

REVIEW OF 2010 FISHERIES AND SUMMARY OF
2011 STOCK ABUNDANCE FORECASTS

Dr. Robert Kope, Salmon Technical Team (STT) Chair, will review the results of the stock assessment and fisheries evaluation for 2010 and the stock abundance projections for 2011.

Available stock abundance forecasts for Chinook and coho are presented in Tables I-1 and I-2 (respectively) of Preseason Report I. The Scientific and Statistical Committee (SSC) will review the forecasts and recommend approval for use in modeling 2011 ocean salmon fisheries. Preseason Report I also contains an analysis of previous years' regulations on projected 2011 abundance for coho and some Chinook stocks. This analysis is intended to provide perspective for how fisheries might need to be modified in 2011 to accommodate the new abundance forecasts. Fisheries were analyzed using the same versions of Chinook and Coho Fishery Regulation Assessment Model (FRAM), Klamath Ocean Harvest Model (KOHM), and Sacramento Harvest Model (SHM) used in 2010.

Council Action:

1. **Receive and discuss relevant information.**
2. **Adopt 2011 stock abundance forecasts.**
3. **Approve models used to analyze proposed 2011 fishery management measures, as appropriate.**

Reference Materials:

1. *Review of 2010 Ocean Salmon Fisheries* (Included with Briefing Book).
2. *Preseason Report I: Stock Abundance Analysis for 2011 Ocean Salmon Fisheries* (Supplemental Briefing Material).

Agenda Order:

- a. Agenda Item Overview
 - b. Reports and Comments of Management Entities and Advisory Bodies
 - c. Public Comment
 - d. **Council Action:** Review and Discuss Relevant Fishery Information and Act on 2011 Abundance Forecasts as Necessary
- Chuck Tracy**

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SCIENTIFIC AND STATISTICAL REPORT ON THE REVIEW OF 2010 FISHERIES AND
SUMMARY OF 2011 STOCK ABUNDANCE FORECASTS

2010 Ocean Salmon Fisheries

Dr. Robert Kope presented the results of 2010 ocean salmon fisheries and pointed out that observed abundance, as evidenced by spawning escapement, was relatively close to the forecasts, although catch was substantially lower than predicted for all fisheries and for both Chinook and coho salmon.

The Scientific and Statistical Committee (SSC) noted that non-retention mortality for Chinook greatly exceeded the forecast value for inside Puget Sound fisheries (Table I.8 in Review of 2010 Fisheries). The abundance of sublegal Chinook in these areas was much higher than expected for the last two years.

2011 Stock Abundance Forecasts

Dr. Kope also presented the stock abundance predictions for 2011. The increase reported in 2011 for Oregon coast natural area is a result of new model methodology and not a projected increase in abundance.

The SSC endorses the 2011 forecasts in Preseason Report I as the best available science for use in 2011 management.

There was one note of caution shared by the SSC and Salmon Technical Team (STT). The 2011 forecast value for the Sacramento Index (SI) is more than three times that for 2010. The STT noted that the forecasts for both 2009 and 2010 were substantially greater than observed abundances and that this is likely an upward bias in the SI forecast due to the increasing strength of successive, recent cohorts. The SSC wants to underscore the importance of this phenomenon, as this condition continues in 2011, and recommend that this likely bias be considered in the 2011 season setting process.

The SSC discussed whether the bias can be corrected using the relationship between pre- and post-season estimates for the last two years. STT members stated that such an adjustment did not increase accuracy when applied retrospectively.

IDENTIFICATION OF STOCKS NOT MEETING CONSERVATION OBJECTIVES

Overfishing Concern

Each year, exclusive of stocks listed under the Endangered Species Act (ESA), the Salmon Technical Team (STT) must identify any of the natural salmon stocks with conservation objectives identified in the Salmon Fishery Management Plan (FMP) that have failed to meet their conservation objective in each of the past three years (Agenda Item G.2.a, Attachment 1). For any stock so identified that does not meet the exception criteria, an Overfishing Concern is triggered. An Overfishing Concern requires the Council direct the STT and Habitat Committee (HC) to work with State and Tribal fishery managers to complete an assessment of the cause of the conservation shortfalls and provide recommendations to the Council for stock recovery. Based on those recommendations, the Council must take actions within one year of an identified concern to prevent overfishing and begin rebuilding the stock.

In the case of natural stocks which have failed to achieve their conservation objective in each of the past three years, but are exceptions under the Salmon FMP Overfishing Criteria, the STT, HC, and Council should: (1) confirm that harvest impacts in Council fisheries continue to be less than five percent, (2) identify the probable cause of the current stock depression, (3) continue to monitor the status of the stocks, and (4) advocate measures to improve stock productivity.

Klamath River fall Chinook triggered an Overfishing Concern in 2007, and the Council adopted rebuilding criteria and measures in 2008. The STT will report on the rebuilding status of that stock.

In 2010 the Council identified one stock that had triggered an Overfishing Concern: Sacramento River Fall Chinook. The STT and Habitat Committee conducted assessments for the cause of the spawning escapement shortfalls for this stock and will report on their findings and recommendations under Agenda Item G.3.

Conservation Alert

The Salmon FMP (Attachment 1) states that any stock projected to fall short of its conservation objective triggers a Conservation Alert. If the stock in question has not met its conservation objective in the previous two years, the Council shall request the pertinent State and Tribal managers to complete a formal assessment of the primary factors leading to the shortfalls and report their conclusions and recommendations to the Council no later than the March meeting prior to the next salmon season.

New Considerations for 2011

Table V-4 in Preseason Report I compares stock specific conservation objectives with recent year stock performance, which will determine if any stocks have triggered an Overfishing Concern or Conservation Alert. The STT may update some of the information in that table for the Council at the Council meeting. However, at the time of the advance Briefing Book deadline, no stocks had triggered an Overfishing Concern.

Council Action:

- 1. Identify naturally spawning stocks failing to meet their conservation objectives (exclusive of stocks listed under the ESA).**
- 2. Identify naturally spawning stocks projected to not meet their conservation objectives in 2010 (exclusive of stocks listed under the ESA).**
- 3. Confirm implementation of the actions required by the Council's Overfishing Concern and Conservation Alert procedures in the salmon FMP.**

Reference Materials:

1. Agenda Item G.2.a, Attachment 1: Excerpt from the Pacific Coast Salmon Plan – § 3.2. Overfishing Criteria.
2. *Preseason Report I: Stock Abundance Analysis for 2011 Ocean Salmon Fisheries* (Supplemental Briefing Material).

Agenda Order:

- a. Agenda Item Overview
 - b. Reports and Comments of Management Entities and Advisory Bodies
 - c. Public Comment
 - d. **Council Action:** Direct Necessary Actions Required by the Salmon Fishery Management Plan
- Chuck Tracy

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EXCERPT FROM THE PACIFIC COAST SALMON PLAN

3.2 OVERFISHING CRITERIA

“Any fishery management plan . . . shall . . . specify objective and measurable criteria for identifying when the fishery . . . is overfished . . . and, . . . contain conservation and management measures to prevent overfishing or end overfishing and rebuild the fishery;”
Magnuson-Stevens Act, § 303(a)(10)

“The terms overfishing and overfished mean a rate or level of fishing mortality that jeopardizes the capacity of a fishery to produce the maximum sustainable yield on a continuing basis.”

Magnuson-Stevens Act, § 3(29)

In applying the Magnuson-Stevens Act definition of overfishing to salmon fisheries and establishing criteria by which to identify it, the Council must consider the uncertainty and theoretical aspects of MSY as well as the complexity and variability unique to naturally producing salmon populations. These unique aspects include the interaction of a short-lived species with frequent, sometimes protracted, and often major variations in both the freshwater and marine environments. These variations may act in unison or in opposition to affect salmon productivity in both positive and negative ways. In addition, variations in natural populations may sometimes be difficult to measure due to masking by artificially produced salmon.

3.2.1 General Application to Salmon Fisheries

In setting criteria from which to judge the conservation status of salmon stocks, the unique life history of salmon must be considered. Chinook, coho, and pink salmon are short-lived species (generally two to six years) that reproduce only once shortly before dying. Spawning escapements of coho and pink salmon are dominated by a single-year class and chinook spawning escapements may be dominated by no more than one or two-year classes. The abundance of year classes can fluctuate dramatically with combinations of natural and human-caused environmental variation. Therefore, it is not unusual for a healthy and relatively abundant salmon stock to produce occasional spawning escapements which, even with little or no fishing impacts, may be significantly below the long-term average associated with the production of MSY. This phenomenon has been observed in recent years for numerous salmon stocks, including Klamath River fall chinook and several Washington coho stocks.

Numerous West Coast salmon stocks have suffered, and continue to suffer, from an onslaught of nonfishing activities that severely reduce natural survival by such actions as the elimination or degradation of freshwater spawning and rearing habitat. The consequence of this man-caused, habitat-based variation is two fold. First, these habitat changes increase large scale variations in stock productivity and associated stock abundances, which in turn complicate the overall determination of MSY and the specific assessment of whether a stock is producing at or below that level. Secondly, as the productivity of the freshwater habitat is diminished, the benefit of

further reductions in fishing mortality to improve stock abundance decreases. Clearly, the failure of several stocks managed under this FMP to produce at an historic or consistent MSY level has little to do with current fishing impacts and often cannot be rectified with the cessation of all fishing.

To address the requirements of the Magnuson-Stevens Act to clearly identify when a stock may be approaching an overfished condition or is overfished, the Council has established two separate criteria based on a stock's failure to meet its conservation objective. These criteria are denoted as a "conservation alert" and an "overfishing concern". The criteria for these two categories are based on the unique life history of salmon and the large variations in annual stock abundance due to numerous environmental variables. They also take into account the uncertainty and imprecision surrounding many estimates of MSY, fishery impacts, and spawner escapements. In recognition of the unique salmon life history, the criteria differ somewhat from the general guidance in the National Standard Guidelines (§ 600.310), but equal or exceed them in addressing the overfishing issue as it relates to salmon.

3.2.2 Conservation Alert

"A fishery shall be classified as approaching a condition of being overfished if, based on trends in fishing effort, fishery resource size, and other appropriate factors, the Secretary estimates that the fishery will become overfished within two years."

Magnuson-Stevens Act, § 304(e)(1)

To anticipate and react to potential stock declines which might lead to overfishing, the Council has established a conservation alert process with criteria and actions as described below.

3.2.2.1 Criteria

A conservation alert is triggered during the annual preseason process (Chapter 9) if a natural stock or stock complex, listed in Table 3-1, is projected to fall short of its conservation objective (MSY, MSY proxy, MSP, or floor in the case of some harvest rate objectives [e.g., 35,000 natural Klamath River fall Chinook spawners]). While a projected one-year shortfall may be of little biological concern, it may also represent the beginning of production problems and is worthy of note to help prevent future stock decline.

3.2.2.2 Council Action

For all natural stocks which meet the conservation alert criteria, the Council will notify pertinent fishery and habitat managers, advising that the stock may be temporarily depressed or approaching an overfishing concern (depending on its recent conservation status), and request that state and tribal fishery managers identify the probable causes, if known. If the stock in question has not met its conservation objective in the previous two years, the Council will request the pertinent state and tribal managers to do a formal assessment of the primary factors leading to the shortfalls and report their conclusions and recommendations to the Council no later than the March meeting prior to the next salmon season.

The Council will take the following actions for stocks which trigger a conservation alert that do not qualify as exceptions under Section 3.2.4 (see Table 3-1):

1. Close salmon fisheries within Council jurisdiction that impact the stock.
2. In the case of Washington coastal and Puget Sound salmon stocks and fisheries managed under U.S. District Court orders, the Council may allow fisheries which meet annual spawner targets developed through relevant *U.S. v. Washington, Hoh v. Baldrige*, and subsequent U.S. District Court ordered processes and plans, which may vary from the MSY or MSP conservation objectives
3. In the case of Klamath River fall Chinook, fisheries subject to Council Action under a Conservation Alert are those between Cape Falcon, Oregon and Point Sur, California. Within the Cape Falcon to Point Sur area, the Council may allow *de minimis* fisheries, which: permit an ocean impact rate of no more than 10% on age-4 Klamath River fall Chinook, if the projected natural spawning escapement associated with a 10% age-4 ocean impact rate, including river recreational and tribal impacts, is between the conservation objective (35,000) and 22,000. If the projected natural escapement associated with a 10% age-4 ocean impact rate is less than 22,000, the Council shall further reduce the allowable age-4 ocean impact rate to reflect the status of the stock.

During the preseason planning process to set an allowable age-4 ocean impact rate the Council shall ensure that the projected allowable ocean impact rate will not jeopardize the capacity of the fishery to produce the maximum sustainable yield on a continuing basis. In making this determination, the Council shall consider the following:

- a) The potential for critically low natural spawner abundance, including the risk of Klamath Basin substocks dropping below crucial genetic thresholds;
- b) A series of low spawner abundance in recent years;
- c) The status of co-mingled stocks;
- d) The occurrence of *El Niño* or other adverse environmental conditions;
- e) Endangered Species Act (ESA) considerations; and
- f) Other considerations as appropriate.

Implementation of *de minimis* fisheries will depend on year specific estimates of ocean abundance and age composition, and will be determined by the STT prior to the March Council meeting. Ocean fishery impacts to the returning brood incurred during the previous fall/winter fisheries will be counted against the allowable age-4 ocean impact rate.

Other than the exceptions noted above, the Council may not recommend ocean salmon fisheries which are expected to trigger a conservation alert.

If postseason estimates confirm that a stock conservation objective is not met, a rebuilding program for the following year is implicit in the conservation objective since it is based on annually meeting MSY or MSP. In addition, the Council reviews stock status annually and, where needed, identifies actions required to improve estimation procedures and correct biases. Such improvements provide greater assurance that objectives will be achieved in future seasons.

Consequently, a remedial response is built into the preseason planning process to address excessive fishing mortality levels relative to the conservation objective of a stock.

The Council does not believe that a one year departure from the MSY/MSP spawner objective for salmon affects the capacity of a stock to produce MSY over the long-term (i.e., does not constitute overfishing as defined by the Magnuson-Stevens Act). However, the Council's use of a conservation alert and the rebuilding effect of the conservation objectives provides for sound resource management and responds to the concept in the National Standard Guidelines for action to address overfishing concerns in any one year. The Council's conservation objectives which are used to trigger a conservation alert are generally based on MSY or MSP rather than a minimum stock size threshold. In this respect, the Council's management approach is more conservative than recommended by the National Standard Guidelines.

3.2.3 Overfishing Concern

“For a fishery that is overfished, any fishery management plan, amendment, or proposed regulations . . . for such fishery shall—(A) specify a time period for ending overfishing and rebuilding the fishery that shall—(i) be as short as possible, taking into account the status and biology of any overfished stocks of fish, the needs of the fishing communities, recommendations by international organizations in which the United States participates, and the interaction of the overfished stock within the marine ecosystem; and (ii) not exceed 10 years, except in cases where the biology of the stock of fish, other environmental conditions, or management measures under an international agreement in which the United States participates dictate otherwise. . . .”

Magnuson-Stevens Act, § 304(e)(4)

The Magnuson-Stevens Act requires overfishing be ended and stocks rebuilt in as short a period as possible and, depending on other factors, no longer than ten years. For healthy salmon stocks which may experience a sudden reduction in production and/or spawner escapement, the limitation on fishing impacts provided by the Council's MSY or MSY proxy conservation objectives provide a stock rebuilding plan that should be effective within a single salmon generation (two years for pinks, three years for coho, and three to five years for Chinook). However, additional actions may be necessary to prevent overfishing of stocks suffering from chronic depression due to fishery impacts outside Council authority, or from habitat degradation or long-term environmental fluctuations. Such stocks may meet the criteria invoking the Council's overfishing concern.

3.2.3.1 Criteria

The Council's criteria for an overfishing concern are met if, in three consecutive years, the postseason estimates indicate a natural stock has fallen short of its conservation objective (MSY, MSP, or spawner floor as noted for some harvest rate objectives) in Table 3-1. It is possible that this situation could represent normal variation, as has been seen in the past for several previously referenced salmon stocks which were reviewed under the Council's former overfishing definition. However, the occurrence of three consecutive years of reduced stock size or spawner escapements, depending on the magnitude of the short-fall, could signal the beginning of a critical downward trend (e.g., Oregon coastal coho) which may result in fishing that jeopardizes

the capacity of the stock to produce MSY over the long term if appropriate actions are not taken to ensure the automatic rebuilding feature of the conservation objectives is achieved.

3.2.3.2 Assessment

When an overfishing concern is triggered, the Council will direct its STT to work with state and tribal fishery managers to complete an assessment of the stock within one year (generally, between April and the March Council meeting of the following year). The assessment will appraise the actual level and source of fishing impacts on the stock, consider if excessive fishing has been inadvertently allowed by estimation errors or other factors, identify any other pertinent factors leading to the overfishing concern, and assess the overall significance of the present stock depression with regard to achieving MSY on a continuing basis.

Depending on its findings, the STT will recommend any needed adjustments to annual management measures to assure the conservation objective is met, or recommend adjustments to the conservation objective which may more closely reflect the MSY or ensure rebuilding to that level. Within the constraints presented by the biology of the stock, variations in environmental conditions, and the needs of the fishing communities, the STT recommendations should identify actions that will recover the stock in as short a time as possible, preferably within ten years or less, and provide criteria for identifying stock recovery and the end of the overfishing concern. The STT recommendations should cover harvest management, potential enhancement activities, hatchery practices, and any needed research. The STT may identify the need for special programs or analyses by experts outside the Council advisors to assure the long-term recovery of the salmon population in question. Due to a lack of data for some stocks, environmental variation, economic and social impacts, and habitat losses or problems beyond the control or management authority of the Council, it is likely that recovery of depressed stocks in some cases could take much longer than ten years.

In addition to the STT assessment, the Council will direct its Habitat Committee (HC) to work with federal, state, local, and tribal habitat experts to review the status of the essential fish habitat affecting this stock and, as appropriate, provide recommendations to the Council for restoration and enhancement measures within a suitable time frame.

3.2.3.3 Council Action

Following its review of the STT report, the Council will specify the actions that will comprise its immediate response for ensuring that the stock's conservation objective is met or a rebuilding plan is properly implemented and any inadvertent excessive fishing within Council jurisdiction is ended. The Council's rebuilding plan will establish the criteria that identify recovery of the stock and the end of the overfishing concern. In some cases, it may become necessary to modify the existing conservation objective/rebuilding plan to respond to habitat or other long-term changes. Even if fishing is not the primary factor in the depression of the stock or stock complex, the Council must act to limit the exploitation rate of fisheries within its jurisdiction so as not to limit recovery of the stock or fisheries, or as is necessary to comply with ESA consultation standards. In cases where no action within Council authority can be identified which has a reasonable expectation of providing benefits to the stock unit in question, the Council will identify the actions required by other entities to recover the depressed stock. Upon

review of the report from the HC, the Council will take actions to promote any needed restitution of the identified habitat problems.

For those fishery management actions within Council authority and expertise, the Council may change analytical or procedural methodologies to improve the accuracy of estimates for abundance, harvest impacts, and MSY escapement levels, and/or reduce ocean harvest impacts when shown to be effective in stock recovery. For those causes beyond Council control or expertise, the Council may make recommendations to those entities which have the authority and expertise to change preseason prediction methodology, improve habitat, modify enhancement activities, and re-evaluate management and conservation objectives for potential modification through the appropriate Council process.

3.2.4 Exceptions

“Conservation and management measures shall take into account and allow for variations among, and contingencies in, fisheries, fishery resources, and catches.”
Magnuson-Stevens Act, National Standard 6

This plan contains three exceptions to the application of overfishing criteria and subsequent Council actions for stocks or stock complexes with conservation objectives in Table 3-1: (1) hatchery stocks, (2) stocks for which Council management actions have inconsequential impacts, and (3) stocks listed under the ESA.

3.2.4.2 Natural Stocks with Minimal Harvest Impacts in Council-Managed Fisheries

Several natural stock components identified within this FMP are subject to minimal harvest impacts in Council fisheries because of migration timing and/or distribution. As a result, the Council’s ability to affect the overall trend in the abundance of these components through harvest restrictions is virtually nil. Components in this category are identified by a cumulative adult equivalent exploitation rate of less than five percent in ocean fisheries under Council jurisdiction during base periods utilized by the fishery regulation assessment models (1979-1982 for Chinook and 1979-1981 for coho). Council action for these components, when a conservation alert or an overfishing concern are triggered, will consist of confirming negligible impacts of proposed Council fisheries, identifying factors which have led to the decline or low abundance (e.g., fishery impacts outside Council jurisdiction, or degradation or loss of essential fish habitat), and monitoring of abundance trends and total harvest impact levels. Council action will focus on advocating measures to improve stock productivity, such as reduced interceptions in non-Council-managed fisheries, and improvements in spawning and rearing habitat, fish passage, flows, and other factors affecting overall stock survival.

3.2.4.3 Stocks Listed Under the Endangered Species Act

The Council regards stocks listed as endangered or threatened under the ESA as a third exception to the application of overfishing criteria of the Magnuson-Stevens Act. The ESA requires federal agencies whose actions may jeopardize listed salmon to consult with NMFS. Because NMFS implements ocean harvest regulations, it is both the action and consulting agency for actions taken under the FMP. To ensure there is no jeopardy, NMFS conducts internal consultations with respect to the effects of ocean harvest on listed salmon. The Council

implements NMFS' guidance as necessary to avoid jeopardy, as well as in recovery plans approved by NMFS. As a result of NMFS' consultation, an incidental take statement may be issued which authorizes take of listed stocks under the FMP that would otherwise be prohibited under the ESA. The Council believes that the requirements of the ESA are sufficient to meet the intent of the Magnuson-Stevens Act overfishing provisions. Those provisions are structured to maintain or rebuild stocks to levels at or above MSY and require the Council to identify and develop rebuilding plans for overfished stocks. For many fish species regulated under the Magnuson-Stevens Act, the elimination of excess fishing pressure is often the sole action necessary to rebuild depressed stocks. This is, however, not the case for many salmon stocks and, in particular, for most listed populations.

Although harvest has certainly contributed to the depletion of West Coast salmon populations, the primary reason for their decline has been the degradation and loss of freshwater spawning, rearing, and migration habitats. The quality and quantity of freshwater habitat are key factors in determining the MSY of salmon populations. The Council has no control over the destruction or recovery of freshwater habitat nor is it able to predict the length of time that may be required to implement the habitat improvements necessary to recover stocks. While the Council could theoretically establish new MSY escapement goals consistent with the limited or degraded habitat available to listed species, adoption of revised goals would potentially result in an ESA-listed stock being classified as producing at MSY and; therefore, not overfished under the Magnuson-Stevens Act. The Council believes that the intent of the ESA and the Magnuson-Stevens Act is the recovery of stocks to MSY levels associated with restored habitat conditions.

The Council considers the consultation standards and recovery plans developed by NMFS for listed populations as interim rebuilding plans. Although NMFS' consultation standards and recovery plans may not by themselves recover listed populations to historical MSY levels within ten years, they are sufficient to stabilize populations until freshwater habitats and their dependent populations can be restored and estimates of MSY developed consistent with recovered habitat conditions. As species are delisted, the Council will establish conservation objectives with subsequent overfishing criteria and manage to maintain the stocks at or above MSY levels.

SCIENTIFIC AND STATISTICAL COMMITTEE REPORT ON IDENTIFICATION OF
STOCKS NOT MEETING CONSERVATION OBJECTIVES

Dr. Robert Kope briefed the Scientific and Statistical Committee on salmon stocks currently not meeting conservation objectives. No stocks are currently overfished or triggering an overfishing concern with the exception of Sacramento River Fall Chinook (SRFC). SRFC escapements were below the minimum of 122,000 in 2007, 2008, and 2009. In 2010, escapement was 125,353 hatchery and natural fish. Current status depends on the criterion adopted for ending the overfishing concern. The Salmon Technical Team recommends using the preferred criterion proposed for Amendment 16: a three year geometric mean escapement exceeding 122,000 (S_{MSY}). Using this measure, the overfishing concern would be ended with an escapement of 354,412 in 2011.

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SACRAMENTO RIVER FALL CHINOOK OVERFISHING ASSESSMENT

At its March 2010 meeting, the Council confirmed that Sacramento River fall Chinook (SRFC) had failed to meet the lower end of the 122,000-180,000 adult hatchery and natural area spawning escapement objective for the third consecutive year, triggering an Overfishing Concern as specified in the Pacific Coast Salmon Fishery Management Plan (FMP) (Agenda Item G.3.a, Attachment 1).

The Council directed the Salmon Technical Team (STT) to work with relevant co-managers to conduct an assessment of the factors causing the designation. In addition to assessing the role of fishing in the spawning escapement shortfalls, the STT was directed to use the March 18, 2009 Southwest Fishery Science Center draft report: *What Caused The Sacramento River Fall Chinook Stock Collapse?* (Lindley et al. 2009) as a starting point for the assessment. The Council also directed the Habitat Committee to investigate Essential Fish Habitat improvements that could benefit these stocks and report to the Council at the March 2011 meeting.

A joint subcommittee of the STT and Habitat Committee (HC) was assigned to update the topics addressed in Lindley et al. 2009 with additional data and analyses where necessary to assess the three broods (2004-2006) that were associated with the escapement shortfalls.

Based on the direction provided in the FMP (Attachment 1), the Council will review the STT Report. Then, utilizing that report and other pertinent advisory body comments, the Council will adopt its recommended actions to ensure the stock's conservation objective will be met in the future. If necessary, the action could include a specific rebuilding plan to ensure recovery to the levels that reflect Maximum Sustainable Yield or other criteria. Specifically, the Council's action should:

1. Specify criteria to define the end of the current Overfishing Concern. The Council must determine if the default rebuilding feature of the FMP is adequate to end the current Overfishing Concern, or if additional criteria should be met in this specific case. The default criterion of achieving the conservation objective for SRFC was met in 2010 with a hatchery and natural area spawning escapement of 125,353 adults.
2. Specify actions that ensure the current conservation objective or a new stock recovery objective is met. Those actions should be reflected in the Council's annual management measures, and may be incorporated into a formal rebuilding plan, if necessary. The recommendations for stock recovery actions should be tied to criteria defining an end to the Overfishing Concern.
3. Consider action on other recommendations in the stock assessment. There are a number of recommendations in the stock assessment concerning fishery management, hatchery practices, research, and restoration and enhancement measures.

4. Identify how the Council's actions are to be implemented. Implementation of the Council's decisions may require action in the annual regulations or through a fishery management plan amendment. If the Council determines a special rebuilding plan beyond the default rebuilding feature in the FMP is necessary to rebuild the stock, the Council should specify the process by which those actions would be formalized (e.g., formal plan amendment, technical amendment, regulatory amendment, etc.) and provide direction for initiating the process.

Council Action:

1. **Specify criteria to determine the end of the Overfishing Concern for SRFC.**
2. **Specify actions to ensure the SRFC conservation objective is met.**
3. **Consider action on other recommendations in the stock assessment.**
4. **Specify how implementation of the Council's actions will be achieved, depending on the decisions under Council Actions 2 through 4 above.**

Reference Materials:

1. Agenda Item G.3.a, Attachment 1: Excerpt from the Pacific Coast Salmon Plan.
2. Agenda Item G.3.b, SRFC Stock Assessment: Assessment of factors affecting escapement shortfalls of Sacramento River fall Chinook salmon in 2007-2009.
3. G.3.c, Public Comment.

Agenda Order:

- a. Agenda Item Overview
- b. Reports and Comments of Advisory Bodies and Management Entities
- c. Public Comment
- d. Council Discussion and Guidance

Chuck Tracy

PFMC
02/11/11

EXCERPT FROM THE PACIFIC COAST SALMON PLAN

3.2.3 Overfishing Concern

“For a fishery that is overfished, any fishery management plan, amendment, or proposed regulations . . . for such fishery shall—(A) specify a time period for ending overfishing and rebuilding the fishery that shall—(i) be as short as possible, taking into account the status and biology of any overfished stocks of fish, the needs of the fishing communities, recommendations by international organizations in which the United States participates, and the interaction of the overfished stock within the marine ecosystem; and (ii) not exceed 10 years, except in cases where the biology of the stock of fish, other environmental conditions, or management measures under an international agreement in which the United States participates dictate otherwise. . . .”

Magnuson-Stevens Act, § 304(e)(4)

The Magnuson-Stevens Act requires overfishing be ended and stocks rebuilt in as short a period as possible and, depending on other factors, no longer than ten years. For healthy salmon stocks which may experience a sudden reduction in production and/or spawner escapement, the limitation on fishing impacts provided by the Council’s maximum sustainable yield (MSY) or MSY proxy conservation objectives provide a stock rebuilding plan that should be effective within a single salmon generation (two years for pinks, three years for coho, and three to five years for Chinook). However, additional actions may be necessary to prevent overfishing of stocks suffering from chronic depression due to fishery impacts outside Council authority, or from habitat degradation or long-term environmental fluctuations. Such stocks may meet the criteria invoking the Council’s overfishing concern.

3.2.3.1 Criteria

The Council’s criteria for an overfishing concern are met if, in three consecutive years, the postseason estimates indicate a natural stock has fallen short of its conservation objective (MSY, Maximum Sustainable Production, or spawner floor as noted for some harvest rate objectives) in Table 3-1. It is possible that this situation could represent normal variation, as has been seen in the past for several previously referenced salmon stocks which were reviewed under the Council’s former overfishing definition. However, the occurrence of three consecutive years of reduced stock size or spawner escapements, depending on the magnitude of the short-fall, could signal the beginning of a critical downward trend (e.g., Oregon coastal coho) which may result in fishing that jeopardizes the capacity of the stock to produce MSY over the long-term if appropriate actions are not taken to ensure the automatic rebuilding feature of the conservation objectives is achieved.

3.2.3.2 Assessment

When an overfishing concern is triggered, the Council will direct its Salmon Technical Team (STT) to work with state and tribal fishery managers to complete an assessment of the stock within one year (generally, between April and the March Council meeting of the following year). The assessment will appraise the actual level and source of fishing impacts on the stock, consider if excessive fishing has been inadvertently allowed by estimation errors or other factors, identify any other pertinent factors leading to the overfishing concern, and assess the overall significance of the present stock depression with regard to achieving MSY on a continuing basis.

Depending on its findings, the STT will recommend any needed adjustments to annual management measures to assure the conservation objective is met, or recommend adjustments to the conservation objective which may more closely reflect the MSY or ensure rebuilding to that level. Within the constraints presented by the biology of the stock, variations in environmental conditions, and the needs of the fishing communities, the STT recommendations should identify actions that will recover the stock in as short a time as possible, preferably within ten years or less, and provide criteria for identifying stock recovery and the end of the overfishing concern. The STT recommendations should cover harvest management, potential enhancement activities, hatchery practices, and any needed research. The STT may identify the need for special programs or analyses by experts outside the Council advisors to assure the long-term recovery of the salmon population in question. Due to a lack of data for some stocks, environmental variation, economic and social impacts, and habitat losses or problems beyond the control or management authority of the Council, it is likely that recovery of depressed stocks in some cases could take much longer than ten years.

In addition to the STT assessment, the Council will direct its Habitat Committee (HC) to work with Federal, state, local, and tribal habitat experts to review the status of the essential fish habitat affecting this stock and, as appropriate, provide recommendations to the Council for restoration and enhancement measures within a suitable time frame.

3.2.3.3 Council Action

Following its review of the STT report, the Council will specify the actions that will comprise its immediate response for ensuring that the stock's conservation objective is met or a rebuilding plan is properly implemented and any inadvertent excessive fishing within Council jurisdiction is ended. The Council's rebuilding plan will establish the criteria that identify recovery of the stock and the end of the overfishing concern. In some cases, it may become necessary to modify the existing conservation objective/rebuilding plan to respond to habitat or other long-term changes. Even if fishing is not the primary factor in the depression of the stock or stock complex, the Council must act to limit the exploitation rate of fisheries within its jurisdiction so as not to limit recovery of the stock or fisheries, or as is necessary to comply with ESA consultation standards. In cases where no action within Council authority can be identified which has a reasonable expectation of providing benefits to the stock unit in question, the Council will identify the actions required by other entities to recover the depressed stock. Upon review of the report from the HC, the Council will take actions to promote any needed restitution of the identified habitat problems.

For those fishery management actions within Council authority and expertise, the Council may change analytical or procedural methodologies to improve the accuracy of estimates for abundance, harvest impacts, and MSY escapement levels, and/or reduce ocean harvest impacts when shown to be effective in stock recovery. For those causes beyond Council control or expertise, the Council may make recommendations to those entities which have the authority and expertise to change preseason prediction methodology, improve habitat, modify enhancement activities, and re-evaluate management and conservation objectives for potential modification through the appropriate Council process.

3.2.3.4 End of Overfishing Concern

The criteria for determining the end of an overfishing concern will be included as a part of any rebuilding plan adopted by the Council. Additionally, an overfishing concern will be ended if the STT stock analysis provides a clear finding that the Council's ability to affect the overall trend in the stock abundance through harvest restrictions is virtually nil under the "exceptions" criteria below for natural stocks.

PFMC
02/11/11

HABITAT COMMITTEE REPORT ON SACRAMENTO RIVER FALL CHINOOK OVERFISHING ASSESSMENT

This report, which is a specific assessment of three Sacramento River fall Chinook (SRFC) brood years (2004, 2005, 2006) concludes that adverse ocean conditions were a primary cause for this stock not meeting conservation objectives. While this appears to be true, the Habitat Committee (HC) also concludes that freshwater conditions were and remain adverse to juvenile salmon. This in turn reduces the viability of natural and hatchery stocks utilizing the main stem migration corridor, resulting in poor marine survival when oceanic conditions are less than ideal.

The Council directed the HC to investigate essential fish habitat (EFH) improvements that could benefit these stocks and report to the Council at the March 2011 meeting. In response to this task, the HC believes the EFH conservation recommendations for the Long Term Operations of the Central Valley Project and State Water Project represent appropriate actions for improving freshwater EFH for this stock. The recommendations (attached) should be included in the Sacramento River Fall Chinook Overfishing Assessment.

The HC is concerned that the current conservation objective could be met solely by hatchery production. One of the conclusions of the Lindley et al. report was the vulnerability of homogenous hatchery stocks to catastrophic crashes due to lack of diversity. Therefore, the HC recommends the Council consider developing separate conservation objectives for hatchery and naturally reproducing SRFC.

The HC also recommends differentiating the performance of offsite hatchery releases (i.e. trucked around the delta) from natural and hatchery stocks migrating through the length of the system. This information will help in understanding the degree to which life history diversity affects the overall health and success of the stock.

The HC notes that although the Overfishing Assessment references Amendment 16 as establishing preferred alternatives for stock rebuilding criteria, the amendment has not yet been adopted by the Council.

V. EFH CONSERVATION RECOMMENDATIONS

Appendix A of Amendment 14 to the Pacific Coast Salmon Plan (PFMC 1999) provides a general list of conservation measures. NMFS recommends that the following be implemented in the action area. Although these are general recommendations without specific actions, they are designed to indicate to Reclamation where opportunities exist within their authorities to compensate for the effects of the proposed project within other actions undertaken by Reclamation.

Riparian Habitat Management: In order to prevent adverse effects to riparian corridors, Reclamation and DWR should:

- Maintain riparian management zones of appropriate width along Old River, Middle River, Grant Line/Fabian –Bell Canal, the lower San Joaquin River, and wherever the agencies have jurisdiction;
- Reduce erosion and runoff into waterways within the project area; and
- Minimize the use of chemical treatments within the riparian management zone to manage nuisance vegetation along the levee banks.

Bank Stabilization: The installation of riprap or other streambank stabilization devices can reduce or eliminate the development of side channels, functioning riparian and floodplain areas and off-channel sloughs. In order to minimize these impacts, Reclamation and DWR should:

- Use vegetative methods of bank erosion control whenever feasible. Hard bank protection should be a last resort when all other options have been explored and deemed unacceptable;
- Determine the cumulative effects of existing and proposed bio-engineered or bank hardening projects on salmon EFH, including prey species, before planning new bank stabilization projects; and
- Develop plans that minimize alterations or disturbance of the bank and existing riparian vegetation.

Conservation Measures for Construction/Urbanization: Activities associated with urbanization (*e.g.*, building construction, utility installation, road and bridge building, and storm water discharge) can significantly alter the land surface, soil, vegetation, and hydrology, and subsequently adversely impact salmon EFH through habitat loss or modification. In order to minimize these impacts, the Reclamation and DWR should:

- Plan development sites to minimize clearing and grading;
- Use Best Management Practices in building as well as road construction and maintenance operations such as avoiding ground disturbing activities during the wet season, minimizing the time disturbed lands are left exposed, using erosion prevention and sediment control methods, minimizing vegetation disturbance, maintaining buffers of vegetation around wetlands, streams, and drainage ways, and avoiding building activities in areas of steep slopes with highly erodible soils. Use methods such as sediment ponds,

sediment traps, or other facilities designed to slow water runoff and trap sediment and nutrients; and

- Where feasible, reduce impervious surfaces.

Wastewater/Pollutant Discharges: Water quality essential to salmon and their habitat can be altered when pollutants are introduced through surface runoff, through direct discharges of pollutants into the water, when deposited pollutants are re-suspended (*e.g.*, from dredging), and when flow is altered. Indirect sources of water pollution in salmon habitat includes runoff from streets, yards, and construction sites. In order to minimize these impacts, Reclamation and DWR should:

- Monitor water quality discharge following National Pollution Discharge Elimination System requirements from all discharge points;
- Work with State and Federal agencies to establish total maximum daily loads and develop appropriate management plans to attain management goals for those waters that are listed under Clean Water Act section 303 (d) criteria (*e.g.*, the Delta); and
- Establish and update, as necessary, pollution prevention plans, spill control practices, and spill control equipment for the handling and transport of toxic substances in salmon EFH (*e.g.*, oil and fuel, organic solvents, raw cement residue, sanitary wastes, *etc.*). Consider bonds or other damage compensation mechanisms to cover cleanup, restoration, and mitigation costs.

Irrigation Water Withdrawal, Storage, and Management: Water withdrawn for irrigation can have adverse impacts on Chinook salmon EFH. Diversions may cause impediments to migration, physical entrainment or injury due to impingement altered flow profiles, changes in water temperature regimes, and fluctuations in water levels. Alterations in the chemical and physical attributes of the aquatic environment may in turn affect the biological components of the aquatic habitat. Return agricultural water discharging to salmonid-bearing waterways can substantially alter and degrade habitat. General problems associated with agricultural return flows to surface waters include increased water temperatures, salinity, pathogens, decreased dissolved oxygen, increased contaminant loads from pesticides and fertilizers, and an increase in sediment loads. In order to minimize these impacts, Reclamation and DWR should:

- Apply conservation and enhancement measures for dams to water management activities and facilities where applicable;
- Establish adequate in-stream flow conditions for salmonids using, for example, Instream Flow Incremental Methodology (IFIM);
- Identify and use appropriate water conservation measures in accordance with state law;
- Install flow meters at major diversion points to account for water delivered to users, in accordance with state law;
- Screen water diversions on all fish bearing streams and waterways;
- Incorporate juvenile and adult salmonid passage on all water diversions where migration blockage occurs; and
- Undertake efforts to purchase or lease, from willing sellers and lessors, water rights necessary to maintain in-stream flows in accordance with appropriate State and Federal laws.

Dam Construction and Operation: Dams built to generate power, store water, or provide flood control have significantly contributed to declines in salmonid populations in the Central Valley. Adverse effects include impaired fish passage (including complete blockage of natal streams); downstream alterations to water temperatures, water quality parameters, water quantity, flow patterns and hydrological profiles; interruption of nutrient flow downstream; loss of LWD input to downstream segments of the watershed from upstream reaches; disruption of the sediment transport mechanism which affects riparian, river, wetland, and estuarine systems downstream of the dam; increased competition from non-native species more adaptable to the altered conditions below the dams; and increased predation rates due to disorientation or injury from passing over or through the dam structure. In order to minimize these impacts, Reclamation and DWR should:

- Operate facilities to create flow conditions adequate to provide for passage, water quality, proper timing of life history attributes, avoid juvenile stranding and redd dewatering, and maintain and restore properly functioning channel, floodplain, riparian, and estuarine conditions;
- Provide for adequate designing and screening of all dams, hydroelectric installations, and bypasses to meet specific passage criteria developed for dam operations on the West Coast;
- Develop water and energy conservation guidelines and integrate them in to the daily dam operations and into regional and watershed-based water resource plans; and
- Provide mitigation for non-avoidable adverse effects to salmonid EFH, including monitoring and evaluation of any mitigation or conservation plans undertaken under this section.

NMFS also recommends that the habitat-based actions within the reasonable and prudent alternative from the Opinion be adopted as EFH Conservation Recommendations. Finally, NMFS recommends that the following Conservation Recommendations be implemented.

A. Clear Creek

- 1) Reclamation should increase the frequency of flood control spills from Whiskeytown Reservoir consistent with the RPA to improve channel maintenance and habitat variability.
- 2) Reclamation should continue funding the CVPIA Clear Creek Restoration Program, the Gravel Augmentation Program, the (b)(2) water for anadromous fish, and the adult separation weir every year.
- 3) Reclamation should replace the Whiskeytown Reservoir Temperature Curtain by March 2010 to retain the original design efficiency and improve cold water releases to the Sacramento River.

- 4) Reclamation should implement short duration spring-time pulse flows (500 to 600 cfs) every year in order to attract spring-run Chinook adults before flows are reduced in the summer months.
- 5) Reclamation should provide short duration (one to three days) fall spawning attraction flows of 500 cfs, as recommended by Denton (1986 *op. cit.* CVP/SWP operations BA), in October and November.
- 6) Reclamation should manage flows for listed and non-listed salmonids only after all of the four IFIM studies planned for Clear Creek have been completed. A new flow prescription should not be implemented until these study results can be reviewed and discussed by the Clear Creek Technical Team and agreement reached between the fish agencies. The final flow regime should to balance the biological needs of all life stages (*e.g.*, juveniles rearing vs. adult spawning) of the different runs (*e.g.*, spring-run, fall-run, late fall-run, and steelhead).

B. Upper Sacramento River

- 1) Reclamation should, working through the appropriate CALFED program, investigate alternatives to the rice decomposition program (*i.e.*, baling rice straw, mulching, *etc.*), and recommend ways of stabilizing, or increasing flows after September 30, to reduce redd dewatering.
- 2) Reclamation should provide the necessary modeling and real time temperature data to the Sacramento River Temperature Control Task Group starting in February with the first water year allocation announcement and operations forecast. In this way, decisions on water temperature management throughout the summer in the upper Sacramento River relative to fish habitat conditions and coldwater pool storage in Shasta Reservoir can also consider the habitat needs of fall and late fall-run.
- 3) Reclamation should increase Spring Creek diversions in April, May, and June to 1500 cfs to provide colder water for Clear Creek and the main stem Sacramento River (benefits winter-run and fall-run).
- 4) Reclamation should ramp down Sacramento River flows from August to December, as quickly as possible, following the RPA and CVPIA Anadromous Fish Restoration Program guidelines for stabilizing flows during the fall-run/late fall-run spawning period to reduce risk of dewatering redds. Minimum flows for fall-run spawning have typically been 4,000 cfs from October through December, based on IFIM studies of habitat suitability curves. Exceptions are allowed in critical and dry years when the RPA specifies ramping down to 3,250 cfs to preserve limited cold water resources in Shasta Reservoir. Temperature targets should be moved downstream in September and October to protect fall- and late fall-run spawning and incubation. Therefore, a 56°F criterion should be maintained through October down to Bend Bridge in all years to protect at least 30 percent of the main stem spawning population. Fall-run will spawn as far downstream

as to RBDD, but usually not until November when ambient air temperatures cool the river.

B. American River

- 1) Implement the Flow Management Standard for the American River by following the flow schedule in Appendix D. The flow management standards are minimum flows and should not preclude Reclamation from making higher releases at Nimbus Dam.

The Flow Management Standard includes fall-run protections. Implementing this schedule should also protect fall-run. In the event that specific actions are needed to maintain flows for fall-run, NMFS recommends that Reclamation use (b)(2) water to achieve these flows.

- 2) Reclamation should operate to achieve a daily average water temperature of 60°F or less as early as possible in October for fall-run holding and spawning. Reclamation shall strive to maintain a daily average water temperature of 60°F or less until November 1, and target 56°F or less as early in November as possible, for fall-run spawning and egg incubation. These Water Temperature Objectives for fall-run should be met at Hazel Avenue in the Lower American River.

The priority for use of the lowest water temperature control shutters at Folsom Dam shall be to achieve the Water Temperature Objectives for steelhead, and thereafter may also be used to meet the fall-run spawning water temperature objective.

- 3) Fully evaluate below physical/structural actions to improve temperature management and make recommendations for implementation by June 2010. Implement selected projects by 2012.

The following temperature management actions have the potential to improve conditions for aquatic species in the Lower American River. However, the precise benefits and costs of these actions need to be analyzed. Alternatives for each of the actions listed below should be fully developed and analyzed, and the most effective alternatives to each action should be implemented.

- a) **Improve the Folsom Dam temperature control device.** The objective of this action is to improve access to and management of Folsom Reservoir's cold water pool. Alternatives for this action include operational and physical improvements including enhancement of the existing shutters, replacement of the shutter system, and construction of a device to access cold water below the penstocks.
- b) **Improve cold water transport through Lake Natoma.** The objective of this action is to transfer cold water from Folsom Dam to Nimbus Dam with a minimum increase in temperature. Alternatives for this action include physical or operational changes to Lake Natoma or Nimbus Dam including dredging, construction of temperature curtains or pipelines, and changes in Lake Natoma water surface elevation.

c) **El Dorado Irrigation District (EID) Temperature Control Device.** The objective of this action is to conserve cold water in Folsom Lake. Alternative intake structures have been analyzed by EID. The most effective device should be constructed.

4.) The following ramping rates should be followed:

- a) January 1 through May 30, at flow levels <5, 000 cfs, flow reductions should not exceed more than 500 cfs/day and not more than 100 cfs/hour; and
- b) each year from January 1 through May 30, Reclamation should coordinate with NMFS, CDFG, and USFWS to implement and fund monitoring in order to estimate the incidental take of salmonids associated with reductions in Nimbus Dam releases.
- c) Minimize flow increases to 4000 cfs or more year round.

C. Stanislaus River

- 1) Reclamation should implement an in-stream flow schedule, as measured at Goodwin Dam, that provides optimum flows for fall-run as defined by Aceituno (1993), or as defined by future analyses of salmon in-stream flow needs. Additionally, this schedule should include sufficient spring flows in April and May to convey salmon smolts through the lower river and to the Delta.
- 2) Reclamation should conduct fall attraction flows of a minimum of 1,250 cfs for two weeks in October. This recommendation will assist adult fall-run immigration to the Stanislaus River. The purpose is to provide flow cues downstream for incoming adults, as well as providing some remedial effect on the low dissolved oxygen conditions that develop in the Stockton Deep Water Ship Channel.
- 3) Reclamation should implement late spring and early summer flow ramping rates to allow establishment of riparian trees at a minimum frequency of every five years.
- 4) Reclamation should implement spawning gravel replenishment projects on the Stanislaus River, in addition to the current 3,000 cy/year base level augmentation rate applied under CVPIA (b)(13) authorities.
- 5) Reclamation should implement projects to improve salmonid rearing habitat and floodplain connectivity, including creation of side-channel habitat, isolation of predator-rich in-river mining pits, and periodic increased flows to inundate floodplain habitat.

D. Delta Ecosystem

- 1) Delta Cross Channel (DCC) Gates: To increase the survival of out-migrating fall- and late fall-run, NMFS recommends that the DCC gates be closed as early as possible, under an adaptive management program based on monitoring outmigrant movements starting November 1. No later than on December 15 of each year, the DCC gates should be closed to protect outmigrant Chinook salmon, unless NMFS approves a later date. The DCC gates should remain closed for the protection of Pacific salmonids until June 15 of

each year, unless NMFS approves an earlier date. Water quality considerations in the Delta will be one cause for a request to vary from these dates, but NMFS will have final authority on closure.

2) Tracy Fish Collection Facility (TFCF)

- a) At the TFCF, Reclamation should submit to NMFS for approval, no later than 12 months from the date of issuance of this document, one or more solutions to the loss of Chinook salmon associated with the cleaning of the primary louvers. In the event that a solution is not in place within 24 months after the issuance of this document, NMFS recommends that export pumping at the Tracy Pumping Plant cease during Tracy Pumping Plant louver screen cleaning operations.
- b) Also at the TFCF, Reclamation should submit to NMFS for approval, no later than 12 months from the date of issuance of this document, one or more solutions to the loss of Chinook salmon with regard to the secondary louver screen cleaning and secondary channel dewatering. In the event that a solution is not in place within 24 months after the date of issuance of this document, NMFS recommends that export pumping at the Tracy Pumping Plant cease during outages of the secondary system, such as occurs during the secondary louver screen cleaning operations, debris removal, and predator management programs.
- c) Beginning on the first day of the month following the issuance of this document, and monthly thereafter, but no later than five working days after the first day of the month, Reclamation should submit a TFCF Status Report to the NMFS Engineering Team Leader. The report should be in a format acceptable to both parties, but should describe the status of each component of the fish salvage system, and should provide a schedule for the correction of each deficiency, with defined checkpoints for completion. Failure to comply should result in the cessation of pumping at the Tracy Pumping Plant until said report is issued.
- d) NMFS staff (scientific and enforcement) should be permitted reasonable access to the TFCF, and its records of: (i) operation; (ii) fish salvage; (iii) fish transportation and release activities; and (iv) research activities conducted at the TFCF, during both announced and unannounced inspection visits.
- e) NMFS recommends that Reclamation undertake ways to reduce predation on juvenile fall- and late fall-run by undertaking predator removal studies at the Tracy facility and also at post-release sites for salvaged juveniles. Loss calculations should be adjusted reflecting results of these predation studies.

3) Tracy Pumping Plant (TPP)

A plan to limit TPP exports to 4,600 cfs should be prepared and implemented. This restriction should remain in place until a plan to expand the TFCF capacity is prepared, approved by NMFS, and implemented.

4) J.E. Skinner Delta Fish Facility

- a) Beginning on the first day of the month following the issuance of this document, and monthly thereafter, but no later than five working days after the first day of the month, DWR should submit a J.E. Skinner Delta Fish Facility Status Report to the NMFS Engineering Team Leader. The report should be in a format acceptable to both parties, but should describe the status of each component of the fish salvage system, and provide a schedule for correcting each deficiency, with defined checkpoints for completion. Failure to comply should result in the cessation of pumping at the Banks Pumping Plant until said report is issued.
- b) NMFS staff (scientific and enforcement) should be permitted reasonable access to the J.E. Skinner Delta Fish Protective Facility and its records of: (i) operation; (ii) fish salvage; (iii) fish transportation and release activities; and (iv) research activities conducted at the facility, during both announced and unannounced inspection visits.
- c) NMFS recommends that DWR undertake ways to reduce predation on juvenile fall- and late fall-run by undertaking predation management studies at post-release sites for salvaged juveniles. Within 12 months of the issuance of this document, a final proposal should be sent to NMFS for review. Within 24 months of NMFS' acceptance of the proposal, the "plan" should be implemented. Failure to meet this timeline should result in the cessation of pumping at SWP facilities unless NMFS agrees to an extended timeline.
- d) NMFS recommends that alternatives to reduce "pre-screen" losses (predation) in Clifton Court Forebay be developed within 12 months of the issuance of this document. Within two years of developing such a plan, the "plan" will be implemented to reduce the predation impact. Failure to meet this timeline should result in the cessation of pumping at SWP facilities unless NMFS agrees to an extended timeline.

5) CVP and SWP Fish Hauling Protocols

Fish hauling runs for salmonids should be scheduled at least every 12 hours, or more frequently if required by the "Bates Table" calculations (made at each count and recorded on the monthly report).

6) Rock Slough Intake and Other Fish Screening Projects, Including CVPIA-Anadromous Fish Screening Program (AFSP)

- a) Reclamation should ensure that the CVP and SWP aggressively move to fully engage the CVPIA-AFSP, with appropriate funding, and implement the major projects already designed.
- b) Until the Rock Slough diversion is screened, pumping at this site should be avoided whenever Chinook salmon are detected in the vicinity of the intake. The Contra Costa Water District should use its two operating screened diversions (Los Vaqueros-Old River and Mallard Slough), the Alternative Intake Diversion on Victoria Canal

once completed, and the available storage in the Los Vaqueros Reservoir, to offset this restriction.

- c) The current fish-monitoring plan should continue until such time as the use of the unscreened Rock Slough diversion is resolved, whether by screening or other means.

7) Habitat Restoration

- a) Reclamation should aggressively pursue opportunities to acquire land and/or obtain easements to create habitat restoration sites in the Delta region.
- b) Habitat restoration projects should target the creation of riparian habitat, freshwater and tidal marshes, and shallow water habitats beneficial to salmonid life histories. Habitat restoration activities should target actions that increase the amount of useable habitat for salmonids and reverse the simplification of the Delta habitat created by channelization of Delta waterways and riprapping of levee banks.
- c) Reclamation should seek out opportunities to partner with other Federal, State, or non-governmental parties to further this recommendation.

VI. STATUTORY REQUIREMENTS

Section 305(b)(4)(B) of the MSFCMA requires that the Federal agency provide NMFS with a detailed written response within 30 days, and 10 days in advance of any action, to the EFH conservation recommendations, including a description of measures adopted by the Federal agency for avoiding, minimizing, or mitigating the impact of the project on EFH [50 CFR 600.920(j)]. In the case of a response that is inconsistent with our recommendations, Reclamation must explain its reasons for not following the recommendations, including the scientific justification for any disagreement with NMFS over the anticipated effects of the proposed action and the measures needed to avoid, minimize, or mitigate such effects.

VI. LITERATURE CITED

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- Brown, R., S. Greene, P. Coulston, and S. Barrow. 1996. An evaluation of the effectiveness of fish salvage operations at the intake to the California Aqueduct, 1979-1993. In J. T. Hollibaugh (ed.) San Francisco Bay: The Ecosystem. AAAS, San Francisco, California. Pp. 497-518.

DRAFT SALMON ADVISORY SUBPANEL COMMENTS ON THE SALMON TECHNICAL TEAM'S SACRAMENTO RIVER FALL CHINOOK OVERFISHING ASSESSMENT

While the Salmon Advisory Subpanel (SAS) appreciates the Salmon Technical Team's (STT) efforts to do a factor analysis of the Sacramento River fall Chinook (SRFC) crash, we do not believe that poor ocean conditions were a proximate cause of the crash of SRFC brood years 2004-2007. Some of us were on the ocean in that area at that time. We have all seen far worse conditions which salmon survived far better. In particular, while krill were scarce, anchovies and sardines were abundant. We know that a juvenile salmon will eat baitfish. Pointing to ocean conditions as the major cause, absent stronger evidence, serves the interests of those who care nothing about salmon and does no good for those of us who want salmon to thrive.

We agree with the observation that the need to truck hatchery fish past the delta indicates that the delta is unsuitable for juvenile salmon. We agree with the Biological Opinion on Delta Operations conclusion that continuing status quo delta operations will cause extinction of Central Valley (CV) anadromous fish. We agree with the State Water Quality Control Board analysis that survival of delta fisheries require halving of delta exports. We strongly urge the Council to seek continuing dialogue with the Bureau of Reclamation and Department of Water Resources concerning the effects of Central Valley operations on SRFC.

We note that, while hatchery fish are trucked past the delta, it's still 33 miles from Mare Island to the ocean.

We agree with the conclusion that SRFC were not overfished, especially since no fishing occurred in two of the three years of concern.

The SAS agrees with Lindley's finding that homogeneity among CV stocks may have contributed to the crash. We support Habitat Committee's (HC) call for increased scrutiny of the performance of CV stocks that aren't trucked, don't support their call for a separate conservation objective.

Finally, regarding the National Marine Fisheries Service (NMFS) recommendations cited in the HC report concerning the screens at the delta pump: According to the Biological Opinion, over 90 percent of entrained salmon are lost to predation before they reach the screens. Why not move the screens to the main points of diversion from the Sacramento mainstem? The Biological Opinion says fish that stay in the mainstem survive far better than fish that enter the delta.

ASSESSMENT OF FACTORS AFFECTING ESCAPEMENT SHORTFALLS OF SACRAMENTO RIVER FALL CHINOOK SALMON IN 2007-2009

Introduction

In 2010, the Salmon Technical Team (STT) and Habitat Committee (HC) were instructed by the Pacific Fishery Management Council (Council) to complete a stock assessment of Sacramento River fall Chinook (SRFC) in response to the application of overfishing criteria as defined in Section 3.2 of Pacific Coast Salmon Plan (Fishery Management Plan (FMP)). The Council's criteria for an overfishing concern are met if, in three consecutive years, the postseason estimates indicate a natural stock has fallen short of its conservation objective in FMP Table 3-1. It is possible that this situation could represent normal variation, as has been seen in the past for several salmon stocks which were reviewed under the Council's former overfishing definition. However, the occurrence of three consecutive years of reduced stock size or spawner escapements, depending on the magnitude of the short-fall, could signal the beginning of a significant downward trend, which may result in fishing that jeopardizes the capacity of the stock to produce MSY over the long term. Under Amendment 14 of the FMP, the management objective for SRFC was to provide 122,000-180,000 natural and hatchery adult spawners each year, an escapement level that was expected to provide maximum sustainable yield (MSY). The spawning escapements in 2007 through 2009 were below 122,000 prompting this Overfishing Assessment.

Purpose and need: Federal definition of overfishing

Excerpt from Pacific Coast Salmon Plan Section 3.2 Overfishing Criteria

"Any fishery management plan . . . shall . . . specify objective and measurable criteria for identifying when the fishery . . . is overfished . . . and, . . . contain conservation and management measures to prevent overfishing or end overfishing and rebuild the fishery;" Magnuson-Stevens Act, § 303(a)(10)

"The terms overfishing and overfished mean a rate or level of fishing mortality that jeopardizes the capacity of a fishery to produce the maximum sustainable yield on a continuing basis." Magnuson-Stevens Act, § 3(29)

3.2.3.1 Criteria

The Council's criteria for an overfishing concern are met if, in three consecutive years, the postseason estimates indicate a natural stock has fallen short of its conservation objective (MSY, MSP, or spawner floor as noted for some harvest rate objectives) in Table 3-1. It is possible that this situation could represent normal variation, as has been seen in the past for several previously referenced salmon stocks which were reviewed under the Council's former overfishing definition. However, the occurrence of three consecutive years of reduced stock size or spawner escapements, depending on the magnitude of the short-fall, could signal the beginning of a critical downward trend (e.g., Oregon coastal coho) which may result in fishing that jeopardizes the capacity of the stock to produce MSY over the long term if appropriate actions are not taken to ensure the automatic rebuilding feature of the conservation objectives is achieved.

3.2.3.2 Assessment

When an overfishing concern is triggered, the Council will direct its STT to work with state and tribal fishery managers to complete an assessment of the stock within one year (generally, between April and the March Council meeting of the following year). The assessment will appraise the actual level and source of fishing impacts on the stock, consider if excessive fishing has been inadvertently allowed by estimation errors or other factors, identify any other pertinent factors leading to the overfishing concern,

and assess the overall significance of the present stock depression with regard to achieving MSY on a continuing basis. Depending on its findings, the STT will recommend any needed adjustments to annual management measures to assure the conservation objective is met, or recommend adjustments to the conservation objective which may more closely reflect the MSY or ensure rebuilding to that level. Within the constraints presented by the biology of the stock, variations in environmental conditions, and the needs of the fishing communities, the STT recommendations should identify actions that will recover the stock in as short a time as possible, preferably within ten years or less, and provide criteria for identifying stock recovery and the end of the overfishing concern. The STT recommendations should cover harvest management, potential enhancement activities, hatchery practices, and any needed research. The STT may identify the need for special programs or analyses by experts outside the Council advisors to assure the long-term recovery of the salmon population in question. Due to a lack of data for some stocks, environmental variation, economic and social impacts, and habitat losses or problems beyond the control or management authority of the Council, it is likely that recovery of depressed stocks in some cases could take much longer than ten years.

The Council directed the STT to work with relevant co-managers to conduct an assessment of the factors causing the designation. In addition to assessing the role of fishing in the spawning escapement shortfalls, the STT was directed to use the March 18, 2009 Southwest Fishery Science Center draft report: *What Caused The Sacramento River Fall Chinook Stock Collapse?* (Lindley et al. 2009) as a starting point for the assessment. The Council also directed the Habitat Committee to investigate Essential Fish Habitat improvements that could benefit these stocks and report to the Council in 2011 with recommendations. A report on these efforts was due at the March 2011 Council meeting.

A joint sub-committee of the STT and HC was assigned to update the topics addressed in Lindley et al. (2009) with additional data and analyses where necessary to assess the three broods (2004-2006) that associated with the escapement shortfalls. This report includes a compilation of those assessments and STT recommendations on criteria to determine the end of the Overfishing Concern.

Freshwater Indicators

Flow

Water years in the Central Valley run from August 1 through July 31, and are classified on the basis of total runoff into wet years, above normal years, below normal years, dry years and critical years. The 2005 water year (Aug 2004 – July 2005) was classified as a below normal year, 2006 as a wet year, 2007 as a dry year, and 2008 as a critical year. During the winter and spring of 2006 the upper basin experienced a number of high flow events (Figure 1). These episodes of high flow likely resulted in some episodes of red scouring, and may have negatively impacted incubation and early rearing of the 2005 brood. Discharge in the upper basin was relatively stable during the incubation, rearing and emigration periods in 2007. These conditions are normally conducive to survival and emigration.

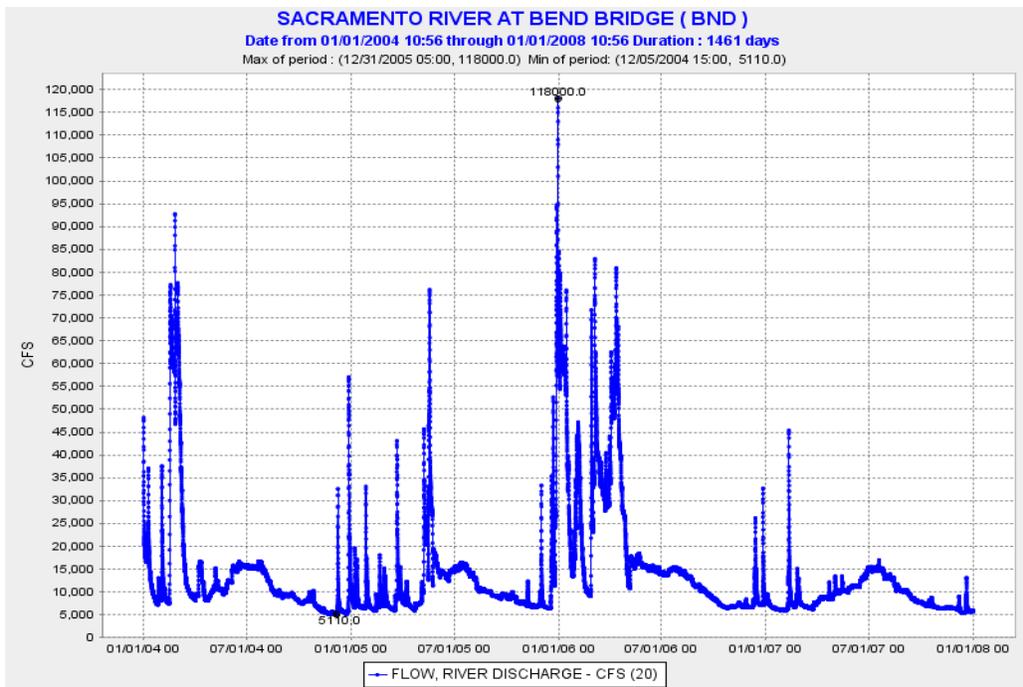


Figure 1: Discharge (cfs) recorded at the Bend Bridge, near Red Bluff Ca., for the period from January 1, 2004 through January 1, 2008.

Temperature

Water temperatures in the upper Sacramento Basin were within normal ranges during the adult migration, spawning, incubation and emigration period in all years and are unlikely to have negatively impacted survival (Figure 2).

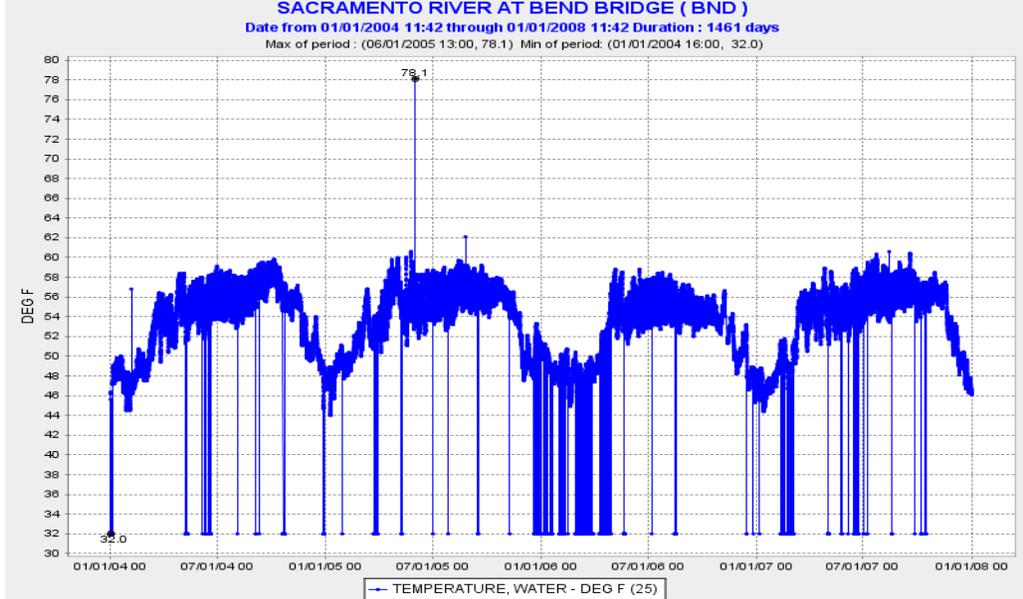


Figure 2: Water temperatures in degrees Fahrenheit recorded at Bend Bridge, near Red Bluff CA, January 1, 2004 to January 1, 2008.

Water temperatures recorded at Rio Vista reflect the same pattern encountered in the upper basin during the period from 2005 through 2007 (Figure 3). Water temperatures encountered by

emigrating juvenile fish in the lower basin ranged between 43 to 70 degrees Fahrenheit. During this period juvenile fall-run Chinook did not experience any abnormal thermal events that would have led to excessive mortality.

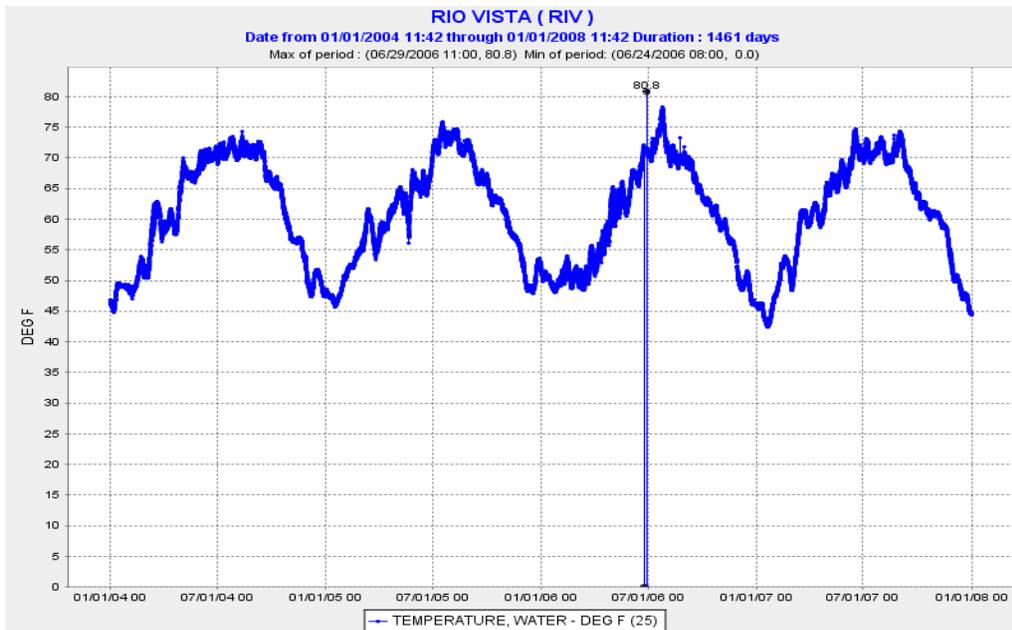


Figure 3: Water temperatures in degrees Fahrenheit recorded at Rio Vista January 1, 2004 to January 1, 2008.

Delta survival.

Estimated mortality from entrainment of in-basin releases of fall Chinook at the State Water Project and Central Valley Project pumps in the southern delta has been relatively low in recent years compared to the late 1980s and early 1990s, but was higher in 2007 when the 2006 brood was emigrating (Figure 4). The estimated survival of in-basin releases of hatchery smolts from the 2004-2006 broods through the delta was within the range seen in recent years. Changes in survival through the delta in these years are not substantial enough to account for the decrease in abundance of SRFC that led to the overfishing concern.

Abundance of juvenile fall Chinook exiting the delta, as indicated by catch rates in USFWS trawl surveys at Chipps Island show a similar pattern for the 2004-2006 broods (Figure 5). Abundance in of the 2006 brood appeared to be about half that of the 2004 and 2005 broods, but was still within the range seen in recent years.

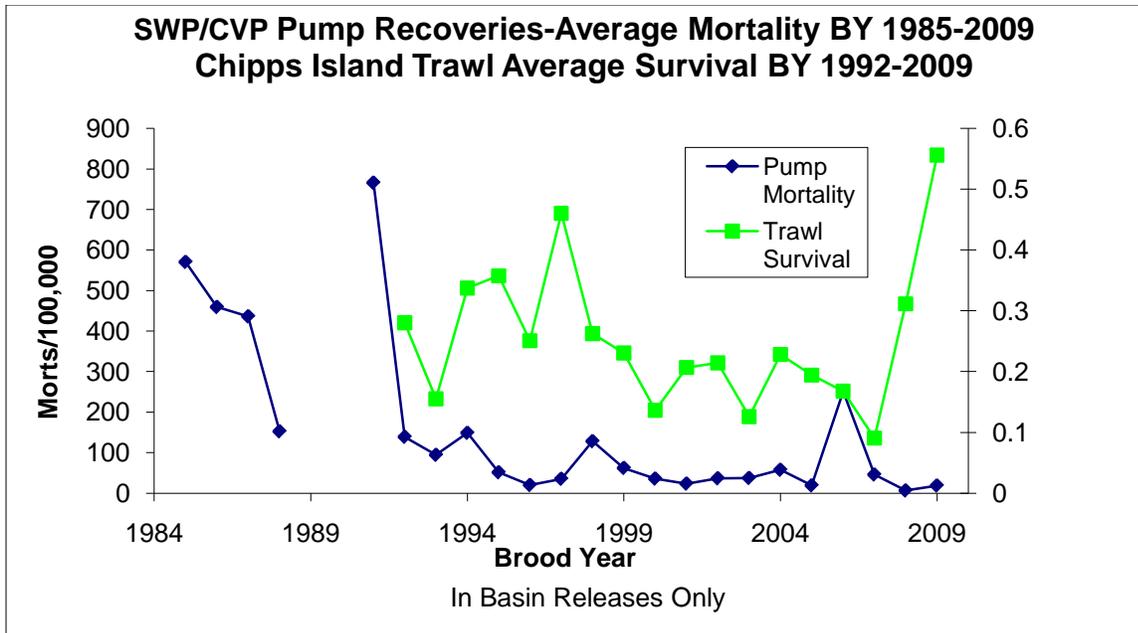


Figure 4. Estimated mortality at the Central Valley project and State Water Project Pumps, and survival of in-basin coded-wire tag releases to the Chippis Island trawl survey.

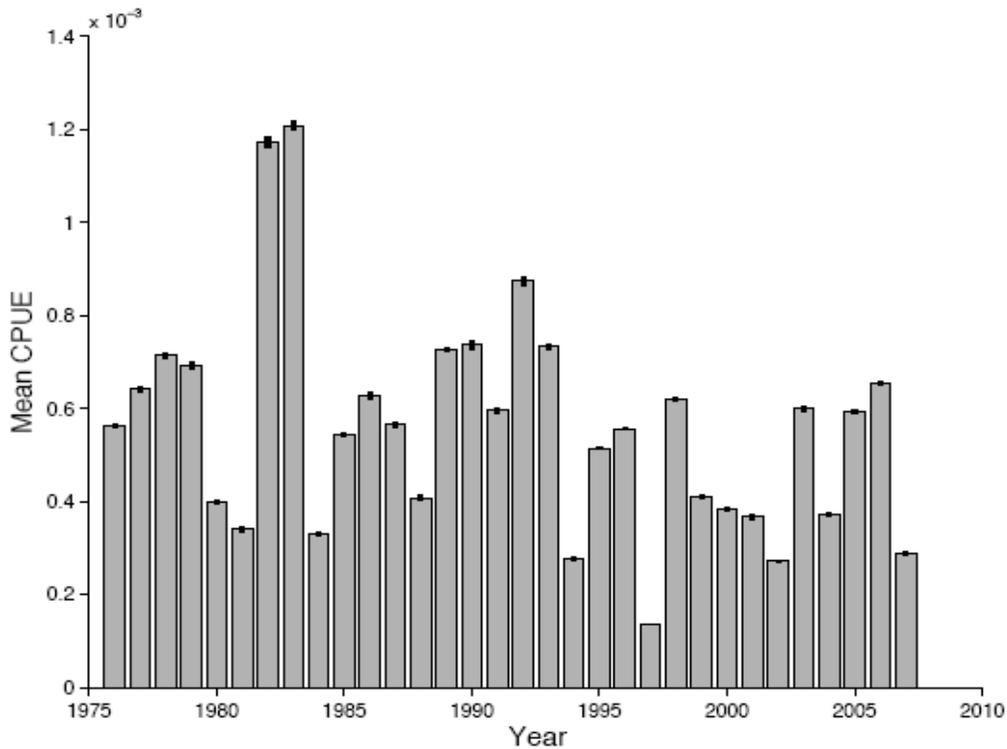


Figure 5. Mean annual catch per unit effort if juvenile fall Chinook at Chippis Island in USFWS trawl sampling conducted between January 1 and July 18. Error bars indicate the standard error of the means. USFWS unpublished data (Lindley et al. 2009).

Transportation of fish around the delta.

Much of the hatchery production of SRFC is not exposed to migration conditions in the river and estuary. Though survival and abundance of fish through the delta was not anomalously low for the 2004-2006 brood, the contribution of fish migrating through the delta is minimal because smolts trucked around the delta typically survive at a much higher rate than smolts that must migrate through the delta (Figure 6).

On average, approximately 50% to 60% of the hatchery production of SRFC is trucked to the bay (Figure 7).. Coleman National Fish Hatchery releases 12 to 14 million SRFC smolts per year. Prior to the 2007 brood, nearly all of their releases were in the upper Sacramento basin, but beginning with the 2007 brood, they began trucking approximately 10% of their production to the bay where the smolts were acclimated in net pens prior to release. Feather River Hatchery typically releases 7 to 10 million SRFC smolts per year. Nearly all of this production is trucked to the bay for release. Nimbus Hatchery on the American River produces 4 to 7 million smolts per year, with nearly all of this production trucked to the bay. Beginning with the 2006 brood, nearly all of the smolts trucked to the bay have been acclimated in net pens.

Though some inbasin releases from Coleman Hatchery have survived at very high rates, smolts trucked around the delta typically survive at much higher rates than inbasin releases. This means that they account for the bulk of ocean abundance and returning spawners in most years. If 50% of the total smolt production is trucked, and trucked smolts survive at 4 times the rate of those that migrate in the river, they will account for 80% of the abundance. Consequently, though exceptional high survival of smolts migrating in the river and through the delta can lead to very high abundance of SRFC, the conditions affecting the 2004, 2005, and 2006 broods in the river and estuary, cannot explain the collapse of these broods.

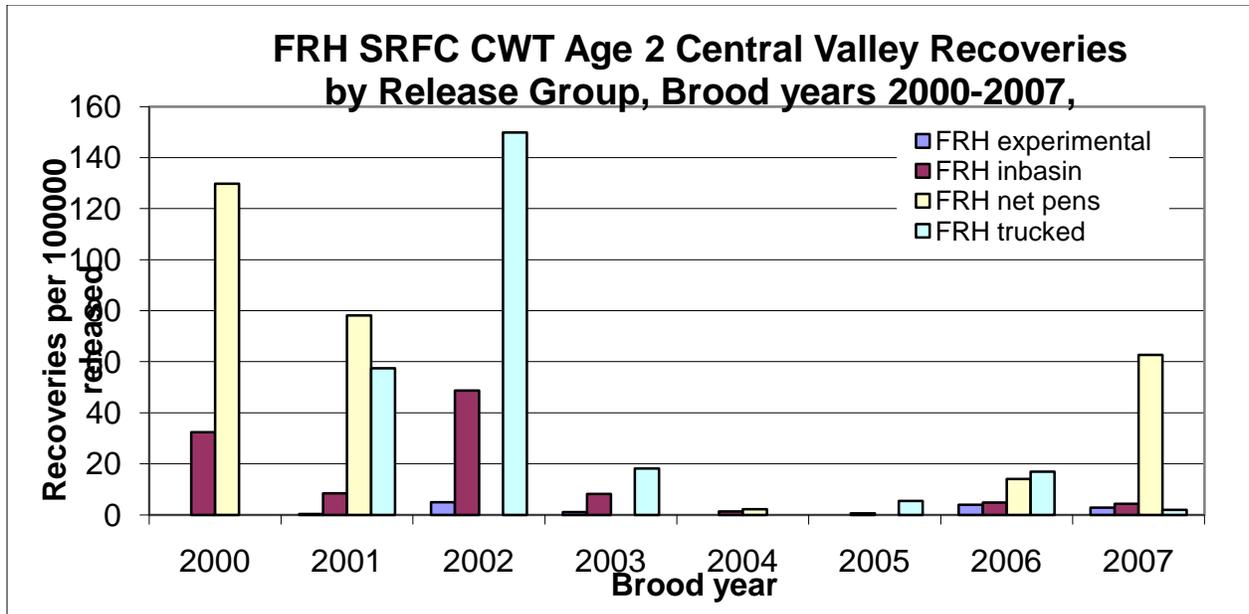


Figure 6. Survival of Feather River Hatchery tagged releases as index by inland tag recoveries at age 2. Tags recovered in spawning surveys were expanded by a factor of 5 to account for an approximate 20% sampling rate. Experimental releases were released within the Sacramento/San Joaquin basin above the delta, but outside the Feather River basin. Inbasin releases were within the Feather River basin. Net pen releases were acclimated in net pens, and trucked releases were released in the bay but not acclimated in net pens. There were no net pen releases from the 2002, 2003 and 2005 broods.

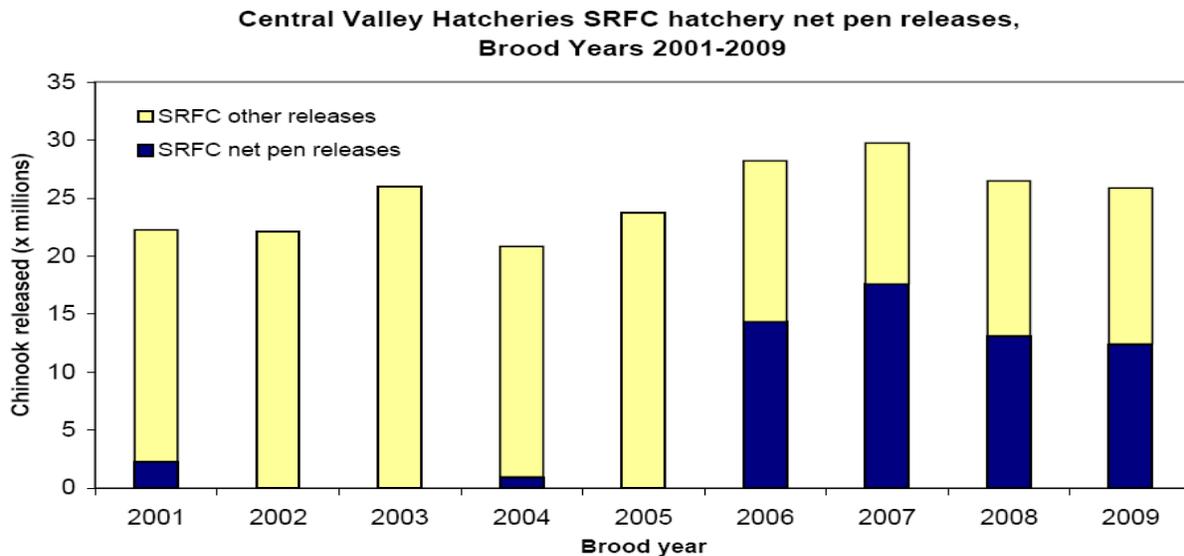


Figure 7. Numbers of Sacramento River fall Chinook released by Central Valley hatcheries, and numbers acclimated in net pens.. Coleman National fish hatchery releases approximately 12 million SRFC smolts per year, with about 10% trucked to the net pens beginning in 2007. Feather River Hatchery and Nimbus Hatchery truck most of their smolt production to the bay and have acclimated 84% to 100% of their releases in net pens since 2006, except for the 2009 brood from Nimbus Hatchery.

Marine and Estuarine Environmental Indicators

Lindley et al. (2009) examined several marine and estuarine environmental indicators to determine if early life history survival could have been instrumental in SRFC failing to meet its conservation objective in 2007 and 2008. For the 2004 and 2005 brood SRFC, the report concluded “The evidence pointed to ocean conditions as the proximate cause because conditions in freshwater were not unusual, and a measure of abundance at the entrance to the estuary showed that, up until that point, these broods were at or near normal levels of abundance. At some time and place between this point and recruitment to the fishery at age two, unusually large fractions of these broods perished. A broad body of evidence suggests that anomalous conditions in the coastal ocean in 2005 and 2006 resulted in unusually poor survival of the 2004 and 2005 broods of SRFC. Both broods entered the ocean during periods of weak upwelling, warm sea surface temperatures, and low densities of prey items.”

For the purposes of this assessment, the same marine and estuarine environmental indicators were examined to determine if and how they might have affected the 2006 brood using the same hypothesis that environmental conditions affecting survival are most important to the brood during estuarine and early ocean entry. Information in Lindley et al. (2009) included data for most indicators during 2007, which allowed an evaluation of the likely effects of marine and estuarine survival on 2006 brood SRFC relative to 2004 and 2005 broods.

Wind and Sea Surface Temperature

Large scale wind patterns affect the source water for upwelling. Northerly winds drive cold, subarctic water south where upwelling processes bring relatively cold, nutrient rich water to the surface. Southerly winds drive relatively warm, subtropical water north which increases stratification and inhibits upwelling processes. Sea surface temperature and wind anomalies are indicative of the dominant large scale wind pattern. Figure 12 in Lindley et al. (2009) indicated that winds and sea surface temperatures were unfavorable during 2005 and 2006 (affecting 2004 and 2005 broods), particularly in May. Conditions returned to near-normal in April and May of 2007 (when the 2006 brood entered the ocean), but warmed again in June–August; in fact SST anomalies were higher in July 2007 than either 2005 or 2006 in areas north of San Francisco Bay (Figure 8). It may be that in addition to the months of first entry, sea surface temperature later in the summer are also important to early marine survival. Conditions improved substantially in 2008.

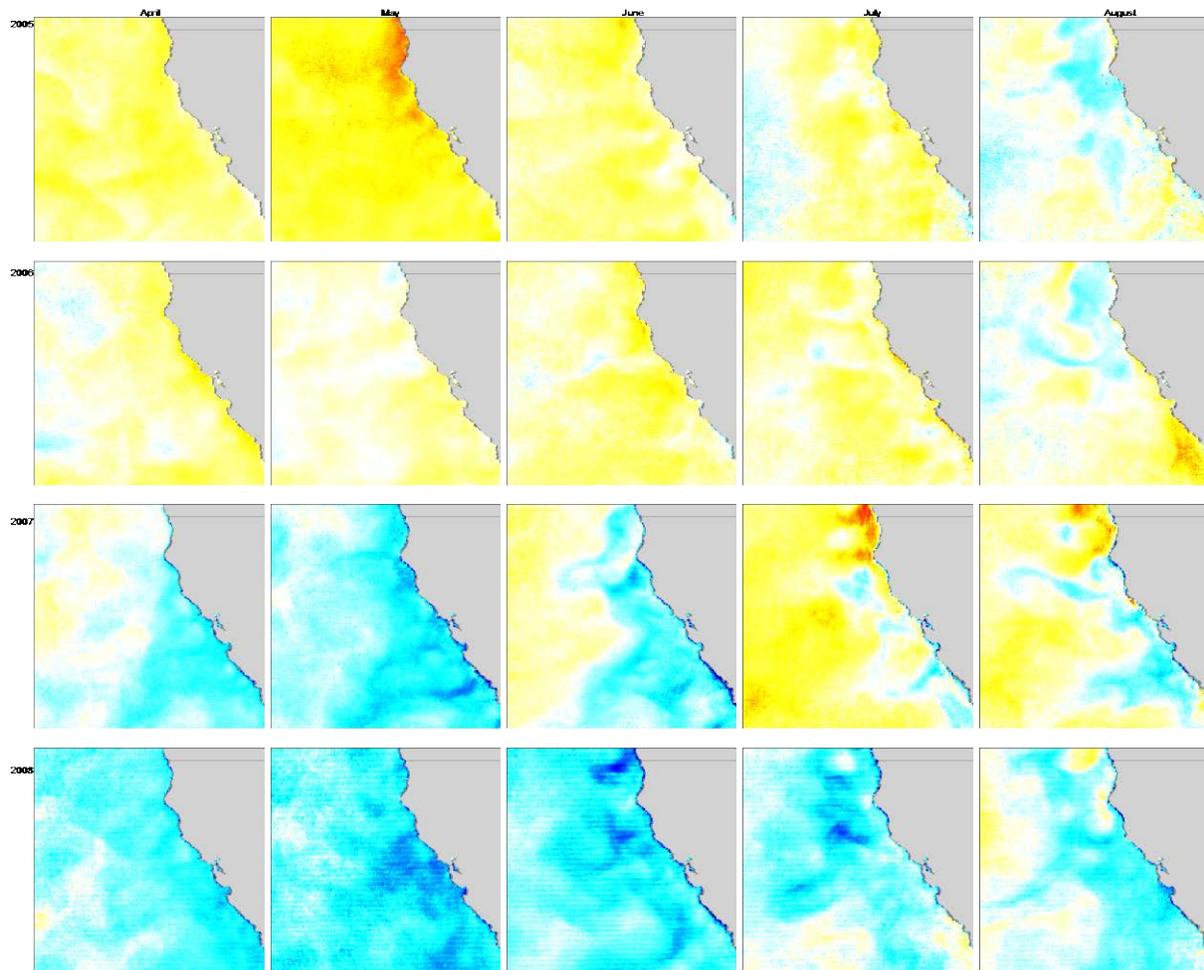


Figure 8. Sea surface temperature anomalies; April - August monthly averaged during 2005, 2006, 2007, and 2008.

Ocean Upwelling

Figure 13 in Lindley et al. (2009) indicated that the onset of upwelling was delayed in 2005 and remained weak through the summer; in 2006, the onset of upwelling was again delayed although to a lesser extent than in 2005, and it strengthened during the summer. The delay of upwelling onset would have reduced the forage base for juvenile Chinook at the critical stage of entering the marine environment and potentially prolonged their susceptibility to larger predators. Upwelling in 2007 and 2008 began earlier and was stronger than average, and therefore, should have increased the available forage base, growth, and survival of juvenile Chinook.

Particle Trajectories

Particle trajectories also provide an indication of cumulative upwelling conditions. Figure 15 in Lindley et al. (2009) indicates that upwelling was weaker, shorter in duration, and provided less offshore transport in 2005 and 2006 than in 2004 and 2007. These conditions would have been less favorable for the 2004 and 2005 broods than for the 2006 brood.

Marine Forage Base

Lindley et al. (2009) used juvenile rockfish, market squid, Pacific sardine, and northern anchovy as indices of prey items for juvenile salmon. For 2005 and 2006, juvenile rockfish and market squid were at very low abundances. Pacific sardine and northern anchovy abundance were above average, although both appeared to have had a less clustered distribution than normal, possibly reducing feeding efficiency for salmonids. In 2007, abundance of three species increased, while northern anchovy abundance declined slightly. Distribution for northern anchovy in 2007, however, was substantially more clustered. The trends in marine forage indicate that marine survival should have been improved for the 2006 brood in comparison with the 2004 and 2005 brood.

Marine birds

Point Reyes Bird Observatory has been collecting data on diet and breeding success of seabirds on the Farallon Islands since 1971. Appendix Figure 27 in Lindley et al. (2009) presented data on diet composition of common murre, pigeon guillemot, and rhinoceros auklet nesting colonies at the Farallon islands. These are seabirds with varying degrees of dietary overlap with adult SRFC, and were considered as potential predators on juvenile salmon in Lindley et al. (2009). The changes in diet composition appeared minor and are ambiguous. However, Cassins auklet is another seabird that nests on the Farallon Islands, and feeds primarily on plankton, with a diet that is more similar to that of juvenile SRFC when they enter the ocean. Since 1971 the average breeding success of Cassins auklet has been 0.68 fledglings per nest. In 2005 and 2006 Cassins auklet suffered complete breeding failures (Figure 9). In 2007, the breeding success rate improved to about half of the long-term average, and it continued to improve in 2008 and 2009. This suggests that conditions in the waters outside of the Golden Gate have been improving for outmigrating SRFC in these years.

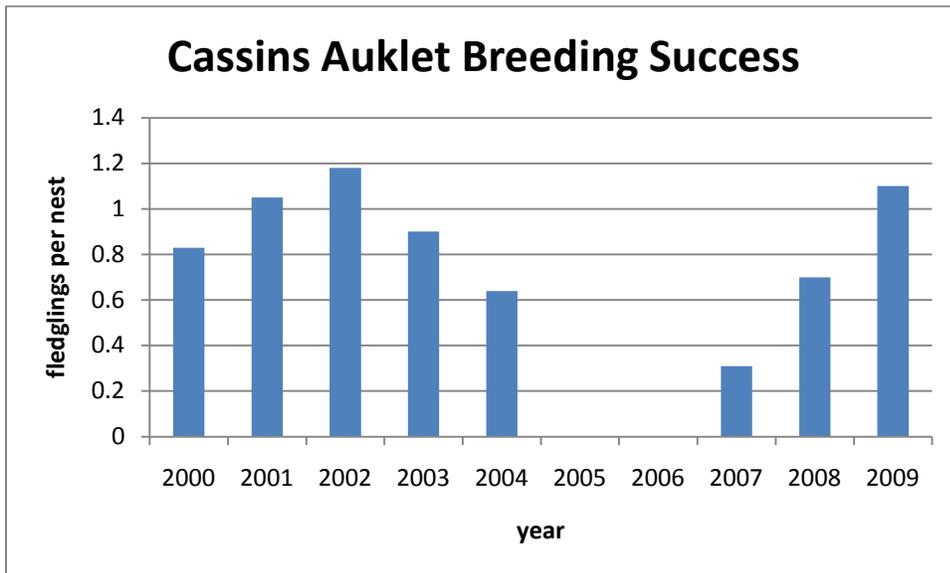


Figure 9. Breeding success of Cassins auklet. Data from Point Reyes Bird Observatory.

Feather River marine survival index

An index of early marine survival can be calculated from production releases of fall Chinook from Feather River Hatchery (FRH). Other hatcheries cannot be used because of inconsistent tagging rates. The index includes both onsite releases and releases that were trucked to the bay. The index is calculated as the recoveries of age-2 fish in San Francisco recreational fisheries per 100,000 smolts released (Figure 10). The 2004 brood had the lowest survival observed to that point and the survival of the 2005 brood was even lower. The index could not be calculated in for the 2006 and 2007 broods because of the closure of fisheries in 2008 and 2009, but had rebounded somewhat for the 2008 brood.

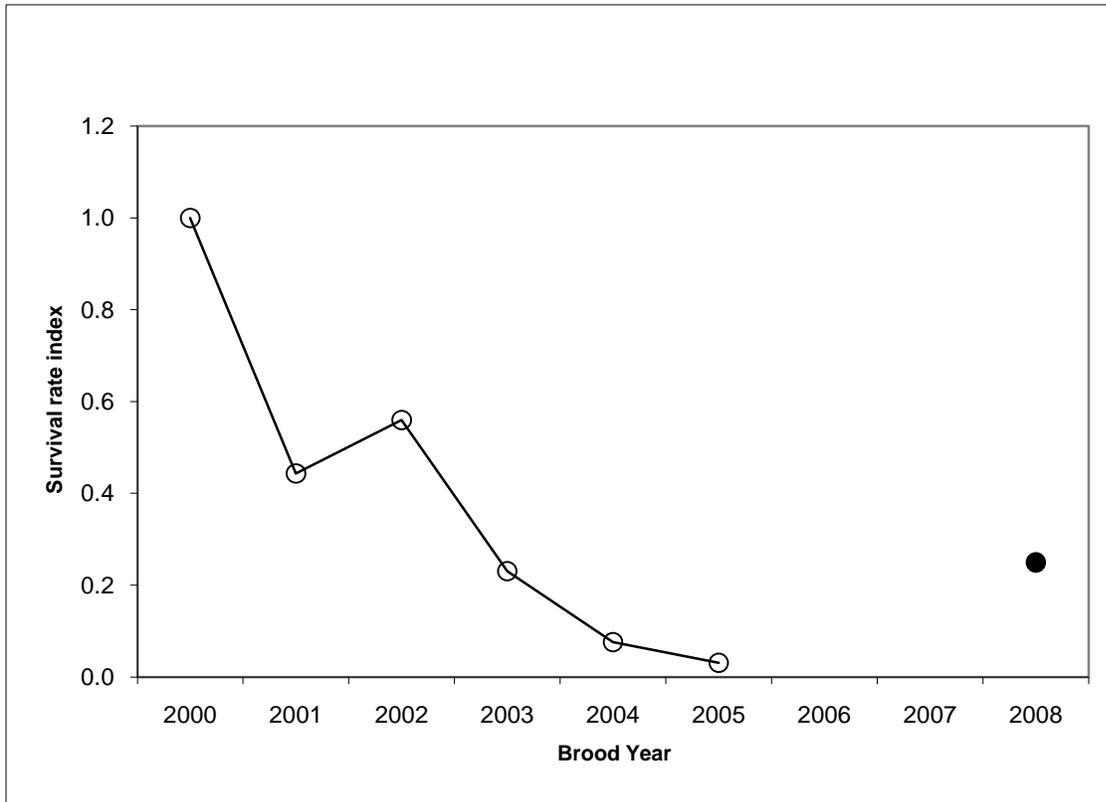


Figure 10. Feather River Hatchery 2-yr-old survival index. Survival index of FRH production CWT releases recovered in recreational fisheries in the San Francisco port area at age 2. Estimates could not be made for 2006 and 2007 broods because of the absence of marine fisheries.

Estuary Forage Base

Zooplankton are an important forage for Chinook smolts in estuaries. Lindley et al. (2009) examined the relative abundance of calanoid copepods as an index of overall zooplankton abundance in Suisun, San Pablo, and San Francisco bays. This geographic range also encompassed salinities ranging from freshwater (<0.5ppt) to higher salinity (>6.0 ppt). Appendix Figure 10 in Lindley et al. indicated total copepod abundance during the outmigration period was below average in 2005 and 2007, and above average in 2006. The trends in freshwater, low salinity, and high salinity abundance were inconsistent, but the low salinity trend

was similar to the overall abundance trend. Lindley et al. (2009) concluded that there was no compelling evidence that estuarine zooplankton abundance played a role in the poor survival of the 2004 and 2005 broods of SRFC. Because there were no extreme values, and overall abundance was only slightly below normal in 2006, it is also unlikely that the estuarine forage base was a primary factor in the low returns of 2006 brood SRFC.

Estuary Temperature, Salinity, Dissolved Oxygen, and Chlorophyll

Appendix Figure 8 in Lindley et al. (2009) indicates no unusual conditions in the estuary that would negatively affect SRFC smolts from the 2004, 2005, or 2006 broods. The 2006 brood in particular should have experienced relatively favorable conditions with lower than average temperatures, higher than average salinity, dissolved oxygen, and chlorophyll content.

Conclusions

2004 Brood

Spawner abundance was above average. River discharge and exports within the migration period were in the normal range. Smolt abundance at Chipps Island was within the normal range. Hatchery production and releases into the bay were at normal levels. Ocean temperatures in 2005 were above normal, upwelling was reduced and delayed. Krill abundance over the continental shelf appeared to be normal, but Cassin's auklets on the Farallon Islands abandoned their nests and their fledging rate was zero. Survival of Feather River Hatchery (FRH) smolts was the lowest in recent history.

2005 Brood

Spawner abundance was above average, River discharge and exports within the migration period were in the normal range, though there were high flow events in January that may have resulted in some redd scouring. Smolt abundance at Chipps Island was within the normal range. Hatchery production and releases into the bay were at normal levels. Ocean temperatures in 2005 were above normal, upwelling was delayed in April, but was slightly above average for the rest of the season. Krill abundance was very low and they appeared to be distributed far offshore. Cassin's auklets on the Farallon Islands again abandoned their nests and their fledging rate was zero. The survival rate of 2005 brood year FRH smolts was even lower than that of the 2004 brood.

2006 Brood

Spawner abundance was 275,000, above escapement goal range. Water year was classified as "dry"; exports were within the normal range, but the river flow was below normal. Flows in the upper basin were relatively stable during incubation, rearing, and emigration, which is normally conducive to survival. Smolt abundance at Chipps Island was only about half what it had been in 2005 and 2006. Ocean conditions appeared to be somewhat improved over conditions in 2007, Cassin's auklet breeding success was about half of the normal rate, and the jack return in 2008 was about twice what it had been in 2007. Lindley et al. (2009) noted that in general, ocean conditions in 2007 and 2008 had improved, and based on their data sets, it appears that marine and estuarine survival for 2006 brood SRFC should have been improved relative to 2004 and 2005 broods. However, based on additional SST data, it is possible that ocean survival may not have improved substantially for the 2006 brood.

Overall it appears that ocean conditions remain the proximate cause of the collapse of Sacramento River fall Chinook. However, it is noteworthy that poor survival of smolts migrating down the rivers and through the delta has prompted hatchery operators to truck fish to the bay in order to circumvent mortality in freshwater rearing and migration habitat. The high proportion of fish trucked, coupled with the higher survival of these fish has reduced the exposure of ocean recruits to freshwater habitat conditions and strengthened the link between abundance of SRFC and ocean conditions.

Status Determination

In this section we (1) evaluate whether SRFC is overfished, (2) evaluate whether SRFC has experienced overfishing, and (3) recommend criteria for ending the overfishing concern.

The status of overfished reflects an abundance problem, where the reproductive potential of the stock has been reduced below a specified threshold. Such an abundance problem may be the result of fishing, however, overfished status can occur in the absence of fishing and be the result of other productivity or mortality problems. NMFS currently interprets salmon stocks to be overfished when an overfishing concern is triggered, and therefore SRFC are currently considered by NMFS to be overfished. In the process of developing Amendment 16 to the salmon FMP, six alternative definitions (in addition to the status quo interpretation) of overfished status have been proposed. We evaluate overfished status for each of these options.

Overfishing status reflects a measure of the activity of the fishery that impacts a particular stock. Overfishing status has been defined inconsistently in the past for salmon, and has only been evaluated when a stock triggers an overfishing concern. In the development of Amendment 16 to the salmon FMP, overfishing status has been defined as occurring when the annual exploitation rate (F) exceeds the MSY exploitation rate (F_{MSY}), defined as the exploitation rate expected to result in MSY over the long term. For SRFC, F is defined as the total harvest divided by the sum of total harvest and spawner escapement.

The separation of overfished and overfishing status allows for evaluation of whether fishing contributed to the depressed status of SRFC which triggered the current Overfishing Concern. Spawner escapement (the sum of hatchery and natural-area adult escapement) and harvest (the sum of ocean harvest, estimated mortalities from non-retention ocean fisheries, and river harvest) information needed for evaluation of overfished and overfishing status can be found in Table 1.

Table 1. Total escapement and harvest estimates needed for status determinations.

Year	Escapement	Total Harvest
2007	91,374	166,451
2008	65,364	4,270
2009	40,873	316

Overfished

SRFC are considered overfished by NMFS as a result of triggering an overfishing concern, and would be considered overfished for five of the seven Alternatives under consideration as part of Amendment 16 to the salmon FMP (Table 2). Alternative 1 in Table 2 denotes the status-quo

definition, with the overfished status reflecting the current interpretation by NMFS. Each of the other six alternatives relies on a metric undefined in the current FMP, the minimum stock size threshold (MSST). Depending on the alternative, MSST is defined as either one half (61,000) or three quarters (91,500) of the spawner escapement resulting in MSY ($S_{MSY} = 122,000$), and these MSST values serve as the benchmark for evaluating the overfished status of the stock.

For this report, we adopt the Amendment 16 preliminary preferred alternative criteria for determining overfished status. The Council’s preliminary preferred alternative defines overfished as the three year geometric mean of S being below the MSST, with the MSST equal to one half of S_{MSY} . Guidelines for the implementation of the National Standard 1 of the Magnuson-Stevens Act identify an MSST of one half of MSY to be appropriate for fish species that have the ability to rebuild within a 10 year period. Chinook salmon are relatively productive in comparison to other managed fish species, and therefore the MSST identified in the preliminary preferred alternative is appropriate. Furthermore, use of a three-year geometric mean of spawner escapement is also appropriate for use in evaluating the reproductive potential of salmon. Salmon abundance can experience large fluctuations, and a single year of low spawner escapement may not be cause for concern. As such, the use of a three year mean of spawner escapement is a more appropriate measure of changes in reproductive potential than a single year metric.

Based on the MSST and three year geometric mean of S identified for the preliminary preferred alternative (Alternative 3 in Table 2), SRFC are **not overfished**.

Table 2. Overfished alternatives from Amendment 16. Preliminary preferred alternative is in bold.

Alternative	Metric	MSST ¹	Value	Overfished
1	3 consecutive years $S^2 < S_{MSY}^3$	NA	NA	Yes
2	1-yr $S < MSST$	61,000	40,873	Yes
3	3-yr GM⁴ $S < MSST$	61,000	62,498	No
4	1-yr $S < MSST$	91,500	40,873	Yes
5	3-yr GM $S < MSST$	91,500	62,498	Yes
6	3-yr AM ⁵ $S < MSST$	61,000	65,870	No
7	3-yr AM $S < MSST$	91,500	63,975	Yes

¹MSST = Minimum Stock Size Threshold

²S = Spawner escapement

³ S_{MSY} = Maximum Sustainable Yield spawner escapement

⁴GM = Geometric Mean

⁵AM = Arithmetic Mean

Overfishing

In past overfishing concerns, overfishing status determinations have been made under various criteria defined by the STT. For Amendment 16, a single alternative to the undefined status quo has been identified: overfishing occurs when the annual exploitation rate exceeds the MSY exploitation rate. For this report, we adopt the Amendment 16 criterion for determining overfishing status.

F_{MSY} has not been directly estimated for SRFC from a stock and recruitment analysis. As a result, we use the Chinook salmon F_{MSY} proxy value of 0.78 developed during the Salmon FMP

amendment process. In 2007, 2008, and 2009, F never exceeded 0.78 (Table 3). Hence, **SRFC did not experience overfishing** any year considered in this overfishing concern.

Table 3. Overfishing determinations for years considered in this overfishing concern.

Year	F_{MSY}^1	F^2	Overfishing
2007	0.78	0.65	No
2008	0.78	0.06	No
2009	0.78	0.01	No

¹ F_{MSY} = annual exploitation rate resulting in Maximum Sustainable Yield

² F = annual exploitation rate

Ending the Overfishing Concern

Because the three year geometric mean of spawner escapement was not below the MSST (with MSST equal to one half of S_{MSY}), we find that SRFC are not overfished. Nevertheless, criteria for ending the overfishing concern are recommended.

The workgroup recommends the overfishing concern be ended when SRFC achieve a three year geometric mean of natural and hatchery adult escapement exceeding 122,000 (S_{MSY}). This criterion is the Council’s current preliminary preferred alternative for rebuilt status in the draft Amendment 16 to the salmon FMP. As described in the Overfished section, salmon stock abundances can be quite variable, and a single year of high escapement may not indicate that reproductive potential of the stock is sufficient for producing MSY over the long term. Reproductive potential of a stock is therefore best described using a multi-year metric. This is acknowledged in the current FMP, as an overfishing concern is triggered after three years of failing to meet the conservation objective. Hence, a three year metric for ending the overfishing concern is recommended.

Given the observed escapement in 2009 (40,873) and 2010 (125,353), the three year geometric mean of escapement would exceed S_{MSY} (and the Overfishing Concern would be ended) with an escapement of 354,412 in 2011.

SCIENTIFIC AND STATISTICAL COMMITTEE REPORT ON
SACRAMENTO FALL CHINOOK OVERFISHING ASSESSMENT

The Scientific and Statistical Committee (SSC) reviewed the Salmon Technical Team (STT) Supplemental Report “Assessment of Factors Affecting Escapement Shortfalls of Sacramento River Fall Chinook Salmon in 2007-2009” (Agenda Item G.3.b). Dr. Robert Kope was present to summarize the report and answer questions. The STT document was largely based on the National Oceanic and Atmospheric Administration (NOAA) Technical Memorandum “*What Caused the Sacramento River Fall Chinook Stock Collapse?*” which was reviewed and commented on by the SSC at the April 2009 Pacific Fishery Management Council (Council) meeting. The NOAA report was focused on the 2004 and 2005 brood years, while the STT report included the 2006 brood year.

The STT report addresses one of the two issues identified by the SSC in its statement on the NOAA Technical Memorandum in April 2009 (April 2009 Agenda Item H.2.c, Supplemental SSC Report). Specifically, breeding success of Cassin’s Auklet in additional years is presented in the STT report. There was no further analysis or data presented which addressed the second issue identified by the SSC, namely an examination of trends in annual catchability of out-migrating juvenile Chinook salmon for the Chipps Island seine sampling program.

Because the STT report focuses on the response of only three brood years, the SSC is concerned that the report’s conclusions may not be robust. This same concern was expressed regarding the NOAA Technical Memorandum in April 2009. Analyses in both reports would have been strengthened by examining a longer time series of data beyond those years adjacent to the brood years in question.

The SSC generally supports the supplemental STT report conclusions that ocean conditions were an important proximal factor contributing to the poor performance of the 2004, 2005, and 2006 brood years of Sacramento River fall Chinook (SRFC). However, because a high proportion of the stock is composed of hatchery fish that are released in San Francisco Bay and are not exposed to the freshwater environment, ocean conditions will almost by default be a major influence on overall brood survival. However, the SSC stresses that there is ample evidence of problems in the freshwater environment which affect survival of fish that migrate through the system.

The STT applied the conservation objectives proposed for SRFC in Amendment 16 to the Salmon Fishery Management Plan. Based on the three-year geometric mean escapement the SRFC stock would never have been classified as overfished using a trigger point of $0.5 \times S_{MSY}$, despite the lowest escapements on record. Current data collection programs, including the collection of age composition data and constant fractional marking, should provide new information that could be used in the future to re-visit S_{MSY} and F_{MSY} for this stock. The SSC supports the continuation of these important data collection efforts.

Agenda Item G.3.c
Public Comment
March 2011
April 7, 2010

Mr. David Ortmann – Chairman
Pacific Fishery Management Council
7700 NE Ambassador Place, Suite 200
Portland, Oregon 97220-1384

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PFMC

Dear Mr. Ortmann:

I attended a portion of the Council's recent Sacramento meeting and reviewed material with a particular interest in Chinook salmon and Steelhead issues.

I believe that not enough is being done to protect and restore Steelhead and Chinook salmon and the aquatic environment of Central Valley streams especially the American River.

The operation of Folsom Reservoir has resulted in redirected impacts from flow releases to the American River to meet Delta standards and demands for water export. During the period January 2001 through July 2004, significant release events occurred at least 3 to 5 times a year each year. A similar release pattern occurred 2005 through 2009. Each flow change event results in redirected impacts on Salmonid fishes in the Lower American River by affecting river flow and water temperatures during several life stages of Steelhead, a federally listed species under the Federal Endangered Species Act and fall-run Chinook salmon, a potential candidate species.

This first responder type operation (and resultant flow fluctuations) also adversely impacts the "Periphyton community", (an important food-producing community), as areas of the river are watered and dewatered by changes in flow. Water temperatures needed to protect Steelhead and fall-run Chinook salmon are difficult to achieve in the Lower American River because Folsom Reservoir as a "real-time, first response facility" exacerbates the problem. The depletion of Folsom Reservoir storage results in a reduction in the amount of coldwater that is available for managing water temperatures to protect Steelhead over-summer rearing juveniles and fall-run Chinook salmon holding adults, spawning, egg incubation. Elevated water temperatures can increase the susceptibility of Salmonids to disease; result in increased pre-spawning mortality and environment conditions conducive to increase predation.

The redirected impacts include (1) redd dewatering and isolation: (2) fry stranding: (3) juvenile isolation: (4) depletion of Folsom Reservoir water storage: and (5) depletion of Folsom Reservoir coldwater pool affects juvenile Steelhead and holding adult Chinook salmon and delays Chinook salmon spawning activities. (Sacramento Area Water Forum - 2005 letter to the State Water Resources Control Board with attached report. There is also Water Forum- 2010 letter.) The operational affects extend to resources that utilize the Delta and the Pacific Ocean including such uses as commercial and sport Chinook salmon fisheries and inland Steelhead fishery.

Such conditions do not meet the "in good condition" of Fish and Game Code Section 5937 for fish that utilize the reach of the American River downstream of the Folsom / Nimbus Dams. These first responder releases for meeting Delta standards or for export have "redirected impacts" that have immediate, annual and long-term impacts that affect water quality and fish resources of the Area of Origin watershed as well as the Delta. However these affects are often played down or ignored.

The 1992 Central Valley Project Improvement Act (CVPIA) language has fish and wildlife protection, restoration, enhancement and mitigation as project purposes having equal priority with power generation, irrigation, and domestic water uses. The Bureau is suppose to re-operate Folsom Reservoir to meet all obligations under the state and federal laws, including, but not limited to the Federal Endangered Species Act and water quality conditions on applicable permits and licenses.

At this time it appears the Bureau has no intention to voluntarily modify its American River operations to meet the recommendations of the National Marine Fisheries Service (NMFS) Biological Opinion (BO) or the purpose of the CVPIA. The Bureau in its letter of January 12, 2010, to NMFS stated it would follow the flow management standard and when additional water is needed to meet the flow management standard, b2 water will be used. To My knowledge there are no base line criteria for the using b2 water that have been formulated for public review and comment. The Bureau says it will strive to achieve and maintain the reference temperature targets of 60 DF, with 56 DF as early as possible in November. While the temperature targets are in place, the Bureau has not come close to meeting the desired temperatures. Temperature excursions above 67 DF to above 70 DF are not unusual during the summer months with long periods above 65 to 67 DF well into October.

Informational hand outs indicates the Council has reviewed the NMFS's BO, the Bureau's Folsom Reservoir operations and the Bureau's January 12, 2010, response. The Bureau has accepted the recommendations covered in the RPA (Reasonable and Prudent Alternative) of the BO. However NMFS also recommended specific measures to protect fall-run Chinook salmon (e.g. minimum flow and temperature requirements). The Bureau rejected these recommendations without providing any scientific justification or other explanation for not accepting the protection measures. This means that much of Folsom Reservoir's coldwater pool will continue to be lost during June, July and August as water is released to get maximum delivery to the Delta pool for export by the Tracy Pumping facilities. This means there will continue to be "redirected impacts" to Steelhead and Chinook salmon resources and allied public trust interests of the American River.

The CVPIA's equal priority for anadromous fish with other project uses has not been realized, and some will say ignored on the American River. The provisions of the CVPIA must be enforced. In the decision by Federal Judge Wanger (U.S. District Court) dated April 16, 2008, Temperature Control at Shasta Reservoir to protect a FESA listed species was discussed. The Judge allowed little leeway for the Bureau to meet temperature criteria. According to Judge Wanger, Reclamation "shall manage" the coldwater pool supply within Shasta Reservoir and make coldwater releases from Shasta Reservoir to provide suitable habitat for Sacramento River Chinook salmon and Steelhead in the Sacramento River between Keswick Dam and the Bend Bridge. This was based on his reading of the Temperature Criteria in the NMFS's BO.

The Council and the NMFS must take the lead and set temperature standards for the operation of the Folsom / Nimbus facilities. Following the Judge Wanger lead, the temperature standard criteria would read "Reclamation shall manage the coldwater pool within Folsom Reservoir and make coldwater releases from it to provide suitable habitat for Chinook salmon and Steelhead in the American River between Nimbus Dam and the Watt Ave Bridge." Criteria being 65 F Degrees or less June 1 thru October 31, and 58 F Degrees or less November 1 thru May 31. Point of compliance could be adjusted upstream (to Arden Bar or Ancil Hoffman Park) depending on available water supply.

It is time for NMFS and the Council to insist that the Bureau of Reclamation manage the Folsom / Nimbus facilities that meets the Water Forum's Flow Management Standard with its continuous flow and temperature components to conserve and protect the Chinook salmon and steelhead resources, uses and values of the Lower American River. It is also time to add a yearly reporting requirement on the operations of Folsom Reservoir and the status and conditions of Steelhead and Chinook salmon of the Lower American River. Without a monitoring program and the evaluation of the data gathered, the Bureau, the State and Federal wildlife conservation agencies and the public have no ability to focus on actions or project modifications that may be necessary to provide "good conditions" for Steelhead or Chinook salmon utilizing the Lower American River.

I eagerly wait your action to protect the people's Steelhead and Chinook salmon resources of the American River.

Sincerely,



Felix E. Smith
4720 Talus Way
Carmichael, CA 95608

Reference.

Surface Water Resources, Inc. 2005. Addendum to the Report Titled "Impacts on the Lower American River Salmonids and Recommendations Associated with Folsom Reservoir Operations to meet Delta Water Quality Objectives and Demands – Sept 2005

Cc: Congressman Dan Lungren, 2339 Gold Meadow Way, Rancho Cordova, CA 95670
National Marine Fisheries Services, 650 Capitol Mall, Sacramento, CA 95814
U.S. Fish and Wildlife Service, 2800 Cottage Way, Sacramento, CA 95825
Sacramento Water Forum, 660 J Street, Sacramento, CA 95814
State Water Resources Control Board, Div of Water Rights, 1001 "I" Street,
Sacramento, CA 95814
Congressman George Miller, 2205 Rayburn HOB, Washington, D.C. 20515

SmithCouncil Ap72010

Key Considerations on Sacramento Index Stock Status and Ocean Harvest

Doug Demko

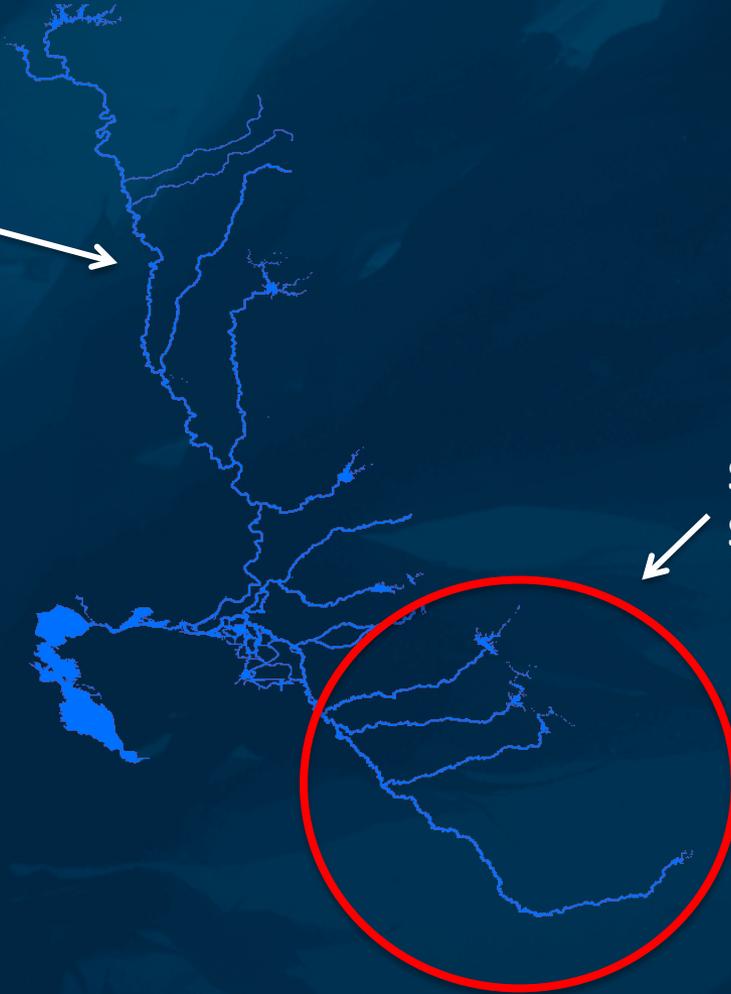
San Joaquin River Group Authority
Modesto, California

California's Central Valley

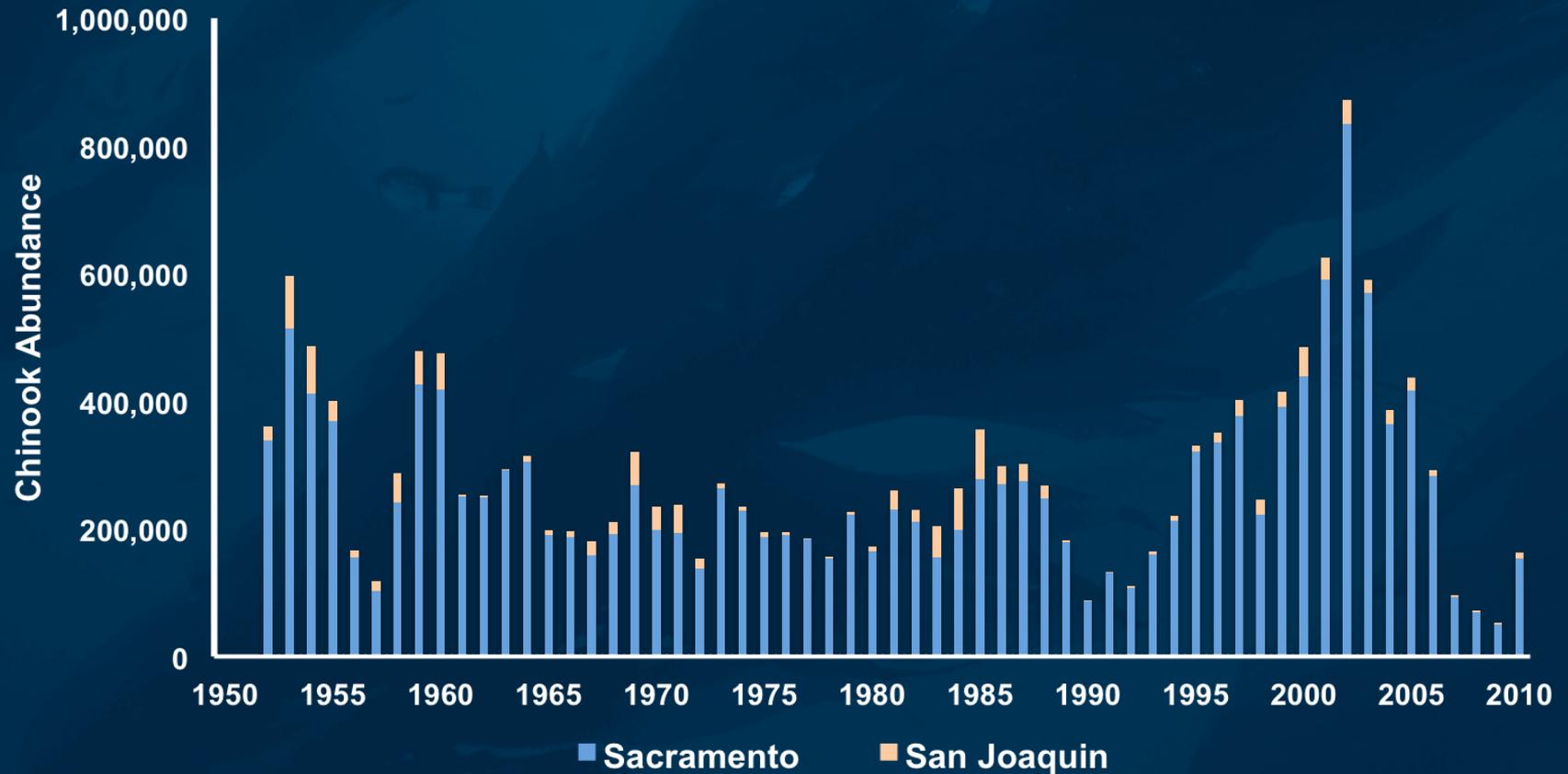
Sacramento Basin
Sac Index Population



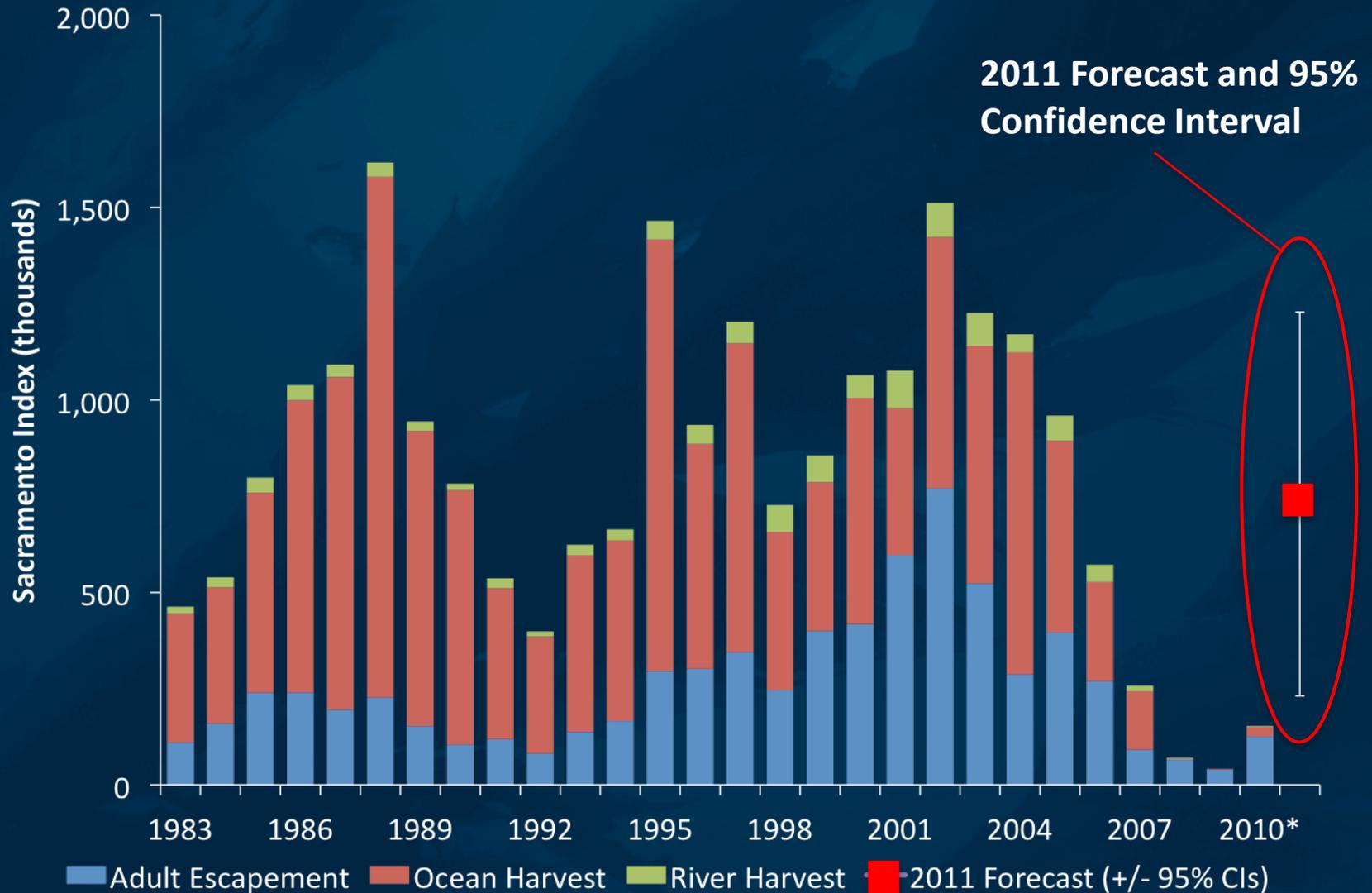
San Joaquin Basin
SJRGAs



Central Valley Fall-run escapement 1952-2010



Sac Index Fall-Chinook abundance at all-time low



Actual index lower than forecasted in recent years

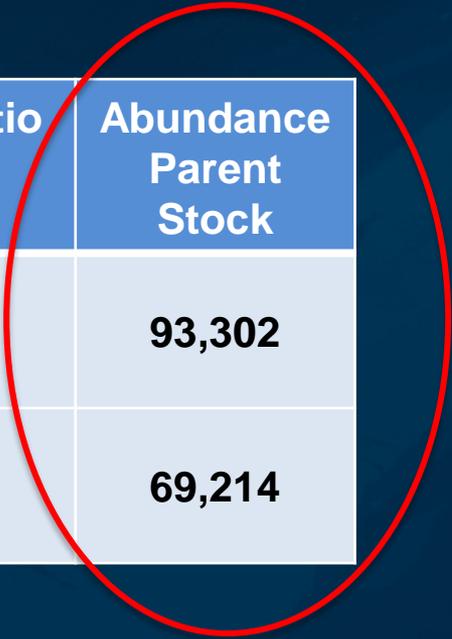


“The 2011 SI forecast has been made under similar conditions as the 2009 and 2010 forecasts . . . Hence there is potential for the 2011 SI forecast to be biased high.”

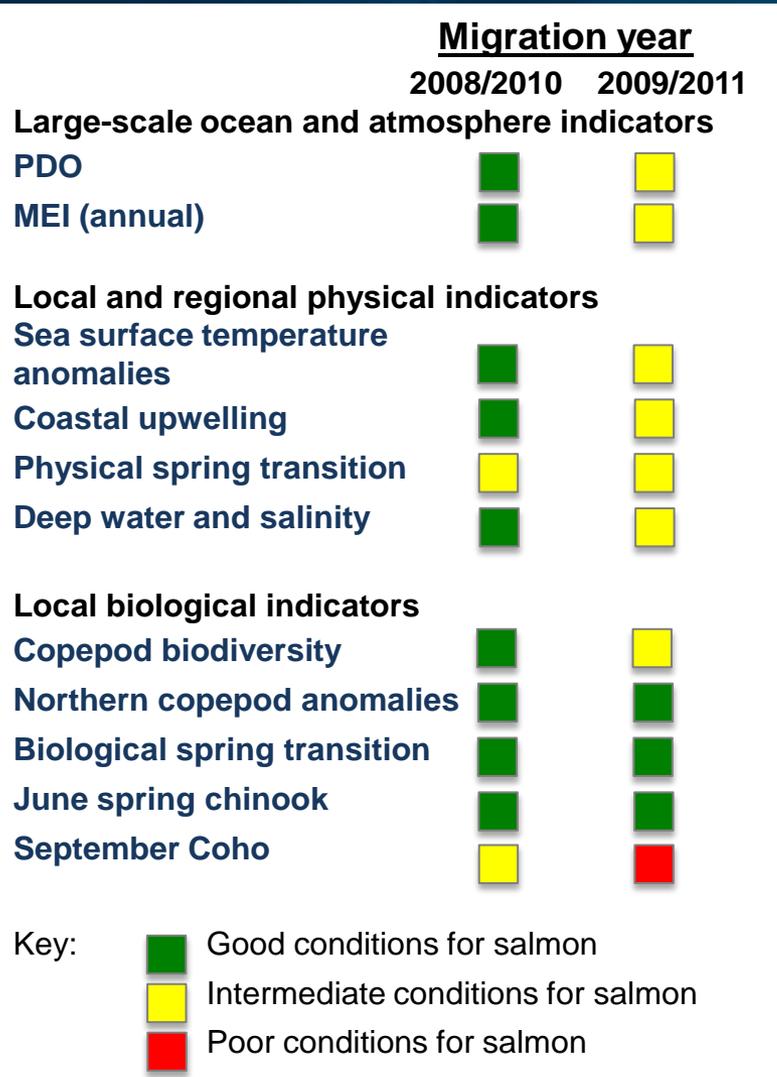
PFMC 2011

Parental stock abundance lower in 2011

Return Year	Escapement	Age at Return	Brood Year	Outmigration Year	Abundance Parent Stock
2010	152,831	3	2007	2008	93,302
2011	TBD	3	2008	2009	69,214

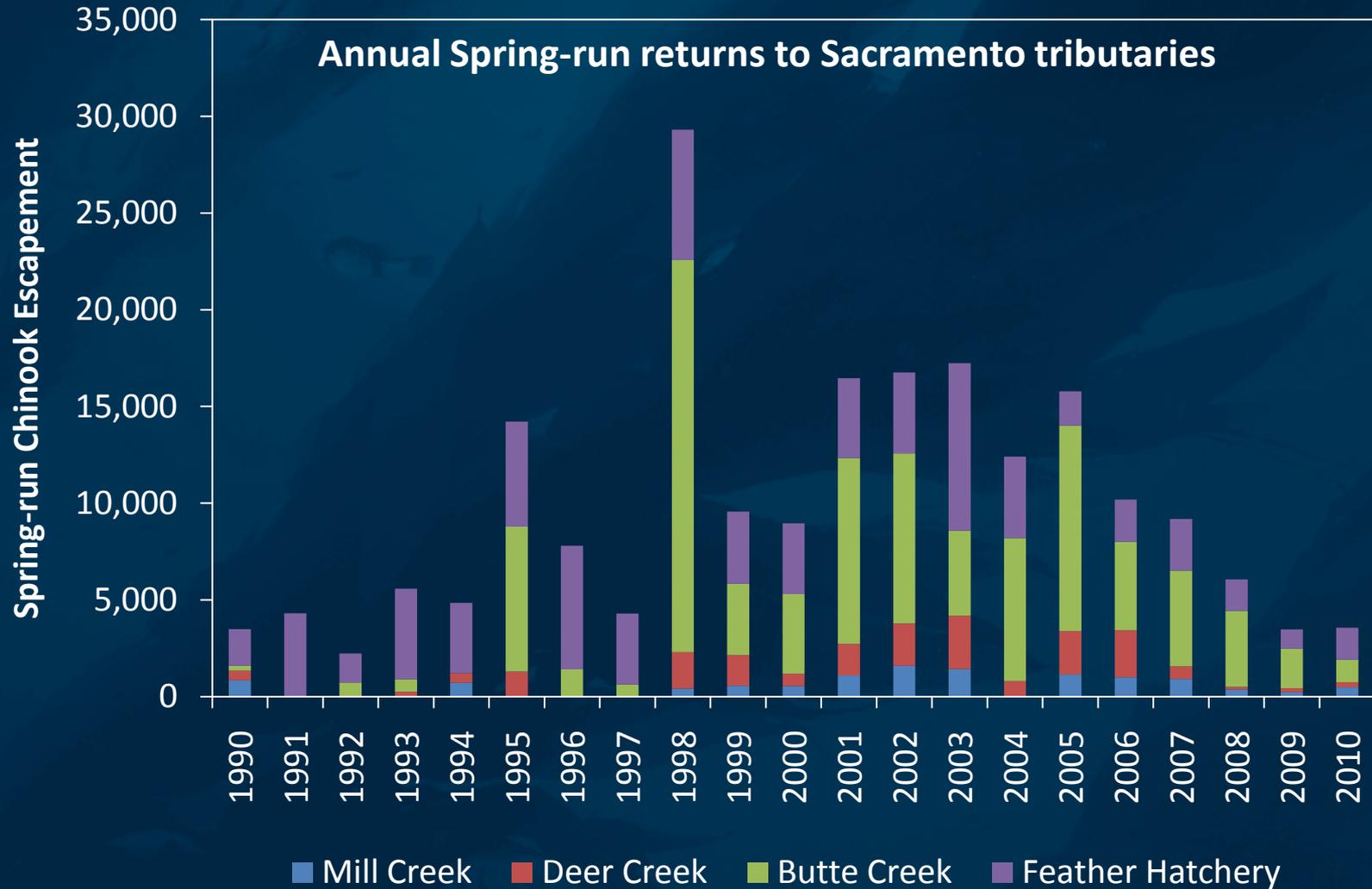


Ocean conditions worse at juvenile entry for 2011 stock



- **Northern California Current ocean conditions during juvenile stage were better for majority of fish contributing to 2010 escapement than for 2011.**
- **Conditions for juveniles outmigrating in 2009 and returning as Age 3 in 2011 were considered “intermediate” conditions, ranking 7th out of the 13 years.**

Harvest should be constrained by decline in Spring- and Winter-run



Hatchery fish and the future of harvest

*...considering the reliance of the population on hatchery fish and the influence of hatchery fish on the decline of wild runs, **substantial effort will be needed to sustain a population that can support a commercial fishery.***

Moyle et al. 2008

Summary

- **Sacramento Index abundance still depressed**
 - Harvest has been exceedingly high and largely been supported by hatchery production, with negative consequences
 - Biased Forecasts - need to address STT concerns regarding lack of age-specific escapement and river harvest data for the Central Valley
- **SJR wild chinook are currently low in abundance, but may contribute important phenotypic diversity to CV stock**

Recommendation

The Sacramento Index is in overfished condition and harvest should be curtailed to prevent further stock declines, especially in San Joaquin Basin.

Thank You

Doug Demko

**San Joaquin River Group Authority
Modesto, California**

IDENTIFICATION OF MANAGEMENT OBJECTIVES AND PRELIMINARY DEFINITION OF 2011 SALMON MANAGEMENT ALTERNATIVES

Using the Salmon Advisory Subpanel (SAS) management recommendations as a base, the Council should identify the range of management elements in the alternatives 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 alternatives. The collated alternatives will be returned to the Council for review and any further direction on Monday, March 7, 2011 followed by STT analysis and final adoption of the alternatives on Wednesday, March 9, 2011. Agenda Item G.4.a, Attachment 1 provides guidance for developing and assessing the alternatives.

Any alternative considered for adoption that deviates from Salmon 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 (Agenda Item G.4.a, Attachment 2) and National Marine Fisheries Service (Agenda Item G.4.a, Attachment 3).

Before defining the alternatives, the Council should be briefed on any pertinent management constraints resulting from: actions by the Pacific Salmon Commission (PSC); action by the California Fish and Game Commission to set the allocation of Klamath River fall Chinook or Sacramento River fall Chinook for the inside recreational fisheries; and National Marine Fisheries Service constraints for stocks listed under the Endangered Species Act.

The Council may also want to consider recommendations for inseason action to modify fisheries that may open prior to May 1, 2011, as impacts accrued in these fisheries may be subject to provisions in the FMP regarding Overfishing Criteria and they will affect opportunity in summer fisheries. Currently, the Oregon commercial fishery from Cape Falcon to the OR/CA border and the Oregon recreational fishery from Cape Falcon to Humbug Mt. are scheduled to open March 15, 2011. The California recreational fisheries from Horse Mt. to the U.S./Mexico border are currently closed in April, 2011, but may be opened by inseason action.

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 alternatives.**
- 2. Consider the need for inseason action to address fisheries opening prior to May 1, 2011.**

Reference Materials:

1. Agenda Item G.4.a, Attachment 1: Guidance for Alternative Development and Assessment.
2. Agenda Item G.4.a, Attachment 2: Emergency Changes to the Salmon FMP.
3. Agenda Item G.4.a, Attachment 3: FR 97-22094: Policy Guidelines for the Use of Emergency Rules.
4. Agenda Item G.4.c, Supplemental SAS Report: SAS Proposed Initial Salmon Management Alternatives for 2011 Non-Indian Ocean Fisheries.
5. Agenda Item G.4.d: Public Comment.

Agenda Order:

- a. Agenda Item Overview
 - b. Report of the Pacific Salmon Commission
 - c. Reports and Comments of Management Entities and Advisory Bodies
 - d. Public Comment
 - e. Council Recommendations for Initial Alternatives for Salmon Technical Team Collation and Description
- Chuck Tracy
Gordy Williams

PFMC
02/11/11

GUIDANCE FOR ALTERNATIVE DEVELOPMENT AND ASSESSMENT

Developing management alternatives 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 alternative development process. They are suggested guidelines and not inflexible requirements.

1. March Management Alternatives:

- a. To aid alternative assessment, the Council urges pertinent agency and tribal managers to have the Fishery Regulation Assessment Models (FRAMs) 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, Columbia River natural tule Chinook, Lower Columbia natural coho, etc.). Council staff can modify the alternative tables to ensure these objectives are clearly identified and addressed. Each time the Council reviews the alternatives, it should confirm or amend its guidance on the objectives and priorities.
- c. Generally, Alternative I should include the SAS's priority seasons and management measures. Alternatives 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., alternatives north of Cape Falcon). The final adopted alternatives 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 alternatives.
- 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 alternatives. 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 alternative. Many variations can simply be noted in the description of the three main alternatives. Additional alternatives 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.

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 Council meeting.

PFMC
02/11/11

EMERGENCY CHANGES TO THE SALMON FISHERY MANAGEMENT PLAN (FMP)
(Excerpt from Council Operating Procedure 10)

CRITERIA FOR REQUESTING EMERGENCY CHANGES TO THE SALMON FMP

Section 305(c) of the Magnuson-Stevens Fishery Conservation and Management Act allows the U.S. Secretary of Commerce (Secretary) to implement emergency regulations independently or in response to a Council recommendation of an emergency if one is found to exist. The Secretary has not published criteria for determining when an emergency exists. A Council FMP may be altered by emergency regulations, which are treated as an amendment to the FMP for a limited period of 180 days and which can be extended for an additional 180 days.

Council FMPs can be changed by the amendment process which takes at least one to two years, or modified temporarily by emergency regulations, which can be implemented in a few weeks. Framework plans, like the Council's Salmon FMP, have been developed to allow flexibility in modifying management measures between seasons and during the season.

Some measures, like most conservation objectives and allocation schemes, are deliberately fixed in the plan and can be changed only by amendment or temporarily modified by emergency regulation. (Certain conservation objectives also may be changed by court order or without an amendment if, in the view of the Salmon Technical Team (STT), Scientific and Statistical Committee, and Council; a comprehensive review justifies a change.) They are fixed because of their importance and because the Council wanted to require a rigorous analysis, including extensive public review, to change them. Such an analysis and review were conducted when these management measures were originally adopted. It is the Council's intent to incorporate any desired flexibility of conservation objectives into the framework plan, making emergency changes prior to the season unnecessary. The Oregon coastal natural coho conservation objective is an example of a flexible objective, which is more conservative when stock abundance is low.

The use of the emergency process essentially "short circuits" the plan amendment process and reduces public participation, thus there needs to be sufficient rationale for using it. Moreover, experience demonstrates that if there is disagreement or controversy over a council's request for emergency regulations, the Secretary is unlikely to approve it. An exception would be an extreme resource emergency.

To avoid protracted, last-minute debates each year over whether or not the Council should request an emergency deviation from the Salmon FMP, criteria have been developed and adopted by the Council to screen proposals for emergency changes. The intent is to limit requests to those which are justified and have a reasonable chance of approval, so that the time spent in developing the case is not wasted and expectations are not unnecessarily raised.

Criteria

The following criteria will be used to evaluate requests for emergency action by the Secretary:

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

Process

The 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 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.

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

PFMC
02/11/11

THEFT RATES OF MODEL YEAR 1995 PASSENGER MOTOR VEHICLES STOLEN IN CALENDAR YEAR 1995—Continued

Manufacturer	Make/model (line)	Thefts 1995	Production (mfgr's) 1995	1995 (per 1,000 vehicles produced) theft rate
205 ROLLS-ROYCE	SIL SPIRIT/SPUR/MULS	0	132	0.0000
206 ROLLS-ROYCE	TURBO R	0	19	0.0000
207 VOLKSWAGEN	EUROVAN	0	1,814	0.0000
208 VOLVO	LIMOUSINE	0	6	0.0000

Issued on: August 18, 1997.

L. Robert Shelton,

Associate Administrator for Safety Performance Standards.

[FR Doc. 97-22263 Filed 8-20-97; 8:45 am]

BILLING CODE 4910-59-P

DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration

50 CFR Chapter VI

[Docket No. 970728184-7184-01; I.D. 060997C]

Policy Guidelines for the Use of Emergency Rules

AGENCY: National Marine Fisheries Service (NMFS), National Oceanic and Atmospheric Administration (NOAA), Commerce.

ACTION: Policy guidelines for the use of emergency rules.

SUMMARY: NMFS is issuing revised guidelines for the Regional Fishery Management Councils (Councils) in determining whether the use of an emergency rule is justified under the authority of the Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act). The guidelines were also developed to provide the NMFS Regional Administrators guidance in the development and approval of regulations to address events or problems that require immediate action. These revisions make the guidelines consistent with the requirements of section 305(c) of the Magnuson-Stevens Act, as amended by the Sustainable Fisheries Act.

DATES: Effective August 21, 1997.

FOR FURTHER INFORMATION CONTACT: Paula N. Evans, NMFS, 301/713-2341.

SUPPLEMENTARY INFORMATION:

Background

On February 5, 1992, NMFS issued policy guidelines for the use of emergency rules that were published in

the **Federal Register** on January 6, 1992 (57 FR 375). These guidelines were consistent with the requirements of section 305(c) of the Magnuson Fishery Conservation and Management Act. On October 11, 1996, President Clinton signed into law the Sustainable Fisheries Act (Public Law 104-297), which made numerous amendments to the Magnuson-Stevens Act. The amendments significantly changed the process under which fishery management plans (FMPs), FMP amendments, and most regulations are reviewed and implemented. Because of these changes, NMFS is revising the policy guidelines for the preparation and approval of emergency regulations. Another change to section 305(c), concerning interim measures to reduce overfishing, will be addressed in revisions to the national standards guidelines.

Rationale for Emergency Action

Section 305(c) of the Magnuson-Stevens Act provides for taking emergency action with regard to any fishery, but does not define the circumstances that would justify such emergency action. Section 305(c) provides that:

1. The Secretary of Commerce (Secretary) may promulgate emergency regulations to address an emergency if the Secretary finds that an emergency exists, without regard to whether a fishery management plan exists for that fishery;

2. The Secretary shall promulgate emergency regulations to address the emergency if the Council, by a unanimous vote of the voting members, requests the Secretary to take such action;

3. The Secretary may promulgate emergency regulations to address the emergency if the Council, by less than a unanimous vote of its voting members, requests the Secretary to take such action; and

4. The Secretary may promulgate emergency regulations that respond to a public health emergency or an oil spill. Such emergency regulations may remain in effect until the circumstances that

created the emergency no longer exist, provided that the public has had an opportunity to comment on the regulation after it has been published, and in the case of a public health emergency, the Secretary of Health and Human Services concurs with the Secretary's action.

Policy

The NOAA Office of General Counsel has defined the phrase "unanimous vote," in paragraphs 2 and 3 above, to mean the unanimous vote of a quorum of the voting members of the Council only. An abstention has no effect on the unanimity of the quorum vote. The only legal prerequisite for use of the Secretary's emergency authority is that an emergency must exist. Congress intended that emergency authority be available to address conservation, biological, economic, social, and health emergencies. In addition, emergency regulations may make direct allocations among user groups, if strong justification and the administrative record demonstrate that, absent emergency regulations, substantial harm will occur to one or more segments of the fishing industry. Controversial actions with serious economic effects, except under extraordinary circumstances, should be done through normal notice-and-comment rulemaking.

The preparation or approval of management actions under the emergency provisions of section 305(c) of the Magnuson-Stevens Act should be limited to extremely urgent, special circumstances where substantial harm to or disruption of the resource, fishery, or community would be caused in the time it would take to follow standard rulemaking procedures. An emergency action may not be based on administrative inaction to solve a long-recognized problem. In order to approve an emergency rule, the Secretary must have an administrative record justifying emergency regulatory action and demonstrating its compliance with the national standards. In addition, the preamble to the emergency rule should indicate what measures could be taken

or what alternative measures will be considered to effect a permanent solution to the problem addressed by the emergency rule.

The process of implementing emergency regulations limits substantially the public participation in rulemaking that Congress intended under the Magnuson-Stevens Act and the Administrative Procedure Act. The Councils and the Secretary must, whenever possible, afford the full scope of public participation in rulemaking. In addition, an emergency rule may delay the review of non-emergency rules, because the emergency rule takes precedence. Clearly, an emergency action should not be a routine event.

Guidelines

NMFS provides the following guidelines for the Councils to use in determining whether an emergency exists:

Emergency Criteria

For the purpose of section 305(c) of the Magnuson-Stevens Act, the phrase "an emergency exists involving any fishery" is defined as a situation that:

- (1) Results from recent, unforeseen events or recently discovered circumstances; and
- (2) Presents serious conservation or management problems in the fishery; and
- (3) Can be addressed through emergency regulations for which the immediate benefits outweigh the value of advance notice, public comment, and deliberative consideration of the impacts on participants to the same extent as would be expected under the normal rulemaking process.

Emergency Justification

If the time it would take to complete notice-and-comment rulemaking would result in substantial damage or loss to a living marine resource, habitat, fishery, industry participants or communities, or substantial adverse effect to the public health, emergency action might be justified under one or more of the following situations:

- (1) Ecological—(A) to prevent overfishing as defined in an FMP, or as defined by the Secretary in the absence of an FMP, or (B) to prevent other serious damage to the fishery resource or habitat; or
- (2) Economic—to prevent significant direct economic loss or to preserve a significant economic opportunity that otherwise might be foregone; or
- (3) Social—to prevent significant community impacts or conflict between user groups; or

(4) Public health—to prevent significant adverse effects to health of participants in a fishery or to the consumers of seafood products.

Dated: August 14, 1997.

Gary C. Matlock,
Acting Assistant Administrator for Fisheries,
National Marine Fisheries Service.
 [FR Doc. 97-22094 Filed 8-20-97; 8:45 am]
 BILLING CODE 3510-22-F

DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration

50 CFR Part 285

[Docket No. 970702161-7197-02; I.D. 041097C]

RIN 0648-AJ93

Atlantic Highly Migratory Species Fisheries; Import Restrictions

AGENCY: National Marine Fisheries Service (NMFS), National Oceanic and Atmospheric Administration (NOAA), Commerce.

ACTION: Final rule.

SUMMARY: NMFS amends the regulations governing the Atlantic highly migratory species fisheries to prohibit importation of Atlantic bluefin tuna (ABT) and its products in any form harvested by vessels of Panama, Honduras, and Belize. The amendments are necessary to implement International Commission for the Conservation of Atlantic Tunas (ICCAT) recommendations designed to help achieve the conservation and management objectives for ABT fisheries.

DATES: Effective August 20, 1997. Restrictions on Honduras and Belize are applicable August 20, 1997; restrictions on Panama are applicable January 1, 1998.

ADDRESSES: Copies of the supporting documentation are available from Rebecca Lent, Chief, Highly Migratory Species Management Division, Office of Sustainable Fisheries (F/SF1), NMFS, 1315 East-West Highway, Silver Spring, MD 20910-3282.

FOR FURTHER INFORMATION CONTACT: Chris Rogers or Jill Stevenson, 301-713-2347.

SUPPLEMENTARY INFORMATION: The Atlantic tuna fisheries are managed under the authority of the Atlantic Tunas Convention Act (ATCA). Section 971d(c)(1) of the ATCA authorizes the Secretary of Commerce (Secretary) to issue regulations as may be necessary to carry out the recommendations of the

ICCAT. The authority to issue regulations has been delegated from the Secretary to the Assistant Administrator for Fisheries, NOAA (AA).

Background information about the need to implement trade restrictions and the related ICCAT recommendation was provided in the preamble to the proposed rule (62 FR 38246, July 17, 1997) and is not repeated here. These regulatory changes will further NMFS' management objectives for the Atlantic tuna fisheries.

Proposed Import Restrictions

In order to conserve and manage North Atlantic bluefin tuna, ICCAT adopted two recommendations at its 1996 meeting requiring its Contracting Parties to take the appropriate measures to prohibit the import of ABT and its products in any form from Belize, Honduras, and Panama. The first recommendation was that its Contracting Parties take appropriate steps to prohibit the import of ABT and its products in any form harvested by vessels of Belize and Honduras as soon as possible following the entry into force of the ICCAT recommendation. Accordingly, the prohibition with respect to these countries is effective August 20, 1997. The second recommendation was that the Contracting Parties take appropriate steps to prohibit such imports harvested by vessels of Panama effective January 1, 1998. This would allow Panama an opportunity to present documentary evidence to ICCAT, at its 1997 meeting or before, that Panama has brought its fishing practices for ABT into consistency with ICCAT conservation and management measures. Accordingly, the prohibition with respect to Panama will become effective January 1, 1998.

Under current regulations, all ABT shipments imported into the United States are required to be accompanied by a Bluefin Statistical Document (BSD). Under this final rule, United States Customs officials, using the BSD, will deny entry into the customs territory of the United States of shipments of ABT harvested by vessels of Panama, Honduras, and Belize and exported after the effective dates of the trade restrictions. Entry will not be denied for any shipment in transit prior to the effective date of trade restrictions.

Upon determination by ICCAT that Panama, Honduras, and/or Belize has brought its fishing practices into consistency with ICCAT conservation and management measures, NMFS will publish a final rule in the **Federal Register** that will remove import restrictions for the relevant party. In



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

March 3, 2011

Mr. Mark Cedergreen, Chairman
Pacific Fishery Management Council
7700 NE Ambassador Place, Suite 200
Portland, Oregon 97220-1384

Dear Mr. Cedergreen:

The Pacific Coast Salmon Fishery Management Plan (Salmon FMP) requires that the Pacific Fishery Management Council (Council) develop management recommendations for fisheries under the Salmon FMP consistent with consultation standards developed by the National Oceanic and Atmospheric Administration's 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 regarding the potential effects of the 2011 season on listed salmonid species. As in previous years, this letter is intended to offer NOAA Fisheries' preliminary guidance regarding conservation needs for listed salmonid species; any ultimate ESA-determinations shall be provided when the applicable biological opinions for those species are completed. We also use this opportunity to comment on other subjects of general interest. We comment briefly on developing circumstances related to Southern Resident Killer Whales and our expectations for the genetic stock identification (GSI) sampling program in 2011. Because of circumstances in recent years and their relative importance to the fisheries, we also comment on the status of Sacramento River fall Chinook and Klamath River fall Chinook and our expectations for management of these stocks in 2011.

Southern Resident Killer Whales

NOAA Fisheries has recently incorporated new scientific information to develop a preliminary analysis of the effects of fisheries on Southern Resident killer whales. The new scientific information and preliminary analysis about the Southern Resident population and the extent of their reliance on salmon – particularly large Chinook salmon – strongly suggest that Chinook abundance is very important to the survival and recovery of Southern Residents. This relationship has potentially serious implications for activities that affect the abundance of Chinook salmon, including salmon fisheries. Already this information has affected the proposed term of the pending Puget Sound Chinook Resource Management Plan. Before taking further action, NOAA Fisheries will join with the Canadian Department of Fisheries and Oceans (DFO) to conduct a transparent and scientifically rigorous review of the analysis. We believe we can best accomplish this in a process that engages scientists with a broad range of scientific specialties. We therefore will publicly disseminate the preliminary data and analysis and



convene with DFO an independent scientific review panel to review the data and analysis. Should a management response in the fisheries be appropriate, NOAA Fisheries intends to reinstate consultation under the ESA on all U.S. fisheries affecting the abundance of Chinook salmon in Puget Sound. As a result, NOAA Fisheries encourages the Council to monitor closely the scientific review in order to properly anticipate any management actions that may be appropriate in Council waters.

Please review our website for more information: <http://www.nwr.noaa.gov/Marine-Mammals/Whales-Dolphins-Porpoise/Killer-Whales/ESA-Status/KW-Chnk.cfm>

Genetic Stock Identification Sampling Proposal

In 2010, NOAA Fisheries issued a Scientific Research Permit (SRP) to the Northwest and Southwest Fisheries Science Centers to conduct non-retention sampling of Chinook salmon in closed times and areas off the West Coast in 2010. While the principal investigators for the scientific research were the NWFSC and SWFSC, the overall effort was part of the West Coast Salmon Genetic Stock Identification Collaboration (WCGSI); a partnership of west coast fishermen's organizations, universities, states, tribes, and NOAA Fisheries, formed in 2006 to explore potential uses of GSI for west coast salmon fisheries management. Combined sampling in open and closed areas under the SRP enabled the Centers to sample almost weekly from Santa Barbara to Cape Falcon, May through September. Impacts were less than those approved in the 2010 season setting process.

The data collected in 2010 are the first application of fine-scale GSI sampling over a broad geographic area for a full season. Data from the KMZ provide the best stock composition estimates from this area since the late 1980s. Results are being analyzed for a variety of purposes, including the potential for updating the Chinook FRAM model and improving the Sacramento and Klamath Ocean Harvest Models.

There are differing opinions about the potential applications of GSI data for fisheries management, as well as the feasibility and cost of collecting and incorporating such data in the long-term. To allow for an evaluation of the potential benefits and/or shortcomings of using such data for salmon assessment and management in the future, there is a need for continued experimental data collection and analysis. NOAA Fisheries recommends that the Council continue to support the sampling effort to build a **database** useful for analysis of management applications. NOAA Fisheries encourages communication between scientists, advisory committees, and the Council to help direct development of GSI technologies to best serve the needs of the Council.

In 2010 GSI sampling was conducted in closed areas which required set asides to account for associated impacts during the preseason process. In 2011 we do not anticipate sampling in closed areas because of funding limitations and our expectation of a more normal, open fishing season. As a consequence, there will be no need for the Council to anticipate impacts as the options are developed at the March meeting for GSI sampling in closed areas.

CHINOOK SALMON

Sacramento River Fall Chinook

Sacramento River fall Chinook (SRFC) is the primary stock contributing to the ocean salmon fisheries south of Cape Falcon, Oregon. In addition to ESA-listed stocks, the need to conserve SRFC has resulted in restricted ocean salmon fisheries south of Cape Falcon in recent years, owing to record-low returns of SRFC. Available data suggest SRFC fishery impacts north of Cape Falcon are negligible.

The SRFC conservation objective is an escapement goal range of 122,000-180,000 adult spawners to hatcheries and natural areas. During the 2010 preseason process, the Pacific Fishery Management Council (PFMC) adopted fishery management recommendations to achieve a return of 180,000 SRFC adult spawners. Postseasons estimates indicated 125,400 SRFC adults returned to spawn in 2010, successfully meeting the lower end of the conservation objective range.

SRFC natural and hatchery adult spawners

2006: 275,000

2007: 91,400

2008: 65,400

2009: 40,900

2010: 125,400

2010 jack escapement was substantially higher than the previous five years, suggesting that adult ocean abundance will increase in 2011. The 2011 Sacramento Index forecast has been projected to be 729,900 SRFC adults.

In 2009, postseason escapement of SRFC (40,900) was substantially less than the preseason projections (122,000) and below the lower end of the SRFC escapement goal range for the third consecutive year. As a result, an "overfishing concern" was triggered under the Salmon FMP. NMFS is required to report on the status of the stock consistent with MSA section 304(e)(1). In 2009, NMFS and the Council determined that the current FMP does not provide clear criteria with which to make stock status determinations. To address this, the Council directed that Amendment 16 to the FMP include revisions to the status determination criteria to provide clearer criteria for making "overfishing", "overfished", and "approaching overfished" determinations. In the meantime, if a stock fails to meet its conservation objective for three consecutive years, NMFS will report the stock as "overfished". Therefore, SRFC is reported as "overfished."

As a result, pursuant to the FMP, the PFMC directed the Salmon Technical Team to work with State and Tribal fishery managers to assess the factors that contribute to the escapement shortfall within one year, and in 2010, a formal overfishing assessment was begun to determine the causes of the shortfall. Updates to the overfishing team assessment will be presented at the March 2011 Council meeting. However, in light of the recent depressed status of SRFC, NMFS recommends

a more precautionary approach to managing the stock in 2011 by achieving a forecast escapement toward the upper end of the conservation objective goal range.

Klamath River Fall Chinook

The conservation objective for KRFC is a spawner reduction rate of no more than 67 percent, while achieving a minimum of 35,000 naturally spawning adults in any single year. KRFC did not meet its conservation objective in 2004, 2005, and 2006, triggering an “overfishing concern” under the Salmon FMP. Since 2007, KRFC has been reported as “not overfished – rebuilding.” Although NMFS has not yet approved a formal rebuilding plan for KRFC, the PFMC has recommended that the overfishing concern be ended when escapement of 35,000 natural-area spawners is achieved in three out of four consecutive years, *or* when an escapement of at least 40,700 naturally spawning adults is achieved in two consecutive years. During the period of the overfishing concern, the Council recommended achieving an escapement of 40,700 natural-area KRFC adult spawners until the overfishing concern is ended.

Postseason estimates indicated that 37,200 KRFC adults returned to spawn in natural-areas in 2010.

KRFC natural-area adult escapement

2007: 60,700
2008: 30,900
2009: 44,400
2010: 37,200

Because the conservation objective of 35,000 natural area KRFC adult spawners has now been met for three out of four consecutive years (2007, 2009-2010), NMFS recommends returning to the FMP conservation objective of a spawner reduction rate of no more than 67 percent and an escapement of at least 35,000 naturally spawning KRFC adults.

California Coastal Chinook Salmon

The California Coastal (CC) Chinook salmon ESU has been listed as threatened under the ESA since 1999. The current consultation standard for CC Chinook is from a NOAA Fisheries biological opinion dated April 28, 2000. On June 13, 2005, NOAA Fisheries completed additional consultation on CC Chinook, and specified actions necessary to implement the RPAs of the 2000 biological opinion for this ESU.

The RPAs of the 2000 biological opinion stated that to ensure that CC Chinook are not subject to increasing harvest rates in the future, limits on the forecast KRFC age-4 ocean harvest rates would serve as the consultation standard. The 2005 reinitiation of consultation affirmed that management measures shall result in a forecast KRFC age-4 ocean harvest rate of no greater than 16 percent.

Sacramento River Winter Chinook Salmon

The Sacramento River winter Chinook salmon ESU (winter-run) was listed under the ESA as threatened in 1990 and relisted as **endangered** in 1994. The current consultation standard for winter-run is derived from a NOAA Fisheries biological opinion completed on April 30, 2010. The 2010 biological opinion found that the ocean salmon fishery, as managed under the Salmon FMP, is likely to jeopardize the continued existence of winter-run. This determination is based on the recent substantial declines in winter-run spawning returns, and the lack of analytical information and quantitative tools to establish appropriate harvest impact levels or an explicit management process to avoid or reduce impacts to winter-run when this stock is declining and/or facing increased extinction risks. In general, NOAA Fisheries believes that when winter-run returns are low or declining, fishing impacts may need to be reduced from previous levels. To avoid the likelihood of jeopardizing the existence of winter-run while enabling the continuation of the ocean salmon fishery, NOAA Fisheries has proposed a Reasonable and Prudent Alternative (RPA), which mandates the development of a new management framework for winter-run that is responsive to changes in stock status. The framework is expected to develop population status thresholds, impact rate targets, and the analytical tools needed to assess the impacts of various fishery management options. It is expected that this new framework will be implemented no later than the start of the 2012 ocean salmon fishing year.

New information suggests that the status of winter-run did not improve in 2010. Below is the approximate number of returning adult winter-run since 2006.

- 2006: 16,900
- 2007: 2,400
- 2008: 2,500
- 2009: 4,500
- 2010: 1,600

For the 2011 fishing year, NOAA Fisheries has determined that fishery impacts should continue to be constrained until the management framework required by the 2010 RPA has been implemented. Recent ocean fishery impact estimates, which are based upon cohort reconstructions and coded wire tag recoveries recently provided by the NOAA Fisheries Southwest Fisheries Science Center, and analyzed in the 2010 biological opinion, confirm that ocean fishery impacts continue to occur primarily on age-3 winter-run in the recreational ocean salmon fisheries south of Point Arena. As a result, the guidance options that were provided in 2010 (in the interest of providing flexibility to the PFMC in designing the 2010 fishing year) are deemed sufficient to meet the interim consultation standard to minimize fishery impacts for the 2011 fishing year. The options include time/area closures in the recreational fishery during periods that are expected to effectively minimize fishery impacts to winter-run. In addition, based on examinations of the size-at-age growth model and historical coded wire tag recoveries, NOAA Fisheries believes that a substantial portion of maturing winter-run would be required to be released, given the greater minimum total size limit during most of the fishing year. These protective measures are expected to contribute to increased spawning returns in the following year.

Consequently, NMFS offers the following guidance for the 2011 fishing year:

Winter-Run Guidance for 2011 fishing year for South of Point Arena, CA

Fishery	Location	Shall Open No Earlier Than:	Shall Close No Later Than:	Minimum Total Size Limit Shall be at Least:
Recreational*	Between Point Arena and Pigeon Point	1st Saturday in April	2nd Sunday in November	20 inches (April 2011 size limit must be 24-inches)
	Between Pigeon Point and the U.S.-Mexico Border	1st Saturday in April	1st Sunday in October	
	<p>* In addition, the Council shall choose at least one of the following options for the recreational fishery south of Point Arena:</p> <ul style="list-style-type: none"> - 24-inch minimum total size limit (May – August 2011; April 2012); 20 inches (Sept.-Nov.) - Close the recreational fishery for at least two consecutive months (any consecutive 61 day period) at some point from May 1 through August 31, which should apply to all areas south of Point Arena simultaneously. - Close either the San Francisco or Monterey management area for any 61 consecutive day period at some point from May 1 through August 31, while also implementing the 24-inch limit in the other areas south of Point Arena (May 1 - August 31, 2011; April 2012). 			
Commercial	Between Point Arena and the U.S.-Mexico Border**	May 1	September 30	26 inches
	<p>**Exception: Between Point Reyes and Point San Pedro, there may be an October fishery conducted Monday through Friday, but shall end no later than October 15.</p>			

For the 2010 ocean salmon fishing year, the Council selected the 24-inch size limit option over the 61-day time/area closure for the recreational fishery. Based on NMFS' initial guidance provided to the Council in March 2010, a 24-inch minimum total size limit was discussed as an option for the entire year. Analyses demonstrate that a 24-inch size limit in April would be expected to result in substantial reductions in impacts to winter-run in the recreational fishery at that time. Therefore, NMFS has decided that a 24-inch size limit must be in place if the Council decides to recommend emergency action to open an April 2011 recreational fishery.

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

Central Valley Spring Chinook Salmon

The Central Valley spring Chinook Evolutionarily Significant Unit (ESU) was first listed as threatened in 1999. The current consultation standard for Central Valley spring Chinook is from the NOAA Fisheries biological opinion, dated April 28, 2000, on the effects of the ocean salmon fishery on Central Valley spring Chinook and California Coastal Chinook. The 2000 opinion

concluded that the ocean salmon fishery, as regulated under the Salmon FMP and NOAA Fisheries consultation standards for Sacramento River winter Chinook, is not likely to jeopardize the continued existence of Central Valley spring Chinook. As explained previously, a new opinion is being developed for Sacramento River winter Chinook and interim guidance has been provided for the 2011 fishing year. The Sacramento River winter Chinook interim guidance, along with other regulatory measures in the salmon FMP, provides sufficient protection for Central Valley spring Chinook in the 2011 fishing year.

In the fall of 2009, NOAA Fisheries initiated efforts to assemble the more recent coded wire tag data to update analyses on the impact of the Council's fisheries on this ESU. NOAA Fisheries will update the Council with any new information as it becomes available. Until such time, we have determined that no further actions are required to supplement those specified in the 2000 biological opinion.

Lower Columbia River Chinook Salmon

In 2010 NOAA Fisheries completed a biological opinion that considered the effects of fisheries on LCR Chinook in 2010 and 2011. NOAA Fisheries relied on that opinion to develop the following guidance for management of fisheries in 2011.

The LCR Chinook ESU is comprised of a spring component, a "far-north" migrating bright component, and a component of north migrating tules. The bright and tule components both have fall run timing. Of nine historical spring Chinook populations, four are considered extant. To achieve recovery targets, five populations are expected to be targeted to achieve high viability through recovery and reintroduction efforts, three to achieve moderate or low viability, and one to be maintained at high risk. The four extant spring stocks within the ESU include those in the Cowlitz, Kalama, and Lewis rivers on the Washington side, and in the Sandy River on the Oregon side. The historical habitat for the spring Chinook stocks on the Washington side is now largely inaccessible to salmon due to impassable dams. The remaining spring stocks are therefore dependent, for the time being, on the associated hatchery production programs. The Lower Columbia Salmon Recovery Plan¹ specifies actions to be taken to facilitate recovery of spring Chinook populations in Washington State. The Cowlitz and Lewis hatcheries are being used, for example, for reintroduction of spring Chinook into the upper basin areas above existing dams. A supplementation program is being developed for the Kalama population. Spring Chinook in the Sandy River are also managed with an integrated hatchery supplementation program consistent with recovery plan recommendations in Oregon. Maintaining the hatchery brood stocks for these populations is therefore essential for implementation of specified recovery actions. The hatcheries have met their escapement objectives in recent years with few exceptions, and are expected to do so again in 2011 and for the foreseeable future, thus ensuring

¹ In 2006, NOAA approved an interim recovery plan for the Washington portion of the ESU (excluding the White Salmon basin). In June 2010, the Lower Columbia Fish Recovery Board adopted a revised version of that plan. In August 2010, the Oregon Fish and Wildlife Commission adopted a plan for the Oregon portion of the ESU. NMFS, working with local stakeholders, has drafted a plan for the White Salmon basin. NMFS is also drafting an ESU level plan based on the three local plans and will make the entire package available for public review and comment in summer or fall of 2011.

that what remains of the genetic legacy is preserved and can be used to advance recovery. NOAA Fisheries expects that the management agencies will continue to manage in-river fisheries to meet hatchery escapement goals, but no additional management constraints on Council fisheries are considered necessary at this time.

There are two extant natural-origin bright populations in the LCR Chinook ESU including the North Fork Lewis River and Sandy River populations. The North Fork Lewis River population is used as a harvest indicator for ocean and in-river fisheries. The escapement goal used for management purposes for this population is 5,700, based on estimates of maximum sustained yield derived from spawner-recruit analysis. Escapements have averaged 9,500 over the last ten years and have generally exceeded the goal by a wide margin since at least 1980. Escapement was below goal in 2007 and 2008. The shortfall is consistent with a pattern of low escapements for other far-north migrating stocks in the region and can likely be attributed to poor ocean conditions. Escapement in 2010 was 8,700 and thus again well above the escapement goal. The Sandy River population is considered in Oregon's draft Recovery Plan to be at low risk and viable under current harvest conditions. Given the long history of healthy returns, and other management constraints that will be in place this year, 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 2011. NOAA Fisheries does expect that the states of Washington and Oregon will continue to monitor the status of the LCR bright populations, and take the specific actions necessary through their usual authorities to deliver spawning escapement through the fisheries they manage sufficient to maintain the health of these populations.

There are twenty one separate populations within the tule component of the LCR Chinook ESU. Unlike the spring or bright populations of the ESU, LCR tule populations are caught in large numbers in Council fisheries, as well as fisheries to the north and in the Columbia River. Harvest on LCR tule Chinook has been reduced significantly since they were first listed in 1999. The exploitation rate was at first limited to 65%. From 2002 to 2006 the exploitation rate was limited to 49%. Harvest was reduced further to 42% in 2007, 41% in 2008, and 38% in 2009. These reductions were based on improved information and analyses developed over time, and had the intended beneficial effect of reducing exploitation rates on all comingled LCR tule populations. NOAA Fisheries is mindful of the effect to fisheries of these successive harvest reductions, but the accumulating information continues to underscore that these reductions are a necessary part of an overall strategy to achieve recovery.

The 2010 opinion helped clarify the status of the LCR tule populations. Some populations, including the Coweeman, East Fork Lewis, and Washougal, appear likely to be able to sustain harvest at current levels and remain at low risk. Other populations, including the Clatskanie, Scappoose, and Elochoman in the Coastal Major Population Group (MPG), appear likely to remain at very high risk even at very low harvest rates. The status of another set of populations is intermediate. All populations need to improve, but populations in the coastal MPG are most problematic.

The coastal populations are dominated by hatchery strays, are likely no longer genetically distinct as a result of past practice, and occupy habitat that is severely degraded. Other populations are similarly affected, although generally to a lesser degree. All of these factors contribute to the low productivity of these populations. Because of these circumstances the recovery plan calls for a coordinated and deliberate strategy that addresses each of the limiting factors and anticipates the need for transition as the habitat improves and the populations respond to their changing circumstance. The recovery plans set benchmarks for survival improvements for each of the limiting factors and described the sorts of actions required to achieve necessary improvements over time. Although the recovery plan provided the frame work for recovery, details related to the implementation strategies were, in some cases, yet to be worked out. Conclusions related to harvest will depend in the long term on the efficacy of actions that address all limiting factors. As a result, the 2010 opinion was used to help flesh out details related to implementation of the overall recovery strategy. The opinion was limited to two years to provide more time to advance the comprehensive recovery strategy that was being developed through recovery planning process.

In 2010, the exploitation rate for LCR tule Chinook was limited to 0.38. For 2011, the opinion limited the exploitation rate to 0.36, but allowed for an increase to 0.37 if certain tasks were adequately addressed. The tasks were designed to reduce uncertainties in key elements of the overall recovery strategy. Four of the tasks addressed habitat activities. The other tasks focused on hatchery and harvest reforms and methods for improving our understanding of the escapement of primary tule populations. Tasks A through H were listed in the 2010 opinion and are provided here for your information:

- A. Describe the primary funding sources for habitat improvement projects, and existing data bases and/or summaries of all past and present projects that benefit LCR tule populations. The report should include an assessment of the feasibility and utility of developing a more coordinated and centralized reporting system. The report will also comment on how to best improve coordination and reporting of all future projects.
- B. Identify the amount and distribution of extant marsh type habitats currently inaccessible for juvenile rearing. The report will focus specifically on lower tributary and mainstem Columbia juvenile rearing habitats used by Lower Columbia River tule Chinook populations. The report should also identify ongoing efforts to gather additional data on current and potential juvenile rearing habitat distribution in the Lower Columbia River.
- C. Identify milestones or expected trends in improved habitat conditions in high priority tributary and intertidal areas for tule Chinook populations.
- D. Describe a recovery plan implementation schedule that identifies specific actions for a 3 to 5 year period, potential implementing entities, costs, location and duration of actions, funding sources, VSP and limiting factors affected, and linkages to milestones for improved habitat conditions.

- E. Describe the transition strategy for reducing the proportion of hatchery fish in natural spawning areas for primary tule Chinook populations in a manner that addresses short term demographic risks while promoting progress to recovery objectives.
- F. Analyze options for implementing mark selective fisheries. The report should include an analysis of the feasibility of mark selective fisheries, the magnitude of differential harvest impacts to marked and unmarked fish, and the relative benefits of efforts to reduce the harvest mortality to natural origin fish and reduce the proportion of hatchery fish on the spawning grounds. The report should also provide a schedule for assessing selective fishing gear and mortality rates of released fish.
- G. Analyze options for incorporating abundance driven management principles into Lower Columbia tule Chinook management.
- H. Review and update existing escapement estimate time series for selected primary tule populations with particular attention to estimates of hatchery contribution. The report should also describe current escapement monitoring programs and how they are designed to address key uncertainties.

Work groups were formed and worked over the last year to address each task. The work groups included staff with the necessary expertise from the state fishery management agencies, those directly involved with recovery planning, and from NOAA Fisheries' Northwest Regional Office and Science Center. Reports were completed that address each task. These reports are posted on NOAA Fisheries website at <http://www.nwr.noaa.gov/Salmon-Recovery-Planning/Recovery-Domains/Willamette-Lower-Columbia/LC/BO-tasks.cfm>. NOAA Fisheries reviewed these reports and concluded that each task was addressed and that the condition of the 2010 biological opinion was satisfied. Although we will not comment here on the substance of the task reports, we encourage the Council and others to review them now and rely on them in the future as they each describe the way forward for a diverse set of issues that are important to overall all recovery. NOAA Fisheries appreciates the work of all of those involved in recovery planning for tule fall Chinook and, in particular, those who have contributed to the significant focus on tule Chinook recovery during the past two years.

NOAA Fisheries also considered the potential consequences to Southern Resident Killer Whales of the choice between a 0.36 and 0.37 exploitation rate for LCR tule Chinook. The recent analysis of Southern Resident Killer Whales has focused on the abundance of large Chinook in inside waters of Puget Sound during the summer months. An analysis of the one percent difference in overall exploitation rate suggests that inside abundance would be reduced by less than one tenth of one percent if fisheries were managed subject to the 0.37 exploitation rate. As indicated above, NOAA Fisheries will undertake a comprehensive review of all U.S. fisheries affecting the abundance of Chinook salmon in Puget Sound if, following the proposed review process, further actions are deemed necessary.

Based on the above consideration and consistent with the terms of the biological opinion, NOAA Fisheries concludes that all fisheries below Bonneville Dam should be managed subject to a total exploitation rate of 0.37.

In 2012 and beyond, NOAA Fisheries will continue to focus on implementation of a comprehensive transitional strategy described in the recovery plan that links harvest actions to progress on the suite of actions necessary to achieve long term recovery. In that regard, NOAA Fisheries continues to urge that all parties emphasize the need to recovery tule Chinook spawning and rearing habitat as hatchery reforms are implemented in order to avoid significant harvest constraints in the future.

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

NOAA Fisheries has considered the effects of Council area fisheries on spring stocks from the Upper Columbia River and Upper Willamette River Basins and spring/summer stocks from the Snake River in prior biological opinions. These stocks are rarely caught in Council fisheries. NOAA Fisheries has determined that management actions designed to limit catch from these ESUs beyond what will be provided by harvest constraints for other stocks are not necessary.

Snake River Fall Chinook Salmon

NOAA Fisheries completed a biological opinion on the new Pacific Salmon Treaty Agreement in 2008 where we again considered the effects of fisheries, including Council area fisheries, on Snake River fall Chinook. In that opinion we evaluated the effect of fisheries, in part, by using the guidance standard for ocean fisheries used over the last several years. We concluded that the existing standard continued to provide a necessary and appropriate level of protection for Snake River fall Chinook. NOAA Fisheries' guidance with respect to Snake River fall Chinook is therefore unchanged from that of the last several years. NOAA Fisheries requires that the Southeast Alaskan, Canadian, and Council fisheries, in combination, achieve a 30.0% reduction in the age-3 and age-4 adult equivalent total exploitation rate relative to the 1988-1993 base period. The Council fisheries therefore must be managed to ensure that the 30.0% base period reduction criterion for the aggregate of all ocean fisheries is achieved.

Puget Sound Chinook Salmon

Procedurally, the Council and associated North of Falcon processes 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. Ideally, as it has for the past several years, NOAA Fisheries would issue guidance for the full suite of Council and Puget Sound fisheries

consistent with the nature of the planning process. Therefore, since 2001, our guidance has relied on a series of comprehensive, joint Resource Management Plans (RMP) developed by the Washington Department of Fish and Wildlife and the Puget Sound Treaty Tribes (Puget Sound co-managers). The most recent RMP and the ESA take limit for fisheries implemented under the terms of that RMP expired May 1, 2010. Because of the timing of events NOAA Fisheries anticipated a gap between the time the previous RMP expired and when NOAA Fisheries would make its determination on the new RMP. In the interim, NMFS issued two biological opinions on the impacts to listed species for the 2010 fishing year (May 1, 2010 through April 30, 2011).

NOAA Fisheries is currently evaluating a new RMP provided by the co-managers, but may not complete its evaluation until after the April Council meeting. Similar to previous RMPs governing management of Puget Sound Chinook, the scope of the RMP encompasses salmon fisheries in Puget Sound, but its management framework is based on conservation objectives for Puget Sound Chinook that include harvest-related mortality in other fisheries including those under the Council's jurisdiction. Therefore, NOAA Fisheries provides the following guidance for fisheries managed under the PFMC and describes its expectations for the full suite of southern U.S. fisheries that will affect Puget Sound Chinook stocks in 2011.

Although Council and Puget Sound fisheries are intertwined, 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 less than one percent and four percent on average, respectively, in recent years. In 2004, NOAA Fisheries issued a biological opinion on the anticipated effects of PFMC fisheries on the listed Puget Sound Chinook ESU for 2004 and future fishing years (NMFS 2004). The 2004 opinion found that exploitation rates in Council Area fisheries within the range observed for brood years 1991-1998 would not jeopardize the continued existence of the species. Consistent with the findings of that opinion, the 2011 Council fisheries should be managed such that exploitation rates on Puget Sound spring and fall Chinook populations do not exceed 3 and 6 percent, respectively.

While NOAA Fisheries is providing formal guidance for the PFMC fisheries for 2011, we acknowledge the importance of and continue to strongly support the integrated management structure between the Council and North of Falcon planning processes. As mentioned previously, the Puget Sound co-managers have provided a draft joint Puget Sound Chinook harvest management plan to NOAA Fisheries for consideration under the ESA to replace the expired RMP. The form and structure of the new RMP under consideration is similar to that of the previous RMP. The management approach consists of a two tiered harvest regime (normal and critical), depending on stock status. The harvest objectives in the RMP are a mixture of total and southern U.S. exploitation rates and escapement goals. Under conditions of normal abundance, the exploitation rates and escapement goals, listed on the left of Table 1, apply. However, when a particular management unit is 1) not expected to meet its low abundance threshold, or, 2) if the anticipated northern fisheries exploitation rate is projected to exceed the difference between a management unit's Exploitation Rate Ceiling and the Critical Exploitation Rate Ceiling (CERC), the co-managers will constrain their fisheries such that either the Exploitation Rate Ceiling is not exceeded, or the CERC, listed on the right of Table 1, is not

exceeded. Management actions taken to meet conservation objectives will occur primarily in the Puget Sound fisheries, but since impacts in all fisheries are considered in meeting the co-managers objectives, ocean fisheries are potentially subject to constraint to ensure impacts are consistent with the limits defined by the proposed RMP.

Therefore, in addition to the guidance provided for the PFMC fisheries themselves, NOAA Fisheries expects that the final option adopted at the April Council meeting will, when combined with Puget Sound fisheries negotiated during the North of Falcon process, meet the escapement goals and exploitation rates for each Puget Sound Chinook management unit included in Table 1, after applying the appropriate regime to the status of each management unit anticipated in 2011.

This guidance for Puget Sound Chinook is based on the best information available to NOAA Fisheries at this time. However, it is possible that new information may arise in the course of completing our determination that may refine our guidance. Should that occur, we will make every effort to provide that information to the Council and Puget Sound co-managers as quickly as possible.

Management Unit/Population	Normal Abundance Regime			Minimum Fishing Regime		
	Exploitation Rate Ceiling		Escapement Goal ¹	Low Abundance Threshold	Critical Exploitation Rate	
	Total	Southern US (PT=Preterminal)			So. US	Preterminal So. US
Nooksack spring NF Nooksack SF Nooksack	Critical Exploitation Rate Ceiling applies			1,000 ³ 1,000 ³	7.0%/9.0% ²	
Skagit Summer/Fall Upper Skagit Lower Skagit Lower Sauk	50.0%			4,800 2,200 900 400	15.0%	
Skagit Spring Suiattle Upper Sauk Cascade	38.0%			576 170 130 170	18.0%	
Stillaguamish NF Stillaguamish SF Stillaguamish	25.0%			650 ³ 500 ³	15.0%	
Snohomish Skykomish Snoqualmie	21.0%			2,800 ³ 1,745 ³ 521 ³	15.0%	
Lake Washington Cedar River		20%		200		10.0%
Green		15.0% PT	5,800	1,800		12.0%
White River	20.0%			200	15.0%	
Puyallup	50.0%			500		12.0% ⁴
Nisqually	65%					
Skokomish	50%			800 natural ⁵ 500 hatchery ⁵		12.0%
Mid-Hood Canal		15.0% PT		400 ³		12.0%
Dungeness		10.0%		500	6.0%	
Elwha		10.0%		1,000	6.0%	

¹ When escapement is expected to be less than the goal, the co-managers will take additional management measures with the objective of meeting or exceeding the goal.

² Expected Southern US rate will not exceed 7.0% in 4 out of 5 years and 9.0% in 1 out of 5 years.

³ Threshold expressed as natural-origin spawners.

⁴ The total southern U.S. exploitation rate is expected to fall within the range of 23% to 27%.

⁵ Anticipated hatchery or natural escapements below these spawner abundances trigger specific additional management actions.

COHO SALMON

Oregon Coast Coho Salmon

The ESA listing status of Oregon Coast (OC) coho has changed over the years. On February 11, 2008 NOAA Fisheries again listed OC coho as threatened under the ESA (73 FR 7816 February 11, 2008). Regardless of their listing status, the Council has managed OC coho consistent with the terms of Amendment 13 of the Salmon FMP as modified by the expert advice of the 2000 ad hoc Work Group. NOAA Fisheries approved the management provisions for OC coho through its section 7 consultation on Amendment 13 in 1999, and has since supported use of the related expert advice. For the 2011 season, the applicable spawner status is in the "high" category, but marine survival index is in the "low" category. Under this circumstance, the Work Group report requires that the exploitation rate be limited to no more than 15%.

Lower Columbia River Coho

Lower Columbia River (LCR) coho are caught primarily in fisheries off the Washington and Oregon coast, and in the Columbia River in the area below Bonneville Dam. Lower Columbia River coho were listed as threatened under the ESA on June 25, 2005. NOAA Fisheries' most recent biological opinion regarding the effects of Council fisheries and fisheries in the Columbia River on LCR coho was completed in 2008. The 2008 opinion provides the basis for our guidance in 2011.

The states of Oregon and Washington have focused on use of a harvest matrix for LCR coho, developed by Oregon, following their listing under Oregon's State ESA. Under the matrix the allowable harvest in a given year depends on indicators of marine survival and brood year escapement. The matrix has both ocean and inriver components which can be combined to define a total exploitation rate limit for all ocean and inriver fisheries. Generally speaking, NOAA Fisheries supports use of management planning tools that allow harvest to vary depending on the year-specific circumstances. Conceptually, we think Oregon's approach is a good one. However, NOAA Fisheries took a more conservative approach for LCR coho in its 2008 opinion because of unresolved issues related to application of the matrix. NOAA Fisheries relied on the matrix, but limited the total harvest impact rate to that allowed for ocean fisheries. Given the particular circumstances regarding marine survival and escapement, the allowable exploitation rates in recent years has ranged from 8% to 20%.

The harvest matrix for LCR coho is keyed to the status of Clackamas and Sandy populations. However, NOAA Fisheries believes it is appropriate to reconsider whether reliance on these two indicators is adequately protective of other populations in the ESU. We also think that it is appropriate to review the information related to seeding capacity that sets the abundance criteria in the matrix for each population. Recovery Plans for the Oregon and Washington portions of the LCR coho ESU are in final draft form and have been submitted to NOAA Fisheries for review. Both plans also call for reconsideration of the current harvest rate matrix. NOAA Fisheries concurs with the recovery plan recommendations, including reconsideration of current harvest rates, and offers to work with the states to develop and assess alternatives to the current matrix. It is clear, however, that outstanding questions related to the matrix will remain

unresolved for 2011. As a result, NOAA Fisheries will continue to apply the matrix as we have in the past, which includes limiting the total harvest to that allowed for the ocean fisheries.

Guidance to the Council for 2011 depends on the matrix and the particular circumstances for the indicator populations. In 2011 abundance indicators are mixed. The Clackamas and Sandy are in the low and high status categories, respectively based on brood year escapements. The marine survival index is in the low category. Given these circumstances ocean salmon fisheries under the Council's jurisdiction in 2011, and commercial and recreational salmon fisheries in the mainstem Columbia River, including select area fisheries (e.g., Youngs Bay), should be managed subject to a total exploitation rate limit on LCR coho for all fisheries not to exceed 15%.

Southern Oregon/Northern California Coastal Coho Salmon

The Southern Oregon/Northern California Coastal coho ESU (SONCC coho) has been listed as threatened under the ESA since 1997. The current consultation standard for SONCC coho is from a NOAA Fisheries biological opinion on April 28, 1999. The Rogue/Klamath coho hatchery stock is used as an indicator of fishery impacts on SONCC coho. The 1999 biological opinion requires that management measures developed under the Salmon FMP achieve an ocean exploitation rate on Rogue/Klamath coho hatchery stocks of no more than 0.13.

Central California Coastal Coho Salmon

The Central California Coastal coho ESU (CCC coho) was listed as threatened under the ESA in 1996 and relisted as endangered in 2005. The current consultation standard for CCC coho is from a NOAA Fisheries biological opinion on April 28, 1999. Information on past harvest or non-retention mortality rates is lacking for CCC coho. In the absence of more specific information, the 1999 biological opinion requires that directed fishing for coho and retention of coho in Chinook-directed fisheries be prohibited off California.

CHUM SALMON

Hood Canal Summer Chum

Chum salmon are not targeted and rarely are caught in Council salmon fisheries. However, the Pacific Coast Salmon FMP requires fisheries to be managed consistent with NOAA Fisheries' ESA standards for listed species, which includes the Hood Canal summer-run chum salmon ESU. The Summer Chum Salmon Conservation Initiative (PNPTC and WDFW 2000), approved by NOAA Fisheries under Limit 6 of the ESA 4(d) Rule describes the harvest actions that must be taken to protect listed Hood Canal summer-run chum salmon both in Washington fisheries managed under the jurisdiction of the PFMC and Puget Sound fisheries managed by the state and tribal fishery managers.

Under the terms of the Conservation Initiative, chum salmon must be released in non-treaty sport and troll fisheries in Washington catch Area 4 from August 1 through September 30. The Conservation Initiative does not require release of chum salmon in tribal fisheries in catch Area 4 during the same period, but does recommend that release provisions be implemented. As in previous years, tribal managers will discuss implementation of these provisions during the North of Falcon planning process.

SOCKEYE SALMON**Snake River Sockeye Salmon****Ozette Lake Sockeye Salmon**

Sockeye salmon are rarely caught in Council salmon fisheries. In previous biological opinions, NOAA Fisheries determined that PFMC fisheries were not likely to adversely affect Snake River or Ozette Lake sockeye salmon. Therefore, management constraints in ocean fisheries for the protection of listed sockeye salmon are not considered necessary.

STEELHEAD

NOAA Fisheries has listed two Distinct Population Segment (DPS) of steelhead as endangered and nine DPSs as threatened in Washington, Oregon, Idaho, and California. All eleven listed DPSs have been considered in biological opinions on the effects of PFMC fisheries.

Steelhead are rarely caught in ocean fisheries and retention of steelhead in non-treaty fisheries is currently prohibited. Based on currently available information, NOAA Fisheries concludes that considers ocean fishery management actions beyond those already in place that seek to shape fisheries to minimize impacts to steelhead are not necessary. The Council and states should continue to prohibit the retention of steelhead with intact adipose fins in ocean non-treaty fisheries and encourage the same in treaty tribal fisheries to minimize the effect of whatever catch may occur.

We appreciate that this will be another difficult year. We are committed to working with the Council to address the issues outlined in this letter.

Sincerely,



William W. Stelle, Jr.
Regional Administrator
Northwest Region



Rodney R. McInnis
Regional Administrator
Southwest Region

Overview of Current NMFS Ocean Fishery Management Guidance for Sacramento River Winter-run Chinook

On April 30, 2010, NOAA's National Marine Fisheries Service (NMFS) completed a biological opinion of fishery impacts on Sacramento River winter-run Chinook (winter-run), where NMFS concluded that the ocean salmon fishery, as managed under the Pacific Coast Salmon Fishery Management Plan, was likely to jeopardize the continued existence of winter-run (http://swr.nmfs.noaa.gov/pdf/Final_Harvest_BiOp_043010.pdf). This determination is based on the recent substantial declines in winter-run spawning returns, and the lack of sufficient analytical information and tools to establish specific harvest impact level targets or an explicit management process to specifically avoid or reduce impacts to winter-run when this stock is declining and/or facing increased extinction risks (NMFS 2010a). By analyzing expected harvest levels on the declining status of winter-run, NMFS is fulfilling its obligation under the Federal Endangered Species Act (ESA), which is to "ensure actions are not likely to result in appreciable reductions in the likelihood of both survival and recovery of the species."

As part of the biological opinion, NMFS issued a Reasonable and Prudent Alternative (RPA) to allow the operation of the ocean salmon fishery while ensuring the continued existence of winter-run. The RPA introduced a requirement to implement a new framework for managing impacts on winter-run, which includes the development of new models and analyses that will evaluate and quantify impacts of various fishery management options on winter-run. Clearly defined and measureable status thresholds and management objectives are to be established and supported by new analytical tools for use by the Pacific Fishery Management Council (PFMC) and NMFS. The RPA stipulates that this framework shall be implemented by March 2012.

In the interim, NMFS has issued guidance to the PFMC for protecting winter-run, which includes options for implementing time/area closures during the recreational fishing season and/or increasing minimum total size limit restrictions in the recreational fishery, as well as potential combinations of these options, to minimize and reduce fishery impacts to winter-run (NMFS 2010b). These measures were recommended in addition to the fishery management standards established for winter-run during previous ESA consultations (NMFS 2004). This interim guidance option of increasing the size limit to 24 inches in the recreational fishery south of Point Arena was implemented for the 2010 season. The interim RPA recommends similarly conservative measures for the 2011 fishing season unless new information becomes available, including updated estimates of spawning returns in 2010 or additional analysis resulting from the effort to develop the RPA management framework, before the March 2011 PFMC meeting.

Rationale for the option of a 24-inch minimum total size limit in the recreational fishery south of Point Arena

Two lines of evidence were used to develop and support the 24 inch size limit guidance option presented to the PFMC in 2010: (1) the size-at-age model used in the winter-run cohort reconstruction estimates of fishery impacts; and (2) the size distribution of coded-

wire tagged winter-run captured in past recreational fisheries. The recent cohort reconstruction analysis used in the 2010 biological opinion confirms that ocean fishery impacts continue to occur primarily on age-3 winter-run in the recreational ocean salmon fisheries south of Point Arena (NMFS 2009). The size-at-age model used in the cohort reconstruction suggests that almost all age-3 winter-run are larger than the 20-inch minimum total size limit that historically has been in place for the recreational fishery south of Point Arena starting in March during the fishing season (Figure 1). However, this model also suggests substantial portions of age-3 winter-run would be required to be released if the minimum size limit were greater during most of the fishing season. An examination of this size-at-age model suggested that 24 inches was likely the smallest size limit that could be implemented to make a substantial difference on the relative retention rate and mortality of age-3 winter-run fish in the recreational fishery, as the average size of winter-run is at least 24 inches during early summer when fishery impacts are most expected¹.

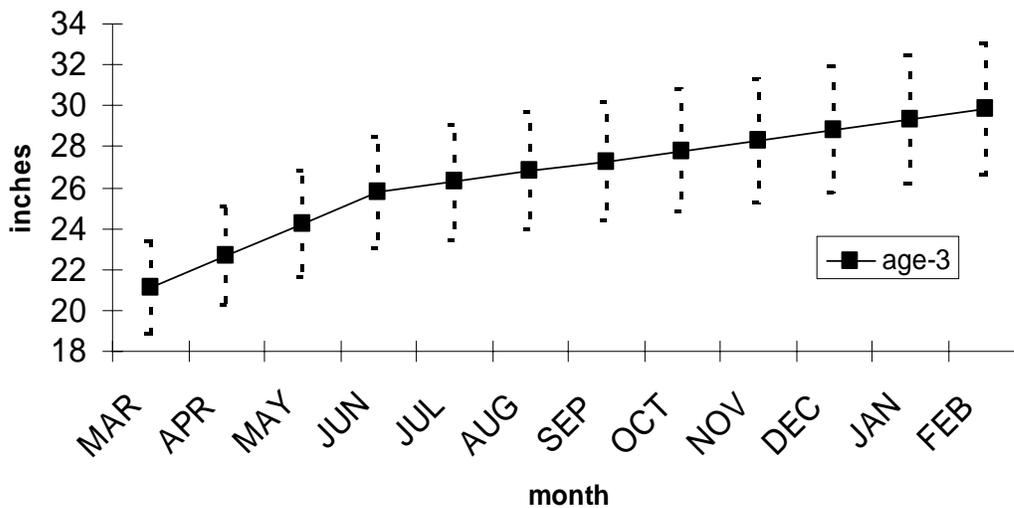


Figure 1: Average size-at-age of age-3 winter-run with 1 standard deviation (confidence interval of about 70%) (CDFG 1989; O’Farrell *et al.* 2010). All age-4 fish would be expected to be greater than any minimum size limit, although few winter-run fish remain in the ocean past age-3.

Length data from winter-run coded wire tag (CWT) recoveries were analyzed to determine the historical pattern of size distributions (Figure 2). In general, these results agree with the size-at-age model. CWT data suggest that substantial portions of age-3 winter-run that were harvested in the recreational fishery south of Point Arena when the size limit was 20 inches would have been required to be released with a larger minimum size limit of 24 inches, and this proportion decreases as the year progresses. The CWT data indicate that historically 20-70% of winter-run that would have been retained with a 20-inch limit would have been required to be released with a 24-inch limit from April through August, depending on exactly when impacts occurred.

¹ Given the normal distribution of the size data in this model, average size implies that 50% of fish will be less than the average; 50% will be more than the average.

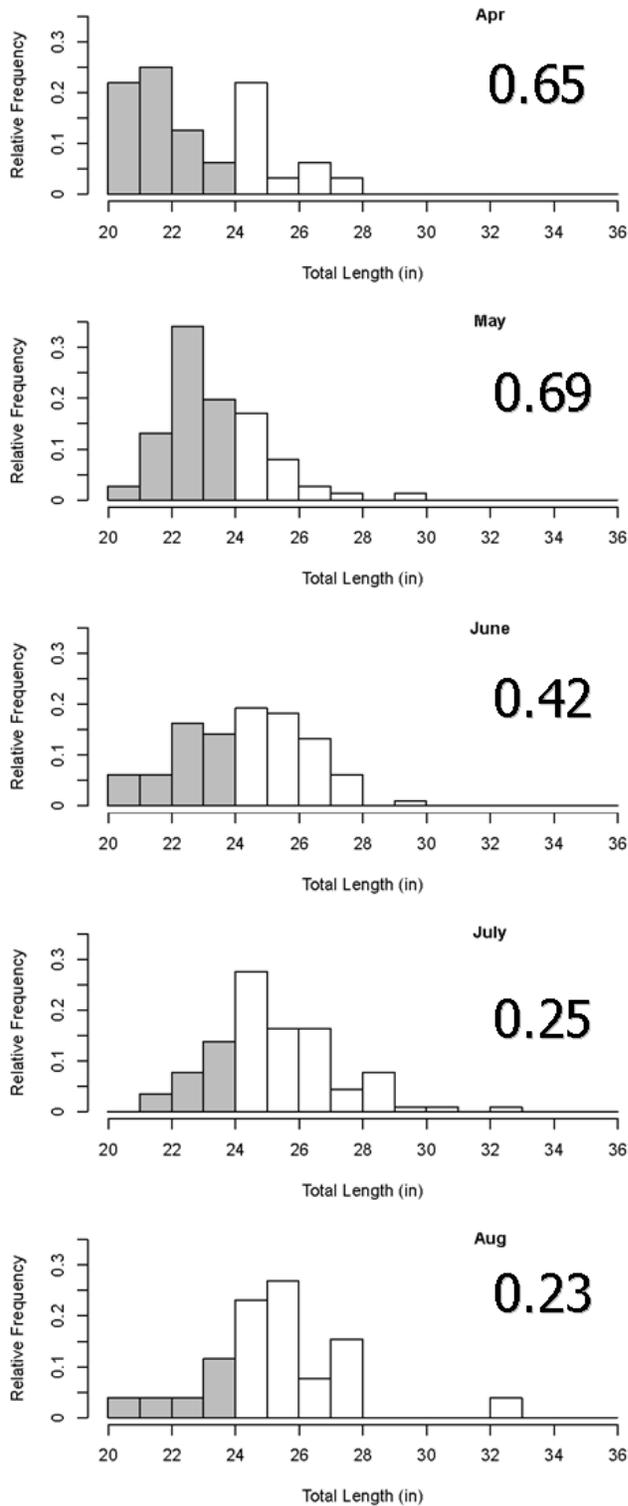


Figure 2: Frequency distribution of size by month (total length in inches) from CWT recoveries of age-3 winter-run in the recreational fishery south of Point Arena (SF, MO, and SS) from 2000-2007. The proportion of recoveries between 20 and 24 inches for each month for this specific dataset is provided in the right corner of the graph (NMFS 2010).

NMFS acknowledges that additional mortality occurs with the release of any salmon in the recreational fishery, and varies depending on fishing method. However, the life history of winter-run is important to consider when assessing the value of releasing undersized fish. Cohort reconstruction data suggest that annual maturation rates of age-3 fish, which are fish most likely in the 20-24 inch range caught during the fishing season, typically exceed 90% (O'Farrell *et al.* 2010). Consequently, most age-3 winter-run that survive the fishing season will be attempting to spawn the following winter, minus any fish that succumb to other sources of mortality, such as predation. As a result, most winter-run that are saved and survive the fishing season because of the 24-inch size limit restriction probably would be expected to represent a direct and immediate contribution to spawning returns that would not have otherwise been realized.

NMFS also acknowledges that instituting a 24-inch size limit south of Point Arena in the recreational fishery may lead to the additional release of fish from other target stocks, primarily Sacramento River fall Chinook. A review of size data from Sacramento River fall Chinook CWT recoveries south of Point Arena presented at the April 2010 PFMC meeting indicated that historically only a small percentage of Sacramento River fall Chinook retained in the recreational fishery with a 20-inch size limit would have been required to be released with a 24-inch size limit. As a result, NMFS generally expects a 24-inch minimum total size limit to benefit winter-run at relatively high levels with minimal increases in the release of other target fish, although it is not possible at this time to accurately predict or characterize this relationship for any particular fishing year.

Outlook

At this time, NMFS is in the process of developing a new management framework for winter-run and the analytical tools necessary to forecast exploitation rates for implementation in the PFMC process. In addition, NMFS is also still in the process of conducting analyses to determine appropriate exploitation rate targets, given varying circumstances and the population dynamics of winter-run. These efforts are being led by the Salmon Assessment Team at the NMFS Southwest Fisheries Science Center. These tools and the new management framework are expected to be developed and in place for the 2012 season, as stipulated in the RPA. In the meantime, NMFS is relying upon information presented in the 2010 biological opinion (summarized in this document) as the basis for concluding that the 24-inch size restriction in the recreational fishery is one option that the Council may choose that is protective of winter-run until more quantitative information and analysis is available.

References

CDFG. 1989. Description of SRWR Chinook ocean harvest model. Prepared by the Ocean Salmon Project. California Department of Fish and Game. Available from NMFS, Southwest Region.

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Protective Measures During the 2004 through 2009 Fishing Seasons as it affects Sacramento River Winter Chinook Salmon. National Marine Fisheries Service, Southwest Region. April 27, 2004. 33p.

NMFS. 2009. Assessment of Effects on Sacramento River Winter-Run Chinook Salmon from Authorization of Ocean Salmon Fisheries Pursuant to the Pacific Coast Salmon Fishery Management Plan and Additional Proposed Protective Measures. National Marine Fisheries Service, Southwest Region. January 2010. 54 p.

NMFS. 2010a. Biological Opinion on the Authorization of Ocean Salmon Fisheries Pursuant to the Pacific Coast Salmon Fishery Management Plan and Additional Protective Measures as it affects Sacramento River Winter Chinook Salmon. National Marine Fisheries Service, Southwest Region. April 30, 2010.

NMFS. 2010b. Guidance letter to the Pacific Fisheries Management Council regarding options for protecting Sacramento River winter Chinook during the 2010 ocean salmon fishery. National Marine Fisheries Service, Southwest Region. March 24, 2010.

O'Farrell, M.R., M.S. Mohr, and A.M. Grover. 2010. Sacramento River winter Chinook cohort reconstruction: analysis of ocean fishery impacts. Draft NOAA Technical Memorandum. National Marine Fisheries Service, Santa Cruz, CA. January 2010. 108 p.

SALMON ADVISORY SUBPANEL

***PROPOSED
INITIAL SALMON MANAGEMENT ALTERNATIVES
FOR 2011 NON-INDIAN OCEAN FISHERIES***

March 6, 2011

TABLE 1. Commercial troll management Alternatives proposed by the SAS for non-Indian ocean salmon fisheries, 2011 (Page 1 of 8)			3/6/2011 12:44 PM
A. SEASON ALTERNATIVE DESCRIPTIONS			
ALTERNATIVE I	ALTERNATIVE II	ALTERNATIVE III	
North of Cape Falcon	North of Cape Falcon	North of Cape Falcon	
Supplemental Management Information	Supplemental Management Information	Supplemental Management Information	
<p>1. Overall non-Indian TAC: 110,000 (non-mark-selective equivalent of 110,000) Chinook and 120,000 coho marked with a healed adipose fin clip (marked).</p> <p>2. Non-Indian commercial troll TAC: 56,000 Chinook and 19,200 marked coho.</p> <p>3. Trade: May be considered at the April Council meeting</p> <p>4. Overall Chinook and/or coho TACs may need to be reduced or fisheries adjusted to meet NMFS ESA guidance, FMP requirements, upon conclusion of negotiations in the North of Falcon forum, or upon receipt of preseason catch and abundance expectations for Canadian and Alaskan fisheries.</p>	<p>1. Overall non-Indian TAC: 100,000 Chinook and 90,000 coho marked with a healed adipose fin clip (marked).</p> <p>2. Non-Indian commercial troll TAC: 50,000 Chinook and 14,400 marked coho.</p> <p>3. Trade: May be considered at the April Council meeting</p> <p>4. Overall Chinook and/or coho TACs may need to be reduced or fisheries adjusted to meet NMFS ESA guidance, FMP requirements, upon conclusion of negotiations in the North of Falcon forum, or upon receipt of preseason catch and abundance expectations for Canadian and Alaskan fisheries.</p>	<p>1. Overall non-Indian TAC: 80,000 Chinook and a quota equivalent to 60,000 coho marked with a healed adipose fin clip (marked).</p> <p>2. Non-Indian commercial troll TAC: 40,000 Chinook and a quota equivalent to 9,600 marked coho.</p> <p>3. Trade: May be considered at the April Council meeting</p> <p>4. Overall Chinook and/or coho TACs may need to be reduced or fisheries adjusted to meet NMFS ESA guidance, FMP requirements, upon conclusion of negotiations in the North of Falcon forum, or upon receipt of preseason catch and abundance expectations for Canadian and Alaskan fisheries.</p>	
<p>U.S./Canada Border to Cape Falcon</p> <ul style="list-style-type: none"> May 1 through earlier of June 30 or 42,000 Chinook quota. <p>Seven days per week (C.1). All salmon except coho (C.7). Cape Flattery, Mandatory Yelloweye Rockfish Conservation Area, and Columbia Control Zones closed (C.5). See gear restrictions and definitions (C.2, C.3). An inseason conference call will occur when it is projected that 29,000 Chinook have been landed to consider modifying the open period to five days per week and adding landing and possession limits to ensure the guideline is not exceeded.</p>	<p>U.S./Canada Border to Cape Falcon</p> <ul style="list-style-type: none"> May 1 through earlier of June 30 or 33,500 Chinook quota. <p>Friday through Tuesday, landing and possession limit of 120 Chinook per open period (C.1). All salmon except coho (C.7). Cape Flattery, Mandatory Yelloweye Rockfish Conservation Area, and Columbia Control Zones closed (C.5). See gear restrictions and definitions (C.2, C.3). An inseason conference call will occur when it is projected that 22,000 Chinook have been landed to consider modifying the open period, landing, and possession limits to extend the fishery through the end of June.</p>	<p>U.S./Canada Border to Cape Falcon</p> <ul style="list-style-type: none"> May 1 through earlier of June 30 or 26,800 Chinook quota. <p>Saturday through Tuesday, landing and possession limit of 100 Chinook per open period (C.1). All salmon except coho (C.7). Cape Flattery, Mandatory Yelloweye Rockfish Conservation Area, and Columbia Control Zones closed (C.5). See gear restrictions and definitions (C.2, C.3).</p>	
<p>Oregon State regulations require that fishers south of Cape Falcon, OR intending to fish within this area notify Oregon Department of Fish and Wildlife before transiting the Cape Falcon, OR line (45°46'00" N. lat.) at the following number: 541-867-0300 Ext. 271. Vessels must land and deliver their fish within 24 hours of any closure of this fishery. Under state law, vessels must report their catch on a state fish receiving ticket. Vessels fishing or in possession of salmon while fishing north of Leadbetter Point must land and deliver their fish within the area and north of Leadbetter Point. Vessels fishing or in possession of salmon while fishing south of Leadbetter Point must land and deliver their fish within the area and south of Leadbetter Point, except that Oregon permitted vessels may also land their fish in Garibaldi, Oregon. Oregon State regulations require all fishers landing salmon into Oregon from any fishery between Leadbetter Point, Washington and Cape Falcon, Oregon must notify ODFW within one hour of delivery or prior to transport away from the port of landing by calling 541-867-0300 Ext. 271. Notification shall include vessel name and number, number of salmon by species, port of landing and 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.8).</p>			

TABLE 1. Commercial troll management Alternatives proposed by the SAS for non-Indian ocean salmon fisheries, 2011. (Page 2 of 8)			3/6/2011 12:44 PM
A. SEASON ALTERNATIVE DESCRIPTIONS			
ALTERNATIVE I	ALTERNATIVE II	ALTERNATIVE III	
<p>U.S./Canada Border to Cape Falcon</p> <ul style="list-style-type: none"> July 1 through earlier of September 15 or 14,000 preseason Chinook guideline (C.8) or an 19,200 marked coho quota (C.8.d). <p>Friday through Tuesday; landing and possession limit of 100 Chinook and 90 coho per vessel per open period north of Leadbetter Point or 100 Chinook and 90 coho south of Leadbetter Point (C.1). All Salmon except no chum retention north of Cape Alava, Washington in August and September (C.7). All coho must be marked (C.8.d). See gear restrictions and definitions (C.2, C.3). Cape Flattery, Mandatory Yelloweye Rockfish Conservation Area, and Columbia Control Zones closed (C.5).</p>	<p>U.S./Canada Border to Cape Falcon</p> <ul style="list-style-type: none"> July 1 through earlier of September 15 or 16,500 preseason Chinook guideline (C.8) or a 14,400 marked coho quota (C.8.d). <p>Friday through Tuesday; landing and possession limit of 70 Chinook and 80 coho per vessel per open period north of Leadbetter Point or 70 Chinook and 80 coho south of Leadbetter Point (C.1). All Salmon except no chum retention north of Cape Alava, Washington in August and September (C.7). All coho must be marked (C.8.d). See gear restrictions and definitions (C.2, C.3). Cape Flattery, Mandatory Yelloweye Rockfish Conservation Area, and Columbia Control Zones closed (C.5).</p>	<p>U.S./Canada Border to Cape Falcon</p> <ul style="list-style-type: none"> July 1 through earlier of September 15 or 13,200 preseason Chinook guideline (C.8) or a coho quota equivalent to 9,600 marked coho (C.8.d). <p>Saturday through Tuesday; landing and possession limit of 60 Chinook and 65 marked coho per vessel per open period north of Leadbetter Point or 60 Chinook and 65 marked coho south of Leadbetter Point through August 15, 40 Chinook and 75 coho (non-mark-selective) per vessel per open period north of Leadbetter Point or 40 Chinook and 75 coho (non-mark-selective) south of Leadbetter Point thereafter (C.1). All Salmon except no chum retention north of Cape Alava, Washington in August and September (C.7). All coho must be marked (C.8.d). See gear restrictions and definitions (C.2, C.3). Cape Flattery, Mandatory Yelloweye Rockfish Conservation Area, and Columbia Control Zones closed (C.5).</p>	
<p>Oregon State regulations require that fishers south of Cape Falcon, OR intending to fish within this area notify Oregon Department of Fish and Wildlife before transiting the Cape Falcon, OR line (45°46'00" N. lat.) at the following number: 541-867-0300 Ext. 271. Vessels must land and deliver their fish within 24 hours of any closure of this fishery. Under state law, vessels must report their catch on a state fish receiving ticket. Vessels fishing or in possession of salmon while fishing north of Leadbetter Point must land and deliver their fish within the area and north of Leadbetter Point. Vessels fishing or in possession of salmon while fishing south of Leadbetter Point must land and deliver their fish within the area and south of Leadbetter Point, except that Oregon permitted vessels may also land their fish in Garibaldi, Oregon. Oregon State regulations require all fishers landing salmon into Oregon from any fishery between Leadbetter Point, Washington and Cape Falcon, Oregon must notify ODFW within one hour of delivery or prior to transport away from the port of landing by calling 541-867-0300 Ext. 271. Notification shall include vessel name and number, number of salmon by species, port of landing and 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.8).</p>			

TABLE 1. Commercial troll management Alternatives proposed by the SAS for non-Indian ocean salmon fisheries, 2011. (Page 3 of 8)			3/6/2011 12:44 PM
A. SEASON ALTERNATIVE DESCRIPTIONS			
ALTERNATIVE I	ALTERNATIVE II	ALTERNATIVE III	
South of Cape Falcon	South of Cape Falcon	South of Cape Falcon	
Supplemental Management Information	Supplemental Management Information	Supplemental Management Information	
<p>1. Sacramento River Basin recreational fishery catch assumption: quota of ____ adult Sacramento River fall Chinook (____% of the total allowable harvest).</p> <p>2. Sacramento River fall Chinook spawning escapement of ____ adults.</p> <p>3. Klamath River recreational fishery allocation: ____ adult Klamath River fall Chinook.</p> <p>4. Klamath tribal allocation: ____ adult Klamath River fall Chinook.</p> <p>5. Fisheries may need to be adjusted to meet NMFS ESA consultation standards, FMP requirements, other management objectives, or upon receipt of new allocation recommendations from the California Fish and Game Commission.</p>	<p>1. Sacramento River Basin recreational fishery catch assumption: quota of ____ adult Sacramento River fall Chinook (____% of the total allowable harvest).</p> <p>2. Sacramento River fall Chinook spawning escapement of ____ adults.</p> <p>3. Klamath River recreational fishery allocation: ____ adult Klamath River fall Chinook.</p> <p>4. Klamath tribal allocation: ____ adult Klamath River fall Chinook.</p> <p>5. Fisheries may need to be adjusted to meet NMFS ESA consultation standards, FMP requirements, other management objectives, or upon receipt of new allocation recommendations from the California Fish and Game Commission.</p>	<p>1. Sacramento River Basin recreational fishery catch assumption: quota of ____ adult Sacramento River fall Chinook (____% of the total allowable harvest).</p> <p>2. Sacramento River fall Chinook spawning escapement of ____ adults.</p> <p>3. Klamath River recreational fishery allocation: ____ adult Klamath River fall Chinook.</p> <p>4. Klamath tribal allocation: ____ adult Klamath River fall Chinook.</p> <p>5. Fisheries may need to be adjusted to meet NMFS ESA consultation standards, FMP requirements, other management objectives, or upon receipt of new allocation recommendations from the California Fish and Game Commission.</p>	
<p>Cape Falcon to Humbug Mt.</p> <ul style="list-style-type: none"> March 15 through August 29; September 1-30; October 1-31 (C.9). <p>All salmon except coho; landing and possession limit of 100 Chinook per vessel per calendar week in September; 50 Chinook in October (C.7). All vessels fishing in the area must land their fish in the State of Oregon. See gear restrictions and definitions (C.2, C.3) and Oregon State regulations for a description of special regulations at the mouth of Tillamook Bay.</p> <p>In 2012, the season will open March 15 for all salmon except coho. This opening could be modified following Council review at its March 2012 meeting.</p>	<p>Cape Falcon to Humbug Mt.</p> <ul style="list-style-type: none"> April 15 through July 9, July 18 through August 13, August 21-29, September 1-30. (C.9). <p>All salmon except coho; landing and possession limit of 50 Chinook per vessel per calendar week in September (C.7). All vessels fishing in the area must land their fish in the State of Oregon. See gear restrictions and definitions (C.2, C.3) and Oregon State regulations for a description of special regulations at the mouth of Tillamook Bay.</p> <p>In 2012, same as Alternative I</p>	<p>Cape Falcon to Humbug Mt.</p> <ul style="list-style-type: none"> April 15 through June 4, June 12 through July 9, July 18 through August 13, August 21-29, September 1-30. (C.9). <p>All salmon except coho; landing and possession limit of 50 Chinook per vessel per calendar week in September (C.7). All vessels fishing in the area must land their fish in the State of Oregon. See gear restrictions and definitions (C.2, C.3) and Oregon State regulations for a description of special regulations at the mouth of Tillamook Bay.</p> <p>In 2012, same as Alternative I</p>	

TABLE 1. Commercial troll management Alternatives proposed by the SAS for non-Indian ocean salmon fisheries, 2011. (Page 4 of 8)		
3/6/2011 12:44 PM		
A. SEASON ALTERNATIVE DESCRIPTIONS		
ALTERNATIVE I	ALTERNATIVE II	ALTERNATIVE III
<p>Humbug Mt. to OR/CA Border (Oregon KMZ)</p> <ul style="list-style-type: none"> • May 1-31; • June 1 through earlier of June 30, or a 1,500 Chinook quota; • July 1 through earlier of July 31, or a 1,500 Chinook quota; • Aug. 1 through earlier of Aug. 31, or a 1,500 Chinook quota • Sept. 1 through earlier of Sept 30, or a 1,000 Chinook quota (C.9). <p>All salmon except coho (C.7). Chinook 28 inch total length minimum size limit (B). June 1 through August 31, landing and possession limit of 30 Chinook per vessel per day; 25 per day in September; all vessels fishing in this area must land and deliver all fish within this area or Port Orford, within 24 hours of any closure in this fishery, and prior to fishing outside of this area. Oregon State regulations require all fishers landing salmon from any quota managed season within this area to notify Oregon Dept. of Fish and Wildlife (ODFW) within 1 hour of delivery or prior to transport away from the port of landing by calling (541) 867-0300 ext. 252. Notification shall include vessel name and number, number of salmon by species, port of landing and location of delivery, and estimated time of delivery. See gear restrictions and definitions (C.2, C.3).</p> <p>In 2012, the season will open March 15 for all salmon except coho, with a 28 inch Chinook minimum size limit. This opening could be modified following Council review at its March 2012 meeting.</p>	<p>Humbug Mt. to OR/CA Border (Oregon KMZ)</p> <ul style="list-style-type: none"> • May 1-31; • June 1 through earlier of June 30, or a 1,000 Chinook quota; • July 1 through earlier of July 31, or a 1,200 Chinook quota; • Aug. 1 through earlier of Aug. 31, or a 1,500 Chinook quota (C.9). <p>All salmon except coho (C.7). Chinook 28 inch total length minimum size limit (B). June 1 through August 31, landing and possession limit of 30 Chinook per vessel per day; all vessels fishing in this area must land and deliver all fish within this area or Port Orford, within 24 hours of any closure in this fishery, and prior to fishing outside of this area. Oregon State regulations require all fishers landing salmon from any quota managed season within this area to notify Oregon Dept. of Fish and Wildlife (ODFW) within 1 hour of delivery or prior to transport away from the port of landing by calling (541) 867-0300 ext. 252. Notification shall include vessel name and number, number of salmon by species, port of landing and location of delivery, and estimated time of delivery. See gear restrictions and definitions (C.2, C.3).</p> <p>In 2012, same as Alternative I</p>	<p>Humbug Mt. to OR/CA Border (Oregon KMZ)</p> <ul style="list-style-type: none"> • May 1-31; • June 1 through earlier of June 30, or a 1,000 Chinook quota; • July 1 through earlier of July 31, or a 1,000 Chinook quota; • Aug. 1 through earlier of Aug. 31, or a 1,000 Chinook quota (C.9). <p>All salmon except coho (C.7). Chinook 28 inch total length minimum size limit (B). June 1 through August 31, landing and possession limit of 30 Chinook per vessel per day and 90 Chinook per vessel per calendar week; all vessels fishing in this area must land and deliver all fish within this area or Port Orford, within 24 hours of any closure in this fishery, and prior to fishing outside of this area. State regulations require fishers intending to transport and deliver their catch to other locations after first landing in one of these ports notify ODFW prior to transport away from the port of landing by calling 541-867-0300 Ext. 252, with vessel name and number, number of salmon by species, location of delivery, and estimated time of delivery. See gear restrictions and definitions (C.2, C.3).</p> <p>In 2012, same as Alternative I</p>

TABLE 1. Commercial troll management Alternatives proposed by the SAS for non-Indian ocean salmon fisheries, 2011. (Page 5 of 8)			3/6/2011 12:44 PM
A. SEASON ALTERNATIVE DESCRIPTIONS			
ALTERNATIVE I	ALTERNATIVE II	ALTERNATIVE III	
<p>OR/CA Border to Humboldt South Jetty (California KMZ)</p> <ul style="list-style-type: none"> September 15 through earlier of September 30, or 2,000 Chinook quota (C.9). <p>All salmon except coho (C.7). Chinook minimum size limit of 28 inches total length. Landing and possession limit of 20 fish per vessel per day; all fish caught in this area must be landed within the area. See compliance requirements (C.1) and gear restrictions and definitions (C.2, C.3). Klamath Control Zone closed (C.5.e). See California State regulations for additional closures adjacent to the Smith and Klamath rivers. When the fishery is closed between the OR/CA border and Humbug Mt. and open to the south, vessels with fish on board caught in the open area off California may seek temporary mooring in Brookings, Oregon prior to landing in California only if such vessels first notify the Chetco River Coast Guard Station via VHF channel 22A between the hours of 0500 and 2200 and provide the vessel name, number of fish on board, and estimated time of arrival.</p>	<p>OR/CA Border to Humboldt South Jetty (California KMZ)</p> <ul style="list-style-type: none"> May through earlier of May 31, or a 1,200 Chinook quota; July 1 through earlier of July 31, or a 1,200 Chinook quota; Aug. 1 through earlier of Aug. 31, or a 1,200 Chinook quota (C.9). <p>All salmon except coho (C.7). Chinook minimum size limit of 28 inches total length. Landing and possession limit of 15 fish per vessel per day; all fish caught in this area must be landed within the area. See compliance requirements (C.1) and gear restrictions and definitions (C.2, C.3). Klamath Control Zone closed (C.5.e). See California State regulations for additional closures adjacent to the Smith and Klamath rivers.</p>	<p>OR/CA Border to U.S./Mexico Border</p> <ul style="list-style-type: none"> July 1 through earlier of July 31, or 40,000 Chinook quota (C.9). <p>All salmon except coho (C.7). Chinook minimum size limit of 28 inches total length. All fish caught in this area must be landed within the area. See compliance requirements (C.1) and gear restrictions and definitions (C.2, C.3). Klamath Control Zone closed (C.5.e). See California State regulations for additional closures adjacent to the Smith and Klamath rivers.</p>	
<p>Humboldt South Jetty to Horse Mt. Closed.</p>	<p>Humboldt South Jetty to Horse Mt. Closed.</p>	<p>Humboldt South Jetty to Horse Mt. Closed.</p>	
<p>Horse Mt. to Point Arena (Fort Bragg)</p> <ul style="list-style-type: none"> August 1-29; September 1-30 (C.9). <p>All salmon except coho (C.7). Chinook minimum size limit of 27 inches total length (B). All vessels fishing in the area must land their fish south of Horse Mt. when the California KMZ quota fishery is open (C1). See gear restrictions and definitions (C.2, C.3).</p>	<p>Horse Mt. to Point Arena (Fort Bragg)</p> <ul style="list-style-type: none"> September 1-30 (C.9). <p>All salmon except coho (C.7). Chinook minimum size limit of 27 inches total length (B). All vessels fishing in the area must land their fish south of Horse Mt. when the California KMZ quota fishery is open (C1). See gear restrictions and definitions (C.2, C.3).</p>	<p>Horse Mt. to Point Arena (Fort Bragg)</p> <ul style="list-style-type: none"> Closed. 	

TABLE 1. Commercial troll management Alternatives proposed by the SAS for non-Indian ocean salmon fisheries, 2011. (Page 6 of 8)						3/6/2011 12:44 PM
A. SEASON ALTERNATIVE DESCRIPTIONS						
ALTERNATIVE I	ALTERNATIVE II		ALTERNATIVE III			
<p>Pt. Arena to Pt. Sur (San Francisco)</p> <ul style="list-style-type: none"> • May 1-31 • June 25 through July 1 • July 3-28 • July 31 through Aug. 29 • September 1-30 (C.9). <p>Seven days per week through July 1; Sunday through Thursday July 3-30; Seven days per week thereafter. All salmon except coho (C.7). Chinook minimum size limit of 27 inches total length (B) (C.1). All fish must be offloaded within 24 hours of the August 29 closure (C1). See gear restrictions and definitions (C.2, C.3).</p> <p>Pt. Reyes to Pt. San Pedro (Fall Area Target Zone)</p> <ul style="list-style-type: none"> • October 3-14. <p>Open Monday through Friday. All salmon except coho (C.1). Chinook minimum size limit 27 inches total length (B). See gear restrictions and definitions (C.2, C.3).</p>	<p>Pt. Arena to Pt. Sur (San Francisco)</p> <ul style="list-style-type: none"> • May 1-31 • July 5 through Aug. 29 • September 1-30 (C.9). <p>Seven days per week. All salmon except coho (C.7). Chinook minimum size limit of 27 inches total length (B) (C.1). All fish must be offloaded within 24 hours of the August 29 closure (C1). See gear restrictions and definitions (C.2, C.3).</p> <p>Pt. Reyes to Pt. San Pedro (Fall Area Target Zone)</p> <ul style="list-style-type: none"> • October 3-14. <p>Open Monday through Friday. All salmon except coho (C.1). Chinook minimum size limit 27 inches total length (B). See gear restrictions and definitions (C.2, C.3).</p>		<p>Pt. Arena to Pigeon Pt. (San Francisco)</p> <ul style="list-style-type: none"> • Closed. 			
<p>Pt. Sur to U.S./Mexico Border (Monterey)</p> <ul style="list-style-type: none"> • May 1 through September 30 (C.9). <p>All salmon except coho (C.7). Chinook minimum size limit of 27 inches total length (B), C1). See gear restrictions and definitions (C.2, C.3).</p>	<p>Pt. Sur to U.S./Mexico Border (Monterey)</p> <p>Same as Alternative 1</p>		<p>Pt. Sur to U.S./Mexico Border (Monterey)</p> <p>Same as Alternative 1</p>			

B. MINIMUM SIZE (Inches) (See C.1)

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 Horse Mt.	28.0	21.5	-	-	None
Horse Mt. to U.S./Mexico Border	27.0	20.5	-	-	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, landing/possession limit, or other special requirements for the area being fished and the area in which they are landed if the area is open. Salmon may be landed in an area that has been closed more than 96 hours only if they meet the minimum size, landing/possession limit, or other special requirements for the area in which they were caught. Salmon may be landed in an area that has been closed less than 96 hours only if they meet the minimum size, landing/possession limit, or other special requirements for the areas in which they were caught and landed.

States may require fish landing/receiving tickets be kept on board the vessel for 90 days after landing to account for all previous salmon landings.

TABLE 1. Commercial troll management Alternatives proposed by the SAS for non-Indian ocean salmon fisheries, 2011. (Page 7 of 8)

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C. REQUIREMENTS, DEFINITIONS, RESTRICTIONS, OR EXCEPTIONS (continued)**C.2. Gear Restrictions:**

- a. Salmon may be taken only by hook and line using single point, single shank, barbless hooks.
- b. Cape Falcon, Oregon, to the OR/CA border: No more than 4 spreads are allowed per line.
- c. OR/CA 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.

C.3. Gear Definitions:

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.

Troll fishing gear defined: One or more lines that drag hooks behind a moving fishing vessel. In that portion of the fishery management area (FMA) off Oregon and Washington, the line or lines must be affixed to the vessel and must not be intentionally disengaged from the vessel at any time during the fishing operation.

Spread defined: A single leader connected to an individual lure or 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.

- C.4. 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.5. 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 Cape Alava (48°10'00" N. lat.) and east of 125°05'00" W. long.
- b. *Mandatory Yelloweye Rockfish Conservation Area* – The area in Washington Marine Catch Area 3 from 48°00.00' N. lat.; 125°14.00' W. long. to 48°02.00' N. lat.; 125°14.00' W. long. to 48°02.00' N. lat.; 125°16.50' W. long. to 48°00.00' N. lat.; 125°16.50' W. long. and connecting back to 48°00.00' N. lat.; 125°14.00' 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°15'48" 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. *Bandon High Spot Control Zone* - The area west of a line between 43°07'00" N. lat.; 124°37'00" W. long. and 42°40'30" N. lat.; 124° 52'0" W. long. extending to the western edge of the exclusive economic zone (EEZ).
- e. *Klamath Control Zone* - The ocean area at the Klamath River mouth bounded on the north by 41°38'48" N. lat. (approximately six 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 six nautical miles south of the Klamath River mouth).

- C.6. 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 (continued)

C.7. 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. Halibut retained must be no less than 32 inches in total length, measured from the tip of the lower jaw with the mouth closed to the extreme end of the middle of the tail, and must be landed with the head on. 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 Washington Department of Fish and Wildlife (WDFW) will monitor landings. If the landings are projected to exceed the 25,035 pound preseason allocation or the total Area 2A non-Indian commercial halibut allocation, NMFS will take inseason action to prohibit retention of halibut in the non-Indian salmon troll fishery.

Alternative I: Beginning May 1, license holders may land no more than one Pacific halibut per each 2 Chinook, except one Pacific halibut may be landed without meeting the ratio requirement, and no more than 35 halibut may be landed per trip. Pacific halibut retained must be no less than 32 inches in total length (with head on).

Alternative II: Beginning May 1, license holders may land no more than one Pacific halibut per each 3 Chinook, except one Pacific halibut may be landed without meeting the ratio requirement, and no more than 35 halibut may be landed per trip. Pacific halibut retained must be no less than 32 inches in total length (with head on).

Alternative III: Beginning May 1, license holders may land no more than one Pacific halibut per each 4 Chinook, except one Pacific halibut may be landed without meeting the ratio requirement, and no more than 25 halibut may be landed per trip. Pacific halibut retained must be no less than 32 inches in total length (with head on).

A "C-shaped" yelloweye rockfish conservation area is an area to be voluntarily avoided for salmon trolling. NMFS and the Council request salmon trollers voluntarily avoid this area in order to protect yelloweye rockfish. The area is defined in the Pacific Council Halibut Catch Sharing Plan in the North Coast subarea (Washington 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.

C.8. 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 through June non-Indian commercial troll harvest guideline north of Cape Falcon may be transferred to the July through September harvest guideline on a fishery impact equivalent basis.
- b. NMFS may transfer fish between the recreational and commercial fisheries north of Cape Falcon on a fishery impact equivalent basis if there is agreement among the areas' representatives on the Salmon Advisory Subpanel (SAS).
- c. At the March 2012 meeting, the Council will consider inseason recommendations for special regulations for any experimental fisheries (proposals must meet Council protocol and be received in November 2011).
- d. If retention of unmarked coho is permitted by inseason action, the allowable coho quota will be adjusted to ensure preseason projected mortality of critical stocks is not exceeded.
- e. Landing limits may be modified inseason to sustain season length and keep harvest within overall quotas.

C.9. State Waters Fisheries: Consistent with Council management objectives:

- a. The State of Oregon may establish additional late-season fisheries in state waters.
 - b. The State of California may establish limited fisheries in selected state waters.
- Check state regulations for details.

C.10. For the purposes of California Department of Fish and Game (CDFG) Code, Section 8232.5, the definition of the Klamath Management Zone (KMZ) for the ocean salmon season shall be that area from Humbug Mt., Oregon, to Horse Mt., California.

TABLE 2. Recreational management Alternatives proposed by the SAS for non-Indian ocean salmon fisheries, 2011. (Page 1 of 9)			3/6/2011 12:44 PM
A. SEASON ALTERNATIVE DESCRIPTIONS			
ALTERNATIVE I	ALTERNATIVE II	ALTERNATIVE III	
North of Cape Falcon	North of Cape Falcon	North of Cape Falcon	
Supplemental Management Information	Supplemental Management Information	Supplemental Management Information	
<p>1. Overall non-Indian TAC: 110,000 (non-mark-selective equivalent of 117,000) Chinook and 120,000 coho marked with a healed adipose fin clip (marked).</p> <p>2. Recreational TAC: 54,000 (non-mark selective equivalent of 61,000) Chinook and 100,800 marked coho; all retained coho must be marked.</p> <p>3. Trade: May be considered at the April Council meeting.</p> <p>4. No Area 4B add-on fishery.</p> <p>5. Buoy 10 fishery opens Aug. 1 with an expected landed catch of _____ marked coho in August and September.</p> <p>6. Overall Chinook and/or coho TACs may need to be reduced or fisheries adjusted to meet NMFS ESA guidance, FMP requirements, upon conclusion of negotiations in the North of Falcon forum, or upon receipt of preseason catch and abundance expectations for Canadian and Alaskan fisheries.</p>	<p>1. Overall non-Indian TAC: 100,000 Chinook and 90,000 coho marked with a healed adipose fin clip (marked).</p> <p>2. Recreational TAC: 50,000 (non-mark selective equivalent of 57,000) Chinook and 75,600 marked coho; all retained coho must be marked.</p> <p>3. Trade: May be considered at the April Council meeting.</p> <p>4. No Area 4B add-on fishery.</p> <p>5. Buoy 10 fishery opens Aug. 1 with an expected landed catch of _____ marked coho in August and September.</p> <p>6. Overall Chinook and/or coho TACs may need to be reduced or fisheries adjusted to meet NMFS ESA guidance, FMP requirements, upon conclusion of negotiations in the North of Falcon forum, or upon receipt of preseason catch and abundance expectations for Canadian and Alaskan fisheries.</p>	<p>1. Overall non-Indian TAC: 80,000 Chinook and 60,000 coho marked with a healed adipose fin clip (marked).</p> <p>2. Recreational TAC: 40,000 Chinook and 50,400 marked coho; all retained coho must be marked.</p> <p>3. Trade: May be considered at the April Council meeting.</p> <p>4. Area 4B add-on fishery of with a quota of 4,000 marked coho following the closure of the Neah Bay fishery (C.6).</p> <p>5. Buoy 10 fishery opens Aug. 1 with an expected landed catch of _____ marked coho in August and September.</p> <p>6. Overall Chinook and/or coho TACs may need to be reduced or fisheries adjusted to meet NMFS ESA guidance, FMP requirements, upon conclusion of negotiations in the North of Falcon forum, or upon receipt of preseason catch and abundance expectations for Canadian and Alaskan fisheries.</p>	
<p>U.S./Canada Border to Leadbetter Point</p> <ul style="list-style-type: none"> June 4 through earlier of June 25 or a coastwide marked Chinook quota of 12,000 (equivalent to a 5,000 non-selective Chinook quota) (C.5). <p>Seven days per week. Two fish per day, all salmon except coho, all Chinook must be marked with a healed adipose fin clip (C.1). Chinook 24-inch total length minimum size limit (B). 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.5).</p>	<p>U.S./Canada Border to Leadbetter Point</p> <ul style="list-style-type: none"> June 11 through earlier of June 30 or a coastwide marked Chinook quota of 12,000(C.5). <p>Seven days per week. Two fish per day, all salmon except coho, all Chinook must be marked with a healed adipose fin clip (C.1). Chinook 24-inch total length minimum size limit (B). 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.5).</p>		
<p>Leadbetter Point to Cape Falcon</p> <ul style="list-style-type: none"> June 11 through earlier of June 25 or a coastwide marked Chinook quota of 12,000 (equivalent to a 5,000 non-selective Chinook quota) (C.5). <p>Seven days per week. Two fish per day, all salmon except coho, all Chinook must be marked with a healed adipose fin clip (C.1). Chinook 24-inch total length minimum size limit (B). 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.5).</p>	<p>Leadbetter Point to Cape Falcon</p> <p>Same as Alternative 1</p>		

TABLE 2. Recreational management Alternatives proposed by the SAS for non-Indian ocean salmon fisheries, 2011. (Page 2 of 9)			3/6/2011 12:44 PM
A. SEASON ALTERNATIVE DESCRIPTIONS			
ALTERNATIVE I	ALTERNATIVE II	ALTERNATIVE III	
<p>U.S./Canada Border to Cape Alava (Neah Bay)</p> <ul style="list-style-type: none"> June 26 through earlier of September 18 or 10,480 marked coho subarea quota with a subarea guideline of 5,300 Chinook (C.5). <p>Seven days per week. All salmon except no chum beginning August 1; two fish per day plus two additional pink salmon. All retained coho must be marked (C.1). See gear restrictions and definitions (C.2, C.3). Inseason management may be used to sustain season length and keep harvest within the overall Chinook recreational TAC for north of Cape Falcon (C.5).</p>	<p>U.S./Canada Border to Cape Alava (Neah Bay)</p> <ul style="list-style-type: none"> July 1 through earlier of September 18 or 7,860 marked coho subarea quota with a subarea guideline of 4,900 Chinook (C.5). <p>Seven days per week. All salmon except no chum beginning August 1; two fish per day, no more than one of which can be a Chinook plus two additional pink salmon. All retained coho must be marked (C.1). See gear restrictions and definitions (C.2, C.3). Inseason management may be used to sustain season length and keep harvest within the overall Chinook recreational TAC for north of Cape Falcon (C.5).</p>	<p>U.S./Canada Border to Cape Alava (Neah Bay)</p> <ul style="list-style-type: none"> June 24 through earlier of September 18 or 4,500 marked coho subarea quota with a subarea guideline of 4,400 Chinook (C.5). <p>Tuesday through Saturday. All salmon, two fish per day, no more than one of which can be a Chinook, and two additional pink salmon. All retained coho must be marked (C.1). See gear restrictions (C.2). Beginning August 1, Chinook non-retention east of the Bonilla-Tatoosh line (C.4.a) 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.5).</p>	
<p>Cape Alava to Queets River (La Push Subarea)</p> <ul style="list-style-type: none"> June 26 through earlier of September 18 or 2,570 marked coho subarea quota with a subarea guideline of 2,350 Chinook (C.5). September 24 through earlier of October 9 or 50 marked coho quota or 50 Chinook quota (C.5) in the area north of 47°50'00" N. lat. and south of 48°00'00" N. lat. <p>Seven days per week. All salmon; two fish per day plus two additional pink salmon. All retained coho must be marked (C.1). See gear restrictions and definitions (C.2, C.3). Inseason management may be used to sustain season length and keep harvest within the overall Chinook recreational TAC for north of Cape Falcon (C.5).</p>	<p>Cape Alava to Queets River (La Push Subarea)</p> <ul style="list-style-type: none"> July 1 through earlier of September 18 or 1,920 marked coho subarea quota with a subarea guideline of 2,150 Chinook (C.5). September 24 through earlier of October 9 or 50 marked coho quota or 50 Chinook quota (C.5) in the area north of 47°50'00" N. lat. and south of 48°00'00" N. lat. <p>Seven days per week. All salmon; two fish per day, no more than one of which can be a Chinook plus two additional pink salmon. All retained coho must be marked (C.1). See gear restrictions and definitions (C.2, C.3). Inseason management may be used to sustain season length and keep harvest within the overall Chinook recreational TAC for north of Cape Falcon (C.5).</p>	<p>Cape Alava to Queets River (La Push Subarea)</p> <ul style="list-style-type: none"> June 24 through earlier of September 18 or 1,310 marked coho subarea quota with a subarea guideline of 1,850 Chinook (C.5). September 24 through earlier of October 9 or 50 marked coho quota or 50 Chinook quota (C.5) in the area north of 47°50'00" N. lat. and south of 48°00'00" N. lat. <p>Tuesday through Saturday through September 18; seven days per week September 24 through October 9. All salmon, two fish per day, no more than one of which can be a Chinook, and two additional pink salmon. All retained coho must be marked (C.1). 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.5).</p>	
<p>Queets River to Leadbetter Point (Westport Subarea)</p> <ul style="list-style-type: none"> June 26 through earlier of September 18 or 37,300 marked coho subarea quota with a subarea guideline of 28,600 Chinook (C.5). <p>Sunday through Thursday. All salmon, two fish per day plus one additional pink salmon. All retained coho must be marked (C.1). See gear restrictions and definitions (C.2, C.3). Grays Harbor Zone closed beginning August 1 (C.4.b). Inseason management may be used to sustain season length and keep harvest within the overall Chinook recreational TAC for north of Cape Falcon (C.5).</p>	<p>Queets River to Leadbetter Point (Westport Subarea)</p> <ul style="list-style-type: none"> July 3 through earlier of September 18 or 27,970 marked coho subarea quota with a subarea guideline of 26,300 Chinook (C.5). <p>Sunday through Thursday. All salmon, two fish per day, no more than one of which can be a Chinook plus one additional pink salmon. All retained coho must be marked (C.1). See gear restrictions and definitions (C.2, C.3). Grays Harbor Zone closed beginning August 1 (C.4.b). Inseason management may be used to sustain season length and keep harvest within the overall Chinook recreational TAC for north of Cape Falcon (C.5).</p>	<p>Queets River to Leadbetter Point (Westport Subarea)</p> <ul style="list-style-type: none"> June 26 through earlier of September 18 or 19,340 marked coho subarea quota with a subarea guideline of 23,400 Chinook (C.5). <p>Sunday through Thursday. All salmon, two fish per day, no more than one of which can be a Chinook plus one additional pink salmon. All retained coho must be marked (C.1). See gear restrictions and definitions (C.2, C.3). Inseason management may be used to sustain season length and keep harvest within the overall Chinook recreational TAC for north of Cape Falcon (C.5).</p>	

TABLE 2. Recreational management Alternatives proposed by the SAS for non-Indian ocean salmon fisheries, 2011. (Page 3 of 9)		3/6/2011 12:44 PM
A. SEASON ALTERNATIVE DESCRIPTIONS		
<p>Leadbetter Point to Cape Falcon (Columbia River Subarea)</p> <ul style="list-style-type: none"> • June 26 through earlier of September 30 or 50,400 marked coho subarea quota with a subarea guideline of 12,700 Chinook (C.5). <p>Seven days per week. All salmon, two fish per day. All retained coho must be marked (C.1). See gear restrictions and definitions (C.2, C.3). Columbia Control Zone closed (C.4.c). Inseason management may be used to sustain season length and keep harvest within the overall Chinook recreational TAC for north of Cape Falcon (C.5).</p>	<p>Leadbetter Point to Cape Falcon (Columbia River Subarea)</p> <ul style="list-style-type: none"> • June 26 through earlier of September 30 or 37,800 marked coho subarea quota with a subarea guideline of 11,600 Chinook (C.5). <p>Seven days per week. All salmon, two fish per day, no more than one of which can be a Chinook. All retained coho must be marked (C.1). See gear restrictions and definitions (C.2, C.3). Columbia Control Zone closed (C.4.c). Inseason management may be used to sustain season length and keep harvest within the overall Chinook recreational TAC for north of Cape Falcon (C.5).</p>	<p>Leadbetter Point to Cape Falcon (Columbia River Subarea)</p> <ul style="list-style-type: none"> • July 3 through earlier of September 30 or 25,200 marked coho subarea quota with a subarea guideline of 10,300 Chinook (C.5). <p>Seven days per week in July and September; Sunday through Thursday in August. All salmon, two fish per day, no more than one of which can be a Chinook. All retained coho must be marked (C.1). See gear restrictions and definitions (C.2, C.3). Columbia Control Zone closed (C.4.c). Inseason management may be used to sustain season length and keep harvest within the overall Chinook recreational TAC for north of Cape Falcon (C.5).</p>

TABLE 2. Recreational management Alternatives proposed by the SAS for non-Indian ocean salmon fisheries, 2011. (Page 4 of 9)			3/6/2011 12:44 PM
A. SEASON ALTERNATIVE DESCRIPTIONS			
South of Cape Falcon	South of Cape Falcon	South of Cape Falcon	
ALTERNATIVE I	ALTERNATIVE II	ALTERNATIVE III	
Supplemental Management Information	Supplemental Management Information	Supplemental Management Information	
<p>1. Sacramento River Basin recreational fishery catch assumption: _____ adult Sacramento River fall Chinook (_____% of the total allowable harvest).</p> <p>2. Sacramento River fall Chinook spawning escapement of _____ adults.</p> <p>3. Klamath River recreational fishery allocation: _____ adult Klamath River fall Chinook.</p> <p>4. Klamath tribal allocation: _____ adult Klamath River fall Chinook.</p> <p>5. Overall recreational TAC: _____ marked coho.</p> <p>6. Fisheries may need to be adjusted to meet NMFS ESA consultation standards, FMP requirements, other management objectives, or upon receipt of new allocation recommendations from the California Fish and Game Commission.</p>	<p>1. Sacramento River Basin recreational fishery catch assumption: _____ adult Sacramento River fall Chinook (_____% of the total allowable harvest).</p> <p>2. Sacramento River fall Chinook spawning escapement of _____ adults.</p> <p>3. Klamath River recreational fishery allocation: _____ adult Klamath River fall Chinook.</p> <p>4. Klamath tribal allocation: _____ adult Klamath River fall Chinook.</p> <p>5. Overall recreational coho TAC: 16,000 marked coho quota (non-mark selective equivalent of _____).</p> <p>6. Fisheries may need to be adjusted to meet NMFS ESA consultation standards, FMP requirements, other management objectives, or upon receipt of new allocation recommendations from the California Fish and Game Commission.</p>	<p>11. Sacramento River Basin recreational fishery catch assumption: _____ adult Sacramento River fall Chinook (_____% of the total allowable harvest).</p> <p>2. Sacramento River fall Chinook spawning escapement of _____ adults.</p> <p>3. Klamath River recreational fishery allocation: _____ adult Klamath River fall Chinook.</p> <p>4. Klamath tribal allocation: _____ adult Klamath River fall Chinook.</p> <p>5. Overall recreational coho TAC: 10,500 non-selective coho quota (mark selective equivalent of _____).</p> <p>6. Fisheries may need to be adjusted to meet NMFS ESA consultation standards, FMP requirements, other management objectives, or upon receipt of new allocation recommendations from the California Fish and Game Commission.</p>	

TABLE 2. Recreational management Alternatives proposed by the SAS for non-Indian ocean salmon fisheries, 2011. (Page 5 of 9)			3/6/2011 12:44 PM
A. SEASON ALTERNATIVE DESCRIPTIONS			
South of Cape Falcon	South of Cape Falcon	South of Cape Falcon	
ALTERNATIVE I	ALTERNATIVE II	ALTERNATIVE III	
<p>Cape Falcon to Humbug Mt.</p> <ul style="list-style-type: none"> Except as provided below during the all-salmon mark-selective coho fishery, the season will be March 15 through October 31 (C.6). <p>All salmon except coho; two fish per day (C.1). See gear restrictions and definitions (C.2, C.3).</p> <ul style="list-style-type: none"> All-salmon mark-selective coho fishery: Cape Falcon to OR/CA Border: June 25 through earlier of August 27 or a landed catch of 22,500 marked coho. The all salmon except coho season reopens the earlier of August 27 or attainment of the coho quota. <p>Seven days per week. All salmon, two fish per day. All retained coho must be marked (C.1).</p> <p>Fishing in the Stonewall Bank groundfish conservation area restricted to trolling only on days the all depth recreational halibut fishery is open (call the halibut fishing hotline 1-800-662-9825 for specific dates) (C.3.b, C.4.d). Open days may be adjusted inseason to utilize the available quota (C.5).</p> <p>In 2012, the season between Cape Falcon and Humbug Mt. will open March 15 for all salmon except coho, two fish per day (B, C.1, C.2, C.3).</p>	<p>Cape Falcon to Humbug Mt.</p> <ul style="list-style-type: none"> Except as provided below during the all-salmon mark-selective and non-selective coho fisheries, the season will be April 14 through September 30 (C.6). <p>All salmon except coho; two fish per day (C.1). See gear restrictions and definitions (C.2, C.3).</p> <ul style="list-style-type: none"> Cape Falcon to OR/CA border all-salmon mark-selective coho fishery: July 2 through earlier of August 13 or a landed catch of 16,000 marked coho. Seven days per week. All salmon, two fish per day. All retained coho must be marked (C.1). Any remainder of the mark selective coho quota will be transferred on an impact neutral basis to the September non-selective coho quota listed below. The all salmon except coho season reopens the earlier of August 13 or attainment of the coho quota, through August 31. Cape Falcon to Humbug Mt. non-selective coho fishery: September 1 through the earlier of September 10 or a landed catch of 3,000 non-selective coho quota. Thursday through Saturday. All salmon, two fish per day. The all salmon except coho season reopens the earlier of September 10 or attainment of the coho quota. <p>Fishing in the Stonewall Bank groundfish conservation area restricted to trolling only on days the all depth recreational halibut fishery is open (call the halibut fishing hotline 1-800-662-9825 for specific dates) (C.3.b, C.4.d). Open days may be adjusted inseason to utilize the available quota (C.5).</p> <p>In 2012, same as Alternative I</p>	<p>Cape Falcon to Humbug Mt.</p> <ul style="list-style-type: none"> Except as provided below during the all-salmon non-mark-selective coho fishery, the season will be May 1 through October 31 (C.6). <p>Seven days per week. All salmon except coho; two fish per day (C.1). See gear restrictions and definitions (C.2, C.3).</p> <ul style="list-style-type: none"> Cape Falcon to Humbug Mt. non-selective coho fishery: August 18 through the earlier of September 10 or a landed catch of 10,500 non-selective coho quota. Thursday through Saturday. All salmon, two fish per day. The all salmon except coho season reopens the earlier of September 10 or attainment of the coho quota. <p>Fishing in the Stonewall Bank groundfish conservation area restricted to trolling only on days the all depth recreational halibut fishery is open (call the halibut fishing hotline 1-800-662-9825 for specific dates) (C.3.b, C.4.d). Open days may be adjusted inseason to utilize the available quota (C.5).</p> <p>In 2012, same as Alternative I</p>	

TABLE 2. Recreational management Alternatives proposed by the SAS for non-Indian ocean salmon fisheries, 2011. (Page 6 of 9)			3/6/2011 12:44 PM
A. SEASON ALTERNATIVE DESCRIPTIONS			
ALTERNATIVE I	ALTERNATIVE II	ALTERNATIVE III	
<p>Humbug Mt. to OR/CA Border. (Oregon KMZ)</p> <ul style="list-style-type: none"> Except as provided above during the all-salmon mark-selective coho fishery, the season will be May 14 through September 5 (C.6). <p>Seven days per week. All salmon except coho, two fish per day except as noted above in the all-salmon mark-selective coho fishery (C.1). Chinook minimum size limit of 24 inches total length (B). See gear restrictions and definitions (C.2, C.3).</p>	<p>Humbug Mt. to OR/CA Border. (Oregon KMZ)</p> <ul style="list-style-type: none"> Except as provided above during the all-salmon mark-selective and non-mark-selective coho fisheries, the season will be May 28 through September 5 (C.6). <p>Seven days per week. All salmon except coho, two fish per day except as noted above in the all-salmon mark-selective coho fishery (C.1). Chinook minimum size limit of 24 inches total length (B). See gear restrictions and definitions (C.2, C.3).</p>	<p>Humbug Mt. to OR/CA Border. (Oregon KMZ)</p> <ul style="list-style-type: none"> May 28 through July 30; September 1-5 (C.6). <p>All salmon except coho. Seven days per week, two fish per day (C.1). Chinook minimum size limit of 24 inches total length (B). See gear restrictions and definitions (C.2, C.3).</p>	
<p>OR/CA Border to Horse Mt. (California KMZ)</p> <ul style="list-style-type: none"> May 14 through September 5 (C.6). <p>Seven days per week. All salmon except coho. Two fish per day (C.1). Chinook minimum size limit of 24 inches total length (B). See gear restrictions and definitions (C.2, C.3). Klamath Control Zone closed in August (C.4.e). See California State regulations for additional closures adjacent to the Smith, Eel, and Klamath rivers.</p>	<p>OR/CA Border to Horse Mt. (California KMZ)</p> <ul style="list-style-type: none"> May 28 through September 5 (C.6). <p>Seven days per week. All salmon except coho. Two fish per day (C.1). Chinook minimum size limit of 24 inches total length (B). See gear restrictions and definitions (C.2, C.3). Klamath Control Zone closed in August (C.4.e). See California State regulations for additional closures adjacent to the Smith, Eel, and Klamath rivers.</p>	<p>OR/CA Border to Horse Mt. (California KMZ)</p> <ul style="list-style-type: none"> May 28 through July 30 September 1-5 (C.6). <p>Seven days per week. All salmon except coho. Two fish per day (C.1). Chinook minimum size limit of 24 inches total length (B). See gear restrictions and definitions (C.2, C.3). Klamath Control Zone closed in August (C.4.e). See California State regulations for additional closures adjacent to the Smith, Eel, and Klamath rivers.</p>	
<p>Horse Mt. to Point Arena (Fort Bragg)</p> <ul style="list-style-type: none"> April 2 through November 13. <p>All salmon except coho. Two fish per day (C.1). Chinook minimum size limit of 24 inches total length through August 31, 20 inches thereafter (B). See gear restrictions and definitions (C.2, C.3).</p> <p>In 2012, season opens April 7 for all salmon except coho, two fish per day (C.1). Chinook minimum size limit of 24 inches total length (B); and the same gear restrictions as in 2011 (C.2, C.3).</p>	<p>Horse Mt. to Point Arena (Fort Bragg)</p> <ul style="list-style-type: none"> April 2 through November 13. <p>All salmon except coho. Two fish per day (C.1). Chinook minimum size limit of 24 inches total length (B). See gear restrictions and definitions (C.2, C.3).</p> <p>In 2012, same as Alternative I.</p>	<p>Horse Mt. to Point Arena (Fort Bragg)</p> <ul style="list-style-type: none"> April 2 through October 16. <p>All salmon except coho. Two fish per day (C.1). Chinook minimum size limit of 24 inches total length through August 31, 20 inches thereafter (B). See gear restrictions and definitions (C.2, C.3).</p> <p>In 2012, same as Alternative I.</p>	
<p>Point Arena to Pigeon Point (San Francisco)</p> <ul style="list-style-type: none"> April 2 through November 13. <p>All salmon except coho. Two fish per day (C.1). Chinook minimum size limit of 24 inches total length through August 31, 20 inches thereafter (B). See gear restrictions and definitions (C.2, C.3).</p> <p>In 2012, season opens April 7 for all salmon except coho, two fish per day (C.1). Chinook minimum size limit of 24 inches total length (B); and the same gear restrictions as in 2011 (C.2, C.3).</p>	<p>Point Arena to Pigeon Point (San Francisco)</p> <ul style="list-style-type: none"> April 2 through November 13. <p>All salmon except coho. Two fish per day (C.1). Chinook minimum size limit of 24 inches total length (B). See gear restrictions and definitions (C.2, C.3).</p> <p>In 2012, same as Alternative I.</p>	<p>Point Arena to Pigeon Point (San Francisco)</p> <ul style="list-style-type: none"> April 2 through October 16. <p>All salmon except coho. Two fish per day (C.1). Chinook minimum size limit of 24 inches total length through August 31, 20 inches thereafter (B). See gear restrictions and definitions (C.2, C.3).</p> <p>In 2012, same as Alternative I.</p>	

TABLE 2. Recreational management Alternatives proposed by the SAS for non-Indian ocean salmon fisheries, 2011. (Page 7 of 9) 3/6/2011 12:44 PM

A. SEASON ALTERNATIVE DESCRIPTIONS		
ALTERNATIVE I	ALTERNATIVE II	ALTERNATIVE III
<p>Pigeon Point to U.S./Mexico Border (Monterey South)</p> <ul style="list-style-type: none"> April 2 through October 2. <p>All salmon except coho. Two fish per day (C.1). Chinook minimum size limit of 24 inches total length through August 31, 20 inches thereafter (B). See gear restrictions and definitions (C.2, C.3).</p> <p>In 2012, season opens April 7 for all salmon except coho, two fish per day (C.1). Chinook minimum size limit of 24 inches total length (B); and the same gear restrictions as in 2011 (C.2, C.3).</p>	<p>Pigeon Point to U.S./Mexico Border (Monterey)</p> <ul style="list-style-type: none"> April 2 through August 31. <p>All salmon except coho. Two fish per day (C.1). Chinook minimum size limit of 24 inches total length (B). See gear restrictions and definitions (C.2, C.3).</p> <p>In 2012, same as Alternative I.</p>	<p>Pigeon Point to U.S./Mexico Border (Monterey)</p> <ul style="list-style-type: none"> April 2 through August 31. <p>All salmon except coho. Two fish per day (C.1). Chinook minimum size limit of 24 inches total length (B). See gear restrictions and definitions (C.2, C.3).</p> <p>In 2012, same as Alternative I.</p>

B. MINIMUM SIZE (Inches) (See C.1)

Area (when open)	Chinook Prior to Sept. 1	After Sept. 1	Coho	Pink
North of Cape Falcon	24.0	24.0	16.0	None
Cape Falcon to OR/CA Border	24.0	24.0	16.0	None
OR/CA Border to Horse Mountain	24.0	24.0	-	24.0
Horse Mt. to U.S./Mexico Border:	Alternatives I and III	24.0	20.0	-
	Alternative II	24.0	24.0	-

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.

Ocean Boat Limits: Off the coast of Washington, Oregon, and California, each fisher aboard a vessel may continue to use angling gear until the combined daily limits of salmon for all licensed and juvenile anglers aboard has been attained (additional state restrictions may apply).

TABLE 2. Recreational management Alternatives proposed by the SAS for non-Indian ocean salmon fisheries, 2011. (Page 8 of 9)

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C. REQUIREMENTS, DEFINITIONS, RESTRICTIONS, OR EXCEPTIONS
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- C.2. **Gear Restrictions:** Salmon may be taken only by hook and line using barbless hooks. 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 Point Conception, California:* No more than one rod may be used per angler; and no more than two 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. *Horse Mt., California, to Point Conception, California:* Single point, single shank, barbless circle hooks (see gear definitions below) are required when fishing with bait by any means other than trolling, and no more than two such hooks shall be used. When angling with two hooks, the distance between the hooks must not exceed five 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.
- C.3. **Gear Definitions:**
- a. *Recreational fishing gear defined:* Angling tackle consisting of a line with no more than one artificial lure or natural bait attached. Off Oregon and Washington, the line must be attached to a rod and reel held by hand or closely attended; the rod and reel must be held by hand while playing a hooked fish. No person may use more than one rod and line while fishing off Oregon or Washington. Off California, the line must be attached to a rod and reel held by hand or closely attended; weights directly attached to a line may not exceed four pounds (1.8 kg). While fishing off California north of Point Conception, no person fishing for salmon, and no person fishing from a boat with salmon on board, may use more than one rod and line. Fishing includes any activity which can reasonably be expected to result in the catching, taking, or harvesting of fish.
 - b. *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. *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.
- C.4. **Control Zone Definitions:**
- a. *The Bonilla-Tatoosh Line:* A line running from the western end of Cape Flattery to Tatoosh Island Lighthouse (48°23'30" N. lat., 124°44'12" W. long.) to the buoy adjacent to Duntze Rock (48°28'00" N. lat., 124°45'00" W. long.), then in a straight line to Bonilla Point (48°35'30" N. lat., 124°43'00" W. long.) on Vancouver Island, British Columbia.
 - 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°15'48" 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. *Stonewall Bank Groundfish Conservation Area:* The area defined by the following coordinates in the order listed:
44°37.46' N. lat.; 124°24.92' W. long.;
44°37.46' N. lat.; 124°23.63' W. long.;
44°28.71' N. lat.; 124°21.80' W. long.;
44°28.71' N. lat.; 124°24.10' W. long.;
44°31.42' N. lat.; 124°25.47' W. long.;
and connecting back to 44°37.46' N. lat.; 124°24.92' W. long.
 - e. *Klamath Control Zone:* The ocean area at the Klamath River mouth bounded on the north by 41°38'48" N. lat. (approximately six 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. REQUIREMENTS, DEFINITIONS, RESTRICTIONS, OR EXCEPTIONS

- C.5. Inseason Management: Regulatory modifications may become necessary inseason to meet preseason management objectives such as quotas, harvest guidelines, and season duration. In addition to standard inseason actions or modifications already noted under the season description, the following inseason guidance is provided to NMFS:
- a. Actions could include modifications to bag limits, or days open to fishing, and extensions or reductions in areas open to fishing.
 - b. Coho may be transferred inseason among recreational subareas north of Cape Falcon on an fishery impact equivalent basis to help meet the recreational season duration objectives (for each subarea) after conferring with representatives of the affected ports and the Council's SAS recreational representatives north of Cape Falcon.
 - c. Chinook and coho may be transferred between the recreational and commercial fisheries north of Cape Falcon on a fishery impact equivalent basis if there is agreement among the representatives of the Salmon Advisory Subpanel (SAS).
 - d. If retention of unmarked coho is permitted in the area from the U.S./Canada border to Cape Falcon, Oregon, by inseason action, the allowable coho quota will be adjusted to ensure preseason projected mortality of critical stocks is not exceeded.
- C.6. Additional Seasons in State Territorial Waters: Consistent with Council management objectives, the States of Washington, Oregon, and California may establish limited seasons in state waters. Check state regulations for details.

**TESTIMONY OF THE COLUMBIA RIVER TREATY TRIBES
BEFORE PACIFIC FISHERIES MANAGEMENT COUNCIL**

MARCH 6, 2011

Vancouver, WA

Good day Mr. Chairman and members of the Council. My name is Chris Williams. I am a member of the fish and wildlife committee of the Umatilla Tribe. I am here with Wilbur Slockish Jr, of the Yakama Nation, Emerson Squiemphen of the Warm Springs Tribes, and Herb Jackson of the Nez Perce Tribe to provide testimony on behalf of the four Columbia River treaty tribes: the Yakama, Warm Springs, Umatilla and Nez Perce tribes.

In 1855, the United States entered into treaties with our tribes and nations. The tribes' ceded millions of acres of our homelands to the U.S. and the U.S. pledged to honor our ancestral rights, including the right to fish at all of our usual places. Unfortunately, a long history of hydroelectric development, habitat destruction and over-fishing by non-Indians brought the salmon resource to the edge of extinction with many salmon and steelhead populations in the Columbia River basin listed under the Endangered Species Act (ESA).

Salmon are of critical cultural importance to the tribes. Our relationship with the fish goes back to time immemorial. Our tribes depend on salmon to meet our ceremonial and subsistence as well as our economic needs. Our ceremonial and subsistence needs take precedent over other needs. Our rights to these fish are protected by treaties with the United States.

The tribes maintain our opposition to mark selective recreational fisheries in Ocean Areas 1 through 4. We felt the ocean mark selective fishery proposals were not appropriate in 2010 and continue to believe that they are in-appropriate. Mark selective fisheries not only can have direct adverse effects on tribal fisheries, but they adversely affect tribal efforts to appropriately use hatchery fish in our rebuilding efforts.

The *U.S. v. Oregon* parties will manage 2010 in-river fisheries according to the 2008-2017 *U.S. v. Oregon* management agreement. This agreement states, "If mark selective fisheries are implemented that impact upriver fall Chinook, the non-treaty ocean and in-river fisheries may not harvest more than 50% of the harvestable surplus of upriver fall Chinook, consistent with the applicable federal allocation caselaw." The tribes have had a bad experience with the way the states have implemented mark selective in-river spring Chinook fisheries in ways that have allowed the non-treaty harvest to exceed the allowed tribal harvest in many years. It took several years to resolve catch balance issues for spring Chinook, and we don't want to see similar problems occur for our fall Chinook fisheries. The tribes believe that the implementation of mark selective fisheries impacting fall Chinook stocks will cause similar problems for tribal fisheries. We are very concerned about the future expansion of mark selective fisheries. We are concerned that soon the non-treaty fishery catches could exceed 50% of the harvestable surplus. This will adversely affect tribal fisheries and make it difficult to meet spawning needs.

The tribes have previously raised a number of concerns with the proposed implementation of mark selective fisheries. We continue to stress that they are problems that need to be addressed.

First, release mortality rates for ocean fisheries are high and we believe uncertain. Scientific literature suggests that the actual release mortality rates vary with gear, fishing technique and how well particular fishermen handle their catch. The tribes believe the actual rates could range to over 50%. If the Council is underestimating the true release mortality rates in these fisheries, the actual number of unmarked wild fish that are killed in these fisheries may be much higher than the pre-season planning models suggest. The tribes believe that the Council should, to be precautionary, model ocean recreational fisheries using higher release mortality rates. The STT has recommended release mortality rates based on a review of existing studies on other fisheries. The tribes maintain that there should be research in the area of the intended mark selective fishery to determine the true release mortality rates before new mark selective fisheries are implemented.

Second, with the wide mix of stocks that are encountered in ocean fisheries, and highly variable environmental conditions, the tribes are skeptical that the mark rate can be accurately predicted pre-season. We are concerned that unless the mark rate is very high, mark selective fisheries will have to sort through large numbers of unmarked fish and will kill large numbers of wild fish in order to retain just a few marked fish. Last year in the Chinook mark selective fishery in Area 2 about 30% of the fish handled were unclipped. Some unmarked fish may be handled multiple times, increasing mortality even more. We understand that there is no way to model multiple encounters using FRAM. We regard this as a serious shortcoming that renders the FRAM inappropriate for modeling mark selective fisheries. We believe there may be significant additional release mortality with each successive encounter. Until research can be done to determine the level of mortality associated with multiple encounters, and the analytical tools can incorporate those impacts, the Council should not recommend mark selective fisheries. Another issue related to release mortality rates is the methods by which the states estimate how many unclipped fish are handled and released. We appreciate that WDFW has shared the 2010 Ocean Selective Fishery Sampling Report. This report is helpful for us to understand the impacts of last year's mark selective fisheries. We hope to continue discussions with the states on the monitoring and evaluation of both selective and non-selective fisheries. We have not seen a similar report from Oregon. A similar type of report is needed for Oregon ocean fisheries. The tribes support direct monitoring of fisheries to determine encounter rates. The tribes do not believe that simply asking anglers how many fish they release is a reliable way of determining encounters with unclipped fish. We understand that it is impractical to directly observe much of the Area 3 and 4 fishery because of its low intensity, but we think this is just one more reason why selective fisheries are impractical and unneeded in these areas.

Third, international agreements such as the Pacific Salmon Treaty use Coded Wire Tag information to evaluate the impacts of ocean fisheries on natural stocks, but they have to assume there are the same impacts on marked and unmarked fish. The technical groups have recommended against having such fisheries for Chinook, and that if there are such fisheries, there must be Double Index Tag groups so the difference in impacts can be estimated. Even then, it is not possible to assess impacts on a fishery specific basis. Thus, these fisheries will erode the ability to measure if PST obligations are being met. We should avoid situations where we cannot evaluate or quantify the impacts of these fisheries on the unmarked or natural components of these stock groups until we develop the necessary tools. We need to ensure that the reporting of impacts in existing and future

mark selective fisheries are detailed enough to meet the needs of both the PSC and *U.S. v Oregon* processes and that processes agreed to in the PSC process are being followed. Double index tag groups should be included for Upper Columbia River summer Chinook prior to the implementation of mark selective fisheries impacting this stock.

Some groups such as the National Marine Fisheries Service and the Washington Department of Fish and Wildlife continue to push for expanding mark selective fisheries when clearly they have shown no benefit to natural origin fish. We are disappointed that the federal government still seems content with an overly simplistic implementation of mark selective fisheries while neglecting to assess the true impacts of those fisheries on ESA listed fish or fulfilling its trust responsibility to the tribes by protecting tribal fisheries. The federal government should be concerned that the impacts of mark selective fisheries on ESA listed stocks like lower Columbia River tules may rapidly increase as mark selective fisheries grow in intensity. The Council's Model Evaluation Workgroup has previously stated that mark selective fisheries are more problematic as they increase. Yet as of right now, we have not heard any concerns expressed by the federal government on how to address this increase.

We understand that for this year, WDFW will not be seeking an expansion of the ocean mark selective fisheries that were set last year and we appreciate this. But the tribes still strongly recommend that the Council not approve any options for mark selective Chinook fisheries impacting Columbia River fall Chinook.

This concludes our statement. Thank You.

**Preliminary Definition of 2011 Management Options
to the Pacific Fishery Management Council
March 6, 2011**

- ❖ The forecasts for coho on the Washington coast for both wild and hatchery stocks are higher than last year; Puget Sound coho is also up. We believe that these forecasts will allow for some moderate harvest this year even while taking into consideration the needs of the Lower Columbia River natural coho and Canadian Interior Fraser (Thompson).
- ❖ For Chinook, the tule hatchery stocks should provide some harvest opportunity in the ocean fisheries. We continue to live up to the commitment that we made in 1988 to the Columbia River Tribes to not increase our impacts on Columbia River Chinook stocks of concern. However, additional listed Chinook stocks will require continued attention to devise fisheries that meet the ESA requirements for these stocks.
- ❖ The tribes continue to have concerns about our ability to appropriately analyze and manage selective fisheries in the ocean. We encourage the states to continue rigorous monitoring and sampling of these fisheries and to continue communication on this issue with the tribes.
- ❖ The Washington Tribes, in cooperatively with the Washington Department of Fish and Wildlife, are beginning the process of establishing a package of fisheries that will ensure acceptable levels of harvest of natural stocks of concern. In addition, we have joint Tribal/State agreement on specific 2011 management objectives for Puget Sound and Washington coastal Chinook and coho salmon.

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.

2011 Treaty Troll Options

	<u>Chinook</u>	<u>Coho</u>
Option I	60,000	60,000
Option II	50,000	50,000
Option III	40,000	40,000

For Chinook:

Option I to be modeled with 30,000 taken in the May/June chinook directed fishery and 30,000 would be taken in the July/August/ September all-species fishery.

Option II 25,000 taken in the May/June chinook directed fishery and 25,000 in the July/August/ September all-species fishery.

Option III 20,000 taken in the May/June chinook directed fishery and 20,000 in the July/August/ September all-species fishery.

**WDFW and Tribal 2011 Management Objectives for
Puget Sound Chinook and Coho Salmon**

As provided for in Amendment 14, and pursuant to rules and procedures established under U.S. v. Washington, WDFW and the effected tribes have established management objectives for Puget Sound Chinook and coho salmon. The management objectives applicable to the 2011 regulation setting process are presented in the following tables, and are based on similar management approaches and methodologies as the objectives provided to the Council the past several years. The management objectives define the maximum impact levels allowed for 2011-12 salmon fisheries.

For Puget Sound Chinook salmon, the management objectives in Table 1 are part of the current harvest management plan developed by WDFW and the Puget Sound Tribes. The state and tribal co-managers expect that fishing considered by the Council for the 2011-12 seasons will be consistent with these objectives. This plan is currently being reviewed by NOAA Fisheries under Limit 6 (State and tribal resource management plans) of the 4(d) rule (50 CFR 223) for ESA compliance.

2011 Puget Sound Primary Natural Coho Management Unit Exploitation Rate Ceilings

<u>Management Unit</u>	<u>Preseason Forecast Of Abundance</u> (Ocean Age Three)	<u>Management Status</u>	<u>Total Exploitation Rate Ceiling</u>
Strait of Juan de Fuca	12,317	low	40%
Hood Canal	74,741	normal	65%
Skagit	138,117	normal	60%
Stillaguamish	66,600	normal	50%
Snohomish	180,000	normal	60%

Table 1. Exploitation rate ceilings, expressed as total, southern US (SUS) or pre-terminal (PT SUS) exploitation rates, and upper management and low abundance thresholds, for Puget Sound Chinook management units.

Management Unit	Exploitation Rate	Upper Management Threshold	Low Abundance Threshold	Critical Exploitation Rate Ceiling
Nooksack North Fork South Fork		4,000 2,000 2,000	1,000 ^{1/} 1,000 ^{1/}	7% / 9% SUS ^{3/}
Skagit Summer/Fall Upper Skagit Sauk Lower Skagit	50%	14,500	4,800 2,200 400 900	15% SUS even-years 17% SUS odd-years
Skagit Spring Upper Sauk Upper Cascade Suiattle	38%	2,000	576 130 170 170	18% SUS
Stillaguamish North Fork Summer South Fk & MS Fall	25%	900 ^{1/} 600 ^{1/} 300 ^{1/}	700 ^{1/} 500 ^{1/} 200 ^{1/}	15% SUS
Snohomish Skykomish Snoqualmie	21%	4,600 ^{1/} 3,600 ^{1/} 1,000 ^{1/}	2,800 ^{1/} 1,745 ^{1/} 521 ^{1/}	15% SUS
Lake Washington Cedar River	20% SUS	1,680	200	10% PT SUS
Green	15% PT SUS	5,800	1,800	12% PT SUS
White River Spring	20%	1,000	200	15% SUS
Puyallup Fall	50%	500 (South Prairie Cr.)	500	12% PT SUS
Nisqually	65-56-47% ^{4/}			
Skokomish	50%	3,650	1,300 ^{2/}	12% PT SUS
Mid-Hood Canal	15% PT SUS	750	400	12% PT SUS
Dungeness	10% SUS	925	500	6% SUS
Elwha	10% SUS	2,900	1,000	6% SUS
Western JDF	10% SUS	850	500	6% SUS

1/ Natural-origin spawners

2/ Skokomish LAT is escapement of 800 natural spawners and/or 500 escapement to the hatchery

3/ Nooksack SUS ER will not exceed 7% in 4 out of 5 years

4/ Nisqually ER ceiling 65% for 2010-2011; 56% for 2012-2013; 47% for 2014.



VIA Electronic Mail (pfmc.comments@noaa.gov)

February 9, 2011

Mr. Mark Cedergreen
Chairman Pacific Fishery Management Council
7700 NE Ambassador Place, Suite 101
Portland, Oregon 97220-1384

Re: 2011 Pacific Fishing Season

Dear Mr. Chairman and members of the Council:

As the Pacific Fishery Management Council ("Council") undertakes its review of the 2010 Pacific fishery, we comment on behalf of the San Joaquin River Group Authority ("SJRG").¹ The San Joaquin River Group Authority is a joint power authority consisting of irrigation and water districts, throughout the San Joaquin River basin. The SJRGA's member agencies use and divert water from the San Joaquin River and from its tributaries, pursuant to contract rights, riparian rights and pre-1914 and post-1914 rights of appropriation. They put the water to various beneficial uses, including irrigation, hydropower, storage, and municipal and domestic use. The SJRGA member agencies participate in a multitude of efforts focused on preserving and restoring Fall-run Chinook salmon. They are also subject to increasing regulation equally focused on such goals.

Sacramento River Fall-run Chinook salmon ("SRFC") escapement has been depressed since at least 2007, triggering Overfishing Concerns and severe limitations on commercial and recreational fishing opportunities every year. (PFMC 2010b, pp.11-12.) The low Chinook salmon population was primarily due to the collapse of the Sacramento River Chinook salmon population. Low 2007 escapement resulted in commercial fishery closures in both Oregon and California in 2008. (PFMC 2010a, p. 2.) SRFC adult escapement continued declining in 2009, with the lowest escapement on record and California's season was again cancelled. (PFMC 2010a, p. 1; PFMC 2010c, p. 2.) Then, in March 2010, the PFMC again determined that SRFC numbers had failed to meet the conservation goal for the fourth consecutive year, again triggering an Overfishing Concern and severe fishing restrictions. (PFMC 2010c, p. 2.)

¹ The SJRGA consists of the Oakdale Irrigation District, South San Joaquin Irrigation District, Modesto Irrigation District, Turlock Irrigation District, Merced Irrigation District, City and County of San Francisco, San Joaquin River Exchange Contractors Water Authority, and the Friant Water Authority.

The SJRGA's assessment of the 2010 escapement is that SRFC will again fail to meet the conservation objective. SRFC escapement increased in 2010 to 152,831, which is within the annual FMP conservation objective of 122,000-180,000 (PFMC 1999, Table 3-1.). However, the Council specified that for 2010, the spawning escapement objective was 180,000, based on recommendations from NMFS that management measures for 2010 should, "at a minimum, target a spawner escapement around the upper end of the FMP conservation objective in response to the stock falling below the lower end of the conservation objective for three consecutive years." (PFMC 2010b, page 8) Therefore, SRFC 2010 escapement was below the Council's objectives for the fourth consecutive year. Failure to meet the Conservation Objective for three consecutive years, absent an exception, is sufficient to trigger an Overfishing Concern. (PFMC 1999, p. 3-4.) According to the Pacific Coast Salmon Plan (PFMC 2003), three or more consecutive years of failing to meet the Conservation Objective could "signal the beginning of a critical downward trend (e.g., Oregon coastal coho) which may result in fishing that jeopardizes the capacity of the stock to produce MSY over the long term if appropriate actions are not taken to ensure the automatic rebuilding feature of the conservation objectives is achieved."

It is expected that escapement in 2011 will not be as high as 2010 due to the following combination of factors:

1. Parental stock abundance for 2011 escapement is substantially lower than 2010.

The 2011 SRFC escapement will be comprised of adults produced from the three lowest adult return years on record for SRFC - 2007, 2008, and 2009 (Table 1). As such, the parental stock (brood years 2007, 2008, and 2009) for adult fish returning to spawn in 2011 is 212,089, which is 52.3% less than the parental stock abundance for 2010 escapement.

Table 1. Characteristics of 2010 and 2011 SRFC escapement including parental stock abundance, and exposure of contributing brood year cohorts to commercial harvest conditions. Code: C= closed; R= restricted; TBD= to be determined. Source: Grandtab February 1, 2011.

Return Year	Escapement	Age at Return	Brood Year	Outmigration Year	Abundance Parent Stock	Commercial Harvest Conditions		
						Yr 1	Yr 2	Yr 3
2010	152,831	4	2006	2007	282,410	C	C	R
		3	2007	2008	93,302	C	R	-
		2	2008	2009	69,214	R	-	-
Total					444,926			
2011	TBD	4	2007	2008	93,302	C	R	TBD
		3	2008	2009	69,214	R	TBD	-
		2	2009	2010	49,573	TBD	-	-
Total					212,089			

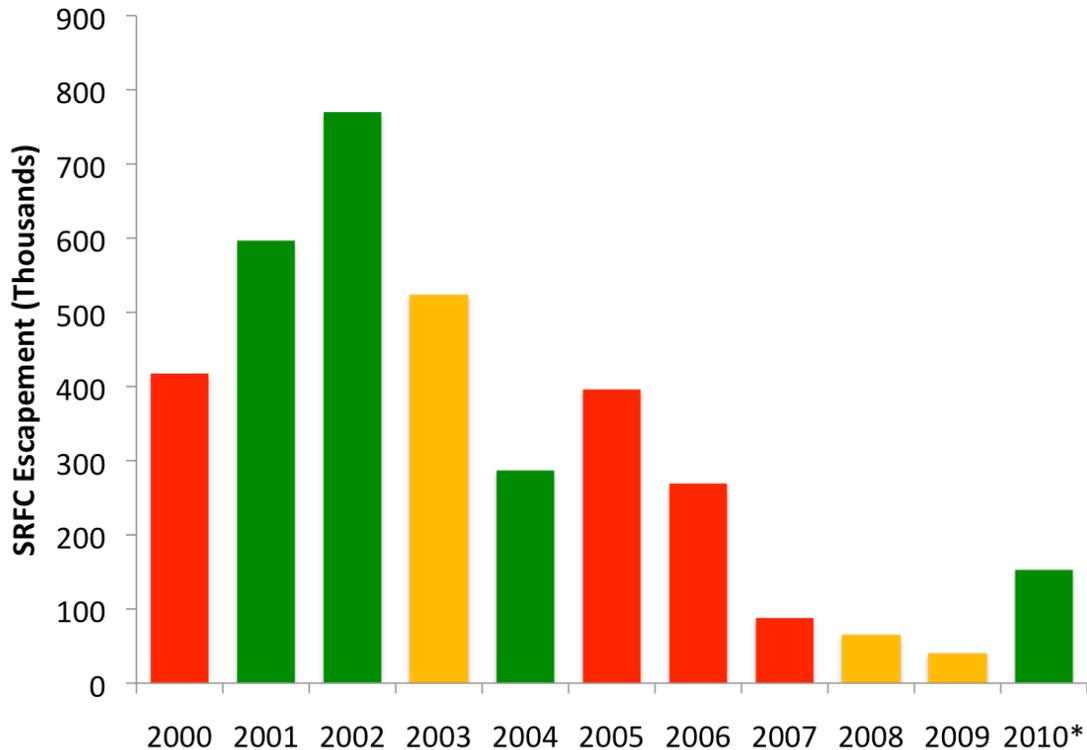
2. Northern California Current ocean conditions better for majority of fish contributing to 2010 escapement than for 2011.

Generally, the bad ocean conditions identified as the proximate cause of recent low SRFC escapements (2007, 2008, and 2009) began to improve in 2007 and were much better in 2008 (Table 2, Figure 2). SRFC escapements predominately consist of 3-year olds, and initial ocean conditions for juveniles outmigrating in 2008 and returning as Age 3 in 2010 (brood year 2007) were ranked the best for all years since 1998. While ocean conditions for juveniles outmigrating in 2009 and returning as Age 3 in 2011 (brood year 2008) were considered “intermediate” conditions, ranking 7th out of the 13 years.

Table 2. "Rank scores upon which color-coding of ocean ecosystem indicators is based. Lower numbers indicate better ocean ecosystem conditions, or "green lights" for salmon growth and survival, with ranks 1–4 green, 5–9 yellow, and 10–13 red. To arrive at these rank scores, 13 years of sampling data were compared across years (within each row), and each year received a rank between 1 and 13. Note that 2010 was characterized by a mix of ocean conditions resulting from a warm winter–spring and cold summer. Our 'best guess' forecast would be for average returns of coho in 2011 and Chinook in 2012." Source: Northwest Fisheries Science Center 2011. Forecast of Adult Returns for Coho in 2010 and Chinook Salmon in 2011. Accessed on February 2, 2011 at <http://www.nwfsc.noaa.gov/research/divisions/fed/oeip/g-forecast.cfm>

	Year of Samples												
	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Pacific Decadal Oscillation													
Dec–Mar	12	4	2	8	5	13	7	11	9	6	3	1	10
May–Sep	10	2	4	5	7	12	11	13	9	8	1	6	3
Multivariate El Niño Southern Oscillation Index													
MEI Annual	13	1	3	6	12	11	9	10	7	5	2	8	4
MEI Jan–Jun	13	2	3	4	9	10	7	11	5	8	1	6	12
Mean sea surface temperature (°C)													
Buoy 46050 (May–Sep)	11	8	3	4	1	7	13	10	5	12	2	9	6
NH 05 (May–Sep)	8	4	1	6	2	5	13	10	7	12	3	11	9
Winter prior to ocean entry (Nov–Mar)	13	10	3	5	6	9	11	8	7	2	1	4	12
Coastal upwelling													
Physical transition (upwelling index)	3	6	12	11	4	8	10	13	8	1	5	2	7
Anomalies (April–May)	7	1	12	3	6	10	9	13	7	2	4	5	11
Season length (upwelling index)	6	2	12	9	1	10	8	13	5	3	7	3	11
Deep water at NH 05 (May–Sep)													
Temperature (°C)	13	4	6	3	1	9	10	11	12	5	2	8	7
Salinity	13	3	6	2	5	11	12	8	7	1	4	9	10
Copepod indicators													
Biodiversity (species richness)	13	2	1	5	3	9	8	12	10	6	4	7	11
Anomalies	13	10	3	7	2	11	8	12	9	6	1	5	4
Community structure	13	3	4	6	1	9	10	12	11	7	2	5	8
Biological transition	13	7	5	3	6	11	9	12	10	4	1	2	8
Trawl survey catch													
Winter ichthyoplankton	13	6	2	4	5	9	12	8	11	10	1	7	3
Spring Chinook (June)	12	2	3	10	7	9	11	13	8	6	1	4	5
Coho (Sep)	9	2	1	4	3	5	10	12	7	8	6	13	11
Overall Ranking													
Mean rank	10.9	4.2	4.5	5.5	4.5	9.4	9.9	11.2	8.1	5.9	2.7	6.1	8.0
Rank of mean ranks	12	2	3	5	3	10	11	13	9	6	1	7	8

Figure 2. SRFC escapement (thousands) for the past decade color-coded by the ocean ecosystem indicators from Table 2 experienced during ocean entry (a two-year lag). Asterisk denotes a preliminary escapement estimate from Grandtab (2/1/11), all other data from Table II-1 in PFMC (2010a)



3. Exposure to commercial harvest less for returns contributing to 2010 escapement than for 2011

Fishery closures during 2008 and 2009, and to some extent restricted harvest during 2010, reduced direct mortality of all brood years that contributed to 2010 escapement, and most notably brood year 2006. Brood year 2006, the year of highest parental stock abundance contributing to the 2010 escapement, was also the most protected brood with the fishery closed during a 2-year period (Age 2 & 3) and restricted during the third year (Age 4). Since parental stock abundance for 2011 escapement is at its lowest, even restricted levels of harvest (e.g., 2010) will lead to reduced escapement during 2011, increasing the potential for a continued Overfishing Concern.

Additional analyses (*see* Attachment 1) also indicate that the SRFC will continue to remain in an overfished condition for the foreseeable future and harvest should be curtailed to prevent this stock from further decline.

SRFC escapement to the mainstem SJR and major SJR tributaries has been relatively low since the 1950s and has exhibited a declining trend with populations ranging from several hundred adults to approximately 80,000 adults. (SWRCB 2010, p.

41.) Since 1952, there has also been a steady decrease in the average number of adults returning to the SJR basin. (*Id.* at 42.) Based on recent population declines and the trend of reduced peak abundance over time, which is leading to reduced population resiliency and genetic diversity, the California Department of Fish & Game considers the SRFC runs in the SJR to be in poor condition, and as a result remains at risk of extinction from a single catastrophic event. (*Id.* at 43.)

All Central Valley Fall-run Chinook are represented in the Fishery Management Plan (FMP) by the “Sacramento River Fall” stock and now the fisheries management plan for the Central Valley is focused completely on managing the SRFC (since the management has moved from using the Central Valley Index to the Sacramento Index) despite its intention “to provide adequate escapement of natural and hatchery production for Sacramento **and San Joaquin** fall and late-fall stocks” (emphasis added; PFMC 2003). The Pacific Salmon Management Plan (2003) describes the San Joaquin system as “severely degraded by water development projects and pollution” with fall Chinook comprising “<10% of the total Central Valley fall run,” which suggests that they do not make up a important portion of the Central Valley stock. Despite their low numbers, the wild San Joaquin Basin Chinook may contribute important phenotypic diversity to the Central Valley stock, which is becoming more genetically homogenized each year with the introduction of hatchery strays into the wild spawning populations. The lack of genetic and phenotypic diversity in the Central Valley has been compared to an undiversified financial portfolio. With the Californian salmon fishery heavily reliant on one particular stock (i.e., Central Valley hatchery Chinook), there is no buffer against a fluctuating ‘market’ to minimize the economic and ecological risks. Thus, while management focuses on the SRFC portion of the stock, it is important to consider the effects of harvest on San Joaquin River Chinook as well.

The number of SRFC escaping to the ocean is poor and so are the numbers returning from the ocean. The SJRGA therefore recommends severe restrictions for both commercial and recreational fishing for SRFC for 2011. Previous restrictions were economically difficult for some, but many are also sacrificing to contribute to efforts to recover and protect SRFC and prevent the species from becoming threatened or endangered. If you have any questions about this important matter, please contact me.

Very truly yours,
O’LAUGHLIN & PARIS LLP

By: 
KENNETH PETRUZZELLI

Enclosures

Attachment 1

‘Fall-run Chinook salmon are in decline’

Historically, the fall-run Chinook salmon were the largest run of salmon in the Central Valley, with an annual run estimated around a million fish; however, in the later half of the 20th century the annual production fell to around 100,000 to 350,000 adults, and most recently annual escapement dropped well below 100,000 (Lindley et al. 2009). For many years, our inability to distinguish hatchery and wild salmon inhibited the detection of the decline in wild fall-run Chinook salmon in Central California, but in 2007 an independent estimate based on otoliths microchemistry concluded that hatchery fish made up 90% of ocean fishery, and the remaining 10% ($\pm 6\%$) were “wild spawned”, but were potentially progeny of hatchery-reared parents (Barnett-Johnson et al. 2007). A recent analysis of the status of the Central Valley fall-run Chinook salmon ESU concluded that while there is no immediate risk of extinction, considering the reliance of the population on hatchery fish and the influence of hatchery fish on the decline of wild runs, substantial effort will be needed to sustain a population that can support a commercial fishery (Moyle et al. 2008). The ESU was given a status of 3.4 out of 5 (Moyle et al. 2008), and more recently 2 out of 5 (Moyle et al. 2010), indicating that there is no immediate extinction risk but the population is declining. Currently the Central Valley Fall-run Chinook is listed as ‘Vulnerable’ by the American Fisheries Society, a ‘Species of Concern’ by the National Marine Fisheries Service and a ‘Species of Special Concern’ by the California Department of Fish and Game (California Natural Diversity Database 2011).

The management strategy of fishing the aggregate stocks (natural and hatchery), not only masked the decline of wild fall-run Chinooks, but has lead to the exploitation of wild stocks at unsustainably high rates with probable negative consequences for their life history and genetic diversity (Moyle et al. 2008, Lindley et al. 2009). Fisheries can drive changes in life history parameters by selectively removing the largest individuals from the stocks, this is notably true for Pacific salmonids (Ricker 1981, Darimont et al. 2009). One of the responses to this selection pressure is often reproduction at an earlier age and smaller size (i.e. the ‘age truncation effect’), for example Ricker (1981) noted that Chinook salmon in British Columbia greatly decreased in size and age between the 1920s and 1980s due to the size selection of the troll fishery. Furthermore, Anderson et al. (2008) found evidence that a truncated age structure caused by fishing can lead to increasingly unstable population dynamics of marine fishes in the California Current. In the Central Valley, the interacting variables of fisheries management strategy and hatchery strategy may be truncating life history characteristics, creating “boom and bust fluctuations in salmon returns, as hatchery operations align, or fail to align, with favorable conditions in stream, estuarine or ocean environments” (Lindley et al. 2009).

The “homogenization of Central Valley fall-run populations is most likely the result of hatchery practices for the past 140 years” (Williamson and May 2005) and has almost certainly constrained the ability of the fall-run Chinook salmon to respond to

environmental variability (Williamson and May 2005, Moyle et al. 2008). Williamson and May (2005) did not observe genetic separation of the Central Valley populations, even between the Sacramento and San Joaquin Basin, indicating that extensive gene flow has led to the spatial and temporal homogenization of the genetic diversity. This is in contrast to other major Pacific salmonid regions Alaska, British Columbia, and the Pacific Northwest, where basin scale population diversity has been demonstrated (Williamson and May 2005). The lack of genetic and phenotypic diversity in the Central Valley has been compared to an undiversified financial portfolio. With the Californian salmon fishery heavily reliant on one particular stock (i.e. Central Valley hatchery Chinook), there is no buffer against a fluctuating 'market' to minimize the economic and ecological risks (Lindley et al. 2009, Carlson and Satterthwaite 2010).

The projected increasing variability in ocean climate will have important consequences on the abundance and productivity of the Central Valley Chinook stocks, leading to unavoidable fluctuations in harvest opportunities that must be accounted for in current and future management of the fisheries (Lindley et al. 2009). Increasing variability in ocean conditions has been documented through indexes of the Pacific Decadal Oscillation, the North Pacific Gyre Oscillation and El Niño, which appear “to be increasing in concert with increasing variation in salmon catches coast-wide”, indicating the potential for more extreme high and low escapement events (Lindley et al. 2009). The effects of variable ocean conditions and climate change may be more pronounced in California, where Chinook salmon are at the southernmost edge of their range. The greater instability in escapement means that salmon stocks will be less predictable in the future, leading to unavoidable variation in harvest opportunities that will pose a challenge for fisheries management along the Pacific Coast. Lindley et al. (2009) suggests “that reducing the volatility of abundance, even at the expense of somewhat lower average catches, would benefit the fishing industry and make fishery disasters less likely.”

A bias in the previous salmon forecasting model led to a higher than sustainable ocean harvest rate in 2007, which contributed to the low escapement that year (Lindley et al. 2009). Although the authors found that the main cause of the low escapement was ocean conditions, fisheries management contributed to the low escapement of 2007, since a bias in the forecasting model (which has since been corrected) caused a large discrepancy between the forecast and actual abundance of SRFC. Lindley et al. (2009) concluded that “[h]ad the pre-season ocean abundance forecast been more accurate and fishing opportunity further constrained by management regulation, the SRFC escapement goal could have been met in 2007, and the authors recommended three main alterations to the forecasting model. The PFMC followed these recommendations and revised their forecasting methods. Using the improved method, the “harvest rates were well forecast in April 2008, leading to a forecast of [SRFC escapement] that was very close to the realized escapement.” Although this specific bias has been corrected, it is clear that any issues with the forecasting model can have significant consequences on salmon abundance in years of low escapement.

Despite the lack of commercial harvest in 2008 and 2009, and the increase in escapement in 2010 (due to more favorable ocean conditions), there are still chronic issues, such as lack of genetic and life history diversity, that may only worsen with a return to the ‘status quo’ management and hatchery strategies. Lindley et al. (2009), emphasized that future management of the Central Valley Chinook stocks should be ecosystem-based with an ecological risk assessment framework. Furthermore, since fishing pressures may have affected the age and size of the fished species, “it can be premature therefore to resume fishing activities solely on the basis of recovery of biomass but before restoration of historical age distributions, even though short-term industry pressures may make this difficult to realize” (Anderson et al. 2008), and this may be applicable as well to the restoration of life history diversity in the Central Valley.

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To PFMC Council members,

Well over 10 years ago a new method of salmon harvest known as mark-selective fishing was introduced for ocean and some in-river fisheries along our West Coast. While well intended as a new management technique its' implementation and results have been disastrous to our commercial troll Coho salmon fishery. There has been a large effort primarily out of Washington State to convert all ocean fisheries to mark-selective. Unfortunately last year the spring recreational Chinook fishery was converted to mark selective and it would only be logical to assume the commercial Chinook troll fishery will soon be forced to follow suit. This would truly spell the end for the troller. It is not economical to drive around the ocean burning \$3-\$4 per gallon fuel throwing half of what you catch back overboard searching for the elusive marked Chinook. It amazes me that fish managers would actually think that we could be profitable catching, fighting, and then releasing unmarked 20 lb. Chinook. I do not know one fisherman who could even stand the mental agony of going through this day after day. If this is indeed the type of fishery the council wishes to adopt I would suggest the council also demand that a federal court injunction be filed to curtail ALL other salmon harming activities in order to satisfy the stipulations of the ESA. While our fishing communities have suffered with a 90% decline in salmon harvest since 1975 one would be hard pressed to find another group that has had to bear this type of decline.

Studies have been done several years ago to calculate the discard mortality rate which awarded recreational fishermen a much lower hooking mortality rate and therefore an allocation advantage. There have not been any conclusive multiple- hooking mortality studies to show the effects on mortality of fish having to navigate through several mark-select fishing areas resulting in multiple hook and releases. By the states own data the encountered mark-rate in the ocean has never reached anything near 70%, which should be the low end target to make this type of fishery logical. Implementing this type of fishery has many logistical problems which like most problems are overcome by throwing an increasing amount of money at them, money that the state and federal governments do not have and can't afford. While hatchery funding is cut and projects for stream and habitat restoration are underfunded millions of dollars a year are funneled to maintaining the mark selective fishery. The irony of it all; as more and more naturally occurring fish from re-habilitated runs make it to the ocean they are killed by mark selective fisheries as discard mortality. Basic high-school math would suggest if you have a fixed amount of hatchery released fish represented by X, and a largely unknown amount of ocean phase surviving natural fish represented by Y, as Y increases, your statistical chances of encountering X gets smaller. Therefore, trying to obtain a quota of X results in killing more Y. What managers struggle with is how much Y is acceptable to kill in order to obtain X, and if the amount of Y is largely out of their control at what point is it counterproductive to sort through and kill Y's in search of X's. So why would West coast fishery managers continue down this destructive path with large unknowns and questionable science? The salmon populations have continued to cycle up and down like they have for thousands of years, of course at reduced levels due to factors other than harvest. After over a decade of continual expansion of mark-selective fishing there has been absolutely no scientific proof that this type of fishery has done anything to help recover threatened salmon species.

Scientists and fisheries biologists along with the Pacific Salmon Commission have raised some serious questions about the effectiveness of mark-selective fisheries, and unintended consequences of mass-marking groups of salmon. In August of 2001 in its Review of Salmon Recovery Studies for the Columbia River Basin the Independent Scientific Advisory Board (ISAB) for the Northwest Power and Conservation Council was gravely concerned about the problems of a mass-marked fishery on the Coded Wire Tag program that has been the primary indicator of salmon stock status for more than 3 decades. In a memorandum dated July 29, 2005 the ISAB was increasingly concerned that mortality rates were not fully understood. Some quotes from the ISAB concerning mass-marking and mark-selective fisheries:

“In addition, analytical results increasingly rely upon new assumptions on fishery impacts that are difficult to validate (e.g., assumed values for release and drop off mortality rates, plus mark retention and unmarked recognition error).”

“Despite their “common sense” appeals, mass marking and mark-selective fisheries have not been shown to be an effective management tool to constrain impacts on natural stocks of Chinook and Coho salmon to allowable levels. The effectiveness of mass marking and mark-selective fishing has not been evaluated prior to widespread application, and has instead, been blindly accepted as a matter of faith.”

“Mass marking and mark-selective fisheries increase uncertainty and introduce additional bias in estimates of fishery impacts on unmarked fish due to the necessity to rely upon assumptions (e.g., release mortality rates) that cannot be readily validated.”

“Unfortunately, the selective retention of marked fish violates the fundamental assumption of the coded-wire tag (CWT) program that has been the basis of Chinook and Coho management for the past 25 years. Further, maintaining the viability of the Coded Wire Tag program is a commitment embodied in the Pacific Salmon Treaty.”

“Since the early 1980’s, the CWT system has served as the foundation for Chinook and Coho salmon management in the Pacific Northwest and the scientific basis for the Pacific Salmon Treaty. Concerns over statistical uncertainty, the adequacy of reliance upon hatchery stock surrogates for associated natural stocks, and the impact of mass marking and mark-selective fisheries have been building in recent years. Taken together, these concerns have generated questions regarding the continuing utility of the CWT and associated sampling regimes and analytical tools that the Pacific Salmon Commission has relied upon for decades. As a result, the ability of the CWT system to continue to serve in that capacity is now very much in doubt.”

I believe it is safe to say that both the scientific community and the fishing community have some serious doubts about the effectiveness of mark-selective fisheries on salmon recovery. The mark-selective fishery is a no-win situation for commercial fishermen, their families, coastal communities, businesses and the U. S. tax payers.

Summarizing the fatal flaws in this system:

1. Increasing wild salmon production paid for directly and indirectly by our citizens’ results in more potential mortality of wild fish, in marked selective fisheries. This is counterproductive. The salmon did not spawn; the salmon was not brought to market helping our struggling economy.
2. The actual mortality rates, and spawning viability being suffered by the released

salmon, are largely unknown and based primarily on “blind faith.”

3. Mark-selective commercial troll ocean harvest has never shown a direct correlation in increased salmon returns over the past decade that they have been used.
4. Coded wire tag data used in successfully determining stock status of wild runs has been compromised due to no sample pool of unmarked stock being landed. As more and more of the fishing mortality on natural stocks is accounted for by **non-landed catch** (e.g., shaker loss, drop off, sea lions, sharks, release and non-retention), the capacity of the CWT system to provide the data necessary for stock and fishery assessments is being increasingly challenged. Double Index Tagging does NOT accurately account for mortality in specific mark-selective fisheries. The level of uncertainty increases as the magnitude of mark-selective fisheries increases.
5. Forcing increased fishing time to land a fixed amount of fish, promoting unsafe working conditions because of more time needed to sort through fish, and causing waste of fuel, a non-renewable energy.

The 2010 season once again proved the total waste and ineffectiveness of using mark selective fisheries as a harvest tool. Tables I-8 and I-9 from the PFMC Review of 2010 ocean salmon fisheries really speak for themselves. The recreational fisheries both North and South of Cape Falcon show on observed mark rate for Coho between 36% and 50%. The recreational Chinook observed mark rate dropped off rapidly as you approached the Columbia River to 58%. Numbers like these are unacceptable. With these numbers a commercial troller would be throwing back 50% of everything they caught. Continually managing a fishery with blind faith in the mark-system, assuming values for release and drop-offs, and accounting for mortality with non-landed catch estimating is nothing more than voodoo science. It was tried it and it didn't work. It's time to move on.

I think the general public would be appalled at the time and money that has been plowed into mark-selective fisheries with no results. We still have ESA listed Coho, we still have greatly reduced runs, but we continue with the blinders on. Unfortunately we are now so deep in this thing nobody wants to say STOP! Individuals and private companies are actually making millions operating this fishery. Much like ethanol fuels, bio-diesel mandates, and marine reserves mark-selective fisheries are feel-good legislation that in reality does not work and can have unintended consequences. Mark-selective fishing is wasteful and counterproductive. Salmon conservation and rehabilitation seems to have taken a back seat to pushing the mark-selective fishery regardless of effectiveness. By continuing to approve and mandate mark-selective fisheries the council is taking away millions of dollars that could be used to do some real good, and severely hurting commercial fishing families.

In closing I would like to quote the November 1995 issue of Pacific Fishing magazine article titled Mass Marking. “We're phasing the troll fishery out,” said (a now former) WDFW employee. “Our only plan is to use selective fisheries in the sport fishery. It's not all that feasible for the troll fishery.” Sixteen years later, what has been accomplished?

Thank you,

John Alto

F/V Fishtale

Cannon Beach, OR

Subject: Fwd: Economic harm if the Klamath escapement is raised
From: "pfmc.comments" <pfmc.comments@noaa.gov>
Date: Mon, 14 Feb 2011 08:21:57 -0800
To: Chuck Tracy <Chuck.Tracy@noaa.gov>

----- Original Message -----

Subject: Economic harm if the Klamath escapement is raised
Date: Sat, 12 Feb 2011 11:22:29 -0800
From: Tim <reelsteel@humboldt1.com>
To: pfmc.comments@noaa.gov

My name is Tim Klassen and I own Reel Steel Sportfishing in Eureka Ca, an ocean charter business. Salmon are the main fishing attraction for our port. The last several years have been very hard on the local fleet. The 10 day salmon season two years ago demonstrated the pent up demand for salmon fishing. All of the local charters were booked for the full 10 days and could have booked several times over. The local bait shops were sold out and the marinas were full. We need FULL salmon seasons that last from May to September, at least. I understand that there is discussion to raise the escapement on the Klamath River. A higher escapement has not been shown to be necessary to improve returning fish numbers and could have a detrimental effect on our season length. Last year I cancelled 28 trips due to weather. We need longer seasons so that we can reschedule customers. I ask that the Klamath escapement be kept at its current level. Sincerely, Tim Klassen

San Luis & Delta-Mendota Water Authority



P O Box 2157
Los Banos, CA 93635

State Water Contractors



1121 L Street, Suite 1050
Sacramento, CA 95814

February 28, 2011

Via Electronic Mail

pfmc.comments@noaa.gov

Pacific Fishery Management Council
7700 NE Ambassador Place, Suite 101
Portland, Oregon 97220-1384

*Re: San Luis & Delta-Mendota Water Authority/State Water Contractor:
Comments on 2011-April 2012 Salmon Management Measures*

Dear Council Members:

The San Luis & Delta-Mendota Water Authority (Authority)¹ and State Water Contractors, Inc. (SWC)² are gratified to see the return of the commercial and sport fishing season. As we commented last year, we hope that improved ocean conditions and a resultant increase in estimated salmon escapement will continue.

However, we have certain grave concerns which were noted in our letter on May 20, 2010 with respect to last year's salmon management measures recommended by the Pacific Fishery Management Council (Council) and adopted by the National Marine

¹ The Authority, which was formed in 1992 as a joint powers authority, consists of 29 member agencies, 27 of which contract with the United States Department of the Interior, Bureau of Reclamation (Reclamation), for supply of water from the federal Central Valley Project (CVP). The Authority's member agencies hold contracts with Reclamation for the delivery of approximately 3.3 million acre-feet of CVP water. CVP water provided to the Authority's member agencies supports approximately 1.2 million acres of agricultural land, as well as more than 100,000 acres of managed wetlands, private and public, in California's Central Valley. The Authority's member agencies also use CVP water to serve more than 1 million people in the Silicon Valley and the Central Valley. A list of the Authority's member agencies is included in Attachment 1.

² The SWC represents 27 public agencies that contract with the State of California for water from the State Water Project ("SWP"). These agencies are each organized under California law and provide water supplies to nearly 25 million Californians and 750,000 acres of prime farmland from Napa County to San Diego and points between. A list of the SWC member agencies is included in Attachment 1.

Fisheries Service (NOAA Fisheries) for 2010-April 2011 ocean salmon fisheries. Those concerns remain today.³

- NOAA Fisheries continues to support a jeopardy standard for the continued operation of the Central Valley Project and State Water Project that is very different from the jeopardy standard employed for the salmon management measures;
- NOAA Fisheries refuses to improve harvest management through (a) use of genetic stock composition monitoring and (b) selective harvest of hatchery salmon; and
- Salmon management measures must be improved to ensure that they comply with the National Environmental Policy Act, Magnuson-Stevens Fishery Conservation and Management Act, and the federal Endangered Species Act.

For 2011-April 2012, as the Council considers recommendations and NOAA Fisheries considers adoption of those recommendations, the Council and NOAA Fisheries must do a better job protecting the population of Sacramento River Fall Chinook (SRFC), while ensuring the measures (a) do not jeopardize species protected under the federal Endangered Species Act, and (b) are recommended and adopted only after thoroughly considering the effect of the measures on the human environment.

A. 2011-April 2012 Salmon Management Measures Must Remain Very Restrictive To Reasonably Protect Chinook Salmon

Based on the low escapement of adult SRFC and the adult Sacramento River Winter-run Chinook (SRWRC) for the three years, 2007-2009, salmon management measures must substantially restrict ocean harvest again in 2011-April 2012. The very low abundance of the three year classes from 2007 to 2009 has adversely affected the entire population of SRFC and SRWRC. The SRFC and SRWRC spawning escapements have dropped to very low levels since 2006, and the SRFC escapement has been at record low levels from 2007 to 2009. (See Exhibit 2, Tables 1 and 2).

NOAA Fisheries reported that this downward trend starting in 2007 was caused when the juveniles associated with the 2007 and 2008 spawning escapement were exposed to the poor ocean conditions in 2005 and 2006 (Lindley, 2009). The 2008 SRFC adult escapement, the parents of the 2011 potential harvest and escapement, was only 65,364; the second lowest on record. The 2008 SRWRC adult escapement, parents of the 2011 potential escapement, was only 2,521; relatively, a very low number. Regardless of the ocean conditions of 2009, at these very low parental

³ A copy of the Authority/SWC May 20, 2010 comment letter is attached hereto as Exhibit 1 and is incorporated herein by this reference.

escapement numbers, the potential SRFC and SRWRC escapements will likely be low compared to the escapement numbers prior to 2007.

Further, the SRFC ocean harvest index ranged from 35% to 71% the last ten years prior to 2007. (See Exhibit 2, Table 1.) The SRWRC ocean harvest impact on returning spawners was estimated by NOAA Fisheries to average 20%, and to have been as high as 25%, regardless of abundance or ocean harvest regulations. (April 30, 2010 biological opinion that considered the effects of the Pacific Coast Salmon Fishery Management Plan on Sacramento River winter-run Chinook salmon, p. 58.) Indeed, in 2010, NOAA Fisheries concluded that the then existing ocean harvest regulations would jeopardize the existence of the SRWRC. (*Id.*, p. 62-63).

Finally, the Council's forecast of the SRFC Index (since 2008) and the CVI (from 1985 to 2007) has ranged from 50% under the postseason estimate to 300% over the postseason estimate. (See Exhibit 2, Table 3). Even as recently as 2009 and 2010, the overestimate was 300% (in 2009) and 200% (in 2010). Given that variation, extensive ocean harvest in 2011-April 2012 would place the population of SRFC at undue risk, particularly with a parent population of only 65,364 adult SRFC.

For all of these reasons, recommending and adopting 2011-April 2012 salmon management measures that do not strictly limit ocean harvest would place Chinook salmon at substantial risk.

B. Before The Council Recommends And NOAA Fisheries Adopts The 2011-April 2012 Salmon Management Measures There Must Be A Thorough Consideration Of The Effect Of The Measures On Species Protected Under The Federal Endangered Species Act.

There is no dispute that salmon management measures affect species listed under the federal Endangered Species Act. Species potentially affected by 2011-April 2012 salmon management measures include SRWRC, California Central Valley Spring-Run Chinook, and Southern Resident killer whales. As a result, the Council, before it makes any recommendations, must carefully consider the adverse impacts the 2011-April 2012 salmon management measures will have on those species. In addition, before NOAA Fisheries adopts salmon management measures, it should prepare a biological assessment and biological opinion that consider whether salmon management measures are likely to appreciably reduce the species' likelihood of both surviving and recovering in the wild.

Last year, NOAA Fisheries relied upon three biological opinions:

- An April 2000 biological opinion that considered the effects of the Pacific Coast Salmon Fishery Management Plan on California Central Valley Spring-Run Chinook and California Coastal Chinook Salmon;

- An April 30, 2010 biological opinion that considered the effects of the Pacific Coast Salmon Fishery Management Plan on Sacramento River winter-run Chinook salmon; and
- A May 5, 2009 biological opinion that considered the effects of the Pacific Coast Salmon Fishery Management Plan on the Southern Resident Killer Whale (*Orcinus orca*) Distinct Population Segment.

Is it appropriate for the Council and NOAA Fisheries to continue to rely upon those biological opinions? Under section 402.16 of title 50 to the Code of Federal Regulations, NOAA Fisheries must re-initiate consultation (prepare a new biological opinion), if "new information reveals effects of the action that may affect listed species or critical habitat in a manner or to an extent not previously considered [or] the identified action is subsequently modified in a manner that causes an effect to listed species or critical habitat that was not considered in the biological opinion."

In view of this requirement, the Council should not develop recommendations and NOAA Fisheries should not adopt 2011-April 2012 salmon management measures based on the April 28, 2000, spring-run Chinook biological opinion. That opinion is more than a decade old, utilizes an outdated environmental baseline, and incorporates an effects analysis that fails to reflect current conditions. Given the current circumstances, an eleven-year old biological opinion cannot adequately consider the effects on listed species of the salmon management measures. Further, the Council and NOAA Fisheries should review the range of alternative measures and critically evaluate whether the effect of each alternative is adequately analyzed and whether an alternative might cause impacts on listed species not considered in the above-cited biological opinions.

C. Before The Council Recommends And NOAA Fisheries Approves 2011-April 2012 Salmon Management Measures, NEPA Requires Thorough Consideration Of The Effect Of The Measures On The Human Environment.

Annual fishery regulations constitute a major federal action that requires environmental analysis in compliance with the National Environmental Policy Act (NEPA). Accordingly, as the Council considers 2011-April 2012 salmon management measures, it must ensure that its recommendations to NOAA Fisheries are informed by adequate environmental review under NEPA of the effect of those measures on the human environment.

During the decade prior to 2007, NOAA Fisheries adopted salmon management measures that caused (1) SRFC take 50 times higher than the historical Central Valley juvenile SRFC take at the Central Valley Project and State Water Project pumping facilities, (Exhibit 2, Table 4), and (2) SRWRC take 20 times higher than the respective SRWRC take at the Central Valley Project and State Water Project pumping facilities. (Exhibit 2, Table 5). In light of the severity of the restrictions that apply to California's

water system for the benefit of juvenile salmon, the Council and NOAA Fisheries – and the public – must be informed of the impacts the proposed salmon management measures will have on the human environment in areas served with water conveyed through the Sacramento-San Joaquin Delta.

These areas continue to suffer due to significant reductions in the water supplies available to more than 25 million people and millions of acres of prime farm land. The reduced water supply has resulted in significant adverse impacts to the human environment. As an example, farmers have followed hundreds of thousands of acres of prime farmland, which, in turn, has reduced farm employment, devastating farm employees, their families, and communities. Reduced water deliveries have also resulted in increased groundwater overdraft, renewed land subsidence and impaired water quality. The severe impact on the San Joaquin Valley's economic base of reduced water deliveries has led to numerous social ills within the Valley.

The millions of Californians who receive at least a portion of their water supplies through the Delta have a clear, common interest with the fishing industry. All will benefit from a healthy salmon fishery. As noted above, NOAA Fisheries concedes that salmon management measures result in the incidental take of, and adverse impact to, listed salmon species that are the subjects of severe regulatory constraints. These adverse effects will almost certainly impair the year-to-year abundance of these species, and their consequential diminished abundance will exacerbate the water supply shortages that are adversely impacting the San Joaquin Valley and other regions of California. NEPA requires thorough consideration of effects on the human environment caused (directly or indirectly) by the Council's salmon management measures before they are advanced for approval.

This duty under NEPA is not satisfied, as NOAA Fisheries has attempted to do in the past, by making reference to multiple outdated documents. Rather, as NOAA Fisheries recognizes in its NEPA Handbook, every project subject to NEPA requires its *own* NEPA document based on reasonably current, accurate and reliable information, whether it be a Categorical Exclusion memorandum (CE), an environmental assessment/finding of no significant impact or environmental impact statement.

For an action that NOAA Fisheries determines does not automatically require an environmental impact statement and is not eligible for a CE, the proposed action requires preparation of an environmental assessment. Such is the case here, and careful environmental review of impacts and alternatives is required before the Council recommends, and NOAA Fisheries adopts, 2011-April 2012 salmon management measures.

D. 2011-April 2012 Salmon Management Measures Must Comply With Important Equitable Principles Inherent In Magnuson-Stevens Fishery Conservation and Management Act.

Section 301 of the Magnuson-Stevens Fishery Conservation and Management Act (MSA) establishes national standards with which NOAA Fisheries must comply when formulating and implementing Fisheries Management Plans. Inherent in the standards are equitable and anti-discrimination provisions, consistent with fundamental principles of equal protection. (MSA § 301(a)(4); U.S. Const., 14th Amend.) Thus, as the Council develops its recommendations and when NOAA Fisheries makes its decision regarding salmon management measures, they must respect those standards and principles; the actions by the Council and NOAA Fisheries must reflect a broad ecosystem perspective and an effective, holistic plan for species management. To do that, the Council and the NOAA Fisheries must account for the effect the measures might have on non-fishing activities, such as realizing the benefits of fishery restoration activities within the Sacramento/San Joaquin River watershed and water diversions.

Thank you for your consideration of these comments.



Daniel Nelson, Executive Director
San Luis & Delta-Mendota Water Authority



Terry Erlewine, General Manager
State Water Contractors

CC: The Honorable Ken Salazar, Secretary, Department of Interior
The Honorable David Hayes, Deputy Secretary, Department of the Interior
The Honorable Mike Connor, Commissioner, Bureau of Reclamation
The Honorable Diane Feinstein, California Senator
The Honorable Barbara Boxer, California Senator
The Honorable Mike Thompson, Congressman, CA01
The Honorable Dennis Cardoza, Congressman, CA18
The Honorable Jeff Denham, Congressman, CA 19
The Honorable Jim Costa, Congressman, CA20
The Honorable Norm Dicks, Congressman, WA06
Mark Cowin, Director, California Department of Water Resources
Donald McIsaac, Executive Director, Pacific Fishery Management Council
John McCamman, Director, California Department of Fish and Game
Jim Kellogg, President, California Fish and Game Commission

Attachment 1

San Luis & Delta-Mendota Water Authority Member Agencies

Banta-Carbona Irrigation District; Broadview Water District; Byron-Bethany Irrigation District; Central California Irrigation District; Centinella Water District; City of Tracy; Del Puerto Water District; Eagle Field Water District; Firebaugh Canal Water District; Fresno Slough Water District; Grassland Water District; James Irrigation District; Laguna Water District; Mercy Springs Water District; Oro Loma Water District; Pacheco Water District; Pajaro Valley Water Management Agency; Panoche Water District; Patterson Water District; Pleasant Valley Water District; Reclamation District 1606; San Benito County Water District; San Luis Water District; Santa Clara Valley Water District; Tranquillity Irrigation District; Turner Island Water District; West Side Irrigation District; West Stanislaus Irrigation District; Westlands Water District; and Widren Water District. Columbia Canal Company receives water delivered by the Authority and participates in the Authority under a non-member Friend status.

State Water Contractor Member Agencies

Alameda County Flood Control and Water Conservation District Zone 7, Alameda County Water District, Antelope Valley-East Kern Water Agency, Casitas Municipal Water District, Castaic Lake Water Agency, Central Coast Water Authority, City of Yuba City, Coachella Valley Water District, County of Kings, Crestline-Lake Arrowhead Water Agency, Desert Water Agency, Dudley Ridge Water District, Empire-West Side Irrigation District, Kern County Water Agency, Littlerock Creek Irrigation District, Metropolitan Water District of Southern California, Mojave Water Agency, Napa County Flood Control and Water Conservation District, Oak Flat Water District, Palmdale Water District, San Bernardino Valley Municipal Water District, San Gabriel Valley Municipal Water District, San Geronio Pass Water Agency, San Luis Obispo County Flood Control and Water Conservation District, Santa Clara Valley Water District, Solano County Water Agency, Tulare Lake Basin Water Storage District.

EXHIBIT 1

San Luis & Delta-Mendota Water Authority



P.O. Box 2157
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State Water Contractors



1121 L St., Suite 1050
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May 20, 2010

The Honorable Gary Locke
Secretary, U.S. Department of Commerce
1401 Constitution Avenue, North West
Washington, D.C. 20230

RE: 0648-AY60 – 2010 NMFS Salmon Fishery Management Measures

Dear Secretary Locke,

It is gratifying to see the return of a commercial and sport salmon fishing season for 2010. We are hopeful that the improved ocean conditions and resultant increases in estimated salmon escapement is a continuing trend. We empathize with the suffering fishermen and fisherwomen, fishing communities, and tribes have endured through the fisheries closures; many of the communities we serve are experiencing equally tragic social trauma as a result of the salmon's most recent population decline.

However, at the same time, we must also question the equity of NMFS' policy decisions. How is it that on one hand NMFS can continue to restrict pumping by the Central Valley Project and State Water Project to a bare minimum, ostensibly to protect Sacramento River salmon, while on the other simultaneously allow their killing through commercial and sport fishing? Clearly, if there are enough salmon to support a 2010 fishing season, then there must also be enough to alleviate constraints on State and federal pumping. Because it is in the best interest of water importers and fishing interests alike to improve the current situation, we offer you the following observations and recommendations intended to improve the equity and efficacy of fishery management actions aimed to protect and recover this ennobled species.

Disparity in the Jeopardy Standard:

Comparison of the 2009 biological opinion (Projects BiOp) of the ongoing operations of the Central Valley Project and State Water Project (Projects) and the 2010 biological opinion (Harvest BiOp) for the effects of ocean harvest on Sacramento winter-run Chinook salmon clearly demonstrates that your agency has applied sharply different standards to establish the

jeopardy threshold. The kill rate approved by NMFS in the ocean fishery is more than an order of magnitude greater than that allowed due to pumping by the Projects.

In the Harvest BiOp, NMFS states:

“The RPA became the so-called jeopardy standard for purposes of the FMP conservation objective.” (page 3, 2010 Harvest BiOp). NMFS goes on to explain, *“For purposes of the 2010 fishing year, NMFS determined that impacts from the fishery needed to be constrained from reaching the levels estimated during the years of 2000 to 2007 (age-3 impact rates up to 0.21; total spawner reduction rates up to 0.25), due to the significant decline in abundance of winter-run spawning returns since 2006.....As such, steps must be taken to constrain impacts from the ocean salmon fishery against reaching total spawner reduction rates of 20% or more until there is an indication that the status of this species is improving.”* (page 66, 2010 Harvest BiOp).

Thus, since 2000, NMFS had established a jeopardy standard for winter-run Chinook that accepted a 25% mortality of the adult population as a result of ocean fisheries, and is now reducing that standard to 20% in 2010. This stands in dramatic contrast to the take standard of only 1% set for the Projects' pumps.

The Projects BiOp states:

“Based on the actions provided in the RPA to minimize direct and indirect losses, combined incidental take of juvenile winter-run will not exceed 2 percent (based on size criteria described above, which is actually approximately 1 percent genetically determined winter-run) of the estimated JPE between the CVP and SWP pumping plants.” (page 775, Projects BiOp).

Not only does the 20% standard for harvest equate to 20 times greater allowed mortality than the 1% standard for the Projects' pumps, but the amount of take by ocean harvest is far more likely to reach the take limit than the take by the Projects. According to the Harvest BiOp, ocean harvesting in recent years has taken an average of 25% of the winter-run population, while take at the Projects, in recent years, have averaged about 1/10th of the 1% of the total take limit based on genetic identification. Further, it is far less certain that a 1% mortality of juveniles will eventually equate to a 1% mortality of adults (smolt-to-adult survival is typically 1-4%) than it is that 20% mortality on ocean adults will equate to a 20% mortality on spawning adults.

Take limits are established to provide for the incidental take of listed species that result from, but are not the purpose of, carrying out an otherwise lawful activity. These limits essentially identify a level of mortality considered safe to avoid jeopardy. Jeopardizing the continued existence of a species means to engage in an action that reasonably would be expected, directly or indirectly, to reduce appreciably the likelihood of both the survival and recovery of a listed species in the wild by reducing the reproduction, numbers, or distribution of that species. Therefore, if we assume that the take of juvenile and adult salmon are equivalent, then the total

level of take from Projects' pumping and salmon harvest determined by NMFS to avoid jeopardy is 21% of the total population. What we are unable to understand is how NMFS has chosen to distribute this safe level of take between the two otherwise lawful activities.

Improving Harvest Management:

The Reasonable and Prudent Alternative (RPA) proposed in the 2010 Harvest BiOp employs selectivity as the strategy to reduce harvest mortality on federally listed winter and spring-run Chinook salmon. NMFS institutes selective fishery protections in three ways. The first is species selectivity, wherein all Coho salmon caught must be released alive. The second is length selectivity, which involves allowing for the harvest of only those salmon longer than 24 inches. The third is time selectivity, which involves allowing salmon fishing when the presence of listed stocks is expected to be low relative to non-listed or hatchery origin stocks. While well intentioned, these selective measures are inefficient because they do not provide any protection for sensitive, wild fall run Chinook, salmon that may be larger than average, or for winter and spring-run salmon that may have remained in the ocean another year or two. Effectively protecting these adults would increase population viability and genetic diversity by increasing the number of age classes. The RPA's band-aid approach offers listed salmon little protection from harvest while decreasing access to hatchery fish that are intended to support harvest. In order to improve protections for listed species while enhancing fishing opportunities, we offer two suggestions.

1. *Genetic Stock Composition Monitoring:*

Given that most hatchery origin Chinook are currently unmarked, as are nearly all listed stocks, we recommend NMFS implement a comprehensive monitoring effort to estimate stock composition among harvested fish using genetic stock identification techniques. Currently, NMFS relies solely upon post-hoc analysis of estimated harvest rates for tagged surrogates of listed stocks. These surrogate stocks are always hatchery origin fish, which are known to exhibit age structure and behavior distinct from natural origin, ESA listed stocks. This is particularly true for Central Valley spring-run Chinook, where probable harvest for spring-run Chinook originating from Deer, Mill and Butte Creeks is assessed by surrogates from the Feather River Hatchery spring-run Chinook; a stock known to be more similar to fall-run Chinook than to spring-run. Given NMFS' reliance on selective harvest strategies and considerable uncertainties in the accuracy of expected size at age and stock composition estimates, it is essential that NMFS immediately apply additional methods to evaluate the effectiveness of their proposed harvest regulations.

Staff in your Southwest Fishery Science Center has already developed the genetic tools (genetic stock identification, or GSI), which can quickly and inexpensively identify stock of origin for all California Chinook salmon. NMFS could immediately begin a program to estimate stock composition among harvested Chinook using these genetic stock identification tools. Furthermore, we recommend that NMFS establish a harvest quota for ESA listed stocks using

GSI as a means to quantify in near real-time the harvest take for spring and winter-run Chinook. Thus, rather than relying on highly uncertain, post-hoc analyses of coded wire tag recoveries for surrogate stocks, NMFS could instead rely upon GSI to more accurately assess stock composition. When GSI estimates indicate the allotted take of ESA species has occurred, the fishery should immediately be closed.

While results from genetic stock assessment can validate the current management strategy, it will also provide new information to inform future harvest management strategies. Given the status of listed salmon stocks and the role of harvest practices in inhibiting stock viability (NMFS 2009 Draft Recovery Plan), it is essential for all of us dependent upon their status for NMFS to implement new monitoring strategies (e.g., GSI) and begin to implement hatchery selective harvest as a complement to length and time selective harvest.

2. Hatchery Selective Fishery:

Considering NMFS' reliance upon species, size and time-selective harvest strategies, the absence of a hatchery selective harvest strategy is conspicuous. Selective harvest of hatchery salmon an established tool already successfully and widely used from the coast of northern Oregon through Washington and on into British Columbia. A hatchery selective fishery off the coast of California and southern Oregon is likely to be even more effective than existing programs in protecting listed and sensitive salmon stocks because hatchery origin fall run salmon dominate the ocean population throughout this region. In addition to better protecting wild salmon, a hatchery selective fishery would greatly improve the efficacy of the hundreds of millions of dollars and millions of acre-feet of water being expended each year to increase wild salmon populations, half of which are taken by allowed harvest.

The NMFS 2003 Programmatic EIS for ocean harvest has already identified mark-selective fisheries as the preferred alternative for managing ocean fisheries. A fishery with specifically targeted marked hatchery fish would provide stronger protection for all wild runs of salmon while allowing fishermen to retain a greater share of their catch. For example, under current size-selective regulations, of all winter-run salmon caught, fishermen release approximately 45% because they are too small while the other 55% are kept. Of the fish released, up to 25% die due to catch and release stress. Under mark-selective regulations, all wild winter-run would be released and so of the ~55% now guaranteed to die, 75% would likely survive. While there would be continued catch and release mortality of non-hatchery fish, this mortality would occur at precisely the same rate as with the length selective harvest regulations currently in place. Thus, the benefits from a hatchery-selective harvest program stem from the fact that when all hatchery fish are marked (with an adipose fin clip) they can be easily and immediately be distinguished from wild and ESA listed stocks, and this distinction allows us to greatly reduce the incidental take of the listed and sensitive species. In order to allow flexibility for future hatchery-selective harvest, NMFS should actively work to support a mass-marking program for all California hatchery origin fall run Chinook salmon.

Compliance with National Environmental Policy Act:

On April 15, 2010, the Pacific Fishery Management Council (Council) adopted its recommended 2010 salmon fishery regulations.¹ The Council recommended NMFS adopt regulations that would allow commercial and recreational salmon fishing north of Cape Falcon (in northern Oregon), which depends largely on Columbia River stocks, and south of Cape Falcon, which depends largely on Sacramento River fall-run Chinook. NMFS adopted the Council's recommended management measures effective May 1, 2010 ("2010 Fishery Regulations"). (75 Fed.Reg. 24482 (May 5, 2010).) Under these measures, the total allowable catch north of Cape Falcon is 172,000 Chinook and 120,500 marked hatchery Coho. South of Cape Falcon, the commercial fishery is allowed a total catch of 30,375 Chinook and no Coho. The recreational fishery south of Cape Falcon is allowed a total catch of 26,000 marked hatchery Coho, and an unlimited number of adult Chinook between May 1 and September 6, 2010. The allowable catch does not include the tens of thousands of threatened and endangered adult salmon that will be taken as an incident to the catch of fall-run and Coho salmon. As a result, we contend the 2010 salmon fishery regulations were adopted without the requisite environmental analysis.

The NMFS concedes that it "must complete a National Environmental Policy Act (NEPA) review" of the 2010 Salmon Fishery Regulations. (Memorandum from Frank D. Lockhart to Barry A. Thom, "Environmental Effects Internal Determination Regarding NEPA Analysis Associated with the 2010 Regulations for West Coast Ocean Salmon Fisheries Annual Specifications and Management Measures – REQUEST FOR CONCURRENCE", April 27, 2010, p. 10 ["Lockhart Memorandum"].) Indeed, NMFS must make that concession, as its own Handbook states that annual fishery regulations constitute a major federal action that requires environmental analysis. (Handbook, pp. 30-31; NOAA Administrative Order Series 216-6 (May 20, 1999), § 6.03d.) The NMFS, however, did not do that.

Instead, the NMFS adopted the 2010 Fishery Regulations without performing environmental review. The NMFS explains:

"The effects of fisheries that would be managed under the 2010 regulations for west coast ocean salmon fisheries annual management measures were analyzed in prior NEPA reviews prepared by NOAA Fisheries, as described above. Additional analysis of the effects of the options the Council considered for the 2010 fishing season and the Council's final recommendation is included in the Pre documents described above."

* * *

"Therefore, NOAA Fisheries will not prepare a separate NEPA document on implementation of the 2010 regulations for west coast ocean salmon fisheries annual management measures." (Id.)

The NMFS' reference to multiple documents is insufficient to satisfy NEPA.

Every project subject to NEPA requires its own NEPA document, regardless of whether that document is a Categorical Exclusion memorandum (“CE”), EA/FONSI, or EIS. (Handbook, pp. 12, 30.) Where, as here, the NMFS determines that an action does not automatically require an EIS and is not eligible for a CE, the NMFS must prepare an EA. (Handbook, p. 30; 40 C.F.R. § 1501.3; see, e.g., *Sierra Club v. Babbitt*, 69 F. Supp. 2d 1202, 1212 (E.D. Cal. 1999) (*Sierra Club*)). NEPA allows an EA to incorporate information from other NEPA documents by reference (Handbook, p. 41; 40 C.F.R. § 1502.21; but see *Sierra Club* at p. 1216 [limiting incorporation into EAs]), but other documents can only be incorporated into a new NEPA document prepared for the new federal action.

NEPA further mandates that federal agencies conclude and document their NEPA decision-making process: (1) by issuing a CE (Handbook, p. 29); (2) by issuing a FONSI after preparing an EA (Handbook, p. 43); or (3) by issuing a Record of Decision (“ROD”) after preparing an EIS (Handbook, p. 65). NEPA imposes substantive requirements for each type of document. For example, a FONSI must:

“Clearly articulate how the impacts of the proposed action are not significant, and how that conclusion was reached with regard to each of the appropriate significance criteria from NAO 216-6 §§ 6.01 and 6.02. The FONSI should also have the following elements: a heading, the name of the action, a description of the action, a description of the alternatives, a summary of the environmental consequences of the proposed action, and a determination statement.” (Handbook, p. 43; 40 C.F.R. § 1508.13.)ⁱⁱ

Each document must further be accompanied by a supporting record. (Handbook, pp. 46, 71.) Strict compliance in this regard is necessary to establish an administrative record appropriate for judicial review. (*Ibid.*; see, e.g., *Get Oil Out, Inc. v. Andrus*, 468 F.Supp. 82 (C.D. Cal. 1979).)

Here, the NMFS prepared only the Lockhart Memorandum. The Lockhart Memorandum cannot substitute for a FONSI or other “concluding” NEPA document. The Lockhart Memorandum did not identify alternatives, did not summarize the environmental consequences of its action, and did not provide a determination statement. The Lockhart Memorandum is also not labeled as a FONSI and gives no notice to the public that a NEPA review occurred, much less concluded. The Lockhart Memorandum cannot serve as a CE memorandum or ROD for similar inadequacies. As such, the NMFS has functionally cut the public out of its NEPA decision making process and hindered any judicial review of that process, in violation of NEPA.

Finally, the NMFS’ reliance on a cobbling of multiple documents without the issuance of a CE, FONSI, or ROD runs afoul of its mandate to initiate the environmental review process as early as possible during the planning stages of an action. (Handbook, p. 13.) Prior to publication of the Lockhart Memorandum, NMFS never informed the public of the process it was following to comply with NEPA. Indeed, NMFS staff were unable, even within a week of

the 2010 Fishery Regulations' planned adoption, to inform the public what type of NEPA document, if any, NMFS would prepare for the 2010 regulations. The Lockhart Memorandum explains the lengthy public process afforded development of the 2010 Fishery Regulations, but this public process wholly excluded any discussion of NEPA or analysis of environmental impacts outside immediate fishery conservation objectives. This failure violates a fundamental NEPA policy, which is to "[e]ncourage and facilitate public involvement in decisions which affect the quality of the human environment." (40 C.F.R. § 1500.2(d).)

The failures by the NMFS are not harmless. Under NEPA and the Handbook, NMFS was required, but failed, to consider the 2010 salmon fishery's indirect effects, (40 C.F.R. § 1508.8(b); Handbook, p. 59), including indirect impacts to areas served by water conveyed through the Sacramento-San Joaquin Rivers Delta.

Areas served by water conveyed through the Sacramento-San Joaquin Rivers Delta are currently suffering. Restrictions on water supply caused by the Biological Opinion and Conference Opinion on the Long-Term Operations of the Central Valley Project and State Water Project (June 4, 2009) ("Projects BiOp") have significantly reduced the water supply available to more than 25 million people and millions of acres of prime farm land. The reduced water supply has resulted in significant adverse impacts to the human environment. Farmers have fallowed hundreds and thousands of acres, which in turn has reduced farm employee working hours, salaries, and positions, devastating farm employees, their families, and communities. The severe impact on the San Joaquin Valley's economic base has led to hunger and other social ills within the Valley. Dust emissions from fallowed lands have impaired air quality and increased dependence on limited groundwater. That increased dependence on groundwater has resulted in subsidence.

The NMFS concedes the 2010 salmon fishery will result in the incidental take of listed salmon species that are the subjects of severe regulatory constraints currently imposed by the Projects BiOp upon the Projects' pumping. The 2010 salmon fishery will adversely impact these listed salmon species. As an example, the NMFS acknowledges the 2010 salmon fishery could result in the take of up to 25% (averaging 20%) of adult Sacramento River winter-run that would otherwise return to inland waters to spawn. (Biological Opinion on the Authorization of Ocean Salmon Fisheries Pursuant to the Pacific Coast Salmon Fishery Management Plan and Additional Protective Measures as it affects Sacramento River Winter Chinook Salmon, April 30, 2010 ["2010 Harvest Opinion"], pp. 57, 61.) That take will likely impair the year-to-year abundance of winter-run, one of the species addressed in the Projects BiOp. The diminished abundance will thereby likely exacerbate the water supply shortages that are adversely impacting the San Joaquin Valley and other regions of the State.

Compliance with the Magnuson-Stevens Fishery Conservation and Management Act:

Section 301 of the Magnuson-Stevens Fishery Conservation and Management Act (MSA) establishes national standards with which NMFS must comply in formulating and implementing

Fisheries Management Plans. Inherent in the standards are equitable and anti-discrimination provisions, consistent with fundamental principles of equal protection. (MSA § 301(a)(4); U.S. Const., 14th Amend.) The 2010 Salmon Fishery Regulations violate those standards and principles. Nowhere has the NMFS considered the factors of fairness and equity among stakeholders in establishing the allowable catch. Instead, the 2010 Salmon Fishery Regulations result in unequal, unfair and inequitable treatment of fishing and non-fishing activities.

The NMFS abuse of its discretion is egregious, particularly in light of the MSA's emphasis on ecosystem approaches to fisheries management. (See, e.g., MSA § 406; 50 C.F.R. § 600.815.) The MSA requires NMFS to develop effective means of bringing stakeholders and their interests into the fisheries management process, not only to ensure fairness and equity, but also to provide a broader ecosystem perspective and to formulate more effective, holistic plans and regulations. The 2010 Salmon Fishery Regulations fail to consider stakeholder requirements and undermine ecosystem management efforts that must account for, and give equal treatment to, non-fishing activities. (See, e.g., 50 C.F.R. § 600.815(a) [FMPs and regulations must address non-fishing activities such as water diversions].)

Spring Run Chinook Salmon Biological Opinion:

The 2010 NMFS Salmon Fishery Management Measures rely upon the April 28, 2000, biological opinion, titled "Effects of the Pacific Coast Salmon Plan on California Central Valley Spring-Run Chinook, and California Coastal Chinook Salmon" (Spring Run BiOp). Reliance upon a decade old opinion is insufficient to satisfy the federal endangered species act. Among other defects, the environmental baseline presented and effects analysis contained in the Spring Run BiOp are simply outdated. Conditions within the action area for the Salmon Fishery Management Measures have substantially changed in the 10 years since the Spring Run BiOp issued. Thus, under title 50, section 402.16 of the Code of Federal Regulations, NMFS must re-initiate formal consultation.

Conclusion:

We appreciate the economic and cultural significance salmon fishing has on a number of communities and tribes. The comments and recommendation conveyed herein are by no means intended to extend or expand the harm befallen them due to the most recent decline of salmon populations throughout the Pacific region. However, the incongruity of NMFS decisions and failure to follow established federal procedures and laws compels comment. At a minimum, we believe an explanation of how NMFS plans to rectify these issues is in order. Such an explanation should include a schedule as to when each issue will be addressed and how stakeholders will be incorporated into the process. We believe your swift response to our comments and recommendations is warranted and should result in significant improvements in the equity and efficacy of fishery management practices. We look forward to your response and stand by to assist you in any way we can.

Sincerely,



Daniel G. Nelson
Executive Director
San Luis & Delta-Mendota Water Authority



Terry L. Erlewine
General Manager
State Water Contractors

CCs:

The Honorable Ken Salazar, Secretary, Department of Interior
The Honorable David Hayes, Deputy Secretary, Department of the Interior
The Honorable Mike Connor, Commissioner, Bureau of Reclamation
The Honorable Diane Feinstein, California Senator
The Honorable Barbara Boxer, California Senator
The Honorable Mike Thompson, Congressman, CA01
The Honorable Dennis Cardoza, Congressman, CA18
The Honorable George Radanovich, Congressman, CA 19
The Honorable Jim Costa, Congressman, CA20
The Honorable Norm Dicks, Congressman, WA06
Mark Cowin, Director, California Department of Water Resources
Donald McIsaac, Executive Director, Pacific Fishery Management Council
John McCamman, Director, California Department of Fish and Game
Jim Kellogg, President, California Fish and Game Commission

i/ See Pacific Fishery Management Council News Release, April 15, 2010, available at <http://www.pcouncil.org/wp-content/uploads/April-15-2010-Salmon-Seasons-press-release.pdf>.

ii/ The Handbook specifies that a CE memorandum should contain the following:

1. Brief description of the proposed action.
2. Brief description of the expected direct, indirect, and cumulative impacts of the proposed action noting how they address the criteria in NAO 216-6 § 5.105b and c.
3. Identification of what categorical exclusion in NAO 216-6 meets the proposed action.
4. Explanation of how the proposed action is consistent with the identified categorical exclusion.

(Handbook, p. 25.) The Handbook further specifies that a ROD must include the following:

1. A clear statement describing the decision (which alternative was selected).
2. A listing and summary of all alternatives considered in reaching the decision, specifying the environmentally preferable alternative or alternatives.
3. If deemed appropriate, a discussion of preferences among alternatives based on relevant factors including economic and technical considerations and agency statutory missions.
4. An identification and discussion of all factors that led to the decision and how those considerations entered into the decision.
5. A statement as to whether all practicable means to avoid or minimize environmental harm from the alternative selected have been adopted, and if not, why they were not.
6. For the identified mitigation measures, a summary of the monitoring and enforcement program that will be utilized.

(Handbook, p. 65; 40 C.F.R. § 1505.2.)

EXHIBIT 2

TABLE 1. Spawning Escapement, Ocean Harvest, Sacramento Index, and Sacramento Index Harvest Index of Sacramento River Fall Chinook (SFRC), and Escapement of Sacramento River Winter Chinook (SRWC) X 1,000. Data from PFMC Preseason Report 2010 and 2010 Review of Ocean Salmon Fisheries.

YEAR	Spawning Escapement			SRFC Ocean Harvest South of Cape Falcon			River Harvest	Sacramento Index (SI)	SI Harvest Index (%)
	Natural	Hatchery	Total	Troll	Sport	Total	Fall		
1983	18.847	91.401	110.248	246.100	86.100	332.100	18.100	460.500	72.0
1984	39.467	119.505	158.972	266.100	87.000	353.100	26.100	538.200	66.0
1985	29.856	209.450	239.306	355.400	158.900	514.300	39.300	792.900	65.0
1986	23.793	216.310	240.103	618.900	137.500	756.500	39.400	1036.000	73.0
1987	20.273	174.791	195.063	686.100	173.200	859.200	32.000	1086.300	79.0
1988	29.515	197.953	227.468	1162.600	188.300	1350.800	37.300	1615.600	84.0
1989	25.880	126.683	152.563	611.700	159.200	770.800	25.000	948.400	81.0
1990	21.892	83.198	105.090	514.200	150.500	664.700	17.200	787.000	84.0
1991	27.466	91.403	118.869	298.800	90.200	389.000	26.000	533.400	73.0
1992	22.088	59.457	81.545	232.400	70.100	302.600	13.300	396.300	76.0
1993	26.834	110.556	137.390	342.400	115.300	457.800	27.700	622.800	73.0
1994	32.556	133.030	165.586	303.200	164.700	468.000	28.900	662.400	71.0
1995	41.827	253.487	295.314	735.700	387.900	1123.600	48.500	1467.400	77.0
1996	34.561	267.071	301.632	426.700	157.000	583.700	49.500	934.800	62.0
1997	65.241	279.599	344.840	579.700	210.200	790.000	56.600	1191.400	66.0
1998	77.763	168.144	245.908	292.800	113.900	406.700	69.800	722.400	56.0
1999	46.112	353.718	399.830	308.300	76.600	384.900	68.900	853.600	45.0
2000	48.323	369.214	417.537	431.300	153.200	584.500	59.500	1061.500	55.0
2001	59.360	537.415	596.775	284.400	93.400	377.900	97.900	1072.600	35.0
2002	87.173	682.695	769.868	447.400	184.000	631.400	89.200	1490.500	42.0
2003	109.578	413.438	523.016	501.600	106.500	608.000	85.800	1216.800	50.0
2004	83.407	203.478	286.885	621.500	212.600	834.100	47.100	1168.000	71.0
2005	185.299	210.706	396.005	367.600	127.000	494.600	65.000	955.600	52.0
2006	79.906	195.124	275.030	149.900	107.600	257.500	44.200	570.900	45.0
2007	21.376	69.998	91.374	120.500	32.300	152.700	14.300	255.000	60.0
2008	18.512	46.852	65.364	3.200	0.900	4.100	0.100	68.700	6.0
2009	17.536	23.337	40.873	0.000	0.200	0.200	0.000	39.800	0.0
2010	39.702	85.651	125.353	*	*	*	*	*	*

TABLE 3. Comparisons of preseason forecast and postseason estimates for the Central Valley Index (CVI) or Sacramento Index (SI) X 1,000. 1985-2007 based on CVI, 2008-2010 based on SI. Data from PFMC Preseason Reports 2008 and 2010.

YEAR	Forecast CVI<2008 SI>2008	PostSeason CVI<2008 SI>2008	%Forecast/ PostSeason
1985	524.800	667.400	79.0%
1986	546.500	921.400	59.0%
1987	592.900	824.100	72.0%
1988	707.100	1232.400	57.0%
1989	625-885	667.700	94-133%
1990	500-900	568.600	88-158%
1991	466.000	451.300	103.0%
1992	452.000	313.800	144.0%
1993	501.000	504.600	99.0%
1994	503.000	632.200	80.0%
1995	654.000	1343.800	49.0%
1996	533.000	798.600	67.0%
1997	849.000	1105.200	77.0%
1998	1051.000	646.000	163.0%
1999	847.700	766.400	111.0%
2000	790.400	1088.800	73.0%
2001	649.400	882.000	74.0%
2002	825.400	1292.000	64.0%
2003	1108.100	896.700	124.0%
2004	831.800	869.600	96.0%
2005	1678.300	849.700	198.0%
2006	632.500	434.900	145.0%
2007	499.900	232.000	216.0%
2008 ^{/1}	54.570	69.962	78.0%
2009	122.196	39.805	307.0%
2010	245.483	125.000	196.4%

^{/1} 2008 SI (without river harvest component) CVI = 157,000

TABLE 4. Juvenile Fall-Run Chinook Take at the Delta Export Facilities.

Life Stage	Hatchery	Release Site	Years	Number of Releases	Total Number Released	Direct Loss at Delta Exports	% Direct Loss at Delta Exports	
							Average	Minimum Maximum
Yearling	Merced	Hatchery	1994-1995	3	215828	13871	6.53	5.61 8.34
YOY	Merced	Hatchery	1993-2007	36	6665115	79236	1.36	0.00 10.86
YOY	Merced	SJR Delta	1996-2006	23	3341710	27107	0.90	0.00 6.56
YOY	Feather	SJR Delta	1993-1998	21	1983272	16422	0.87	0.00 2.03
Yearling	Mokelumne	Hatchery	1993-2003	12	1158842	3513	0.31	0.03 1.36
YOY	Mokelumne	Sac Delta	1996-2002,2009	14	1273137	785	0.10	0.00 1.29
YOY	Mokelumne	Hatchery	1993-2008	38	4157503	1091	0.02	0.00 0.21
YOY	Coleman	Hatchery	1993-2009	31	15297463	7294	0.08	0.00 2.20
YOY	Coleman	Sac Delta	1993-2008	26	2156626	1247	0.05	0.00 0.37
YOY	Feather	Sac Delta	1993-2009	89	10138857	2933	0.03	0.00 0.43
YOY	Feather	Hatchery	1994-2008	13	1485843	14.16	0.00	0.00 0.01

TABLE 5. Juvenile Winter-Run Chinook Take at the Delta Export Facilities.

YEAR	Natural Winter Run Juvenile Chinook Entering Delta	Direct Juvenile Winter Run Length Chinook Mortality at Delta Exports	% Direct Juvenile Winter Run Length Chinook Mortality at Delta Exports
1992/1993	242617	4674	1.93
1993/1994	73466	3053	4.16
1994/1995	31491	4712	14.96
1995/1996	338107	2437	0.72
1996/1997	165069	630	0.38
1997/1998	138316	1542	1.11
1998/1999	454792	3720	0.82
1999/2000	289724	5830	2.01
2000/2001	370221	20042	5.41
2001/2002	1864802	3295	0.18
2002/2003	2136700	6813	0.32
2003/2004	1896649	7778	0.41
2004/2005	881719	1376	0.16
2005/2006	3831300	2610	0.07
2006/2007	3739069	3302	0.09
2007/2008	589900	1298	0.22
2008/2009	617783	1583	0.26
2009/2010	1179633	1663	0.14

COUNCIL RECOMMENDATIONS FOR
2011 MANAGEMENT ALTERNATIVE ANALYSIS

The Salmon Technical Team (STT) will present the Council with coordinated coastwide management alternatives which embody, to the extent possible, the management elements identified by the Council under Agenda Item G.4 on Sunday, March 6, 2011. At this time, the Council may need to clarify STT questions and should assure the alternatives presented are those for which the Council desires full STT analysis and consideration for final adoption on Wednesday, March 9.

Council Task:

1. Clarify STT questions.
2. Confirm management alternatives for STT analysis.

Reference Materials:

1. Agenda Item G.5.b, Supplemental STT Report: Collation of Preliminary Salmon Management Alternatives for 2011 Ocean Fisheries.

Agenda Order:

- a. Agenda Item Overview
- b. Reports and Comments of Advisory Bodies and Management Entities
- c. Public Comment
- d. Council Direction to the Salmon Technical Team and Salmon Advisory Subpanel on Alternative Development and Analysis

Chuck Tracy

PFMC
02/02/11

SALMON TECHNICAL TEAM

***COLLATION
OF PRELIMINARY
SALMON MANAGEMENT ALTERNATIVES
FOR 2011 OCEAN FISHERIES***

March 7, 2011

TABLE 1. Commercial troll management Alternatives collated by the STT for non-Indian ocean salmon fisheries, 2011 (Page 1 of 9)			3/7/2011 2:42 PM
A. SEASON ALTERNATIVE DESCRIPTIONS			
ALTERNATIVE I	ALTERNATIVE II	ALTERNATIVE III	
North of Cape Falcon	North of Cape Falcon	North of Cape Falcon	
Supplemental Management Information	Supplemental Management Information	Supplemental Management Information	
<p>1. Overall non-Indian TAC: 117,000 (non-mark-selective equivalent of 110,000) Chinook and 120,000 coho marked with a healed adipose fin clip (marked).</p> <p>2. Non-Indian commercial troll TAC: 56,000 Chinook and 19,200 marked coho.</p> <p>3. Trade of Chinook or coho between non-Indian commercial and recreational fisheries: May be considered at the April Council meeting.</p> <p>4. Overall Chinook and/or coho TACs may need to be reduced or fisheries adjusted to meet NMFS ESA guidance, FMP requirements, upon conclusion of negotiations in the North of Falcon forum, or upon receipt of preseason catch and abundance expectations for Canadian and Alaskan fisheries.</p>	<p>1. Overall non-Indian TAC: 107,000 (non-mark-selective equivalent of 100,000) Chinook and 90,000 coho marked with a healed adipose fin clip (marked).</p> <p>2. Non-Indian commercial troll TAC: 50,000 Chinook and 14,400 marked coho.</p> <p>3. Trade of Chinook or coho between non-Indian commercial and recreational fisheries: May be considered at the April Council meeting.</p> <p>4. Overall Chinook and/or coho TACs may need to be reduced or fisheries adjusted to meet NMFS ESA guidance, FMP requirements, upon conclusion of negotiations in the North of Falcon forum, or upon receipt of preseason catch and abundance expectations for Canadian and Alaskan fisheries.</p>	<p>1. Overall non-Indian TAC: 87,000 (non-mark-selective equivalent of 80,000) Chinook and a quota equivalent to 60,000 coho marked with a healed adipose fin clip (marked).</p> <p>2. Non-Indian commercial troll TAC: 40,000 Chinook and a quota equivalent to 9,600 marked coho.</p> <p>3. Trade of Chinook or coho between non-Indian commercial and recreational fisheries: May be considered at the April Council meeting.</p> <p>4. Overall Chinook and/or coho TACs may need to be reduced or fisheries adjusted to meet NMFS ESA guidance, FMP requirements, upon conclusion of negotiations in the North of Falcon forum, or upon receipt of preseason catch and abundance expectations for Canadian and Alaskan fisheries.</p>	
<p>U.S./Canada Border to Cape Falcon</p> <ul style="list-style-type: none"> • May 1 through earlier of June 30 or 42,000 Chinook quota. <p>Seven days per week (C.1). All salmon except coho (C.7). Cape Flattery, Mandatory Yelloweye Rockfish Conservation Area, and Columbia Control Zones closed (C.5). See gear restrictions and definitions (C.2, C.3). An inseason conference call will occur when it is projected that 29,000 Chinook have been landed to consider modifying the open period to five days per week and adding landing and possession limits to ensure the guideline is not exceeded.</p>	<p>U.S./Canada Border to Cape Falcon</p> <ul style="list-style-type: none"> • May 1 through earlier of June 30 or 33,500 Chinook quota. <p>Friday through Tuesday, landing and possession limit of 120 Chinook per open period (C.1). All salmon except coho (C.7). Cape Flattery, Mandatory Yelloweye Rockfish Conservation Area, and Columbia Control Zones closed (C.5). See gear restrictions and definitions (C.2, C.3). An inseason conference call will occur when it is projected that 22,000 Chinook have been landed to consider modifying the open period, landing, and possession limits to extend the fishery through the end of June.</p>	<p>U.S./Canada Border to Cape Falcon</p> <ul style="list-style-type: none"> • May 1 through earlier of June 30 or 26,800 Chinook quota. <p>Saturday through Tuesday, landing and possession limit of 100 Chinook per open period (C.1). All salmon except coho (C.7). Cape Flattery, Mandatory Yelloweye Rockfish Conservation Area, and Columbia Control Zones closed (C.5). See gear restrictions and definitions (C.2, C.3).</p>	
<p>Vessels must land and deliver their fish within 24 hours of any closure of this fishery. Under state law, vessels must report their catch on a state fish receiving ticket. Vessels fishing or in possession of salmon while fishing north of Leadbetter Point must land and deliver their fish within the area and north of Leadbetter Point. Vessels fishing or in possession of salmon while fishing south of Leadbetter Point must land and deliver their fish within the area and south of Leadbetter Point, except that Oregon permitted vessels may also land their fish in Garibaldi, Oregon. Oregon State regulations require all fishers landing salmon into Oregon from any fishery between Leadbetter Point, Washington and Cape Falcon, Oregon must notify ODFW within one hour of delivery or prior to transport away from the port of landing by either calling 541-867-0300 Ext. 271 or sending notification via e-mail to nfallcon.trollreport@state.or.us. Notification shall include vessel name and number, number of salmon by species, port of landing and 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.8).</p>			

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A. SEASON ALTERNATIVE DESCRIPTIONS			
ALTERNATIVE I	ALTERNATIVE II	ALTERNATIVE III	
<p>U.S./Canada Border to Cape Falcon</p> <ul style="list-style-type: none"> July 1 through earlier of September 15 or 14,000 preseason Chinook guideline (C.8) or n 19,200 marked coho quota (C.8.d). <p>Friday through Tuesday; landing and possession limit of 100 Chinook and 90 coho per vessel per open period north of Leadbetter Point or 100 Chinook and 90 coho south of Leadbetter Point (C.1). All Salmon except no chum retention north of Cape Alava, Washington in August and September (C.7). All coho must be marked (C.8.d). See gear restrictions and definitions (C.2, C.3). Cape Flattery, Mandatory Yelloweye Rockfish Conservation Area, and Columbia Control Zones closed (C.5).</p>	<p>U.S./Canada Border to Cape Falcon</p> <ul style="list-style-type: none"> July 1 through earlier of September 15 or 16,500 preseason Chinook guideline (C.8) or a 14,400 marked coho quota (C.8.d). <p>Friday through Tuesday; landing and possession limit of 70 Chinook and 80 coho per vessel per open period north of Leadbetter Point or 70 Chinook and 80 coho south of Leadbetter Point (C.1). All Salmon except no chum retention north of Cape Alava, Washington in August and September (C.7). All coho must be marked (C.8.d). See gear restrictions and definitions (C.2, C.3). Cape Flattery, Mandatory Yelloweye Rockfish Conservation Area, and Columbia Control Zones closed (C.5).</p>	<p>U.S./Canada Border to Cape Falcon</p> <ul style="list-style-type: none"> July 1 through earlier of September 15 or 13,200 preseason Chinook guideline (C.8) or a coho quota equivalent to 9,600 marked coho (C.8.d). <p>Saturday through Tuesday; landing and possession limit of 60 Chinook and 65 marked coho per vessel per open period north of Leadbetter Point or 60 Chinook and 65 marked coho south of Leadbetter Point through August 15, 40 Chinook and 75 coho (non-mark-selective) per vessel per open period north of Leadbetter Point or 40 Chinook and 75 coho (non-mark-selective) south of Leadbetter Point thereafter (C.1). All Salmon except no chum retention north of Cape Alava, Washington in August and September (C.7). See gear restrictions and definitions (C.2, C.3). Cape Flattery, Mandatory Yelloweye Rockfish Conservation Area, and Columbia Control Zones closed (C.5).</p>	
<p>Vessels must land and deliver their fish within 24 hours of any closure of this fishery. Under state law, vessels must report their catch on a state fish receiving ticket. Vessels fishing or in possession of salmon while fishing north of Leadbetter Point must land and deliver their fish within the area and north of Leadbetter Point. Vessels fishing or in possession of salmon while fishing south of Leadbetter Point must land and deliver their fish within the area and south of Leadbetter Point, except that Oregon permitted vessels may also land their fish in Garibaldi, Oregon. Oregon State regulations require all fishers landing salmon into Oregon from any fishery between Leadbetter Point, Washington and Cape Falcon, Oregon must notify ODFW within one hour of delivery or prior to transport away from the port of landing by either calling 541-867-0300 Ext. 271 or sending notification via e-mail to nfallcon.trollreport@state.or.us. Notification shall include vessel name and number, number of salmon by species, port of landing and 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.8).</p>			

TABLE 1. Commercial troll management Alternatives collated by the STT for non-Indian ocean salmon fisheries, 2011. (Page 3 of 9)			3/7/2011 2:42 PM
A. SEASON ALTERNATIVE DESCRIPTIONS			
ALTERNATIVE I	ALTERNATIVE II	ALTERNATIVE III	
South of Cape Falcon	South of Cape Falcon	South of Cape Falcon	
Supplemental Management Information	Supplemental Management Information	Supplemental Management Information	
<ol style="list-style-type: none"> 1. Sacramento River Basin recreational fishery catch assumption: 63,400 adult Sacramento River fall Chinook. 2. Sacramento River fall Chinook spawning escapement of 389,200 adults. 3. Klamath River recreational fishery allocation: 9,300 adult Klamath River fall Chinook. 4. Klamath tribal allocation: 34,100 adult Klamath River fall Chinook. 5. Fisheries may need to be adjusted to meet NMFS ESA consultation standards, FMP requirements, other management objectives, or upon receipt of new allocation recommendations from the California Fish and Game Commission. 	<ol style="list-style-type: none"> 1. Sacramento River Basin recreational fishery catch assumption: 62,800 adult Sacramento River fall Chinook. 2. Sacramento River fall Chinook spawning escapement of 385,900 adults. 3. Klamath River recreational fishery allocation: 12,600 adult Klamath River fall Chinook. 4. Klamath tribal allocation: 33,700 adult Klamath River fall Chinook. 5. Fisheries may need to be adjusted to meet NMFS ESA consultation standards, FMP requirements, other management objectives, or upon receipt of new allocation recommendations from the California Fish and Game Commission. 	<ol style="list-style-type: none"> 1. Sacramento River Basin recreational fishery catch assumption: 64,300 adult Sacramento River fall Chinook. 2. Sacramento River fall Chinook spawning escapement of 394,900 adults. 3. Klamath River recreational fishery allocation: 14,300 adult Klamath River fall Chinook. 4. Klamath tribal allocation: 33,300 adult Klamath River fall Chinook. 5. Fisheries may need to be adjusted to meet NMFS ESA consultation standards, FMP requirements, other management objectives, or upon receipt of new allocation recommendations from the California Fish and Game Commission. 	
<p>Cape Falcon to Humbug Mt.</p> <ul style="list-style-type: none"> • March 15 through August 29; September 1-30; October 1-31 (C.9). <p>Seven days per week. All salmon except coho; landing and possession limit of 100 Chinook per vessel per calendar week September 1 through October 1; 50 Chinook per vessel per calendar week October 2-31 (C.7). All vessels fishing in the area must land their fish in the State of Oregon. See gear restrictions and definitions (C.2, C.3) and Oregon State regulations for a description of special regulations at the mouth of Tillamook Bay.</p> <p>In 2012, the season will open March 15 for all salmon except coho. This opening could be modified following Council review at its March 2012 meeting.</p>	<p>Cape Falcon to Humbug Mt.</p> <ul style="list-style-type: none"> • April 15 through July 9, July 18 through August 13, August 21-29, September 1-30. (C.9). <p>Seven days per week. All salmon except coho; landing and possession limit of 50 Chinook per vessel per calendar week in September (C.7). All vessels fishing in the area must land their fish in the State of Oregon. See gear restrictions and definitions (C.2, C.3) and Oregon State regulations for a description of special regulations at the mouth of Tillamook Bay.</p> <p>In 2012, same as Alternative I</p>	<p>Cape Falcon to Humbug Mt.</p> <ul style="list-style-type: none"> • April 15 through June 4, June 12 through July 9, July 18 through August 13, August 21-29, September 1-30. (C.9). <p>Seven days per week. All salmon except coho; landing and possession limit of 50 Chinook per vessel per calendar week in September (C.7). All vessels fishing in the area must land their fish in the State of Oregon. See gear restrictions and definitions (C.2, C.3) and Oregon State regulations for a description of special regulations at the mouth of Tillamook Bay.</p> <p>In 2012, same as Alternative I</p>	

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A. SEASON ALTERNATIVE DESCRIPTIONS		
ALTERNATIVE I	ALTERNATIVE II	ALTERNATIVE III
<p>Humbug Mt. to OR/CA Border (Oregon KMZ)</p> <ul style="list-style-type: none"> • May 1-31; • June 1 through earlier of June 30, or a 1,500 Chinook quota; • July 1 through earlier of July 31, or a 1,500 Chinook quota; • Aug. 1 through earlier of Aug. 31, or a 1,500 Chinook quota • Sept. 1 through earlier of Sept 30, or a 1,000 Chinook quota (C.9). <p>Seven days per week. All salmon except coho (C.7). Chinook 28 inch total length minimum size limit (B). June 1 through August 31, landing and possession limit of 30 Chinook per vessel per day; 25 per day in September; all vessels fishing in this area must land and deliver all fish within this area or Port Orford, within 24 hours of any closure in this fishery, and prior to fishing outside of this area. Oregon State regulations require all fishers landing salmon from any quota managed season within this area to notify Oregon Dept. of Fish and Wildlife (ODFW) within 1 hour of delivery or prior to transport away from the port of landing by either calling (541) 867-0300 ext. 252 or sending notification via e-mail to KMZOR.trollreport@state.or.us. Notification shall include vessel name and number, number of salmon by species, port of landing and location of delivery, and estimated time of delivery. See gear restrictions and definitions (C.2, C.3).</p> <p>In 2012, the season will open March 15 for all salmon except coho, with a 28 inch Chinook minimum size limit. This opening could be modified following Council review at its March 2012 meeting.</p>	<p>Humbug Mt. to OR/CA Border (Oregon KMZ)</p> <ul style="list-style-type: none"> • May 1-31; • June 1 through earlier of June 30, or a 1,000 Chinook quota; • July 1 through earlier of July 31, or a 1,200 Chinook quota; • Aug. 1 through earlier of Aug. 31, or a 1,500 Chinook quota (C.9). <p>Seven days per week. All salmon except coho (C.7). Chinook 28 inch total length minimum size limit (B). June 1 through August 31, landing and possession limit of 30 Chinook per vessel per day; all vessels fishing in this area must land and deliver all fish within this area or Port Orford, within 24 hours of any closure in this fishery, and prior to fishing outside of this area. Oregon State regulations require all fishers landing salmon from any quota managed season within this area to notify Oregon Dept. of Fish and Wildlife (ODFW) within 1 hour of delivery or prior to transport away from the port of landing by either calling (541) 867-0300 ext. 252 or sending notification via e-mail to KMZOR.trollreport@state.or.us. Notification shall include vessel name and number, number of salmon by species, port of landing and location of delivery, and estimated time of delivery. See gear restrictions and definitions (C.2, C.3).</p> <p>In 2012, same as Alternative I</p>	<p>Humbug Mt. to OR/CA Border (Oregon KMZ)</p> <ul style="list-style-type: none"> • May 1-31; • June 1 through earlier of June 30, or a 1,000 Chinook quota; • July 1 through earlier of July 31, or a 1,000 Chinook quota; • Aug. 1 through earlier of Aug. 31, or a 1,000 Chinook quota (C.9). <p>Seven days per week. All salmon except coho (C.7). Chinook 28 inch total length minimum size limit (B). June 1 through August 31, landing and possession limit of 30 Chinook per vessel per day and 90 Chinook per vessel per calendar week; all vessels fishing in this area must land and deliver all fish within this area or Port Orford, within 24 hours of any closure in this fishery, and prior to fishing outside of this area. Oregon State regulations require all fishers landing salmon from any quota managed season within this area to notify Oregon Dept. of Fish and Wildlife (ODFW) within 1 hour of delivery or prior to transport away from the port of landing by either calling (541) 867-0300 ext. 252 or sending notification via e-mail to KMZOR.trollreport@state.or.us. Notification shall include vessel name and number, number of salmon by species, port of landing and location of delivery, and estimated time of delivery. See gear restrictions and definitions (C.2, C.3).</p> <p>In 2012, same as Alternative I</p>

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A. SEASON ALTERNATIVE DESCRIPTIONS			
ALTERNATIVE I	ALTERNATIVE II	ALTERNATIVE III	
<p>OR/CA Border to Humboldt South Jetty (California KMZ)</p> <ul style="list-style-type: none"> • June 1 through earlier of June 30, or a 1,000 Chinook quota; • July 1 through earlier of July 31, or a 1,000 Chinook quota; • Aug. 1 through earlier of Aug. 31, or a 1,000 Chinook quota • Sept. 1 through earlier of Sept 30, or a 1,000 Chinook quota (C.9). <p>Seven days per week. All salmon except coho (C.7). Chinook 28 inch total length minimum size limit (B). June 1 through August 31, landing and possession limit of 30 Chinook per vessel per day; 25 per day in September; all vessels fishing in this area must land and deliver all fish within this area, within 24 hours of any closure in this fishery, and prior to fishing outside of this area. See compliance requirements (C.1) and gear restrictions and definitions (C.2, C.3). Klamath Control Zone closed (C.5.e). See California State regulations for additional closures adjacent to the Smith and Klamath rivers. When the fishery is closed between the OR/CA border and Humbug Mt. and open to the south, vessels with fish on board caught in the open area off California may seek temporary mooring in Brookings, Oregon prior to landing in California only if such vessels first notify the Chetco River Coast Guard Station via VHF channel 22A between the hours of 0500 and 2200 and provide the vessel name, number of fish on board, and estimated time of arrival.</p>	<p>OR/CA Border to Humboldt South Jetty (California KMZ)</p> <ul style="list-style-type: none"> • June 1 through earlier of June 30, or a 750 Chinook quota; • July 1 through earlier of July 31, or a 750 Chinook quota; • Aug. 1 through earlier of Aug. 31, or a 750 Chinook quota (C.9). <p>Seven days per week. All salmon except coho (C.7). Chinook 28 inch total length minimum size limit (B). June 1 through August 31, landing and possession limit of 30 Chinook per vessel per day; all vessels fishing in this area must land and deliver all fish within this area, within 24 hours of any closure in this fishery, and prior to fishing outside of this area. See compliance requirements (C.1) and gear restrictions and definitions (C.2, C.3). Klamath Control Zone closed (C.5.e). See California State regulations for additional closures adjacent to the Smith and Klamath rivers. When the fishery is closed between the OR/CA border and Humbug Mt. and open to the south, vessels with fish on board caught in the open area off California may seek temporary mooring in Brookings, Oregon prior to landing in California only if such vessels first notify the Chetco River Coast Guard Station via VHF channel 22A between the hours of 0500 and 2200 and provide the vessel name, number of fish on board, and estimated time of arrival.</p>	<p>OR/CA Border to Humboldt South Jetty Closed.</p>	
<p>Humboldt South Jetty to Horse Mt. Closed.</p>	<p>Humboldt South Jetty to Horse Mt. Closed.</p>	<p>Humboldt South Jetty to Horse Mt. Closed.</p>	

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A. SEASON ALTERNATIVE DESCRIPTIONS			
ALTERNATIVE I	ALTERNATIVE II	ALTERNATIVE III	
<p>Horse Mt. to Point Arena (Fort Bragg)</p> <ul style="list-style-type: none"> • May 1-31; • June 1 through earlier of June 30, or a 1,500 Chinook quota; • July 1 through earlier of July 31, or a 1,500 Chinook quota; • Aug. 1 through earlier of Aug. 31, or a 1,500 Chinook quota • Sept. 1 through earlier of Sept 30, or a 1,000 Chinook quota (C.9). <p>Seven days per week. All salmon except coho (C.7). Chinook 28 inch total length minimum size limit (B). June 1 through August 31, landing and possession limit of 30 Chinook per vessel per day; 25 per day in September; all vessels fishing in this area must land and deliver all fish within this area, within 24 hours of any closure in this fishery, and prior to fishing outside of this area (C.1). See gear restrictions and definitions (C.2, C.3).</p>	<p>Horse Mt. to Point Arena (Fort Bragg)</p> <ul style="list-style-type: none"> • June 1 through earlier of June 30, or a 1,000 Chinook quota; • July 1 through earlier of July 31, or a 1,200 Chinook quota; • Aug. 1 through earlier of Aug. 31, or a 1,500 Chinook quota (C.9). <p>Seven days per week. All salmon except coho (C.7). Chinook 28 inch total length minimum size limit (B). June 1 through August 31, landing and possession limit of 30 Chinook per vessel per day; all vessels fishing in this area must land and deliver all fish within this area, within 24 hours of any closure in this fishery, and prior to fishing outside of this area (C.1). See gear restrictions and definitions (C.2, C.3).</p>	<p>Horse Mt. to Point Arena (Fort Bragg)</p> <ul style="list-style-type: none"> • June 1 through earlier of June 30, or a 1,000 Chinook quota; • July 1 through earlier of July 31, or a 1,000 Chinook quota; • Aug. 1 through earlier of Aug. 31, or a 1,000 Chinook quota (C.9). <p>Seven days per week. All salmon except coho (C.7). Chinook 28 inch total length minimum size limit (B). June 1 through August 31, landing and possession limit of 30 Chinook per vessel per day and 90 Chinook per vessel per calendar week; all vessels fishing in this area must land and deliver all fish within this area, within 24 hours of any closure in this fishery, and prior to fishing outside of this area (C.1). See gear restrictions and definitions (C.2, C.3).</p>	
<p>Pt. Arena to Pigeon Pt. (San Francisco)</p> <ul style="list-style-type: none"> • May 1-31 • June 25 through July 1 • July 3-28 • July 31 through Aug. 29 • September 1-30 (C.9). <p>Seven days per week through July 1; Sunday through Thursday July 3-30; Seven days per week thereafter. All salmon except coho (C.7). Chinook minimum size limit of 27 inches total length (B) (C.1). All fish must be landed in California and offloaded within 24 hours of the August 29 closure. All fish caught in the area when the Fort Bragg quota fisheries are open must be landed south of Point Arena (C1). See gear restrictions and definitions (C.2, C.3).</p> <p>Pt. Reyes to Pt. San Pedro (Fall Area Target Zone)</p> <ul style="list-style-type: none"> • October 3-14. <p>Open Monday through Friday. All salmon except coho (C.1). Chinook minimum size limit 27 inches total length (B). See gear restrictions and definitions (C.2, C.3).</p>	<p>Pt. Arena to Pigeon Pt. (San Francisco)</p> <ul style="list-style-type: none"> • May 1-31 • July 5 through Aug. 29 • September 1-30 (C.9). <p>Seven days per week. All salmon except coho (C.7). Chinook minimum size limit of 27 inches total length (B) (C.1). All fish must be landed in California and offloaded within 24 hours of the August 29 closure. All fish caught in the area when the Fort Bragg quota fisheries are open must be landed south of Point Arena (C1). See gear restrictions and definitions (C.2, C.3).</p>	<p>Pt. Arena to Pigeon Pt. (San Francisco)</p> <ul style="list-style-type: none"> • May 1-31 • July 1 through Aug. 14 • September 1-30 (C.9). <p>Seven days per week. All salmon except coho (C.7). Chinook minimum size limit of 27 inches total length (B) (C.1). All fish must be landed in California. All fish caught in the area when the Fort Bragg quota fisheries are open must be landed south of Point Arena (C1). See gear restrictions and definitions (C.2, C.3).</p>	
<p>Pigeon Pt. to U.S./Mexico Border (Monterey)</p> <p>Same as Pt. Arena to Pigeon Pt.</p>	<p>Pigeon Pt. to U.S./Mexico Border (Monterey)</p> <p>Same as Pt. Arena to Pigeon Pt.</p>	<p>Pigeon Pt. to U.S./Mexico Border (Monterey)</p> <p>Same as Pt. Arena to Pigeon Pt.</p>	

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C. REQUIREMENTS, DEFINITIONS, RESTRICTIONS, OR EXCEPTIONS (continued)	
B. MINIMUM SIZE (Inches) (See C.1)	

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 Pt. Arena	28.0	21.5	-	-	None
Pt. Arena to U.S./Mexico Border	27.0	20.5	-	-	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, landing/possession limit, or other special requirements for the area being fished and the area in which they are landed if the area is open. Salmon may be landed in an area that has been closed more than 96 hours only if they meet the minimum size, landing/possession limit, or other special requirements for the area in which they were caught. Salmon may be landed in an area that has been closed less than 96 hours only if they meet the minimum size, landing/possession limit, or other special requirements for the areas in which they were caught and landed.

States may require fish landing/receiving tickets be kept on board the vessel for 90 days after landing to account for all previous salmon landings.

C.2. Gear Restrictions:

- a. Salmon may be taken only by hook and line using single point, single shank, barbless hooks.
- b. Cape Falcon, Oregon, to the OR/CA border: No more than 4 spreads are allowed per line.
- c. OR/CA 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.

C.3. Gear Definitions:

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.

Troll fishing gear defined: One or more lines that drag hooks behind a moving fishing vessel. In that portion of the fishery management area (FMA) off Oregon and Washington, the line or lines must be affixed to the vessel and must not be intentionally disengaged from the vessel at any time during the fishing operation.

Spread defined: A single leader connected to an individual lure or 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.

C.4. 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. REQUIREMENTS, DEFINITIONS, RESTRICTIONS, OR EXCEPTIONS (continued)**C.5. 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 Cape Alava (48°10'00" N. lat.) and east of 125°05'00" W. long.
- b. *Mandatory Yelloweye Rockfish Conservation Area* – The area in Washington Marine Catch Area 3 from 48°00.00' N. lat.; 125°14.00' W. long. to 48°02.00' N. lat.; 125°14.00' W. long. to 48°02.00' N. lat.; 125°16.50' W. long. to 48°00.00' N. lat.; 125°16.50' W. long. and connecting back to 48°00.00' N. lat.; 125°14.00' 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°15'48" 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. *Bandon High Spot Control Zone* - The area west of a line between 43°07'00" N. lat.; 124°37'00" W. long. and 42°40'30" N. lat; 124° 52'0" W. long. extending to the western edge of the exclusive economic zone (EEZ).
- e. *Klamath Control Zone* - The ocean area at the Klamath River mouth bounded on the north by 41°38'48" N. lat. (approximately six 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 six nautical miles south of the Klamath River mouth).

C.6. 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.7. 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. Halibut retained must be no less than 32 inches in total length, measured from the tip of the lower jaw with the mouth closed to the extreme end of the middle of the tail, and must be landed with the head on. 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 Washington Department of Fish and Wildlife (WDFW) will monitor landings. If the landings are projected to exceed the 25,035 pound preseason allocation or the total Area 2A non-Indian commercial halibut allocation, NMFS will take inseason action to prohibit retention of halibut in the non-Indian salmon troll fishery.

TABLE 1. Commercial troll management Alternatives collated by the STT for non-Indian ocean salmon fisheries, 2011. (Page 9 of 9)

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

Alternative I: Beginning May 1, license holders may land no more than one Pacific halibut per each 2 Chinook, except one Pacific halibut may be landed without meeting the ratio requirement, and no more than 35 halibut may be landed per trip. Pacific halibut retained must be no less than 32 inches in total length (with head on).

Alternative II: Beginning May 1, license holders may land no more than one Pacific halibut per each 3 Chinook, except one Pacific halibut may be landed without meeting the ratio requirement, and no more than 35 halibut may be landed per trip. Pacific halibut retained must be no less than 32 inches in total length (with head on).

Alternative III: Beginning May 1, license holders may land no more than one Pacific halibut per each 4 Chinook, except one Pacific halibut may be landed without meeting the ratio requirement, and no more than 25 halibut may be landed per trip. Pacific halibut retained must be no less than 32 inches in total length (with head on).

A "C-shaped" yelloweye rockfish conservation area is an area to be voluntarily avoided for salmon trolling. NMFS and the Council request salmon trollers voluntarily avoid this area in order to protect yelloweye rockfish. The area is defined in the Pacific Council Halibut Catch Sharing Plan in the North Coast subarea (Washington 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.

C.8. 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 through June non-Indian commercial troll harvest guideline north of Cape Falcon may be transferred to the July through September harvest guideline on a fishery impact equivalent basis.
- b. NMFS may transfer fish between the recreational and commercial fisheries north of Cape Falcon on a fishery impact equivalent basis if there is agreement among the areas' representatives on the Salmon Advisory Subpanel (SAS).
- c. At the March 2012 meeting, the Council will consider inseason recommendations for special regulations for any experimental fisheries (proposals must meet Council protocol and be received in November 2011).
- d. If retention of unmarked coho is permitted by inseason action, the allowable coho quota will be adjusted to ensure preseason projected mortality of critical stocks is not exceeded.
- e. Landing limits may be modified inseason to sustain season length and keep harvest within overall quotas.

C.9. State Waters Fisheries: Consistent with Council management objectives:

- a. The State of Oregon may establish additional late-season fisheries in state waters.
- b. The State of California may establish limited fisheries in selected state waters.
Check state regulations for details.

C.10. For the purposes of California Department of Fish and Game (CDFG) Code, Section 8232.5, the definition of the Klamath Management Zone (KMZ) for the ocean salmon season shall be that area from Humbug Mt., Oregon, to Horse Mt., California.

TABLE 2. Recreational management Alternatives collated by the STT for non-Indian ocean salmon fisheries, 2011. (Page 1 of 9)			3/7/2011 2:39 PM
A. SEASON ALTERNATIVE DESCRIPTIONS			
ALTERNATIVE I	ALTERNATIVE II	ALTERNATIVE III	
North of Cape Falcon	North of Cape Falcon	North of Cape Falcon	
Supplemental Management Information	Supplemental Management Information	Supplemental Management Information	
<p>1. Overall non-Indian TAC: 117,000 (non-mark-selective equivalent of 110,000) Chinook and 120,000 coho marked with a healed adipose fin clip (marked).</p> <p>2. Recreational TAC: 54,000 (non-mark selective equivalent of 61,000) Chinook and 100,800 marked coho; all retained coho must be marked.</p> <p>3. Trade of Chinook or coho between non-Indian commercial and recreational fisheries: May be considered at the April Council meeting.</p> <p>4. No Area 4B add-on fishery.</p> <p>5. Buoy 10 fishery opens Aug. 1 with an expected landed catch of _____ marked coho in August and September.</p> <p>6. Overall Chinook and/or coho TACs may need to be reduced or fisheries adjusted to meet NMFS ESA guidance, FMP requirements, upon conclusion of negotiations in the North of Falcon forum, or upon receipt of preseason catch and abundance expectations for Canadian and Alaskan fisheries.</p>	<p>1. Overall non-Indian TAC: 107,000 (non-mark-selective equivalent of 100,000) Chinook and 90,000 coho marked with a healed adipose fin clip (marked).</p> <p>2. Recreational TAC: 50,000 (non-mark selective equivalent of 57,000) Chinook and 75,600 marked coho; all retained coho must be marked.</p> <p>3. Trade of Chinook or coho between non-Indian commercial and recreational fisheries: May be considered at the April Council meeting.</p> <p>4. No Area 4B add-on fishery.</p> <p>5. Buoy 10 fishery opens Aug. 1 with an expected landed catch of _____ marked coho in August and September.</p> <p>6. Overall Chinook and/or coho TACs may need to be reduced or fisheries adjusted to meet NMFS ESA guidance, FMP requirements, upon conclusion of negotiations in the North of Falcon forum, or upon receipt of preseason catch and abundance expectations for Canadian and Alaskan fisheries.</p>	<p>1. Overall non-Indian TAC: 87,000 (non-mark-selective equivalent of 80,000) Chinook and a quota equivalent to 60,000 coho marked with a healed adipose fin clip (marked).</p> <p>2. Recreational TAC: 40,000 Chinook and 50,400 marked coho; all retained coho must be marked.</p> <p>3. Trade of Chinook or coho between non-Indian commercial and recreational fisheries: May be considered at the April Council meeting.</p> <p>4. Area 4B add-on fishery of with a quota of 4,000 marked coho following the closure of the Neah Bay fishery (C.6).</p> <p>5. Buoy 10 fishery opens Aug. 1 with an expected landed catch of _____ marked coho in August and September.</p> <p>6. Overall Chinook and/or coho TACs may need to be reduced or fisheries adjusted to meet NMFS ESA guidance, FMP requirements, upon conclusion of negotiations in the North of Falcon forum, or upon receipt of preseason catch and abundance expectations for Canadian and Alaskan fisheries.</p>	
<p>U.S./Canada Border to Leadbetter Point</p> <ul style="list-style-type: none"> June 4 through earlier of June 25 or a coastwide marked Chinook quota of 12,000 (equivalent to a 5,000 non-selective Chinook quota) (C.5). <p>Seven days per week. Two fish per day, all salmon except coho, all Chinook must be marked with a healed adipose fin clip (C.1). Chinook 24-inch total length minimum size limit (B). 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.5).</p>	<p>U.S./Canada Border to Leadbetter Point</p> <ul style="list-style-type: none"> June 11 through earlier of June 30 or a coastwide marked Chinook quota of 12,000(C.5). <p>Seven days per week. Two fish per day, all salmon except coho, all Chinook must be marked with a healed adipose fin clip (C.1). Chinook 24-inch total length minimum size limit (B). 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.5).</p>		
<p>Leadbetter Point to Cape Falcon</p> <ul style="list-style-type: none"> June 11 through earlier of June 25 or a coastwide marked Chinook quota of 12,000 (equivalent to a 5,000 non-selective Chinook quota) (C.5). <p>Seven days per week. Two fish per day, all salmon except coho, all Chinook must be marked with a healed adipose fin clip (C.1). Chinook 24-inch total length minimum size limit (B). 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.5).</p>	<p>Leadbetter Point to Cape Falcon</p> <p>Same as Alternative 1</p>		

TABLE 2. Recreational management Alternatives collated by the STT for non-Indian ocean salmon fisheries, 2011. (Page 2 of 9)			3/7/2011 2:39 PM
A. SEASON ALTERNATIVE DESCRIPTIONS			
ALTERNATIVE I	ALTERNATIVE II	ALTERNATIVE III	
<p>U.S./Canada Border to Cape Alava (Neah Bay)</p> <ul style="list-style-type: none"> June 26 through earlier of September 18 or 10,480 marked coho subarea quota with a subarea guideline of 5,300 Chinook (C.5). <p>Seven days per week. All salmon except no chum beginning August 1; two fish per day plus two additional pink salmon; all retained coho must be marked (C.1). See gear restrictions and definitions (C.2, C.3). Inseason management may be used to sustain season length and keep harvest within the overall Chinook recreational TAC for north of Cape Falcon (C.5).</p>	<p>U.S./Canada Border to Cape Alava (Neah Bay)</p> <ul style="list-style-type: none"> July 1 through earlier of September 18 or 7,860 marked coho subarea quota with a subarea guideline of 4,900 Chinook (C.5). <p>Seven days per week. All salmon except no chum beginning August 1; two fish per day, no more than one of which can be a Chinook plus one additional pink salmon; all retained coho must be marked (C.1). See gear restrictions and definitions (C.2, C.3). Inseason management may be used to sustain season length and keep harvest within the overall Chinook recreational TAC for north of Cape Falcon (C.5).</p>	<p>U.S./Canada Border to Cape Alava (Neah Bay)</p> <ul style="list-style-type: none"> June 24 through earlier of September 18 or 4,500 marked coho subarea quota with subarea guidelines of X marked Chinook prior to July 23 and Y non-mark selective Chinook thereafter. (C.5). <p>Tuesday through Saturday. All salmon, two fish per day, all coho must be marked; during the non-mark-selective Chinook period no more than one Chinook can be retained (C.1). Non-selective Chinook regulations will go into effect the earlier of July 25 or the next open day following attainment of the mark-selective Chinook guideline. See gear restrictions (C.2). Beginning August 1, Chinook non-retention east of the Bonilla-Tatoosh line (C.4.a) 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.5).</p>	
<p>Cape Alava to Queets River (La Push Subarea)</p> <ul style="list-style-type: none"> June 26 through earlier of September 18 or 2,570 marked coho subarea quota with a subarea guideline of 2,350 Chinook (C.5). September 24 through earlier of October 9 or 50 marked coho quota or 50 Chinook quota (C.5) in the area north of 47°50'00" N. lat. and south of 48°00'00" N. lat. <p>Seven days per week. All salmon; two fish per day plus two additional pink salmon; all retained coho must be marked (C.1). See gear restrictions and definitions (C.2, C.3). Inseason management may be used to sustain season length and keep harvest within the overall Chinook recreational TAC for north of Cape Falcon (C.5).</p>	<p>Cape Alava to Queets River (La Push Subarea)</p> <ul style="list-style-type: none"> July 1 through earlier of September 18 or 1,920 marked coho subarea quota with a subarea guideline of 2,150 Chinook (C.5). September 24 through earlier of October 9 or 50 marked coho quota or 50 Chinook quota (C.5) in the area north of 47°50'00" N. lat. and south of 48°00'00" N. lat. <p>Seven days per week. All salmon; two fish per day, no more than one of which can be a Chinook plus one additional pink salmon; all retained coho must be marked (C.1). See gear restrictions and definitions (C.2, C.3). Inseason management may be used to sustain season length and keep harvest within the overall Chinook recreational TAC for north of Cape Falcon (C.5).</p>	<p>Cape Alava to Queets River (La Push Subarea)</p> <ul style="list-style-type: none"> June 24 through earlier of September 18 or 1,310 marked coho subarea quota with subarea guidelines of X marked Chinook prior to July 23 and Y non-mark selective Chinook thereafter. (C.5). September 24 through earlier of October 9 or 50 marked coho quota or 50 Chinook quota (C.5) in the area north of 47°50'00" N. lat. and south of 48°00'00" N. lat. <p>Tuesday through Saturday. All salmon, two fish per day, all coho must be marked; during the non-mark-selective Chinook period no more than one Chinook can be retained (C.1). Non-selective Chinook regulations will go into effect the earlier of July 25 or the next open day following attainment of the mark-selective Chinook guideline. 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.5).</p>	

TABLE 2. Recreational management Alternatives collated by the STT for non-Indian ocean salmon fisheries, 2011. (Page 2 of 9)			3/7/2011 2:39 PM
A. SEASON ALTERNATIVE DESCRIPTIONS			
ALTERNATIVE I	ALTERNATIVE II	ALTERNATIVE III	
<p>Queets River to Leadbetter Point (Westport Subarea)</p> <ul style="list-style-type: none"> June 26 through earlier of September 18 or 37,300 marked coho subarea quota with a subarea guideline of 28,600 Chinook (C.5). <p>Sunday through Thursday. All salmon, two fish per day plus two additional pink salmon; all retained coho must be marked (C.1). See gear restrictions and definitions (C.2, C.3). Grays Harbor Zone closed beginning August 1 (C.4.b). Inseason management may be used to sustain season length and keep harvest within the overall Chinook recreational TAC for north of Cape Falcon (C.5).</p>	<p>Queets River to Leadbetter Point (Westport Subarea)</p> <ul style="list-style-type: none"> July 3 through earlier of September 18 or 27,970 marked coho subarea quota with a subarea guideline of 26,300 Chinook (C.5). <p>Sunday through Thursday. All salmon, two fish per day, no more than one of which can be a Chinook plus one additional pink salmon; all retained coho must be marked (C.1). See gear restrictions and definitions (C.2, C.3). Grays Harbor Zone closed beginning August 1 (C.4.b). Inseason management may be used to sustain season length and keep harvest within the overall Chinook recreational TAC for north of Cape Falcon (C.5).</p>	<p>Queets River to Leadbetter Point (Westport Subarea)</p> <ul style="list-style-type: none"> June 26 through earlier of September 18 or 19,340 marked coho subarea quota with subarea guidelines of X marked Chinook prior to July 21 and Y non-mark selective Chinook thereafter (C.5). <p>Sunday through Thursday. All salmon, two fish per day, all coho must be marked; during the non-mark-selective Chinook period no more than one Chinook can be retained (C.1). Non-selective Chinook regulations will go into effect the earlier of July 24 or the next open day following attainment of the mark-selective Chinook guideline. See gear restrictions and definitions (C.2, C.3). Inseason management may be used to sustain season length and keep harvest within the overall Chinook recreational TAC for north of Cape Falcon (C.5).</p>	
<p>Leadbetter Point to Cape Falcon (Columbia River Subarea)</p> <ul style="list-style-type: none"> June 26 through earlier of September 30 or 50,400 marked coho subarea quota with a subarea guideline of 12,700 Chinook (C.5). <p>Seven days per week. All salmon, two fish per day. All retained coho must be marked (C.1). See gear restrictions and definitions (C.2, C.3). Columbia Control Zone closed (C.4.c). Inseason management may be used to sustain season length and keep harvest within the overall Chinook recreational TAC for north of Cape Falcon (C.5).</p>	<p>Leadbetter Point to Cape Falcon (Columbia River Subarea)</p> <ul style="list-style-type: none"> June 26 through earlier of September 30 or 37,800 marked coho subarea quota with a subarea guideline of 11,600 Chinook (C.5). <p>Seven days per week. All salmon, two fish per day, no more than one of which can be a Chinook. All retained coho must be marked (C.1). See gear restrictions and definitions (C.2, C.3). Columbia Control Zone closed (C.4.c). Inseason management may be used to sustain season length and keep harvest within the overall Chinook recreational TAC for north of Cape Falcon (C.5).</p>	<p>Leadbetter Point to Cape Falcon (Columbia River Subarea)</p> <ul style="list-style-type: none"> July 3 through earlier of September 30 or 25,200 marked coho subarea quota with subarea guidelines of X marked Chinook prior to July 21 and Y non-mark selective Chinook thereafter (C.5). <p>Seven days per week in July and September; Sunday through Thursday in August. All salmon, two fish per day, all coho must be marked; during the non-mark-selective Chinook period no more than one Chinook can be retained (C.1). Non-selective Chinook regulations will go into effect the earlier of July 24 or the 9day following attainment of the mark-selective Chinook guideline. See gear restrictions and definitions (C.2, C.3). Columbia Control Zone closed (C.4.c). Inseason management may be used to sustain season length and keep harvest within the overall Chinook recreational TAC for north of Cape Falcon (C.5).</p>	

TABLE 2. Recreational management Alternatives collated by the STT for non-Indian ocean salmon fisheries, 2011. (Page 4 of 9)			3/7/2011 2:39 PM
A. SEASON ALTERNATIVE DESCRIPTIONS			
South of Cape Falcon	South of Cape Falcon	South of Cape Falcon	
ALTERNATIVE I	ALTERNATIVE II	ALTERNATIVE III	
Supplemental Management Information	Supplemental Management Information	Supplemental Management Information	
<ol style="list-style-type: none"> 1. Sacramento River Basin recreational fishery catch assumption: 63,400 adult Sacramento River fall Chinook. 2. Sacramento River fall Chinook spawning escapement of 389,200 adults. 3. Klamath River recreational fishery allocation: 9,300 adult Klamath River fall Chinook. 4. Klamath tribal allocation: 34,100 adult Klamath River fall Chinook. 5. Overall recreational TAC: 22,500 marked coho. 6. Fisheries may need to be adjusted to meet NMFS ESA consultation standards, FMP requirements, other management objectives, or upon receipt of new allocation recommendations from the California Fish and Game Commission. 	<ol style="list-style-type: none"> 1. Sacramento River Basin recreational fishery catch assumption: 62,800 adult Sacramento River fall Chinook. 2. Sacramento River fall Chinook spawning escapement of 385,900 adults. 3. Klamath River recreational fishery allocation: 12,600 adult Klamath River fall Chinook. 4. Klamath tribal allocation: 33,700 adult Klamath River fall Chinook. 5. Overall recreational coho TAC: 16,000 marked coho and 3,000 non-mark selective quotas. 6. Fisheries may need to be adjusted to meet NMFS ESA consultation standards, FMP requirements, other management objectives, or upon receipt of new allocation recommendations from the California Fish and Game Commission. 	<ol style="list-style-type: none"> 1. Sacramento River Basin recreational fishery catch assumption: 64,300 adult Sacramento River fall Chinook. 2. Sacramento River fall Chinook spawning escapement of 394,900 adults. 3. Klamath River recreational fishery allocation: 14,300 adult Klamath River fall Chinook. 4. Klamath tribal allocation: 33,300 adult Klamath River fall Chinook. 5. Overall recreational coho TAC: 10,500 non-selective coho quota. 6. Fisheries may need to be adjusted to meet NMFS ESA consultation standards, FMP requirements, other management objectives, or upon receipt of new allocation recommendations from the California Fish and Game Commission. 	

TABLE 2. Recreational management Alternatives collated by the STT for non-Indian ocean salmon fisheries, 2011. (Page 5 of 9)			3/7/2011 2:39 PM
A. SEASON ALTERNATIVE DESCRIPTIONS			
South of Cape Falcon	South of Cape Falcon	South of Cape Falcon	
ALTERNATIVE I	ALTERNATIVE II	ALTERNATIVE III	
<p>Cape Falcon to Humbug Mt.</p> <ul style="list-style-type: none"> Except as provided below during the all-salmon mark-selective coho fishery, the season will be March 15 through October 31 (C.6). <p>All salmon except coho; two fish per day (C.1). See gear restrictions and definitions (C.2, C.3).</p> <ul style="list-style-type: none"> All-salmon mark-selective coho fishery: Cape Falcon to OR/CA Border: June 25 through earlier of September 5 or a landed catch of 22,500 marked coho. The all salmon except coho season reopens the earlier of September 6 or attainment of the coho quota. Seven days per week. All salmon, two fish per day. All retained coho must be marked (C.1). <p>Fishing in the Stonewall Bank groundfish conservation area restricted to trolling only on days the all depth recreational halibut fishery is open (call the halibut fishing hotline 1-800-662-9825 for specific dates) (C.3.b, C.4.d). Open days may be adjusted inseason to utilize the available quota (C.5).</p> <p>In 2012, the season between Cape Falcon and Humbug Mt. will open March 15 for all salmon except coho, two fish per day (B, C.1, C.2, C.3).</p>	<p>Cape Falcon to Humbug Mt.</p> <ul style="list-style-type: none"> Except as provided below during the all-salmon mark-selective and non-selective coho fisheries, the season will be April 14 through September 30 (C.6). <p>All salmon except coho; two fish per day (C.1). See gear restrictions and definitions (C.2, C.3).</p> <ul style="list-style-type: none"> Cape Falcon to OR/CA border all-salmon mark-selective coho fishery: July 2 through earlier of August 13 or a landed catch of 16,000 marked coho. Seven days per week. All salmon, two fish per day. All retained coho must be marked (C.1). Any remainder of the mark selective coho quota will be transferred on an impact neutral basis to the September non-selective coho quota listed below. The all salmon except coho season reopens the earlier of August 14 or attainment of the coho quota, through August 31. Cape Falcon to Humbug Mt. non-selective coho fishery: September 1 through the earlier of September 10 or a landed catch of 3,000 non-selective coho quota. Thursday through Saturday. All salmon, two fish per day. The all salmon except coho season reopens the earlier of September 11 or attainment of the coho quota. <p>Fishing in the Stonewall Bank groundfish conservation area restricted to trolling only on days the all depth recreational halibut fishery is open (call the halibut fishing hotline 1-800-662-9825 for specific dates) (C.3.b, C.4.d). Open days may be adjusted inseason to utilize the available quota (C.5).</p> <p>In 2012, same as Alternative I</p>	<p>Cape Falcon to Humbug Mt.</p> <ul style="list-style-type: none"> Except as provided below during the all-salmon non-mark-selective coho fishery, the season will be May 1 through October 31 (C.6). <p>Seven days per week. All salmon except coho; two fish per day (C.1). See gear restrictions and definitions (C.2, C.3).</p> <ul style="list-style-type: none"> Cape Falcon to Humbug Mt. non-selective coho fishery: August 18 through the earlier of September 10 or a landed catch of 10,500 non-selective coho quota. Thursday through Saturday. All salmon, two fish per day. The all salmon except coho season reopens the earlier of September 11 or attainment of the coho quota. <p>Fishing in the Stonewall Bank groundfish conservation area restricted to trolling only on days the all depth recreational halibut fishery is open (call the halibut fishing hotline 1-800-662-9825 for specific dates) (C.3.b, C.4.d). Open days may be adjusted inseason to utilize the available quota (C.5).</p> <p>In 2012, same as Alternative I</p>	

TABLE 2. Recreational management Alternatives collated by the STT for non-Indian ocean salmon fisheries, 2011. (Page 6 of 9)			3/7/2011 2:39 PM
A. SEASON ALTERNATIVE DESCRIPTIONS			
ALTERNATIVE I	ALTERNATIVE II	ALTERNATIVE III	
<p>Humbug Mt. to OR/CA Border. (Oregon KMZ)</p> <ul style="list-style-type: none"> Except as provided above during the all-salmon mark-selective coho fishery, the season will be May 7 through September 5 (C.6). <p>Seven days per week. All salmon except coho, two fish per day except as noted above in the all-salmon mark-selective coho fishery (C.1). Chinook minimum size limit of 24 inches total length (B). See gear restrictions and definitions (C.2, C.3).</p>	<p>Humbug Mt. to OR/CA Border. (Oregon KMZ)</p> <ul style="list-style-type: none"> Except as provided above during the all-salmon mark-selective and non-mark-selective coho fisheries, the season will be May 28 through September 5 (C.6). <p>Seven days per week. All salmon except coho, two fish per day except as noted above in the all-salmon mark-selective coho fishery (C.1). Chinook minimum size limit of 24 inches total length (B). See gear restrictions and definitions (C.2, C.3).</p>	<p>Humbug Mt. to OR/CA Border. (Oregon KMZ)</p> <ul style="list-style-type: none"> May 28 through July 30; September 1-5 (C.6). <p>Seven days per week. All salmon except coho, two fish per day (C.1). Chinook minimum size limit of 24 inches total length (B). See gear restrictions and definitions (C.2, C.3).</p>	
<p>OR/CA Border to Horse Mt. (California KMZ)</p> <ul style="list-style-type: none"> May 7 through September 5 (C.6). <p>Seven days per week. All salmon except coho, two fish per day (C.1). Chinook minimum size limit of 24 inches total length (B). See gear restrictions and definitions (C.2, C.3). Klamath Control Zone closed in August (C.4.e). See California State regulations for additional closures adjacent to the Smith, Eel, and Klamath rivers.</p>	<p>OR/CA Border to Horse Mt. (California KMZ)</p> <ul style="list-style-type: none"> May 28 through September 5 (C.6). <p>Seven days per week. All salmon except coho, two fish per day (C.1). Chinook minimum size limit of 24 inches total length (B). See gear restrictions and definitions (C.2, C.3). Klamath Control Zone closed in August (C.4.e). See California State regulations for additional closures adjacent to the Smith, Eel, and Klamath rivers.</p>	<p>OR/CA Border to Horse Mt. (California KMZ)</p> <ul style="list-style-type: none"> May 28 through July 30; September 1-5 (C.6). <p>Seven days per week. All salmon except coho, two fish per day (C.1). Chinook minimum size limit of 24 inches total length (B). See gear restrictions and definitions (C.2, C.3). Klamath Control Zone closed in August (C.4.e). See California State regulations for additional closures adjacent to the Smith, Eel, and Klamath rivers.</p>	
<p>Horse Mt. to Point Arena (Fort Bragg)</p> <ul style="list-style-type: none"> April 2 through November 13. <p>Seven days per week. All salmon except coho, two fish per day (C.1). Chinook minimum size limit of 24 inches total length through August 31, 20 inches thereafter (B). See gear restrictions and definitions (C.2, C.3).</p> <p>In 2012, season opens February 18 for all salmon except coho, two fish per day (C.1). Chinook minimum size limit of 24 inches total length (B); and the same gear restrictions as in 2011 (C.2, C.3).</p>	<p>Horse Mt. to Point Arena (Fort Bragg)</p> <ul style="list-style-type: none"> April 2 through November 13. <p>Seven days per week. All salmon except coho, two fish per day (C.1). Chinook minimum size limit of 24 inches total length (B). See gear restrictions and definitions (C.2, C.3).</p> <p>In 2012, same as Alternative I.</p>	<p>Horse Mt. to Point Arena (Fort Bragg)</p> <ul style="list-style-type: none"> April 2 through October 16. <p>Seven days per week. All salmon except coho, two fish per day (C.1). Chinook minimum size limit of 24 inches total length through August 31, 20 inches thereafter (B). See gear restrictions and definitions (C.2, C.3).</p> <p>In 2012, same as Alternative I.</p>	
<p>Point Arena to Pigeon Point (San Francisco)</p> <ul style="list-style-type: none"> April 2 through November 13. <p>Seven days per week. All salmon except coho, two fish per day (C.1). Chinook minimum size limit of 24 inches total length through August 31, 20 inches thereafter (B). See gear restrictions and definitions (C.2, C.3).</p> <p>In 2012, season opens April 7 for all salmon except coho, two fish per day (C.1). Chinook minimum size limit of 24 inches total length (B); and the same gear restrictions as in 2011 (C.2, C.3).</p>	<p>Point Arena to Pigeon Point (San Francisco)</p> <ul style="list-style-type: none"> April 2 through November 13. <p>Seven days per week. All salmon except coho, two fish per day (C.1). Chinook minimum size limit of 24 inches total length (B). See gear restrictions and definitions (C.2, C.3).</p> <p>In 2012, same as Alternative I.</p>	<p>Point Arena to Pigeon Point (San Francisco)</p> <ul style="list-style-type: none"> April 2 through October 16. <p>Seven days per week. All salmon except coho, two fish per day (C.1). Chinook minimum size limit of 24 inches total length through August 31, 20 inches thereafter (B). See gear restrictions and definitions (C.2, C.3).</p> <p>In 2012, same as Alternative I.</p>	

TABLE 2. Recreational management Alternatives collated by the STT for non-Indian ocean salmon fisheries, 2011. (Page 7 of 9) 3/7/2011 2:39 PM

A. SEASON ALTERNATIVE DESCRIPTIONS		
ALTERNATIVE I	ALTERNATIVE II	ALTERNATIVE III
<p>Pigeon Point to U.S./Mexico Border (Monterey South)</p> <ul style="list-style-type: none"> April 2 through October 2. <p>Seven days per week. All salmon except coho, two fish per day (C.1). Chinook minimum size limit of 24 inches total length through August 31, 20 inches thereafter (B). See gear restrictions and definitions (C.2, C.3).</p> <p>In 2012, season opens April 7 for all salmon except coho, two fish per day (C.1). Chinook minimum size limit of 24 inches total length (B); and the same gear restrictions as in 2011 (C.2, C.3).</p>	<p>Pigeon Point to U.S./Mexico Border (Monterey)</p> <ul style="list-style-type: none"> April 2 through August 31. <p>Seven days per week. All salmon except coho, two fish per day (C.1). Chinook minimum size limit of 24 inches total length (B). See gear restrictions and definitions (C.2, C.3).</p> <p>In 2012, same as Alternative I.</p>	<p>Pigeon Point to U.S./Mexico Border (Monterey)</p> <p>Same as Alternative II</p> <p>In 2012, same as Alternative I.</p>

B. MINIMUM SIZE (Inches) (See C.1)

Area (when open)	Chinook Prior to Sept. 1	After Sept. 1	Coho	Pink
North of Cape Falcon	24.0	24.0	16.0	None
Cape Falcon to OR/CA Border	24.0	24.0	16.0	None
OR/CA Border to Horse Mt.	24.0	24.0	-	24.0
Horse Mt. to U.S./Mexico Border:	Alternatives I and III	24.0	20.0	-
	Alternative II	24.0	24.0	-

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.

Ocean Boat Limits: Off the coast of Washington, Oregon, and California, each fisher aboard a vessel may continue to use angling gear until the combined daily limits of salmon for all licensed and juvenile anglers aboard has been attained (additional state restrictions may apply).

TABLE 2. Recreational management Alternatives collated by the STT for non-Indian ocean salmon fisheries, 2011. (Page 8 of 9)

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C. REQUIREMENTS, DEFINITIONS, RESTRICTIONS, OR EXCEPTIONS
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- C.2. **Gear Restrictions:** Salmon may be taken only by hook and line using barbless hooks. 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 Point Conception, California:* No more than one rod may be used per angler; and no more than two 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. *Horse Mt., California, to Point Conception, California:* Single point, single shank, barbless circle hooks (see gear definitions below) are required when fishing with bait by any means other than trolling, and no more than two such hooks shall be used. When angling with two hooks, the distance between the hooks must not exceed five 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.
- C.3. **Gear Definitions:**
- a. *Recreational fishing gear defined:* Angling tackle consisting of a line with no more than one artificial lure or natural bait attached. Off Oregon and Washington, the line must be attached to a rod and reel held by hand or closely attended; the rod and reel must be held by hand while playing a hooked fish. No person may use more than one rod and line while fishing off Oregon or Washington. Off California, the line must be attached to a rod and reel held by hand or closely attended; weights directly attached to a line may not exceed four pounds (1.8 kg). While fishing off California north of Point Conception, no person fishing for salmon, and no person fishing from a boat with salmon on board, may use more than one rod and line. Fishing includes any activity which can reasonably be expected to result in the catching, taking, or harvesting of fish.
 - b. *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. *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.
- C.4. **Control Zone Definitions:**
- a. *The Bonilla-Tatoosh Line:* A line running from the western end of Cape Flattery to Tatoosh Island Lighthouse (48°23'30" N. lat., 124°44'12" W. long.) to the buoy adjacent to Duntze Rock (48°28'00" N. lat., 124°45'00" W. long.), then in a straight line to Bonilla Point (48°35'30" N. lat., 124°43'00" W. long.) on Vancouver Island, British Columbia.
 - 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°15'48" 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. *Stonewall Bank Groundfish Conservation Area:* The area defined by the following coordinates in the order listed:
44°37.46' N. lat.; 124°24.92' W. long.;
44°37.46' N. lat.; 124°23.63' W. long.;
44°28.71' N. lat.; 124°21.80' W. long.;
44°28.71' N. lat.; 124°24.10' W. long.;
44°31.42' N. lat.; 124°25.47' W. long.;
and connecting back to 44°37.46' N. lat.; 124°24.92' W. long.
 - e. *Klamath Control Zone:* The ocean area at the Klamath River mouth bounded on the north by 41°38'48" N. lat. (approximately six 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. REQUIREMENTS, DEFINITIONS, RESTRICTIONS, OR EXCEPTIONS

- C.5. Inseason Management: Regulatory modifications may become necessary inseason to meet preseason management objectives such as quotas, harvest guidelines, and season duration. In addition to standard inseason actions or modifications already noted under the season description, the following inseason guidance is provided to NMFS:
- a. Actions could include modifications to bag limits, or days open to fishing, and extensions or reductions in areas open to fishing.
 - b. Coho may be transferred inseason among recreational subareas north of Cape Falcon on an fishery impact equivalent basis to help meet the recreational season duration objectives (for each subarea) after conferring with representatives of the affected ports and the Council's SAS recreational representatives north of Cape Falcon.
 - c. Chinook and coho may be transferred between the recreational and commercial fisheries north of Cape Falcon on a fishery impact equivalent basis if there is agreement among the representatives of the Salmon Advisory Subpanel (SAS).
 - d. If retention of unmarked coho is permitted in the area from the U.S./Canada border to Cape Falcon, Oregon, by inseason action, the allowable coho quota will be adjusted to ensure preseason projected mortality of critical stocks is not exceeded.
- C.6. Additional Seasons in State Territorial Waters: Consistent with Council management objectives, the States of Washington, Oregon, and California may establish limited seasons in state waters. Check state regulations for details.

TABLE 3. Treaty Indian troll management Alternatives collated by the STT for ocean salmon fisheries, 2011. (Page 1 of 2)			3/7/2011 2:39 PM
A. SEASON ALTERNATIVE DESCRIPTIONS			
ALTERNATIVE I	ALTERNATIVE II	ALTERNATIVE III	
Supplemental Management Information	Supplemental Management Information	Supplemental Management Information	
<p>1. Overall Treaty-Indian TAC: 60,000 Chinook and 60,000 coho.</p> <p>2. Overall Chinook and/or coho TACs may need to be reduced or fisheries adjusted to meet NMFS ESA guidance, FMP requirements, upon conclusion of negotiations in the North of Falcon forum, or upon receipt of preseason catch and abundance expectations for Canadian and Alaskan fisheries</p>	<p>1. Overall Treaty-Indian TAC: 50,000 Chinook and 50,000 coho.</p> <p>2. Overall Chinook and/or coho TACs may need to be reduced or fisheries adjusted to meet NMFS ESA guidance, FMP requirements, upon conclusion of negotiations in the North of Falcon forum, or upon receipt of preseason catch and abundance expectations for Canadian and Alaskan fisheries</p>	<p>1. Overall Treaty-Indian TAC: 40,000 Chinook and 40,000 coho.</p> <p>2. Overall Chinook and/or coho TACs may need to be reduced or fisheries adjusted to meet NMFS ESA guidance, FMP requirements, upon conclusion of negotiations in the North of Falcon forum, or upon receipt of preseason catch and abundance expectations for Canadian and Alaskan fisheries</p>	
<ul style="list-style-type: none"> • May 1 through the earlier of June 30 or 30,000 Chinook quota. <p>All salmon except coho. 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. If the Chinook quota is exceeded, the excess will be deducted from the later all-salmon season. See size limit (B) and other restrictions (C).</p> <ul style="list-style-type: none"> • July 1 through the earlier of September 15, or 30,000 preseason Chinook quota, or 60,000 coho quota. <p>All Salmon. See size limit (B) and other restrictions (C).</p>	<ul style="list-style-type: none"> • May 1 through the earlier of June 30 or 25,000 Chinook quota. <p>All salmon except coho. 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 on an impact neutral basis. If the Chinook quota is exceeded, the excess will be deducted from the later all-salmon season. See size limit (B) and other restrictions (C).</p> <ul style="list-style-type: none"> • July 1 through the earlier of September 15, or 25,000 preseason Chinook quota, or 50,000 coho quota. <p>All salmon. See size limit (B) and other restrictions (C).</p>	<ul style="list-style-type: none"> • May 1 through the earlier of June 30 or 20,000 Chinook quota. <p>All salmon except coho. 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. If the Chinook quota is exceeded, the excess will be deducted from the later all-salmon season. See size limit (B) and other restrictions (C).</p> <ul style="list-style-type: none"> • July 1 through the earlier of September 15, or 20,000 preseason Chinook quota, or 40,000 coho quota. <p>All salmon. See size limit (B) and other restrictions (C).</p>	

TABLE 3. Treaty Indian troll management Alternatives collated by the STT for ocean salmon fisheries, 2011. (Page 2 of 2)

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B. MINIMUM SIZE (Inches)

Area (when open)	Chinook		Coho		Pink
	Total Length	Head-off	Total Length	Head-off	
North of Cape Falcon	24.0 (61.0 cm)	18.0 (45.7 cm)	16.0 (40.6 cm)	12.0 (30.5 cm)	None

C. REQUIREMENTS, DEFINITIONS, RESTRICTIONS, OR EXCEPTIONS

C.1. Tribes and Area Boundaries. 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.

S'KLALLAM - Washington State Statistical Area 4B (All).

MAKAH - Washington State Statistical Area 4B and that portion of the FMA north of 48°02'15" N. lat. (Norwegian Memorial) and east of 125°44'00" W. long.

QUILEUTE - That portion of the FMA between 48°07'36" N. lat. (Sand Pt.) and 47°31'42" N. lat. (Queets River) and east of 125°44'00" W. long.

HOH - That portion of the FMA between 47°54'18" N. lat. (Quillayute River) and 47°21'00" N. lat. (Quinault River) and east of 125°44'00" W. long.

QUINAULT - That portion of the FMA between 47°40'06" N. lat. (Destruction Island) and 46°53'18"N. lat. (Point Chehalis) and east of 125°44'00" W. long.

C.2. Gear restrictions

- a. Single point, single shank, barbless hooks are required in all fisheries.
- b. No more than eight fixed lines per boat.
- c. No more than four hand held lines per person in the Makah area fishery (Washington State Statistical Area 4B and that portion of the FMA north of 48°02'15" N. lat. (Norwegian Memorial) and east of 125°44'00" W. long.)

C.3. Quotas

- a. The quotas include troll catches by the S'Klallam and Makah tribes in Washington State Statistical Area 4B from May 1 through September 15.
- b. The Quileute Tribe will continue a ceremonial and subsistence fishery during the time frame of September 15 through October 15 in the same manner as in 2004-2010. Fish taken during this fishery are to be counted against treaty troll quotas established for the 2011 season (estimated harvest during the October ceremonial and subsistence fishery: 100 Chinook; 200 coho).

C.4. Area Closures

- a. The area within a six nautical mile radius of the mouths of the Queets River (47°31'42" N. lat.) and the Hoh River (47°45'12" N. lat.) will be closed to commercial fishing.
- b. A closure within two nautical miles of the mouth of the Quinault River (47°21'00" N. lat.) 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 5. Projected key stock escapements (thousands of fish) or management criteria for 2011 ocean fishery Alternatives collated by the STT. ^{a/} (Page 1 of 2)

Key Stock/Criteria	Projected Ocean Escapement ^{b/} or Other Criteria (Council Area Impacts in Parens)			Spawner Objective or Other Comparative Standard as Noted
	Alternative I	Alternative II	Alternative III	
CHINOOK				
Columbia Upriver Brights	416.6	417.1	418.1	88.2 Minimum ocean escapement to attain 60.0 adults over McNary Dam, with normal distribution and no mainstem harvest.
Mid-Columbia Brights	104.6	104.8	105.1	13.2 Minimum ocean escapement to attain 4.7 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	121.5	124.5	129.9	22.1 Minimum ocean escapement to attain 12.4 adults for hatchery egg-take, with average conversion and no lower river mainstem or tributary harvest.
Columbia Lower River Natural Tules (threatened)	41.7%	39.8%	37.4%	≤ 37.0% Total adult equivalent fishery exploitation rate; 2011 ESA guidance (NMFS ESA consultation standard).
Columbia Lower River Wild ^{d/} (threatened)	13.0	13.1	13.1	6.8 Minimum ocean escapement to attain MSY spawner goal of 5.7 for N. Lewis River fall Chinook (NMFS ESA consultation standard).
Spring Creek Hatchery Tules	108.4	111.8	117.5	8.8 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	45.5%	41.7%	37.8%	≤ 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; FMP.
Federally recognized tribal harvest	50.0%	50.0%	50.0%	50.0% Equals 34.1, 33.7, and 33.3 (thousand) adult fish for Yurok and Hoopa tribal fisheries.
Spawner Reduction Rate	53.8%	53.8%	53.8%	≤ 66.7% FMP; equals ____, ____, and ____ (thousand) fewer adult spawners due to fishing.
Adult river mouth return	102.1	105.0	106.2	NA
Age 4 ocean harvest rate	16.9%	13.2%	12.1%	≤ 16.0% NMFS ESA consultation standard for threatened California Coastal Chinook. No Council guidance for 2011.
KMZ sport fishery share	14.2%	15.4%	11.4%	≥ 15% 2010 Council Guidance. Equals 9.3, 12.6, and 14.3 (thousand) adult fish for recreational inriver fisheries.
River recreational fishery share	27.3%	37.5%	42.8%	
Sacramento River Winter (endangered)	Met	Met	Met	Recreational seasons: Point Arena to Pigeon Point between the first Saturday in April and the second Sunday in November; Pigeon Point to the U.S./Mexico Border between the first Saturday in April and the first Sunday in October. Minimum size limit ≥ 20 inches total length. In addition, for 2011, fisheries south of Pt. Arena must have either a minimum size limit ≥ 24 inches total length, or be closed for two consecutive months between May 1 and August 31. Commercial seasons: Point Arena to the U.S./Mexico border between May 1 and September 30, except Point Reyes to Point San Pedro between October 1 and 15. Minimum size limit ≥ 26 inches total length. (NMFS ESA Guidance for 2011).
Sacramento River Fall	389.2	385.9	394.9	≥150-180 2011 Council and NMFS guidance for natural and hatchery adult spawners.
Ocean commercial impacts	174.6	181.1	174.2	All options include fall (Sept-Dec) 2010 impacts; equals 0 SRFC.
Ocean recreational impacts	102.7	100.0	96.5	All options include fall 2010 impacts (386 SRFC).
River recreational impacts	63.4	62.8	64.3	No guidance in 2011.
Hatchery spawner goal	Met	Met	Met	22.0 Aggregate number of adults to achieve egg take goals at Coleman, Feather

River, and Nimbus hatcheries.

TABLE 5. Projected key stock escapements (thousands of fish) or management criteria for 2011 ocean fishery Alternatives collated by the STT.^{a/} (Page 2 of 2)

Key Stock/Criteria	Projected Ocean Escapement ^{b/} or Other Criteria (Council Area Impacts in Parens)			COHO	Spawner Objective or Other Comparative Standard as Noted
	Alternative I	Alternative II	Alternative III		
Interior Fraser (Thompson River)	11.3%(6.1%)	10.0%(4.9%)	8.9%(3.9%)	≤ 10.0%	2011 Southern U.S. exploitation rate ceiling; 2002 PSC coho agreement.
Skagit	38.1%(5.4%)	37.2%(4.4%)	36.5%(3.5%)	≤ 60.0%	2011 total exploitation rate ceiling; FMP matrix ^{d/}
Stillaguamish	31.3%(3.8%)	30.7%(3.1%)	30.1%(2.4%)	≤ 50.0%	2011 total exploitation rate ceiling; FMP matrix ^{d/}
Snohomish	30.5%(3.9%)	29.8%(3.1%)	29.2%(2.4%)	≤ 60.0%	2011 total exploitation rate ceiling; FMP matrix ^{d/}
Hood Canal	42.3%(5.7%)	41.5%(4.6%)	40.8%(3.7%)	≤ 65.0%	2011 total exploitation rate ceiling; FMP matrix ^{d/}
Strait of Juan de Fuca	13.5%(4.4%)	12.6%(3.6%)	11.9%(2.9%)	≤ 40.0%	2011 total exploitation rate ceiling; FMP matrix ^{d/}
Quillayute Fall	26.0	26.3	26.6	6.3-15.8	FMP objective MSY adult spawner range ^{d/}
Hoh	9.5	9.8	10.1	2.0-5.0	FMP objective MSY adult spawner range ^{d/}
Queets Wild	9.9	10.3	10.6	5.8-14.5	FMP objective MSY adult spawner range ^{d/}
Grays Harbor	79.7	81.2	82.4	35.4	FMP objective MSY adult spawner range ^{d/}
Lower Columbia River Natural (threatened)	15.4%	12.1%	9.0%	≤ 15.0%	Total marine and mainstem Columbia River fishery exploitation rate (NMFS ESA consultation standard). Value depicted is ocean fishery exploitation rate only.
Upper Columbia ^{e/}	>50%	>50%	>50%	≥ 50%	Minimum percentage of the run to Bonneville Dam.
Columbia River Hatchery Early	144.6	158.2	176.4	31.2	Minimum ocean escapement to attain hatchery egg-take goal of 14.1 early adult coho, with average conversion and no mainstem or tributary fisheries.
Columbia River Hatchery Late	83.4	96.8	111.2	9.3	Minimum ocean escapement to attain hatchery egg-take goal of 7.1 late adult coho, with average conversion and no mainstem or tributary fisheries.
Oregon Coastal Natural	13.9%	14.1%	12.7%	≤ 15.0%	Marine and freshwater fishery exploitation rate.
Southern Oregon/Northern California Coast (threatened)	8.4%	9.3%	6.4%	≤ 13.0%	Marine fishery exploitation rate for R/K hatchery coho (NMFS ESA consultation standard).

a/ Projections in the table assume a WCVI mortality for coho of the 2010 preseason level. Chinook fisheries in Southeast Alaska, North Coast BC, and WCVI troll and outside sport fisheries were assumed to have the same exploitation rates as expected preseason in 2010, as modified by the 2008 PST agreement. Assumptions for these Chinook fisheries will be changed prior to the April meeting when allowable catch levels for 2011 under the PST are known.

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 LCN coho include all marine impacts prior to 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 lower Columbia Natural (LCN) Oregon coastal natural (OCN) and Rogue/Klamath (RK) coho, and Lower Columbia River (LCR) tule Chinook exploitation rates by fishery for 2011 ocean fisheries management Alternatives collated by the STT.

Fishery	Exploitation Rate (Percent)											
	LCN Coho			OCN Coho			RK Coho			LCR Tule		
	I	II	III	I	II	III	I	II	III	I	II	III
SOUTHEAST ALASKA	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	2.7%	2.7%	2.8%
BRITISH COLUMBIA	0.1%	0.1%	0.1%	0.3%	0.3%	0.3%	0.2%	0.2%	0.2%	11.3%	11.5%	11.6%
PUGET SOUND/STRAIT	0.2%	0.2%	0.2%	0.1%	0.1%	0.1%	0.0%	0.0%	0.0%	0.5%	0.5%	0.5%
NORTH OF CAPE FALCON												
Treaty Indian Ocean Troll	3.0%	2.5%	2.0%	0.8%	0.6%	0.5%	0.0%	0.0%	0.0%	5.8%	4.9%	4.0%
Recreational	6.9%	5.1%	3.3%	1.2%	0.9%	0.6%	0.1%	0.0%	0.0%	3.9%	3.6%	2.9%
Non-Indian Troll	2.4%	1.8%	1.3%	0.6%	0.5%	0.3%	0.0%	0.0%	0.0%	7.2%	6.5%	5.3%
SOUTH OF CAPE FALCON												
Recreational:										0.1%	0.1%	0.0%
Cape Falcon to Humbug Mt.	1.4%	1.1%	1.0%	2.4%	2.9%	3.0%	0.3%	0.3%	0.2%			
Humbug Mt. OR/CA border (KMZ)	0.1%	0.2%	0.1%	0.3%	0.1%	0.2%	0.8%	2.2%	0.5%			
OR/CA border to Horse Mt. (KMZ)	0.1%	0.1%	0.1%	0.9%	0.7%	0.6%	3.5%	3.4%	2.4%			
Fort Bragg	0.0%	0.0%	0.0%	0.5%	0.5%	0.5%	1.3%	1.3%	1.3%			
South of Pt. Arena	0.0%	0.0%	0.0%	0.4%	0.4%	0.4%	1.0%	1.0%	1.0%			
Troll:										2.6%	2.2%	2.2%
Cape Falcon to Humbug Mt.	1.0%	0.8%	0.8%	1.2%	1.0%	0.9%	0.2%	0.1%	0.1%			
Humbug Mt. OR/CA border (KMZ)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.1%	0.0%			
OR/CA border to Horse Mt. (KMZ)	0.0%	0.0%	0.0%	0.1%	0.1%	0.0%	0.4%	0.2%	0.0%			
Fort Bragg	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.2%	0.1%	0.0%			
South of Pt. Arena	0.0%	0.0%	0.0%	0.2%	0.2%	0.3%	0.2%	0.2%	0.3%			
BUOY 10	0.5%	0.5%	0.5%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	7.6%	7.8%	8.1%
ESTUARY/FRESHWATER	N/A	N/A	N/A	4.8%	4.8%	4.8%	0.2%	0.2%	0.2%			
TOTAL ^{a/}	15.4%	12.1%	9.0%	13.9%	14.1%	12.7%	8.2%	9.1%	6.1%	41.7%	39.8%	37.4%

a/ Totals do not include estuary/freshwater or Buoy 10 for LCN coho and RK coho.

TABLE A-1. **Sacramento River fall Chinook** ocean impacts, including non-retention impacts where applicable, by fishery and option. Sacramento River fall Chinook impacts were estimated for the fall of 2010 and projected for each of the proposed 2011 fishing season options. The impacts are displayed for each option by fishery, port area, and month.

Commercial											
Option I			Summer 2011					Summer	Year		
Port Area	Fall 2010		Mar	Apr	May	Jun	Jul	Aug	Total	Total	
NO			3,848	3,001	9,016	6,896	4,654	7,455	34,870	34,869	
CO			3,143	5,014	2,816	3,136	2,670	2,550	19,329	19,328	
KO					103	511	578	391	1,583	1,583	
KC						209	622	230	1,061	1,061	
FB					6,681	925	912	901	9,419	9,419	
SF					27,464	5,902	24,244	16,388	73,998	73,998	
MO					16,326	3,778	11,940	2,345	34,389	34,388	
Total			6,991	8,015	62,405	21,356	45,619	30,260	174,646	174,647	

Option II											
Port Area	Fall 2010		Mar	Apr	May	Jun	Jul	Aug	Summer Total	Year Total	
NO				1,600	9,016	6,896	3,453	5,655	26,620	26,620	
CO				2,674	2,816	3,136	1,981	1,935	12,542	12,541	
KO					103	341	463	391	1,298	1,297	
KC						156	467	173	796	796	
FB						617	729	901	2,247	2,247	
SF					38,667		30,117	16,388	85,172	85,172	
MO					35,223		14,862	2,345	52,430	52,430	
Total				4,275	85,825	11,145	52,071	27,788	181,104	181,104	

Option III											
Port Area	Fall 2010		Mar	Apr	May	Jun	Jul	Aug	Summer Total	Year Total	
NO				1,600	9,016	5,287	3,453	5,655	25,011	25,011	
CO				2,674	2,816	2,404	1,981	1,935	11,810	11,809	
KO					103	341	386	260	1,090	1,090	
KC											
FB						617	608	601	1,826	1,825	
SF					38,667		34,816	7,471	80,954	80,954	
MO					35,223		17,199	1,083	53,505	53,505	
Total				4,275	85,825	8,648	58,441	17,005	174,194	174,195	

Recreational													
Option I			Summer 2011					Summer	Year				
Port Area	Fall 2010		Jan-Feb	Mar	Apr	May	Jun	Jul	Aug	Total	Total		
NO		18			8	13	75	628	585	1,309	1,327		
CO					8	12	262	1,029	529	1,840	1,841		
KO		27				398	696	993	522	2,609	2,636		
KC						1,917	2,458	2,519	1,292	8,186	8,187		
FB		62			287	1,090	2,907	3,802	1,521	9,607	9,670		
SF		279			5,853	6,504	9,998	20,615	9,357	52,327	52,606		
MO					10,054	3,847	4,872	6,626	1,017	26,416	26,416		
Total		386			16,209	13,783	21,269	36,212	14,824	102,297	102,683		

Option II												
Port Area	Fall 2010		Jan-Feb	Mar	Apr	May	Jun	Jul	Aug	Summer Total	Year Total	
NO		18			4	13	16	608	299	940	959	
CO					4	12	107	1,002	363	1,488	1,489	
KO		27				64	696	993	522	2,275	2,301	
KC						307	2,458	2,519	1,292	6,576	6,577	
FB		62			287	1,090	2,907	3,802	1,521	9,607	9,670	
SF		279			5,853	6,504	9,998	20,615	9,357	52,327	52,606	
MO					10,054	3,847	4,872	6,626	1,017	26,416	26,416	
Total		386			16,203	11,838	21,055	36,165	14,371	99,632	100,018	

Option III												
Port Area	Fall 2010		Jan-Feb	Mar	Apr	May	Jun	Jul	Aug	Summer Total	Year Total	
NO		18				13	16	12	187	228	247	
CO						12	107	192	298	609	610	
KO		27				64	696	961		1,721	1,748	
KC						307	2,458	2,438		5,203	5,203	
FB		62			287	1,090	2,907	3,802	1,521	9,607	9,670	
SF		279			5,853	6,504	9,998	20,615	9,357	52,327	52,606	
MO					10,054	3,847	4,872	6,626	1,017	26,416	26,416	
Total		386			16,194	11,838	21,055	34,646	12,381	96,114	96,500	

TABLE B-2. **Klamath River fall Chinook** ocean impacts, including non-retention impacts where applicable, by fishery and option. Klamath River fall Chinook impacts were estimated for the fall of 2010 and projected for each of the proposed 2011 fishing season options. The impacts are displayed for each option by fishery, port area, and month.

Commercial										
Option I										
Port	Fall 2010		Summer 2011					Summer	Year	
Area	Sept	Oct-Dec	Mar	Apr	May	Jun	Jul	Aug	Total	
NO			333	153	278	130	363	968	2,225	2,226
CO			908	280	342	373	1,675	2,946	6,524	6,524
KO					50	306	466	504	1,326	1,326
KC						460	294	469	1,223	1,223
FB					1,413	352	280	125	2,170	2,170
SF					1,479	1,090	3,943	1,074	7,586	7,586
MO					258	337	836	14	1,445	1,444
Total			1,242	433	3,819	3,048	7,857	6,101	22,500	22,499

Option II										
Port	Fall 2010		Summer 2011					Summer	Year	
Area	Sep	Oct-Dec	Mar	Apr	May	Jun	Jul	Aug	Total	
NO				83	284	134	277	752	1,530	1,531
CO				152	349	383	1,275	2,272	4,431	4,431
KO					51	204	372	503	1,130	1,130
KC						344	220	351	915	915
FB						234	223	125	582	583
SF					2,106		5,021	1,089	8,216	8,216
MO					568		1,071	14	1,653	1,654
Total				235	3,358	1,300	8,460	5,107	18,460	18,459

Option III										
Port	Fall 2010		Summer 2011					Summer	Year	
Area	Sep	Oct-Dec	Mar	Apr	May	Jun	Jul	Aug	Total	
NO				83	284	103	278	752	1,500	1,500
CO				152	349	294	1,278	2,272	4,345	4,344
KO					51	204	310	335	900	900
KC							234	186	504	504
FB								84	504	504
SF					2,106		5,819	496	8,421	8,422
MO					568		1,243	7	1,818	1,818
Total				235	3,358	835	9,115	3,946	17,489	17,488

Recreational										
Option I										
Port	Fall 2010		Summer 2011					Summer	Year	
Area	Sep	Oct Nov-Dec	Jan-Feb	Mar	Apr	May	Jun	Jul	Aug	
NO								40	41	81
CO						6	33	113	72	224
KO						16	162	441	499	1,118
KC						406	755	878	558	2,597
FB					11	97	279	351	81	819
SF					114	55	218	245	10	642
MO					75	17	33	71	9	205
Total					200	597	1,479	2,139	1,270	5,685

Option II										
Port	Fall 2010		Summer 2011					Summer	Year	
Area	Sep	Oct Nov-Dec	Jan-Feb	Mar	Apr	May	Jun	Jul	Aug	
NO								39	21	60
CO						6	14	111	50	181
KO						3	164	449	510	1,126
KC						65	761	893	572	2,291
FB					11	98	281	357	82	829
SF					115	55	220	249	10	649
MO					76	17	33	73	9	208
Total					201	244	1,473	2,171	1,255	5,344

Option III										
Port	Fall 2010		Summer 2011					Summer	Year	
Area	Sep	Oct Nov-Dec	Jan-Feb	Mar	Apr	May	Jun	Jul	Aug	
NO								1	13	14
CO						6	14	21	41	82
KO						3	164	435		602
KC						65	761	866		1,692
FB					11	98	281	357	82	829
SF					115	55	220	249	10	649
MO					76	17	33	73	9	208
Total					201	244	1,473	2,003	157	4,078

TABLE C-2. Klamath River fall Chinook **age-4 ocean HARVEST** by fishery and option. Klamath River fall Chinook age-4 HARVEST was projected for each of the proposed 2011 fishing season options. The harvest are displayed for each option by fishery, port area, and month.

Commercial										
Option I										
Port	Fall 2010		Summer 2011					Summer	Year	
Area	Sept	Oct-Dec	Mar	Apr	May	Jun	Jul	Aug	Total	Total
NO			248	110	216	90	146	333	1,143	1,143
CO			725	211	234	214	577	637	2,598	2,599
KO					32	131	157	124	444	444
KC						169	99	137	405	405
FB						980	124	101	1,229	1,229
SF						610	477	1,309	2,578	2,578
MO						205	168	333	718	718
Total			972	321	2,277	1,373	2,721	1,450	9,114	9,116

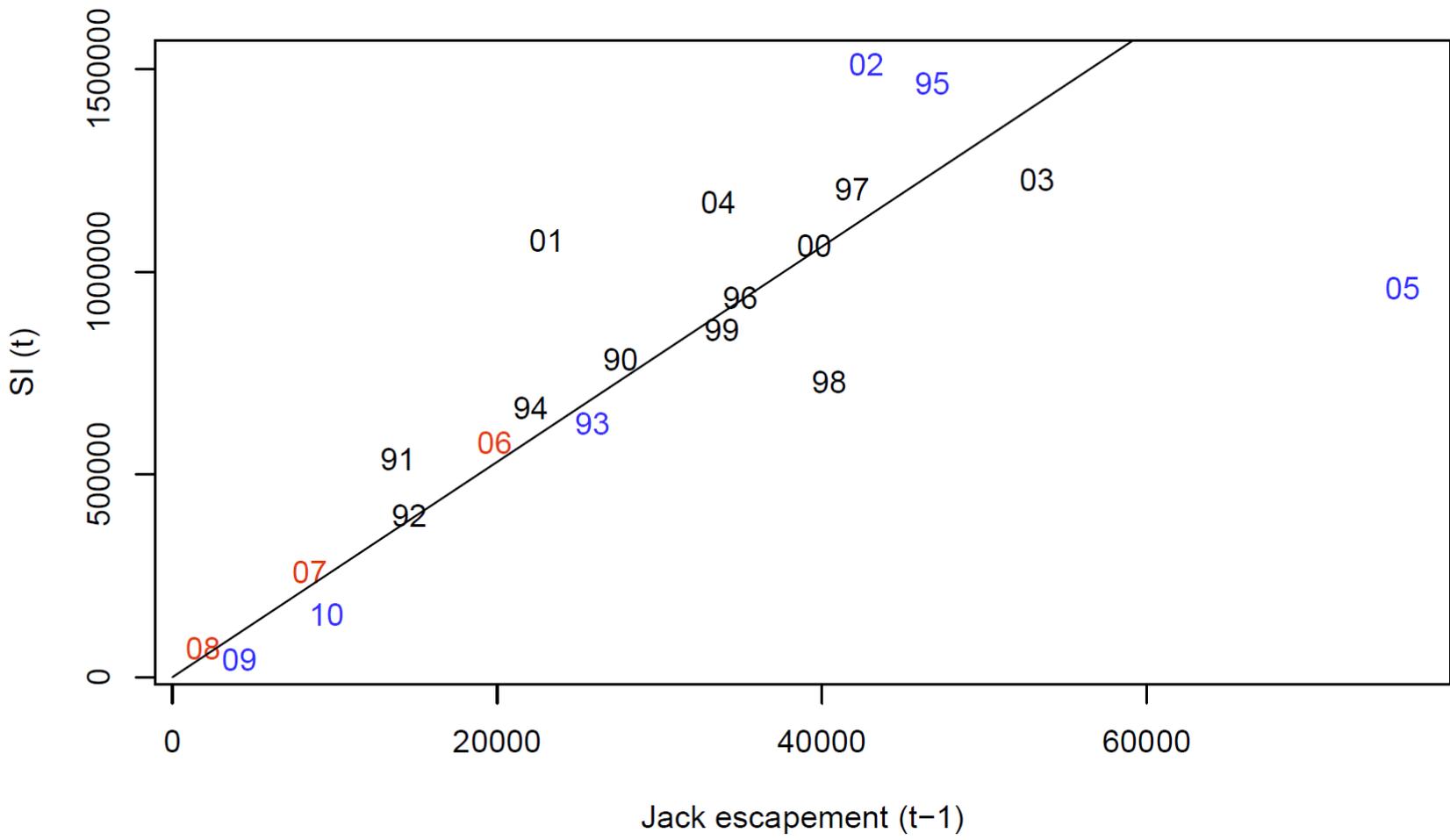
Option II										
Port	Fall 2010		Summer 2011					Summer	Year	
Area	Sep	Oct-Dec	Mar	Apr	May	Jun	Jul	Aug	Total	Total
NO				60	222	93	114	266	755	755
CO				115	240	222	452	509	1,538	1,538
KO					33	89	129	128	379	379
KC						129	76	106	311	311
FB						84	83	25	192	192
SF						879		1,717	2,788	2,788
MO						453		438	904	903
Total				175	1,826	618	3,009	1,238	6,866	6,866

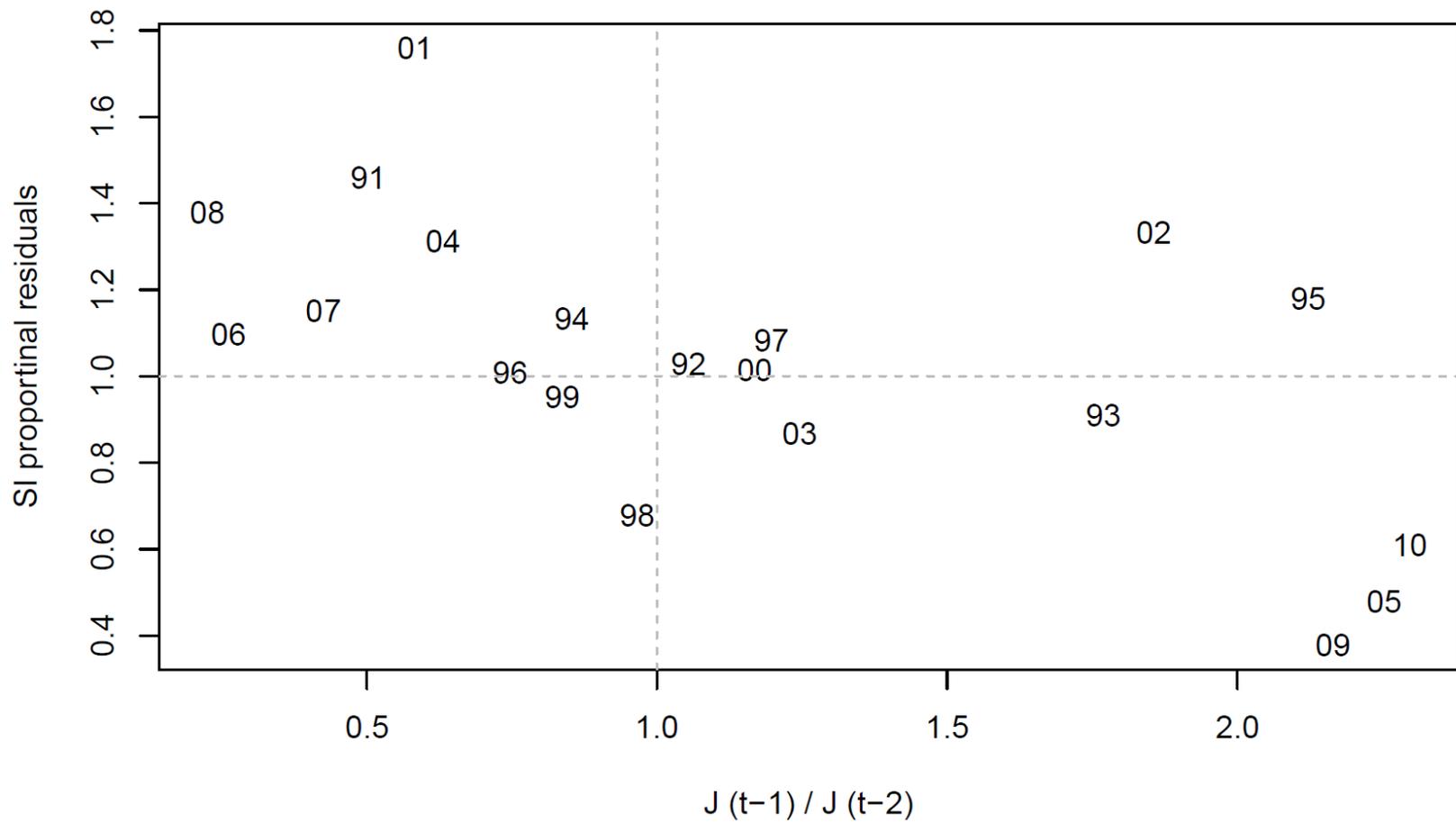
Option III										
Port	Fall 2010		Summer 2011					Summer	Year	
Area	Sep	Oct-Dec	Mar	Apr	May	Jun	Jul	Aug	Total	Total
NO				60	222	71	115	266	734	734
CO				115	240	170	454	509	1,488	1,488
KO					33	89	108	85	315	315
KC										
FB						84	69	17	170	170
SF						879		1,994	2,960	2,960
MO						453		509	968	967
Total				175	1,826	415	3,248	970	6,634	6,635

Recreational										
Option I										
Port	Fall 2010		Summer 2011					Summer	Year	
Area	Sep	Oct Nov-Dec	Jan-Feb	Mar	Apr	May	Jun	Jul	Aug	Total
NO								8	8	16
CO						1	6	22	13	42
KO						3	32	85	168	288
KC						85	148	169	208	610
FB					2	20	55	67	15	159
SF					24	12	43	47	2	128
MO					16	3	6	14	2	41
Total					42	125	290	411	415	1,283

Option II										
Port	Fall 2010		Summer 2011					Summer	Year	
Area	Sep	Oct Nov-Dec	Jan-Feb	Mar	Apr	May	Jun	Jul	Aug	Total
NO								8	4	12
CO						1	3	22	10	36
KO						1	33	90	177	301
KC						14	153	178	218	563
FB					2	21	57	71	16	167
SF					24	12	44	50	2	132
MO					16	4	7	14	2	43
Total					43	52	296	433	429	1,253

Option III										
Port	Fall 2010		Summer 2011					Summer	Year	
Area	Sep	Oct Nov-Dec	Jan-Feb	Mar	Apr	May	Jun	Jul	Aug	Total
NO									3	3
CO						1	3	4	8	16
KO						1	33	87		121
KC						14	153	173		340
FB					2	21	57	71	16	167
SF					24	12	44	50	2	132
MO					16	4	7	15	2	44
Total					43	52	296	400	30	821





NATIONAL MARINE FISHERIES SERVICE REPORT

National Marine Fisheries Service (NMFS) Northwest and Southwest Fisheries Science Centers and Northwest and Southwest Regions will briefly report on recent developments relevant to salmon fisheries and issues of interest to the Pacific Fishery Management Council (Council).

Potential topics include:

- Mitchell Act Hatchery Issues
- Federal Regulation Pamphlet Publication
- Klamath Chinook ESA Listing Petition
- Puget Sound Killer Whale ESA Consultation
- California Hatchery Review Process
- Amendment 16 Update
- 2010 West Coast Genetic Stock Identification Study Results

Council Task:

Discussion.

Reference Materials:

1. Agenda Item G.6.a, Regulation Booklet Proposal: Proposal to transition from printed salmon regulations booklets to online booklets and updates.
2. Agenda Item G.6.a, Klamath Chinook Petition: Petition to list Klamath River spring Chinook under the Endangered Species Act.
3. Agenda Item G.6.b, GSI Report: The West Coast salmon genetic stock identification collaboration annual activity report, 2010 (color graphs - best viewed electronically).

Agenda Order:

- a. Regulatory Activities
- b. Fisheries Science Center Activities
- c. Reports and Comments of Management Entities and Advisory Bodies
- d. Public Comment
- e. Council Discussion

Bob Turner

PFMC
02/11/11

PETITION TO LIST KLAMATH RIVER SPRING CHINOOK
UNDER THE ENDANGERED SPECIES ACT

ESA Listing Petition Received by the National Marine Fisheries Service:

The Center for Biological Diversity, Oregon Wild, Environmental Protection Information Center, and the Larch Company, submitted a petition that the National Marine Fisheries Service (NMFS) list the Upper Klamath Chinook salmon as threatened or endangered. The petition specifically requests protection for the spring-run Chinook population in the Upper Klamath basin and to consider potentially listing the fall-run population as well. The petitioners recommend three alternatives for the listing: 1) list spring run only as a separate evolutionarily significant unit (ESU); 2) list spring run as a distinct population segment within the current ESU; and 3) list both spring- and fall-run jointly as one single ESU. The petitioners also request designation of critical habitat for Upper Klamath-Trinity Rivers Chinook salmon. NMFS is currently considering the petition. Should the agency make a positive 90-day finding that the petitioned action may be warranted, a status review of the species would be undertaken with a decision forthcoming around the February 2012 timeframe.

PFMC
02/11/11

PROPOSAL TO TRANSITION FROM PRINTED SALMON REGULATIONS BOOKLETS
TO ONLINE BOOKLETS AND UPDATES

National Oceanic and Atmospheric Administration (NOAA) Fisheries is proposing to discontinue printing of annual salmon management regulations booklets in favor of posting the booklets online in a printable format. We are using this opportunity to bring the proposal to your attention and solicit comments from the Council and affected users. Developing, printing, and distributing the booklets is a process that requires, at best, a month to complete and is impossible to complete prior to the start of the fishing season on May 1. With intensive in-season management, portions of the booklet can be obsolete by the time they are received by the user. The booklets are a static document that may no longer be suitable for use in a dynamically managed salmon fishery; in 2010, for example, there were 13 inseason actions that modified the fishing regulations after the 2010 booklet was produced.

NOAA Fisheries would post the booklet in electronic form on the Northwest Region's website and develop an electronic mailing list to notify interested parties of fishing regulations implementation and in-season actions, in addition to existing announcements on the salmon hotline and via United States Coast Guard radio. Such electronic notifications would be similar to those already being used for groundfish fisheries management. Individuals could print the booklet for themselves, either in its entirety or specific pages. NOAA Fisheries proposes to use 2011 as a transitional year in which the printed booklets would be produced and distributed, for the last time, and the information would also be made available online. This would allow time for users to test-drive the new system and sign-up for email notifications. This proposal would benefit the public by providing more timely access to salmon management regulations and accurate updates as the season progresses.

PFMC
02/11/11

NATIONAL MARINE FISHERIES SERVICE REPORT
UPDATE ON SALMON FISHERY MANAGEMENT PLAN AMENDMENT 16

The Council delayed further action on Amendment 16 to the Salmon FMP until the June 2011 meeting. The National Marine Fisheries Service (NMFS) underscores the need to be prepared to take final action in June to meet the requirements for implementation by the end of 2011.

There is one issue related to stock classification of far-north-migrating Chinook stocks that was discussed at the November 2010 meeting, but left unresolved as we sought additional information. Since then, NMFS Northwest Region staff has further investigated the ocean distribution and catch information for Washington coastal spring/summer and fall Chinook, Oregon mid/north-coastal spring and fall Chinook, and mid-Columbia spring Chinook for the purpose of establishing a far-north-migrating Chinook complex (see attached report). NMFS is bringing this to the Council's attention now so that we can amend the draft Environmental Assessment (EA) to reflect findings from the new analysis.

The EA originally proposed developing a far-north-migrating spring/summer stock complex composed of Washington and Oregon coastal spring/summer stocks and Mid-Columbia River spring stocks. Based on the new analysis it now appears that a more logical organization would be for a complex consisting of Washington coastal spring/summer and fall stocks and Oregon mid/north-coastal spring and fall stocks (except Umpqua spring Chinook). Based on coded-wire-tag (CWT) recoveries, these stocks have similar ocean distribution and harvest patterns, including the majority of catch occurring in Canadian waters. While not identified in the Pacific Salmon Treaty (PST), the spring stocks appear to have relative harvest rates in Canadian and Council area fisheries comparable to fall stocks from the same regions, which are PST stocks. Grays Harbor, Queets, Hoh, Quillayute, and Hoko fall Chinook could serve as indicator stocks for this far-north-migrating coastal (FNMC) complex since there are FMP conservation objectives and preseason forecasts available for these stocks. All the indicator stocks are PST stocks and, since measures required under the PST would provide similar protection for the spring stocks in ocean waters, the international exception to specifying acceptable biological catch/annual catch limit/accountability measure framework could be applied to the FNMC complex.

The recent analysis indicates that mid-Columbia spring Chinook are rarely caught in ocean fisheries (see attached report). Mid-Columbia spring Chinook could be classified as a complex, but that would require developing conservation objectives for one or more of the stocks in the complex. Alternatively, mid-Columbia spring Chinook could be removed from the FMP or designated as an Ecosystem Component. A consequence of either of the latter two options is that Essential Fish Habitat would no longer be designated for the stock and there would be some loss of related habitat protection. NMFS has initiated discussions with state and tribal managers regarding these consequences, but suggests that the range of alternatives in the EA be amended to reflect the preceding recommendations.

November 15, 2010

To: Peter Dygert

From: Larrie LaVoy

Subject: CWT recovery distribution for WA coast, OR coast and Mid-Columbia spring run Chinook.

The tables below show distribution of estimated recoveries of CWTs from Chinook originating from WA and OR coast and Mid-Columbia hatchery facilities and identified in PSMFC-RMIS as “spring run”. The WA coast tag groups were almost exclusively from the Quillayute River and Sol Duc rivers except for one small release group from the Hoh River. The OR coast tag groups were primarily from the Trask and Nestucca rivers in the north, to the Umpqua and Rogue-Cole Rivers in the south. Tag groups from the Yakima basin were used to represent Mid-Columbia spring Chinook.

The tables contain estimated CWTs landed in fisheries and escapement from expansion of observed recoveries by a mark sampling rate. The percent distribution into fisheries and escapement should not be used to calculate an exploitation rate for the stock for three primary reasons: 1) recoveries only represent landed fish and not total fishery related mortalities, 2) recoveries are not adjusted for “adult equivalency” as is the normal procedure for calculating exploitation rates, and 3) recoveries especially in terminal fisheries and escapement areas is oftentimes inadequate or lacks expansion for sampling rates. Commonly, natural spawning areas are not adequately sampled and/or sampling rate expansions are not applied to the observed recoveries and will show few escapement recoveries relative to the number of fishery recoveries. In most cases, using CWT recovery data directly from RMIS as-is without manually adjusting some fisheries and most escapements will most likely result in overestimating the exploitation rates. Before undertaking a normal exploitation rate analysis, these tag groups would require recovery-year specific scrutiny of the observed-to-estimated expansions (especially in the terminal areas) and the status of whether likely recovery locations were even sampled.

The impacts in Council fisheries can be compared to those in other areas to get a relative measure of fishery related mortality. As expected, impacts in Council fisheries are much lower compared to northern fisheries in Alaska and Canada for WA coast spring Chinook. For northern OR coast spring Chinook, a higher portion is taken in Council fisheries but still less than in northern fisheries. Spring Chinook from the Umpqua and Rogue are taken primarily in Council fisheries south of Cape Falcon. Mid-Columbia spring Chinook are rarely caught in ocean fisheries anywhere.

WA Coast Combined																	Fishery	
Quillayute-Sol Duc- Hoh	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2007	2008	2009	Total		Distribution
AK	3	11	121	52	43	79	54	23	15	6	12	9				428	7%	10%
BC	17	220	597	261	322	53	61	53	8	5		5		9	9	1620	28%	39%
Council	3	23	134	57	77	17	2		5	10	7			3	5	343	6%	8%
High Seas	2	2	7													11	0%	0%
WA Inside		94	98	104	140	46	3	12			16			1		514	9%	12%
Term. Fishery	5	23	155	314	193	307	137	116	31							1281	22%	31%
Escapement a/		4	129	384	454	209	112	155	45	19	23					1534	27%	--
Total	30	377	1241	1172	1229	711	369	359	104	40	58	14		13	14	5731	100%	100%

a/ Escapement should be considered minimum value; spawning ground recoveries not expanded for sampling rates.

Trask and Nestucca																			Fishery		
Recovery Area	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	Total		Distribution
AK		6	14	15	38	47	28	9	30	18	89	48	69	54	59	26	9	9	568	13%	21%
BC		6	8	2	2	5		7	14	11	92	162	255	171	68	40	23		866	20%	33%
Council-NoF		7	3			2		9	7	14	76	55	69	33	20	25	7	4	331	8%	12%
Council-SoF			52	59	46	16	39	28	12	53	105	80	99	79	38	17	3		726	17%	27%
High Seas					6			4			0	1			13				24	1%	1%
Terminal Spt		2	6	10	10	20	11	12	6	9	5		11	6	8	6	8	4	134	3%	5%
Escapement a/	1	6	53	96	88	120	107	91	58	74	63	72	165	151	225	124	155		1649	38%	--
Total	1	27	136	182	190	210	185	160	127	179	430	418	668	494	431	238	205	17	4298	100%	100%

a/ Escapement should be considered a minimum value; no recoveries on spawning grounds before 2005 and samples thereafter imply 100% sampling rate.

Umpqua																				Fishery	
Recovery Area	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	Total		Distribution		
AK		2			9	9				3	2	7	7	4			43	1%	1%		
BC	13	4	2			2		14	18	17	18	17	16	44	7	9	181	6%	6%		
Council-NoF	6		2	2		2	17	9	30	44	34	21	16	32	22		237	8%	8%		
Council-SoF	25	60	82	181	135	66	50	160	360	272	440	318	71	6	65		2291	73%	78%		
High Seas	4	8	16		3			21	26	4	6	2			15	10	115	4%	4%		
Terminal Spt			2	1	6	5	18	28	1		6	1					68	2%	2%		
Escapement a/	2	16	14	14	24	13		30	39	3	6	12	3	14	13		203	6%	--		
Total	50	90	118	198	177	97	85	262	474	343	512	378	113	100	122	19	3138	100%	100%		

a/ Escapement should be considered a minimum value due to limited or no spawning ground sampling and few hatchery rack recoveries.

Rogue-Cole Rivers																				Fishery	
Recovery Area	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	Total		Distribution	
AK							17	26	5									48	0%	1%	
BC							5	5		5			6	2	4			27	0%	0%	
Council-NoF		2						11	2	7			12	1	3			38	0%	0%	
Council-SoF	5	265	777	857	694	121	99	204	346	224	756	1401	2037	433	49	143		8411	26%	96%	
High Seas		4	28	29		3			8	3	41	21	1	3				141	0%	2%	
Terminal Spt	1		1	23	25	7	6	23	10	3	1	2		1		2		105	0%	1%	
Escapement a/	47	337	278	4205	2406	2217	879	1298	1686	1706	2866	2870	1450	534	376	411	269	23835	73%	--	
Total	53	608	1084	5114	3125	2348	1006	1567	2057	1948	3664	4294	3506	974	432	556	269	32605	100%	100%	

a/ Escapement should be considered a minimum value: only hatchery rack recoveries except in 1997 and 2007-08 which also show spawning ground recoveries.

The West Coast Salmon Genetic Stock Identification Collaboration Annual Activity Report, 2010

David Goldenberg, California Salmon Council
Nancy Fitzpatrick, Oregon Salmon Commission

Background

A major objective in salmon fishery management is ensuring access to healthy populations while also protecting weak stocks. Given limited understanding of the behavior and migration patterns of individual salmon stocks, it is difficult to manage salmon populations as distinct units. As a result ocean salmon managers are often compelled to institute large time/area closures to protect the weakest stocks. In 2006 this problem became acute when managers were forced to close most of Oregon and California's ocean troll salmon fishery to protect weak runs of Klamath River Chinook salmon. The result was the loss of 100s of jobs and millions of dollars in coastal income and declaration of a "salmon disaster" by the Governors of California and Oregon. In 2008 the problem became a catastrophic "salmon disaster" when projected low returns of Sacramento River fall Chinook forced closure of all Chinook salmon fishing south of Cape Falcon, Oregon, causing economic losses estimated up to \$150 million in Oregon and California.

To address the challenge of inadequate science supporting management of multi-stock ocean salmon fisheries, three individual state-based projects (Oregon's Project CROOS, Collaborative Research on Oregon Ocean Salmon; California's Genetic Stock Identification Project; and a similar project in Washington) teamed together in 2007 to form the West Coast Salmon Genetic Stock Identification Collaboration (WCS-GSI Collaboration), led by the California Salmon Council, Oregon Salmon Commission, and Washington Troller's Association. Partners include Oregon State University, Oregon Department of Fish and Wildlife, Oregon Sea Grant, Community Seafood Initiative, National Marine Fisheries Service Northwest and Southwest Fisheries Science Centers, Northwest Regional Office, California Department of Fish and Game, University of California, Santa Cruz, Washington Department of Fish and Wildlife and Northwest Indian Fisheries Commission.

The vision of the WCS-GSI Collaboration is to support a working partnership between fishermen, scientists, and fisheries managers in Washington, Oregon, and California that benefits fish and strengthens west coast salmon fisheries by protecting weak stocks, providing sustainable harvest, and improving economic opportunities and fishing practices through better understanding of stock specific ocean distribution and migration patterns of salmon. This vision is supported by the three main project goals:

- 1) Improve understanding of the ocean ecology of salmon by integrating stock-specific distribution patterns over space and time with biological and environmental data;
- 2) Integrate multiple disciplines to develop and apply new scientific technology to improve fisheries management strategies across geo-political boundaries; and

3) Improve and stabilize economic opportunities for fishermen and coastal communities.

Overview and Summary of 2010 Activities

- GSI sampling was conducted for the first time on a coast-wide scale. The data collected will contribute to a comprehensive picture of stock distributions, migration patterns, and catch rates in the waters off Oregon and California.
- The Pacific Fishery Management Council allocated sampling impacts for the 2010 season and National Marine Fisheries Service Northwest Region issued a Scientific Research Permit to support non-retention sampling in closed times and areas.
- Approximately 9,600 Chinook salmon tissues were collected using high spatial resolution at-sea sampling protocols in both retention and non-retention fisheries. Sampling was conducted from Cape Falcon, Oregon to the California/Mexico border from May through September, 2010.
- Genetic analysis is nearly complete. Age of fish will be estimated using scale aging analysis.
- Genetic analysis techniques are being refined to improve discrimination of stocks in Council-managed fisheries.
- Two experimental fishery-independent surveys were conducted in August to test methodologies that could be used to sample stock distributions and catch composition.
- A Master of Science degree was awarded to Robert Ireland. His thesis was titled “The distribution and aggregation of Chinook salmon stocks on the Oregon Shelf as indicated by the commercial catch and genetics.” The research was based on data from Oregon fisheries in 2006 and 2007.
- Research on stock composition of Chinook landed as bycatch during the Pacific Hake fishery continued.
- Electronic data collection methods and web-based tools (see Pacific Fish Trax website section, below) are being developed to support rapid data-sharing and use by multiple user-groups.
- The Pacific Fish Trax (PFX) database was used as a data repository for Oregon and California at-sea data and all genetic data for Oregon.
- Web-based tools accessible through secure PFX portals were used by port liaisons, fleet managers, and laboratory personnel for in-season project management. This was the first year that coordinated and standardized data collection occurred in Washington, Oregon and California.
- A strategic plan for the WSC-GSI Collaboration was adopted and a data sharing and use code of conduct agreement is nearly complete.

Future actions

- Oregon and California are co-writing a 2010 annual report, which should be complete by mid- 2011.
- A workshop for fishermen, managers, and the general public will be held in California to communicate results and solicit feedback.

- A fisheries information system workshop is planned to be held in Portland, Oregon (May 3 and 4), and a symposium is proposed for the American Fisheries Society meeting in Seattle, Washington (September 4-8).
- Data from 2010 will be analyzed by members of the Collaboration to explore opportunities for science and management applications.
- Website portals for fishermen, managers, and the general public will be developed and tested. A fisherman's portal is nearly ready to "go live."
- Sampling plans for 2011 are being developed.

Limited funds are available to the WCS-GSI Collaboration in 2011. Long term funds for ocean research need to be a part of federal efforts to aid the fishery and improve management and science. The tri-state partnership between California, Oregon and Washington will support a Coast-wide integrated approach for ocean salmon science and management, and has potential to provide economic benefits to the fishing industry.

2010 Sampling Activities

Coordinated data collection occurred along the majority of California and Oregon coastal waters from May through September, 2010. Approximately 9,600 Chinook salmon were sampled by more than 160 participating fishermen from 16 ports (ten in California and six in Oregon). In addition, the Washington Troller's Association voluntarily collected some samples (< 100) along the coast of Washington and analysis by WDFW is pending. The majority of sampling in California was hook-and-release (non-retention) in closed times and areas, while Oregon sampling was primarily during regular commercial fishing activities. The sampling goal was to collect 200 fish per week in each fishery management area. This goal was achieved in only a few weeks because catch rates were low, ranging from 2.3 to 5.4 fish per boat-day (Table 1), and because boats were not uniformly available to collect samples. Sample sizes were larger in areas with sizeable fleets and open fishing at least part of the season (NOC, SOC, Ft. Bragg). Logistics and expense of non-retention sampling limited sample sizes in other areas. The fishing incentive is also greater when fish can be retained for sale.

Monthly numbers of boat-days and fish samples (all projects combined) for each fishery management zone, with San Francisco split into two sub-regions at Pt. Reyes, are presented in Table 2. Retention- and non-retention boat-days and sample sizes are shown in Tables 3 and 4.

Table 1. Summary of fish sampled, number genotyped to date, days fished and fish per boat-day in ten fishery management areas in Oregon and California, May through September 2010.

Management area	Fish	N genotyped	Boat days	Fish/Boat-day
Cape Falcon to Florence south jetty (NOC)	2437	2003	560	4.4
Florence south Jetty to Humbug Mountain (SOC)	1832	1698	539.5	3.4
Humbug Mountain to California/Oregon border (KMZ-OR)	249	241	99.5	2.5
OR/CA border to Humboldt south jetty (KMZ-CA)	1054	1053	207	5.1
Horse Mountain to Point Arena (Ft. Bragg)	1802	1779	332.5	5.4
Point Arena to Point Reyes (SF-N)	770	773	284	2.7
Point Reyes to Pigeon Point (SF-S)	726	721	313	2.3
Pigeon Point to Mexican Border (Monterey)	710	721	293	2.4
Totals	9603	8989	2682.5	

Table 2. Monthly numbers of fish sampled and boat days of effort in eight Oregon and California fishery management zones during 2010. The month of September was closed over all management areas and all sampling was non-retention; all other months were mixed retention/non-retention fisheries. Area abbreviations are from Table 1.

Area	May		June		July		August		September	
	Fish	Boat days	Fish	Boat days	Fish	Boat days	Fish	Boat days	Fish	Boat days
NOC	402	77.5	1084	170.5	401	82	520	197	30	33
SOC	450	110.5	611	156.5	73	32	597	207.5	101	33
KMZ-OR	0	0	43	39	10	8	61	25.5	135	27
KMZ-CA	0	0	71	38	135	51	478	58	370	60
Ft. Bragg	99	9	173	45.5	494	94	544	116.5	492	67.5
SF-N	47	24	113	58	399	82	160	60	51	60
SF-S	114	53	290	58.5	120	79.5	120	56	82	66
Monterey	19	44	27	54	398	99	158	60	108	36
Totals	1131	318	2412	620	2044	527.5	2638	780.5	1378	382.5

Location of fish sampled and spatial extent of effort (combined retention and non-retention) in Oregon and California in 2010 is presented in Figure 1. Figure 2 displays reporting-group-specific catch-per-unit-effort, as well as fish sample locations and effort distribution for June.

West Coast GSI - May - September 2010: Effort and Samples

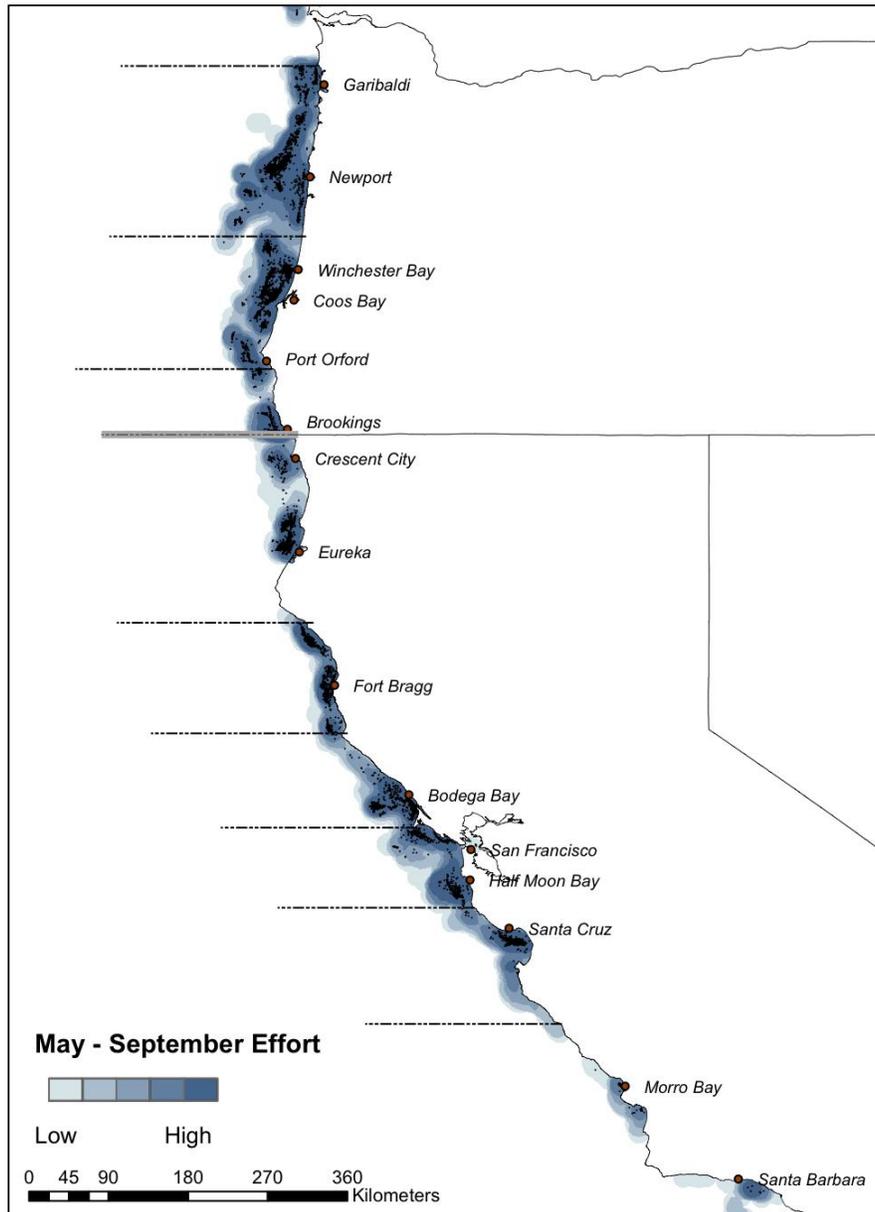


Figure 1. Distribution of catch (black dots) and effort (shaded heat map) in WC-GSI sampling, 2010.

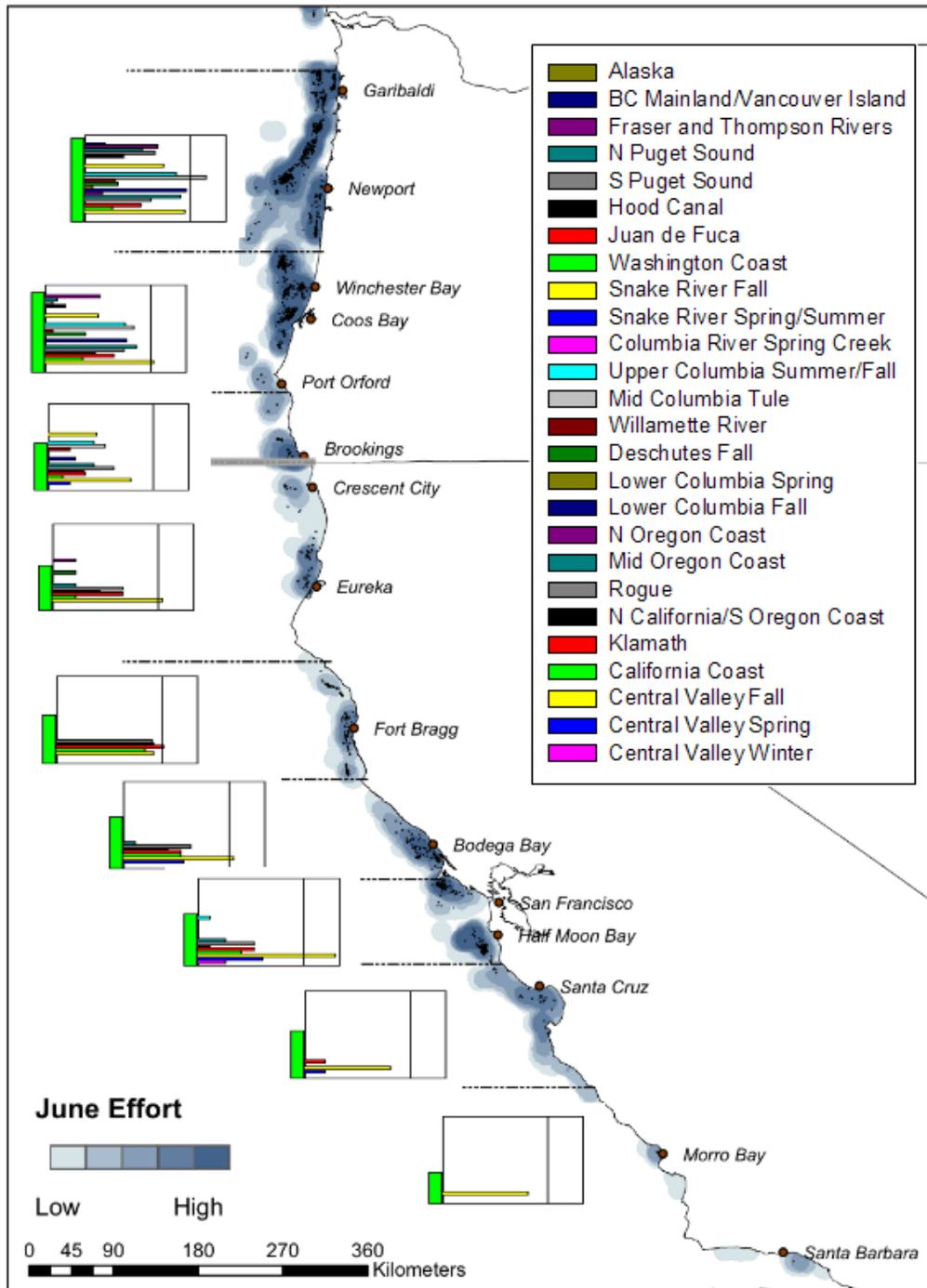


Figure 2. Preliminary stock-specific catch per unit effort (CPUE) from Santa Barbara, CA to Tillamook, OR from June, 2010 GSI sampling. Twenty six (26) stocks or stock groupings are represented. The map also displays sampling effort and catch locations. Stocks are ordered north to south. CPUE scale is logarithmic; vertical line indicates one fish per boat day. Vertical green bar on left axis is log effort.

Table 3. Monthly numbers of non-retention and retention boat-days of effort during 2010 in eight Oregon and California fishery management zones. The month of September was closed over all management areas except for sufficient impacts to conduct experimental genetic stock identification sampling and all sampling was non-retention. Area abbreviations are from Table 1.

Area	May		June		July		August		September		Totals	
	Non-retention	Retention	Non-retention	Retention	Non-retention	Retention	Non-retention	Retention	Non-retention	Retention	Non-retention	Retention
NOC	n/a	77.5	n/a	170.5	n/a	82	n/a	197	33	33	527	
SOC	n/a	110.5	n/a	156.5	n/a	32	n/a	207.5	33	33	506.5	
KMZ-OR	n/a	0	39	*	n/a	8	*	25.5	27	66	33.5	
KMZ-CA	0	*	38	*	51	*	58	*	60	207	0	
Ft. Bragg	9	*	45.5	*		94 ¹	0	116.5 ¹	67.5	122	210.5	
SF-N	24	*	58	*	32	50 ²	60	*	60	234	50	
SF-S	53	*	58.5	*	34.5	45 ²	56	*	66	268	45	
Monterey	44	*	54	*	30	69 ²	60	*	36	224	69	
Totals	130	188	293.0	327.0	147.5	380.0	234.0	546.5	382.5	1187	1441.5	

* Closed except for sufficient impacts to conduct experimental genetic stock identification sampling (sample quota of 800 fish per month per zone)

¹ Open July 1-4, 8-11 and July 15 through the earlier of July 29 or an 18,000 Chinook quota and August 1 through the earlier of August 31 or a 9,375 Chinook preseason quota

² Open July 1-4, 8-11

Table 4. Monthly numbers of non-retention and retention fish samples collected during 2010 in eight Oregon and California fishery management zones. The month of September was closed over all management areas and all sampling was non-retention. Area abbreviations are from Table 1.

Area	May		June		July		August		September		Totals	
	Non-retention	Retention	Non-retention	Retention	Non-retention	Retention	Non-retention	Retention	Non-retention	Non-retention	Retention	
NOC	n/a	402	n/a	1084	n/a	401	n/a	520	30	30	2407	
SOC	n/a	450	n/a	611	n/a	73	n/a	597	101	101	1731	
KMZ-OR	n/a	0	43	*	n/a	10	n/a	61	135	178	71	
KMZ-CA	0	*	71	*	135	*	478	*	370	1054	0	
Ft. Bragg	99	*	173	*	0	494 ¹	n/a	544 ¹	492	773	1038	
SF-N	47	*	113	*	55	344 ²	160	*	51	426	344	
SF-S	114	*	290	*	63	57	120	*	82	669	57	
Monterey	19	*	27	*	161	237	158	*	108	472	237	
Totals	279	852	716	1695	414	1616	916	1722	1378	3703	5885	

* Closed except for sufficient impacts to conduct experimental genetic stock identification sampling (sample quota of 800 fish per month per zone)

¹ Open July 1-4, 8-11 and July 15 through the earlier of July 29 or an 18,000 Chinook quota and August 1 through the earlier of August 31 or a 9,375 Chinook preseason quota

² Open July 1-4, 8-11

California Sampling

From 24 May, 2010 through 30 September, 2010, 86 members of the California commercial salmon fleet conducted 1055 days of hook-and-release sampling in closed areas from the Oregon border to Santa Barbara. An additional 374.5 days of sampling were conducted during retention periods in July (south of Horse Mountain) and August (Horse Mountain to Point Arena only). Sampling activities during non-retention periods were conducted under a Scientific Research Permit issued by NMFS, NWR to Dr. Churchill Grimes, and coordinated with the California Department of Fish and Game. Catch rates were communicated with the Department of Fish and Game as soon as they were available in order to monitor progress towards the quota fishery between Horse Mountain and Point Arena.

A total of 5062 tissue and scale samples were collected. Genotypic analysis is complete and final stock composition estimates have been distributed to the project participants, Pacific Fishery Management Council (Council) staff, Salmon Technical Team members, and the other interested stakeholders. One interest of the California project is the evaluation of Point Reyes as a distributional break that could potentially be recognized in fisheries management. Preliminary estimates indicate consistent differences in stock composition to the north and south of Point Reyes.

The California portion of the project used a novel set of genetic markers and associated database for genetic analyses of samples collected by California participants. This novel set of single nucleotide polymorphism (SNP) markers and the associated genetic baseline is designed specifically for use in estimating stock composition in PFMC-managed fisheries. These markers are both cheaper and faster to assay and have lower genotyping error and missing data rates. The baseline database includes much denser sampling of California Chinook salmon stocks and representative stocks from nearly every reporting group (and >99% of all fish) found in ocean fisheries off California and Oregon. This baseline has undergone extensive power analysis and a report describing it and the associated power analyses is currently in preparation. In response to a request by the Salmon Technical Team to use GSI data to evaluate the contribution of Mitchell Act hatcheries to Council-managed fisheries, the SWFSC project participants have also developed a new maximum likelihood methods for evaluating whether a fish assigned to one of the baseline stocks actually came from a genetically similar stock not represented in the baseline. This is important because neither the novel SNP baseline nor the coast-wide microsatellite baseline can always accurately identify fish that come from these stocks. This method is also intended to identify non-Chinook salmon, which have comprised almost 1% of the sampled fish in California.

Oregon sampling

Sampling in Oregon was conducted from May through September in three management zones: Cape Falcon to Florence south jetty (NOC), Florence South Jetty to Humbug Mountain (SOC), and Humbug Mountain to the California border (KMZ-OR). Non-retention sampling was used in the KMZ-OR in June and in all areas in September, under a Scientific Research Permit issued by NMFS, NWR to Dr. Peter Lawson and a Scientific Collecting Permit issued by the State of Oregon. A total of 4518 fish were sampled in 1199 boat-days (Table 1). In Oregon, sampling was concentrated north of Humbug

Mountain, with lower effort and lower catches in the KMZ-OR, except for September, when a body of fish moved through the area during non-retention sampling. A total of 4354 samples were genotyped and after those that failed to amplify were removed from the dataset, the remaining $n = 3942$ were available for genetic analysis. Data density (number of loci that amplified) for these fish was 95%. Mixed stock analysis was performed using Program ONCOR and the GAPS baseline version 3.0. Final results have been made available to project participants and the Pacific Fishery Management Council (Appendix 1)

At-sea data entry systems

There are several advantages to enabling fishermen to enter data at sea during the normal course of fishing. It potentially speeds and simplifies the data entry process, reduces errors, and permits transmission of catch locations and effort patterns shore-side to reduce the time-lag for management. We developed and tested two prototype devices, including an at-sea trial. One prototype is based on standard flat-panel touch screens. The other is a custom-designed box with easily-readable LCD displays. Both designs have merit, but neither implementation was satisfactory in our tests. Further development is underway.

Oceanographic data collection

One goal of the WCS-GSI Collaboration is to determine how stock-specific ocean distributions of Chinook salmon relate to time, space, and physical oceanography. In Oregon, we tested a variety of oceanographic data loggers that record either temperature or temperature and depth, and are small enough and inexpensive enough to attach to fishing lines. These devices are intended to provide location-specific sea-surface temperatures, temperature/depth profiles, and to calibrate depth of gear. In 2010 we tested and compared devices from four manufacturers ranging in price from \$100 to \$800 each.

Evaluations included comparison of readings with a research-grade CTD (conductivity, temperature, depth) instrument, and deployment on selected fishing vessels. Data loggers were attached to a single fishing, usually with one device at the surface and a second near the cannonball at the bottom of the line. Performance of the devices varied widely, in terms of accuracy of measurements, data capacity, and ease of use. Data analysis is in progress.

Through the use of these devices, in combination with a variety of other sources of physical and biological oceanographic measurements, we hope to be able to relate fish distributions, including stock-specific distributions, with observable and predictable variations in the ocean environment.

Fishery-independent surveys

Two experiments were conducted in August to test the design of fishery-independent surveys that could be used pre-season to sample stock distributions and catch composition. Tests were located in an area off the coast of Newport with a history of GSI sampling (Figure 3). These studies were designed to compare catch statistics in the fishery-independent surveys with statistics from simultaneous commercial fishing. In

each study, nine or ten boats were commissioned to survey for one day and to fish normally for one day. Boats were equipped with oceanographic data loggers to measure sea temperatures and calibrate depth of gear.

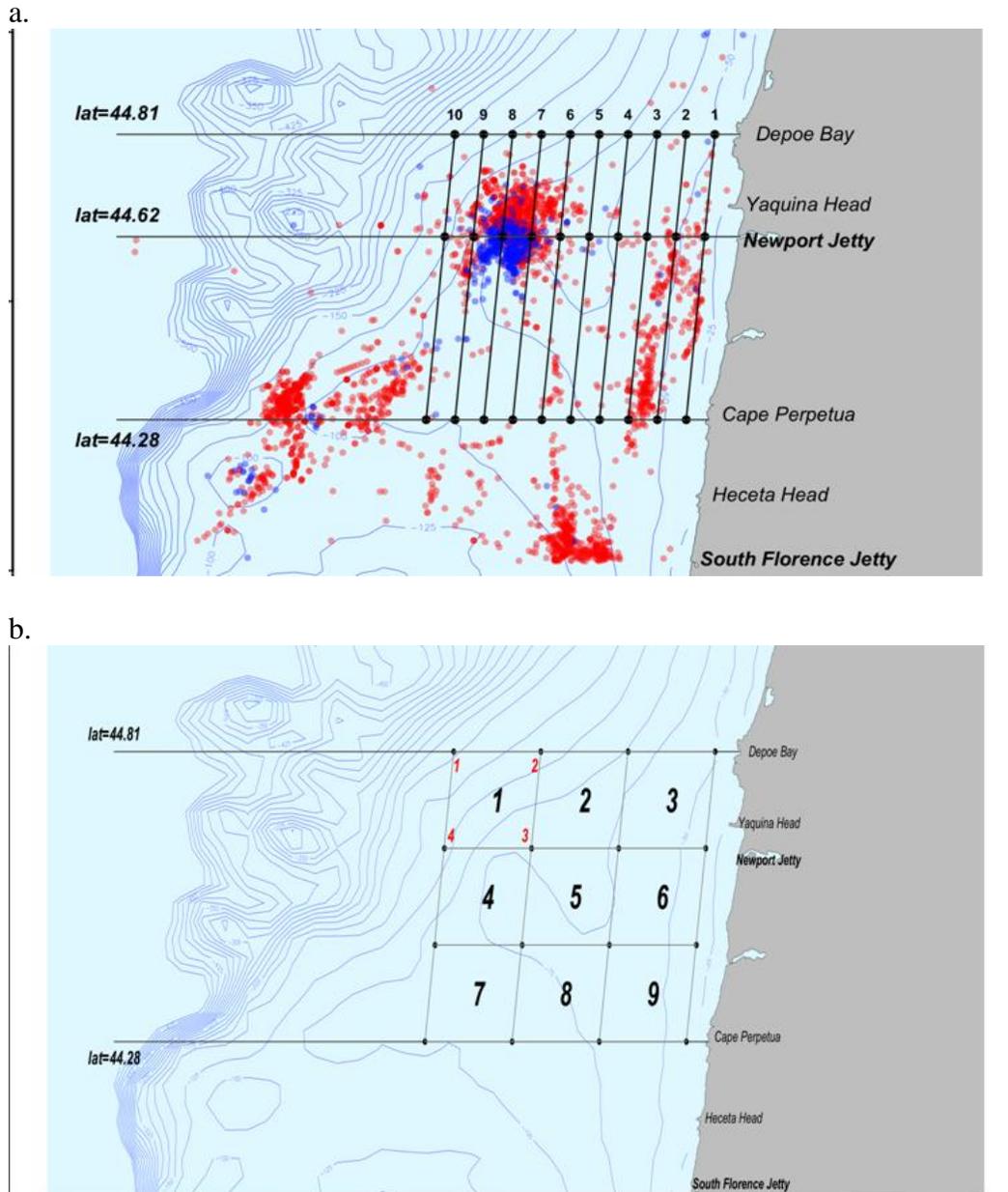


Figure 3. Two fishery-independent survey designs tested near Newport, Oregon in August 2010. a. ten transects, 20.76 miles in length, spaced at 3 mile intervals. Dots indicate locations of fish caught in 2006 (red) and 2007 (blue). b. a nine-cell grid covering the same area as the transects in a.

The first test specified ten parallel transects, each 20.76 miles long and spaced at 3-mile intervals (Figure 2a.). Boats started at the north end of their assigned transect and fished to the south. Reaction of the fishermen to this design was that this was not a normal or efficient pattern of fishing; they were not permitted to “back-tack” over areas where they caught fish, or to avoid water that showed little promise of producing fish. In response we designed a second sampling pattern based on a 9-cell (3 x 3) grid in the same area as the transects they had run previously (Figure 2b.). Nine fishermen were each assigned a grid cell, with the instruction to catch as many fish as they could within that cell. They fished their cell for one day, and fished normally for one day.

Catch rates were low during the tests, and boats fishing the survey patterns caught fewer fish than boats fishing normally. Data are being analyzed, but it is clear that the fishery-independent surveys will need to catch fish at a higher rate than we achieved in 2010 in order to provide information useful for fishery management. Experience gained with this experiment will allow us to conduct further tests more efficiently.

Hake bycatch

Chinook salmon bycatch in the shoreside hake fishery was sampled in Oregon and Washington. Approximately 850 samples were collected in 2010, compared with 166 (2009) and 450 (2008). Most of the Chinook in the hake fishery bycatch are young fish below the legal length limit for the commercial salmon fishery. The samples this year give us our first opportunity to compare stock composition in the hake fishery with a simultaneous commercial troll fishery. Once all samples for 2010 have been received by the laboratory genotyping and data analysis will begin. A report will be available by summer 2011.

Website and database development

The Pacific Fish Trax website (www.pacificfishtrax.com) is a cutting edge tool designed to meet the needs of a variety of audiences including the general public, seafood consumer, fishermen, managers, and scientists. The front-end of the website is designed to meet the needs of the general public and anyone who is interested in finding out more about where their seafood comes from and the people that bring seafood to market, from the harvester and vessel that caught the fish to the seafood processor and coastal community where it was processed. The website also incorporates a mapping function where fishery information comes alive when a barcode or unique number is entered into the website. A map shows where the seafood was caught off the west coast and other specific information about that particular fish is posted. This information can include oceanic conditions data or other information that would be of interest to consumers. The back end of the web site is designed for exchange of information between fishermen, managers and scientists individually and collectively. A system to house fishery specific data has been designed to support the front end and mapping sections of the website. Specially designed portals are used by different audiences to access the information in the database. Password protected portals for fishermen and project management has been developed—other portals are in various stages of planning and development.

The front-end of the Pacific Fish Trax database is designed to interface with the back-end of the website, which contains tools for project management and a web-accessible database designed to receive and store standardized data, allowing for efficient data sharing among project participants and user-groups. All data contained in the back-end database is password protected using levels of security access that parallel those used by financial institutions. Database standards and definitions are based on those approved by the West Coast Salmon Genetic Stock Identification (WCS-GSI) Collaboration, and were designed to be compatible with the coded-wire-tag and Genetic Analysis of Pacific Salmonids databases to the fullest extent possible. In 2010, all Project CROOS data collected from 2006 – 2009 was transferred to the PFX database and all new fisheries data collected during the 2010 season was uploaded in near real-time via port liaisons data portals.

Data analysis and presentation

The data set collected in 2010 provides an opportunity to explore new ways of looking at Chinook salmon distribution and abundance in the ocean. In our initial explorations we have continued to work at the current management scale of months and management areas. The sampling methodology used also enables a finer scale analysis, as exemplified by Robert Ireland's Master's Thesis, "The distribution and aggregation of Chinook salmon stocks on the Oregon Shelf as indicated by the commercial catch and genetics," although findings from the thesis are not presented here. There is also a manuscript in preparation for publication in a peer-reviewed journal.

Presentation of data is important because it influences the way the data are interpreted. We are introducing a basic method for displaying stock distributions using catch per unit effort (CPUE) for stock units because CPUE can provide a better representation of relative abundance than a simple stock composition pie chart. This is the technique used in Figure 2 and Figure 4 to display and contrast time- and area-specific results. Each histogram shows CPUE, computed from both retention and non-retention sampling, for 26 stock groupings, arrayed from north to south, Alaska to Central California. Colors help to isolate stocks of interest. In these graphs the upper yellow bar represents Snake River fall Chinook, the lower yellow bar is Central Valley fall Chinook. The lower red bar shows Klamath River Chinook. The vertical green bar to the left of the horizontal histogram indicates total log effort for that time and area. Effort and CPUE axes are logarithmic to facilitate display of a wide range of data values. The vertical line near the right of each histogram is at a CPUE of one fish per boat day. Most catch rates were well below this rate, while some were well above. The range displayed is 0.01 to 5.0.

There are important limitations to our presentation of CPUE data in this report. There is a strong indication that boat-day, the basic unit of effort, has a different meaning in retention and non-retention fisheries. Specifically, fewer fish were caught per boat-day in non-retention fisheries than in retention fisheries, perhaps because of the stronger incentive to fish in the retention fisheries. Additionally, non-legal size fish were sampled in non-retention fisheries, but not in retention fisheries. This could change the stock composition if non-legal size fish are behaving differently from legal size fish in the ocean. These are some of the details that need to be worked out before the data can be

interpreted rigorously. However, we are presenting several sample graphics to illustrate potential uses for these data.

Results for the month of June are depicted in Figure 2. This figure graphically displays the areas sampled, the locations of individual sampled fish, and the reporting-group specific CPUE histograms for each area. The vertical green bars show that effort was highest in the two northern areas and lower from KMZ-OR to the south. Effort in the south was lower because it was strictly controlled by the non-retention experimental design. The stock histograms show a strong declining gradient in the number of stocks in the fishery from north to south. Catch rates of Central Valley fall Chinook (the lower yellow bar) were relatively consistent near 1 fish per boat day throughout the range, with a lower rate in the KMZ-OR and the highest rate in SF-S. Similar interpretations could be made for a variety of other stocks.

Figure 4 is a matrix of CPUE histograms arrayed by month (horizontal) and area (vertical) for the entire sampling season. This summarizes, at a glance, patterns in both space and time. First, we see that there was no sampling in May in the KMZ, and no fish identified to stock in the KMZ-OR in July. As in Figure 2, the change in stock composition from north to south is evident, and shown to be consistent over the season. Picking out a single stock, Klamath Chinook (lower red bar) were concentrated in and around the KMZ. In the SF-N and SF-S areas Klamath catch rates dropped off in August and September compared with May through July. This particular comparison is apt to be valid because fisheries in these areas were non-retention except for two short periods in July (Table 3) although the majority of sampled catch in SF-N came from the open fishery (Table 4). Northern fisheries had high catch rates of the abundant Mid-Columbia Tules, with rates dropping off to the south and later in the season. Most stocks from the Columbia River and north were contributors to fisheries north of the KMZ, but rarely recorded in the KMZ or south. Closer examination of this figure may reveal many more patterns of interest, although strict interpretation should be limited until we understand better how to compare samples from retention and non-retention fisheries.

Changes in the distribution of individual stocks, as indexed by catch rates (CPUE) can be visualized using contour plots such as demonstrated in Figure 5. We caution against over-interpreting this figure for the reasons given above. However, there is an intriguing suggestion of a migration from the south during late summer when we expect maturing fish to returning to the river. In the Oregon areas (NOC, SOC) catch rates were moderately high early in the season, but declined in the NOC, again corresponding with the spawning migration. With the addition of age and maturity data this kind of analysis could be used to track migration patterns of immature and mature fish separately. There was no sampling in KMZ-OR or KMZ-CA in May, and very little sampling in KMZ-OR in June or July (Table 2), partially accounting for the area of low catch rates in that region of the figure. The smoothing algorithm used tends to cause areas with high catch rates to “spill over” into areas with lower rates. The mismatch between retention fisheries, primarily in the north, and non-retention fisheries, primarily in the south, makes close interpretation of this figure impossible because stocks vulnerable to the fisheries and CPUE both potentially differed. Notwithstanding these difficulties, the contour plot

shows the possible benefits of comprehensive sampling. The “holes” show how missing data cause loss of information and difficulty of interpretation. Consistent fisheries, or an understanding of how to compare dissimilar fisheries, would also enhance the usefulness of this analytical technique.

Contour plots like this could be used to help visualize many aspects of the data. For example, the difference between distribution maps for two stocks could be used to show areas of stock overlap and separation, leading to finer-scale strategies for stock targeting. Maps based on age or maturity could help reveal migration patterns. Overlays with charts of ocean environmental data could help discern ecological relationships or identify important marine habitat.

Application of these data to fishery management remains a challenge. The current analytical and modeling system is built around coded-wire tags, harvest and escapement estimates, and stock size predictions. From the GSI sampling in 2010 we have been able to construct a preliminary map of stock catch rates similar to those used in some fishery harvest models, and with relatively fine resolution of stocks, times and areas. Additional work is required before these data can be interpreted for fisheries management.

Results from the sampling in 2010 demonstrate some of the possibilities for use of GSI in salmon management. Maximum benefit would derive from a consistent program of coastwide sampling. The analyses and graphics presented here are early attempts at synthesizing the 2010 data set. The WCS-GSI Collaboration expects continuing conversations within the management, fishery, and science community over the usefulness of these data, the costs and benefits, and directions for future research and development.



Figure 4. Catch per unit effort (boat day) by month and management area or sub-area for 26 stocks or stock groupings. Stocks are ordered north to south. CPUE scale is logarithmic; vertical line indicates one fish per boat day. Vertical green bar on left axis is log effort. NOC:North Oregon Coast; SOC:South Oregon Coast, KMZ-OR: Oregon Klamath Zone; KMZ-OR: California Klamath Zone, FTB: Fort Bragg; SF-N: San Francisco area north of Point Reyes; SF-S: San Francisco area south of Point Reyes; STA_CZ: Santa Cruz; STA_BA: Santa Barbara and Morro Bay. There was no effort in KMZ-OR or KMZ-CA in May, and sampling effort but no catch in KMZ-OR in July.

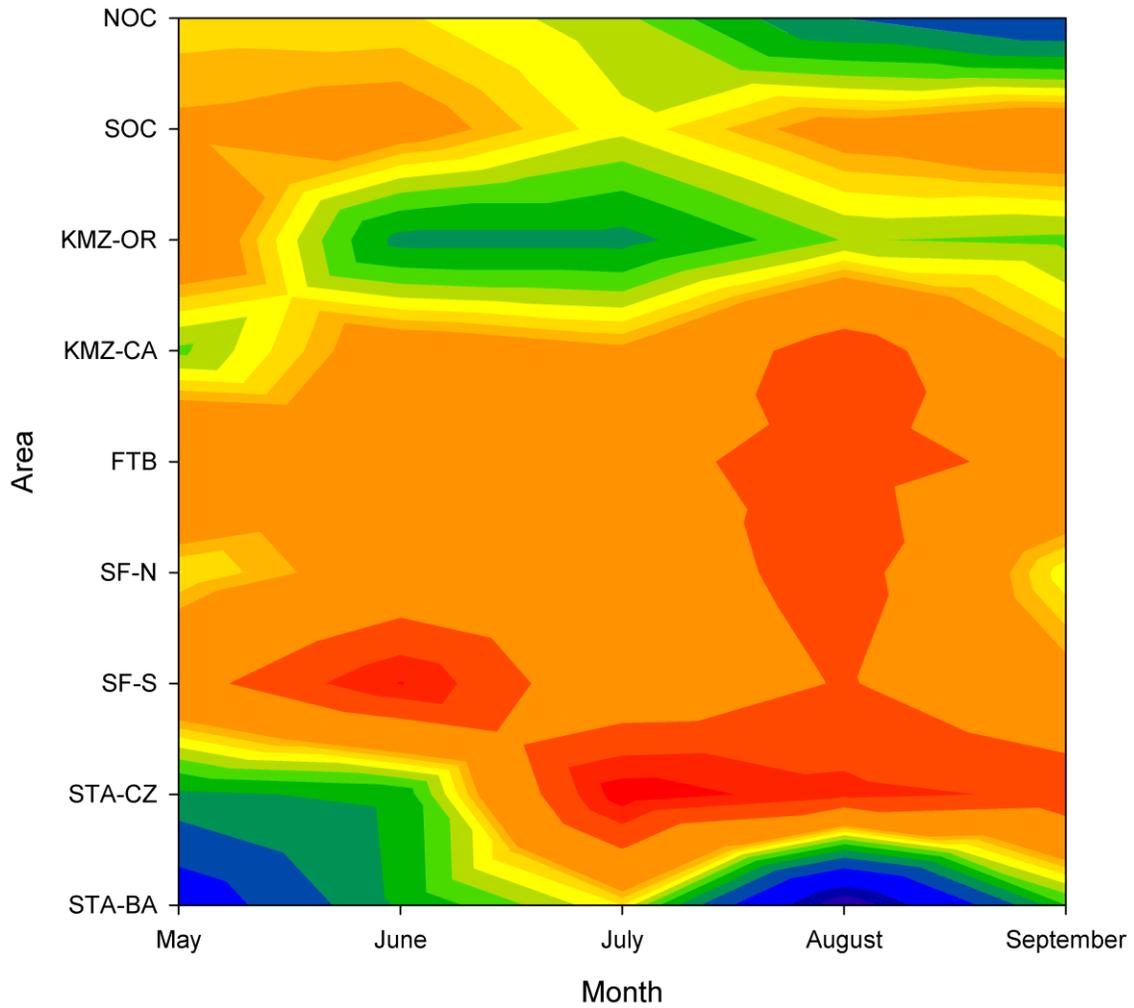


Figure 5. Filled contour plot of Central Valley Fall Chinook catch per unit effort (CPUE) by Month and Area. Color range is from blue (low) to red (high) CPUE.

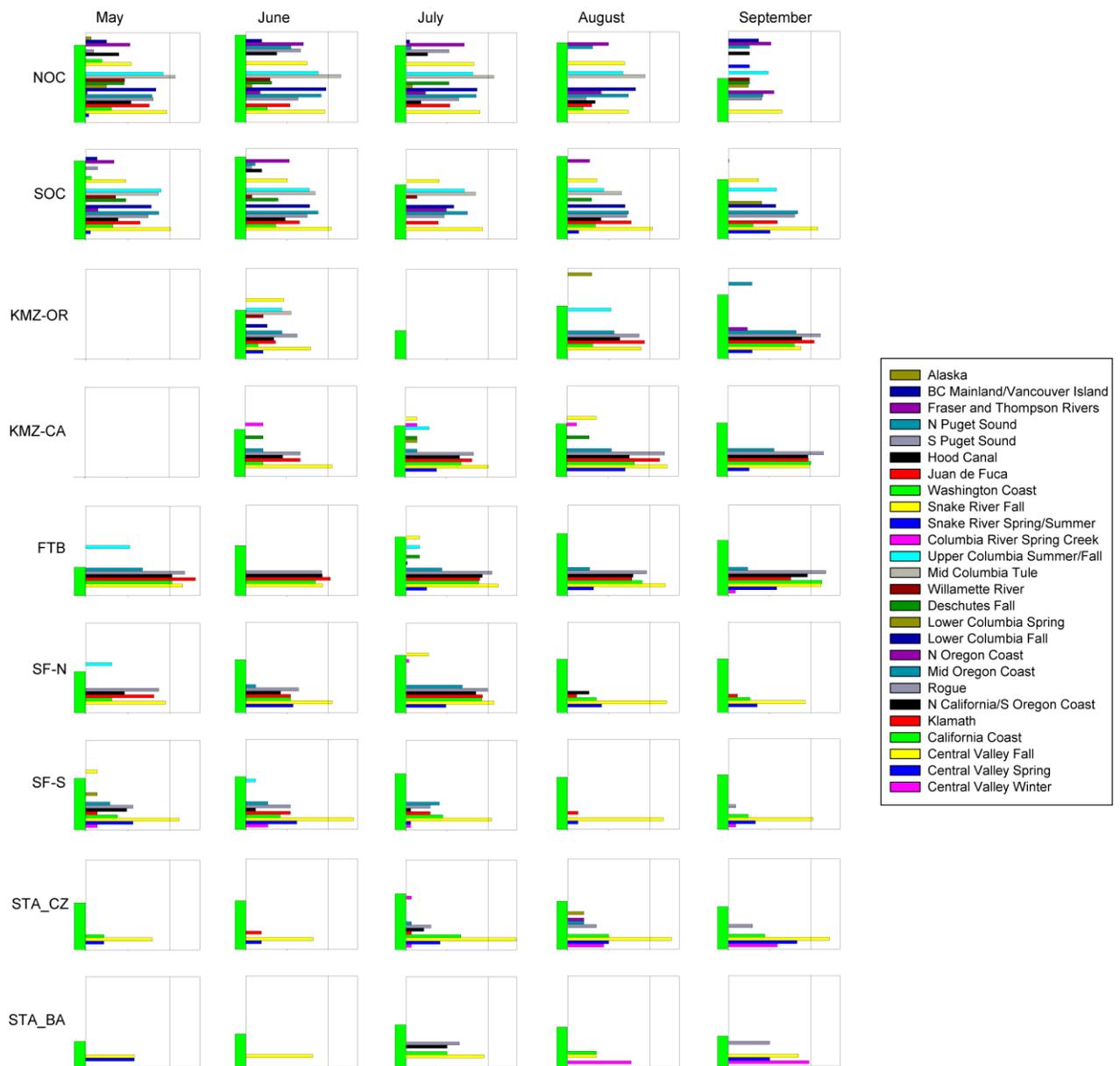


Figure 4. Catch per unit effort (boat day) by month and management area or sub-area for 26 stocks or stock groupings. Stocks are ordered north to south. CPUE scale is logarithmic; vertical line indicates one fish per boat day. Vertical green bar on left axis is log effort. NOC:North Oregon Coast; SOC:South Oregon Coast, KMZ-OR: Oregon Klamath Zone; KMZ-OR: California Klamath Zone, FTB: Fort Bragg; SF-N: San Francisco area north of Point Reyes; SF-S: San Francisco area south of Point Reyes; STA_CZ: Santa Cruz; STA_BA: Santa Barbara and Morro Bay. There was no effort in KMZ-OR or KMZ-CA in May, and sampling effort but no catch in KMZ-OR in July.

West Coast Salmon GSI Collaboration

West Coast GSI - May - September 2010: Effort and Samples

2010

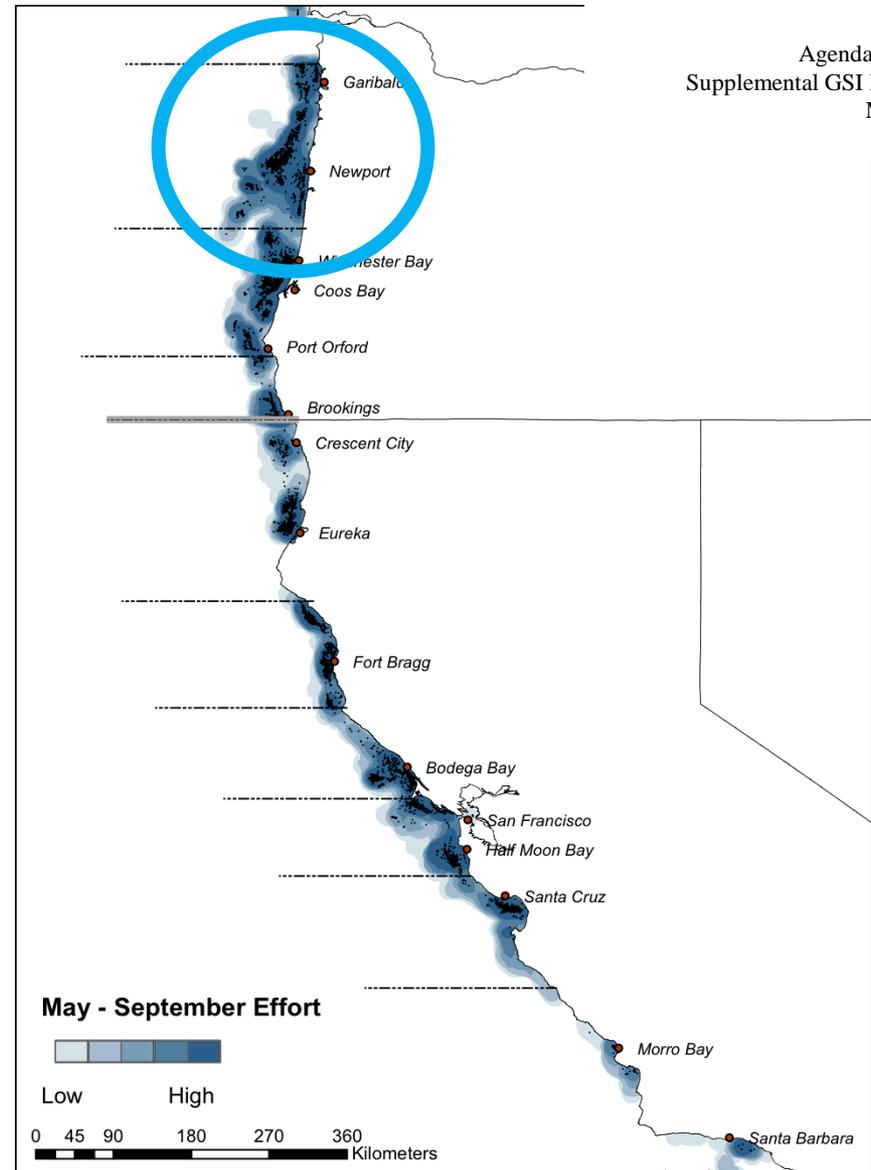
Coast-wide data collection

- May to September
- Cape Falcon to Santa Barbara
- Normal commercial fishing in open areas
- Non-retention sampling in closed areas
- 160 commercial fishermen
- 16 ports
- 9600 samples
- \$2.5 million

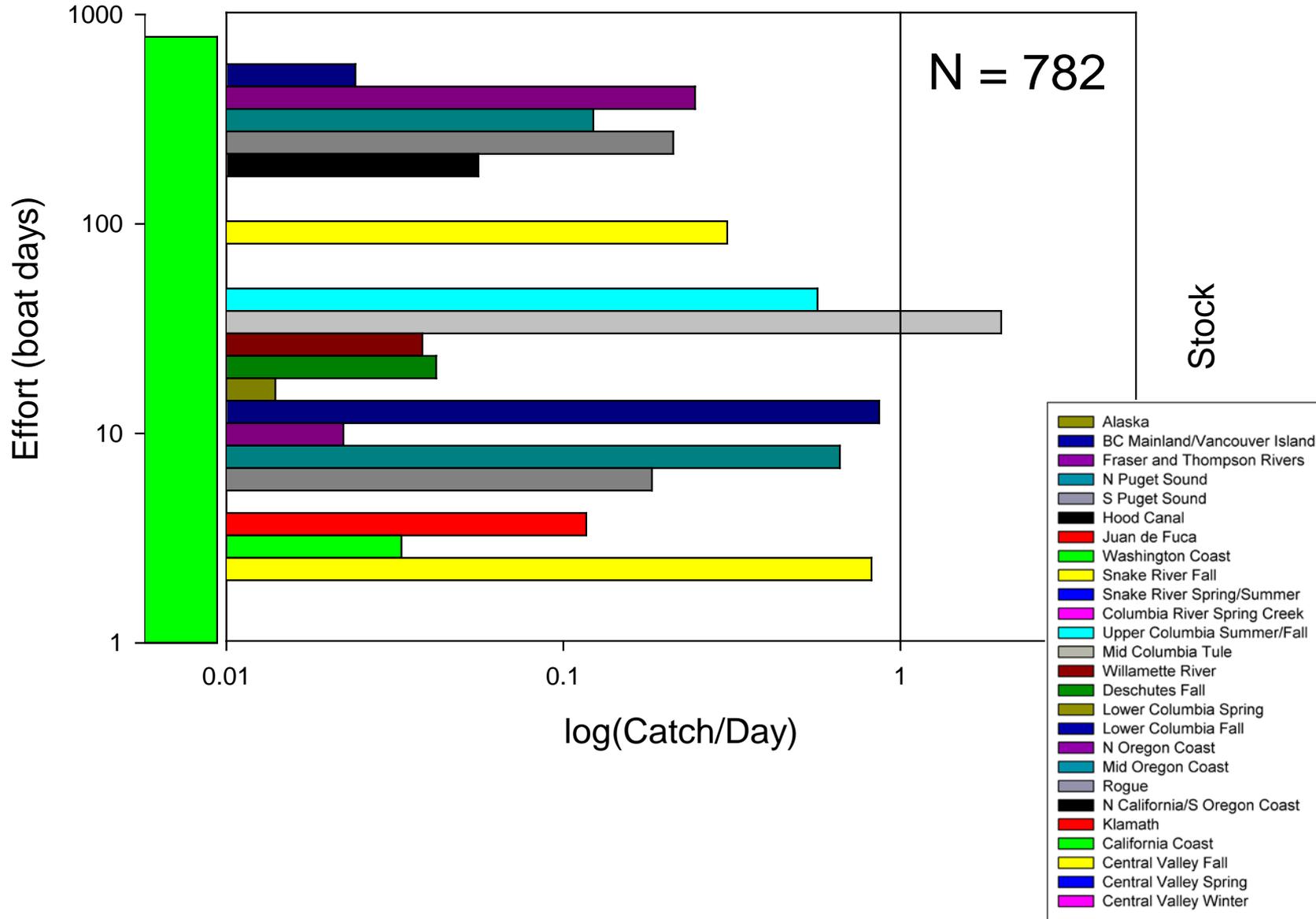
Results presentation

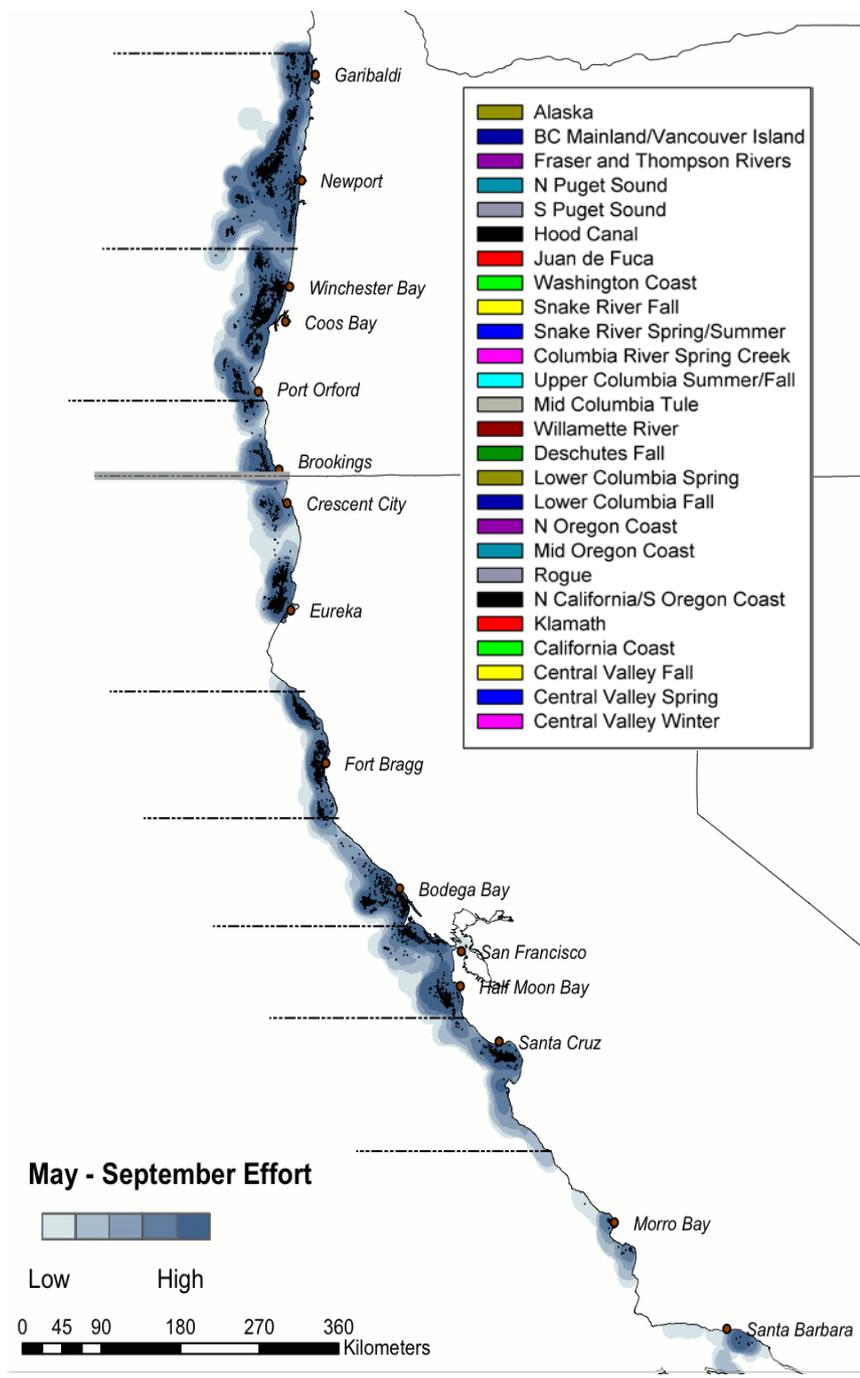
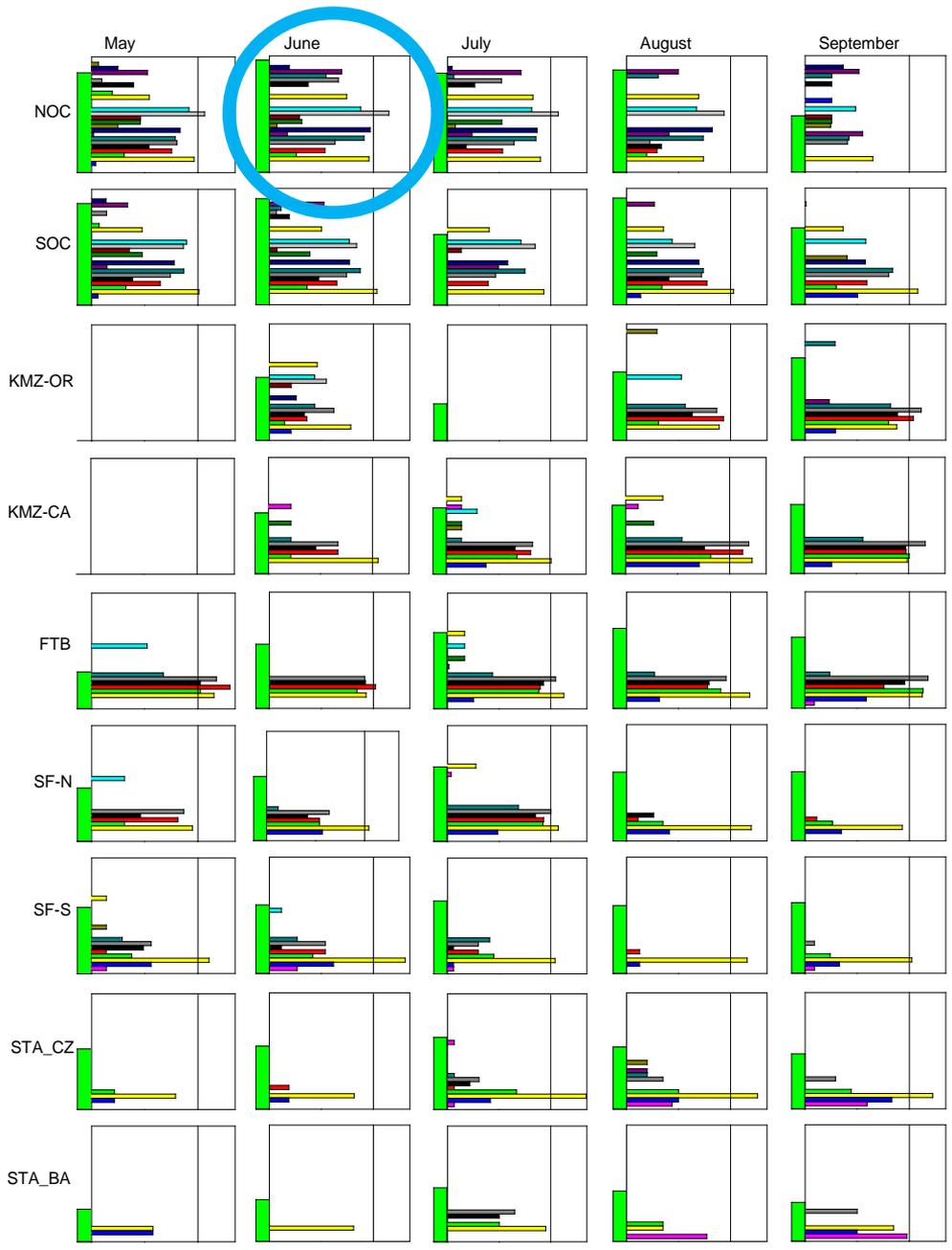
- Month and area
- Catch per effort (boat day)
- Total effort

Agenda Item G.6.b
Supplemental GSI PowerPoint
March 2011



Catch per boat day, June 2010, North Oregon Coast

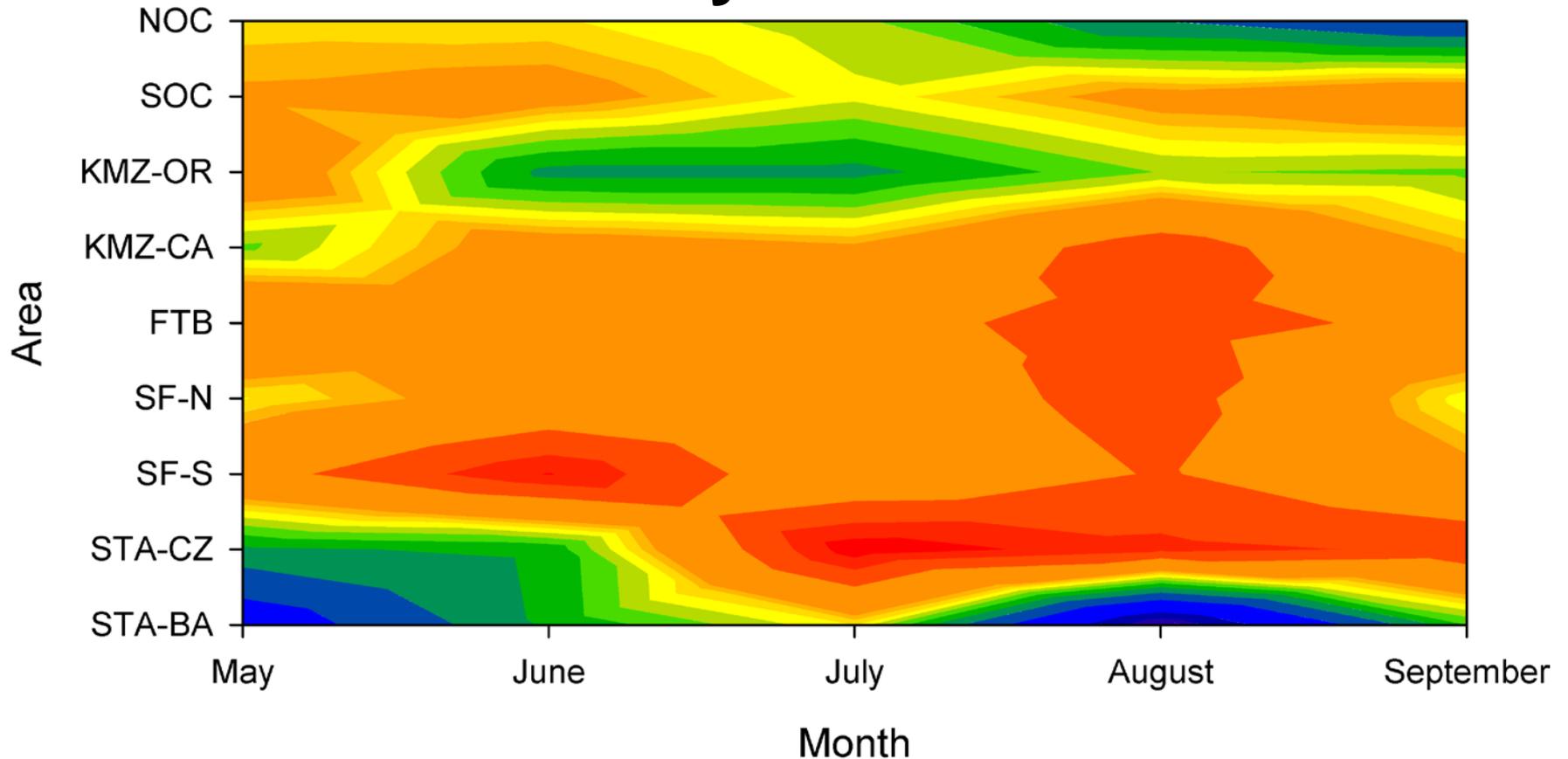




Isolating a single stock:

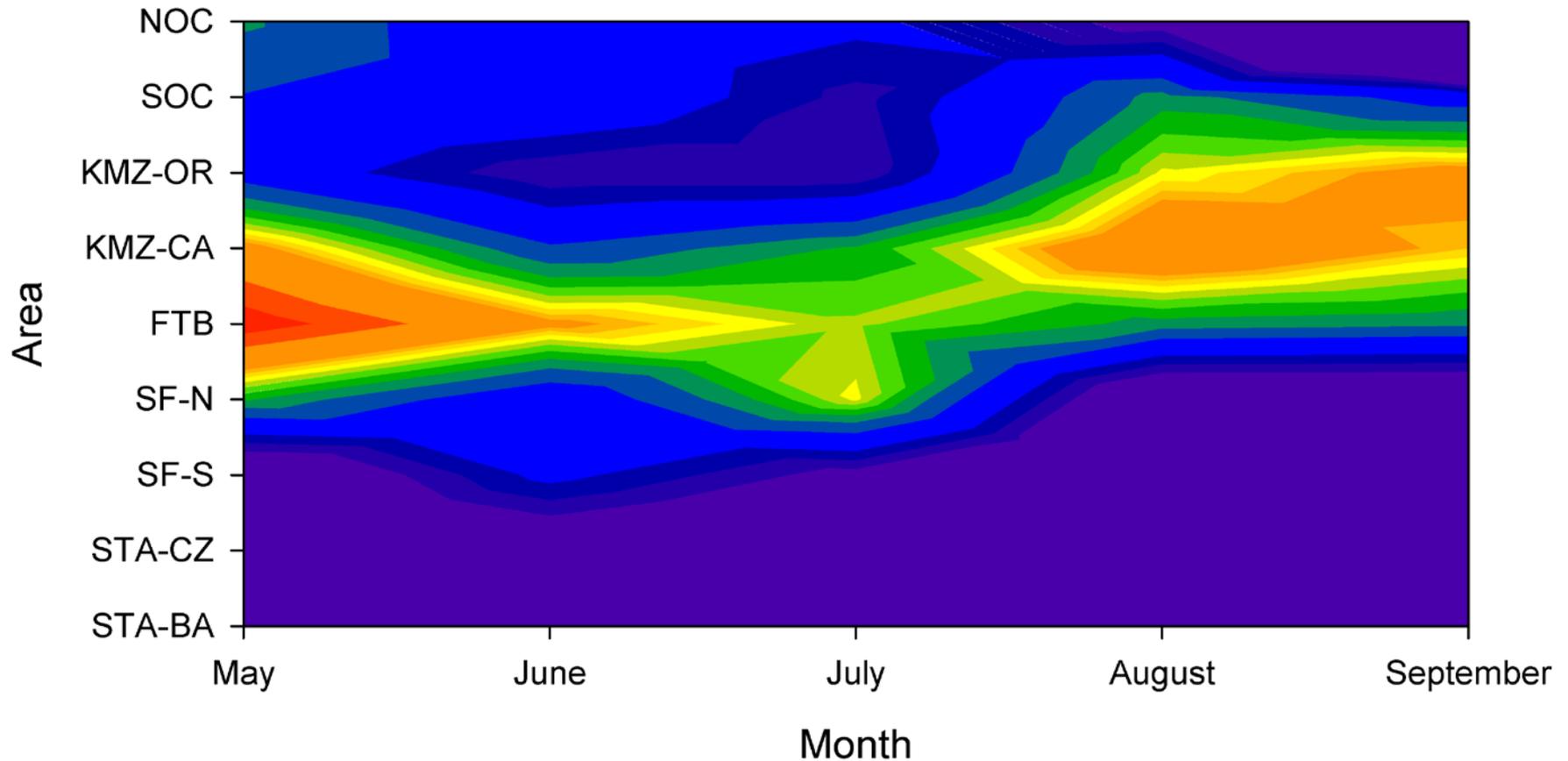
CPUE from low (blue) to high (red)

Central Valley Fall Chinook



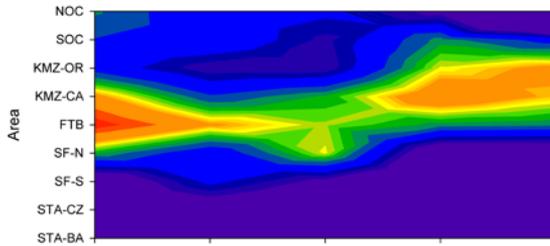
Isolating a single stock:

Klamath River Chinook

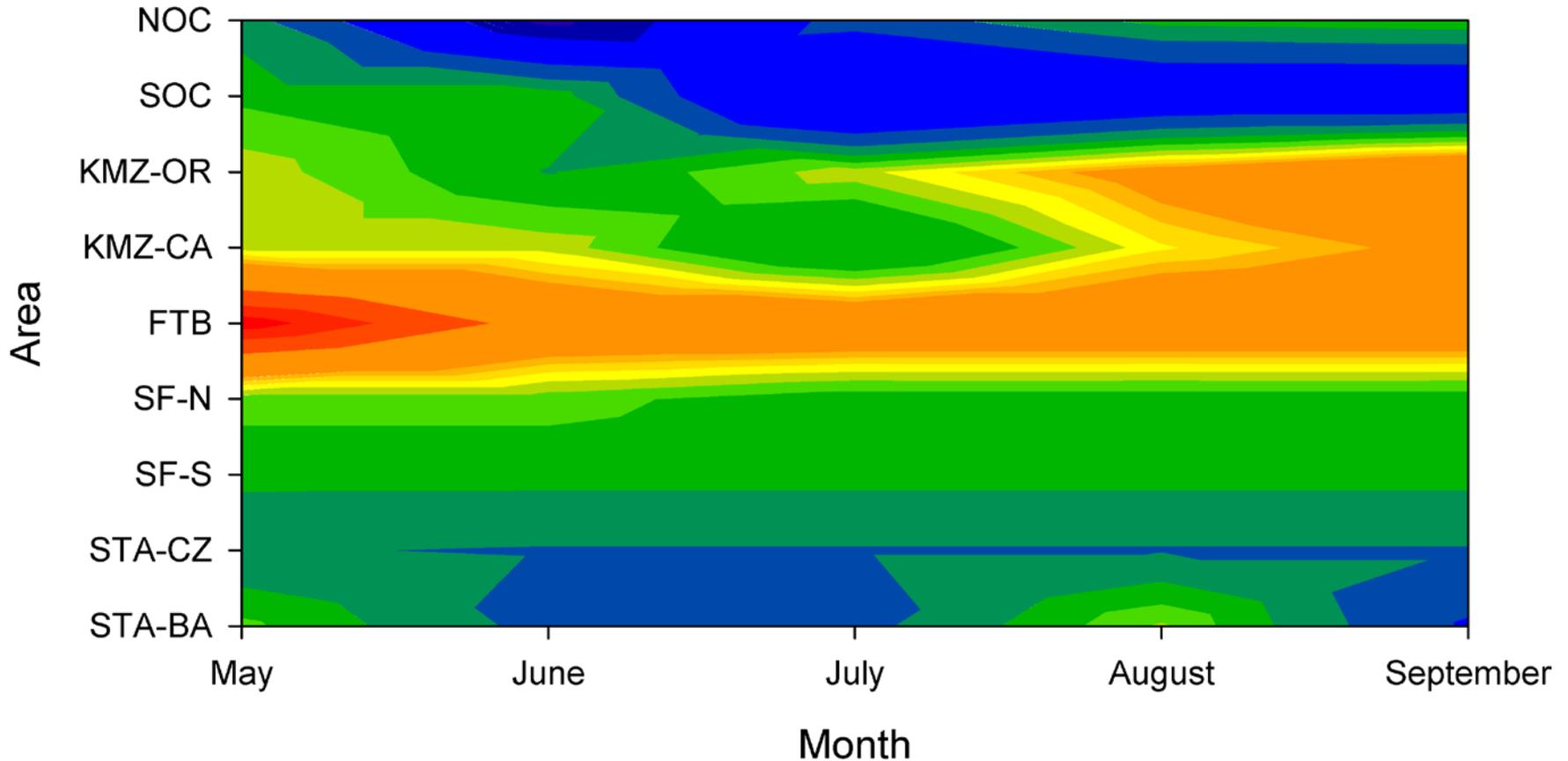
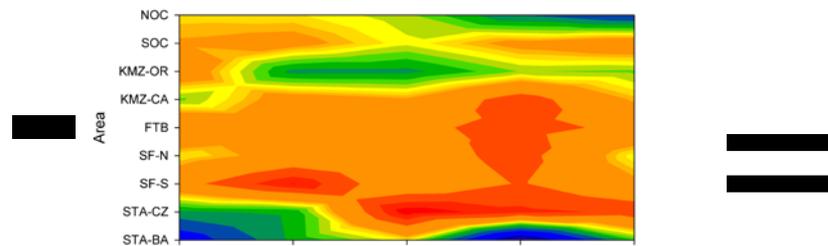


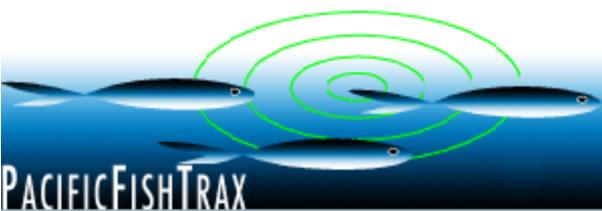
Difference in distribution

Klamath



Sacramento





Summary

Loading fisher 82...
249 fish encounters loaded.
249 fish encounters found.

Date

All

From (mm/dd/yyyy): 01/01/2006
To (mm/dd/yyyy): 03/03/2011
Specific Range: All

Region

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North
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West East
180 0 0 0
South
0 0

Select a Region: All

Show Box on Map

Load Defaults

Reset All Forms

Save Defaults

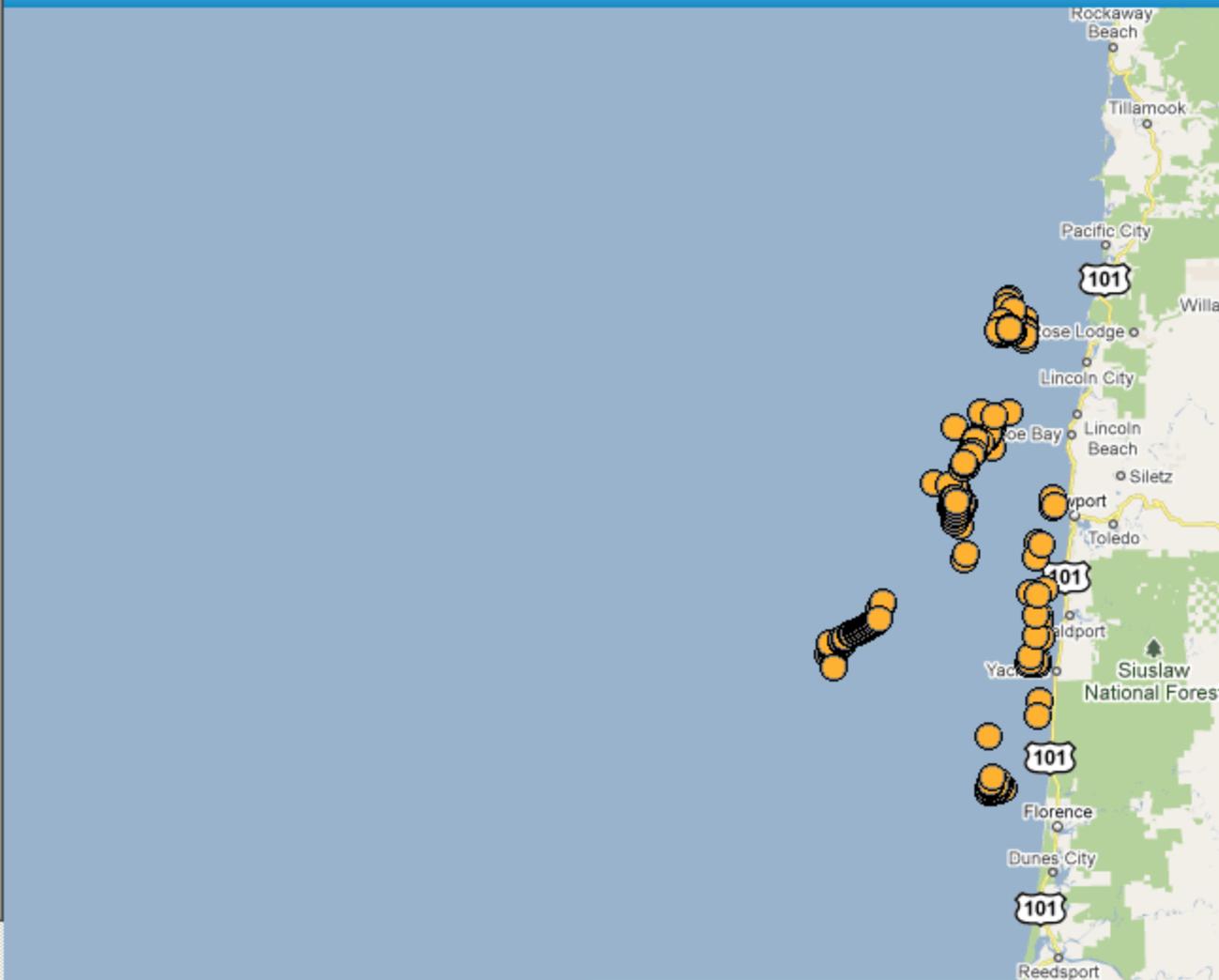
Display Mode:

Map Graphs Table

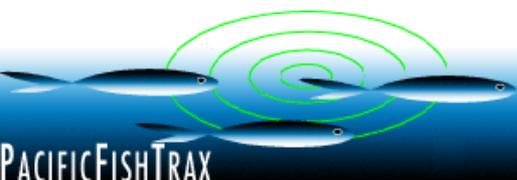
Map Overlay:

None

Markers Tracks



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Summary

Loading fisher 82...
249 fish encounters loaded.
249 fish encounters found.

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Map Overlay:

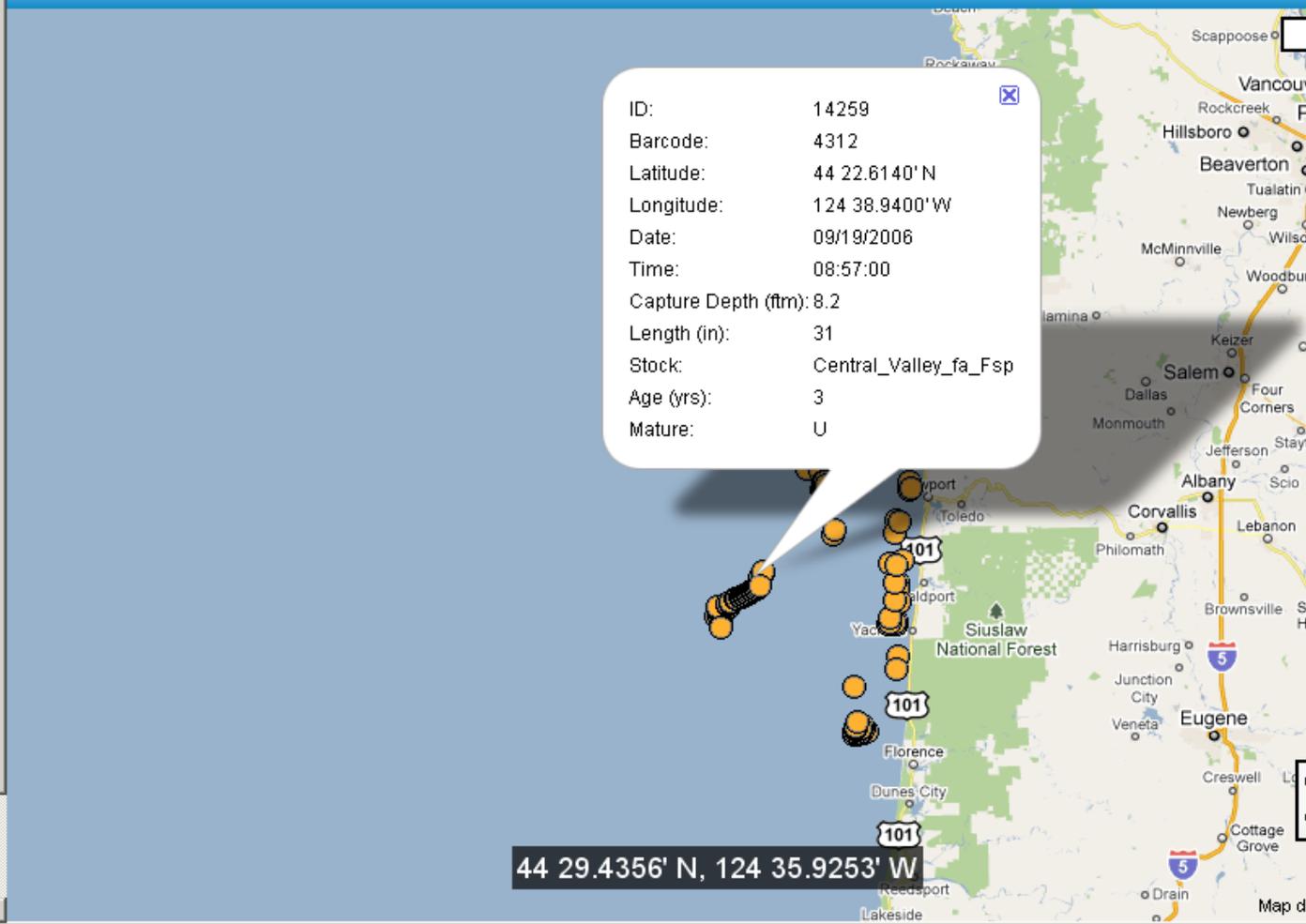
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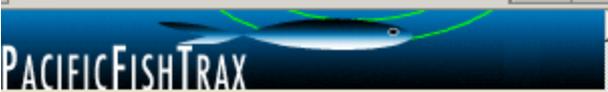
Welcome Jeff Fe

Home | Help

ID: 14259
Barcode: 4312
Latitude: 44 22.6140' N
Longitude: 124 38.9400' W
Date: 09/19/2006
Time: 08:57:00
Capture Depth (ftm): 8.2
Length (in): 31
Stock: Central_Valley_fa_Fsp
Age (yrs): 3
Mature: U



44 29.4356' N, 124 35.9253' W



Summary

Loading fisher 82...
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 120 fish encounters found.

Date 2010

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 To (mm/dd/yyyy): 12/31/2010
 Specific Range: 2010

Region All

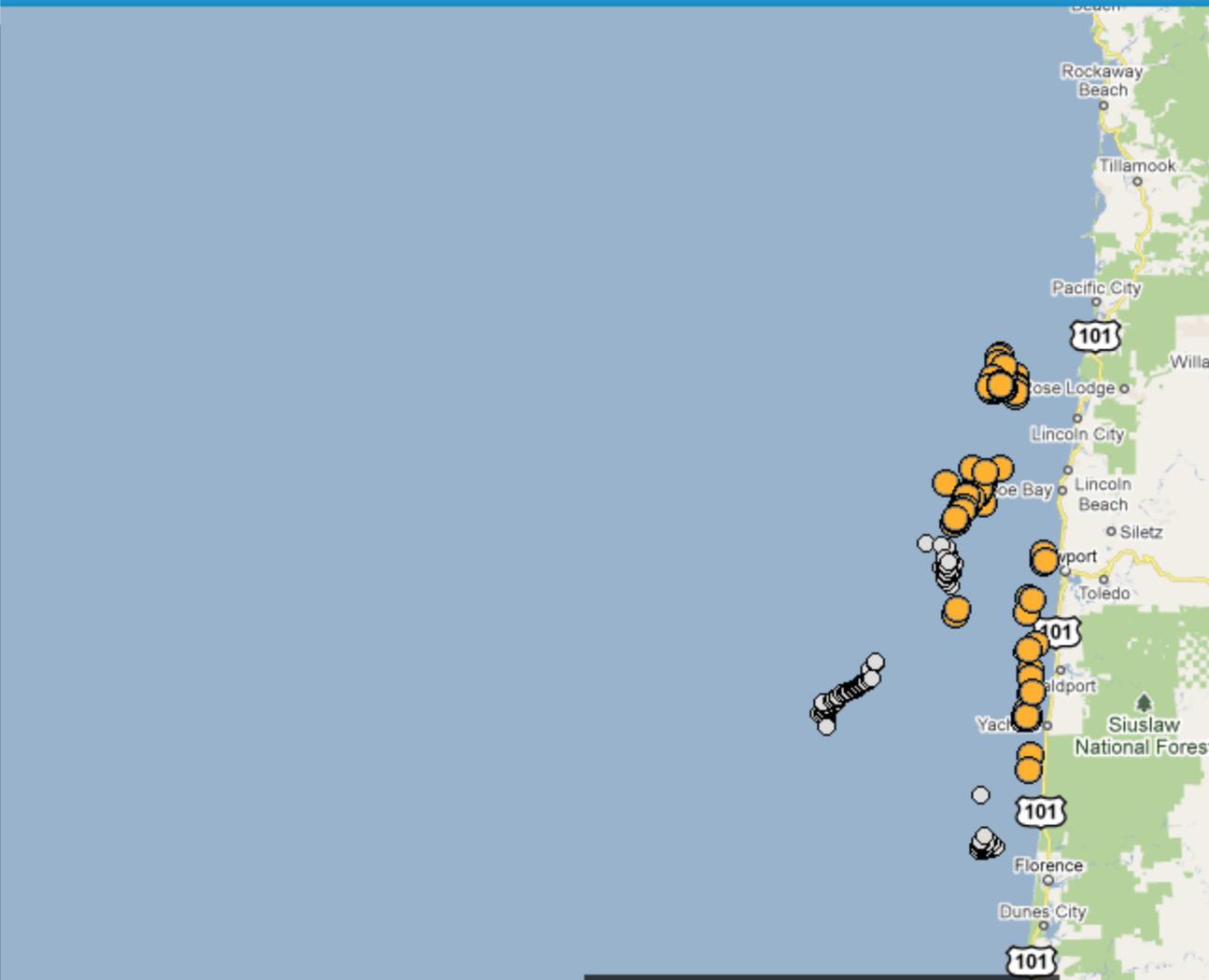
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 Show Box on Map

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- Biology All
- Stock All

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Display Mode: Map Graphs Table
 Map Overlay: None
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45 26 3341' N 124 14 8315' W

PACIFIC FISH TRAX

Summary
 249 fish encounters found.
 120 fish encounters found.
 Creating overlay. This may take a moment...
 4760 data points used in agg overlay.

Date 2010

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To (mm/dd/yyyy): 12/31/2010

Specific Range: 2010

Region All

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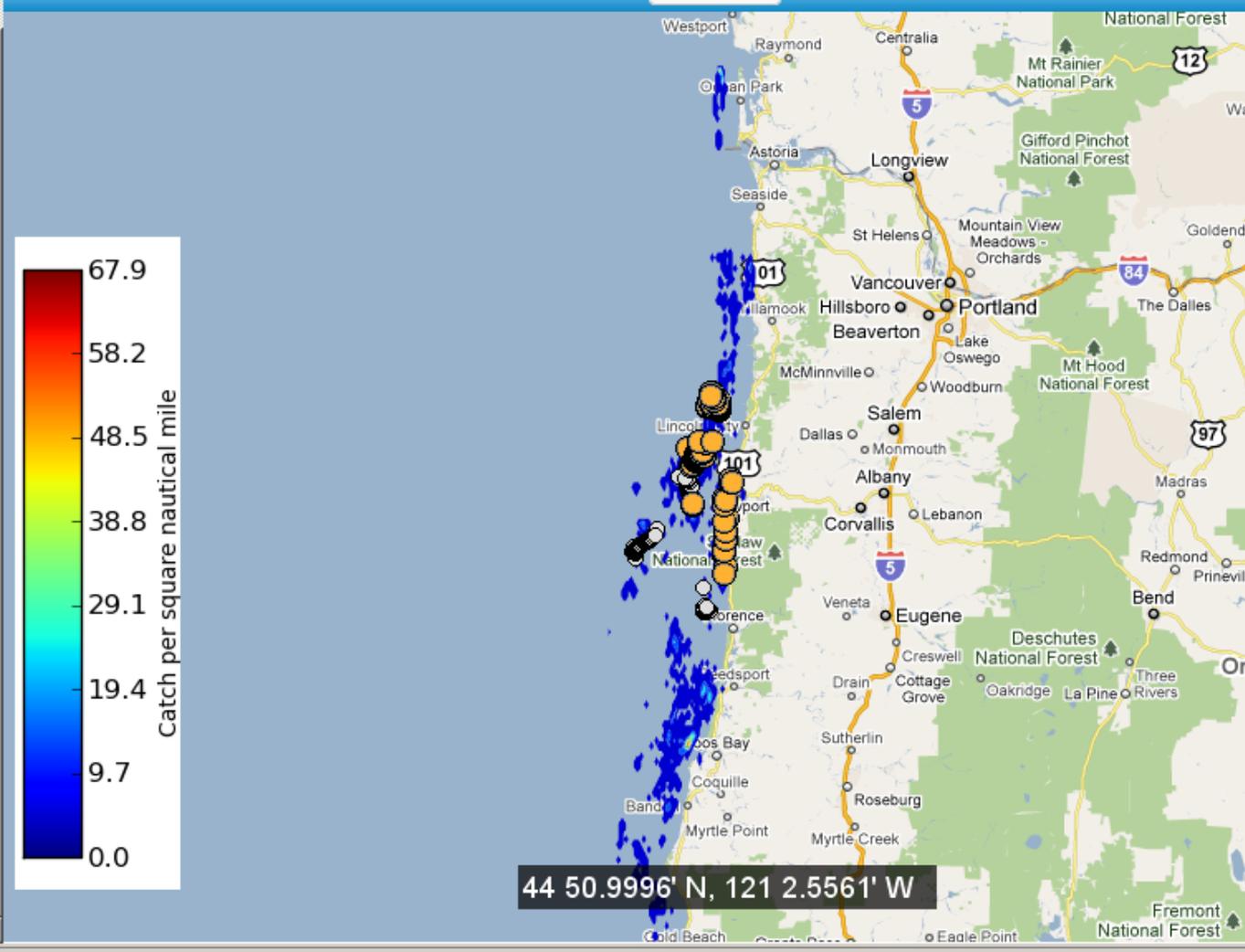
- Fish Size All
- Biology All
- Stock All
- Oceanography Overlays

Display Mode: **Map** Graphs Table

Map Overlay: Aggregate Catch

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PACIFIC FISH TRAX

Summary

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- Fish Size All
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- Stock All
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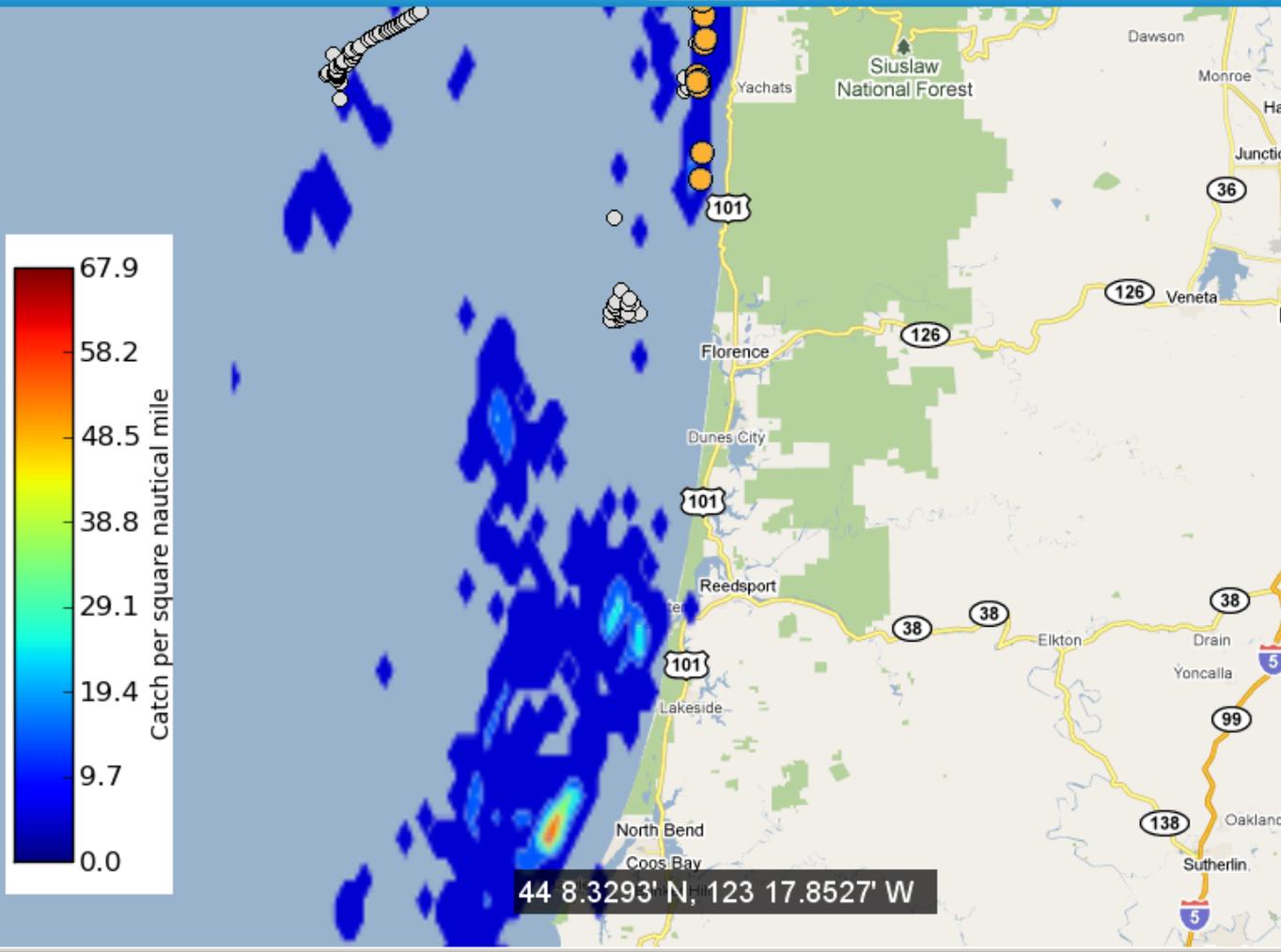
Markers Tracks

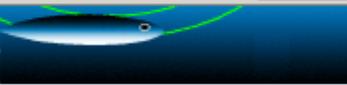
Map Overlay: Aggregate Catch

Show/Hide

Welcome Jeff

Home





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Map Overlay:

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Save Defaults

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Welcome Jeff

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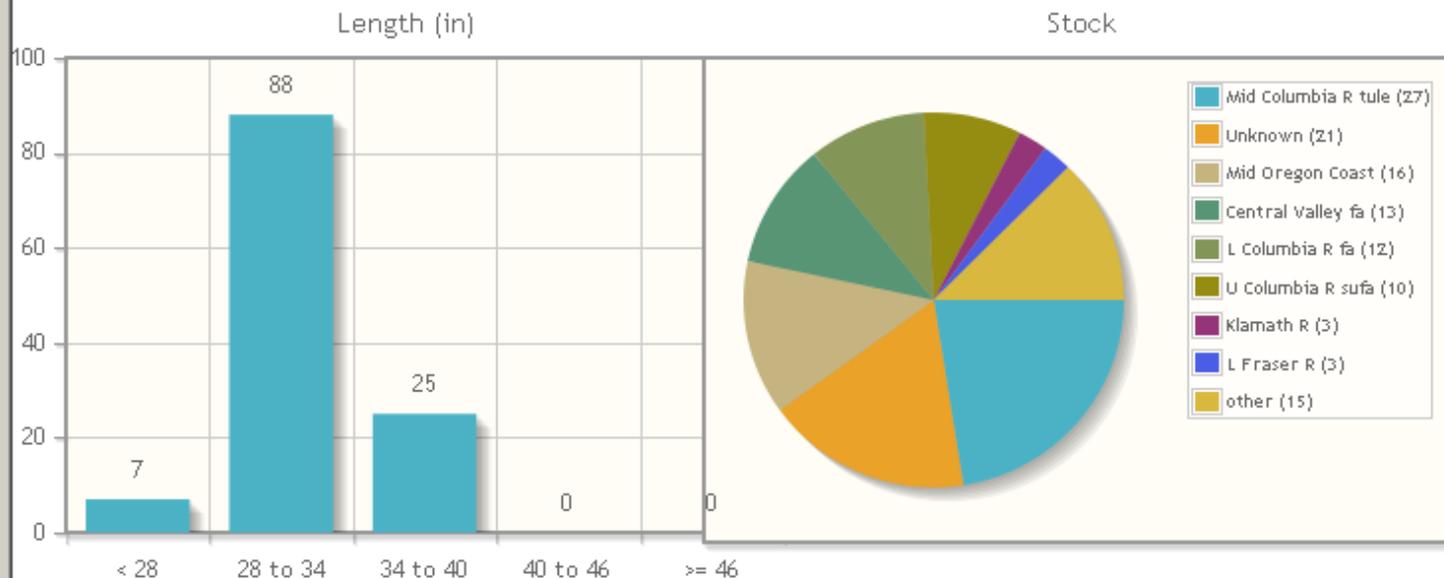
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Using 120 encounters out of 249 total encounters.

Field	N	Average	Min	Max
Age (yrs)	0	NaN	NaN	NaN
Capture Depth (ftm)	120	47.21	10.00	64.90
Length (m)	118	0.81	0.54	0.95
Length (in)	118	31.80	21.00	37.00
Track Duration (hrs)	46	5.70	1.00	15.00





Load Defaults Reset All Forms Save Defaults

Display Mode: Map Graphs Table Map Overlay: None

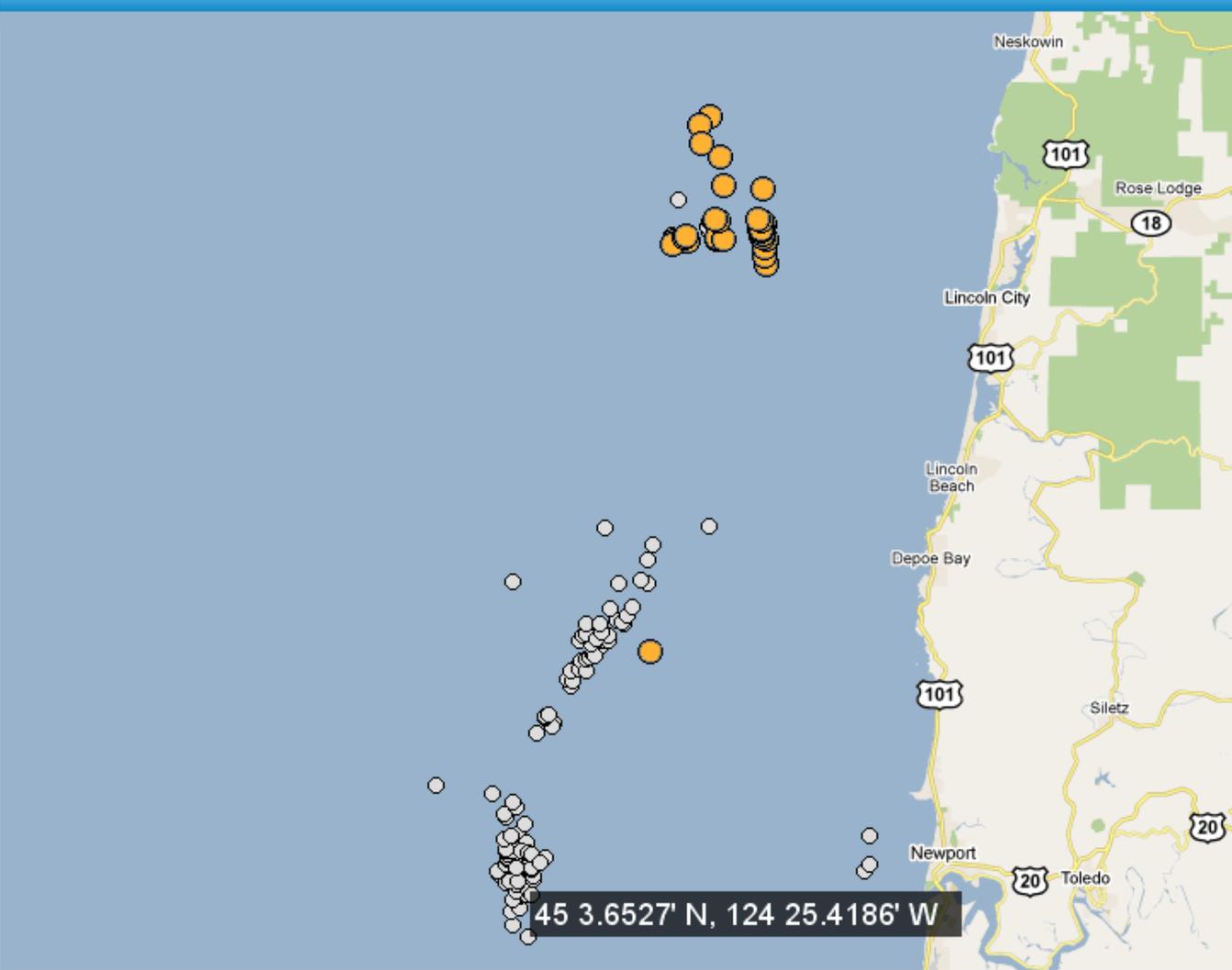
Welcome

Summary moment... 4760 data points used in agg overlay. No Effort Overlay type selected 102 fish encounters found. 37 fish encounters found.

Date 2010 From (mm/dd/yyyy): 06/20/2010 To (mm/dd/yyyy): 06/27/2010 Specific Range: 2010

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Fish Size All Biology All Stock All Oceanography Overlays



Load Defaults
Reset All Forms
Save Defaults

Display Mode: **Map** Graphs Table
Map Overlay: None
 Markers Tracks

Welcome Jeff Feldner
[Home](#) | [Help](#) | [Logout](#)

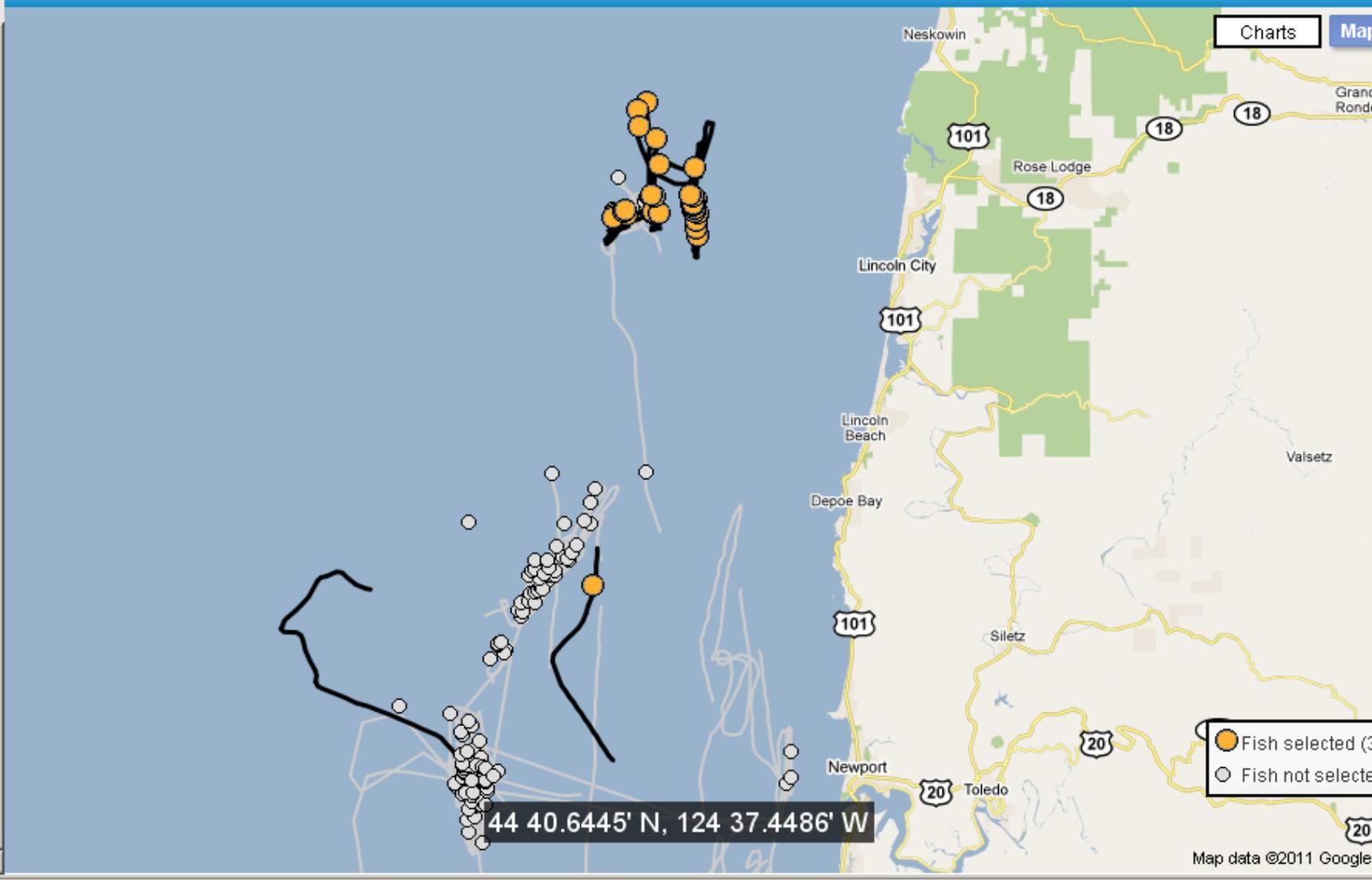
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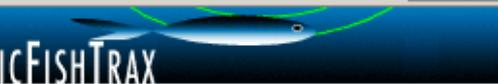
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[Show Box on Map](#)

- [Map Size](#) All
- [Technology](#) All
- [Track](#) All
- [Bathymetry Overlays](#)

[Load Defaults](#) [Reset All Forms](#)

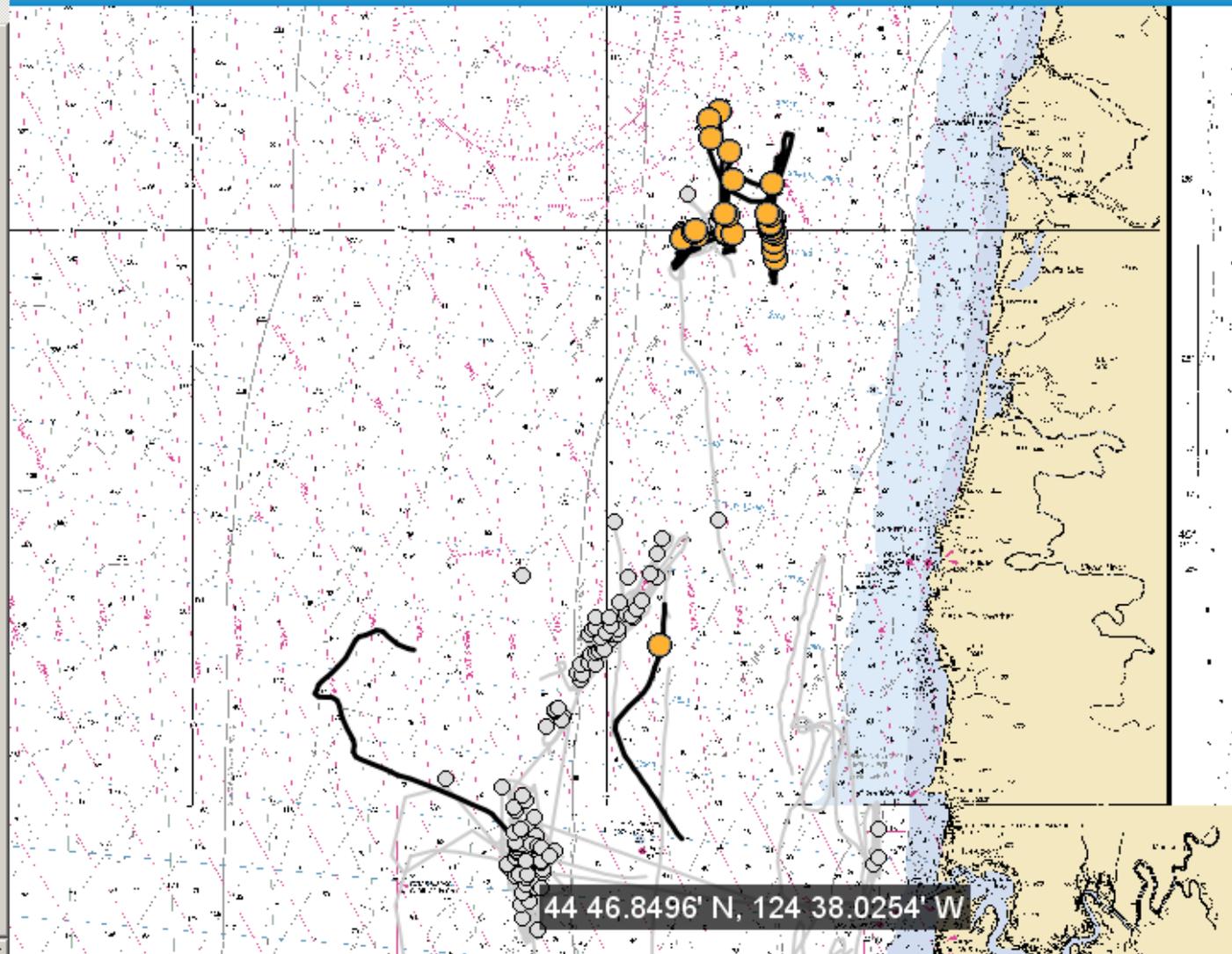
[Save Defaults](#)

Display Mode: **Map** [Graphs](#) [Table](#)

Map Overlay:

Markers Tracks

Welcome



Load Defaults Reset All Forms

Display Mode:

Map Graphs Table

Map Overlay:

None

Welcome Jeff Feldner

Home | Help | Logout

Save Defaults

Markers Tracks

Charts Map Satellite

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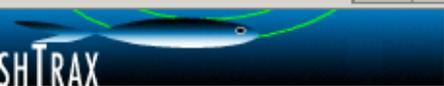
All



44 40.6445' N, 124 37.4486' W

Fish selected (37)
Fish not selected (212)

Map data ©2011 Google - Terms of Service



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... encounters found.

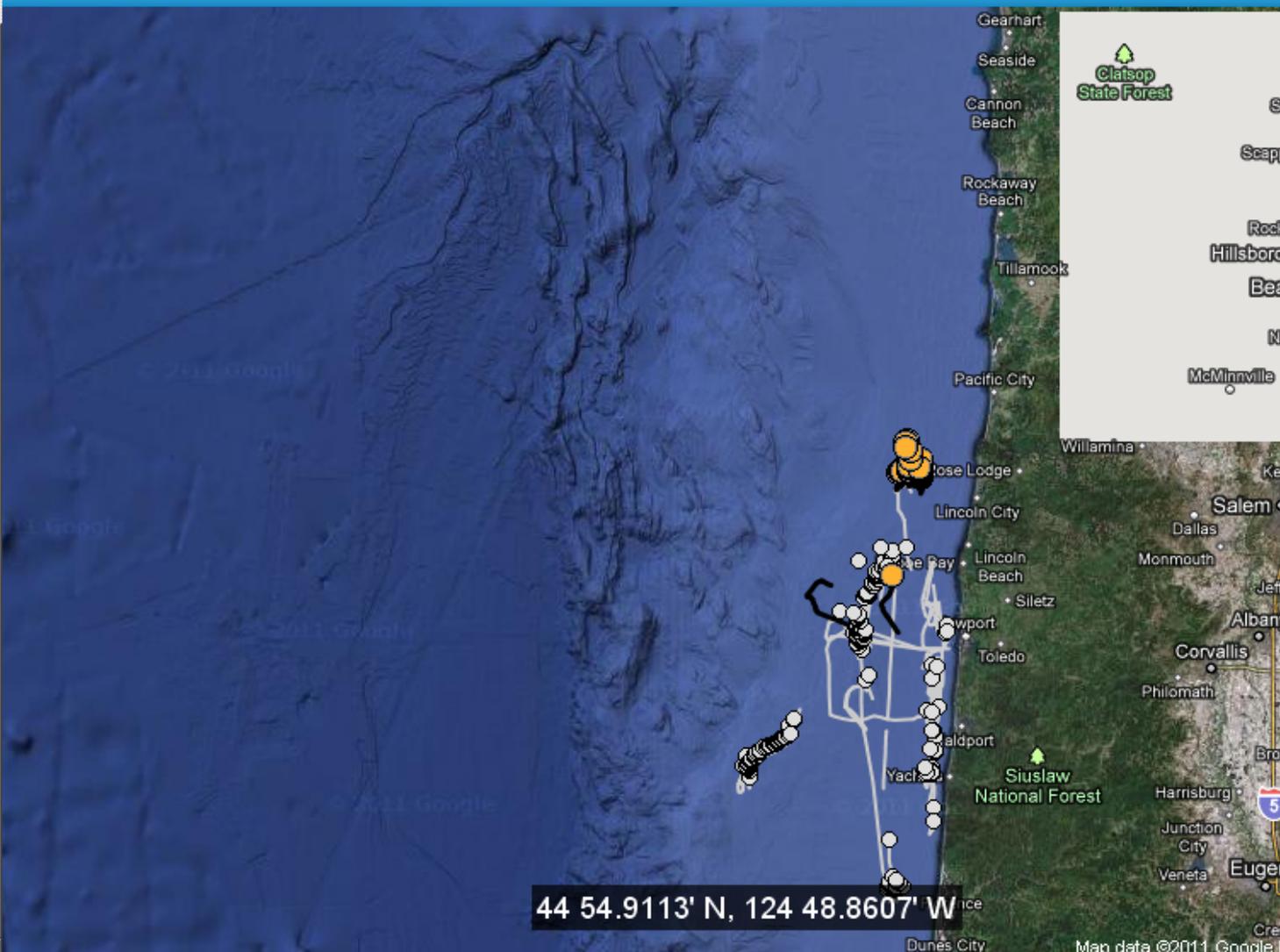
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Load Defaults Reset All Forms
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Display Mode: Map Graphs Table
Map Overlay: None
 Markers Tracks

Welcome J
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Display Mode:

Map Graphs Table

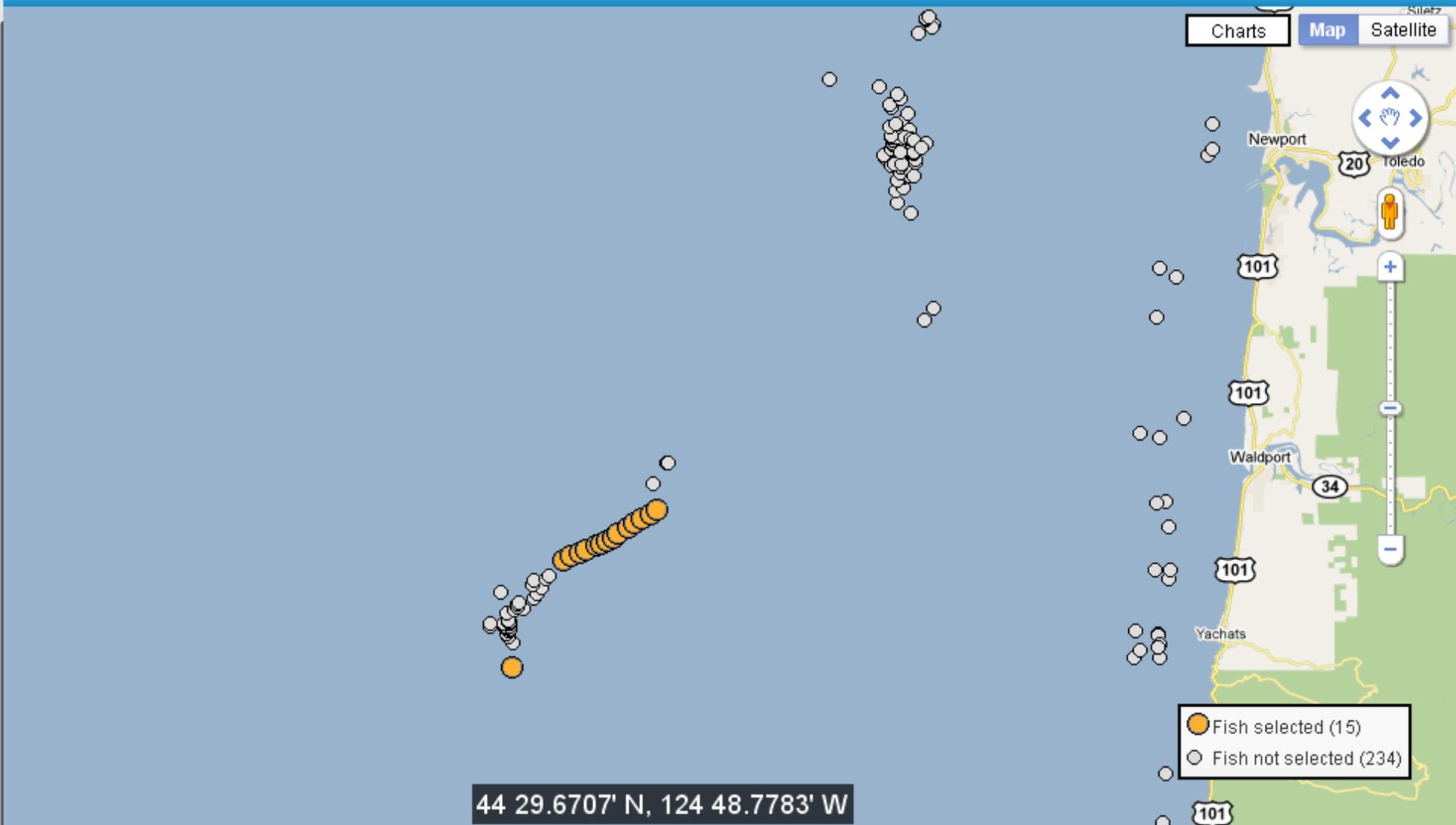
Map Overlay:

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Markers Tracks

Welcome Jeff Feldner

[Home](#) | [Help](#) | [Logout](#)



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Map Overlay:

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Welcome Jeff Feldm

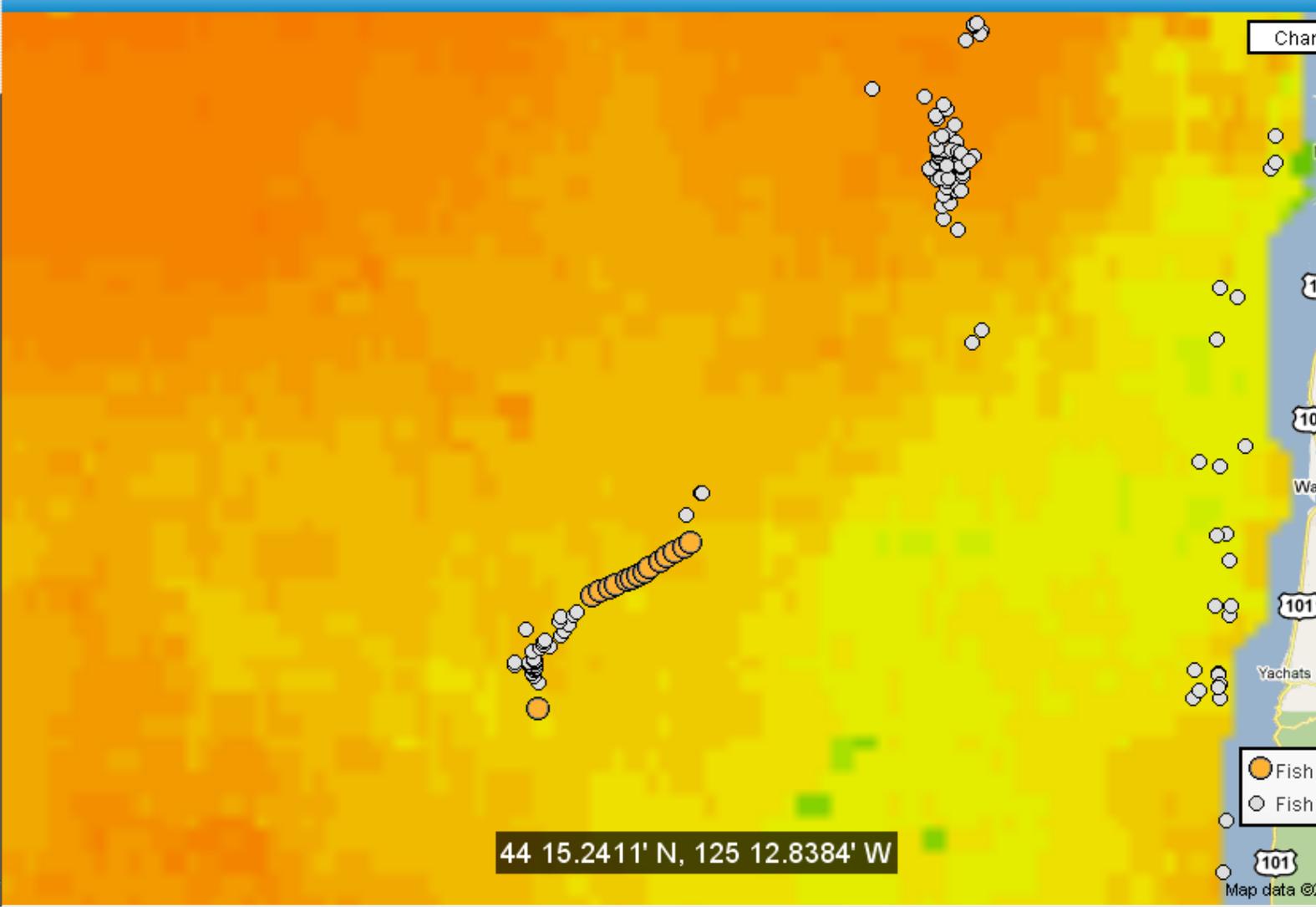
Home | Help | Log

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09/19/2006

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44 15.2411' N, 125 12.8384' W

Legend:
Fish (orange circle)
Fish (white circle)
Map data ©

Load Defaults Reset All Forms

Save Defaults

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Map Graphs Table

Markers Tracks

Map Overlay:

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Welcome Jeff Feldman

Home | Help | Logout

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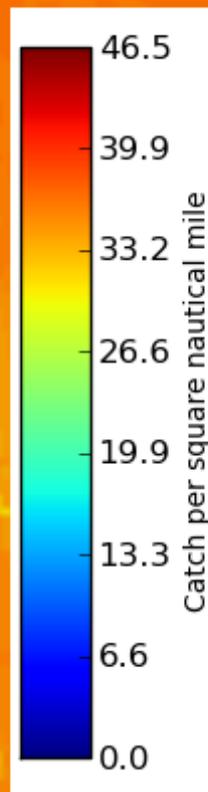
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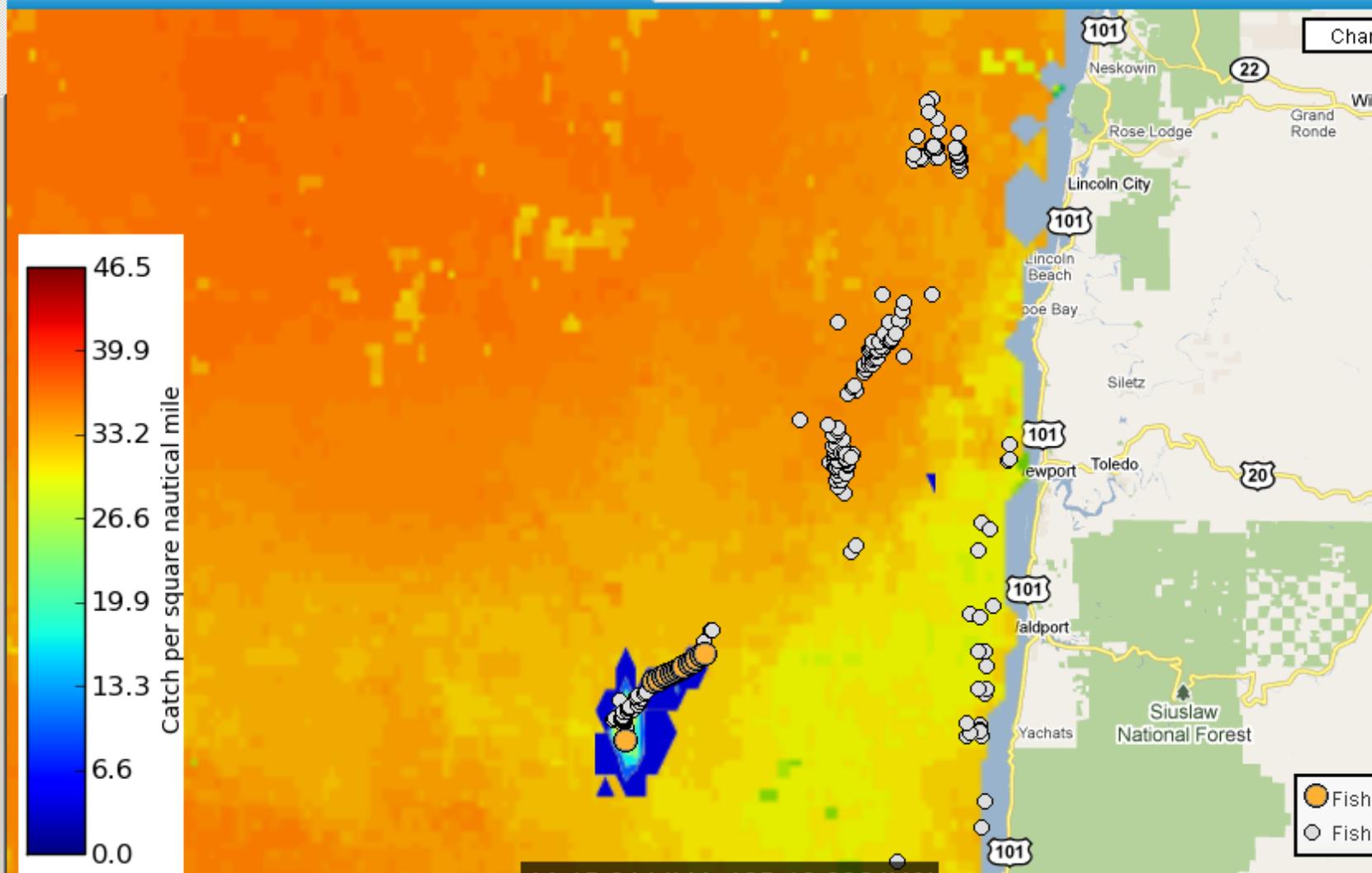
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44 15.2411' N, 125 12.8384' W

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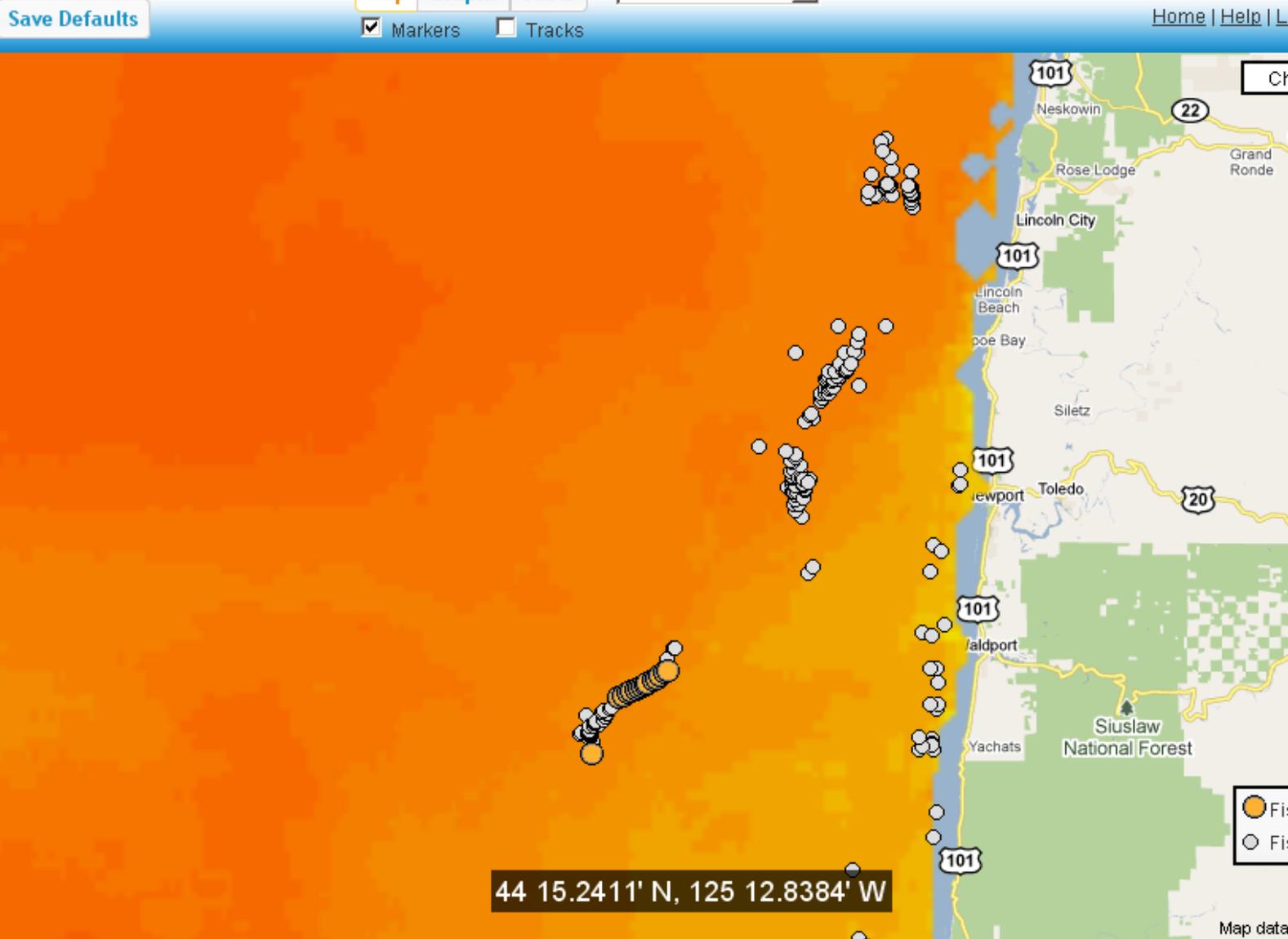
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Welcome Jeff Feld

Home | Help | L

Markers Tracks



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44 15.2411' N, 125 12.8384' W

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Load Defaults
Reset All Forms
Save Defaults

Display Mode:
Map Graphs Table
 Markers Tracks

Map Overlay:
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Welcome Jeff Feldner

Home | Help | Logout

Charts

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09/26/2006

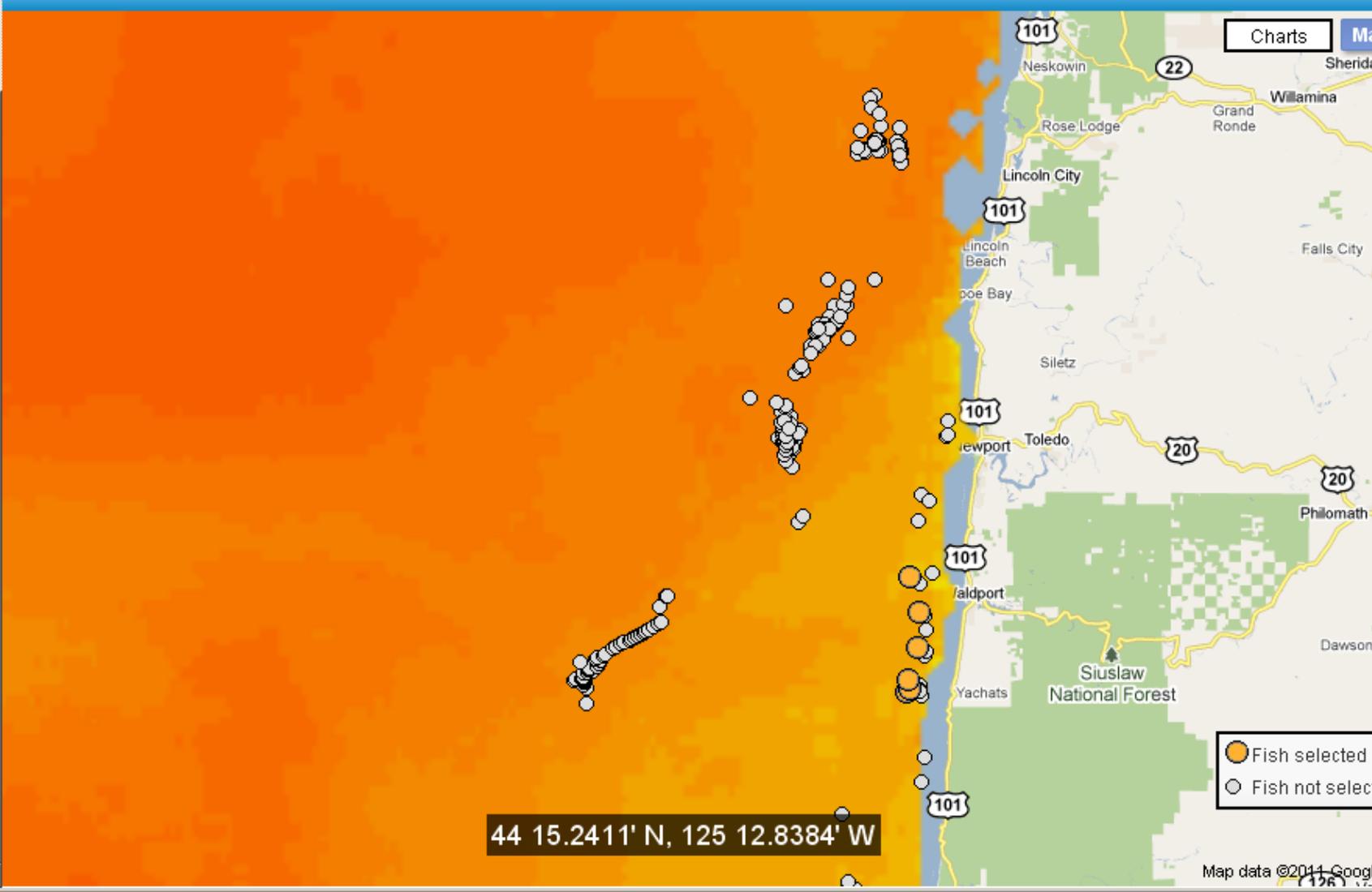
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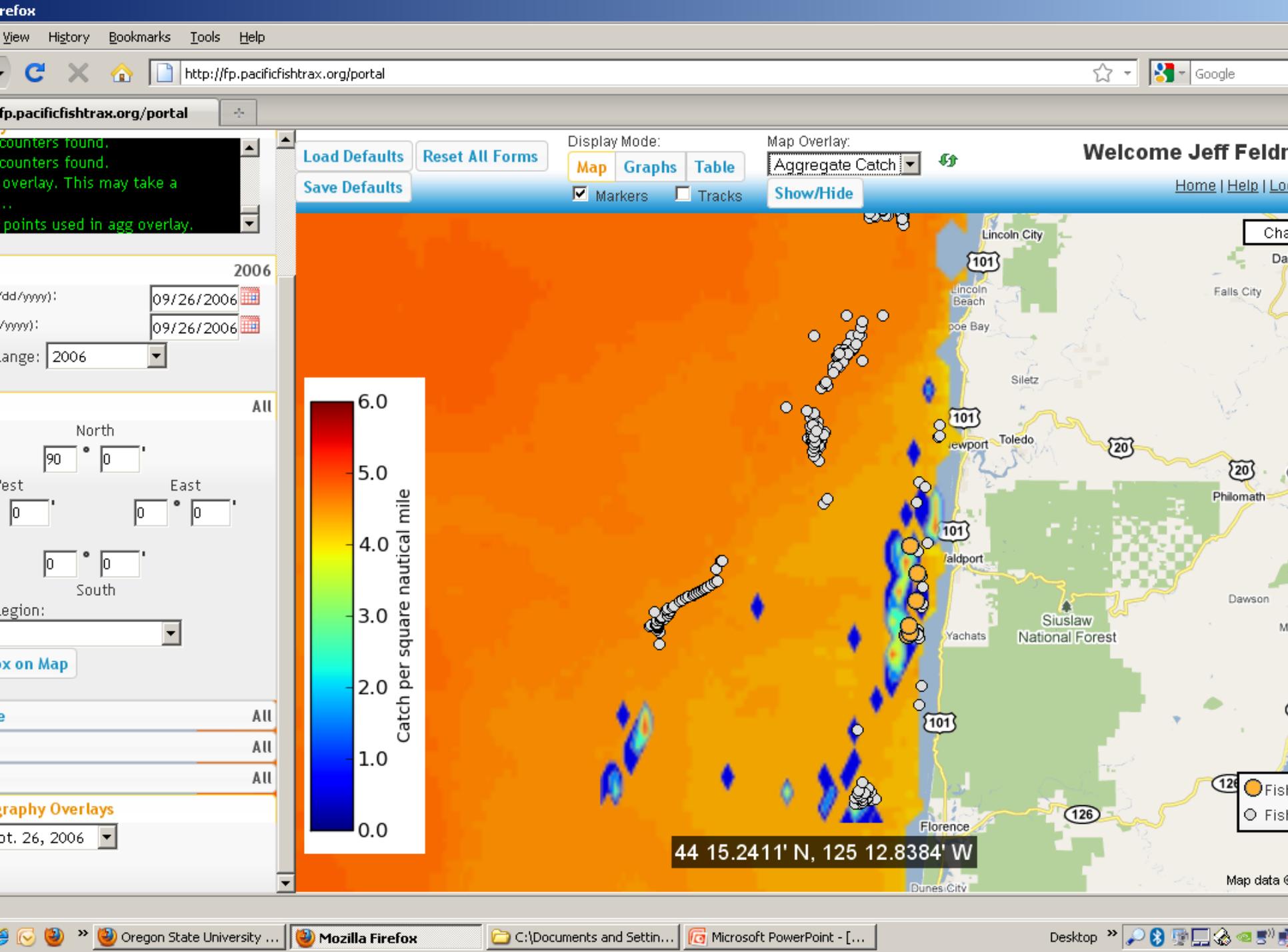
All

All

All



44 15.2411' N, 125 12.8384' W



FURTHER COUNCIL DIRECTION FOR 2011 MANAGEMENT ALTERNATIVES

If necessary, the Salmon Technical Team (STT) will request clarification or direction regarding the management elements identified by the Council under Agenda Item G.4 on Sunday, March 6, 2011 and/or Agenda Item G.5 on Monday, March 7. The Council should assure the alternatives presented are those for which the Council desires full STT analysis and consideration for final adoption on Wednesday, March 9.

Council Task:

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

Reference Materials:

None.

Agenda Order:

- a. Agenda Item Overview
- b. Reports and Comments of Advisory Bodies and Management Entities
- c. Public Comment
- d. Council Guidance and Direction

Chuck Tracy

PFMC
02/02/11

SALMON TECHNICAL TEAM

***INITIAL ANALYSIS
OF PRELIMINARY
SALMON MANAGEMENT ALTERNATIVES
FOR 2011 OCEAN FISHERIES***

March 8, 2011

TABLE 1. Commercial troll management Alternatives analyzed by the STT for non-Indian ocean salmon fisheries, 2011 (Page 1 of 9)			3/8/2011 2:10 PM
A. SEASON ALTERNATIVE DESCRIPTIONS			
ALTERNATIVE I	ALTERNATIVE II	ALTERNATIVE III	
North of Cape Falcon	North of Cape Falcon	North of Cape Falcon	
Supplemental Management Information	Supplemental Management Information	Supplemental Management Information	
<p>1. Overall non-Indian TAC: 97,000 (non-mark-selective equivalent of 90,000) Chinook and 95,000 coho marked with a healed adipose fin clip (marked).</p> <p>2. Non-Indian commercial troll TAC: 45,000 Chinook and 15,200 marked coho.</p> <p>3. Trade of Chinook or coho between non-Indian commercial and recreational fisheries: May be considered at the April Council meeting.</p> <p>4. Overall Chinook and/or coho TACs may need to be reduced or fisheries adjusted to meet NMFS ESA guidance, FMP requirements, upon conclusion of negotiations in the North of Falcon forum, or upon receipt of preseason catch and abundance expectations for Canadian and Alaskan fisheries.</p>	<p>1. Overall non-Indian TAC: 77,000 (non-mark-selective equivalent of 70,000) Chinook and 80,000 coho marked with a healed adipose fin clip (marked).</p> <p>2. Non-Indian commercial troll TAC: 35,000 Chinook and 12,800 marked coho.</p> <p>3. Trade of Chinook or coho between non-Indian commercial and recreational fisheries: May be considered at the April Council meeting.</p> <p>4. Overall Chinook and/or coho TACs may need to be reduced or fisheries adjusted to meet NMFS ESA guidance, FMP requirements, upon conclusion of negotiations in the North of Falcon forum, or upon receipt of preseason catch and abundance expectations for Canadian and Alaskan fisheries.</p>	<p>1. Overall non-Indian TAC: 57,000 (non-mark-selective equivalent of 50,000) Chinook and a quota equivalent to 65,000 coho marked with a healed adipose fin clip (marked).</p> <p>2. Non-Indian commercial troll TAC: 25,000 Chinook and a quota equivalent to 10,400 marked coho.</p> <p>3. Trade of Chinook or coho between non-Indian commercial and recreational fisheries: May be considered at the April Council meeting.</p> <p>4. Overall Chinook and/or coho TACs may need to be reduced or fisheries adjusted to meet NMFS ESA guidance, FMP requirements, upon conclusion of negotiations in the North of Falcon forum, or upon receipt of preseason catch and abundance expectations for Canadian and Alaskan fisheries.</p>	
<p>U.S./Canada Border to Cape Falcon</p> <ul style="list-style-type: none"> May 1 through earlier of June 30 or 33,750 Chinook quota. <p>Seven days per week (C.1). All salmon except coho (C.7). Cape Flattery, Mandatory Yelloweye Rockfish Conservation Area, and Columbia Control Zones closed (C.5). See gear restrictions and definitions (C.2, C.3). An inseason conference call will occur when it is projected that 29,000 Chinook have been landed to consider modifying the open period to five days per week and adding landing and possession limits to ensure the guideline is not exceeded.</p>	<p>U.S./Canada Border to Cape Falcon</p> <ul style="list-style-type: none"> May 1 through earlier of June 30 or 23,450 Chinook quota. <p>Friday through Tuesday, landing and possession limit of 120 Chinook per open period (C.1). All salmon except coho (C.7). Cape Flattery, Mandatory Yelloweye Rockfish Conservation Area, and Columbia Control Zones closed (C.5). See gear restrictions and definitions (C.2, C.3). An inseason conference call will occur when it is projected that 22,000 Chinook have been landed to consider modifying the open period, landing, and possession limits to extend the fishery through the end of June.</p>	<p>U.S./Canada Border to Cape Falcon</p> <ul style="list-style-type: none"> May 1 through earlier of June 30 or 16,750 Chinook quota. <p>Saturday through Tuesday, landing and possession limit of 100 Chinook per open period (C.1). All salmon except coho (C.7). Cape Flattery, Mandatory Yelloweye Rockfish Conservation Area, and Columbia Control Zones closed (C.5). See gear restrictions and definitions (C.2, C.3).</p>	
<p>Vessels must land and deliver their fish within 24 hours of any closure of this fishery. Under state law, vessels must report their catch on a state fish receiving ticket. Vessels fishing or in possession of salmon while fishing north of Leadbetter Point must land and deliver their fish within the area and north of Leadbetter Point. Vessels fishing or in possession of salmon while fishing south of Leadbetter Point must land and deliver their fish within the area and south of Leadbetter Point, except that Oregon permitted vessels may also land their fish in Garibaldi, Oregon. Oregon State regulations require all fishers landing salmon into Oregon from any fishery between Leadbetter Point, Washington and Cape Falcon, Oregon must notify ODFW within one hour of delivery or prior to transport away from the port of landing by either calling 541-867-0300 Ext. 271 or sending notification via e-mail to nfallcon.trollreport@state.or.us. Notification shall include vessel name and number, number of salmon by species, port of landing and 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.8).</p>			

TABLE 1. Commercial troll management Alternatives analyzed by the STT for non-Indian ocean salmon fisheries, 2011. (Page 2 of 9)			3/8/2011 2:10 PM
A. SEASON ALTERNATIVE DESCRIPTIONS			
ALTERNATIVE I	ALTERNATIVE II	ALTERNATIVE III	
<p>U.S./Canada Border to Cape Falcon</p> <ul style="list-style-type: none"> July 1 through earlier of September 15 or 11,250 preseason Chinook guideline (C.8) or a 15,200 marked coho quota (C.8.d). <p>Friday through Tuesday; landing and possession limit of 100 Chinook and 90 coho per vessel per open period north of Leadbetter Point or 100 Chinook and 90 coho south of Leadbetter Point (C.1). All Salmon except no chum retention north of Cape Alava, Washington in August and September (C.7). All coho must be marked (C.8.d). See gear restrictions and definitions (C.2, C.3). Cape Flattery, Mandatory Yelloweye Rockfish Conservation Area, and Columbia Control Zones closed (C.5).</p>	<p>U.S./Canada Border to Cape Falcon</p> <ul style="list-style-type: none"> July 1 through earlier of September 15 or 11,550 preseason Chinook guideline (C.8) or a 12,800 marked coho quota (C.8.d). <p>Friday through Tuesday; landing and possession limit of 70 Chinook and 80 coho per vessel per open period north of Leadbetter Point or 70 Chinook and 80 coho south of Leadbetter Point (C.1). All Salmon except no chum retention north of Cape Alava, Washington in August and September (C.7). All coho must be marked (C.8.d). See gear restrictions and definitions (C.2, C.3). Cape Flattery, Mandatory Yelloweye Rockfish Conservation Area, and Columbia Control Zones closed (C.5).</p>	<p>U.S./Canada Border to Cape Falcon</p> <ul style="list-style-type: none"> July 1 through earlier of September 15 or 8,250 preseason Chinook guideline (C.8) or a coho quota equivalent to 10,400 marked coho (C.8.d). <p>Saturday through Tuesday; landing and possession limit of 60 Chinook and 65 marked coho per vessel per open period north of Leadbetter Point or 60 Chinook and 65 marked coho south of Leadbetter Point through August 15, 40 Chinook and 75 coho (non-mark-selective) per vessel per open period north of Leadbetter Point or 40 Chinook and 75 coho (non-mark-selective) south of Leadbetter Point thereafter (C.1). All Salmon except no chum retention north of Cape Alava, Washington in August and September (C.7). See gear restrictions and definitions (C.2, C.3). Cape Flattery, Mandatory Yelloweye Rockfish Conservation Area, and Columbia Control Zones closed (C.5).</p>	
<p>Vessels must land and deliver their fish within 24 hours of any closure of this fishery. Under state law, vessels must report their catch on a state fish receiving ticket. Vessels fishing or in possession of salmon while fishing north of Leadbetter Point must land and deliver their fish within the area and north of Leadbetter Point. Vessels fishing or in possession of salmon while fishing south of Leadbetter Point must land and deliver their fish within the area and south of Leadbetter Point, except that Oregon permitted vessels may also land their fish in Garibaldi, Oregon. Oregon State regulations require all fishers landing salmon into Oregon from any fishery between Leadbetter Point, Washington and Cape Falcon, Oregon must notify ODFW within one hour of delivery or prior to transport away from the port of landing by either calling 541-867-0300 Ext. 271 or sending notification via e-mail to nfallcon.trollreport@state.or.us. Notification shall include vessel name and number, number of salmon by species, port of landing and 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.8).</p>			

TABLE 1. Commercial troll management Alternatives analyzed by the STT for non-Indian ocean salmon fisheries, 2011. (Page 3 of 9)			3/8/2011 2:10 PM
A. SEASON ALTERNATIVE DESCRIPTIONS			
ALTERNATIVE I	ALTERNATIVE II	ALTERNATIVE III	
South of Cape Falcon	South of Cape Falcon	South of Cape Falcon	
Supplemental Management Information	Supplemental Management Information	Supplemental Management Information	
<ol style="list-style-type: none"> 1. Sacramento River Basin recreational fishery catch assumption: 61,100 adult Sacramento River fall Chinook. 2. Sacramento River fall Chinook spawning escapement of 375,300 adults. 3. Klamath River recreational fishery allocation: 7,800 adult Klamath River fall Chinook. 4. Klamath tribal allocation: 34,800 adult Klamath River fall Chinook. 5. Fisheries may need to be adjusted to meet NMFS ESA consultation standards, FMP requirements, other management objectives, or upon receipt of new allocation recommendations from the California Fish and Game Commission. 	<ol style="list-style-type: none"> 1. Sacramento River Basin recreational fishery catch assumption: 61,300 adult Sacramento River fall Chinook. 2. Sacramento River fall Chinook spawning escapement of 376,800 adults. 3. Klamath River recreational fishery allocation: 9,100 adult Klamath River fall Chinook. 4. Klamath tribal allocation: 34,600 adult Klamath River fall Chinook. 5. Fisheries may need to be adjusted to meet NMFS ESA consultation standards, FMP requirements, other management objectives, or upon receipt of new allocation recommendations from the California Fish and Game Commission. 	<ol style="list-style-type: none"> 1. Sacramento River Basin recreational fishery catch assumption: 68,000 adult Sacramento River fall Chinook. 2. Sacramento River fall Chinook spawning escapement of 368,700 adults. 3. Klamath River recreational fishery allocation: 9,100 adult Klamath River fall Chinook. 4. Klamath tribal allocation: 34,500 adult Klamath River fall Chinook. 5. Fisheries may need to be adjusted to meet NMFS ESA consultation standards, FMP requirements, other management objectives, or upon receipt of new allocation recommendations from the California Fish and Game Commission. 	
<p>Cape Falcon to Humbug Mt.</p> <ul style="list-style-type: none"> • April 15 through August 31; October 1-31 (C.9). Seven days per week. All salmon except coho; landing and possession limit of 50 Chinook per vessel per calendar week in October (C.7). All vessels fishing in the area must land their fish in the State of Oregon. See gear restrictions and definitions (C.2, C.3) and Oregon State regulations for a description of special regulations at the mouth of Tillamook Bay. <p>In 2012, the season will open March 15 for all salmon except coho. This opening could be modified following Council review at its March 2012 meeting.</p>	<p>Cape Falcon to Humbug Mt.</p> <ul style="list-style-type: none"> • April 15 through July 9, July 18 through August 31, October 1-31. (C.9). Seven days per week. All salmon except coho; landing and possession limit of 50 Chinook per vessel per calendar week in October (C.7). All vessels fishing in the area must land their fish in the State of Oregon. See gear restrictions and definitions (C.2, C.3) and Oregon State regulations for a description of special regulations at the mouth of Tillamook Bay. <p>In 2012, same as Alternative I</p>	<p>Cape Falcon to Humbug Mt.</p> <ul style="list-style-type: none"> • April 15 through July 9, July 18 through August 13, August 21-31 (C.9). Seven days per week. All salmon except coho (C.7). All vessels fishing in the area must land their fish in the State of Oregon. See gear restrictions and definitions (C.2, C.3) and Oregon State regulations for a description of special regulations at the mouth of Tillamook Bay. <p>In 2012, same as Alternative I</p>	

TABLE 1. Commercial troll management Alternatives analyzed by the STT for non-Indian ocean salmon fisheries, 2011. (Page 4 of 9)		
3/8/2011 2:10 PM		
A. SEASON ALTERNATIVE DESCRIPTIONS		
ALTERNATIVE I	ALTERNATIVE II	ALTERNATIVE III
<p>Humbug Mt. to OR/CA Border (Oregon KMZ)</p> <ul style="list-style-type: none"> • May 1-31; • June 1 through earlier of June 30, or a 2,000 Chinook quota; • July 1 through earlier of July 31, or a 1,200 Chinook quota; • Aug. 1 through earlier of Aug. 31, or a 1,800 Chinook quota (C.9). <p>Seven days per week. All salmon except coho (C.7). Chinook 28 inch total length minimum size limit (B). June 1 through August 31, landing and possession limit of 30 Chinook per vessel per day. Any remaining portion of the June and/or July Chinook quotas may be transferred inseason on an impact neutral basis to the next open quota period (C.8). All vessels fishing in this area must land and deliver all fish within this area or Port Orford, within 24 hours of any closure in this fishery, and prior to fishing outside of this area. Oregon State regulations require all fishers landing salmon from any quota managed season within this area to notify Oregon Dept. of Fish and Wildlife (ODFW) within 1 hour of delivery or prior to transport away from the port of landing by either calling (541) 867-0300 ext. 252 or sending notification via e-mail to KMZOR.trollreport@state.or.us. Notification shall include vessel name and number, number of salmon by species, port of landing and location of delivery, and estimated time of delivery. See gear restrictions and definitions (C.2, C.3).</p> <p>In 2012, the season will open March 15 for all salmon except coho, with a 28 inch Chinook minimum size limit. This opening could be modified following Council review at its March 2012 meeting.</p>	<p>Humbug Mt. to OR/CA Border (Oregon KMZ)</p> <ul style="list-style-type: none"> • May 1-31; • June 1 through earlier of June 30, or a 1,000 Chinook quota; • July 1 through earlier of July 31, or a 1,200 Chinook quota; • Aug. 1 through earlier of Aug. 31, or a 1,500 Chinook quota (C.9). <p>Seven days per week. All salmon except coho (C.7). Chinook 28 inch total length minimum size limit (B). June 1 through August 31, landing and possession limit of 30 Chinook per vessel per day. All vessels fishing in this area must land and deliver all fish within this area or Port Orford, within 24 hours of any closure in this fishery, and prior to fishing outside of this area. Oregon State regulations require all fishers landing salmon from any quota managed season within this area to notify Oregon Dept. of Fish and Wildlife (ODFW) within 1 hour of delivery or prior to transport away from the port of landing by either calling (541) 867-0300 ext. 252 or sending notification via e-mail to KMZOR.trollreport@state.or.us. Notification shall include vessel name and number, number of salmon by species, port of landing and location of delivery, and estimated time of delivery. See gear restrictions and definitions (C.2, C.3).</p> <p>In 2012, same as Alternative I</p>	<p>Humbug Mt. to OR/CA Border (Oregon KMZ)</p> <ul style="list-style-type: none"> • May 1-31; • June 1 through earlier of June 30, or a 1,000 Chinook quota; • July 1 through earlier of July 31, or a 1,000 Chinook quota; • Aug. 1 through earlier of Aug. 31, or a 1,000 Chinook quota (C.9). <p>Seven days per week. All salmon except coho (C.7). Chinook 28 inch total length minimum size limit (B). June 1 through August 31, landing and possession limit of 30 Chinook per vessel per day and 90 Chinook per vessel per calendar week. All vessels fishing in this area must land and deliver all fish within this area or Port Orford, within 24 hours of any closure in this fishery, and prior to fishing outside of this area. Oregon State regulations require all fishers landing salmon from any quota managed season within this area to notify Oregon Dept. of Fish and Wildlife (ODFW) within 1 hour of delivery or prior to transport away from the port of landing by either calling (541) 867-0300 ext. 252 or sending notification via e-mail to KMZOR.trollreport@state.or.us. Notification shall include vessel name and number, number of salmon by species, port of landing and location of delivery, and estimated time of delivery. See gear restrictions and definitions (C.2, C.3).</p> <p>In 2012, same as Alternative I</p>

TABLE 1. Commercial troll management Alternatives analyzed by the STT for non-Indian ocean salmon fisheries, 2011. (Page 5 of 9)			3/8/2011 2:10 PM
A. SEASON ALTERNATIVE DESCRIPTIONS			
ALTERNATIVE I	ALTERNATIVE II	ALTERNATIVE III	
<p>OR/CA Border to Humboldt South Jetty (California KMZ)</p> <ul style="list-style-type: none"> • June 25 through earlier of June 30, or a 1,500 Chinook quota; • July 2-6 and 9-13 or attainment of a 1,500 Chinook quota; • Aug. 1 through earlier of Aug. 10, or a 1,500 Chinook quota • Sept. 15 through earlier of Sept 30, or a 4,000 Chinook quota (C.9). <p>Seven days per week except in July. All salmon except coho (C.7). Chinook 27 inch total length minimum size limit (B). June 25 through August 10, landing and possession limit of 15 Chinook per vessel per day; 30 Chinook per vessel per day in September. All vessels fishing in this area must land and deliver all fish within this area, within 24 hours of any closure in this fishery, and prior to fishing outside of this area. See compliance requirements (C.1) and gear restrictions and definitions (C.2, C.3). Klamath Control Zone closed (C.5.e). See California State regulations for additional closures adjacent to the Smith and Klamath rivers. When the fishery is closed between the OR/CA border and Humbug Mt. and open to the south, vessels with fish on board caught in the open area off California may seek temporary mooring in Brookings, Oregon prior to landing in California only if such vessels first notify the Chetco River Coast Guard Station via VHF channel 22A between the hours of 0500 and 2200 and provide the vessel name, number of fish on board, and estimated time of arrival.</p>	<p>OR/CA Border to Humboldt South Jetty (California KMZ)</p> <ul style="list-style-type: none"> • July 1 through earlier of July 10, or a 750 Chinook quota; • Aug. 1 through earlier of Aug. 10, or a 750 Chinook quota (C.9). <p>Seven days per week. All salmon except coho (C.7). Chinook 27 inch total length minimum size limit (B). Landing and possession limit of 15 Chinook per vessel per day. All vessels fishing in this area must land and deliver all fish within this area, within 24 hours of any closure in this fishery, and prior to fishing outside of this area. See compliance requirements (C.1) and gear restrictions and definitions (C.2, C.3). Klamath Control Zone closed (C.5.e). See California State regulations for additional closures adjacent to the Smith and Klamath rivers. When the fishery is closed between the OR/CA border and Humbug Mt. and open to the south, vessels with fish on board caught in the open area off California may seek temporary mooring in Brookings, Oregon prior to landing in California only if such vessels first notify the Chetco River Coast Guard Station via VHF channel 22A between the hours of 0500 and 2200 and provide the vessel name, number of fish on board, and estimated time of arrival.</p>	<p>OR/CA Border to Humboldt South Jetty Closed.</p>	
<p>Humboldt South Jetty to Horse Mt. Closed.</p>	<p>Humboldt South Jetty to Horse Mt. Closed.</p>	<p>Humboldt South Jetty to Horse Mt. Closed.</p>	
<p>State regulations require all fish shall be made available to a CDFG representative for sampling immediately at port of landing. Any person in possession of a salmon with a missing adipose fin, upon request by an authorized agent or employee of the CDFG, shall immediately relinquish the head of the salmon to the state. (California Fish and Game Code §8226)</p>			

TABLE 1. Commercial troll management Alternatives analyzed by the STT for non-Indian ocean salmon fisheries, 2011. (Page 6 of 9)			3/8/2011 2:10 PM
A. SEASON ALTERNATIVE DESCRIPTIONS			
ALTERNATIVE I	ALTERNATIVE II	ALTERNATIVE III	
<p>Horse Mt. to Point Arena (Fort Bragg)</p> <ul style="list-style-type: none"> • June 25 through earlier of June 30, or a 1,500 Chinook quota; • July 2-6 and 9-13 or attainment of a 1,500 Chinook quota; • Aug. 1-29, • Sept. 1-30 (C.9). <p>Seven days per week except in July. All salmon except coho (C.7). Chinook 27 inch total length minimum size limit (B). June 25 through July 13, landing and possession limit of 15 Chinook per vessel per day. Any remaining portion of the June Chinook quota may be transferred inseason on an impact neutral basis to the July quota (C.8). All vessels fishing in this area must land and deliver all fish within this area, within 24 hours of any closure in this fishery, and prior to fishing outside of this area (C.1). See gear restrictions and definitions (C.2, C.3).</p>	<p>Horse Mt. to Point Arena (Fort Bragg)</p> <ul style="list-style-type: none"> • July 1 through earlier of July 10, or a 1,200 Chinook quota; • Aug. 1-29; • Sept. 1-30 (C.9). <p>Seven days per week. All salmon except coho (C.7). Chinook 27 inch total length minimum size limit (B). Landing and possession limit of 15 Chinook per vessel per day in July. All vessels fishing in this area must land and deliver all fish within this area, within 24 hours of any closure in this fishery, and prior to fishing outside of this area (C.1). See gear restrictions and definitions (C.2, C.3).</p>	<p>Horse Mt. to Point Arena (Fort Bragg)</p> <ul style="list-style-type: none"> • Aug. 1-29; • Sept. 1-15 (C.9) <p>Seven days per week. All salmon except coho (C.7). Chinook 27 inch total length minimum size limit (B). All vessels fishing in this area must land and deliver all fish within this area, within 24 hours of any closure in this fishery, and prior to fishing outside of this area (C.1). See gear restrictions and definitions (C.2, C.3).</p>	
<p>Pt. Arena to Pigeon Pt. (San Francisco)</p> <ul style="list-style-type: none"> • May 1-31 • June 25 through July 6 • July 9-27 • July 30 through Aug. 29 • September 1-30 (C.9). <p>Seven days per week through July 6; Saturday through Wednesday July 9-27; Seven days per week thereafter. All salmon except coho (C.7). Chinook minimum size limit of 27 inches total length (B) (C.1). All fish must be landed in California and offloaded within 24 hours of the August 29 closure. All fish caught in the area when the Fort Bragg quota fisheries are open must be landed south of Point Arena (C1). See gear restrictions and definitions (C.2, C.3).</p> <p>Pt. Reyes to Pt. San Pedro (Fall Area Target Zone)</p> <ul style="list-style-type: none"> • October 3-14. <p>Monday through Friday. All salmon except coho (C.1). Chinook minimum size limit 27 inches total length (B). All vessels fishing in this area must land and deliver all fish between Point Arena and Pigeon Point. See gear restrictions and definitions (C.2, C.3).</p>	<p>Pt. Arena to Pigeon Pt. (San Francisco)</p> <ul style="list-style-type: none"> • May 1-31 • July 1 through Aug. 29 • September 1-30 (C.9). <p>Seven days per week. All salmon except coho (C.7). Chinook minimum size limit of 27 inches total length (B) (C.1). All fish must be landed in California and offloaded within 24 hours of the August 29 closure. All fish caught in the area when the Fort Bragg quota fisheries are open must be landed south of Point Arena (C1). See gear restrictions and definitions (C.2, C.3).</p>	<p>Pt. Arena to Pigeon Pt. (San Francisco)</p> <ul style="list-style-type: none"> • May 1 through June 7 • July 1 through Aug. 29 • September 1-15 (C.9). <p>Seven days per week. All salmon except coho (C.7). Chinook minimum size limit of 27 inches total length (B) (C.1). All fish must be landed in California and offloaded within 24 hours of the August 29 closure. All fish caught in the area when the Fort Bragg quota fisheries are open must be landed south of Point Arena (C1). See gear restrictions and definitions (C.2, C.3).</p>	
<p>Pigeon Pt. to U.S./Mexico Border (Monterey)</p> <p>Same as Pt. Arena to Pigeon Pt.</p>	<p>Pigeon Pt. to U.S./Mexico Border (Monterey)</p> <p>Same as Pt. Arena to Pigeon Pt.</p>	<p>Pigeon Pt. to U.S./Mexico Border (Monterey)</p> <p>Same as Pt. Arena to Pigeon Pt.</p>	
<p>State regulations require all fish shall be made available to a CDFG representative for sampling immediately at port of landing. Any person in possession of a salmon with a missing adipose fin, upon request by an authorized agent or employee of the CDFG, shall immediately relinquish the head of the salmon to the state. (California Fish and Game Code §8226)</p>			

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

B. MINIMUM SIZE (Inches) (See C.1)

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 OR/CA Border	28.0	21.5	-	-	None
OR/CA Border to U.S./Mexico Border	27.0	20.5	-	-	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, landing/possession limit, or other special requirements for the area being fished and the area in which they are landed if the area is open. Salmon may be landed in an area that has been closed more than 96 hours only if they meet the minimum size, landing/possession limit, or other special requirements for the area in which they were caught. Salmon may be landed in an area that has been closed less than 96 hours only if they meet the minimum size, landing/possession limit, or other special requirements for the areas in which they were caught and landed.

States may require fish landing/receiving tickets be kept on board the vessel for 90 days after landing to account for all previous salmon landings.

C.2. **Gear Restrictions:**

- a. Salmon may be taken only by hook and line using single point, single shank, barbless hooks.
- b. Cape Falcon, Oregon, to the OR/CA border: No more than 4 spreads are allowed per line.
- c. OR/CA 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.

C.3. **Gear Definitions:**

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.

Troll fishing gear defined: One or more lines that drag hooks behind a moving fishing vessel. In that portion of the fishery management area (FMA) off Oregon and Washington, the line or lines must be affixed to the vessel and must not be intentionally disengaged from the vessel at any time during the fishing operation.

Spread defined: A single leader connected to an individual lure or 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.

C.4. **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.

TABLE 1. Commercial troll management Alternatives analyzed by the STT for non-Indian ocean salmon fisheries, 2011. (Page 8 of 9)

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C. REQUIREMENTS, DEFINITIONS, RESTRICTIONS, OR EXCEPTIONS (continued)**C.5. 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 Cape Alava (48°10'00" N. lat.) and east of 125°05'00" W. long.
- b. *Mandatory Yelloweye Rockfish Conservation Area* – The area in Washington Marine Catch Area 3 from 48°00.00' N. lat.; 125°14.00' W. long. to 48°02.00' N. lat.; 125°14.00' W. long. to 48°02.00' N. lat.; 125°16.50' W. long. to 48°00.00' N. lat.; 125°16.50' W. long. and connecting back to 48°00.00' N. lat.; 125°14.00' 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°15'48" 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. *Bandon High Spot Control Zone* - The area west of a line between 43°07'00" N. lat.; 124°37'00" W. long. and 42°40'30" N. lat; 124° 52'0" W. long. extending to the western edge of the exclusive economic zone (EEZ).
- e. *Klamath Control Zone* - The ocean area at the Klamath River mouth bounded on the north by 41°38'48" N. lat. (approximately six 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 six nautical miles south of the Klamath River mouth).

C.6. 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, the estimated time of arrival, and the specific reason landing in the open area is unavailable. In addition to contacting the U.S. Coast Guard, California State fishers must notify CDFG within one hour of delivery or prior to transport away from the port of landing by calling 800-889-8346. Notification shall include the same information as reported to the U.S. Coast Guard.

C.7. 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. Halibut retained must be no less than 32 inches in total length, measured from the tip of the lower jaw with the mouth closed to the extreme end of the middle of the tail, and must be landed with the head on. 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 Washington Department of Fish and Wildlife (WDFW) will monitor landings. If the landings are projected to exceed the 25,035 pound preseason allocation or the total Area 2A non-Indian commercial halibut allocation, NMFS will take inseason action to prohibit retention of halibut in the non-Indian salmon troll fishery.

TABLE 1. Commercial troll management Alternatives analyzed by the STT for non-Indian ocean salmon fisheries, 2011. (Page 9 of 9)

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

Alternative I: Beginning May 1, license holders may land no more than one Pacific halibut per each 2 Chinook, except one Pacific halibut may be landed without meeting the ratio requirement, and no more than 35 halibut may be landed per trip. Pacific halibut retained must be no less than 32 inches in total length (with head on).

Alternative II: Beginning May 1, license holders may land no more than one Pacific halibut per each 3 Chinook, except one Pacific halibut may be landed without meeting the ratio requirement, and no more than 35 halibut may be landed per trip. Pacific halibut retained must be no less than 32 inches in total length (with head on).

Alternative III: Beginning May 1, license holders may land no more than one Pacific halibut per each 4 Chinook, except one Pacific halibut may be landed without meeting the ratio requirement, and no more than 25 halibut may be landed per trip. Pacific halibut retained must be no less than 32 inches in total length (with head on).

A "C-shaped" yelloweye rockfish conservation area is an area to be voluntarily avoided for salmon trolling. NMFS and the Council request salmon trollers voluntarily avoid this area in order to protect yelloweye rockfish. The area is defined in the Pacific Council Halibut Catch Sharing Plan in the North Coast subarea (Washington 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.

C.8. 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 through June non-Indian commercial troll harvest guideline north of Cape Falcon may be transferred to the July through September harvest guideline on a fishery impact equivalent basis.
- b. Chinook remaining from the June and/or July non-Indian commercial troll quotas in the Oregon KMZ may be transferred to the Chinook quota for the next open period on a fishery impact equivalent basis.
- c. Chinook remaining from the June non-Indian commercial troll quota in the Fort Bragg area may be transferred to the July Fort Bragg quota on a fishery impact equivalent basis.
- d. NMFS may transfer fish between the recreational and commercial fisheries north of Cape Falcon on a fishery impact equivalent basis if there is agreement among the areas' representatives on the Salmon Advisory Subpanel (SAS).
- e. At the March 2012 meeting, the Council will consider inseason recommendations for special regulations for any experimental fisheries (proposals must meet Council protocol and be received in November 2011).
- f. If retention of unmarked coho is permitted by inseason action, the allowable coho quota will be adjusted to ensure preseason projected mortality of critical stocks is not exceeded.
- g. Landing limits may be modified inseason to sustain season length and keep harvest within overall quotas.

C.9. State Waters Fisheries: Consistent with Council management objectives:

- a. The State of Oregon may establish additional late-season fisheries in state waters.
- b. The State of California may establish limited fisheries in selected state waters.
Check state regulations for details.

C.10. For the purposes of California Department of Fish and Game (CDFG) Code, Section 8232.5, the definition of the Klamath Management Zone (KMZ) for the ocean salmon season shall be that area from Humbug Mt., Oregon, to Horse Mt., California.

TABLE 2. Recreational management Alternatives analyzed by the STT for non-Indian ocean salmon fisheries, 2011. (Page 1 of 9)			3/8/2011 2:11 PM
A. SEASON ALTERNATIVE DESCRIPTIONS			
ALTERNATIVE I	ALTERNATIVE II	ALTERNATIVE III	
North of Cape Falcon	North of Cape Falcon	North of Cape Falcon	
Supplemental Management Information	Supplemental Management Information	Supplemental Management Information	
<p>1. Overall non-Indian TAC: 97,000 (non-mark-selective equivalent of 90,000) Chinook and 95,000 coho marked with a healed adipose fin clip (marked).</p> <p>2. Recreational TAC: 52,000 (non-mark selective equivalent of 45,000) Chinook and 79,800 marked coho; all retained coho must be marked.</p> <p>3. Trade of Chinook or coho between non-Indian commercial and recreational fisheries: May be considered at the April Council meeting.</p> <p>4. No Area 4B add-on fishery.</p> <p>5. Buoy 10 fishery opens Aug. 1 with an expected landed catch of 6,000 marked coho in August and September.</p> <p>6. Overall Chinook and/or coho TACs may need to be reduced or fisheries adjusted to meet NMFS ESA guidance, FMP requirements, upon conclusion of negotiations in the North of Falcon forum, or upon receipt of preseason catch and abundance expectations for Canadian and Alaskan fisheries.</p>	<p>1. Overall non-Indian TAC: 77,000 (non-mark-selective equivalent of 70,000) Chinook and 80,000 coho marked with a healed adipose fin clip (marked).</p> <p>2. Recreational TAC: 42,000 (non-mark selective equivalent of 35,000) Chinook and 67,200 marked coho; all retained coho must be marked.</p> <p>3. Trade of Chinook or coho between non-Indian commercial and recreational fisheries: May be considered at the April Council meeting.</p> <p>4. No Area 4B add-on fishery.</p> <p>5. Buoy 10 fishery opens Aug. 1 with an expected landed catch of 6,000 marked coho in August and September.</p> <p>6. Overall Chinook and/or coho TACs may need to be reduced or fisheries adjusted to meet NMFS ESA guidance, FMP requirements, upon conclusion of negotiations in the North of Falcon forum, or upon receipt of preseason catch and abundance expectations for Canadian and Alaskan fisheries.</p>	<p>1. Overall non-Indian TAC: 57,000 (non-mark-selective equivalent of 50,000) Chinook and a quota equivalent to 65,000 coho marked with a healed adipose fin clip (marked).</p> <p>2. Recreational TAC: 32,000 (non-mark selective equivalent of 25,000) Chinook and 54,600 marked coho; all retained coho must be marked.</p> <p>3. Trade of Chinook or coho between non-Indian commercial and recreational fisheries: May be considered at the April Council meeting.</p> <p>4. Area 4B add-on fishery of with a quota of 4,000 marked coho following the closure of the Neah Bay fishery (C.6).</p> <p>5. Buoy 10 fishery opens Aug. 1 with an expected landed catch of 7,000 marked coho in August and September.</p> <p>6. Overall Chinook and/or coho TACs may need to be reduced or fisheries adjusted to meet NMFS ESA guidance, FMP requirements, upon conclusion of negotiations in the North of Falcon forum, or upon receipt of preseason catch and abundance expectations for Canadian and Alaskan fisheries.</p>	
<p>U.S./Canada Border to Leadbetter Point</p> <ul style="list-style-type: none"> June 4 through earlier of June 25 or a coastwide marked Chinook quota of 12,000 (equivalent to a 5,000 non-selective Chinook quota) (C.5). Seven days per week. Two fish per day, all salmon except coho, all Chinook must be marked with a healed adipose fin clip (C.1). Chinook 24-inch total length minimum size limit (B). 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.5). 	<p>U.S./Canada Border to Leadbetter Point</p> <ul style="list-style-type: none"> June 11 through earlier of June 30 or a coastwide marked Chinook quota of 12,000(C.5). Seven days per week. Two fish per day, all salmon except coho, all Chinook must be marked with a healed adipose fin clip (C.1). Chinook 24-inch total length minimum size limit (B). 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.5). 		
<p>Leadbetter Point to Cape Falcon</p> <ul style="list-style-type: none"> June 11 through earlier of June 25 or a coastwide marked Chinook quota of 12,000 (equivalent to a 5,000 non-selective Chinook quota) (C.5). Seven days per week. Two fish per day, all salmon except coho, all Chinook must be marked with a healed adipose fin clip (C.1). Chinook 24-inch total length minimum size limit (B). See gear restrictions (C.2). Inseason management may be used to sustain season length and keep harvest within the overall Chinook 	<p>Leadbetter Point to Cape Falcon</p> <p>Same as Alternative 1</p>		

recreational TAC for north of Cape Falcon (C.5).		
TABLE 2. Recreational management Alternatives analyzed by the STT for non-Indian ocean salmon fisheries, 2011. (Page 2 of 9)		3/8/2011 2:11 PM
A. SEASON ALTERNATIVE DESCRIPTIONS		
ALTERNATIVE I	ALTERNATIVE II	ALTERNATIVE III
<p>U.S./Canada Border to Cape Alava (Neah Bay)</p> <ul style="list-style-type: none"> June 26 through earlier of September 18 or 8,300 marked coho subarea quota with a subarea guideline of 4,400 Chinook (C.5). <p>Seven days per week. All salmon except no chum beginning August 1; two fish per day plus two additional pink salmon; all retained coho must be marked (C.1). See gear restrictions and definitions (C.2, C.3). Inseason management may be used to sustain season length and keep harvest within the overall Chinook recreational TAC for north of Cape Falcon (C.5).</p>	<p>U.S./Canada Border to Cape Alava (Neah Bay)</p> <ul style="list-style-type: none"> July 1 through earlier of September 18 or 6,990 marked coho subarea quota with a subarea guideline of 3,300 Chinook (C.5). <p>Seven days per week. All salmon except no chum beginning August 1; two fish per day, no more than one of which can be a Chinook plus one additional pink salmon; all retained coho must be marked (C.1). See gear restrictions and definitions (C.2, C.3). Inseason management may be used to sustain season length and keep harvest within the overall Chinook recreational TAC for north of Cape Falcon (C.5).</p>	<p>U.S./Canada Border to Cape Alava (Neah Bay)</p> <ul style="list-style-type: none"> June 24 through earlier of September 18 or 4,940 marked coho subarea quota with subarea guidelines of 1,340 marked Chinook prior to July 23 and 2,200 non-mark selective Chinook thereafter. (C.5). <p>Tuesday through Saturday. All salmon, two fish per day, all coho must be marked; during the non-mark-selective Chinook period no more than one Chinook can be retained (C.1). Non-selective Chinook regulations will go into effect the earlier of July 25 or the next open day following attainment of the mark-selective Chinook guideline. See gear restrictions (C.2). Beginning August 1, Chinook non-retention east of the Bonilla-Tatoosh line (C.4.a) 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.5).</p>
<p>Cape Alava to Queets River (La Push Subarea)</p> <ul style="list-style-type: none"> June 26 through earlier of September 18 or 2,020 marked coho subarea quota with a subarea guideline of 1,850 Chinook (C.5). September 24 through earlier of October 9 or 50 marked coho quota or 50 Chinook quota (C.5) in the area north of 47°50'00 N. lat. and south of 48°00'00" N. lat. <p>Seven days per week. All salmon; two fish per day plus two additional pink salmon; all retained coho must be marked (C.1). See gear restrictions and definitions (C.2, C.3). Inseason management may be used to sustain season length and keep harvest within the overall Chinook recreational TAC for north of Cape Falcon (C.5).</p>	<p>Cape Alava to Queets River (La Push Subarea)</p> <ul style="list-style-type: none"> July 1 through earlier of September 18 or 1,700 marked coho subarea quota with a subarea guideline of 1,450 Chinook (C.5). September 24 through earlier of October 9 or 50 marked coho quota or 50 Chinook quota (C.5) in the area north of 47°50'00 N. lat. and south of 48°00'00" N. lat. <p>Seven days per week. All salmon; two fish per day, no more than one of which can be a Chinook plus one additional pink salmon; all retained coho must be marked (C.1). See gear restrictions and definitions (C.2, C.3). Inseason management may be used to sustain season length and keep harvest within the overall Chinook recreational TAC for north of Cape Falcon (C.5).</p>	<p>Cape Alava to Queets River (La Push Subarea)</p> <ul style="list-style-type: none"> June 24 through earlier of September 18 or 1,420 marked coho subarea quota with subarea guidelines of 560 marked Chinook prior to July 23 and 900 non-mark selective Chinook thereafter. (C.5). September 24 through earlier of October 9 or 50 marked coho quota or 50 Chinook quota (C.5) in the area north of 47°50'00 N. lat. and south of 48°00'00" N. lat. <p>Tuesday through Saturday. All salmon, two fish per day, all coho must be marked; during the non-mark-selective Chinook period no more than one Chinook can be retained (C.1). Non-selective Chinook regulations will go into effect the earlier of July 25 or the next open day following attainment of the mark-selective Chinook guideline. 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.5).</p>

TABLE 2. Recreational management Alternatives analyzed by the STT for non-Indian ocean salmon fisheries, 2011. (Page 2 of 9)			3/8/2011 2:11 PM
A. SEASON ALTERNATIVE DESCRIPTIONS			
ALTERNATIVE I	ALTERNATIVE II	ALTERNATIVE III	
<p>Queets River to Leadbetter Point (Westport Subarea)</p> <ul style="list-style-type: none"> June 26 through earlier of September 18 or 29,530 marked coho subarea quota with a subarea guideline of 23,400 Chinook (C.5). <p>Sunday through Thursday. All salmon, two fish per day plus two additional pink salmon; all retained coho must be marked (C.1). See gear restrictions and definitions (C.2, C.3). Grays Harbor Zone closed beginning August 1 (C.4.b). Inseason management may be used to sustain season length and keep harvest within the overall Chinook recreational TAC for north of Cape Falcon (C.5).</p>	<p>Queets River to Leadbetter Point (Westport Subarea)</p> <ul style="list-style-type: none"> July 3 through earlier of September 18 or 24,860 marked coho subarea quota with a subarea guideline of 17,500 Chinook (C.5). <p>Sunday through Thursday. All salmon, two fish per day, no more than one of which can be a Chinook plus one additional pink salmon; all retained coho must be marked (C.1). See gear restrictions and definitions (C.2, C.3). Grays Harbor Zone closed beginning August 1 (C.4.b). Inseason management may be used to sustain season length and keep harvest within the overall Chinook recreational TAC for north of Cape Falcon (C.5).</p>	<p>Queets River to Leadbetter Point (Westport Subarea)</p> <ul style="list-style-type: none"> June 26 through earlier of September 18 or 20,890 marked coho subarea quota with subarea guidelines of 7,000 marked Chinook prior to July 21 and 11,675 non-mark selective Chinook thereafter (C.5). <p>Sunday through Thursday. All salmon, two fish per day, all coho must be marked; during the non-mark-selective Chinook period no more than one Chinook can be retained (C.1). Non-selective Chinook regulations will go into effect the earlier of July 24 or the next open day following attainment of the mark-selective Chinook guideline. See gear restrictions and definitions (C.2, C.3). Inseason management may be used to sustain season length and keep harvest within the overall Chinook recreational TAC for north of Cape Falcon (C.5).</p>	
<p>Leadbetter Point to Cape Falcon (Columbia River Subarea)</p> <ul style="list-style-type: none"> June 26 through earlier of September 30 or 39,900 marked coho subarea quota with a subarea guideline of 10,300 Chinook (C.5). <p>Seven days per week. All salmon, two fish per day. All retained coho must be marked (C.1). See gear restrictions and definitions (C.2, C.3). Columbia Control Zone closed (C.4.c). Inseason management may be used to sustain season length and keep harvest within the overall Chinook recreational TAC for north of Cape Falcon (C.5).</p>	<p>Leadbetter Point to Cape Falcon (Columbia River Subarea)</p> <ul style="list-style-type: none"> June 26 through earlier of September 30 or 33,600 marked coho subarea quota with a subarea guideline of 7,700 Chinook (C.5). <p>Seven days per week. All salmon, two fish per day, no more than one of which can be a Chinook. All retained coho must be marked (C.1). See gear restrictions and definitions (C.2, C.3). Columbia Control Zone closed (C.4.c). Inseason management may be used to sustain season length and keep harvest within the overall Chinook recreational TAC for north of Cape Falcon (C.5).</p>	<p>Leadbetter Point to Cape Falcon (Columbia River Subarea)</p> <ul style="list-style-type: none"> July 3 through earlier of September 30 or 27,300 marked coho subarea quota with subarea guidelines of 3,100 marked Chinook prior to July 21 and 5,175 non-mark selective Chinook thereafter (C.5). <p>Seven days per week in July and September; Sunday through Thursday in August. All salmon, two fish per day, all coho must be marked; during the non-mark-selective Chinook period no more than one Chinook can be retained (C.1). Non-selective Chinook regulations will go into effect the earlier of July 24 or the 9day following attainment of the mark-selective Chinook guideline. See gear restrictions and definitions (C.2, C.3). Columbia Control Zone closed (C.4.c). Inseason management may be used to sustain season length and keep harvest within the overall Chinook recreational TAC for north of Cape Falcon (C.5).</p>	

TABLE 2. Recreational management Alternatives analyzed by the STT for non-Indian ocean salmon fisheries, 2011. (Page 4 of 9)			3/8/2011 2:11 PM
A. SEASON ALTERNATIVE DESCRIPTIONS			
South of Cape Falcon	South of Cape Falcon	South of Cape Falcon	
ALTERNATIVE I	ALTERNATIVE II	ALTERNATIVE III	
Supplemental Management Information	Supplemental Management Information	Supplemental Management Information	
<ol style="list-style-type: none"> 1. Sacramento River Basin recreational fishery catch assumption: 63,400 adult Sacramento River fall Chinook. 2. Sacramento River fall Chinook spawning escapement of 389,200 adults. 3. Klamath River recreational fishery allocation: 9,300 adult Klamath River fall Chinook. 4. Klamath tribal allocation: 34,100 adult Klamath River fall Chinook. 5. Overall recreational TAC: 21,500 marked coho. 6. Fisheries may need to be adjusted to meet NMFS ESA consultation standards, FMP requirements, other management objectives, or upon receipt of new allocation recommendations from the California Fish and Game Commission. 	<ol style="list-style-type: none"> 1. Sacramento River Basin recreational fishery catch assumption: 62,800 adult Sacramento River fall Chinook. 2. Sacramento River fall Chinook spawning escapement of 385,900 adults. 3. Klamath River recreational fishery allocation: 12,600 adult Klamath River fall Chinook. 4. Klamath tribal allocation: 33,700 adult Klamath River fall Chinook. 5. Overall recreational coho TAC: 15,000 marked coho and 3,000 non-mark selective quotas. 6. Fisheries may need to be adjusted to meet NMFS ESA consultation standards, FMP requirements, other management objectives, or upon receipt of new allocation recommendations from the California Fish and Game Commission. 	<ol style="list-style-type: none"> 1. Sacramento River Basin recreational fishery catch assumption: 64,300 adult Sacramento River fall Chinook. 2. Sacramento River fall Chinook spawning escapement of 394,900 adults. 3. Klamath River recreational fishery allocation: 14,300 adult Klamath River fall Chinook. 4. Klamath tribal allocation: 33,300 adult Klamath River fall Chinook. 5. Overall recreational coho TAC: 10,500 non-selective coho quota. 6. Fisheries may need to be adjusted to meet NMFS ESA consultation standards, FMP requirements, other management objectives, or upon receipt of new allocation recommendations from the California Fish and Game Commission. 	

TABLE 2. Recreational management Alternatives analyzed by the STT for non-Indian ocean salmon fisheries, 2011. (Page 5 of 9)			3/8/2011 2:11 PM
A. SEASON ALTERNATIVE DESCRIPTIONS			
South of Cape Falcon	South of Cape Falcon	South of Cape Falcon	
ALTERNATIVE I	ALTERNATIVE II	ALTERNATIVE III	
<p>Cape Falcon to Humbug Mt.</p> <ul style="list-style-type: none"> Except as provided below during the all-salmon mark-selective coho fishery, the season will be March 15 through October 31 (C.6). <p>All salmon except coho; two fish per day (C.1). See gear restrictions and definitions (C.2, C.3).</p> <ul style="list-style-type: none"> All-salmon mark-selective coho fishery: Cape Falcon to OR/CA Border: June 25 through earlier of September 5 or a landed catch of 21,500 marked coho. The all salmon except coho season reopens the earlier of September 6 or attainment of the coho quota. Seven days per week. All salmon, two fish per day. All retained coho must be marked (C.1). <p>Fishing in the Stonewall Bank groundfish conservation area restricted to trolling only on days the all depth recreational halibut fishery is open (call the halibut fishing hotline 1-800-662-9825 for specific dates) (C.3.b, C.4.d). Open days may be adjusted inseason to utilize the available quota (C.5).</p> <p>In 2012, the season between Cape Falcon and Humbug Mt. will open March 15 for all salmon except coho, two fish per day (B, C.1, C.2, C.3).</p>	<p>Cape Falcon to Humbug Mt.</p> <ul style="list-style-type: none"> Except as provided below during the all-salmon mark-selective and non-selective coho fisheries, the season will be March 15 through September 30 (C.6). <p>All salmon except coho; two fish per day (C.1). See gear restrictions and definitions (C.2, C.3).</p> <ul style="list-style-type: none"> Cape Falcon to Humbug Mt. all-salmon mark-selective coho fishery: July 2 through earlier of August 13 or a landed catch of 15,000 marked coho. Seven days per week. All salmon, two fish per day. All retained coho must be marked (C.1). Any remainder of the mark selective coho quota will be transferred on an impact neutral basis to the September non-selective coho quota listed below. The all salmon except coho season reopens the earlier of August 14 or attainment of the coho quota, through August 31. Cape Falcon to Humbug Mt. non-selective coho fishery: September 1 through the earlier of September 10 or a landed catch of 3,000 non-selective coho quota. Thursday through Saturday. All salmon, two fish per day. The all salmon except coho season reopens the earlier of September 11 or attainment of the coho quota. <p>Fishing in the Stonewall Bank groundfish conservation area restricted to trolling only on days the all depth recreational halibut fishery is open (call the halibut fishing hotline 1-800-662-9825 for specific dates) (C.3.b, C.4.d). Open days may be adjusted inseason to utilize the available quota (C.5).</p> <p>In 2012, same as Alternative I</p>	<p>Cape Falcon to Humbug Mt.</p> <ul style="list-style-type: none"> Except as provided below during the all-salmon non-mark-selective coho fishery, the season will be March 15 through September 10 (C.6). <p>Seven days per week. All salmon except coho; two fish per day (C.1). See gear restrictions and definitions (C.2, C.3).</p> <ul style="list-style-type: none"> Cape Falcon to Humbug Mt. non-selective coho fishery: August 18 through the earlier of September 10 or a landed catch of 10,500 non-selective coho quota. Thursday through Saturday. All salmon, two fish per day. The all salmon except coho season will reopen if the coho quota is attained prior to September 10. <p>Fishing in the Stonewall Bank groundfish conservation area restricted to trolling only on days the all depth recreational halibut fishery is open (call the halibut fishing hotline 1-800-662-9825 for specific dates) (C.3.b, C.4.d). Open days may be adjusted inseason to utilize the available quota (C.5).</p> <p>In 2012, same as Alternative I</p>	

TABLE 2. Recreational management Alternatives analyzed by the STT for non-Indian ocean salmon fisheries, 2011. (Page 6 of 9)			3/8/2011 2:11 PM
A. SEASON ALTERNATIVE DESCRIPTIONS			
ALTERNATIVE I	ALTERNATIVE II	ALTERNATIVE III	
<p>Humbug Mt. to OR/CA Border. (Oregon KMZ)</p> <ul style="list-style-type: none"> Except as provided above during the all-salmon mark-selective coho fishery, the season will be May 7 through September 5 (C.6). <p>Seven days per week. All salmon except coho, two fish per day except as noted above in the all-salmon mark-selective coho fishery (C.1). Chinook minimum size limit of 24 inches total length (B). See gear restrictions and definitions (C.2, C.3).</p>	<p>Humbug Mt. to OR/CA Border. (Oregon KMZ)</p> <ul style="list-style-type: none"> May 21 through September 5 (C.6). <p>Seven days per week. All salmon except coho, two fish per day (C.1). Chinook minimum size limit of 24 inches total length (B). See gear restrictions and definitions (C.2, C.3).</p>	<p>Humbug Mt. to OR/CA Border. (Oregon KMZ)</p> <ul style="list-style-type: none"> May 28 through September 5 (C.6). <p>Seven days per week. All salmon except coho, two fish per day (C.1). Chinook minimum size limit of 24 inches total length (B). See gear restrictions and definitions (C.2, C.3).</p>	
<p>OR/CA Border to Horse Mt. (California KMZ)</p> <ul style="list-style-type: none"> May 7 through September 5 (C.6). <p>Seven days per week. All salmon except coho, two fish per day (C.1). Chinook minimum size limit of 24 inches total length (B). See gear restrictions and definitions (C.2, C.3). Klamath Control Zone closed in August (C.4.e). See California State regulations for additional closures adjacent to the Smith, Eel, and Klamath rivers.</p>	<p>OR/CA Border to Horse Mt. (California KMZ)</p> <ul style="list-style-type: none"> May 21 through September 5 (C.6). <p>Seven days per week. All salmon except coho, two fish per day (C.1). Chinook minimum size limit of 24 inches total length (B). See gear restrictions and definitions (C.2, C.3). Klamath Control Zone closed in August (C.4.e). See California State regulations for additional closures adjacent to the Smith, Eel, and Klamath rivers.</p>	<p>OR/CA Border to Horse Mt. (California KMZ)</p> <ul style="list-style-type: none"> May 28 through September 5 (C.6). <p>Seven days per week. All salmon except coho, two fish per day (C.1). Chinook minimum size limit of 24 inches total length (B). See gear restrictions and definitions (C.2, C.3). Klamath Control Zone closed in August (C.4.e). See California State regulations for additional closures adjacent to the Smith, Eel, and Klamath rivers.</p>	
<p>Horse Mt. to Point Arena (Fort Bragg)</p> <ul style="list-style-type: none"> April 2 through November 13. <p>Seven days per week. All salmon except coho, two fish per day (C.1). Chinook minimum size limit of 24 inches total length (B). See gear restrictions and definitions (C.2, C.3).</p> <p>In 2012, season opens February 18 for all salmon except coho, two fish per day (C.1). Chinook minimum size limit of 24 inches total length (B); and the same gear restrictions as in 2011 (C.2, C.3).</p>	<p>Horse Mt. to Point Arena (Fort Bragg)</p> <ul style="list-style-type: none"> April 2 through October 16. <p>Seven days per week. All salmon except coho, two fish per day (C.1). Chinook minimum size limit of 24 inches total length (B). See gear restrictions and definitions (C.2, C.3).</p> <p>In 2012, season opens March 17 for all salmon except coho, two fish per day (C.1). Chinook minimum size limit of 24 inches total length (B); and the same gear restrictions as in 2011 (C.2, C.3).</p>	<p>Horse Mt. to Point Arena (Fort Bragg)</p> <ul style="list-style-type: none"> April 2 through September 18. <p>Seven days per week. All salmon except coho, two fish per day (C.1). Chinook minimum size limit of 24 inches total length (B). See gear restrictions and definitions (C.2, C.3).</p> <p>In 2012, season opens April 7 for all salmon except coho, two fish per day (C.1). Chinook minimum size limit of 24 inches total length (B); and the same gear restrictions as in 2011 (C.2, C.3).</p>	
<p>Point Arena to Pigeon Point (San Francisco)</p> <ul style="list-style-type: none"> April 2 through November 13. <p>Seven days per week. All salmon except coho, two fish per day (C.1). Chinook minimum size limit of 24 inches total length (B). See gear restrictions and definitions (C.2, C.3).</p> <p>In 2012, season opens April 7 for all salmon except coho, two fish per day (C.1). Chinook minimum size limit of 24 inches total length (B); and the same gear restrictions as in 2011 (C.2, C.3).</p>	<p>Point Arena to Pigeon Point (San Francisco)</p> <ul style="list-style-type: none"> April 2 through October 16. <p>Seven days per week. All salmon except coho, two fish per day (C.1). Chinook minimum size limit of 24 inches total length (B). See gear restrictions and definitions (C.2, C.3).</p> <p>In 2012, same as Alternative I.</p>	<p>Point Arena to Pigeon Point (San Francisco)</p> <ul style="list-style-type: none"> April 2 through September 18. <p>Seven days per week. All salmon except coho, two fish per day (C.1). Chinook minimum size limit of 24 inches total length (B). See gear restrictions and definitions (C.2, C.3).</p> <p>In 2012, same as Alternative I.</p>	

TABLE 2. Recreational management Alternatives analyzed by the STT for non-Indian ocean salmon fisheries, 2011. (Page 7 of 9) 3/8/2011 2:11 PM

A. SEASON ALTERNATIVE DESCRIPTIONS		
ALTERNATIVE I	ALTERNATIVE II	ALTERNATIVE III
<p>Pigeon Point to U.S./Mexico Border (Monterey South)</p> <ul style="list-style-type: none"> April 2 through October 2. <p>Seven days per week. All salmon except coho, two fish per day (C.1). Chinook minimum size limit of 24 inches total length (B). See gear restrictions and definitions (C.2, C.3).</p> <p>In 2012, season opens April 7 for all salmon except coho, two fish per day (C.1). Chinook minimum size limit of 24 inches total length (B); and the same gear restrictions as in 2011 (C.2, C.3).</p>	<p>Pigeon Point to U.S./Mexico Border (Monterey)</p> <ul style="list-style-type: none"> April 2 through October 16. <p>Seven days per week. All salmon except coho, two fish per day (C.1). Chinook minimum size limit of 24 inches total length (B). See gear restrictions and definitions (C.2, C.3).</p> <p>In 2012, same as Alternative I.</p>	<p>Pigeon Point to U.S./Mexico Border (Monterey)</p> <ul style="list-style-type: none"> April 2 through September 5. <p>Seven days per week. All salmon except coho, two fish per day (C.1). Chinook minimum size limit of 24 inches total length (B). See gear restrictions and definitions (C.2, C.3).</p> <p>In 2012, same as Alternative I.</p>

B. MINIMUM SIZE (Inches) (See C.1)

Area (when open)	Chinook Prior to Sept. 1	After Sept. 1	Coho	Pink
North of Cape Falcon	24.0	24.0	16.0	None
Cape Falcon to OR/CA Border	24.0	24.0	16.0	None
OR/CA Border to Horse Mt.	24.0	24.0	-	24.0
Horse Mt. to U.S./Mexico Border:				
Alternatives I and III	24.0	24.0	-	24.0
Alternative II	24.0	24.0	-	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.

Ocean Boat Limits: Off the coast of Washington, Oregon, and California, each fisher aboard a vessel may continue to use angling gear until the combined daily limits of salmon for all licensed and juvenile anglers aboard has been attained (additional state restrictions may apply).

TABLE 2. Recreational management Alternatives analyzed by the STT for non-Indian ocean salmon fisheries, 2011. (Page 8 of 9)

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C. REQUIREMENTS, DEFINITIONS, RESTRICTIONS, OR EXCEPTIONS
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- C.2. **Gear Restrictions:** Salmon may be taken only by hook and line using barbless hooks. 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 Point Conception, California:* No more than one rod may be used per angler; and no more than two 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. *Horse Mt., California, to Point Conception, California:* Single point, single shank, barbless circle hooks (see gear definitions below) are required when fishing with bait by any means other than trolling, and no more than two such hooks shall be used. When angling with two hooks, the distance between the hooks must not exceed five 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.
- C.3. **Gear Definitions:**
- a. *Recreational fishing gear defined:* Angling tackle consisting of a line with no more than one artificial lure or natural bait attached. Off Oregon and Washington, the line must be attached to a rod and reel held by hand or closely attended; the rod and reel must be held by hand while playing a hooked fish. No person may use more than one rod and line while fishing off Oregon or Washington. Off California, the line must be attached to a rod and reel held by hand or closely attended; weights directly attached to a line may not exceed four pounds (1.8 kg). While fishing off California north of Point Conception, no person fishing for salmon, and no person fishing from a boat with salmon on board, may use more than one rod and line. Fishing includes any activity which can reasonably be expected to result in the catching, taking, or harvesting of fish.
 - b. *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. *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.
- C.4. **Control Zone Definitions:**
- a. *The Bonilla-Tatoosh Line:* A line running from the western end of Cape Flattery to Tatoosh Island Lighthouse (48°23'30" N. lat., 124°44'12" W. long.) to the buoy adjacent to Duntze Rock (48°28'00" N. lat., 124°45'00" W. long.), then in a straight line to Bonilla Point (48°35'30" N. lat., 124°43'00" W. long.) on Vancouver Island, British Columbia.
 - 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°15'48" 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. *Stonewall Bank Groundfish Conservation Area:* The area defined by the following coordinates in the order listed:
 44°37.46' N. lat.; 124°24.92' W. long.;
 44°37.46' N. lat.; 124°23.63' W. long.;
 44°28.71' N. lat.; 124°21.80' W. long.;
 44°28.71' N. lat.; 124°24.10' W. long.;
 44°31.42' N. lat.; 124°25.47' W. long.;
 and connecting back to 44°37.46' N. lat.; 124°24.92' W. long.
 - e. *Klamath Control Zone:* The ocean area at the Klamath River mouth bounded on the north by 41°38'48" N. lat. (approximately six 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. REQUIREMENTS, DEFINITIONS, RESTRICTIONS, OR EXCEPTIONS

- C.5. Inseason Management: Regulatory modifications may become necessary inseason to meet preseason management objectives such as quotas, harvest guidelines, and season duration. In addition to standard inseason actions or modifications already noted under the season description, the following inseason guidance is provided to NMFS:
- a. Actions could include modifications to bag limits, or days open to fishing, and extensions or reductions in areas open to fishing.
 - b. Coho may be transferred inseason among recreational subareas north of Cape Falcon on a fishery impact equivalent basis to help meet the recreational season duration objectives (for each subarea) after conferring with representatives of the affected ports and the Council's SAS recreational representatives north of Cape Falcon.
 - c. Chinook and coho may be transferred between the recreational and commercial fisheries north of Cape Falcon on a fishery impact equivalent basis if there is agreement among the representatives of the Salmon Advisory Subpanel (SAS).
 - d. If retention of unmarked coho is permitted in the area from the U.S./Canada border to Cape Falcon, Oregon, by inseason action, the allowable coho quota will be adjusted to ensure preseason projected mortality of critical stocks is not exceeded.
- C.6. Additional Seasons in State Territorial Waters: Consistent with Council management objectives, the States of Washington, Oregon, and California may establish limited seasons in state waters. Check state regulations for details.

TABLE 3. Treaty Indian troll management Alternatives analyzed by the STT for ocean salmon fisheries, 2011. (Page 1 of 2)			3/8/2011 2:11 PM
A. SEASON ALTERNATIVE DESCRIPTIONS			
ALTERNATIVE I	ALTERNATIVE II	ALTERNATIVE III	
Supplemental Management Information	Supplemental Management Information	Supplemental Management Information	
<p>1. Overall Treaty-Indian TAC: 55,000 Chinook and 50,000 coho.</p> <p>2. Overall Chinook and/or coho TACs may need to be reduced or fisheries adjusted to meet NMFS ESA guidance, FMP requirements, upon conclusion of negotiations in the North of Falcon forum, or upon receipt of preseason catch and abundance expectations for Canadian and Alaskan fisheries</p>	<p>1. Overall Treaty-Indian TAC: 45,000 Chinook and 42,000 coho.</p> <p>2. Overall Chinook and/or coho TACs may need to be reduced or fisheries adjusted to meet NMFS ESA guidance, FMP requirements, upon conclusion of negotiations in the North of Falcon forum, or upon receipt of preseason catch and abundance expectations for Canadian and Alaskan fisheries</p>	<p>1. Overall Treaty-Indian TAC: 35,000 Chinook and 30,000 coho.</p> <p>2. Overall Chinook and/or coho TACs may need to be reduced or fisheries adjusted to meet NMFS ESA guidance, FMP requirements, upon conclusion of negotiations in the North of Falcon forum, or upon receipt of preseason catch and abundance expectations for Canadian and Alaskan fisheries</p>	
<ul style="list-style-type: none"> • May 1 through the earlier of June 30 or 27,500 Chinook quota. <p>All salmon except coho. 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. If the Chinook quota is exceeded, the excess will be deducted from the later all-salmon season. See size limit (B) and other restrictions (C).</p> <ul style="list-style-type: none"> • July 1 through the earlier of September 15, or 27,500 preseason Chinook quota, or 50,000 coho quota. <p>All Salmon. See size limit (B) and other restrictions (C).</p>	<ul style="list-style-type: none"> • May 1 through the earlier of June 30 or 22,500 Chinook quota. <p>All salmon except coho. 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 on an impact neutral basis. If the Chinook quota is exceeded, the excess will be deducted from the later all-salmon season. See size limit (B) and other restrictions (C).</p> <ul style="list-style-type: none"> • July 1 through the earlier of September 15, or 22,500 preseason Chinook quota, or 42,000 coho quota. <p>All salmon. See size limit (B) and other restrictions (C).</p>	<ul style="list-style-type: none"> • May 1 through the earlier of June 30 or 17,500 Chinook quota. <p>All salmon except coho. 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. If the Chinook quota is exceeded, the excess will be deducted from the later all-salmon season. See size limit (B) and other restrictions (C).</p> <ul style="list-style-type: none"> • July 1 through the earlier of September 15, or 17,500 preseason Chinook quota, or 30,000 coho quota. <p>All salmon. See size limit (B) and other restrictions (C).</p>	

TABLE 3. Treaty Indian troll management Alternatives analyzed by the STT for ocean salmon fisheries, 2011. (Page 2 of 2)

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B. MINIMUM SIZE (Inches)

Area (when open)	Chinook		Coho		Pink
	Total Length	Head-off	Total Length	Head-off	
North of Cape Falcon	24.0 (61.0 cm)	18.0 (45.7 cm)	16.0 (40.6 cm)	12.0 (30.5 cm)	None

C. REQUIREMENTS, DEFINITIONS, RESTRICTIONS, OR EXCEPTIONS

C.1. Tribe and Area Boundaries. 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.

S'KLALLAM - Washington State Statistical Area 4B (All).

MAKAH - Washington State Statistical Area 4B and that portion of the FMA north of 48°02'15" N. lat. (Norwegian Memorial) and east of 125°44'00" W. long.

QUILEUTE - That portion of the FMA between 48°07'36" N. lat. (Sand Pt.) and 47°31'42" N. lat. (Queets River) and east of 125°44'00" W. long.

HOH - That portion of the FMA between 47°54'18" N. lat. (Quillayute River) and 47°21'00" N. lat. (Quinault River) and east of 125°44'00" W. long.

QUINAULT - That portion of the FMA between 47°40'06" N. lat. (Destruction Island) and 46°53'18"N. lat. (Point Chehalis) and east of 125°44'00" W. long.

C.2. Gear restrictions

- a. Single point, single shank, barbless hooks are required in all fisheries.
- b. No more than eight fixed lines per boat.
- c. No more than four hand held lines per person in the Makah area fishery (Washington State Statistical Area 4B and that portion of the FMA north of 48°02'15" N. lat. (Norwegian Memorial) and east of 125°44'00" W. long.)

C.3. Quotas

- a. The quotas include troll catches by the S'Klallam and Makah tribes in Washington State Statistical Area 4B from May 1 through September 15.
- b. The Quileute Tribe will continue a ceremonial and subsistence fishery during the time frame of September 15 through October 15 in the same manner as in 2004-2010. Fish taken during this fishery are to be counted against treaty troll quotas established for the 2011 season (estimated harvest during the October ceremonial and subsistence fishery: 100 Chinook; 200 coho).

C.4. Area Closures

- a. The area within a six nautical mile radius of the mouths of the Queets River (47°31'42" N. lat.) and the Hoh River (47°45'12" N. lat.) will be closed to commercial fishing.
- b. A closure within two nautical miles of the mouth of the Quinault River (47°21'00" N. lat.) 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 5. Projected key stock escapements (thousands of fish) or management criteria for 2011 ocean fishery Alternatives analyzed by the STT.^{a/} (Page 1 of 2)

Key Stock/Criteria	Projected Ocean Escapement ^{b/} or Other Criteria (Council Area Impacts in Pareds)			Spawner Objective or Other Comparative Standard as Noted
	Alternative I	Alternative II	Alternative III	
CHINOOK				
Columbia Upriver Brights	417.5	418.5	419.5	88.2 Minimum ocean escapement to attain 60.0 adults over McNary Dam, with normal distribution and no mainstem harvest.
Mid-Columbia Brights	104.9	105.2	105.4	13.2 Minimum ocean escapement to attain 4.7 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	125.7	129.3	134.7	22.1 Minimum ocean escapement to attain 12.4 adults for hatchery egg-take, with average conversion and no lower river mainstem or tributary harvest.
Columbia Lower River Natural Tules (threatened)	39.3%	36.8%	34.4%	≤ 37.0% Total adult equivalent fishery exploitation rate; 2011 ESA guidance (NMFS ESA consultation standard).
Columbia Lower River Wild ^{c/} (threatened)	0.1	13.1	13.2	6.8 Minimum ocean escapement to attain MSY spawner goal of 5.7 for N. Lewis River fall Chinook (NMFS ESA consultation standard).
Spring Creek Hatchery Tules	112.1	116.7	122.5	8.8 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	41.6%	37.5%	33.6%	≤ 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; FMP.
Federally recognized tribal harvest	50.0%	50.0%	50.0%	50.0% Equals 34.8, 34.6, and 34.5 (thousand) adult fish for Yurok and Hoopa tribal fisheries.
Spawner Reduction Rate	53.8%	53.8%	53.8%	≤ 66.7% FMP; equals 40.8, 40.8, and 40.8 (thousand) fewer adult spawners due to fishing.
Adult river mouth return	101.4	102.5	102.4	NA
Age 4 ocean harvest rate	16.0%	14.9%	15.3%	≤ 16.0% NMFS ESA consultation standard for threatened California Coastal Chinook.
KMZ sport fishery share	13.1%	13.2%	12.7%	No Council guidance for 2011.
River recreational fishery share	22.4%	26.4%	26.4%	≥ 15% 2011 Council Guidance. Equals 7.8, 9.1, and 9.1 (thousand) adult fish for recreational inriver fisheries.
Sacramento River Winter (endangered)	Met	Met	Met	Recreational seasons: Point Arena to Pigeon Point between the first Saturday in April and the second Sunday in November; Pigeon Point to the U.S./Mexico Border between the first Saturday in April and the first Sunday in October. Minimum size limit ≥ 20 inches total length. In addition, for 2011, fisheries south of Pt. Arena must have either a minimum size limit ≥ 24 inches total length, or be closed for two consecutive months between May 1 and August 31. Commercial seasons: Point Arena to the U.S./Mexico border between May 1 and September 30, except Point Reyes to Point San Pedro between October 1 and 15. Minimum size limit ≥ 26 inches total length. (NMFS ESA Guidance for 2011).
Sacramento River Fall	375.3	376.8	368.7	≥150-180 2011 Council and NMFS guidance for natural and hatchery adult spawners.
Ocean commercial impacts	190.9	191.1	202.8	All options include fall (Sept-Dec) 2010 impacts; equals 0 SRFC.
Ocean recreational impacts	102.7	100.7	98.4	All options include fall 2010 impacts (386 SRFC).
River recreational impacts	61.1	61.3	68.0	No guidance in 2011.No guidance in 2011.No guidance in 2011.
Hatchery spawner goal	Met	Met	Met	22.0 Aggregate number of adults to achieve egg take goals at Coleman, Feather River,

TABLE 5. Projected key stock escapements (thousands of fish) or management criteria for 2011 ocean fishery Alternatives analyzed by the STT.^{a/} (Page 2 of 2)

Key Stock/Criteria	Projected Ocean Escapement ^{b/} or Other Criteria (Council Area Impacts in Parens)			COHO	Spawner Objective or Other Comparative Standard as Noted
	Alternative I	Alternative II	Alternative III		
Interior Fraser (Thompson River)	12.2%(5.0%)	11.0%(4.1%)	10.0%(3.1%)	≤ 10.0%	2011 Southern U.S. exploitation rate ceiling; 2002 PSC coho agreement.
Skagit	37.8%(4.5%)	37.2%(3.7%)	36.5%(2.9%)	≤ 60.0%	2011 total exploitation rate ceiling; FMP matrixd/
Stillaguamish	27.6%(3.2%)	27.1%(2.6%)	26.6%(2.0%)	≤ 50.0%	2011 total exploitation rate ceiling; FMP matrixd/
Snohomish	26.3%(3.2%)	25.8%(2.6%)	25.3%(2.0%)	≤ 60.0%	2011 total exploitation rate ceiling; FMP matrixd/
Hood Canal	41.6%(4.7%)	41.0%(3.9%)	40.4%(3.0%)	≤ 65.0%	2011 total exploitation rate ceiling; FMP matrixd/
Strait of Juan de Fuca	12.7%(3.7%)	12.2%(3.1%)	11.4%(2.4%)	≤ 40.0%	2011 total exploitation rate ceiling; FMP matrixd/
Quillayute Fall	26.2	26.5	26.7	6.3-15.8	FMP objective MSY adult spawner ranged/
Hoh	9.8	10.0	10.2	2.0-5.0	FMP objective MSY adult spawner ranged/
Queets Wild	10.2	10.5	10.7	5.8-14.5	FMP objective MSY adult spawner ranged/
Grays Harbor	81.0	81.9	83.0	35.4	FMP objective MSY adult spawner ranged/
Lower Columbia River Natural (threatened)	12.8%	10.9%	8.8%	≤ 15.0%	Total marine and mainstem Columbia River fishery exploitation rate (NMFS ESA c)
Upper Columbia ^{e/}	>50%	>50%	>50%	≥ 50%	Minimum percentage of the run to Bonneville Dam.
Columbia River Hatchery Early	154.1	162.9	175.5	31.2	Minimum ocean escapement to attain hatchery egg-take goal of 14.1 early adult co
Columbia River Hatchery Late	93.0	100.9	110.4	9.3	Minimum ocean escapement to attain hatchery egg-take goal of 7.1 late adult coho
Oregon Coastal Natural	12.9%	12.9%	13.0%	≤ 15.0%	Marine and freshwater fishery exploitation rate.
Southern Oregon/Northern California Coast (threatened)	8.5%	7.9%	7.9%	≤ 13.0%	Marine fishery exploitation rate for R/K hatchery coho (NMFS ESA consultation st

a/ Projections in the table assume a WCVI mortality for coho of the 2010 preseason level. Chinook fisheries in Southeast Alaska, North Coast BC, and WCVI troll and outside sport fisheries were assumed to have the same exploitation rates as expected preseason in 2010, as modified by the 2008 PST agreement. Assumptions for these Chinook fisheries will be changed prior to the April meeting when allowable catch levels for 2011 under the PST are known.

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 LCN coho include all marine impacts prior to 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 lower Columbia Natural (LCN) Oregon coastal natural (OCN) and Rogue/Klamath (RK) coho, and Lower Columbia River (LCR) tule Chinook exploitation rates by fishery for 2011 ocean fisheries management Alternatives analyzed by the STT.

Fishery	Exploitation Rate (Percent)											
	LCN Coho			OCN Coho			RK Coho			LCR Tule		
	I	II	III	I	II	III	I	II	III	I	II	III
SOUTHEAST ALASKA	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	2.7%	2.8%	2.9%
BRITISH COLUMBIA	0.1%	0.1%	0.1%	0.3%	0.3%	0.3%	0.2%	0.2%	0.2%	11.5%	11.7%	11.9%
PUGET SOUND/STRAIT	0.2%	0.2%	0.2%	0.1%	0.1%	0.1%	0.0%	0.0%	0.0%	0.5%	0.5%	0.5%
NORTH OF CAPE FALCON												
Treaty Indian Ocean Troll	2.5%	2.1%	1.5%	0.6%	0.5%	0.4%	0.0%	0.0%	0.0%	5.4%	4.5%	3.6%
Recreational	5.4%	4.5%	3.5%	1.0%	0.8%	0.6%	0.0%	0.0%	0.0%	3.3%	2.6%	1.9%
Non-Indian Troll	1.9%	1.5%	1.1%	0.5%	0.4%	0.3%	0.0%	0.0%	0.0%	5.9%	4.6%	3.3%
SOUTH OF CAPE FALCON												
Recreational:										0.1%	0.1%	0.0%
Cape Falcon to Humbug Mt.	1.4%	1.2%	1.0%	2.0%	2.5%	3.0%	0.2%	0.2%	0.2%			
Humbug Mt. OR/CA border (KMZ)	0.0%	0.1%	0.1%	0.2%	0.4%	0.5%	0.4%	0.8%	0.9%			
OR/CA border to Horse Mt. (KMZ)	0.1%	0.1%	0.1%	0.8%	0.7%	0.7%	3.5%	3.4%	3.4%			
Fort Bragg	0.0%	0.0%	0.0%	0.5%	0.5%	0.5%	1.3%	1.3%	1.2%			
South of Pt. Arena	0.0%	0.0%	0.0%	0.4%	0.4%	0.4%	1.0%	1.0%	1.0%			
Troll:										2.0%	1.9%	1.9%
Cape Falcon to Humbug Mt.	0.9%	0.8%	0.8%	1.1%	1.0%	0.9%	0.2%	0.1%	0.1%			
Humbug Mt. OR/CA border (KMZ)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.1%	0.0%			
OR/CA border to Horse Mt. (KMZ)	0.0%	0.0%	0.0%	0.2%	0.1%	0.0%	0.9%	0.2%	0.0%			
Fort Bragg	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.3%	0.1%	0.2%			
South of Pt. Arena	0.0%	0.0%	0.0%	0.2%	0.2%	0.3%	0.2%	0.2%	0.3%			
BUOY 10	0.5%	0.5%	0.6%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	7.9%	8.2%	8.5%
ESTUARY/FRESHWATER	N/A	N/A	N/A	4.8%	4.8%	4.8%	0.2%	0.2%	0.2%			
TOTAL^{a/}	12.8%	10.9%	8.8%	12.9%	12.9%	13.0%	8.5%	7.9%	7.9%	39.3%	36.8%	34.4%

a/ Totals do not include estuary/freshwater or Buoy 10 for LCN coho and RK coho.

TABLE A-1. **Sacramento River fall Chinook** ocean impacts, including non-retention impacts where applicable, by fishery and option. Sacramento River fall Chinook impacts were estimated for the fall of 2010 and projected for each of the proposed 2011 fishing season options. The impacts are displayed for each option by fishery, port area, and month.

Commercial									
Option I		Summer 2011						Summer	Year
Port Area	Fall 2010	Mar	Apr	May	Jun	Jul	Aug	Total	Total
NO		1,600	9,016	6,896	4,654	7,969		30,135	30,135
CO		2,674	2,816	3,136	2,670	2,726		14,022	14,021
KO			103	681	463	260		1,507	1,507
KC				313	933	346		1,592	1,592
FB				925	912	9,738		11,575	11,575
SF			38,667	5,902	25,418	9,009		78,996	78,997
MO			35,223	3,778	12,524	1,517		53,042	53,043
Total		4,275	85,825	21,631	47,573	31,566		190,870	190,870

Option II									
Port Area	Fall 2010	Mar	Apr	May	Jun	Jul	Aug	Summer Total	Year Total
NO		1,600	9,016	6,896	3,453	7,969		28,934	28,934
CO		2,674	2,816	3,136	1,981	2,726		13,333	13,333
KO			103	341	463	391		1,298	1,297
KC					467	173		640	640
FB					729	9,738		10,467	10,468
SF			38,667		34,816	9,009		82,492	82,492
MO			35,223		17,199	1,517		53,939	53,940
Total		4,275	85,825	10,372	59,107	31,523		191,102	191,102

Option III									
Port Area	Fall 2010	Mar	Apr	May	Jun	Jul	Aug	Summer Total	Year Total
NO		1,600	9,016	6,896	3,453	6,170		27,135	27,134
CO		2,674	2,816	3,136	1,981	2,110		12,717	12,717
KO			103	341	386	260		1,090	1,090
KC									
FB						9,738		9,738	9,738
SF			38,667	7,177	36,414	9,009		91,267	91,268
MO			35,223	5,963	18,116	1,517		60,819	60,819
Total		4,275	85,825	23,512	60,349	28,805		202,766	202,766

Recreational									
Option I		Summer 2011						Summer	Year
Port Area	Fall 2010	Jan-Feb	Mar	Apr	May	Jun	Jul	Aug	Total
NO	18			8	13	75	628	585	1,309
CO				8	12	262	1,029	529	1,840
KO	27				398	696	993	522	2,609
KC					1,917	2,458	2,519	1,292	8,186
FB	62			287	1,090	2,907	3,802	1,521	9,607
SF	279			5,853	6,504	9,998	20,615	9,357	52,327
MO				10,054	3,847	4,872	6,626	1,017	26,416
Total	386			16,209	13,783	21,269	36,212	14,824	102,297

Option II									
Port Area	Fall 2010	Jan-Feb	Mar	Apr	May	Jun	Jul	Aug	Summer Total
NO	18			8	13	16	608	299	944
CO				8	12	107	1,002	363	1,492
KO	27				175	696	993	522	2,386
KC					844	2,458	2,519	1,292	7,113
FB	62			287	1,090	2,907	3,802	1,521	9,607
SF	279			5,853	6,504	9,998	20,615	9,357	52,327
MO				10,054	3,847	4,872	6,626	1,017	26,416
Total	386			16,209	12,486	21,055	36,165	14,371	100,286

Option III									
Port Area	Fall 2010	Jan-Feb	Mar	Apr	May	Jun	Jul	Aug	Summer Total
NO	18			8	13	16	12	187	236
CO				8	12	107	192	298	617
KO	27				64	696	993	522	2,275
KC					307	2,458	2,519	1,292	6,576
FB	62			287	1,090	2,907	3,802	1,521	9,607
SF	279			5,853	6,504	9,998	20,615	9,357	52,327
MO				10,054	3,847	4,872	6,626	1,017	26,416
Total	386			16,209	11,838	21,055	34,760	14,195	98,057

TABLE B-1. **Klamath River fall Chinook** ocean impacts, including non-retention impacts where applicable, by fishery and option. Klamath River fall Chinook impacts were estimated for the fall of 2010 and projected for each of the proposed 2011 fishing season options. The impacts are displayed for each option by fishery, port area, and month.

Commercial										
Option I		Summer 2011							Summer	Year
Port Area	Fall 2010	Mar	Apr	May	Jun	Jul	Aug	Total	Total	
Area	Sept Oct-Dec									
NO			83	284	134	368	1,047	1,916	1,917	
CO			152	349	382	1,696	3,170	5,749	5,749	
KO				51	408	372	336	1,167	1,166	
KC					642	415	667	1,724	1,724	
FB						327	264	3,859	4,450	
SF					2,106	1,110	4,185	593	7,994	
MO					568	344	890	9	1,811	
Total			235	3,358	3,347	8,191	9,680	24,811	24,811	

Option II										
Option II		Summer 2011							Summer	Year
Port Area	Fall 2010	Mar	Apr	May	Jun	Jul	Aug	Total	Total	
Area	Sept Oct-Dec									
NO			83	284	134	278	1,057	1,836	1,836	
CO			152	349	383	1,278	3,194	5,356	5,356	
KO				51	204	372	503	1,130	1,130	
KC						208	333	541	541	
FB						211	3,880	4,097	4,098	
SF					2,106	5,819	597	8,522	8,522	
MO					568	1,243	9	1,820	1,820	
Total			235	3,358	721	9,408	9,580	23,302	23,303	

Option III										
Option III		Summer 2011							Summer	Year
Port Area	Fall 2010	Mar	Apr	May	Jun	Jul	Aug	Total	Total	
Area	Sept Oct-Dec									
NO			83	284	134	275	811	1,587	1,587	
CO			152	349	383	1,265	2,456	4,605	4,605	
KO				51	204	310	336	901	900	
KC							3,863	3,863	3,863	
FB										
SF					2,106	1,351	6,026	594	10,077	
MO					568	543	1,295	9	2,415	
Total			235	3,358	2,615	9,171	8,069	23,448	23,448	

Recreational												
Option I		Summer 2011							Summer	Year		
Port Area	Fall 2010	Jan-Feb	Mar	Apr	May	Jun	Jul	Aug	Total	Total		
Area	Sept Oct Nov-Dec											
NO							40	41	81	82		
CO					6	33	113	72	224	225		
KO					17	163	444	504	1,128	1,128		
KC					408	760	884	565	2,617	2,616		
FB				11	98	281	353	82	825	825		
SF				115	55	219	246	10	645	646		
MO				76	17	33	72	9	207	207		
Total				201	601	1,490	2,153	1,283	5,728	5,729		

Option II												
Option II		Summer 2011							Summer	Year		
Port Area	Fall 2010	Jan-Feb	Mar	Apr	May	Jun	Jul	Aug	Total	Total		
Area	Sept Oct Nov-Dec											
NO							40	21	61	61		
CO					6	14	112	50	182	181		
KO					7	163	450	509	1,129	1,129		
KC					179	761	894	570	2,404	2,405		
FB				11	98	281	357	82	829	830		
SF				115	55	220	249	10	649	649		
MO				76	17	33	73	9	208	208		
Total				201	363	1,472	2,175	1,252	5,463	5,464		

Option III												
Option III		Summer 2011							Summer	Year		
Port Area	Fall 2010	Jan-Feb	Mar	Apr	May	Jun	Jul	Aug	Total	Total		
Area	Sept Oct Nov-Dec											
NO							1	13	14	14		
CO					6	14	21	41	82	82		
KO					3	164	446	504	1,117	1,117		
KC					65	761	888	565	2,279	2,279		
FB				11	98	281	355	82	827	827		
SF				115	55	220	248	10	648	648		
MO				76	17	33	72	9	207	207		
Total				201	244	1,473	2,031	1,225	5,174	5,174		

TABLE C-1. Klamath River fall Chinook **age-4 ocean HARVEST** by fishery and option. Klamath River fall Chinook age-4 HARVEST was projected for each of the proposed 2011 fishing season options. The harvest are displayed for each option by fishery, port area, and month.

Commercial										
Option I										
Port Area	Fall 2010		Mar	Summer 2011				Summer		Year
	Sept	Oct-Dec		Apr	May	Jun	Jul	Aug	Total	Total
NO				60	222	93	151	368	894	893
CO				115	240	222	597	703	1,877	1,876
KO					33	177	128	85	423	423
KC						234	134	185	553	553
FB						114	91	698	903	904
SF					879	494	1,418	103	2,894	2,894
MO					453	174	361	8	996	996
Total				175	1,826	1,508	2,880	2,150	8,539	8,539

Option II										
Port Area	Fall 2010		Mar	Summer 2011				Summer		Year
	Sep	Oct-Dec		Apr	May	Jun	Jul	Aug	Total	Total
NO				60	222	93	115	374	864	863
CO				115	240	222	454	715	1,746	1,746
KO					33	89	129	128	379	379
KC							68	93	161	161
FB							74	710	784	784
SF					879		1,993	105	2,977	2,977
MO					453		509	8	970	970
Total				175	1,826	404	3,341	2,132	7,878	7,879

Option III										
Port Area	Fall 2010		Mar	Summer 2011				Summer		Year
	Sep	Oct-Dec		Apr	May	Jun	Jul	Aug	Total	Total
NO				60	222	93	113	285	773	772
CO				115	240	222	446	544	1,567	1,567
KO					33	89	107	84	313	313
KC										
FB								698	698	698
SF					879	601	2,046	103	3,629	3,629
MO					453	275	526	8	1,262	1,261
Total				175	1,826	1,280	3,237	1,722	8,240	8,240

Recreational											
Option I											
Port Area	Fall 2010		Jan-Feb	Mar	Summer 2011				Summer		Year
	Sep	Oct Nov-Dec			Apr	May	Jun	Jul	Aug	Total	Total
NO								8	8	16	16
CO						1	7	22	14	44	44
KO						4	33	88	173	298	297
KC						87	153	174	214	628	628
FB					2	21	57	70	16	166	165
SF					24	12	44	49	2	131	131
MO					16	4	7	14	2	43	42
Total					43	128	300	425	429	1,325	1,324

Option II											
Port Area	Fall 2010		Jan-Feb	Mar	Summer 2011				Summer		Year
	Sep	Oct Nov-Dec			Apr	May	Jun	Jul	Aug	Total	Total
NO								8	4	12	12
CO						1	3	22	10	36	36
KO						2	33	90	176	301	301
KC						38	153	179	218	588	588
FB					2	21	57	71	16	167	167
SF					24	12	44	50	2	132	132
MO					16	4	7	15	2	44	42
Total					43	77	296	435	427	1,278	1,278

Option III											
Port Area	Fall 2010		Jan-Feb	Mar	Summer 2011				Summer		Year
	Sep	Oct Nov-Dec			Apr	May	Jun	Jul	Aug	Total	Total
NO									3	3	3
CO						1	3	4	8	16	16
KO						1	33	88	173	295	295
KC						14	153	176	214	557	557
FB					2	21	57	70	16	166	166
SF					24	12	44	49	2	131	131
MO					16	4	7	14	2	43	42
Total					43	52	296	401	417	1,209	1,209

Statement by Kent Martin, SAS Panel member

After sitting in on the various meetings to try to determine how to craft upcoming fishing seasons I would like to suggest using a different process than the “annual guidance letter from NMFS” approach.

I have been particularly struck by the modeling error found re LCR tule fall Chinook, and the apparent struggle to figure out how to adapt to this situation. It seems to me that any reasonable process should be able to deal with errors as a matter of course, and that the term “guidance” does not suggest that the letter is carved in stone or made of quick-drying cement. Rather, it should confer flexibility.

In addition, if the letter is indeed unchangeable, what does that say about the efficacy of any public comment? It makes irrelevant any meaningful public comment or review, even, in this case, when a modeling error has been made that the agency is aware of.

Because the letter is done at the beginning of the season-setting process, it also forestalls dealing with year-to-year variability of salmon populations in different locales. For example, last year’s letter proposed dropping the fall Chinook exploitation rate over the next couple of years, without the benefit of what we now know about this year’s abundance. Moreover, it does not reflect very much confidence in the salmon recovery programs well under way in many locales that should be contributing to increased abundance.

I’ve been in the salmon fishing business for fifty years. Each year is a surprise. No year is precisely the same as another. The salmon guidance letter process, by contrast, is an opaque process that is not readily adaptable to changing conditions. I’d be grateful for your consideration of opening this process to be more publicly accessible. Thank you.

ADOPTION OF 2011 MANAGEMENT ALTERNATIVES FOR PUBLIC REVIEW

The Council will review the Salmon Technical Team (STT) impact analysis (Agenda Item G.7.b, Supplemental STT Report) and comments from advisory bodies, agencies, tribes, and the public before adopting proposed ocean salmon fishery management alternatives for public review. The adopted alternatives 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 and NMFS' emergency criteria (see Agenda Item G.4.a, Attachment 2 and Attachment 3).

Council Action:

- 1. Adopt proposed 2011 ocean salmon fishery management alternatives for public review.**
- 2. If necessary, identify and justify any alternative(s) that would require implementation by emergency rule.**

Reference Materials:

1. Agenda Item G.8.b, Supplemental STT Report: Analysis of Preliminary Salmon Management Alternatives for 2011 Ocean Fisheries.

Agenda Order:

- a. Agenda Item Overview
- b. Reports and Comments of Management Entities and Advisory Bodies
- c. Public Comment
- d. **Council Action:** Adopt Management Alternatives for Public Review

Chuck Tracy

PFMC
02/04/11

SALMON TECHNICAL TEAM

***ANALYSIS
OF PRELIMINARY
SALMON MANAGEMENT ALTERNATIVES
FOR 2011 OCEAN FISHERIES***

March 9, 2011

TABLE 1. Commercial troll management Alternatives analyzed by the STT for non-Indian ocean salmon fisheries, 2011 (Page 1 of 10)			3/9/2011 2:29 PM
A. SEASON ALTERNATIVE DESCRIPTIONS			
ALTERNATIVE I	ALTERNATIVE II	ALTERNATIVE III	
North of Cape Falcon	North of Cape Falcon	North of Cape Falcon	
Supplemental Management Information	Supplemental Management Information	Supplemental Management Information	
<p>1. Overall non-Indian TAC: 97,000 (non-mark-selective equivalent of 90,000) Chinook and 95,000 coho marked with a healed adipose fin clip (marked).</p> <p>2. Non-Indian commercial troll TAC: 45,000 Chinook and 15,200 marked coho.</p> <p>3. Trade of Chinook or coho between non-Indian commercial and recreational fisheries: May be considered at the April Council meeting.</p> <p>4. Overall Chinook and/or coho TACs may need to be reduced or fisheries adjusted to meet NMFS ESA guidance, FMP requirements, upon conclusion of negotiations in the North of Falcon forum, or upon receipt of preseason catch and abundance expectations for Canadian and Alaskan fisheries.</p>	<p>1. Overall non-Indian TAC: 77,000 (non-mark-selective equivalent of 70,000) Chinook and 80,000 coho marked with a healed adipose fin clip (marked).</p> <p>2. Non-Indian commercial troll TAC: 35,000 Chinook and 12,800 marked coho.</p> <p>3. Trade of Chinook or coho between non-Indian commercial and recreational fisheries: May be considered at the April Council meeting.</p> <p>4. Overall Chinook and/or coho TACs may need to be reduced or fisheries adjusted to meet NMFS ESA guidance, FMP requirements, upon conclusion of negotiations in the North of Falcon forum, or upon receipt of preseason catch and abundance expectations for Canadian and Alaskan fisheries.</p>	<p>1. Overall non-Indian TAC: 57,000 (non-mark-selective equivalent of 50,000) Chinook and a quota equivalent to 65,000 coho marked with a healed adipose fin clip (marked).</p> <p>2. Non-Indian commercial troll TAC: 25,000 Chinook, a coho TAC consisting of a 6,262 mark-selective quota and a 2,800 non-mark-selective quota (equivalent to a 10,400 marked coho TAC).</p> <p>3. Trade of Chinook or coho between non-Indian commercial and recreational fisheries: May be considered at the April Council meeting.</p> <p>4. Overall Chinook and/or coho TACs may need to be reduced or fisheries adjusted to meet NMFS ESA guidance, FMP requirements, upon conclusion of negotiations in the North of Falcon forum, or upon receipt of preseason catch and abundance expectations for Canadian and Alaskan fisheries.</p>	
<p>U.S./Canada Border to Cape Falcon</p> <ul style="list-style-type: none"> May 1 through earlier of June 30 or 33,750 Chinook quota. <p>Seven days per week (C.1). All salmon except coho (C.7). Cape Flattery, Mandatory Yelloweye Rockfish Conservation Area, and Columbia Control Zones closed (C.5). See gear restrictions and definitions (C.2, C.3). An inseason conference call will occur when it is projected that 22,500 Chinook have been landed to consider modifying the open period to five days per week and adding landing and possession limits to ensure the guideline is not exceeded.</p>	<p>U.S./Canada Border to Cape Falcon</p> <ul style="list-style-type: none"> May 1 through earlier of June 30 or 23,450 Chinook quota. <p>Friday through Tuesday, landing and possession limit of 120 Chinook per open period (C.1). All salmon except coho (C.7). Cape Flattery, Mandatory Yelloweye Rockfish Conservation Area, and Columbia Control Zones closed (C.5). See gear restrictions and definitions (C.2, C.3). An inseason conference call will occur when it is projected that 15,600 Chinook have been landed to consider modifying the open period, landing, and possession limits to extend the fishery through the end of June.</p>	<p>U.S./Canada Border to Cape Falcon</p> <ul style="list-style-type: none"> May 1 through earlier of June 30 or 16,750 Chinook quota. <p>Saturday through Tuesday, landing and possession limit of 100 Chinook per open period (C.1). All salmon except coho (C.7). Cape Flattery, Mandatory Yelloweye Rockfish Conservation Area, and Columbia Control Zones closed (C.5). See gear restrictions and definitions (C.2, C.3).</p>	
<p>Vessels must land and deliver their fish within 24 hours of any closure of this fishery. Under state law, vessels must report their catch on a state fish receiving ticket. Vessels fishing or in possession of salmon while fishing north of Leadbetter Point must land and deliver their fish within the area and north of Leadbetter Point. Vessels fishing or in possession of salmon while fishing south of Leadbetter Point must land and deliver their fish within the area and south of Leadbetter Point, except that Oregon permitted vessels may also land their fish in Garibaldi, Oregon. Oregon State regulations require all fishers landing salmon into Oregon from any fishery between Leadbetter Point, Washington and Cape Falcon, Oregon must notify ODFW within one hour of delivery or prior to transport away from the port of landing by either calling 541-867-0300 Ext. 271 or sending notification via e-mail to nfallcon.trollreport@state.or.us. Notification shall include vessel name and number, number of salmon by species, port of landing and 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.8).</p>			

TABLE 1. Commercial troll management Alternatives analyzed by the STT for non-Indian ocean salmon fisheries, 2011. (Page 2 of 10)			3/9/2011 2:29 PM
A. SEASON ALTERNATIVE DESCRIPTIONS			
ALTERNATIVE I	ALTERNATIVE II	ALTERNATIVE III	
<p>U.S./Canada Border to Cape Falcon</p> <ul style="list-style-type: none"> July 1 through earlier of September 15 or 11,250 preseason Chinook guideline (C.8) or a 15,200 marked coho quota (C.8.d). <p>Friday through Tuesday; landing and possession limit of 100 Chinook and 90 coho per vessel per open period north of Leadbetter Point or 100 Chinook and 90 coho south of Leadbetter Point (C.1). All Salmon except no chum retention north of Cape Alava, Washington in August and September (C.7). All coho must be marked (C.8.d). See gear restrictions and definitions (C.2, C.3). Cape Flattery, Mandatory Yelloweye Rockfish Conservation Area, and Columbia Control Zones closed (C.5).</p>	<p>U.S./Canada Border to Cape Falcon</p> <ul style="list-style-type: none"> July 1 through earlier of September 15 or 11,550 preseason Chinook guideline (C.8) or a 12,800 marked coho quota (C.8.d). <p>Friday through Tuesday; landing and possession limit of 70 Chinook and 80 coho per vessel per open period north of Leadbetter Point or 70 Chinook and 80 coho south of Leadbetter Point (C.1). All Salmon except no chum retention north of Cape Alava, Washington in August and September (C.7). All coho must be marked (C.8.d). See gear restrictions and definitions (C.2, C.3). Cape Flattery, Mandatory Yelloweye Rockfish Conservation Area, and Columbia Control Zones closed (C.5).</p>	<p>U.S./Canada Border to Cape Falcon</p> <ul style="list-style-type: none"> July 1 through earlier of September 15 or 8,250 preseason Chinook guideline (C.8) or a coho quota equivalent to 10,400 marked coho (C.8.d). <p>Saturday through Tuesday; landing and possession limit of 60 Chinook and 65 marked coho per vessel per open period north of Leadbetter Point or 60 Chinook and 65 marked coho south of Leadbetter Point through August 15, 40 Chinook and 75 coho (non-mark-selective) per vessel per open period north of Leadbetter Point or 40 Chinook and 75 coho (non-mark-selective) south of Leadbetter Point thereafter (C.1). All Salmon except no chum retention north of Cape Alava, Washington in August and September (C.7). See gear restrictions and definitions (C.2, C.3). Cape Flattery, Mandatory Yelloweye Rockfish Conservation Area, and Columbia Control Zones closed (C.5).</p>	
<p>Vessels must land and deliver their fish within 24 hours of any closure of this fishery. Under state law, vessels must report their catch on a state fish receiving ticket. Vessels fishing or in possession of salmon while fishing north of Leadbetter Point must land and deliver their fish within the area and north of Leadbetter Point. Vessels fishing or in possession of salmon while fishing south of Leadbetter Point must land and deliver their fish within the area and south of Leadbetter Point, except that Oregon permitted vessels may also land their fish in Garibaldi, Oregon. Oregon State regulations require all fishers landing salmon into Oregon from any fishery between Leadbetter Point, Washington and Cape Falcon, Oregon must notify ODFW within one hour of delivery or prior to transport away from the port of landing by either calling 541-867-0300 Ext. 271 or sending notification via e-mail to nfallcon.trollreport@state.or.us. Notification shall include vessel name and number, number of salmon by species, port of landing and 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.8).</p>			

TABLE 1. Commercial troll management Alternatives analyzed by the STT for non-Indian ocean salmon fisheries, 2011. (Page 3 of 10)			3/9/2011 2:29 PM
A. SEASON ALTERNATIVE DESCRIPTIONS			
ALTERNATIVE I	ALTERNATIVE II	ALTERNATIVE III	
South of Cape Falcon	South of Cape Falcon	South of Cape Falcon	
Supplemental Management Information	Supplemental Management Information	Supplemental Management Information	
<ol style="list-style-type: none"> 1. Sacramento River Basin recreational fishery catch assumption: 61,100 adult Sacramento River fall Chinook. 2. Sacramento River fall Chinook spawning escapement of 375,300 adults. 3. Klamath River recreational fishery allocation: 7,800 adult Klamath River fall Chinook. 4. Klamath tribal allocation: 34,800 adult Klamath River fall Chinook. 5. Fisheries may need to be adjusted to meet NMFS ESA consultation standards, FMP requirements, other management objectives, or upon receipt of new allocation recommendations from the California Fish and Game Commission. 	<ol style="list-style-type: none"> 1. Sacramento River Basin recreational fishery catch assumption: 61,300 adult Sacramento River fall Chinook. 2. Sacramento River fall Chinook spawning escapement of 376,800 adults. 3. Klamath River recreational fishery allocation: 9,100 adult Klamath River fall Chinook. 4. Klamath tribal allocation: 34,600 adult Klamath River fall Chinook. 5. Fisheries may need to be adjusted to meet NMFS ESA consultation standards, FMP requirements, other management objectives, or upon receipt of new allocation recommendations from the California Fish and Game Commission. 	<ol style="list-style-type: none"> 1. Sacramento River Basin recreational fishery catch assumption: 60,000 adult Sacramento River fall Chinook. 2. Sacramento River fall Chinook spawning escapement of 368,700 adults. 3. Klamath River recreational fishery allocation: 9,100 adult Klamath River fall Chinook. 4. Klamath tribal allocation: 34,500 adult Klamath River fall Chinook. 5. Fisheries may need to be adjusted to meet NMFS ESA consultation standards, FMP requirements, other management objectives, or upon receipt of new allocation recommendations from the California Fish and Game Commission. 	
<p>Cape Falcon to Humbug Mt.</p> <ul style="list-style-type: none"> • April 15 through August 31; October 1-31 (C.9). Seven days per week. All salmon except coho; landing and possession limit of 50 Chinook per vessel per calendar week in October (C.7). All vessels fishing in the area must land their fish in the State of Oregon. See gear restrictions and definitions (C.2, C.3) and Oregon State regulations for a description of special regulations at the mouth of Tillamook Bay. <p>In 2012, the season will open March 15 for all salmon except coho. This opening could be modified following Council review at its March 2012 meeting.</p>	<p>Cape Falcon to Humbug Mt.</p> <ul style="list-style-type: none"> • April 15 through July 9, July 18 through August 31, October 1-31. (C.9). Seven days per week. All salmon except coho; landing and possession limit of 50 Chinook per vessel per calendar week in October (C.7). All vessels fishing in the area must land their fish in the State of Oregon. See gear restrictions and definitions (C.2, C.3) and Oregon State regulations for a description of special regulations at the mouth of Tillamook Bay. <p>In 2012, same as Alternative I</p>	<p>Cape Falcon to Humbug Mt.</p> <ul style="list-style-type: none"> • April 15 through July 9, July 18 through August 13, August 21-31 (C.9). Seven days per week. All salmon except coho (C.7). All vessels fishing in the area must land their fish in the State of Oregon. See gear restrictions and definitions (C.2, C.3) and Oregon State regulations for a description of special regulations at the mouth of Tillamook Bay. <p>In 2012, same as Alternative I</p>	

TABLE 1. Commercial troll management Alternatives analyzed by the STT for non-Indian ocean salmon fisheries, 2011. (Page 4 of 10)			3/9/2011 2:29 PM
A. SEASON ALTERNATIVE DESCRIPTIONS			
ALTERNATIVE I	ALTERNATIVE II	ALTERNATIVE III	
<p>Humbug Mt. to OR/CA Border (Oregon KMZ)</p> <ul style="list-style-type: none"> • May 1-31; • June 1 through earlier of June 30, or a 2,000 Chinook quota; • July 1 through earlier of July 31, or a 1,200 Chinook quota; • Aug. 1 through earlier of Aug. 31, or a 1,000 Chinook quota (C.9). <p>Seven days per week. All salmon except coho (C.7). Chinook 28 inch total length minimum size limit (B). June 1 through August 31, landing and possession limit of 30 Chinook per vessel per day. Any remaining portion of the June and/or July Chinook quotas may be transferred inseason on an impact neutral basis to the next open quota period (C.8). All vessels fishing in this area must land and deliver all fish within this area or Port Orford, within 24 hours of any closure in this fishery, and prior to fishing outside of this area (C.1, C.6). Oregon State regulations require all fishers landing salmon from any quota managed season within this area to notify Oregon Dept. of Fish and Wildlife (ODFW) within 1 hour of delivery or prior to transport away from the port of landing by either calling (541) 867-0300 ext. 252 or sending notification via e-mail to KMZOR.trollreport@state.or.us. Notification shall include vessel name and number, number of salmon by species, port of landing and location of delivery, and estimated time of delivery. See gear restrictions and definitions (C.2, C.3).</p> <p>In 2012, the season will open March 15 for all salmon except coho, with a 28 inch Chinook minimum size limit. This opening could be modified following Council review at its March 2012 meeting.</p>	<p>Humbug Mt. to OR/CA Border (Oregon KMZ)</p> <ul style="list-style-type: none"> • May 1-31; • June 1 through earlier of June 30, or a 1,000 Chinook quota; • July 1 through earlier of July 31, or a 1,200 Chinook quota; • Aug. 1 through earlier of Aug. 31, or a 1,500 Chinook quota (C.9). <p>Seven days per week. All salmon except coho (C.7). Chinook 28 inch total length minimum size limit (B). June 1 through August 31, landing and possession limit of 30 Chinook per vessel per day. All vessels fishing in this area must land and deliver all fish within this area or Port Orford, within 24 hours of any closure in this fishery, and prior to fishing outside of this area (C.1, C.6). Oregon State regulations require all fishers landing salmon from any quota managed season within this area to notify Oregon Dept. of Fish and Wildlife (ODFW) within 1 hour of delivery or prior to transport away from the port of landing by either calling (541) 867-0300 ext. 252 or sending notification via e-mail to KMZOR.trollreport@state.or.us. Notification shall include vessel name and number, number of salmon by species, port of landing and location of delivery, and estimated time of delivery. See gear restrictions and definitions (C.2, C.3).</p> <p>In 2012, same as Alternative I</p>	<p>Humbug Mt. to OR/CA Border (Oregon KMZ)</p> <ul style="list-style-type: none"> • May 1-31; • June 1 through earlier of June 30, or a 1,000 Chinook quota; • July 1 through earlier of July 31, or a 1,000 Chinook quota; • Aug. 1 through earlier of Aug. 31, or a 1,000 Chinook quota (C.9). <p>Seven days per week. All salmon except coho (C.7). Chinook 28 inch total length minimum size limit (B). June 1 through August 31, landing and possession limit of 30 Chinook per vessel per day and 90 Chinook per vessel per calendar week. All vessels fishing in this area must land and deliver all fish within this area or Port Orford, within 24 hours of any closure in this fishery, and prior to fishing outside of this area (C.1, C.6). Oregon State regulations require all fishers landing salmon from any quota managed season within this area to notify Oregon Dept. of Fish and Wildlife (ODFW) within 1 hour of delivery or prior to transport away from the port of landing by either calling (541) 867-0300 ext. 252 or sending notification via e-mail to KMZOR.trollreport@state.or.us. Notification shall include vessel name and number, number of salmon by species, port of landing and location of delivery, and estimated time of delivery. See gear restrictions and definitions (C.2, C.3).</p> <p>In 2012, same as Alternative I</p>	

TABLE 1. Commercial troll management Alternatives analyzed by the STT for non-Indian ocean salmon fisheries, 2011. (Page 5 of 10)			3/9/2011 2:29 PM
A. SEASON ALTERNATIVE DESCRIPTIONS			
ALTERNATIVE I	ALTERNATIVE II	ALTERNATIVE III	
<p>OR/CA Border to Humboldt South Jetty (California KMZ)</p> <ul style="list-style-type: none"> • June 25 through earlier of June 30, or a 1,500 Chinook quota; • July 2-6 and 9-13 or attainment of a 1,500 Chinook quota; • Aug. 1 through earlier of Aug. 10, or a 1,500 Chinook quota • Sept. 15 through earlier of Sept 30, or a 4,000 Chinook quota (C.9). <p>Seven days per week except in July. All salmon except coho (C.7). Chinook 27 inch total length minimum size limit (B). Landing and possession limit of 15 Chinook per vessel during June, July, and August quota fisheries; 30 Chinook per vessel per day during the September quota fishery. All vessels fishing in this area must land and deliver all fish within this area, within 24 hours of any closure in this fishery, and prior to fishing outside of this area (C.1, C.6). See compliance requirements (C.1) and gear restrictions and definitions (C.2, C.3). Klamath Control Zone closed (C.5.e). See California State regulations for additional closures adjacent to the Smith and Klamath rivers. When the fishery is closed between the OR/CA border and Humbug Mt. and open to the south, vessels with fish on board caught in the open area off California may seek temporary mooring in Brookings, Oregon prior to landing in California only if such vessels first notify the Chetco River Coast Guard Station via VHF channel 22A between the hours of 0500 and 2200 and provide the vessel name, number of fish on board, and estimated time of arrival.</p>	<p>OR/CA Border to Humboldt South Jetty (California KMZ)</p> <ul style="list-style-type: none"> • July 1 through earlier of July 10, or a 750 Chinook quota; • Aug. 1 through earlier of Aug. 10, or a 750 Chinook quota (C.9). <p>Seven days per week. All salmon except coho (C.7). Chinook 27 inch total length minimum size limit (B). Landing and possession limit of 15 Chinook per vessel per day. All vessels fishing in this area must land and deliver all fish within this area, within 24 hours of any closure in this fishery, and prior to fishing outside of this area (C.1, C.6). See gear restrictions and definitions (C.2, C.3). Klamath Control Zone closed (C.5.e). See California State regulations for additional closures adjacent to the Smith and Klamath rivers. When the fishery is closed between the OR/CA border and Humbug Mt. and open to the south, vessels with fish on board caught in the open area off California may seek temporary mooring in Brookings, Oregon prior to landing in California only if such vessels first notify the Chetco River Coast Guard Station via VHF channel 22A between the hours of 0500 and 2200 and provide the vessel name, number of fish on board, and estimated time of arrival.</p>	<p>OR/CA Border to Humboldt South Jetty Closed.</p>	
<p>Humboldt South Jetty to Horse Mt. Closed.</p>	<p>Humboldt South Jetty to Horse Mt. Closed.</p>	<p>Humboldt South Jetty to Horse Mt. Closed.</p>	
<p>State regulations require all salmon shall be made available to a CDFG representative for sampling immediately at port of landing. Any person in possession of a salmon with a missing adipose fin, upon request by an authorized agent or employee of the CDFG, shall immediately relinquish the head of the salmon to the state. (California Fish and Game Code §8226)</p>			

TABLE 1. Commercial troll management Alternatives analyzed by the STT for non-Indian ocean salmon fisheries, 2011. (Page 6 of 10)			3/9/2011 2:29 PM
A. SEASON ALTERNATIVE DESCRIPTIONS			
ALTERNATIVE I	ALTERNATIVE II	ALTERNATIVE III	
<p>Horse Mt. to Point Arena (Fort Bragg)</p> <ul style="list-style-type: none"> • June 25 through earlier of June 30, or a 1,500 Chinook quota; • July 2-6 and 9-13 or attainment of a 1,500 Chinook quota; • Aug. 1-29; • Sept. 1-30 (C.9). <p>Seven days per week except in July. All salmon except coho (C.7). Chinook 27 inch total length minimum size limit (B). Landing and possession limit of 15 Chinook per vessel per day during quota fisheries. Any remaining portion of the June Chinook quota may be transferred inseason on an impact neutral basis to the July quota (C.8). All vessels fishing in this area during quota fisheries must land and deliver all fish within this area, within 24 hours of any closure in this fishery, and prior to fishing outside of this area. In August and September, all fish must be landed in California and offloaded within 24 hours of the August 29 closure (C.1, C.6). See gear restrictions and definitions (C.2, C.3).</p>	<p>Horse Mt. to Point Arena (Fort Bragg)</p> <ul style="list-style-type: none"> • July 1 through earlier of July 10, or a 1,200 Chinook quota; • Aug. 1-29; • Sept. 1-30 (C.9). <p>Seven days per week. All salmon except coho (C.7). Chinook 27 inch total length minimum size limit (B). Landing and possession limit of 15 Chinook per vessel per day in the July quota fishery. All vessels fishing in this area must land and deliver all fish within this area, within 24 hours of any closure in this fishery, and prior to fishing outside of this area. In August and September, all fish must be landed in California and offloaded within 24 hours of the August 29 closure (C.1, C.6). See gear restrictions and definitions (C.2, C.3).</p>	<p>Horse Mt. to Point Arena (Fort Bragg)</p> <ul style="list-style-type: none"> • Aug. 1-29; • Sept. 1-15 (C.9) <p>Seven days per week. All salmon except coho (C.7). Chinook 27 inch total length minimum size limit (B). All fish must be landed in California and offloaded within 24 hours of the August 29 closure (C.1, C.6). See gear restrictions and definitions (C.2, C.3).</p>	
<p>State regulations require all salmon be made available to a CDFG representative for sampling immediately at port of landing. Any person in possession of a salmon with a missing adipose fin, upon request by an authorized agent or employee of the CDFG, shall immediately relinquish the head of the salmon to the state. (California Fish and Game Code §8226)</p>			

TABLE 1. Commercial troll management Alternatives analyzed by the STT for non-Indian ocean salmon fisheries, 2011. (Page 7 of 10)		3/9/2011 2:29 PM
A. SEASON ALTERNATIVE DESCRIPTIONS		
ALTERNATIVE I	ALTERNATIVE II	ALTERNATIVE III
<p>Pt. Arena to Pigeon Pt. (San Francisco)</p> <ul style="list-style-type: none"> • May 1-31 • June 25 through July 6 • July 9-27 • July 30 through Aug. 29 • September 1-30 (C.9). <p>Seven days per week through July 6; Saturday through Wednesday July 9-27; Seven days per week thereafter. All salmon except coho (C.7). Chinook minimum size limit of 27 inches total length (B). All fish must be landed in California and offloaded within 24 hours of the August 29 closure. All fish caught in the area when the Fort Bragg quota fisheries are open must be landed south of Point Arena (C.1, C.6). See gear restrictions and definitions (C.2, C.3).</p> <p>Pt. Reyes to Pt. San Pedro (Fall Area Target Zone)</p> <ul style="list-style-type: none"> • October 3-14. <p>Monday through Friday. All salmon except coho (C.1). Chinook minimum size limit 27 inches total length (B). All vessels fishing in this area must land and deliver all fish between Point Arena and Pigeon Point (C.1, C.6). See gear restrictions and definitions (C.2, C.3).</p>	<p>Pt. Arena to Pigeon Pt. (San Francisco)</p> <ul style="list-style-type: none"> • May 1-31 • July 1 through Aug. 29 • September 1-30 (C.9). <p>Seven days per week. All salmon except coho (C.7). Chinook minimum size limit of 27 inches total length (B). All fish must be landed in California and offloaded within 24 hours of the August 29 closure. All fish caught in the area when the Fort Bragg quota fisheries are open must be landed south of Point Arena (C.1, C.6). See gear restrictions and definitions (C.2, C.3).</p>	<p>Pt. Arena to Pigeon Pt. (San Francisco)</p> <ul style="list-style-type: none"> • May 1 through June 7 • July 1 through Aug. 29 • September 1-15 (C.9). <p>Seven days per week. All salmon except coho (C.7). Chinook minimum size limit of 27 inches total length (B). All fish must be landed in California and offloaded within 24 hours of the August 29 closure (C.1, C.6). See gear restrictions and definitions (C.2, C.3).</p>
<p>Pigeon Pt. to U.S./Mexico Border (Monterey)</p> <p>Same as Pt. Arena to Pigeon Pt.</p>	<p>Pigeon Pt. to U.S./Mexico Border (Monterey)</p> <p>Same as Pt. Arena to Pigeon Pt.</p>	<p>Pigeon Pt. to U.S./Mexico Border (Monterey)</p> <p>Same as Pt. Arena to Pigeon Pt.</p>
<p>State regulations require all salmon be made available to a CDFG representative for sampling immediately at port of landing. Any person in possession of a salmon with a missing adipose fin, upon request by an authorized agent or employee of the CDFG, shall immediately relinquish the head of the salmon to the state. (California Fish and Game Code §8226)</p>		

B. MINIMUM SIZE (Inches) (See C.1)					
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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 OR/CA Border	28.0	21.5	-	-	None
OR/CA Border to U.S./Mexico Border	27.0	20.5	-	-	None

TABLE 1. Commercial troll management Alternatives analyzed by the STT for non-Indian ocean salmon fisheries, 2011. (Page 8 of 10)

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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, landing/possession limit, or other special requirements for the area being fished and the area in which they are landed if the area is open. Salmon may be landed in an area that has been closed more than 96 hours only if they meet the minimum size, landing/possession limit, or other special requirements for the area in which they were caught. Salmon may be landed in an area that has been closed less than 96 hours only if they meet the minimum size, landing/possession limit, or other special requirements for the areas in which they were caught and landed.

States may require fish landing/receiving tickets be kept on board the vessel for 90 days after landing to account for all previous salmon landings.

C.2. Gear Restrictions:

- a. Salmon may be taken only by hook and line using single point, single shank, barbless hooks.
- b. Cape Falcon, Oregon, to the OR/CA border: No more than 4 spreads are allowed per line.
- c. OR/CA 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.

C.3. Gear Definitions:

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.

Troll fishing gear defined: One or more lines that drag hooks behind a moving fishing vessel. In that portion of the fishery management area (FMA) off Oregon and Washington, the line or lines must be affixed to the vessel and must not be intentionally disengaged from the vessel at any time during the fishing operation.

Spread defined: A single leader connected to an individual lure and/or 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.

- C.4. 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.5. 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 Cape Alava (48°10'00" N. lat.) and east of 125°05'00" W. long.
- b. Mandatory Yelloweye Rockfish Conservation Area – The area in Washington Marine Catch Area 3 from 48°00.00' N. lat.; 125°14.00' W. long. to 48°02.00' N. lat.; 125°14.00' W. long. to 48°02.00' N. lat.; 125°16.50' W. long. to 48°00.00' N. lat.; 125°16.50' W. long. and connecting back to 48°00.00' N. lat.; 125°14.00' 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°15'48" 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 six 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 six nautical miles south of the Klamath River mouth).

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

C.6. 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, the estimated time of arrival, and the specific reason the vessel is not able to meet special management area landing restrictions.

In addition to contacting the U.S. Coast Guard, vessels fishing south of the Oregon/California border must notify CDFG within one hour of leaving the management area by calling 800-889-8346 and providing the same information as reported to the U.S. Coast Guard. All salmon must be offloaded within 24 hours of reaching port.

C.7. 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. Halibut retained must be no less than 32 inches in total length, measured from the tip of the lower jaw with the mouth closed to the extreme end of the middle of the tail, and must be landed with the head on. 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 Washington Department of Fish and Wildlife (WDFW) will monitor landings. If the landings are projected to exceed the 25,035 pound preseason allocation or the total Area 2A non-Indian commercial halibut allocation, NMFS will take inseason action to prohibit retention of halibut in the non-Indian salmon troll fishery.

Alternative I: Beginning May 1, license holders may land no more than one Pacific halibut per each 2 Chinook, except one Pacific halibut may be landed without meeting the ratio requirement, and no more than 35 halibut may be landed per trip. Pacific halibut retained must be no less than 32 inches in total length (with head on).

Alternative II: Beginning May 1, license holders may land no more than one Pacific halibut per each 3 Chinook, except one Pacific halibut may be landed without meeting the ratio requirement, and no more than 35 halibut may be landed per trip. Pacific halibut retained must be no less than 32 inches in total length (with head on).

Alternative III: Beginning May 1, license holders may land no more than one Pacific halibut per each 4 Chinook, except one Pacific halibut may be landed without meeting the ratio requirement, and no more than 25 halibut may be landed per trip. Pacific halibut retained must be no less than 32 inches in total length (with head on).

A "C-shaped" yelloweye rockfish conservation area is an area to be voluntarily avoided for salmon trolling. NMFS and the Council request salmon trollers voluntarily avoid this area in order to protect yelloweye rockfish. The area is defined in the Pacific Council Halibut Catch Sharing Plan in the North Coast subarea (Washington 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.

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

- C.8. 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 through June non-Indian commercial troll harvest guideline north of Cape Falcon may be transferred to the July through September harvest guideline on a fishery impact equivalent basis.
 - b. Chinook remaining from the June and/or July non-Indian commercial troll quotas in the Oregon KMZ may be transferred to the Chinook quota for the next open period on a fishery impact equivalent basis.
 - c. Chinook remaining from the June non-Indian commercial troll quota in the Fort Bragg area may be transferred to the July Fort Bragg quota on a fishery impact equivalent basis.
 - d. NMFS may transfer fish between the recreational and commercial fisheries north of Cape Falcon on a fishery impact equivalent basis if there is agreement among the areas' representatives on the Salmon Advisory Subpanel (SAS).
 - e. At the March 2012 meeting, the Council will consider inseason recommendations for special regulations for any experimental fisheries (proposals must meet Council protocol and be received in November 2011).
 - f. If retention of unmarked coho is permitted by inseason action, the allowable coho quota will be adjusted to ensure preseason projected mortality of critical stocks is not exceeded.
 - g. Landing limits may be modified inseason to sustain season length and keep harvest within overall quotas.
- C.9. State Waters Fisheries: Consistent with Council management objectives:
- a. The State of Oregon may establish additional late-season fisheries in state waters.
 - b. The State of California may establish limited fisheries in selected state waters.
Check state regulations for details.
- C.10. For the purposes of California Department of Fish and Game (CDFG) Code, Section 8232.5, the definition of the Klamath Management Zone (KMZ) for the ocean salmon season shall be that area from Humbug Mt., Oregon, to Horse Mt., California.

TABLE 2. Recreational management Alternatives analyzed by the STT for non-Indian ocean salmon fisheries, 2011. (Page 1 of 9)			3/9/2011 2:28 PM
A. SEASON ALTERNATIVE DESCRIPTIONS			
ALTERNATIVE I	ALTERNATIVE II	ALTERNATIVE III	
North of Cape Falcon	North of Cape Falcon	North of Cape Falcon	
Supplemental Management Information	Supplemental Management Information	Supplemental Management Information	
<p>1. Overall non-Indian TAC: 97,000 (non-mark-selective equivalent of 90,000) Chinook and 95,000 coho marked with a healed adipose fin clip (marked).</p> <p>2. Recreational TAC: 52,000 (non-mark selective equivalent of 45,000) Chinook and 79,800 marked coho; all retained coho must be marked.</p> <p>3. Trade of Chinook or coho between non-Indian commercial and recreational fisheries: May be considered at the April Council meeting.</p> <p>4. No Area 4B add-on fishery.</p> <p>5. Buoy 10 fishery opens Aug. 1 with an expected landed catch of 6,000 marked coho in August and September.</p> <p>6. Overall Chinook and/or coho TACs may need to be reduced or fisheries adjusted to meet NMFS ESA guidance, FMP requirements, upon conclusion of negotiations in the North of Falcon forum, or upon receipt of preseason catch and abundance expectations for Canadian and Alaskan fisheries.</p>	<p>1. Overall non-Indian TAC: 77,000 (non-mark-selective equivalent of 70,000) Chinook and 80,000 coho marked with a healed adipose fin clip (marked).</p> <p>2. Recreational TAC: 42,000 (non-mark selective equivalent of 35,000) Chinook and 67,200 marked coho; all retained coho must be marked.</p> <p>3. Trade of Chinook or coho between non-Indian commercial and recreational fisheries: May be considered at the April Council meeting.</p> <p>4. No Area 4B add-on fishery.</p> <p>5. Buoy 10 fishery opens Aug. 1 with an expected landed catch of 6,000 marked coho in August and September.</p> <p>6. Overall Chinook and/or coho TACs may need to be reduced or fisheries adjusted to meet NMFS ESA guidance, FMP requirements, upon conclusion of negotiations in the North of Falcon forum, or upon receipt of preseason catch and abundance expectations for Canadian and Alaskan fisheries.</p>	<p>1. Overall non-Indian TAC: 57,000 (non-mark-selective equivalent of 50,000) Chinook and a quota equivalent to 65,000 coho marked with a healed adipose fin clip (marked).</p> <p>2. Recreational TAC: 32,000 (non-mark selective equivalent of 25,000) Chinook and 54,600 marked coho; all retained coho must be marked.</p> <p>3. Trade of Chinook or coho between non-Indian commercial and recreational fisheries: May be considered at the April Council meeting.</p> <p>4. Area 4B add-on fishery of with a quota of 4,000 marked coho following the closure of the Neah Bay fishery (C.6).</p> <p>5. Buoy 10 fishery opens Aug. 1 with an expected landed catch of 7,000 marked coho in August and September.</p> <p>6. Overall Chinook and/or coho TACs may need to be reduced or fisheries adjusted to meet NMFS ESA guidance, FMP requirements, upon conclusion of negotiations in the North of Falcon forum, or upon receipt of preseason catch and abundance expectations for Canadian and Alaskan fisheries.</p>	
<p>U.S./Canada Border to Leadbetter Point</p> <ul style="list-style-type: none"> June 4 through earlier of June 25 or a coastwide marked Chinook quota of 12,000 (equivalent to a 5,000 non-selective Chinook quota) (C.5). <p>Seven days per week. Two fish per day, all salmon except coho, all Chinook must be marked with a healed adipose fin clip (C.1). Chinook 24-inch total length minimum size limit (B). 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.5).</p>	<p>U.S./Canada Border to Leadbetter Point</p> <ul style="list-style-type: none"> June 11 through earlier of June 30 or a coastwide marked Chinook quota of 12,000(C.5). Seven days per week. Two fish per day, all salmon except coho, all Chinook must be marked with a healed adipose fin clip (C.1). Chinook 24-inch total length minimum size limit (B). 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.5). 		
<p>Leadbetter Point to Cape Falcon</p> <ul style="list-style-type: none"> June 11 through earlier of June 25 or a coastwide marked Chinook quota of 12,000 (equivalent to a 5,000 non-selective Chinook quota) (C.5). <p>Seven days per week. Two fish per day, all salmon except coho, all Chinook must be marked with a healed adipose fin clip (C.1). Chinook 24-inch total length minimum size limit (B). 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.5).</p>	<p>Leadbetter Point to Cape Falcon</p> <p>Same as Alternative 1</p>		

TABLE 2. Recreational management Alternatives analyzed by the STT for non-Indian ocean salmon fisheries, 2011. (Page 2 of 9)			3/9/2011 2:28 PM
A. SEASON ALTERNATIVE DESCRIPTIONS			
ALTERNATIVE I	ALTERNATIVE II	ALTERNATIVE III	
<p>U.S./Canada Border to Cape Alava (Neah Bay)</p> <ul style="list-style-type: none"> June 26 through earlier of September 18 or 8,300 marked coho subarea quota with a subarea guideline of 4,400 Chinook (C.5). <p>Seven days per week. All salmon except no chum beginning August 1; two fish per day plus two additional pink salmon; all retained coho must be marked (C.1). See gear restrictions and definitions (C.2, C.3). Inseason management may be used to sustain season length and keep harvest within the overall Chinook recreational TAC for north of Cape Falcon (C.5).</p>	<p>U.S./Canada Border to Cape Alava (Neah Bay)</p> <ul style="list-style-type: none"> July 1 through earlier of September 18 or 6,990 marked coho subarea quota with a subarea guideline of 3,300 Chinook (C.5). <p>Seven days per week. All salmon except no chum beginning August 1; two fish per day, no more than one of which can be a Chinook plus one additional pink salmon; all retained coho must be marked (C.1). See gear restrictions and definitions (C.2, C.3). Inseason management may be used to sustain season length and keep harvest within the overall Chinook recreational TAC for north of Cape Falcon (C.5).</p>	<p>U.S./Canada Border to Cape Alava (Neah Bay)</p> <ul style="list-style-type: none"> June 24 through earlier of September 18 or 4,940 marked coho subarea quota with subarea guidelines of 1,340 marked Chinook prior to July 23 and 2,200 non-mark selective Chinook thereafter. (C.5). <p>Tuesday through Saturday. All salmon, two fish per day; beginning July 26 no more than one Chinook can be retained. All coho must be marked. All Chinook must be marked prior to July 24 (C.1). See gear restrictions (C.2). Beginning August 1, Chinook non-retention east of the Bonilla-Tatoosh line (C.4.a) 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.5).</p>	
<p>Cape Alava to Queets River (La Push Subarea)</p> <ul style="list-style-type: none"> June 26 through earlier of September 18 or 2,020 marked coho subarea quota with a subarea guideline of 1,850 Chinook (C.5). September 24 through earlier of October 9 or 50 marked coho quota or 50 Chinook quota (C.5) in the area north of 47°50'00 N. lat. and south of 48°00'00" N. lat. <p>Seven days per week. All salmon; two fish per day plus two additional pink salmon; all retained coho must be marked (C.1). See gear restrictions and definitions (C.2, C.3). Inseason management may be used to sustain season length and keep harvest within the overall Chinook recreational TAC for north of Cape Falcon (C.5).</p>	<p>Cape Alava to Queets River (La Push Subarea)</p> <ul style="list-style-type: none"> July 1 through earlier of September 18 or 1,700 marked coho subarea quota with a subarea guideline of 1,450 Chinook (C.5). September 24 through earlier of October 9 or 50 marked coho quota or 50 Chinook quota (C.5) in the area north of 47°50'00 N. lat. and south of 48°00'00" N. lat. <p>Seven days per week. All salmon; two fish per day, no more than one of which can be a Chinook plus one additional pink salmon; all retained coho must be marked (C.1). See gear restrictions and definitions (C.2, C.3). Inseason management may be used to sustain season length and keep harvest within the overall Chinook recreational TAC for north of Cape Falcon (C.5).</p>	<p>Cape Alava to Queets River (La Push Subarea)</p> <ul style="list-style-type: none"> June 24 through earlier of September 18 or 1,420 marked coho subarea quota with subarea guidelines of 560 marked Chinook prior to July 23 and 900 non-mark selective Chinook thereafter. (C.5). September 24 through earlier of October 9 or 50 marked coho quota or 50 Chinook quota (C.5) in the area north of 47°50'00 N. lat. and south of 48°00'00" N. lat. <p>Tuesday through Saturday. All salmon, two fish per day; beginning July 26 no more than one Chinook can be retained. All coho must be marked. All Chinook must be marked prior to July 24 (C.1). 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.5).</p>	

TABLE 2. Recreational management Alternatives analyzed by the STT for non-Indian ocean salmon fisheries, 2011. (Page 3 of 9)			3/9/2011 2:28 PM
A. SEASON ALTERNATIVE DESCRIPTIONS			
ALTERNATIVE I	ALTERNATIVE II	ALTERNATIVE III	
<p>Queets River to Leadbetter Point (Westport Subarea)</p> <ul style="list-style-type: none"> June 26 through earlier of September 18 or 29,530 marked coho subarea quota with a subarea guideline of 23,400 Chinook (C.5). <p>Sunday through Thursday. All salmon, two fish per day plus two additional pink salmon; all retained coho must be marked (C.1). See gear restrictions and definitions (C.2, C.3). Grays Harbor Zone closed beginning August 1 (C.4.b). Inseason management may be used to sustain season length and keep harvest within the overall Chinook recreational TAC for north of Cape Falcon (C.5).</p>	<p>Queets River to Leadbetter Point (Westport Subarea)</p> <ul style="list-style-type: none"> July 3 through earlier of September 18 or 24,860 marked coho subarea quota with a subarea guideline of 17,500 Chinook (C.5). <p>Sunday through Thursday. All salmon, two fish per day, no more than one of which can be a Chinook plus one additional pink salmon; all retained coho must be marked (C.1). See gear restrictions and definitions (C.2, C.3). Grays Harbor Zone closed beginning August 1 (C.4.b). Inseason management may be used to sustain season length and keep harvest within the overall Chinook recreational TAC for north of Cape Falcon (C.5).</p>	<p>Queets River to Leadbetter Point (Westport Subarea)</p> <ul style="list-style-type: none"> June 26 through earlier of September 18 or 20,890 marked coho subarea quota with subarea guidelines of 7,000 marked Chinook prior to July 22 and 11,675 non-mark selective Chinook thereafter (C.5). <p>Sunday through Thursday. All salmon, two fish per day; beginning July 24 no more than one Chinook can be retained. All coho must be marked. All Chinook must be marked prior to July 22 (C.1). See gear restrictions and definitions (C.2, C.3). Inseason management may be used to sustain season length and keep harvest within the overall Chinook recreational TAC for north of Cape Falcon (C.5).</p>	
<p>Leadbetter Point to Cape Falcon (Columbia River Subarea)</p> <ul style="list-style-type: none"> June 26 through earlier of September 30 or 39,900 marked coho subarea quota with a subarea guideline of 10,300 Chinook (C.5). <p>Seven days per week. All salmon, two fish per day. All retained coho must be marked (C.1). See gear restrictions and definitions (C.2, C.3). Columbia Control Zone closed (C.4.c). Inseason management may be used to sustain season length and keep harvest within the overall Chinook recreational TAC for north of Cape Falcon (C.5).</p>	<p>Leadbetter Point to Cape Falcon (Columbia River Subarea)</p> <ul style="list-style-type: none"> June 26 through earlier of September 30 or 33,600 marked coho subarea quota with a subarea guideline of 7,700 Chinook (C.5). <p>Seven days per week. All salmon, two fish per day, no more than one of which can be a Chinook. All retained coho must be marked (C.1). See gear restrictions and definitions (C.2, C.3). Columbia Control Zone closed (C.4.c). Inseason management may be used to sustain season length and keep harvest within the overall Chinook recreational TAC for north of Cape Falcon (C.5).</p>	<p>Leadbetter Point to Cape Falcon (Columbia River Subarea)</p> <ul style="list-style-type: none"> July 3 through earlier of September 30 or 27,300 marked coho subarea quota with subarea guidelines of 3,100 marked Chinook prior to July 22 and 5,175 non-mark selective Chinook thereafter (C.5). <p>Seven days per week in July and September; Sunday through Thursday in August. All salmon, two fish per day; beginning July 23 no more than one Chinook can be retained. All coho must be marked. All Chinook must be marked prior to July 22 (C.1). See gear restrictions and definitions (C.2, C.3). Columbia Control Zone closed (C.4.c). Inseason management may be used to sustain season length and keep harvest within the overall Chinook recreational TAC for north of Cape Falcon (C.5).</p>	

TABLE 2. Recreational management Alternatives analyzed by the STT for non-Indian ocean salmon fisheries, 2011. (Page 4 of 9)			3/9/2011 2:28 PM
A. SEASON ALTERNATIVE DESCRIPTIONS			
South of Cape Falcon	South of Cape Falcon	South of Cape Falcon	
ALTERNATIVE I	ALTERNATIVE II	ALTERNATIVE III	
Supplemental Management Information	Supplemental Management Information	Supplemental Management Information	
<ol style="list-style-type: none"> 1. Sacramento River Basin recreational fishery catch assumption: 61,100 adult Sacramento River fall Chinook. 2. Sacramento River fall Chinook spawning escapement of 375,300 adults. 3. Klamath River recreational fishery allocation: 7,800 adult Klamath River fall Chinook. 4. Klamath tribal allocation: 34,800 adult Klamath River fall Chinook. 5. Overall recreational TAC: 21,500 marked coho. 6. Fisheries may need to be adjusted to meet NMFS ESA consultation standards, FMP requirements, other management objectives, or upon receipt of new allocation recommendations from the California Fish and Game Commission. 	<ol style="list-style-type: none"> 1. Sacramento River Basin recreational fishery catch assumption: 61,300 adult Sacramento River fall Chinook. 2. Sacramento River fall Chinook spawning escapement of 376,800 adults. 3. Klamath River recreational fishery allocation: 9,100 adult Klamath River fall Chinook. 4. Klamath tribal allocation: 34,600 adult Klamath River fall Chinook. 5. Overall recreational coho TAC: 15,000 marked coho and 3,000 non-mark-selective quotas. 6. Fisheries may need to be adjusted to meet NMFS ESA consultation standards, FMP requirements, other management objectives, or upon receipt of new allocation recommendations from the California Fish and Game Commission. 	<ol style="list-style-type: none"> Sacramento River Basin recreational fishery catch assumption: 60,000 adult Sacramento River fall Chinook. 2. Sacramento River fall Chinook spawning escapement of 368,700 adults. 3. Klamath River recreational fishery allocation: 9,100 adult Klamath River fall Chinook. 4. Klamath tribal allocation: 34,500 adult Klamath River fall Chinook. 5. Overall recreational coho TAC: 10,500 non-mark-selective coho quota. 6. Fisheries may need to be adjusted to meet NMFS ESA consultation standards, FMP requirements, other management objectives, or upon receipt of new allocation recommendations from the California Fish and Game Commission. 	

TABLE 2. Recreational management Alternatives analyzed by the STT for non-Indian ocean salmon fisheries, 2011. (Page 5 of 9)			3/9/2011 2:28 PM
A. SEASON ALTERNATIVE DESCRIPTIONS			
South of Cape Falcon	South of Cape Falcon	South of Cape Falcon	
ALTERNATIVE I	ALTERNATIVE II	ALTERNATIVE III	
<p>Cape Falcon to Humbug Mt.</p> <ul style="list-style-type: none"> Except as provided below during the all-salmon mark-selective coho fishery, the season will be March 15 through October 31 (C.6). <p>All salmon except coho; two fish per day (C.1). See gear restrictions and definitions (C.2, C.3).</p> <ul style="list-style-type: none"> All-salmon mark-selective coho fishery: Cape Falcon to OR/CA Border: June 25 through earlier of September 5 or a landed catch of 21,500 marked coho. The all salmon except coho season reopens the earlier of September 6 or attainment of the coho quota. Seven days per week. All salmon, two fish per day. All retained coho must be marked (C.1). <p>Fishing in the Stonewall Bank yelloweye rockfish conservation area restricted to trolling only on days the all depth recreational halibut fishery is open (call the halibut fishing hotline 1-800-662-9825 for specific dates) (C.3.b, C.4.d). Open days may be adjusted inseason to utilize the available quota (C.5).</p> <p>In 2012, the season between Cape Falcon and Humbug Mt. will open March 15 for all salmon except coho, two fish per day (B, C.1, C.2, C.3).</p>	<p>Cape Falcon to Humbug Mt.</p> <ul style="list-style-type: none"> Except as provided below during the all-salmon mark-selective and non-mark-selective coho fisheries, the season will be March 15 through September 30 (C.6). <p>All salmon except coho; two fish per day (C.1). See gear restrictions and definitions (C.2, C.3).</p> <ul style="list-style-type: none"> Cape Falcon to Humbug Mt. all-salmon mark-selective coho fishery: July 2 through earlier of August 13 or a landed catch of 15,000 marked coho. Seven days per week. All salmon, two fish per day. All retained coho must be marked (C.1). Any remainder of the mark selective coho quota will be transferred on an impact neutral basis to the September non-selective coho quota listed below. The all salmon except coho season reopens the earlier of August 14 or attainment of the coho quota, through August 31. Cape Falcon to Humbug Mt. non-mark-selective coho fishery: September 1 through the earlier of September 10 or a landed catch of 3,000 non-mark-selective coho quota (C.5). Thursday through Saturday. All salmon, two fish per day. The all salmon except coho season reopens the earlier of September 11 or attainment of the coho quota (C.5). <p>Fishing in the Stonewall Bank yelloweye rockfish conservation area restricted to trolling only on days the all depth recreational halibut fishery is open (call the halibut fishing hotline 1-800-662-9825 for specific dates) (C.3.b, C.4.d). Open days may be adjusted inseason to utilize the available quota (C.5).</p> <p>In 2012, same as Alternative I</p>	<p>Cape Falcon to Humbug Mt.</p> <ul style="list-style-type: none"> Except as provided below during the all-salmon non-mark-selective coho fishery, the season will be March 15 through September 10 (C.6). <p>Seven days per week. All salmon except coho; two fish per day (C.1). See gear restrictions and definitions (C.2, C.3).</p> <ul style="list-style-type: none"> Cape Falcon to Humbug Mt. non-mark-selective coho fishery: August 18 through the earlier of September 10 or a landed catch of 10,500 non-mark-selective coho quota. Thursday through Saturday. All salmon, two fish per day. The all salmon except coho season will reopen if the coho quota is attained prior to September 10. <p>Fishing in the Stonewall Bank yelloweye rockfish conservation area restricted to trolling only on days the all depth recreational halibut fishery is open (call the halibut fishing hotline 1-800-662-9825 for specific dates) (C.3.b, C.4.d). Open days may be adjusted inseason to utilize the available quota (C.5).</p> <p>In 2012, same as Alternative I</p>	

TABLE 2. Recreational management Alternatives analyzed by the STT for non-Indian ocean salmon fisheries, 2011. (Page 6 of 9)			3/9/2011 2:28 PM
A. SEASON ALTERNATIVE DESCRIPTIONS			
ALTERNATIVE I	ALTERNATIVE II	ALTERNATIVE III	
<p>Humbug Mt. to OR/CA Border. (Oregon KMZ)</p> <ul style="list-style-type: none"> Except as provided above during the all-salmon mark-selective coho fishery, the season will be May 7 through September 5 (C.6). <p>Seven days per week. All salmon except coho, two fish per day except as noted above in the all-salmon mark-selective coho fishery (C.1). Chinook minimum size limit of 24 inches total length (B). See gear restrictions and definitions (C.2, C.3).</p>	<p>Humbug Mt. to OR/CA Border. (Oregon KMZ)</p> <ul style="list-style-type: none"> May 21 through September 5 (C.6). <p>Seven days per week. All salmon except coho, two fish per day (C.1). Chinook minimum size limit of 24 inches total length (B). See gear restrictions and definitions (C.2, C.3).</p>	<p>Humbug Mt. to OR/CA Border. (Oregon KMZ)</p> <ul style="list-style-type: none"> May 28 through September 5 (C.6). <p>Seven days per week. All salmon except coho, two fish per day (C.1). Chinook minimum size limit of 24 inches total length (B). See gear restrictions and definitions (C.2, C.3).</p>	
<p>OR/CA Border to Horse Mt. (California KMZ)</p> <ul style="list-style-type: none"> May 7 through September 5 (C.6). <p>Seven days per week. All salmon except coho, two fish per day (C.1). Chinook minimum size limit of 24 inches total length (B). See gear restrictions and definitions (C.2, C.3). Klamath Control Zone closed in August (C.4.e). See California State regulations for additional closures adjacent to the Smith, Eel, and Klamath rivers.</p>	<p>OR/CA Border to Horse Mt. (California KMZ)</p> <ul style="list-style-type: none"> May 21 through September 5 (C.6). <p>Seven days per week. All salmon except coho, two fish per day (C.1). Chinook minimum size limit of 24 inches total length (B). See gear restrictions and definitions (C.2, C.3). Klamath Control Zone closed in August (C.4.e). See California State regulations for additional closures adjacent to the Smith, Eel, and Klamath rivers.</p>	<p>OR/CA Border to Horse Mt. (California KMZ)</p> <ul style="list-style-type: none"> May 28 through September 5 (C.6). <p>Seven days per week. All salmon except coho, two fish per day (C.1). Chinook minimum size limit of 24 inches total length (B). See gear restrictions and definitions (C.2, C.3). Klamath Control Zone closed in August (C.4.e). See California State regulations for additional closures adjacent to the Smith, Eel, and Klamath rivers.</p>	
<p>Horse Mt. to Point Arena (Fort Bragg)</p> <ul style="list-style-type: none"> April 2 through November 13. <p>Seven days per week. All salmon except coho, two fish per day (C.1). Chinook minimum size limit of 24 inches total length (B). See gear restrictions and definitions (C.2, C.3).</p> <p>In 2012, season opens February 18 for all salmon except coho, two fish per day (C.1). Chinook minimum size limit of 24 inches total length (B); and the same gear restrictions as in 2011 (C.2, C.3).</p>	<p>Horse Mt. to Point Arena (Fort Bragg)</p> <ul style="list-style-type: none"> April 2 through October 16. <p>Seven days per week. All salmon except coho, two fish per day (C.1). Chinook minimum size limit of 24 inches total length (B). See gear restrictions and definitions (C.2, C.3).</p> <p>In 2012, season opens March 17 for all salmon except coho, two fish per day (C.1). Chinook minimum size limit of 24 inches total length (B); and the same gear restrictions as in 2011 (C.2, C.3).</p>	<p>Horse Mt. to Point Arena (Fort Bragg)</p> <ul style="list-style-type: none"> April 2 through September 18. <p>Seven days per week. All salmon except coho, two fish per day (C.1). Chinook minimum size limit of 24 inches total length (B). See gear restrictions and definitions (C.2, C.3).</p> <p>In 2012, season opens April 7 for all salmon except coho, two fish per day (C.1). Chinook minimum size limit of 24 inches total length (B); and the same gear restrictions as in 2011 (C.2, C.3).</p>	
<p>Point Arena to Pigeon Point (San Francisco)</p> <ul style="list-style-type: none"> April 2 through November 13. <p>Seven days per week. All salmon except coho, two fish per day (C.1). Chinook minimum size limit of 24 inches total length (B). See gear restrictions and definitions (C.2, C.3).</p> <p>In 2012, season opens April 7 for all salmon except coho, two fish per day (C.1). Chinook minimum size limit of 24 inches total length (B); and the same gear restrictions as in 2011 (C.2, C.3).</p>	<p>Point Arena to Pigeon Point (San Francisco)</p> <ul style="list-style-type: none"> April 2 through October 16. <p>Seven days per week. All salmon except coho, two fish per day (C.1). Chinook minimum size limit of 24 inches total length (B). See gear restrictions and definitions (C.2, C.3).</p> <p>In 2012, same as Alternative I.</p>	<p>Point Arena to Pigeon Point (San Francisco)</p> <ul style="list-style-type: none"> April 2 through September 18. <p>Seven days per week. All salmon except coho, two fish per day (C.1). Chinook minimum size limit of 24 inches total length (B). See gear restrictions and definitions (C.2, C.3).</p> <p>In 2012, same as Alternative I.</p>	
<p>State regulations require all salmon be made available to a CDFG representative for sampling immediately at port of landing. Any person in possession of a salmon with a missing adipose fin, upon request by an authorized agent or employee of the CDFG, shall immediately relinquish the head of the salmon to the state. (California Fish and Game Code §8226)</p>			

TABLE 2. Recreational management Alternatives analyzed by the STT for non-Indian ocean salmon fisheries, 2011. (Page 7 of 9)			3/9/2011 2:28 PM
A. SEASON ALTERNATIVE DESCRIPTIONS			
ALTERNATIVE I	ALTERNATIVE II	ALTERNATIVE III	
<p>Pigeon Point to U.S./Mexico Border (Monterey South)</p> <ul style="list-style-type: none"> April 2 through October 2. <p>Seven days per week. All salmon except coho, two fish per day (C.1). Chinook minimum size limit of 24 inches total length (B). See gear restrictions and definitions (C.2, C.3).</p> <p>In 2012, season opens April 7 for all salmon except coho, two fish per day (C.1). Chinook minimum size limit of 24 inches total length (B); and the same gear restrictions as in 2011 (C.2, C.3).</p>	<p>Pigeon Point to U.S./Mexico Border (Monterey)</p> <ul style="list-style-type: none"> April 2 through September 18. <p>Seven days per week. All salmon except coho, two fish per day (C.1). Chinook minimum size limit of 24 inches total length (B). See gear restrictions and definitions (C.2, C.3).</p> <p>In 2012, same as Alternative I.</p>	<p>Pigeon Point to U.S./Mexico Border (Monterey)</p> <ul style="list-style-type: none"> April 2 through September 5. <p>Seven days per week. All salmon except coho, two fish per day (C.1). Chinook minimum size limit of 24 inches total length (B). See gear restrictions and definitions (C.2, C.3).</p> <p>In 2012, same as Alternative I.</p>	
<p>State regulations require all salmon be made available to a CDFG representative for sampling immediately at port of landing. Any person in possession of a salmon with a missing adipose fin, upon request by an authorized agent or employee of the CDFG, shall immediately relinquish the head of the salmon to the state. (California Fish and Game Code §8226)</p>			

B. MINIMUM SIZE (Inches) (See C.1)

Area (when open)	Chinook	Coho	Pink
North of Cape Falcon	24.0	16.0	None
Cape Falcon to OR/CA Border	24.0	16.0	None
OR/CA Border to U.S./Mexico Border.	24.0	-	24.0

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.

Ocean Boat Limits: Off the coast of Washington, Oregon, and California, each fisher aboard a vessel may continue to use angling gear until the combined daily limits of salmon for all licensed and juvenile anglers aboard has been attained (additional state restrictions may apply).

TABLE 2. Recreational management Alternatives analyzed by the STT for non-Indian ocean salmon fisheries, 2011. (Page 8 of 9)	3/9/2011 2:28 PM
C. REQUIREMENTS, DEFINITIONS, RESTRICTIONS, OR EXCEPTIONS	

C.2. Gear Restrictions: Salmon may be taken only by hook and line using barbless hooks. 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 Point Conception, California:* No more than one rod may be used per angler; and no more than two 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. *Horse Mt., California, to Point Conception, California:* Single point, single shank, barbless circle hooks (see gear definitions below) are required when fishing with bait by any means other than trolling, and no more than two such hooks shall be used. When angling with two hooks, the distance between the hooks must not exceed five 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.

C.3. Gear Definitions:

- a. *Recreational fishing gear defined:* Angling tackle consisting of a line with no more than one artificial lure and/or natural bait attached. Off Oregon and Washington, the line must be attached to a rod and reel held by hand or closely attended; the rod and reel must be held by hand while playing a hooked fish. No person may use more than one rod and line while fishing off Oregon or Washington. Off California, the line must be attached to a rod and reel held by hand or closely attended; weights directly attached to a line may not exceed four pounds (1.8 kg). While fishing off California north of Point Conception, no person fishing for salmon, and no person fishing from a boat with salmon on board, may use more than one rod and line. Fishing includes any activity which can reasonably be expected to result in the catching, taking, or harvesting of fish.
- b. *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. *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.

C.4. Control Zone Definitions:

- a. *The Bonilla-Tatoosh Line:* A line running from the western end of Cape Flattery to Tatoosh Island Lighthouse (48°23'30" N. lat., 124°44'12" W. long.) to the buoy adjacent to Duntze Rock (48°28'00" N. lat., 124°45'00" W. long.), then in a straight line to Bonilla Point (48°35'30" N. lat., 124°43'00" W. long.) on Vancouver Island, British Columbia.
- 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°15'48" 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. *Stonewall Bank Yelloweye Rockfish Conservation Area:* The area defined by the following coordinates in the order listed:
 44°37.46' N. lat.; 124°24.92' W. long.;
 44°37.46' N. lat.; 124°23.63' W. long.;
 44°28.71' N. lat.; 124°21.80' W. long.;
 44°28.71' N. lat.; 124°24.10' W. long.;
 44°31.42' N. lat.; 124°25.47' W. long.;
 and connecting back to 44°37.46' N. lat.; 124°24.92' W. long.
- e. *Klamath Control Zone:* The ocean area at the Klamath River mouth bounded on the north by 41°38'48" N. lat. (approximately six 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. REQUIREMENTS, DEFINITIONS, RESTRICTIONS, OR EXCEPTIONS

- C.5. Inseason Management: Regulatory modifications may become necessary inseason to meet preseason management objectives such as quotas, harvest guidelines, and season duration. In addition to standard inseason actions or modifications already noted under the season description, the following inseason guidance is provided to NMFS:
- a. Actions could include modifications to bag limits, or days open to fishing, and extensions or reductions in areas open to fishing.
 - b. Coho may be transferred inseason among recreational subareas north of Cape Falcon on a fishery impact equivalent basis to help meet the recreational season duration objectives (for each subarea) after conferring with representatives of the affected ports and the Council's SAS recreational representatives north of Cape Falcon.
 - c. Chinook and coho may be transferred between the recreational and commercial fisheries north of Cape Falcon on a fishery impact equivalent basis if there is agreement among the representatives of the Salmon Advisory Subpanel (SAS).
 - d. If retention of unmarked coho is permitted in the area from the U.S./Canada border to Cape Falcon, Oregon, by inseason action, the allowable coho quota will be adjusted to ensure preseason projected mortality of critical stocks is not exceeded.
 - e. Marked coho remaining from the June/July through August Cape Falcon to OR/CA border recreational coho quota may be transferred inseason to the September Cape Falcon to Humbug Mt. non-mark-selective recreational fishery on a fishery impact equivalent basis.
- C.6. Additional Seasons in State Territorial Waters: Consistent with Council management objectives, the States of Washington, Oregon, and California may establish limited seasons in state waters. Check state regulations for details.

TABLE 3. Treaty Indian troll management Alternatives analyzed by the STT for ocean salmon fisheries, 2011. (Page 1 of 2)			3/9/2011 2:29 PM
A. SEASON ALTERNATIVE DESCRIPTIONS			
ALTERNATIVE I	ALTERNATIVE II	ALTERNATIVE III	
Supplemental Management Information	Supplemental Management Information	Supplemental Management Information	
<p>1. Overall Treaty-Indian TAC: 55,000 Chinook and 50,000 coho.</p> <p>2. Overall Chinook and/or coho TACs may need to be reduced or fisheries adjusted to meet NMFS ESA guidance, FMP requirements, upon conclusion of negotiations in the North of Falcon forum, or upon receipt of preseason catch and abundance expectations for Canadian and Alaskan fisheries</p>	<p>1. Overall Treaty-Indian TAC: 45,000 Chinook and 42,000 coho.</p> <p>2. Overall Chinook and/or coho TACs may need to be reduced or fisheries adjusted to meet NMFS ESA guidance, FMP requirements, upon conclusion of negotiations in the North of Falcon forum, or upon receipt of preseason catch and abundance expectations for Canadian and Alaskan fisheries</p>	<p>1. Overall Treaty-Indian TAC: 35,000 Chinook and 30,000 coho.</p> <p>2. Overall Chinook and/or coho TACs may need to be reduced or fisheries adjusted to meet NMFS ESA guidance, FMP requirements, upon conclusion of negotiations in the North of Falcon forum, or upon receipt of preseason catch and abundance expectations for Canadian and Alaskan fisheries</p>	
<ul style="list-style-type: none"> • May 1 through the earlier of June 30 or 27,500 Chinook quota. <p>All salmon except coho. 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. If the Chinook quota is exceeded, the excess will be deducted from the later all-salmon season. See size limit (B) and other restrictions (C).</p> <ul style="list-style-type: none"> • July 1 through the earlier of September 15, or 27,500 preseason Chinook quota, or 50,000 coho quota. <p>All Salmon. See size limit (B) and other restrictions (C).</p>	<ul style="list-style-type: none"> • May 1 through the earlier of June 30 or 22,500 Chinook quota. <p>All salmon except coho. 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 on an impact neutral basis. If the Chinook quota is exceeded, the excess will be deducted from the later all-salmon season. See size limit (B) and other restrictions (C).</p> <ul style="list-style-type: none"> • July 1 through the earlier of September 15, or 22,500 preseason Chinook quota, or 42,000 coho quota. <p>All salmon. See size limit (B) and other restrictions (C).</p>	<ul style="list-style-type: none"> • May 1 through the earlier of June 30 or 17,500 Chinook quota. <p>All salmon except coho. 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. If the Chinook quota is exceeded, the excess will be deducted from the later all-salmon season. See size limit (B) and other restrictions (C).</p> <ul style="list-style-type: none"> • July 1 through the earlier of September 15, or 17,500 preseason Chinook quota, or 30,000 coho quota. <p>All salmon. See size limit (B) and other restrictions (C).</p>	

TABLE 3. Treaty Indian troll management Alternatives analyzed by the STT for ocean salmon fisheries, 2011. (Page 2 of 2)

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B. MINIMUM SIZE (Inches)

Area (when open)	Chinook		Coho		Pink
	Total Length	Head-off	Total Length	Head-off	
North of Cape Falcon	24.0 (61.0 cm)	18.0 (45.7 cm)	16.0 (40.6 cm)	12.0 (30.5 cm)	None

C. REQUIREMENTS, DEFINITIONS, RESTRICTIONS, OR EXCEPTIONS

C.1. Tribe and Area Boundaries. 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.

S'KLALLAM - Washington State Statistical Area 4B (All).

MAKAH - Washington State Statistical Area 4B and that portion of the FMA north of 48°02'15" N. lat. (Norwegian Memorial) and east of 125°44'00" W. long.

QUILEUTE - That portion of the FMA between 48°07'36" N. lat. (Sand Pt.) and 47°31'42" N. lat. (Queets River) and east of 125°44'00" W. long.

HOH - That portion of the FMA between 47°54'18" N. lat. (Quillayute River) and 47°21'00" N. lat. (Quinault River) and east of 125°44'00" W. long.

QUINAULT - That portion of the FMA between 47°40'06" N. lat. (Destruction Island) and 46°53'18"N. lat. (Point Chehalis) and east of 125°44'00" W. long.

C.2. Gear restrictions

- a. Single point, single shank, barbless hooks are required in all fisheries.
- b. No more than eight fixed lines per boat.
- c. No more than four hand held lines per person in the Makah area fishery (Washington State Statistical Area 4B and that portion of the FMA north of 48°02'15" N. lat. (Norwegian Memorial) and east of 125°44'00" W. long.)

C.3. Quotas

- a. The quotas include troll catches by the S'Klallam and Makah tribes in Washington State Statistical Area 4B from May 1 through September 15.
- b. The Quileute Tribe will continue a ceremonial and subsistence fishery during the time frame of September 15 through October 15 in the same manner as in 2004-2010. Fish taken during this fishery are to be counted against treaty troll quotas established for the 2011 season (estimated harvest during the October ceremonial and subsistence fishery: 100 Chinook; 200 coho).

C.4. Area Closures

- a. The area within a six nautical mile radius of the mouths of the Queets River (47°31'42" N. lat.) and the Hoh River (47°45'12" N. lat.) will be closed to commercial fishing.
- b. A closure within two nautical miles of the mouth of the Quinault River (47°21'00" N. lat.) 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 2011 ocean salmon fishery management Alternatives analyzed by the STT.

Fishery or Quota Designation	Chinook for Alternative			Coho for Alternative		
	I	II	III	I	II	III
NORTH OF CAPE FALCON						
TREATY INDIAN OCEAN TROLL						
U.S./Canada Border to Cape Falcon (All Except Coho)	27,500	22,500	17,500	-	-	-
U.S./Canada Border to Cape Falcon (All Species)	27,500	22,500	17,500	50,000	42,000	30,000
Subtotal Treaty Indian Ocean Troll	55,000	45,000	35,000	50,000	42,000	30,000
NON-INDIAN COMMERCIAL TROLL ^{a/}						
U.S./Canada Border to Cape Falcon (All Except Coho)	33,750	23,450	16,750	-	-	-
U.S./Canada Border to Cape Falcon (All Species)	11,250	11,550	8,250	15,200	12,800	9,100
Subtotal Non-Indian Commercial Troll	45,000	35,000	25,000	15,200	12,800	9,100
RECREATIONAL ^{a/}						
U.S./Canada Border to Cape Falcon (All Except Coho)	12,000 ^{b/}	12,000 *	- *	-	-	-
U.S./Canada Border to Cape Alava	4,400 *	3,300 *	3,540 *	8,300	6,990	4,940
Cape Alava to Queets River	1,900 *	1,500 *	1,510 *	2,070	1,750	1,470
Queets River to Leadbetter Pt.	23,400 *	17,500 *	18,675 *	29,530	24,860	20,890
Leadbetter Pt. to Cape Falcon ^{c/}	10,300 *	7,700 *	8,275 *	39,900	33,600	27,300
Subtotal Recreational	52,000	42,000	32,000	79,800	67,200	54,600
TOTAL NORTH OF CAPE FALCON	152,000	122,000	92,000	145,000	122,000	93,700
SOUTH OF CAPE FALCON						
COMMERCIAL TROLL						
Humbug Mt. to OR/CA Border	4,200	3,700	3,000	-	-	-
OR/CA Border to Horse Mt.	8,500	1,500	-	-	-	-
Horse Mt. to Pt. Arena	3,000	1,200	-	-	-	-
Subtotal Troll	15,700	6,400	3,000	-	-	-
RECREATIONAL						
Cape Falcon to Oregon/California Border	-	-	-	21,500	18,000	10,500
TOTAL SOUTH OF CAPE FALCON	15,700	6,400	3,000	21,500	18,000	10,500

a/ The coho quota is a landed catch of coho marked with a healed adipose fin clip.

b/ The Chinook guideline is a landed catch of Chinook marked with a healed adipose fin clip, and is equivalent to a non-mark-selective quota of 8,000 Chinook.

c/ Does not include Buoy 10 fishery. Expected catch in August and September: Option I - 10,000 marked coho; Option II - 15,000 marked coho; Option III - 20,000 marked coho.

TABLE 5. Projected key stock escapements (thousands of fish) or management criteria for 2011 ocean fishery Alternatives analyzed by the STT.^{a/} (Page 1 of 2)

Key Stock/Criteria	Projected Ocean Escapement ^{b/} or Other Criteria (Council Area Impacts in Pareds)			Spawner Objective or Other Comparative Standard as Noted
	Alternative I	Alternative II	Alternative III	
CHINOOK				
Columbia Upriver Brights	417.5	418.5	419.5	74.0 Minimum ocean escapement to attain 60.0 adults over McNary Dam, with normal distribution and no mainstem harvest.
Mid-Columbia Brights	104.9	105.2	105.4	11.0 Minimum ocean escapement to attain 4.7 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	125.7	129.3	134.7	23.8 Minimum ocean escapement to attain 12.6 adults for hatchery egg-take, with average conversion and no lower river mainstem or tributary harvest.
Columbia Lower River Natural Tules (threatened)	39.3%	36.8%	34.4%	≤ 37.0% Total adult equivalent fishery exploitation rate; 2011 ESA guidance (NMFS ESA consultation standard).
Columbia Lower River Wild ^{c/} (threatened)	13.1	13.1	13.2	6.9 Minimum ocean escapement to attain MSY spawner goal of 5.7 for N. Lewis River fall Chinook (NMFS ESA consultation standard).
Spring Creek Hatchery Tules	112.1	116.7	122.5	8.2 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	41.6%	37.5%	33.6%	≤ 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; FMP.
Federally recognized tribal harvest	50.0%	50.0%	50.0%	50.0% Equals 34.8, 34.6, and 34.5 (thousand) adult fish for Yurok and Hoopa tribal fisheries.
Spawner Reduction Rate	53.8%	53.8%	53.8%	≤ 66.7% FMP; equals 40.8, 40.8, and 40.8 (thousand) fewer adult spawners due to fishing.
Adult river mouth return	101.4	102.5	102.4	NA
Age 4 ocean harvest rate	16.0%	14.9%	15.3%	≤ 16.0% NMFS ESA consultation standard for threatened California Coastal Chinook.
KMZ sport fishery share	13.1%	13.2%	12.7%	No Council guidance for 2011.
River recreational fishery share	22.4%	26.4%	26.4%	≥ 15% 2011 Council Guidance. Equals 7.8, 9.1, and 9.1 (thousand) adult fish for recreational inriver fisheries.
Sacramento River Winter (endangered)	Met	Met	Met	Recreational seasons: Point Arena to Pigeon Point between the first Saturday in April and the second Sunday in November; Pigeon Point to the U.S./Mexico Border between the first Saturday in April and the first Sunday in October. Minimum size limit ≥ 20 inches total length. In addition, for 2011, fisheries south of Pt. Arena must have either a minimum size limit ≥ 24 inches total length, or be closed for two consecutive months between May 1 and August 31. Commercial seasons: Point Arena to the U.S./Mexico border between May 1 and September 30, except Point Reyes to Point San Pedro between October 1 and 15. Minimum size limit ≥ 26 inches total length. (NMFS ESA Guidance for 2011).
Sacramento River Fall	375.3	376.8	368.7	≥150-180 2011 Council and NMFS guidance for natural and hatchery adult spawners.
Ocean commercial impacts	190.9	191.1	202.8	All options include fall (Sept-Dec) 2010 impacts; equals 0 SRFC.
Ocean recreational impacts	102.7	100.7	98.4	All options include fall 2010 impacts (386 SRFC).
River recreational impacts	61.1	61.3	60.0	No guidance in 2011.
Hatchery spawner goal	Met	Met	Met	22.0 Aggregate number of adults to achieve egg take goals at Coleman, Feather River, and Nimbus hatcheries.

TABLE 5. Projected key stock escapements (thousands of fish) or management criteria for 2011 ocean fishery Alternatives analyzed by the STT.^{a/} (Page 2 of 2)

Key Stock/Criteria	Projected Ocean Escapement ^{b/} or Other Criteria (Council Area Impacts in Parens)			COHO	Spawner Objective or Other Comparative Standard as Noted
	Alternative I	Alternative II	Alternative III		
Interior Fraser (Thompson River)	12.2% (5.0%)	11.0% (4.1%)	10.0%(3.1%)	≤ 10.0%	2011 Southern U.S. exploitation rate ceiling; 2002 PSC coho agreement.
Skagit	37.8%(4.5%)	37.2%(3.7%)	36.5%(2.9%)	≤ 60.0%	2011 total exploitation rate ceiling; FMP matrix ^{d/}
Stillaguamish	27.6%(3.2%)	27.1%(2.6%)	26.6%(2.0%)	≤ 50.0%	2011 total exploitation rate ceiling; FMP matrix ^{d/}
Snohomish	26.3%(3.2%)	25.8%(2.6%)	25.3%(2.0%)	≤ 60.0%	2011 total exploitation rate ceiling; FMP matrix ^{d/}
Hood Canal	41.6%(4.7%)	41.0%(3.9%)	40.4%(3.0%)	≤ 65.0%	2011 total exploitation rate ceiling; FMP matrix ^{d/}
Strait of Juan de Fuca	12.7%(3.7%)	12.2%(3.1%)	11.4%(2.4%)	≤ 40.0%	2011 total exploitation rate ceiling; FMP matrix ^{d/}
Quillayute Fall	26.2	26.5	26.7	6.3-15.8	FMP objective MSY adult spawner range ^{d/}
Hoh	9.8	10.0	10.2	2.0-5.0	FMP objective MSY adult spawner range ^{d/}
Queets Wild	10.2	10.5	10.7	5.8-14.5	FMP objective MSY adult spawner range ^{d/}
Grays Harbor	81.0	81.9	83.0	35.4	FMP objective MSY adult spawner range ^{d/}
Lower Columbia River Natural (threatened)	12.8%	10.9%	8.8%	≤ 15.0%	Total marine and mainstem Columbia River fishery exploitation rate (NMFS ESA consultation standard). Value depicted is ocean fishery exploitation rate only.
Upper Columbia ^{e/}	>50%	>50%	>50%	≥ 50%	Minimum percentage of the run to Bonneville Dam.
Columbia River Hatchery Early	154.1	162.9	175.5	36.7	Minimum ocean escapement to attain hatchery egg-take goal of 14.2 early adult coho, with average conversion and no mainstem or tributary fisheries.
Columbia River Hatchery Late	93.0	100.9	110.4	9.6	Minimum ocean escapement to attain hatchery egg-take goal of 6.2 late adult coho, with average conversion and no mainstem or tributary fisheries.
Oregon Coastal Natural	12.9%	12.9%	13.0%	≤ 15.0%	Marine and freshwater fishery exploitation rate.
Southern Oregon/Northern California Coast (threatened)	8.5%	7.9%	7.9%	≤ 13.0%	Marine fishery exploitation rate for R/K hatchery coho (NMFS ESA consultation standard).

a/ Projections in the table assume a WCVI mortality for coho of the 2010 preseason level. Chinook fisheries in Southeast Alaska, North Coast BC, and WCVI troll and outside sport fisheries were assumed to have the same exploitation rates as expected preseason in 2010, as modified by the 2008 PST agreement. Assumptions for these Chinook fisheries will be changed prior to the April meeting when allowable catch levels for 2011 under the PST are known.

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 LCN coho include all marine impacts prior to 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 lower Columbia Natural (LCN) Oregon coastal natural (OCN) and Rogue/Klamath (RK) coho, and Lower Columbia River (LCR) tule Chinook exploitation rates by fishery for 2011 ocean fisheries management Alternatives analyzed by the STT.

Fishery	Exploitation Rate (Percent)											
	LCN Coho			OCN Coho			RK Coho			LCR Tule		
	I	II	III	I	II	III	I	II	III	I	II	III
SOUTHEAST ALASKA	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	2.7%	2.8%	2.9%
BRITISH COLUMBIA	0.1%	0.1%	0.1%	0.3%	0.3%	0.3%	0.2%	0.2%	0.2%	11.5%	11.7%	11.9%
PUGET SOUND/STRAIT	0.2%	0.2%	0.2%	0.1%	0.1%	0.1%	0.0%	0.0%	0.0%	0.5%	0.5%	0.5%
NORTH OF CAPE FALCON												
Treaty Indian Ocean Troll	2.5%	2.1%	1.5%	0.6%	0.5%	0.4%	0.0%	0.0%	0.0%	5.4%	4.5%	3.6%
Recreational	5.4%	4.5%	3.5%	1.0%	0.8%	0.6%	0.0%	0.0%	0.0%	3.3%	2.6%	1.9%
Non-Indian Troll	1.9%	1.5%	1.1%	0.5%	0.4%	0.3%	0.0%	0.0%	0.0%	5.9%	4.6%	3.3%
SOUTH OF CAPE FALCON												
Recreational:										0.1%	0.1%	0.0%
Cape Falcon to Humbug Mt.	1.4%	1.2%	1.0%	2.0%	2.5%	3.0%	0.2%	0.2%	0.2%			
Humbug Mt. OR/CA border (KMZ)	0.0%	0.1%	0.1%	0.2%	0.4%	0.5%	0.4%	0.8%	0.9%			
OR/CA border to Horse Mt. (KMZ)	0.1%	0.1%	0.1%	0.8%	0.7%	0.7%	3.5%	3.4%	3.4%			
Fort Bragg	0.0%	0.0%	0.0%	0.5%	0.5%	0.5%	1.3%	1.3%	1.2%			
South of Pt. Arena	0.0%	0.0%	0.0%	0.4%	0.4%	0.4%	1.0%	1.0%	1.0%			
Troll:										2.0%	1.9%	1.9%
Cape Falcon to Humbug Mt.	0.9%	0.8%	0.8%	1.1%	1.0%	0.9%	0.2%	0.1%	0.1%			
Humbug Mt. OR/CA border (KMZ)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.1%	0.0%			
OR/CA border to Horse Mt. (KMZ)	0.0%	0.0%	0.0%	0.2%	0.1%	0.0%	0.9%	0.2%	0.0%			
Fort Bragg	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.3%	0.1%	0.2%			
South of Pt. Arena	0.0%	0.0%	0.0%	0.2%	0.2%	0.3%	0.2%	0.2%	0.3%			
BUOY 10	0.5%	0.5%	0.6%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	7.9%	8.2%	8.5%
ESTUARY/FRESHWATER	N/A	N/A	N/A	4.8%	4.8%	4.8%	0.2%	0.2%	0.2%			
TOTAL^{a/}	12.8%	10.9%	8.8%	12.9%	12.9%	13.0%	8.5%	7.9%	7.9%	39.3%	36.8%	34.4%

a/ Totals do not include estuary/freshwater or Buoy 10 for LCN coho and RK coho.

TABLE A-1. **Sacramento River fall Chinook** ocean impacts, including non-retention impacts where applicable, by fishery and option. Sacramento River fall Chinook impacts were estimated for the fall of 2010 and projected for each of the proposed 2011 fishing season options. The impacts are displayed for each option by fishery, port area, and month.

Commercial										
Option I										
Port Area	Fall 2010		Summer 2011					Summer Total	Year Total	
	Sept	Oct-Dec	Mar	Apr	May	Jun	Jul	Aug		
NO				1,600	9,016	6,896	4,654	7,969	30,135	30,135
CO				2,674	2,816	3,136	2,670	2,726	14,022	14,022
KO					103	681	463	260	1,507	1,507
KC						313	933	346	1,592	1,592
FB						925	912	9,738	11,575	11,575
SF					38,667	5,902	25,418	9,009	78,996	78,996
MO					35,223	3,778	12,524	1,517	53,042	53,042
Total				4,275	85,825	21,631	47,573	31,566	190,870	190,870

Option II										
Port Area	Fall 2010		Summer 2011					Summer Total	Year Total	
	Sep	Oct-Dec	Mar	Apr	May	Jun	Jul	Aug		
NO				1,600	9,016	6,896	3,453	7,969	28,934	28,934
CO				2,674	2,816	3,136	1,981	2,726	13,333	13,333
KO					103	341	463	391	1,298	1,298
KC							467	173	640	640
FB							729	9,738	10,467	10,467
SF					38,667		34,816	9,009	82,492	82,492
MO					35,223		17,199	1,517	53,939	53,939
Total				4,275	85,825	10,372	59,107	31,523	191,102	191,102

Option III										
Port Area	Fall 2010		Summer 2011					Summer Total	Year Total	
	Sep	Oct-Dec	Mar	Apr	May	Jun	Jul	Aug		
NO				1,600	9,016	6,896	3,453	6,170	27,135	27,135
CO				2,674	2,816	3,136	1,981	2,110	12,717	12,717
KO					103	341	386	260	1,090	1,090
KC										
FB								9,738	9,738	9,738
SF					38,667	7,177	36,414	9,009	91,267	91,267
MO					35,223	5,963	18,116	1,517	60,819	60,819
Total				4,275	85,825	23,512	60,349	28,805	202,766	202,766

Recreational											
Option I											
Port Area	Fall 2010		Summer 2011					Summer Total	Year Total		
	Sep	Oct Nov-Dec	Jan-Feb	Mar	Apr	May	Jun	Jul	Aug		
NO	18				8	13	75	628	585	1,309	1,327
CO					8	12	262	1,029	529	1,840	1,840
KO	27					398	696	993	522	2,609	2,636
KC						1,917	2,458	2,519	1,292	8,186	8,186
FB	62				287	1,090	2,907	3,802	1,521	9,607	9,669
SF	279				5,853	6,504	9,998	20,615	9,357	52,327	52,606
MO					10,054	3,847	4,872	6,626	1,017	26,416	26,416
Total	386				16,209	13,783	21,269	36,212	14,824	102,297	102,683

Option II											
Port Area	Fall 2010		Summer 2011					Summer Total	Year Total		
	Sep	Oct Nov-Dec	Jan-Feb	Mar	Apr	May	Jun	Jul	Aug		
NO	18				8	13	16	608	299	944	962
CO					8	12	107	1,002	363	1,492	1,492
KO	27					175	696	993	522	2,386	2,413
KC						844	2,458	2,519	1,292	7,113	7,113
FB	62				287	1,090	2,907	3,802	1,521	9,607	9,669
SF	279				5,853	6,504	9,998	20,615	9,357	52,327	52,606
MO					10,054	3,847	4,872	6,626	1,017	26,416	26,416
Total	386				16,209	12,486	21,055	36,165	14,371	100,286	100,672

Option III											
Port Area	Fall 2010		Summer 2011					Summer Total	Year Total		
	Sep	Oct Nov-Dec	Jan-Feb	Mar	Apr	May	Jun	Jul	Aug		
NO	18				8	13	16	12	187	236	254
CO					8	12	107	192	298	617	617
KO	27					64	696	993	522	2,275	2,302
KC						307	2,458	2,519	1,292	6,576	6,576
FB	62				287	1,090	2,907	3,802	1,521	9,607	9,669
SF	279				5,853	6,504	9,998	20,615	9,357	52,327	52,606
MO					10,054	3,847	4,872	6,626	1,017	26,416	26,416
Total	386				16,209	11,838	21,055	34,760	14,195	98,057	98,443

TABLE B-1. **Klamath River fall Chinook** ocean impacts, including non-retention impacts where applicable, by fishery and option. Klamath River fall Chinook impacts were estimated for the fall of 2010 and projected for each of the proposed 2011 fishing season options. The impacts are displayed for each option by fishery, port area, and month.

Commercial											
Option I		Summer 2011								Summer	Year
Port Area	Fall 2010		Mar	Apr	May	Jun	Jul	Aug	Total	Total	
	Sept	Oct-Dec									
NO				83	284	134	368	1,047	1,916	1,916	
CO				152	349	382	1,696	3,170	5,749	5,749	
KO					51	408	372	336	1,167	1,167	
KC								642	1,724	1,724	
FB							327	264	4,450	4,450	
SF								2,106	7,994	7,994	
MO								568	1,811	1,811	
Total				235	3,358	3,347	8,191	9,680	24,811	24,811	

Option II											
Option II		Summer 2011								Summer	Year
Port Area	Fall 2010		Mar	Apr	May	Jun	Jul	Aug	Total	Total	
	Sept	Oct-Dec									
NO				83	284	134	278	1,057	1,836	1,836	
CO				152	349	383	1,278	3,194	5,356	5,356	
KO					51	204	372	503	1,130	1,130	
KC								208	541	541	
FB								211	4,097	4,097	
SF								2,106	8,522	8,522	
MO								568	1,820	1,820	
Total				235	3,358	721	9,408	9,580	23,302	23,302	

Option III											
Option III		Summer 2011								Summer	Year
Port Area	Fall 2010		Mar	Apr	May	Jun	Jul	Aug	Total	Total	
	Sept	Oct-Dec									
NO				83	284	134	275	811	1,587	1,587	
CO				152	349	383	1,265	2,456	4,605	4,605	
KO					51	204	310	336	901	901	
KC											
FB								3,863	3,863	3,863	
SF								2,106	10,077	10,077	
MO								568	2,415	2,415	
Total				235	3,358	2,615	9,171	8,069	23,448	23,448	

Recreational												
Option I		Summer 2011								Summer	Year	
Port Area	Fall 2010			Jan-Feb	Mar	Apr	May	Jun	Jul	Aug	Total	Total
	Sept	Oct	Nov-Dec									
NO									40	41	81	81
CO							6	33	113	72	224	224
KO							17	163	444	504	1,128	1,128
KC								408	760	884	2,617	2,617
FB							11	98	281	353	825	825
SF								115	55	219	645	645
MO								76	17	33	207	207
Total								201	601	1,490	2,153	5,728

Option II												
Option II		Summer 2011								Summer	Year	
Port Area	Fall 2010			Jan-Feb	Mar	Apr	May	Jun	Jul	Aug	Total	Total
	Sept	Oct	Nov-Dec									
NO									40	21	61	61
CO							6	14	112	50	182	182
KO							7	163	450	509	1,129	1,129
KC								179	761	894	2,404	2,404
FB							11	98	281	357	829	829
SF								115	55	220	649	649
MO								76	17	33	208	208
Total								201	363	1,472	2,175	5,463

Option III												
Option III		Summer 2011								Summer	Year	
Port Area	Fall 2010			Jan-Feb	Mar	Apr	May	Jun	Jul	Aug	Total	Total
	Sept	Oct	Nov-Dec									
NO									1	13	14	14
CO							6	14	21	41	82	82
KO							3	164	446	504	1,117	1,117
KC								65	761	888	2,279	2,279
FB							11	98	281	355	827	827
SF								115	55	220	648	648
MO								76	17	33	207	207
Total								201	244	1,473	2,031	5,174

TABLE C-1. Klamath River fall Chinook **age-4 ocean HARVEST** by fishery and option. Klamath River fall Chinook age-4 HARVEST was projected for each of the proposed 2011 fishing season options. The harvest are displayed for each option by fishery, port area, and month.

Commercial											
Option I											
Port Area	Fall 2010		Summer 2011					Summer Total	Year Total		
	Sept	Oct-Dec	Mar	Apr	May	Jun	Jul	Aug	Total	Total	
NO				60	222	93	151	368	894	894	
CO				115	240	222	597	703	1,877	1,877	
KO					33	177	128	85	423	423	
KC						234	134	185	553	553	
FB						114	91	698	903	903	
SF					879	494	1,418	103	2,894	2,894	
MO					453	174	361	8	996	996	
Total				175	1,826	1,508	2,880	2,150	8,539	8,539	

Option II											
Port Area	Fall 2010		Summer 2011					Summer Total	Year Total		
	Sep	Oct-Dec	Mar	Apr	May	Jun	Jul	Aug	Total	Total	
NO				60	222	93	115	374	864	864	
CO				115	240	222	454	715	1,746	1,746	
KO					33	89	129	128	379	379	
KC							68	93	161	161	
FB							74	710	784	784	
SF					879		1,993	105	2,977	2,977	
MO					453		509	8	970	970	
Total				175	1,826	404	3,341	2,132	7,878	7,878	

Option III											
Port Area	Fall 2010		Summer 2011					Summer Total	Year Total		
	Sep	Oct-Dec	Mar	Apr	May	Jun	Jul	Aug	Total	Total	
NO				60	222	93	113	285	773	773	
CO				115	240	222	446	544	1,567	1,567	
KO					33	89	107	84	313	313	
KC											
FB								698	698	698	
SF					879		601	2,046	103	3,629	3,629
MO					453		275	526	8	1,262	1,262
Total				175	1,826	1,280	3,237	1,722	8,240	8,240	

Recreational												
Option I												
Port Area	Fall 2010			Summer 2011					Summer Total	Year Total		
	Sep	Oct	Nov-Dec	Jan-Feb	Mar	Apr	May	Jun	Jul	Aug	Total	Total
NO									8	8	16	16
CO							1	7	22	14	44	44
KO							4	33	88	173	298	298
KC							87	153	174	214	628	628
FB						2	21	57	70	16	166	166
SF						24	12	44	49	2	131	131
MO						16	4	7	14	2	43	43
Total						43	128	300	425	429	1,325	1,325

Option II												
Port Area	Fall 2010			Summer 2011					Summer Total	Year Total		
	Sep	Oct	Nov-Dec	Jan-Feb	Mar	Apr	May	Jun	Jul	Aug	Total	Total
NO									8	4	12	12
CO							1	3	22	10	36	36
KO							2	33	90	176	301	301
KC							38	153	179	218	588	588
FB						2	21	57	71	16	167	167
SF						24	12	44	50	2	132	132
MO						16	4	7	15	2	44	44
Total						43	77	296	435	427	1,278	1,278

Option III												
Port Area	Fall 2010			Summer 2011					Summer Total	Year Total		
	Sep	Oct	Nov-Dec	Jan-Feb	Mar	Apr	May	Jun	Jul	Aug	Total	Total
NO										3	3	3
CO							1	3	4	8	16	16
KO							1	33	88	173	295	295
KC							14	153	176	214	557	557
FB						2	21	57	70	16	166	166
SF						24	12	44	49	2	131	131
MO						16	4	7	14	2	43	43
Total						43	52	296	401	417	1,209	1,209

**TESTIMONY OF THE COLUMBIA RIVER TREATY TRIBES
BEFORE PACIFIC FISHERIES MANAGEMENT COUNCIL
MARCH 9, 2011
Vancouver, WA**

Good day Mr. Chairman and members of the Council. My name is Emerson Squiemphen. I am a member of the Fish and Wildlife Committee of the Warm Springs Tribes. I am here with Chris Williams of the Umatilla Tribe and Wilbur Slockish Jr. of the Yakama Nation to provide Testimony on behalf of the four Columbia River treaty tribes: the Yakama, Warm Springs, Umatilla and Nez Perce tribes.

As the Council considers a set of options for 2011 ocean salmon fisheries, the tribes would like to present information on tribal efforts to recover and rebuild weak salmon runs. The tribes have been engaged in long term efforts to rebuild our salmon runs both for the sake of the wild salmon and to meet the needs of the tribes and our fisheries. The tribes view salmon management as a gravel-to-gravel exercise where efforts must be made in all aspects of the salmon lifecycle. The tribes' gravel-to-gravel management approach to salmon recovery is two fold: put fish back in to the rivers and protect the watersheds where fish live. The careful management of the tribes' sustainable fisheries and recent improvements to passage along the mainstem has seen measurable success. One key area that the tribes have focused on is the appropriate use of hatchery fish to aid in the rebuilding of wild salmon runs. The tribes are rebuilding salmon populations to levels where everyone benefits and the proof is in the numbers.

An area that the tribes have seen significant positive results is with Snake River fall Chinook. The tribes engaged in very difficult struggles with the states and federal government to get agreements on establishing a supplementation program allowing hatchery origin fish that were acclimated upstream of Lower Granite Dam to return and spawn in areas throughout accessible parts of the basin above Lower Granite. It has been many years of hard work to build up this program to its current level. The program is designed to increase the abundance of natural origin fish so that the fish may take advantage of increases in productivity that will come from better management of the hydro-system and other parts of the salmon's lifecycle. The program is showing very good success. In 1994 fewer than 2,000 Snake River Fall Chinook returned to the Columbia Basin. Listed as threatened under the Endangered Species Act, the estimated return on naturally-spawning Snake River Fall Chinook averaged 328 adults from 1986-1992. In 2010, we had a record return of both hatchery and natural origin fall Chinook. The natural origin adult return was almost 10,000 fish which was nearly twice the previous record return. The total adult return was over 40,000 fish.

This occurred even with these same fish being harvested everywhere from Alaska and Canada to throughout the PFMC area fisheries and in in-river fisheries. In the past two years, Idaho sport fishermen have been able to keep fall Chinook caught upstream of Lower Granite and the Nez Perce Tribe is working on harvest plans that will allow them increased access to these fish. It has been nearly 15 years since the Council had significant problems in constraining fisheries to meet Snake River fall Chinook harvest limits. Our tribes view this as significant progress and evidence of the value of tribal recovery strategies. Just think of how fishery management might be different if we were able to use these kinds of strategies to help recover lower river tules instead of relying on a strategy of endless fishery restrictions and hatchery reductions.

The Columbia River above Bonneville is seeing strong runs of salmon. Once considered for listing under the Endangered Species Act, only 20,000 Fall Chinook passed in to the Hanford Reach area of the Columbia River in the early 1980s. Today, the Hanford Reach Fall Chinook run is one of the healthiest runs in the basin. Supporting fisheries in Alaska, Canada, , the PFMC area and the mainstem Columbia over 133,000 Fall Chinook returned to the Hanford Reach in 2010.

More often than not, the press around Columbia Basin salmon issues focuses on failures. They focus on how the government can't get it right, or that hatchery fish will single handedly be responsible for the demise of wild salmon populations, or that the price tag for recovery is too high and the only certainty in salmon recovery is failure. Power producers complain about the "cost" of spilling water over dams. Reality, on the other hand, is remarkably different. Wild spring chinook salmon are returning to the Umatilla, Yakima, Klickitat and Deschutes Rivers in numbers that sustain harvestable levels. Spring chinook have been successfully re-introduced into the Walla Walla River. Coho that are harvested in all of our fisheries are returning to the Clearwater tributary of the Snake River after being declared extinct in 1994. Strong numbers of coho from tribal restoration programs are returning to the Wenatchee, Yakama, Umatilla and Klickitat Rivers as well. Record numbers of sockeye are returning to their natal lakes in Canada and Idaho. Fish are returning to the Columbia River Basin and their success is, in part, the direct result of more than thirty years of tribal restoration and rebuilding initiatives. The tribes are leading the focus on salmon recovery because the alternative is unacceptable.

The salmon are returning to a healthier habitat. The tribes have fought for in river flow agreements, such as the Vernita Bar Agreement, that protect unborn salmon and invested millions of dollars and countless of hours into protecting and restoring thousands of acres of habitat and thousands of miles of streams. Fish are returning to the spawning grounds and in the end these are the results that matter.

These tribal recovery efforts involve a delicate balance of careful, modern hatchery practices and conservative harvest management along with large efforts in habitat improvement and hydro-system management. The monitoring and evaluation of recovery programs is complex. Some fish are adipose fin clipped so we can assess harvest impacts and some are left unclipped to help them bypass mark selective fisheries and return to spawn. But increasing intensity of mark selective fishing both makes the monitoring and evaluation of our programs more difficult and increases the uncertainty around how many unclipped hatchery fish and wild fish are being harvested. Requirements to mass mark hatchery fish that in many cases serve both harvest and recovery functions has also disrupted our ability to appropriately manage our rebuilding efforts.

Our tribal scientists have published numerous scientific papers demonstrating that the popular press position that all hatchery fish have negative effects on wild populations is simply incorrect. We have an increasing body of science that shows that when carefully managed, hatchery fish can have a benign and even positive impact to wild populations.

Proposals to ban gill nets, the demonization of hatchery fish, or implementing mark selective fisheries will not save salmon. Hard work and determination will. The region must work together to realize healthy, sustainable, salmon populations.

The tribes are leading by example to make the best out of a challenging situation. Without the tribes' efforts, most upriver Columbia basin salmon would be a figment of our imagination. The region must work together for the sake of our collective future. We all benefit from healthy populations of salmon. Maybe, just maybe, we'll see full recovery in our lifetimes.

This concludes our statement. Thank You.

**Tribal Motion for the 2011 Treaty Ocean Troll
Salmon Season
March 09, 2011**

For the 2011 Treaty Ocean Troll Salmon Season, I move for the establishment of three options for public review.

Option I - quota levels of 55,000 Chinook, and 50,000 coho

Option II - quota levels of 45,000 Chinook, and 42,000 coho

Option III - quota levels of 35,000 Chinook, and 30,000 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 split fifty/fifty between the two periods with the following sub-quotes:

Option I: 27,500;
Option II: 22,500;
Option III: 17,500.

The basic regulation package will be as contained in table 3 of the STT report, agenda item G.8.b., 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 be working together to evaluate the total impacts of all proposed fisheries on Canadian, Puget Sound and Columbia River stocks.

SALMON HEARINGS OFFICERS

Agenda Item G.9.a, Attachment 1 provides a schedule of public hearings for the Council management alternatives. Three hearings are scheduled as follows: March 28 in Westport, Washington and Coos Bay, Oregon; and March 29 in Eureka, California. The public will also be able to provide their comments and recommendations on the alternatives in San Mateo, California, during the April Council meeting.

The California Department of Fish and Game, the Oregon Department of Fish and Wildlife, and the Washington Department of Fish and Wildlife also may announce additional state-sponsored hearings.

Council Action:

Confirm hearings officers and other official hearings attendees.

Reference Materials:

1. Agenda Item G.9.a, Attachment 1: Schedule of Salmon Fishery Management Alternative Hearings.

Agenda Order:

- a. Agenda Item Overview
- b. **Council Action:** Appoint Hearings Officers

Chuck Tracy
Mark Cedergreen

PFMC
02/03/11

SCHEDULE OF SALMON FISHERY MANAGEMENT ALTERNATIVE HEARINGS
 Pacific Fishery Management Council
 March 28-29, 2011^{a/}

Date Day/Time	Location	Council	NMFS	USCG	Staff	Salmon Team	Meeting Facility Contact
March 28 Monday 7 p.m.	Chateau Westport Beach Room 710 West Hancock Westport, WA 98595						Richard (360) 268-9101 Phone (360) 268-1646 Fax
March 28 Monday 7 p.m.	Red Lion Hotel South Umpqua Room 1313 North Bayshore Drive Coos Bay, OR 97420						Ms. Kristi Snow (541) 269-4099 Phone (541) 269-4060 Fax
March 29 Tuesday 7 p.m.	Red Lion Hotel Eureka Humboldt Bay Room 1929 Fourth Street Eureka, CA 95501.						Ms. Tami Myer (707) 445-0844 Phone (707) 441-4725 Fax

a/ The Council will also receive public comment at the San Mateo, California meeting during the week of April 10-15, 2011.

PFMC
02/03/11

Agenda Item G.9.a
Attachment 1
March 2011