 124°12'42" W. long.) to Buoy #3 (46° 55'00" N. lat., 124°14'48" W. long.) to the Grays Harbor north jetty (46° 36'00" N. lat., 124°10'51" W. long.).

c. *Columbia Control Zone* - An area at the Columbia River mouth, bounded on the west by a line running northeast/southwest between the red lighted Buoy #4 (46°13'35" N lat., 124°06'50" W long.) and the green lighted Buoy #7 (46°15'09' N lat., 124°06'16" W long.); on the east, by the Buoy #10 line which bears north/south at 357° true from the south jetty at 46°14'00" N lat.,124°03'07" W long. to its intersection with the north jetty; on the north, by a line running northeast/southwest between the green lighted Buoy #7 to the tip of the north jetty (46°14'48" N lat., 124°05'20" W long.), and then along the north jetty to the point of intersection with the Buoy #10 line; and, on the south, by a line running northeast/southwest between the red lighted Buoy #4 and tip of the south jetty (46°14'03" N lat., 124°04'05" W long.), and then along the south jetty to the point of intersection with the Buoy #10 line.

d. *Klamath Control Zone* - The ocean area at the Klamath River mouth bounded on the north by 41°38'48" N lat. (approximately 6 nautical miles north of the Klamath River mouth); on the west, by 124°23'00" W long. (approximately 12 nautical miles off shore); and, on the south, by 41°26'48" N lat. (approximately 6 nautical miles south of the Klamath River mouth).

C.5. Notification When Unsafe Conditions Prevent Compliance with Regulations: If prevented by unsafe weather conditions or mechanical problems from meeting special management area landing restrictions, vessels must notify the U.S. Coast Guard and receive acknowledgment of such notification prior to leaving the area. This notification shall include the name of the vessel, port where delivery will be made, approximate amount of salmon (by species) on board and the estimated time of arrival.

C. REQUIREMENTS, DEFINITIONS, RESTRICTIONS, OR EXCEPTIONS (cont'd)

C.6. Incidental Halibut Harvest: During authorized periods, the operator of a vessel that has been issued an incidental halibut harvest license may retain Pacific halibut caught incidentally in Area 2A while trolling for salmon. License applications for incidental harvest must be obtained from the International Pacific Halibut Commission (phone: 206-634-1838). Applicants must apply prior to April 1 of each year. Incidental harvest is authorized only during **May and June** troll seasons and after June 30 if quota remains and if announced on the NMFS hotline (phone: 800-662-9825). ODFW and WDFW will monitor landings. If the landings are projected to exceed the 44,554 pound preseason allocation or the total Area 2A non-Indian commercial halibut allocation, NMFS will take inseason action to close the incidental halibut fishery.

Option 1a: License holders may land no more than 1 halibut per each 3 chinook, except 1 halibut may be landed without meeting the ratio requirement, and no more than 35 halibut may be landed per trip. Halibut retained must be no less than 32 inches in total length (with head on).

Option 1b: License holders may land no more than 1 halibut per each 3 chinook, except 1 halibut may be landed without meeting the ratio requirement, and no more than 25 halibut may be landed per trip. Halibut retained must be no less than 32 inches in total length (with head on).

Option 2: Designate a "C-shaped" yelloweye rockfish conservation area is an area to be avoided for salmon troll fishing. The area is defined in the Pacific Council Halibut Catch Sharing Plan in the North Coast subarea (WA marine area 3), with the following coordinates in the order listed:

48°18' N. lat.; 125°18' W. long;
48°18' N. lat.; 124°59' W. long;
48°11' N. lat.; 124°59' W. long;
48°11' N. lat.; 125°11' W. long;
48°04' N. lat.; 125°11' W. long;
48°04' N. lat.; 124°59' W. long;
48°00' N. lat.; 124°59' W. long;
48°00' N. lat.; 125°18' W. long;
And connecting back to 48°18' N. lat.; 125°18' W. long.

NOTE: Option 2 may be combined with either Option 1a or 1b.

C.7. Inseason Management: In addition to standard inseason actions or modifications already noted under the season description, the following inseason guidance is provided to NMFS:

a. Chinook remaining from the May-June non-Indian commercial troll harvest guideline north of Cape Falcon may be transferred to the July-September harvest guideline on a fishery impact equivalent basis.

b. At the March 2005 meeting, the Council will consider inseason recommendations for special regulations for any experimental April fisheries (proposals must meet Council protocol and be received in November 2004).

c. NMFS may transfer fish between the recreational and commercial fisheries north of Cape Falcon if there is agreement among the representatives of the Salmon Advisory Subpanel.

C.8. Consistent with Council management objectives, the State of Oregon may establish additional late-season, chinook-only fisheries in state waters. Check state regulations for details.

C.9. For the purposes of CDFG Code, Section 8232.5, the definition of the KMZ for the ocean salmon season shall be that area from Humbug Mt., Oregon to Horse Mt., California.

TABLE 2. **Recreational** management options for STT analysis of ocean salmon fisheries, 2004. (Page 1 of 7)

A. SEASON OPTION DESCRIPTIONS

OPTION I North of Cape Falcon	OPTION II North of Cape Falcon	OPTION III North of Cape Falcon
Supplemental Management Information: 1. Overall non-Indian TAC: 120,000 chinook and 275,000 coho Trade: May be considered at the April Council meeting. 2. Recreational TAC: 58,000 chinook and 206,250 coho. 3. No Area 4B add-on fishery. 4. Buoy 10 fishery opens Aug. 1 with an expected landed catch of 10,500 coho in Aug. and 4,500 coho in Sept. 5. All retained coho must have a healed adipose fin clip except as noted below. 6. Overall chinook and/or coho TACs may need to be reduced or fisheries adjusted upon conclusion of NMFS ESA consultation for the Puget Sound Chinook Harvest Resource Management Plan, or upon conclusion of negotiations in the North of Falcon and Pacific Salmon Treaty fora.	**Supplemental Management Information:** 1. Overall non-Indian TAC: 90,000 chinook and 225,000 coho Trade: May be considered at the April Council meeting. 2. Recreational TAC: 45,000 chinook and 168,750 coho. 3. No Area 4B add-on fishery. 4. Buoy 10 fishery opens Aug. 1 with an expected landed catch of 14,000 coho in Aug. and 6,000 coho in Sept. 5. All retained coho must have a healed adipose fin clip except as noted below. 6. Overall chinook and/or coho TACs may need to be reduced or fisheries adjusted upon conclusion of NMFS ESA consultation for the Puget Sound Chinook Harvest Resource Management Plan, or upon conclusion of negotiations in the North of Falcon and Pacific Salmon Treaty fora.	**Supplemental Management Information:** 1. Overall non-Indian TAC: 60,000 chinook and 175,000 coho Trade: May be considered at the April Council meeting. 2. Recreational TAC: 30,000 chinook and 131,250 coho. 3. Area 4B add-on fishery of 6,000 coho with chinook non-retention opens upon ocean closure (C.5). 4. Buoy 10 fishery opens Aug. 1 with an expected landed catch of 17,500 coho in Aug. and 7,500 coho in Sept. 5. All retained coho must have a healed adipose fin clip. 6. Overall chinook and/or coho TACs may need to be reduced or fisheries adjusted upon conclusion of NMFS ESA consultation for the Puget Sound Chinook Harvest Resource Management Plan, or upon conclusion of negotiations in the North of Falcon and Pacific Salmon Treaty fora.
U.S./Canada Border to Cape Alava (Neah Bay) • June 20 through earlier of Sept. 30 or 21,450 coho subarea quota with a subarea guideline of 4,800 chinook. All salmon, 7 days per week, 2 fish per day, no more than one of which may be a chinook (chinook 24-inch minimum size limit) (B). All retained coho must have a healed adipose fin clip, **except an inseason conference call may occur no earlier than September 1 to consider allowing retention of all legal sized coho beginning Sep. 7.** See gear restrictions (C.2). Chinook retention east of the Bonilla-Tatoosh line in July only (C.3.c) during Council managed ocean fishery. Inseason management may be used to sustain season length and keep harvest within the overall chinook recreational TAC for north of Cape Falcon (C.4).	**U.S./Canada Border to Cape Alava (Neah Bay)** • June 27 through earlier of Sept. 19 or 17,550 coho subarea quota with a subarea guideline of 4,100 chinook. All salmon, 7 days per week, 2 fish per day, no more than one of which may be a chinook (chinook 26-inch minimum size limit) (B). All retained coho must have a healed adipose fin clip, **except an inseason conference call may occur no earlier than September 1 to consider allowing retention of all legal sized coho beginning Sep. 7.** See gear restrictions (C.2). Chinook non-retention east of the Bonilla-Tatoosh line (C.3.c) during Council managed ocean fishery. Inseason management may be used to sustain season length and keep harvest within the overall chinook recreational TAC for north of Cape Falcon (C.4).	**U.S./Canada Border to Cape Alava (Neah Bay)** • July 4 through earlier of Sept. 12 or 12,550 coho subarea quota (not adjusted for Area 4B add-on) with a subarea guideline of 3,000 chinook. All salmon, 7 days per week, 2 fish per day, no more than one of which may be a chinook (chinook 26-inch minimum size limit) (B). All retained coho must have a healed adipose fin clip. See gear restrictions (C.2). Chinook non-retention east of the Bonilla-Tatoosh line (C.3.c) during Council managed ocean fishery. Inseason management may be used to sustain season length and keep harvest within the overall chinook recreational TAC for north of Cape Falcon (C.4).

TABLE 2. **Recreational** management options for STT analysis of ocean salmon fisheries, 2004. (Page 2 of 7)

A. SEASON OPTION DESCRIPTIONS

OPTION I

Cape Alava to Queets River (La Push)

- June 20 through earlier of Sept. 24 or 5,300 coho subarea quota with a subarea guideline of 2,450 chinook.
- Sep. 25 through Oct. 10 or 100 coho quota or 100 chinook quota: In the area north of 47° 50'00 and south of 48°00'00" (C.5).

All salmon, 7 days per week, 2 fish per day, no more than one of which may be a chinook (chinook 24-inch minimum size limit) (B). All retained coho must have a healed adipose fin clip, **except an inseason conference call may occur no earlier than September 1 to consider allowing retention of all legal sized coho beginning Sep. 7.** See gear restrictions (C.2). Inseason management may be used to sustain season length and keep harvest within the overall chinook recreational TAC for north of Cape Falcon (C.4).

Queets River to Leadbetter Pt. (Westport)

- June 20 through earlier of Sept. 30 or 76,300 coho subarea quota with a subarea guideline of 40,350 chinook.

Sun. through Thurs, except: there may be a conference call no later than July 28 to consider 7 days per week. All salmon, 2 fish per day, no more than one of which may be a chinook (chinook 24-inch minimum size limit) (B). All retained coho must have a healed adipose fin clip **except an inseason conference call may occur no earlier than September 1 to consider allowing retention of all legal sized coho beginning Sep. 7.** gear restrictions (C.2). Inseason management may be used to sustain season length and keep harvest within the overall chinook recreational TAC for north of Cape Falcon (C.4).

OPTION II

Cape Alava to Queets River (La Push)

- June 27 through earlier of Sept. 19 or 4,300 coho subarea quota with a subarea guideline of 1,850 chinook;
- Sep. 25 through Oct. 10 or 100 coho quota or 100 chinook quota: Inside area defined by a line from Teahwhit Head northwesterly to "Q" buoy to Cake Rock then true east to the shoreline (C.5).

All salmon, 7 days per week, 2 fish per day, no more than one of which may be a chinook (chinook 26-inch minimum size limit) (B). All retained coho must have a healed adipose fin clip, **except an inseason conference call may occur no earlier than September 1 to consider allowing retention of all legal sized coho beginning Sep. 7.** See gear restrictions (C.2). Inseason management may be used to sustain season length and keep harvest within the overall chinook recreational TAC for north of Cape Falcon (C.4).

Queets River to Leadbetter Pt. (Westport)

- June 27 through earlier of Sept. 19 or 62,400 coho subarea quota with a subarea guideline of 30,700 chinook.

Sun. through Thurs, except: there may be a conference call no later than July 28 to consider 7 days per week. All salmon, 2 fish per day, no more than one of which may be a chinook (chinook 26-inch minimum size limit) (B). All retained coho must have a healed adipose fin clip **except an inseason conference call may occur no earlier than September 1 to consider allowing retention of all legal sized coho beginning Sep. 7.** See gear restrictions (C.2). Inseason management may be used to sustain season length and keep harvest within the overall chinook recreational TAC for north of Cape Falcon (C.4).

OPTION III

Cape Alava to Queets River (La Push)

- July 4 through earlier of Sept.12 or 3,400 coho subarea quota with a subarea guideline of 1,200 chinook.
- Sep. 25 through Oct. 10 or 100 coho quota or 100 chinook quota: In the area north of 47° 50'00 and south of 48°00'00" (C.5).

All salmon, 7 days per week, 2 fish per day, no more than one of which may be a chinook (chinook 26-inch minimum size limit) (B). All retained coho must have a healed adipose fin clip. See gear restrictions (C.2). Inseason management may be used to sustain season length and keep harvest within the overall chinook recreational TAC for north of Cape Falcon (C.4).

Queets River to Leadbetter Pt. (Westport)

- July 11 through earlier of Sept. 12. or 49,600 coho subarea quota, with a subarea guideline of 20,500 chinook.

Sun. through Thurs, except: there may be a conference call no later than July 28 to consider 7 days per week. All salmon, 2 fish per day, no more than one of which may be a chinook (chinook 26-inch minimum size limit) (B). All retained coho must have a healed adipose fin clip. See gear restrictions (C.2). Inseason management may be used to sustain season length and keep harvest within the overall chinook recreational TAC for north of Cape Falcon (C.4).

TABLE 2. **Recreational** management options for STT analysis of ocean salmon fisheries, 2004. (Page 3 of 7)

A. SEASON OPTION DESCRIPTIONS

OPTION I	OPTION II	OPTION III
Leadbetter Pt. to Cape Falcon (Columbia River) • June 27 through earlier of Sept. 30 or 103,100 coho subarea quota with a subarea guideline of 10,300 chinook. Sun. through Thurs, except: there may be a conference call no later than July 28 to consider 7 days per week. All salmon, 2 fish per day, no more than one of which may be a chinook (chinook 24-inch minimum size limit) (B). All retained coho must have a healed adipose fin clip **except an inseason conference call may occur no earlier than September 15 to consider allowing retention of all legal sized coho**. See gear restrictions (C.2). Columbia Control Zone closed (C.3.a). Closed between Cape Falcon and Tillamook Head beginning Aug.1. Inseason management may be used to sustain season length and keep harvest within the overall chinook recreational TAC for north of Cape Falcon (C.4).	**Leadbetter Pt. to Cape Falcon (Columbia River)** • July 4 through earlier of Sept. 30 or 84,400 coho subarea quota with a subarea guideline of 8,250 chinook. Sun. through Thurs, except: there may be a conference call no later than July 28 to consider 7 days per week. All salmon, 2 fish per day, no more than one of which may be a chinook (chinook 26-inch minimum size limit) (B). All retained coho must have a healed adipose fin clip **except an inseason conference call may occur no earlier than September 15 to consider allowing retention of all legal sized coho**. See gear restrictions (C.2). Columbia Control Zone closed (C.3.a). Closed between Cape Falcon and Tillamook Head beginning Aug.1. Inseason management may be used to sustain season length and keep harvest within the overall chinook recreational TAC for north of Cape Falcon (C.4).	**Leadbetter Pt. to Cape Falcon (Columbia River)** • July 11 through earlier of Sept. 30 or 65,600 coho subarea quota with a subarea guideline of 5,200 chinook. Sun. through Thurs, except: there may be a conference call no later than July 28 to consider 7 days per week. All salmon, 2 fish per day, no more than one of which may be a chinook (chinook 26-inch minimum size limit) (B). All retained coho must have a healed adipose fin clip. See gear restrictions (C.2). Columbia Control Zone closed (C.3.a). Closed between Cape Falcon and Tillamook Head beginning Aug.1. Inseason management may be used to sustain season length and keep harvest within the overall chinook recreational TAC for north of Cape Falcon (C.4).

TABLE 2. **Recreational** management options for STT analysis of ocean salmon fisheries, 2004. (Page 4 of 7)

A. SEASON OPTION DESCRIPTIONS

OPTION I South of Cape Falcon	OPTION II South of Cape Falcon	OPTION III South of Cape Falcon
Cape Falcon to Humbug Mt • Except as provided below during the selective fishery, the season will be: Mar. 15 through Oct. 31 (C.5). All salmon except coho. 2 fish per day. See gear restrictions (C.2.). See Oregon State regulations for a description of a closure at the mouth of Tillamook Bay.	**Cape Falcon to Humbug Mt** • Same as Option I	**Cape Falcon to Humbug Mt** • Same as Option I
In 2005 the season will open March 15 for all salmon except coho. 2 fish per day. Same gear restrictions as in 2004. This opening could be modified following Council review at its November 2004 meeting.	In 2005, same as Option I.	In 2005, same as Option I.
Selective fishery: **Cape Falcon to OR/CA Border** • June 19 through earlier of Aug. 31 or a landed catch of 75,000 coho. 7 days per week, all salmon, 2 fish per day. All retained coho must have a healed adipose fin clip. Open days may be adjusted inseason to utilize the available quota (C.4). All salmon except coho season reopens the earlier of Sept. 1 or attainment of the coho quota.	Selective fishery: **Cape Falcon to Humbug Mt.** • June 19 through earlier of Aug. 31 or a landed catch of 65,000 coho. 7 days per week, all salmon, 2 fish per day. All retained coho must have a healed adipose fin clip. Open days may be adjusted inseason to utilize the available quota (C.4). All salmon except coho season reopens the earlier of Sept. 1 or attainment of the coho quota.	Selective fishery: **Cape Falcon to Humbug Mt.** • July 1 through earlier of Aug. 31 or a landed catch of 55,000 coho. 5 days per week (Tuesday-Saturday), all salmon, 2 fish per day. All retained coho must have a healed adipose fin clip. **2 days per week (Sunday and Monday) all salmon except coho, 2 fish per day.** Open days may be adjusted inseason to utilize the available quota (C.4). All salmon except coho season reopens the earlier of Sept. 1 or attainment of the coho quota.
Humbug Mt. to Horse Mt. (KMZ) • Except as provided above during the selective fishery, the season will be May 15 through Sept. 12. All salmon except coho. 7 days per week, 2 fish per day. See gear restrictions (C.2). Klamath Control Zone closed Aug. 1-31 (C.3.b).	**Humbug Mt. to Horse Mt. (KMZ)** • May 15 through Sept. 12. All salmon except coho. 7 days per week, 2 fish per day. See gear restrictions (C.2). Klamath Control Zone closed Aug. 1-31 (C.3.b).	**Humbug Mt. to Horse Mt. (KMZ)** • May 15 through Sept. 6. All salmon except coho. 7 days per week, 2 fish per day. See gear restrictions (C.2). Klamath Control Zone closed Aug. 1-31 (C.3.b).
Horse Mt. to Pt. Arena (Fort Bragg) • Feb. 15 through Nov. 16. All salmon except coho. 2 fish per day. Chinook minimum size 24 inches through April 30 and 20 inches thereafter (B). See gear restrictions (C.2).	**Horse Mt. to Pt. Arena (Fort Bragg)** • Same as Option I.	**Horse Mt. to Pt. Arena (Fort Bragg)** • Same as Option I.
In 2005, season opens Feb. 15 (nearest Sat. to Feb. 15) for all salmon except coho. 2 fish per day, chinook 20-inch minimum size limit through April 30; same gear restrictions as in 2004.	In 2005, same as Option I.	In 2005, same as Option I.

TABLE 2. **Recreational** management options for STT analysis of ocean salmon fisheries, 2004. (Page 5 of 7)

A. SEASON OPTION DESCRIPTIONS

OPTION I	OPTION II	OPTION III
Pt. Arena to Pigeon Pt. • April 17 through Nov. 14. All salmon except coho. 2 fish per day. Chinook minimum size limit 24 inches through April 30 and 20 inches thereafter (B). See gear restrictions (C.2). In 2005, the season will open Apr. 2 for all salmon except coho. 2 fish per day, 20-inch minimum size limit and the same gear restrictions as in 2004.	**Pt. Arena to Pigeon Pt.** • Same as Option I In 2005, same as Option I.	**Pt. Arena to Pigeon Pt.** • Same as Option I In 2005, same as Option I.
Pigeon Pt. to U.S./Mexico Border • April 3 through Oct. 3. All salmon except coho. 2 fish per day. Chinook minimum size limit 24 inches through April 30 and 20 inches thereafter (B). See gear restrictions (C.2). In 2005, the season will open Apr. 2 for all salmon except coho. 2 fish per day, chinook 20-inch minimum size limit and the same gear restrictions as in 2004.	**Pigeon Pt. to U.S./Mexico Border** • Same as Option I. In 2005, same as Option I.	**Pigeon Pt. to U.S./Mexico Border** • Same as Option I. In 2005, same as Option I.

B. MINIMUM SIZE (Total Length in Inches)

Area (when open)		Chinook	Coho	Pink
North of Cape Falcon:				
Option I		24.0	16.0	None
Options II & II		26.0	16.0	None
Cape Falcon to Horse Mt.		20.0	16.0	None, except 20.0 off CA
Horse Mountain to Pt. Arena:	Prior to May 1, 2004	24.0	-	20.0
	Beginning May 1, 2004	20.0	-	20.0
South of Pt. Arena:	Prior to May , 2004	24.0	-	20.0
	Beginning May , 2004	20.0	-	20.0

C. REQUIREMENTS, DEFINITIONS, RESTRICTIONS, OR EXCEPTIONS

C.1. Compliance with Minimum Size and Other Special Restrictions: All salmon on board a vessel must meet the minimum size or other special requirements for the area being fished and the area in which they are landed if that area is open. Salmon may be landed in an area that is closed only if they meet the minimum size or other special requirements for the area in which they were caught.

C.2. Gear Restrictions: All persons fishing for salmon, and all persons fishing from a boat with salmon on board, must meet the gear restrictions listed below for specific areas or seasons.

a. *U.S./Canada Border to Pt. Conception, California*: No more than one rod may be used per angler and single point, single shank barbless hooks are required for all fishing gear. [**Note:** ODFW regulations in the state-water fishery off Tillamook Bay may allow the use of barbed hooks to be consistent with inside regulations.]

b. *Cape Falcon, Oregon to Pt. Conception, California*: Anglers must use no more than 2 single point, single shank barbless hooks.

c. *Horse Mt., California to Pt. Conception, California:* Single point, single shank, barbless **circle** hooks (below) must be used if angling with bait by any means other than trolling and no more than 2 such hooks shall be used. When angling with 2 hooks, the distance between the hooks must not exceed 5 inches when measured from the top of the eye of the top hook to the inner base of the curve of the lower hook, and both hooks must be permanently tied in place (hard tied). Circle hooks are not required when artificial lures are used without bait.
Circle hook defined: A hook with a generally circular shape and a point which turns inward, pointing directly to the shank at a 90° angle;
Trolling defined: Angling from a boat or floating device that is making way by means of a source of power, other than drifting by means of the prevailing water current or weather conditions.

C. REQUIREMENTS, DEFINITIONS, RESTRICTIONS, OR EXCEPTIONS (Continued)

C.3. Control Zone Definitions:

a. *Columbia Control Zone* - An area at the Columbia River mouth, bounded on the west by a line running northeast/southwest between the red lighted Buoy #4 (46°13'35" N latitude, 124°06'50" W longitude) and the green lighted Buoy #7 (46°15'09' N latitude, 124°06'16" W longitude); on the east, by the Buoy #10 line which bears north/south at 357° true from the south jetty at 46°14'00" N latitude, 124°03'07" W longitude to its intersection with the north jetty; on the north, by a line running northeast/southwest between the green lighted Buoy #7 to the tip of the north jetty (46°14'48" N latitude, 124°05'20" W longitude) and then along the north jetty to the point of intersection with the Buoy #10 line; and, on the south, by a line running northeast/southwest between the red lighted Buoy #4 and tip of the south jetty (46°14'03" N latitude, 124°04'05" W longitude), and then along the south jetty to the point of intersection with the Buoy #10 line.

b. *Grays Harbor Control Zone* - The area defined by a line drawn from the Westport Lighthouse (46° 53'18" N. lat., 124° 07'01" W. long.) to Buoy #2 (46° 52'42" N. lat., 124°12'42" W. long.) to Buoy #3 (46° 55'00" N. lat., 124°14'48" W. long.) to the Grays Harbor north jetty (46° 36'00" N. lat., 124°10'51" W. long.).

c. *Klamath Control Zone* - The ocean area at the Klamath River mouth bounded on the north by 41°38'48" N latitude (approximately 6 nautical miles north of the Klamath River mouth); on the west, by 124°23'00" W longitude (approximately 12 nautical miles off shore); and, on the south, by 41°26'48" N latitude (approximately 6 nautical miles south of the Klamath River mouth).

d. *The Bonilla-Tatoosh Line* is defined as: A line running from the western end of Cape Flattery to Tatoosh Island Lighthouse (48°23'30" N latitude, 124°44'12" W longitude) to the buoy adjacent to Duntze Rock (48°28'00" N latitude, 124°45'00" W longitude), then in a straight line to Bonilla Point (48°35'30" N latitude, 124°43'00" W longitude) on Vancouver Island, B.C.

C.4. Inseason Management: Regulatory modifications may become necessary inseason to meet preseason management objectives such as quotas, harvest guidelines and season duration. Actions could include modifications to bag limits or days open to fishing, and extensions or reductions in areas open to fishing. NMFS may transfer coho inseason among recreational subareas North of Cape Falcon to help meet the recreational season duration objectives (for each subarea) after conferring with representatives of the affected ports and the Salmon Advisory Subpanel recreational representatives north of Cape Falcon. NMFS may also transfer fish between the recreational and commercial fisheries north of Cape Falcon if there is agreement among the representatives of the Salmon Advisory Subpanel.

C.5. Additional Seasons in State Territorial Waters: Consistent with Council management objectives, the states of Washington and Oregon may establish limited seasons in state waters. Oregon state-water fisheries are limited to chinook salmon. Check state regulations for details.

TABLE 3. Treaty Indian ocean troll salmon fishery management measures for analysis by the STT, 2004. (Page 1 of 1)

Tribe and Area Boundaries[a/]	Open Seasons	Salmon Species	Minimum Size[b/] (Inches) Chinook	Coho	Special Restrictions by Area
S'KLALLAM - Washington State Statistical Area 4B (All)	May 1 thru earlier of June 30 or chinook quota.[c/]	All except coho	24	-	Barbless hooks. No more than 8 fixed lines per boat; 72 hook maximum per boat.
	July 1 thru earliest of Sept. 15 or chinook or coho quota.[c/]	All	24	16	
MAKAH - Washington State Statistical Area 4B and that portion of the FMA north of 48°02'15" N latitude (Norwegian Memorial) and east of 125°44'00" W longitude	May 1 thru earlier of June 30 or chinook quota.[c/]	All except coho	24	-	Barbless hooks. No more than 8 fixed lines per boat or no more than 4 hand-held lines per person.
	July 1 thru earliest of Sept. 15 or chinook or coho quota[c/]	All	24	16	
QUILEUTE - That portion of the FMA between 48°07'36" N latitude (Sand Pt.) and 47°31'42" N latitude (Queets River) and east of 125°44'00" W longitude	May 1 thru earlier of June 30 or chinook quota.[c/]	All except coho	24	-	Barbless hooks. No more than 8 fixed lines per boat.[d/]
	July 1 thru earliest of Sept. 15 or chinook or coho quota.[c/]	All	24	16	
HOH - That portion of the FMA between 47°54'18" N latitude (Quillayute River) and 47°21'00" N latitude (Quinault River) and east of 125°44'00" W longitude	May 1 thru earlier of June 30 or chinook quota.[c/]	All except coho	24	-	Barbless hooks. No more than 8 fixed lines per boat.[d/]
	July 1 thru earliest of Sept. 15 or chinook or coho quota[c/]	All	24	16	
QUINAULT - That portion of the FMA between 47°40'06" N latitude (Destruction Island) and 46°53'18" N latitude (Point Chehalis) and east of 125°44'00" W longitude	May 1 thru earlier of June 30 or chinook quota.[c/]	All except coho	24	-	Barbless hooks. No more than 8 fixed lines per boat.[d/]
	July 1 thru earliest of Sept. 15 or chinook or coho quota[c/]	All	24	16	

a/ All boundaries may be changed to include such other areas as may hereafter be authorized by a Federal court for that tribe's treaty fishery.

b/ Applicable lengths, in inches, for dressed, head-off salmon, are 18 inches for chinook and 12 inches for coho. There are no minimum size or retention limits for ceremonial and subsistence harvest.

c/ The overall treaty troll ocean quotas are:
Option I: 60,000 chinook and 90,000 coho;
Option II: 40,000 chinook and 75,000 coho;
Option III: 30,000 chinook and 60,000 coho.
The overall chinook quota is divided into 50% of the chinook quota for the May/June chinook-directed fishery and 50% of the chinook quota for the July through Sept. all-salmon season. If the chinook quota for the May/June fishery is not fully utilized, the excess fish cannot be transferred into the later all-salmon season. The quotas include troll catches by the S'Klallam and Makah tribes in Washington State Statistical Area 4B from May 1 thru Sept. 15. The Quileute Tribe will continue a ceremonial and subsistence fishery during the time frame of September 15 through October 15; fish taken during this fishery are to be counted against treaty troll quotas established for the 2004 season.

d/ The area within a 6 nautical mile radius of the mouths of the Queets River (47°31'42" N latitude) and the Hoh River (47°45'12" N latitude) will be closed to commercial fishing. A closure within 2 nautical miles of the mouth of the Quinault River (47°21'00" N latitude) may be enacted by the Quinault Nation and/or the State of Washington and will not adversely affect the Secretary of Commerce's management regime.

TABLE 4. Chinook and coho **harvest quotas and guidelines (*)** for STT analysis of ocean salmon fishery management options, 2004. (Page 1 of 1)

Fishery or Quota Designation	Chinook for Option			Coho for Option		
	I	II	III	I	II	III
NORTH OF CAPE FALCON						
TREATY INDIAN COMMERCIAL TROLL [a/]	60,000	40,000	30,000	90,000	75,000	60,000
NON-INDIAN COMMERCIAL TROLL						
Canada to Cape Falcon (All Except Coho)	41,800	30,000	25,000	-	-	-
Canada to Cape Falcon (All Species) [b/]	20,200	15,000	5,000	68,750	56,250	43,750
Subtotal Non-Indian Commercial Troll	62,000	45,000	30,000	68,750	56,250	43,750
RECREATIONAL [b/]						
U.S.-Canada Border to Cape Alava [b/c/]	4,800*	4,100*	3,000*	21,450	17,550	12,550
Cape Alava to Queets River [b/]	2,550*	1,950*	1,300*	5,400	4,400	3,500
Queets River to Leadbetter Pt. [b/]	40,350*	30,700*	20,500*	76,300	62,400	49,600
Leadbetter Pt. to Cape Falcon [b/]	10,300*	8,250*	5,200*	103,100	84,400	65,600
Subtotal Recreational [d/]	58,000	45,000	30,000	206,250	168,750	131,250
TOTAL NORTH OF CAPE FALCON	180,000	130,000	90,000	365,000	300,000	235,000
SOUTH OF CAPE FALCON						
COMMERCIAL TROLL (all except coho)						
Humbug Mt. to OR-CA border (June-Sept)	10,500	10,300	11,300	-	-	-
Oregon-California Border to Humboldt S. Jetty (Sept.)	10,000	10,000	5,000	-	-	-
Subtotal Troll	20,500	20,300	16,300	-	-	-
RECREATIONAL						
Cape Falcon to Humbug Mt. [b/]	-	-	-	75,000	65,000	55,000
TOTAL SOUTH OF CAPE FALCON	20,500	20,300	16,300	75,000	76,000	55,000

a/ For the Makah encounter rate study, legal sized fish retained in open periods will be included in the tribal quota.

b/ The coho quota is a landed catch of coho with a healed adipose fin clip, except that for Option I in the north of Cape falcon commercial fishery and Options I and II in the north of Cape Falcon recreational fishery, there is a provision for a potential non-selective coho fishery in a portion of the fishery. See Tables 1 and 2 for details of the proposals.

c/ Does not include Area 4B add on selective fishery of 6,000 (Option III) coho with healed adipose fin clips.

d/ Does not include Buoy 10 fishery. Option I (10,500 coho Aug, 4,500 coho Sept), Option II (14,000 coho Aug, 6,000 coho Sept) Option III (17,500 coho Aug, 7,500 coho Sept).

TABLE 5. Projected **key stock escapements** (thousands of fish) or management criteria for STT analysis of ocean fishery options, 2004.[a/] (Page 1 of 3)

Key Stock/Criteria	Projected Ocean Escapement[b/] or Other Criteria (Council Area Fisheries)			Spawner Objective or Other Comparative Standard as Noted	
CHINOOK					
	Option I	Option II	Option III		
Columbia Upriver Brights	291.7	293.4	295.1	57.3	Minimum ocean escapement to attain 46.0 adults over McNary Dam, with normal distribution and no mainstem harvest.
Mid-Columbia Brights	90.2	90.7	91.3	16.6	Minimum ocean escapement to attain 5.75 adults for Bonneville Hatchery and 2.0 for Little White Salmon Hatchery egg-take, assuming average conversion and no mainstem harvest.
Columbia Lower River Hatchery Tules	80.0	82.6	85.1	31.1	Minimum ocean escapement to attain 14.1 adults for hatchery egg-take, with average conversion and no lower river mainstem or tributary harvest.
Columbia Lower River Natural Tules[e/]	45%	41%	37%	≤49%	ESA guidance met by a total adult equivalent fishery exploitation rate on Coweeman tules (NMFS ESA consultation standard).
Columbia Lower River Wild (threatened)	24.3[c/]	24.6[c/]	24.7[c/]	5.7	MSY spawner goal for North Lewis River fall chinook (NMFS ESA consultation standard).
Spring Creek Hatchery Tules	144.2	157.0	167.6	11.1	Minimum ocean escapement to attain 7.0 adults for Spring Creek Hatchery egg-take, assuming average conversion and no mainstem harvest.
Snake River Fall (threatened) SRFI	**74%**	68%	63%	≤70.0%	Of 1988-1993 base period exploitation rate for all ocean fisheries (NMFS ESA consultation standard).
Klamath River Fall	35.0	35.0	35.0	35.0	Minimum number of adult spawners to natural spawning areas.
Federally recognized tribal harvest	50%	50%	50%	50.0%	Equals 31.1, 31.1, and 31.1 (thousand) adult fish for Yurok and Hoopa tribal fisheries
Age 4 ocean harvest rate	14.9%	15.0%	14.9%	≤16.0%	NMFS ESA consultation standard for threatened California coastal chinook.
KMZ sport fishery allocation	14.1%	14.1%	14.1%	-	None specified for 2004.
CA:OR troll fishery allocation	**52:48**	51:49	51:49	51:49	KFMC recommendation for 2004.
River recreational fishery allocation	15.0%	15.0%	15.0%	≥15.0%	Agreed to by California Fish and Game Commission; Equals 4.7, 4.7, and 4.7 (thousand) adult fish for recreational inriver fisheries.
Sacramento River Winter (endangered)	Yes	Yes	Yes		Duration and timing of commercial and recreational seasons south of Point Arena do not differ substantially relative to those of 2000 and 2001 (NMFS ESA consultation standard).
Sacramento River Fall	454.5	454.5	454.5	122.0-180.0	Sacramento River fall natural and hatchery adult spawners.

TABLE 5. Projected **key stock escapements** (thousands of fish) or management criteria for STT analysis of ocean fishery options, 2004.[a/] (Page 2 of 3)

Key Stock/Criteria	Projected Ocean Escapement[b/] or Other Criteria (Council Area Fisheries)			Spawner Objective or Other Comparative Standard as Noted	
				COHO	
	Option I	Option II	Option III		
Interior Fraser (Thompson River)	**12.0%**(6.5%)	**10.9%**(5.5%)	9.9%(4.4%)	≤10%	Total exploitation rate for all US fisheries south of the US/Canada border based on 2002 PSC coho agreement.[d/]
Skagit	35%(4.6%) 130.4	35%(4.7%) 131.7	34%(3.9%) 132.9	≤60% 30.0	2004 total exploitation rate ceiling based on 2002 PSC coho agreement[d/] MSP level of adult spawners Identified in FMP.
Stillaguamish	37%(8.0%) 27.3	35%(6.7%) 27.7	35%(5.5%) 28.1	≤50% 17.0	2004 total exploitation rate ceiling based on 2002 PSC coho agreement[d/] MSP level of adult spawners Identified in FMP.
Snohomish	35%(8.0%) 133.2	34%(6.7%) 135.3	33%(5.5%) 137.3	≤60% 70.0	2004 total exploitation rate ceiling based on 2002 PSC coho agreement[d/] MSP level of adult spawners Identified in FMP.
Hood Canal	34%(5.6%) 80.7	31%(4.9%) 81.4	33%(3.9%) 82.3	≤65% 21.5	2004 total exploitation rate ceiling based on 2002 PSC coho agreement[d/] MSP level of adult spawners Identified in FMP.
Strait of Juan de Fuca	12%(6.1%) 31.9	11%(5.0%) 32.3	10%(4.0%) 32.7	≤60% 12.8	2004 total exploitation rate ceiling based on 2002 PSC coho agreement[d/] MSP level of adult spawners Identified in FMP.
COASTAL NATURAL:					
Quillayute Fall	17.6	18.1	18.5	6.3-15.8	MSY adult spawner range (not annual target). Annual management objectives may be different and are subject to agreement between WDFW and the treaty tribes under U.S. District Court orders.
Hoh	6.5	6.7	6.9	2.0-5.0	MSY adult spawner range (not annual target). Annual management objectives may be different and are subject to agreement between WDFW and the treaty tribes under U.S. District Court orders.
Queets Wild	14.6	15.0	15.4	5.8-14.5	MSY adult spawner range (not annual target). Annual management objectives may be different and are subject to agreement between WDFW and the treaty tribes under U.S. District Court orders.
Queets Supplemental	1.5	1.6	1.7	-	
Grays Harbor	102.1	104.0	103.8	35.4	MSP level of adult spawners. Annual management objectives may be different and are subject to agreement between WDFW and the treaty tribes under U.S. District Court orders.
Oregon Coastal Natural (threatened)	14.8%	13.4%	12.5%	≤15.0%	Marine and freshwater fishery exploitation rate.
Northern California (threatened)	8.6%	9.1%	8.7%	≤13.0%	Marine fishery exploitation rate for R/K hatchery coho (NMFS ESA consultation standard).

TABLE 5. Projected **key stock escapements** (thousands of fish) or management criteria for STT analysis of ocean fishery options, 2004.[a/] (Page 3 of 3)

Key Stock/Criteria	Projected Ocean Escapement[b/] or Other Criteria (Council Area Fisheries)				Spawner Objective or Other Comparative Standard as Noted
COHO (continued)					
COLUMBIA RIVER:					
Upper Columbia[e/]	**45%**	53%	58%	50%	Minimum percentage of the run to Bonneville Dam.
Columbia River Hatchery Early	155.9	178.9	194.6	38.7	Minimum ocean escapement to attain hatchery egg-take goal of 16.0 early adult coho, with average conversion and no mainstem or tributary fisheries.
Columbia River Hatchery Late	83.3	110.6	135.6	19.4	Minimum ocean escapement to attain hatchery egg-take goal of 11.3 late adult coho, with average conversion and no mainstem or tributary fisheries.

a/ Projections in the table assume a WCVI mortality for coho of the 2003 level; Southeast Alaska TAC of 355,000 chinook per PST agreement; WCVI troll catch of 151,826 chinook (includes chinook in the fall of 2003).

b/ Ocean escapement is the number of salmon escaping ocean fisheries and entering freshwater with the following clarifications. Ocean escapement for Puget Sound stocks is the estimated number of salmon entering Area 4B that are available to U.S. net fisheries in Puget Sound and spawner escapement after impacts from the Canadian, U.S. ocean, and Puget Sound troll and recreational fisheries have been deducted. Numbers in parentheses represent Council area exploitation rates for Puget sound coho stocks. For Columbia River early and late coho stocks, ocean escapement represents the number of coho after the Buoy 10 fishery. Exploitation rates for OCN coho include impacts of freshwater fisheries.

c/ includes minor contributions from East Fork Lewis River and Sandy River.

d/ Annual management objectives may be different than FMP goals, and are subject to agreement between WDFW and the treaty tribes under U.S. District Court orders. Total exploitation rate includes Alaskan, Canadian, Council area, Puget Sound and freshwater fisheries, and is calculated as total fishing mortality divided by total fishing mortality plus spawning escapement. These total exploitation rates reflect the initial base package for inside fisheries developed by state and tribal comanagers. It is anticipated that total exploitation rates will be adjusted by state and tribal comanagers during the preseason planning process to comply with stock specific exploitation rate constraints.

e/ Includes projected impacts of inriver fisheries that have not yet been shaped, but have been reduced from 2003 preseason levels based on 2004 abundance.

TABLE 7. Expected coastwide Oregon coastal natural (**OCN**) and Rogue/Klamath (**RK**) coho **exploitation** rates by fishery for STT analysis of ocean fisheries management options, 2004. (Page 1 of 1)

	Exploitation Rate (Percent)					
	OCN			RK		
Fishery	I	II	III	I	II	III
SOUTHEAST ALASKA	0.0	0.0	0.0	0.0	0.0	0.0
BRITISH COLUMBIA	0.1	0.1	0.1	0.0	0.0	0.0
PUGET SOUND/STRAITS	0.1	0.1	0.1	0.0	0.0	0.0
NORTH OF CAPE FALCON						
Treaty Indian Troll	1.1	0.9	0.7	0.0	0.0	0.0
Recreational	1.9	1.4	1.1	0.1	0.0	0.0
Non-Indian Troll	1.2	0.9	0.6	0.0	0.0	0.0
SOUTH OF CAPE FALCON						
Recreational:						
Cape Falcon to Humbug Mt.	4.2	3.5	3.3	0.3	0.2	0.1
Humbug Mt. OR/CA border (KMZ)	0.5	0.9	0.8	0.9	1.3	1.3
OR/CA border to Horse Mt. (KMZ)	1.0	1.0	1.0	3.0	3.0	2.9
Fort Bragg	0.6	0.6	0.6	1.4	1.4	1.4
South of Pt. Arena	0.6	0.6	0.6	0.9	0.9	0.9
Troll:						
Cape Falcon to Humbug Mt.	1.2	1.0	1.2	0.1	0.1	0.1
Humbug Mt. OR/CA border (KMZ)	0.1	0.1	0.1	0.0	0.0	0.0
OR/CA border to Horse Mt. (KMZ)	0.0	0.0	0.0	0.2	0.2	0.2
Fort Bragg	0.4	0.4	0.4	0.8	0.8	0.7
South of Pt. Arena	0.6	0.6	0.6	0.6	0.7	0.6
BUOY 10	0.3	0.3	0.3	0.0	0.0	0.0
ESTUARY/FRESHWATER	1.0	1.0	1.0	0.2	0.2	0.2
TOTAL	14.8	13.4	12.5	8.6	9.1	8.7

TABLE 8. **Expected mark rate** for areas with initial STT analysis of **selective coho fisheries**, 2004. (Page 1 of 1)

Area	Fishery	June	July	August	September	2003 Observed
		North of Cape Falcon				
Neah Bay (Area 4)	Recreational	30%	44%	34%	40%	39%
	Non-Indian Troll	-	37%	38%	35%	NA
La Push (Area 3)	Recreational	52%	42%	47%	14%	31%
	Non-Indian Troll	-	44%	40%	33%	NA
Westport (Area 2)	Recreational	60%	58%	55%	47%	53%
	Non-Indian Troll	-	47%	53%	33%	NA
Columbia River (Area 1)	Recreational	74%	71%	64%	57%	57%
	Non-Indian Troll	-	61%	58%	54%	NA
Buoy 10	Recreational	-	-	58%	58%	61%
		South of Cape Falcon				
Cape Falcon to Humbug Mt.	Recreational	-	-	-	-	44%
Tillamook	Recreational	64%	53%	49%	-	-
Newport	Recreational	62%	59%	48%	-	-
Coos Bay	Recreational	56%	53%	38%	-	-
Brookings	Recreational	53%	39%	31%	-	-

motion 2

Statement of Jim Harp
Tribal Motion for the 2004 Treaty Ocean Troll Salmon Season to the Pacific Fishery Management Council
March 12, 2004

For the 2004 Treaty Ocean Troll Salmon Season, I move for the establishment of three options for public review.

Option I - quota levels of 60,000 chinook, and 90,000 coho

Option II - quota levels of 40,000 chinook, and 75,000 coho

Option III - quota levels of 30,000 chinook, and 60,000 coho

The salmon season will consist of a May/June chinook directed fishery and a July/August/September all-species fishery. The chinook harvest will be evenly split between the two periods. The basic regulation package is to remain the same as contained in the 2003 Ocean Salmon Management Measures, which includes minimum size limits and gear restrictions.

I would also like to state for the record, that the tribes and state are just beginning the North of Falcon planning process in which we will evaluate the total impacts of all proposed fisheries on Puget Sound stocks. At the conclusion of these discussions, it is possible that the tribes may request in April that the Council adopt a treaty ocean troll quota that is lower than the three options that I have just proposed for evaluation and public review.

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03/12/04

SCHEDULE OF SALMON FISHERY MANAGEMENT OPTION HEARINGS
Pacific Fishery Management Council
March 29-30 2004[1/]

Date Time/Day	Location	Council	NMFS	USCG	Staff	Salmon Team	Meeting Facility Contact
March 29 Monday 7 p.m.	Chateau Westport Beach Room 710 West Hancock Westport, WA 98595				J. Gilden	D. Milward	Kathie or Chuck (360) 268-9101 Phone (360) 268-1646 Fax
March 29 Monday 7 p.m.	Red Lion Hotel South Umpqua Room 1313 N Bayshore Drive Coos Bay, OR 97420				C. Tracy	C. Foster	Ms. Kristi Snow (541) 269-4099 Phone (541) 267-2884 Fax
March 30 Tuesday 7 p.m.	Tradewinds Lodge & Restaurant Convention Room 400 S Main Street Fort Bragg, CA 95437				C. Tracy	A. Grover	Christina Woodward (707) 964-4761 Phone (707) 964-0372 Fax

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i/ The Council will also receive public comment at the Sacramento, California meeting during the week of April 5-9, 2004.

Exhibit C.10
Situation Summary
March 2003

SALMON HEARINGS OFFICERS

Situation: Attachment 1 provides a schedule of public hearings for the Council management options. Three hearings are scheduled as follows: March 29 in Westport, Washington and Coos Bay, Oregon; and March 30 in Fort Bragg, California. The public will also be able to provide their comments and recommendations on the options in Sacramento, California during the April Council meeting.

In addition to the Council's hearings, the California Department of Fish and Game and the Oregon Department of Fish and Wildlife may announce additional state-sponsored hearings.

Council Action:

1. Confirm hearings officers and other official hearings attendees.

Reference Materials:

1. Exhibit C.10.a, Attachment 1: Schedule of Salmon Fishery Management Option Hearings.

Agenda Order:

a. Agendum Overview — Chuck Tracy
b. **Council Action:** Appoint Hearings Officers — Don Hansen

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