SEQUENCE OF EVENTS AND STATUS OF FISHERIES

Situation: A summary of the management events for the 2000 salmon season (updated through June 15) is contained in Supplemental Attachment B.2.a. Through mid-June, there have been four inseason management conferences to adjust fisheries. The two most recent conferences have involved tracking of the May/June, non-Indian commercial troll fishery north of Cape Falcon which closed as scheduled on June 15 without exceeding its chinook harvest guideline.

Mr. Doug Milward, chair of the Salmon Technical Team (STT), will provide detailed effort and harvest data in his report to the Council.

Council Action: None.

Reference Materials:

1. Sequence of Events in Ocean Salmon Fishery Management, January through June 15, 2000 (Supplemental Attachment B.2.a.).
2. Status Report of the 2000 Ocean Salmon Fisheries off Washington, Oregon, and California (Supplemental STT Report B.2.).

PFMC
06/21/00

STATUS REPORT OF THE 2000 OCEAN SALMON FISHERIES OFF WASHINGTON, OREGON, and CALIFORNIA.
Preliminary Data Through May, 2000, unless otherwise noted.

Fishery and Area	Season Dates	Effort Landings	CHINOOK Catch	CHINOOK Quota	CHINOOK Percent	COHO Catch	COHO Quota	COHO Percent
TROLL								
Treaty Indian a/	*5/1-6/30*	83	4,113	20,000	21%	Non-Retention		
	8/1-9/15		-	5,500	0%	-	20,000	0%
Non-Treaty N Falcon b/c/	*5/1-6/15*	96	9017	11,000	82%	Non-Retention		
Queets R - Cape Falcon	*8/4-9/30*		-	1,500	0%	-	25,000	0%
Cape Falcon-Humbug Mtn	*4/1-7/22*	464	7,265	None	NA	Non-Retention		
	8/1-8/29		-	None	NA	Non-Retention		
	9/1-10/31		-	None	NA	Non-Retention		
Humbug Mtn-OR/CA Border	*5/1-5/31*	4	21	None	NA	Non-Retention		
Sisters Rocks-OR/CA Border	*8/1-8/31*		-	1,300	0%	Non-Retention		
House Rock-Humbolt S Jetty	*9/1-9/30*		-	7,000	0%	Non-Retention		
Horse Mtn-Pt. Arena	*9/1-9/30*		-	None	NA	Non-Retention		
Pt. Arena-Pt. Reyes	*7/18-9/30*		-	None	NA	Non-Retention		
Ft. Ross-Pt. Reyes	*7/1-7/15*		-	4,500	0%	Non-Retention		
Pt. Reyes to Pt. San Pedro	*5/29-9/30*	1,964	165,512	None	NA	Non-Retention		
Pt. San Pedro-US/Mexico borde	*5/1-8/27*	700	91,348	None	NA	Non-Retention		

RECREATIONAL		Effort (Angler Days)	Catch	Quota	Percent	Catch	Quota	Percent
US/Canada Border-Cape Alava	*7/3-9/30*		-	500	NA	-	6,900	0%
Cape Alava-Queets River	*7/3-9/30*		-	300	NA	-	1,700	0%
Queets River-Leadbetter Pt.	*7/3-9/30*		-	7,400	NA	-	28,900	0%
Leadbetter Pt.-Cape Falcon	*7/10-9/30*		-	4,300	NA	-	37,500	0%
Cape Falcon-Humbug Mtn	*4/1-10/31*	519	57	None	NA	Non-Retention		
---selective fishery	*7/1-7/31*		-	None	NA	-	20,000	0%
Humbug Mtn-Horse Mtn	*5/27-7/6*	1,168	312	None	NA	Non-Retention		
	7/29-9/10		-	None	NA	Non-Retention		
Horse Mtn-Pt. Arena	*2/12-7/6*	7,167	5,553	None	NA	Non-Retention		
	7/22-11/12		-	None	NA	Non-Retention		
Pt. Arena-Pigeon Pt.	*4/15-11/5*	14,979	14,835	None	NA	Non-Retention		
Pigeon Pt.-US/Mexico Border	*4/1-10/31*	46,329	49,891	None	NA	Non-Retention		

TOTALS TO DATE

	Effort (Days except Treaty Troll)			Chinook Catch			Coho Catch		
	2000	1999	1998	2000	1999	1998	2000	1999	1998
TROLL									
Treaty Indian d/	83	82	79	4,113	2,500	5,200	0	0	0
Washington Non-Treaty c/	300	502	139	9,017	4,191	5,747	0	0	0
Oregon	864	784	2,648	7,286	6,883	59,671	0	0	0
California	5,328	2,600	4,000	256,860	33,900	76,300	0	0	0
Total Troll	6,575	3,968	6,866	277,276	47,474	146,918	0	0	0
RECREATIONAL									
Washington	0	0	0	0	0	0	0	0	0
Oregon	703	820	1,452	73	136	319	0	0	0
California	69,459	27,100	40,800	70,575	9,600	32,100	0	0	0
Total Recreational	70,162	27,920	42,252	70,648	9,736	32,419	0	0	0
PFMC Total	76,737	31,888	49,118	277,276	57,210	179,337	0	0	0

a/ Treaty Indian catch and effort data for 2000 through 6/10.
b/ Numbers shown as chinook quotas for non-treaty troll and sport fisheries north of Cape Falcon are guidelines rather than quotas.
c/ Catch and effort data through 6/15.
d/ Treaty Indian fishing effort in deliveries.

Sequence of events in ocean salmon fishery management, January through June 15, 2000.[1/] (page 1 of 3)

GENERAL MANAGEMENT ACTIONS AND INSEASON CONFERENCES

Feb. 8 — National Marine Fisheries Service (NMFS) inseason conference number one results in delayed openings of the recreational fisheries south of Pt. Arena, California, to help reduce impacts on endangered Sacramento River winter and threatened Central Valley spring chinook. Between Pt. Arena and Pigeon Pt., the season opening is delayed from Apr. 1 to Apr. 15. South of Pigeon Pt., the season opens Apr. 1 rather than Mar. 18.

Mar. 7 — NMFS provides the Council with a letter outlining the 2000 management guidance for stocks listed under the Endangered Species Act (ESA).

Council adopts three troll and three recreational ocean salmon fishery management options for public review.

NMFS inseason conference number two (at the Council meeting) results in two Council recommendations which are implemented by NMFS (1) open the commercial and recreational fisheries off Oregon from Cape Falcon to Humbug Mt. on April 1 for all salmon except coho and (2) do not open commercial test fisheries off California in Apr. south of Pillar Pt. due to concern for impacts on ESA listed salmon stocks.

Mar. 15-16 — North of Cape Falcon Salmon Forum meets in Portland, Oregon to initiate consideration of recommendations for treaty Indian and non-Indian salmon management options.

Mar. 27-28 — Council holds public hearings on proposed 2000 management options in five locations within the three Pacific Coast states. In addition, the state of California holds an additional hearing in Moss Landing.

Mar. 28-30 — North of Cape Falcon Salmon Forum meets in Tukwila, Washington to further consider recommendations for treaty Indian and non-Indian salmon management options.

Apr. 6 — Council adopts final ocean salmon fishery management recommendations for approval and implementation by the U.S. Secretary of Commerce. The proposed measures include selective fisheries and comply with the salmon fishery management plan (FMP) and the current biological opinions for listed species. An emergency rule is not required for implementation.

May 1 — Ocean salmon seasons implemented as recommended by the Council and published in the *Federal Register* on May 5 (65 FR 26138).

Jun. 6 — NMFS inseason conference number three results in a proposed closure of the May/June, non-Indian troll fishery north of Cape Falcon on June 9 as the fishery is projected to achieve its 11,000 chinook guideline at that time.

Jun. 9 — NMFS inseason conference number four rescinds the June 9 closure of the May/June, non-Indian troll fishery north of Cape Falcon and, with ample guideline remaining, allows the fishery to continue to the scheduled June 15 closure.

Jun. 12 — Council submits *Amendment 14 to the Pacific Coast Salmon Plan* to NMFS for implementation. The amendment includes implementation of the 1996 Sustainable Fisheries Act, significant editorial changes, provides a specific allocation for the La Push port area, and establishes management criteria for selective fisheries targeting on marked hatchery coho.

NON-INDIAN COMMERCIAL TROLL SEASONS

Apr. 1 — Cape Falcon to Humbug Mt., Oregon, all-salmon-except-coho fishery opens through July 22. The fishery will reopen Aug. 1 through Aug. 29 and Sept. 1 through Oct. 31.

May 1 — U.S.-Canada border to Cape Falcon, all-salmon-except-coho fishery opens through the earlier of June 15 or an 11,000 chinook guideline.

Humbug Mt. to Oregon-California border, all-salmon-except-coho fishery opens through May 31.

Pt. San Pedro to U.S.-Mexico border, all-salmon-except-coho fishery opens through Aug. 27.

May 29 Pt. Reyes to Pt. San Pedro, all-salmon-except-coho fishery opens through Sept. 30.

May 31 Humbug Mt. to Oregon-California border all-salmon-except-coho fishery closes.

Jun. 15 U.S.-Canada border to Cape Falcon, all-salmon-except-coho fishery closes as scheduled.

July 1 Fort Ross to Pt. Reyes, all-salmon-except-coho test fishery within 6 nm opens through the earlier of July 15 or a 4,500 chinook quota.

July 15 Scheduled closure of the Fort Ross to Pt. Reyes, all-salmon-except-coho test fishery within 6 nm.

July 18 Pt. Arena to Pt. Reyes, general area all-salmon-except-coho fishery opens through Sept. 30.

July 22 Cape Falcon to Humbug Mt., all-salmon-except-coho fishery closes. The fishery will reopen Aug. 1.

Aug. 1 Cape Falcon to Humbug Mt., all-salmon-except-coho fishery reopens. The fishery will close Aug. 29 and reopen Sept. 1 through Oct. 31.

Sisters Rocks to Mack Arch, all-salmon-except-coho fishery opens within 4 nm of shore under a 1,500 chinook quota and a landing limit of 30 chinook per day. The fishery is scheduled to run continuously until the earlier of Aug. 31 or the quota.

Aug. 4 Queets River to Cape Falcon, all-salmon fishery opens under a quota of_____ chinook (1,500 in the preseason guideline plus _____ transferred from the May/June season) and 25,000 coho with healed adipose fin clips (selective fishery). The fishery proceeds on a cycle of 4 days open and 3 days closed.

Aug. 27 South of Pt. San Pedro, all-salmon-except-coho fishery closes.

Aug. 29 Cape Falcon to Humbug Mt., all-salmon-except-coho fishery closes for 2 days.

Aug. 31 Scheduled closure of the Sisters Rocks to Mack Arch, all-salmon-except-coho fishery within 4 nm of shore.

Sept. 1 Cape Falcon to Humbug Mt., all-salmon-except-coho fishery reopens through Oct. 31.

House Rock to Humboldt south jetty, all-salmon-except-coho fishery opens under a quota of 7,000 chinook of which no more than 1,000 chinook may be landed in Brookings.

Horse Mt. to Pt. Arena, all-salmon-except-coho fishery opens through Sept. 30.

TREATY INDIAN COMMERCIAL TROLL SEASONS

May 1 All-salmon-except-coho fisheries open through the earlier of June 30 or an overall 20,000 chinook quota for the May-June season (any remainder of the quota is not transferable to the Aug.-Sept. season).

June 30 Scheduled closure of the all-salmon-except-coho fisheries.

Aug. 1 All-salmon fisheries open.

Sept. 15 Scheduled closure of the all-salmon fisheries.

RECREATIONAL SEASONS

Feb. 12 Horse Mt. to Pt. Arena, all-salmon-except-coho fishery opens. The fishery closes July 6 and reopens July 22 through Nov. 12.

Apr. 1 Pigeon Point to the U.S.-Mexico border, all-salmon-except-coho fishery opens through Oct. 1. The opening was delayed from March 18 (see inseason conference number 1 on Feb. 8).

Apr. 1 Cape Falcon to Humbug Mountain, all-salmon-except-coho fishery opens. The fishery becomes selective for marked hatchery coho beginning July 1.

Apr. 15 Point Arena to Pigeon Point, all-salmon-except-coho fishery opens through Nov. 5. The opening was delayed from Apr. 1 (see inseason conference number 1 on Feb. 8).

RECREATIONAL SEASONS (continued)

May 27	Humbug Mt. to Horse Mt., all-salmon-except-coho fishery opens through July 6 with a daily-bag-limit of one fish. The fishery reopens July 29 through Sept. 10 with a two fish daily bag limit.
July 6	Humbug Mt. to Horse Mt., all-salmon-except-coho fishery closes. The fishery will reopen July 29 and continue through Sept. 10 with a two fish bag limit.
	Horse Mt. to Pt. Arena, all-salmon-except-coho fishery closes. The fishery will reopen July 22 and continue through Nov. 12.
July 1	Cape Falcon to Humbug Mountain, all-salmon selective coho fishery opens under a quota of 20,000 adipose fin clipped coho. Only coho with a healed adipose fin clip may be retained. During the selective fishery, the season is only open Saturday through Sunday and Tuesday through Thursday of each week through the earlier of the 20,000 marked coho quota or July 30. There are no special gear restrictions other than the requirement to use barbless hooks.
July 3	Fisheries north of Cape Falcon open for all salmon with a daily bag limit of two fish, but only one chinook. All fisheries are selective for marked hatchery coho (adipose fin clip). North of Queets River (La Push and Neah Bay), the fishery opens 7 days per week. From Queets River to Cape Falcon (Westport and Columbia River Area), the fisheries are only open Sun. through Thurs. The fisheries will close the earliest of Sept. 30, achievement of the coho subarea quotas, or achievement of the overall chinook quota.
July 22	Horse Mt. to Pt. Arena, all-salmon-except-coho fishery reopens through Nov. 12.
July 29	Humbug Mt. to Horse Mt., all-salmon-except-coho fishery reopens through Sept. 10 under a two fish bag limit.

i/ Unless stated otherwise, season openings or modifications of restrictions are effective at 0001 hours of the listed date. Closures are effective at midnight. Some events occurring after June15 are subject to change, depending on achievement of quotas or other inseason management actions.

SCIENTIFIC AND STATISTICAL COMMITTEE REPORT ON SALMON METHODOLOGY REVIEWS

During the April 2000 Council meeting, the Scientific and Statistical Committee (SSC) identified a list of harvest and abundance predictor models for potential review. The SSC is prepared to begin reviewing models this fall, as prioritized by the Council. The documentation of the models selected for initial review should be received by September 29, 2000 to ensure the results of the review are available to the Council at the November 2000 meeting.

The Council sent a letter on June 2, 2000 to tribal, state, and federal agencies asking them to prioritize the preseason salmon abundance forecast methodologies for SSC review. The SSC encourages agencies to respond to this letter. The response from Mr. William Robinson, National Marine Fisheries Service, contained the type of information requested by the Council.

PFMC
06/27/00

SALMON METHODOLOGY REVIEWS

Situation: Each spring, the Council authorizes the Scientific and Statistical Committee (SSC), with assistance of the Salmon Technical Team (STT), to review estimation methodologies for the coming year. At the April Council meeting, the SSC identified a number of candidate models for review and stated that materials to be reviewed would need to be received by September 29, 2000 (a deadline based on the time-line and procedural requirements set out in Council Operating Procedure 15). The following is a list of the models identified and a summary of some of the Council discussion from the April meeting.

1. The Coho Cohort Analysis Project

   Washington Department of Fish Wildlife stated the coho cohort analysis project is a high priority for completion, and the comprehensive coho project, a joint project being conducted with the tribes, is slated for completion in December 2000.

2. The New Klamath Ocean Harvest Model (KOHM)

   California Department of Fish and Game and National Marine Fisheries Service (NMFS) staff are now working on the model; however, the new model can be expected to have many of the problems of the current model. The main improvement will be the incorporation of a more complete database. The model and documentation should be available for review by the September 29, 2000 deadline.

3. A Chinook Fishery Regulation Assessment Model (FRAM) Revised to Model Selective Chinook Fisheries

   Selective fisheries for chinook are not anticipated for the ocean fisheries in the year 2001, but may be implemented in southern Puget Sound. STT members informed the SSC that inside and outside fisheries need to be assessed using a single chinook FRAM model. For this reason, the SSC believes it appropriate to schedule a review to assess the effects of changes to the model.

4. Review Preseason Chinook and Coho Abundance Forecast Methodologies

   Formal documentation and presentation of these methodologies would likely require significant efforts by the agencies involved (Attachment B.3.a.). Because of the potentially large amount of work that could be involved, the state agencies were asked in a letter dated June 2, 2000 to identify those abundance forecast methodologies which they believe would most benefit from SSC review. Responses to this request are scheduled as part of this agenda item. The SSC would like to begin its review of abundance forecast methodologies in October 2001. Review of all the methodologies may take several years.

With respect to the chinook FRAM, the Council requested clarification on the SSC statement which noted some potential areas of bias in the chinook FRAM:

> *Three specific areas of possible bias related to the data used in the current chinook FRAM were brought to the attention of the SSC. These were:*
>
> *(1) Coded wire tags used to represent Lower Columbia River wild chinook stocks.*
> *(2) Spring chinook stock composition in the non-treaty troll fishery.*
> *(3) Encounter and shaker mortality rates in the treaty troll summer chinook fishery.*
>
> *The demonstration of the performance of the new chinook FRAM should address these issues, but should not be limited to these three items. It should be much broader and include a demonstration of the robustness of the model to changes in the data and other model parameters.*

The SSC's response is provided as SSC Report B.3. While the SSC is scheduled to update the

proposed review schedule (Agenda Item B.3.d.), the SSC will not likely have any additional reports at this meeting, unless it has comments on abundance forecast methodologies identified by the states as most needing review.

Council Actions:

1. **Endorse or reject the goals of reviewing the models listed in Items 1, 2, and 3 above in the year 2000.**
2. **Determine (a) whether or not abundance forecasts will be included in the priority list (Item 4 above), and if so, (b) the forecasts to receive top priority, and (c) the target date(s) for completion of top priority forecast reviews.**
3. **Request responsible agencies to provide needed documents by the indicated deadline and to have individuals responsible for the models available for presentation of the materials at SSC review meetings.**
4. **Consider the SSC's response to the Council request for a clarification on potential bias in the chinook FRAM, and determine whether additional clarification or other Council actions are needed.**
5. **Other needed Council actions, as necessary.**

Reference Materials:

1. Draft Abundance Predictors Used to Support Pacific Fishery Management Council Management of the Ocean Salmon Fisheries (Attachment B.3.a.).
2. SSC Report B.3.

PFMC
06/15/00

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
Sustainable Fisheries Division
7600 Sand Point Way N.E., Bldg. #1
Seattle, Washington 98115-0070

JUN 0 9 2000

Dr. Don McIsaac, Executive Director
Pacific Fishery Management Council
2130 SW Fifth Avenue, Suite 224
Portland, OR 97201

Dear Don:

In response to your request to identify priorities for the SSC review of salmon forecast methodologies, I would like to suggest the decision be based on some simple criteria rather than just choosing from a list.

The criteria I would suggest for consideration would be as follows:

1. Choose stocks critical to ocean management decisions;

    (a weak stocks that constrain management actions; and

    (b abundant stocks whose management objectives drive ocean management decisions;

2. Choose stocks for which recent forecasts are believed to be the least accurate or reliable.

Some stocks that come to mind that meet these criteria include:

1. Lower Columbia River wild chinook salmon (LCRW). LCRW are listed under the ESA, have been constraining the last few years, and may not be as sustainable as we previously thought.

2. Klamath River fall chinook is always a major driver of ocean management decisions.

3. Lower Columbia River and Spring Creek hatchery stocks are major contributors to the ocean chinook harvest, particularly North of Cape Falcon.

4. OCN coho is now the most critical coho stock driving ocean coho management decisions coastwide.

5. Washington coastal coho stocks are a major driver for North of Falcon ocean management decisions.

Finally, I suggest that the SSC limit itself to thorough reviews of a limited number of methodologies rather than spread themselves too thin.

Sincerely,

William L. Robinson
Assistant Regional Administrator
for Sustainable Fisheries

SCIENTIFIC AND STATISTICAL COMMITTEE REPORT ON CLARIFICATION OF METHODOLOGICAL BIAS

At the Council's April meeting, the Scientific and Statistical Committee (SSC) informed the Council it had received comment on possible biases in the new chinook Fishery Regulation Assessment Model. During comment, three specific areas of concern were identified, and the SSC noted these areas in its report to the Council. The purpose of noting the specific areas of concern was to ensure that when the model is reviewed the concerns are evaluated. To this point, the SSC has not received enough information to evaluate whether or not the concerns are warranted. In its comments to the Council, the SSC noted a review of the new model should include, but not be limited to, these items. The SSC is aware the Council deals regularly with issues of both the actual performance of scientific models and the public perception of the performance of the models. The SSC's comments were intended to ensure both these aspects of model performance are addressed.

PFMC
06/15/00

STATE OF WASHINGTON
DEPARTMENT OF FISH AND WILDLIFE

June 27, 2000

Donald O. McIsaac, Ph.D.
Executive Director
Pacific Fishery Management Council
2130 SW Fifth Avenue, Suite 224
Portland, Oregon 97201

Dear Dr. McIsaac:

Thank you for your recent letter describing the Council's intention to review preseason chinook and coho abundance forecasts. WDFW appreciates the Council's commitment to improving the technical basis for our management, and we look forward to having the SSC and STT help us evaluate our methodologies. We agree with your assessment that review of methodologies for all stocks would be a large work load and believe it would be best to approach the task by prioritizing methodologies and taking them on in manageable pieces.

Our intent is to begin compiling documentation for the management units we judge to have the greatest need. WDFW's highest priority for review is the forecast approaches applied to Puget Sound and Washington Coastal coho, specifically methods used to forecast Queets natural, Hood Canal natural and Strait of Juan de Fuca natural stocks. The high priority we attach to resolving methods for these stocks reflects the degree to which forecast uncertainty has influenced the Council's decision process in recent years. The Queets natural coho stock is a perennial driver stock in determining harvest quotas in the North of Cape Falcon management region. For Hood Canal and Strait coho forecasts, WDFW and Puget Sound tribal co-managers have committed to evaluation of methodologies prior to the 2001 season planning process. Documentation of our assessment this year could be provided well in advance of the SSC's scheduled review of methodologies beginning in October ~~2001~~ 2000.

I look forward to discussing this issue at the June Council meeting.

Sincerely,

Philip Anderson
Special Assistant
Intergovernmental Policy

DRAFT ABUNDANCE PREDICTOR MODELS USED TO SUPPORT PACIFIC FISHERY MANAGEMENT COUNCIL MANAGEMENT OF THE OCEAN SALMON FISHERIES			
Model Type and Species	**Responsible Agencies**	**Date of Last Review**	**Notes**
Abundance Predictors			
Chinook			
California Central Valley Index	STT	?	CVI regressed against previous year's CV jacks. (CVI = chinook landings outh of Pt. Arena + CV adult chinook escapement in a given year).
(Sacramento Chinook)			
Klamath River Fall Chinook	KRTAT	?	May 1 ocean abundance. Age-secific sibling regressions through origin.
Oregon Coastal Chinook			
South/localized Migrating (none)	ODFW	NA	Under development for U.S. in PSC process.
North Migrating (none)	ODFW	NA	Under development for U.S. in PSC process.
Columbia River Chinook			
Upriver Spring Chinook	Columbia River Joint Staff		Ocean escapement estimates. Based on relationships between successive age groups within a year class (except for Upriver Summers).
Lower River Spring Chinook	Columbia River Joint Staff		
Willamette Spring Chinook	Columbia River Joint Staff		
Sandy Spring Chinook	Columbia River Joint Staff		
Cowlitz Spring Chinook	Columbia River Joint Staff		
Kalama Spring Chinook	Columbia River Joint Staff		
Lewis Spring Chinook	Columbia River Joint Staff		
Upriver Summer Chinook	Columbia River Joint Staff		Adult to jack regression.
Upriver Brights	Columbia River Joint Staff		
Lower Columbia River Hatchery	Columbia River Joint Staff		
Spring Creek Hatchery	Columbia River Joint Staff		
Lower Columbia River Wild	Columbia River Joint Staff		
Mid-Columbia River Brights	Columbia River Joint Staff		
Washington Coast			
Willapa Bay Hatchery			Mean return per release by age class.
Willapa Bay Natural			
Other Coastal Stock (NA)			
Puget Sound			
Nooksack/Samish Hatchery			1994 brood release times average return/release.
East Sound Bay Hatchery			Avergae 1994-1996 run size.

Model Type and Species	Responsible Agencies	Date of Last Review	Notes
Skagit Hatchery			1994 brood release times average return/release.
Skagit Natural			Age specific return rates times brood release.
Stillaguamish Natural			1993-1996 mean run size.
Snohomish Hatchery			1994 brood release times average return/release.
Snohomish Natural			Average of 1992-1996 run size.
Tulalip Hatchery			1994 brood release times average return/release.
South Puget Sound Hatchery			Combination of numerous methods.
South Puget Sound Natural			Combination of numerous methods.
Hood Canal Hatchery & Natural			Average of 1993-1997 returns per brood fingerling releases, times brood fingerlings released.
Straight of Juan de Fuca Hatchery			1986-1996 mean run size for Hoko. '1992-1997 mean run size for Dungeness.
Straight of Juan de Fuca Natural			1993-1997 mean run size.
Abundance Predictors			
Coho			
Oregon Production Index	ODFW/WDFW		Reviewed annually by the Oregon Productin Index Technical Team and documented in Preseason Report I.
(All coho south of Pt. Leadbetter)			
Public Hatchery	ODFW/WDFW		Reviewed annually by the Oregon Productin Index Technical Team and documented in Preseason Report I.
Columbia River Early	ODFW/WDFW		Reviewed annually by the Oregon Productin Index Technical Team and documented in Preseason Report I.
Columbia River Late	ODFW/WDFW		Reviewed annually by the Oregon Productin Index Technical Team and documented in Preseason Report I.
Oregon Coastal Natural (OCN)	ODFW		Reviewed annually by the Oregon Productin Index Technical Team and documented in Preseason Report I.
STEP	ODFW		Reviewed annually by the Oregon Productin Index Technical Team and documented in Preseason Report I.
Wash Coastal Hatchery Production			
Willapa Hatchery			
Willapa Natural			
Grays Harbor Hatchery			
Grays Harbor Natural			
Quinault Hatchery			
Quinault Natural			

Model Type and Species	Responsible Agencies	Date of Last Review	Notes
Willapa Natural			
Grays Harbor Hatchery			
Grays Harbor Natural			
Quinault Hatchery			
Quinault Natural			
Queets Hatchery			
Queets Natural			
Hoh Natural			
Hoh Hatchery			
Quillayute River Fall Natural			
Quillayute River Fall Hatchery			
Quillayute River Summer Hatchery			
Quillayute River Summer Natural			
Puget Sound			
Strait Natural			
Strait Hatchery			
Nooksack-Samish Natural			
Nooksack-Samish Hatchery			
Skagit Natural			
Skagit Hatchery			
Stillaguamish Natural			
Snohomish Natural			
Snohomish Hatchery			
South Sound Natural			
South Sound Hatchery			
Hood Canal Natural			
Hood Canal Hatchery			

Amendment 14 of the Salmon FMP
Implementation of the Overfishing Criteria in 2001

Even though Amendment 14 has been transmitted to the Secretary of Commerce, there are still some ambiguities in the proposed language pertaining to Overfishing and the relationship between two columns in Table 3-1. The column entitled "conservation objective" is referenced in section 3.2.3.1 as the criteria that the Council is to use to judge if a stock is overfished. However, in some instances, these criteria are inconsistent with the information contained in the column entitled "subject to Council Actions to Prevent Overfishing" (e.g., Washington coastal coho stocks). There are obviously different interpretations of these conflicts and the Council needs to clarify its intentions. In addition to these inconsistencies, the Council needs to clarify its intentions as to when and how to apply the proposed changes in Overfishing procedures. Does the Council wish to assess management actions and subsequent spawning escapements from this time forward or immediately utilize the new criteria to assess past spawning escapements and associated management actions?

The tribes question the appropriateness of the latter choice. It is unfair to assess past management decisions based, in part, on the Council's previous standards and Overfishing guidelines by newly modified criteria. In essence, this is changing the rules in the middle of the game. Such an assessment would unfairly shift focus onto past management decisions, away from other, perhaps more significant, contributing factors to the low stock abundance.

The tribal preference is to utilize the new Overfishing criteria to assess management actions and associated spawning escapement from this time forward.

In the transition period to the new assessment procedure, the spirit and intent of the revamped Overfishing criteria still could be maintained with a Council letter. Notification should be sent to the management entities with jurisdiction over stocks that would trigger a review with the immediate application of the new Overfishing criteria. The letter should clarify change in criteria and encourage the entities to begin evaluating the relevant factors surrounding the stocks in question. This may involve re-evaluating a stock's conservation objective, a task that would represent a major undertaking. Consequently, early notification by the Council would be appropriate.

Perhaps a good example of this is Queets River coho. The existing conservation objective was originally established in 1981. Recently, production of this stock has been depressed and escapements have fallen below the lower end of the current spawning escapement range even with minimal ocean and in-river fishery impacts. Re-evaluation of the existing conservation objective against current environmental conditions and stock productivity parameters would be a major undertaking by the co-managers. Similar re-evaluation of the conservation objective for Oregon Coastal natural coho stocks (OCN) took several years.

STATUS OF AMENDMENT 14 AND IMPLICATIONS FOR 2001 OVERFISHING CONCERNS

Situation: On June 12, 2000, Amendment 14 to the salmon fishery management plan (FMP) was officially transmitted to the U.S. Secretary of Commerce (Secretary) for review and implementation. The official transmittal initiates formal Secretarial review which includes a 60-day public comment period for the amendment and a 30-day public comment period for regulations implementing the amendment. Within 30 days after the close of the public comment period for the amendment, which will occur just prior to the Council's September meeting (approximately September 11), the Secretary must approve, disapprove, or partially approve the amendment. Council staff assumes the amendment will be approved or substantially approved and pertinent changes implemented for the 2001 salmon fishing season.

One of the most significant changes proposed in Amendment 14 concerns the prevention and/or ending of overfishing. At its April meeting, the Council identified that Queets wild coho could trigger an overfishing concern when Amendment 14 is implemented. Under the current FMP, Queets coho do not trigger an overfishing concern since the stock has met the annual spawner target agreed upon by Washington Department of Fish and Wildlife (WDFW) and the tribes (under U.S. District Court orders) in at least one of the past three years. However, under Amendment 14, Council staff believes wild Queets coho stock would trigger an overfishing concern since it fails to meet its maximum sustainable yield (MSY) spawner escapement range of 5,800 to 14,500 natural adult spawners for the past three years. Since there is some controversy over this interpretation of Amendment 14, the Council needs to clarify its intent for triggering the overfishing concern for stocks managed north of Cape Falcon under procedures established by U.S. District Court orders. Supplemental Attachment B.4.a. provides details of the status of the Queets coho stock and the operative language from Amendment 14.

If the wild Queets coho stock is identified as triggering an overfishing concern, the Council has one year in which to develop and submit a stock rebuilding plan to end overfishing. However, waiting one full year from September 2000 would mean that a rebuilding plan would not be implemented until the 2002 salmon fishing season. In this situation, the Council may wish to anticipate the overfishing issue and request WDFW and the tribes to begin assembling the pertinent biological data to assist the Salmon Technical Team (STT) in assessing the status of the Queets coho and to develop a rebuilding plan which could be initiated in the 2001 salmon fishing season. The full overfishing concern procedure of Amendment 14 is contained in Supplemental Attachment B.4.b.

Council Action:

1. Clarify the impact of Amendment 14 with regard to triggering an overfishing concern for wild Queets coho.
2. Determine whether or not to request WDFW and the tribes to begin assembling the pertinent data to assist the STT in an overfishing review of this stock to be completed by the March 2001 Council meeting so as to allow implementation in the 2001 salmon fishing season.

Reference Materials:

1. Status of Queets Coho and Overfishing Criteria of Amendment 14 (Supplemental Attachment B.4.a.)
2. Excerpt from Section 3.2.3. (Overfishing Concern) of Amendment 14 (Supplemental Attachment B.4.b.).

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STATUS OF QUEETS COHO AND OVERFISHING CRITERIA OF AMENDMENT 14

The table below displays the recent spawner escapements of Queets coho. The stock has achieved the annual target agreed to by Washington Department of Fish and Wildlife (WDF) and the Quinault Indian Nation under U.S. District Court orders in at least one of the past three years. The spawner escapement exceeded the lower end of the maximum sustainable yield (MSY) conservation objective (5,800 spawners) in both 1995 and 1996; 6,200 and 9,000 spawners, respectively.

Queets Coho Spawners (in 1,000s)		1997	1998	1999
Wild:	Expected	2.1	3.5	3.4
	Actual Escapement	1.9	4.1	4.8
Supplemental:	Expected	-	0.6	2.4
	Actual	-	1.4	0.5
Total:	Expected (Annual Target)	2.1	4.0	5.7
	Actual	1.9	5.5	5.3
	MSY Range = 5.8 to 14.5			

The Council's salmon fishery management plan (FMP) as modified by Amendment 14 (Section 3.2.3)states:

> *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.*

The portion of Table 3-1 which contains conservation objectives for Washington coastal coho stocks is attached. Under the heading "Conservation Objective", the table contains the following text for Queets coho:

> *MSY range of 5,800 to 14,500 natural adult spawners (Lestelle et al. 1984) or annual target agreed to by WDFW and the Quinault Indian Nation.*

Under the heading "Subject to Council Actions to Prevent Overfishing", the table contains the following text for Queets coho:

> *Yes. Conservation alert or overfishing concern based on fewer than 5,800 natural spawners.*

An excerpt from Table 2-3 of Draft Amendment 14 (Chapter 2) is attached. This table assesses the expected frequency of overfishing concerns under the options proposed for Amendment 14. For Queets coho, the table notes the MSY range of 5,800 to 14,500 spawners as the annual objective and lists 1996 as the last year in which the objective was achieved.

In completing its assessment of final Amendment 14, the Council staff has characterized the overfishing concern as being triggered by a failure to meet the conservation objectives based on MSY, maximum sustainable production (MSP), or a spawner floor as noted for some harvest rate objectives (i.e., Klamath and Washington coastal chinook). The amendment does not characterize or specifically state that certain Washington stocks do not trigger the overfishing concern unless they fail to meet the annual target agreed upon by WDFW and the tribes for three consecutive years.

The language of the Magnuson-Stevens Fishery Conservation and Management Act and National Standard Guidelines (NSGs) is specific as to achieving MSY over the long-term. The Council considered and rejected establishing a criteria below MSY from which to assess overfishing. Rather than adopting the standard proposed in the NSGs of 50% of MSY in any one year, the Council chose to assess overfishing against MSY and a failure to meet that more conservative target in three consecutive years.

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EXCERPT FROM AMENDMENT 14

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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 Steering Group (HSG) 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 jeopardy 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 HSG, 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.

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.

3.2.4.1 Hatchery Stocks

Salmon stocks important to ocean fisheries and comprised exclusively of hatchery production generally have conservation objectives expressed as an egg-take or the number of spawners returning to the hatchery rack to meet program objectives. This plan recognizes these objectives and strives to meet them. However, these artificially produced stocks generally do not need the protection of overfishing criteria and special Council rebuilding programs to maintain long-term production. Because hatchery stocks can generally sustain significantly higher harvest exploitation rates than natural stocks, ocean fisheries rarely present a threat to their long-term survival. In addition, it is often possible to make temporary program modifications at hatcheries to assure adequate production to sustain the stock during periods of low abundance (e.g., sharing brood stock with other hatcheries, arranging for trapping at auxiliary sites, etc.). If specialized hatchery programs are approved in the future to sustain listed salmon stocks, the rebuilding programs would be developed and followed 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 whos 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 jeopardy standards and recovery plans developed by NMFS for listed populations as interim rebuilding plans. Although NMFS' jeopardy 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.

UPDATE ON REVIEW OF OREGON COASTAL NATURAL COHO MANAGEMENT CRITERIA

Situation: Under Amendment 13 to the *Pacific Coast Salmon Plan* and by the terms of the Oregon Salmon Plan, the management of Oregon coastal natural (OCN) coho salmon is subject to a comprehensive, adaptive review this year. The purpose of the review is to assure the rebuilding program adopted in the Oregon Salmon Plan and Amendment 13 in 1997 still reflects the best science and approach to rebuilding the OCN coho stock. That approach also forms the basis for the current National Marine Fisheries Service (NMFS) biological opinion for Oregon coho stocks listed under the Endangered Species Act that are impacted in Council fisheries. In that regard, NMFS has recommended the work group consider changes to OCN coho management that are designed to minimize fishery impacts consistent with recent OCN stock size and survival rates and the low harvest rates achieved in the past two years (Supplemental Attachment B.5.b.).

In November 1999, the Council approved a review process and work group to be headed by Oregon Department of Fish and Wildlife personnel. The review is scheduled to provide preliminary recommendations to the Council at its September 2000 meeting. The work group has met three times and will report on the status of the review and issues yet to be resolved. Mr. Sam Sharr, ODFW, heads the work group. Council representatives are Drs. Pete Lawson, Robert Kope, and John Coon.

Council Action: Provide guidance to the work group for completing recommendations for technical changes to OCN coho management as provided in Amendment 13.

Reference Materials:

1. Excerpt of fishery management plan Section 3.3.2. Oregon Coastal Natural Coho (from Amendment 14) (Supplemental Attachment B.5.a.).
2. Letter of June 9, 2000 to Mr. Jim Lone from Mr. William Stelle, Jr. (Supplemental Attachment B.5.b.).

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3.3.2 Oregon Coastal Natural Coho

Amendment 13 (PFMC 1999) established a recovery and rebuilding plan for Oregon coastal natural (OCN) coho which (1) defines individual management criteria for four separate stock components, (2) sets overall harvest exploitation rate targets for OCN coho that significantly limit the impact of fisheries on the recovery of depressed stock components, (3) promotes stock rebuilding while allowing limited harvest of other abundant salmon stocks during critical rebuilding periods, and (4) is consistent with the Oregon State recovery plan. Under the rebuilding program, the overall allowable fishery impact rate in any given year for each stock component is determined by the spawning abundance of the parents and grandparents of the returning adults and upon the marine survival expectations for the current maturing brood, as predicted by smolt-to-jack survival rates for hatchery coho.

The assessment of historic parent abundance utilized in Amendment 13 is based on the number of spawners in each of the four stock components that is projected to achieve full seeding of high quality freshwater habitat at low levels of marine survival. The full seeding estimates (in terms of stratified random sampling numbers) are derived from a model based on freshwater habitat assessment which incorporates measures of variability in the quality of the freshwater habitat and estimates of survival between life stages where numerical indicators have been measured (Nickelson and Lawson 1996). The assessment of marine survival status is based on a partitioning of the observed marine survival for Oregon hatchery reared coho from 1970-1996 (see Amendment 13 for further details).

Under the rebuilding plan, the allowable overall fishery impact (exploitation rate) for OCN coho represents all fishing related mortality, including marine and freshwater fisheries for both retention and catch-and-release fishing. The maximum allowable exploitation rates range from less than 10% when parent abundance and/or marine survival is especially low, to a high of 35% if two generations of spawner rebuilding have occurred and marine survival is sufficient to expect continued improvements in spawner escapement for a third generation. Regardless of high parental spawning levels or projected favorable ocean conditions, a cap of 35% in total stock impacts is maintained to provide insight as to the effects of high spawner levels on production. A limitation of 15% remains in effect even at the two highest tiers of parent escapement if ocean conditions are not favorable, so as to preserve rebuilding progress achieved to that point. The matrix in Table 3-3 illustrates specifically how spawner abundance and marine survival determine the maximum allowable stock exploitation rate objectives for each OCN coho stock component.

Each of the four OCN coho stock components will be managed in marine fisheries as a separate stock to the extent that the best scientific information allows. Because of apparent similarities in the marine distribution of the four components, little flexibility is expected in marine fishery intensities among the components. If some components begin rebuilding faster than others, but data are not available which allows the marine harvest of OCN coho components at different rates, opportunities for increased ocean harvest may be constrained by the weakest component. Any management flexibility for increased fisheries on any strong OCN coho component will be essentially in freshwater or estuarine areas during the initial phase of the rebuilding process. In these areas, ODFW will base fishing opportunity on the status of populations in individual basins within a stock component and directed fisheries on natural coho will be allowed only when spawners are expected to be at or above the full seeding level for high quality habitat. Actual seasons would be based on the presence of fin-clipped hatchery fish (e.g., selective fisheries), public comment, and other basin-specific factors. An intensive monitoring program will be implemented by ODFW to measure the overall management effectiveness toward the goal of increasing OCN spawner levels and consequent juvenile and adult progeny. Amendment 13 (PFMC 1999) contains further details of the monitoring plan and of the overall OCN coho management criteria and its basis.

In consideration for the uncertainties that exist in this recovery regime and the potential for new information to affect basic assumptions critical to its success, **the measures adopted in Amendment 13 are subject to a comprehensive, adaptive review by the year 2000.** To incorporate the best science, the methods of estimating the technical parameters used in this proposal may change without plan amendment, if approved by the Council following a technical review and recommendation for change by the Scientific and Statistical Committee.

****

TABLE 3-3. Allowable fishery impact rate criteria for OCN coho stock components.

PARENT SPAWNER STATUS	MARINE SURVIVAL INDEX (based on return of jacks per hatchery smolt) Low (<0.0009) — Allowable Total Fishery Impact Rate	Medium (0.0009 to 0.0034)	High (>0.0034)
High: Parent spawners achieved Level #2 rebuilding criteria; grandparent spawners achieved Level #1	≤15%	≤30%[a/]	≤35%[a/]
Medium: Parent spawners achieved Level #1 or greater rebuilding criteria	≤15%	≤20%[a/]	≤25%[a/]
Low: Parent spawners less than Level #1 rebuilding criteria	≤15% ≤10-13%[b/]	≤15%	≤15%

Rebuilding Criteria	OCN Coho Spawners by Stock Component: Northern	North-Central	South-Central	Southern	Total
Full Seeding at Low Marine Survival:	21,700	55,000	50,000	5,400	132,100
Level #2 (75% of full seeding):	16,400	41,300	37,500	4,100	99,300
Level #1 (50% of full seeding):	10,900	27,500	25,000	2,700	66,100
38% of Level #1 (19% of full seeding):	4,100	10,500	9,500	1,000	25,100

Stock Component (Boundaries)	Full Seeding of Major Basins at Low Marine Survival (Number of Adult Spawners)				
Northern: (Necanicum River to Neskowin Creek)	Nehalem: 17,500	Tillamook: 2,000	Nestucca: 1,800	Ocean Tribs.: 400	
North-Central: (Salmon River to Siuslaw River)	Siletz: 4,300	Yaquina: 7,100	Alsea: 15,100	Siuslaw: 22,800	Ocean Tribs.: 5,700
South-Central: (Siltcoos River to Sixes River)	Umpqua: 29,400	Coos: 7,200	Coquille: 5,400	Coastal Lakes: 8,000	
Southern: (Elk River to Winchuck River)	Rogue: 5,400				

a/ When a stock component achieves a medium or high parent spawner status under a medium or high marine survival index, but a major basin within the stock component is less than 10% of full seeding: (1) the parent spawner status will be downgraded one level to establish the allowable fishery impact rate for that component and (2) no coho-directed harvest impacts will be allowed within that particular basin.

b/ This exploitation rate criteria applies when (1) parent spawners are less than 38% of the Level #1 rebuilding criteria, or (2) marine survival conditions are projected to be at an extreme low as in 1994-1996 (<0.0006 jack per hatchery smolt). If parent spawners decline to lower levels than observed through 1998, rates of less than 10% would be considered, recognizing that there is a limit to further bycatch reduction opportunities.

Supplemental Attachment B.5.b.
June 2000

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

JUN 0 9 2000

Mr. Jim Lone, Chair
Pacific Fishery Management Council
2130 SW Fifth Avenue, Suite 224
Portland, OR 97201

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PFMC

Dear Mr. ~~Lone~~ Jim:

During the past several years the Council has adopted ocean fishing regimes resulting in overall exploitation rates on OCN coho salmon significantly lower than those required by Amendment 13 to the Ocean Salmon FMP. However, because Amendment 13 provides no specific guidelines for establishing management measures or for restricting overall exploitation rates when ocean run sizes and brood year escapements are as low as we have recently experienced, the Council has relied on agency guidance, particularly from NMFS.

I believe that it would be helpful to the Council if Amendment 13 were amended to provide more specific guidelines for the establishment of restrictions on either total exploitation rate or harvest rate in the ocean fisheries that should be required under the most adverse stock condition. Additional guidelines that address current stock size and survival trends would also be helpful to NMFS when we reinitiate consultation on the FMP.

When the harvest provisions of the Oregon Plan, which formed the basis of Amendment 13, were developed and analyzed, neither marine survival rates nor ocean exploitation rates as low as those we have seen in the past three years had been anticipated. The worst scenario considered was a continuation of recent low survival rates which were still high enough to allow for limited rebuilding of OCN stocks with minimal incidental harvest impacts. Since 1997 survival rates have been so low that most stream-rearing OCN stocks would have failed to replace themselves in the absence of any harvest impacts. Under these conditions no harvest is sustainable.

When the exploitation rate matrix was developed it was believed that the recent marine exploitation rates in the range of 10 to 13% were the lowest rates that could be practically achieved. Yet in the past two years we have managed for OCN exploitation rates in the range of 8 to 9%. In 1999 and 2000 Amendment 13 would have allowed for impacts as high as 15%. We appreciate the measures the Council has taken in the past 2 years to maintain harvest impacts well below the maximum rates permitted by Amendment 13, but do not believe that it is prudent to allow for increases in harvest impacts in US fisheries in the light of recent OCN survival rates.

Consequently, NMFS requests the Amendment 13 Review Committee be directed to recommend specific guidelines for establishing appropriate total exploitation rate, or harvest rate restrictions,

that are designed to **minimize** fishery impacts on OCN coho salmon in Council fisheries consistent with recent OCN stock size and survival rates and the low harvest rates achieved in the past two years.

Sincerely,

William Stelle, Jr.
Regional Administrator