



Oregon Fish and Wildlife Commission

Date: February 16, 2001

EXHIBIT _____

SUBJECT Outlook for Pacific Fishery Management Council (PFMC) Management of Oregon Coastal Natural (OCN) Coho in 2001 Ocean Salmon Fisheries.

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COMMISSION ACTION REQUESTED Recommendations to staff

DOCUMENTS INCLUDED 1. Agenda Item Summary
2. Written Comments (if any received)

RELATED STATUTES NA

RELATED RULES NA

**Read and
Approved by:**

Division Chief Edward C Bowler **Date** 1-30-01

Attorney General _____ **Date** _____

Director Stephen H. Williams **Date** 1-30-01

Agenda Item Summary

BACKGROUND

PFMC ocean salmon fisheries that incidentally impact OCN coho will be established in 2001 through a stepwise process as follows:

- 1) Determine allowable fishery impacts on OCN coho based upon:
 - a) Parental spawner abundance and marine survival triggers in the harvest management matrix of Amendment 13 of the PFMC Fishery Management Plan (FMP), and
 - b) Recommendations of an ad hoc OCN Work Group appointed by the PFMC to re-evaluate parental spawner and marine survival trigger points and the allowable fishery impact rates on OCN coho in the Amendment 13 harvest management matrix.
- 2) Formulate a package of fisheries options for public review and comment in March based upon integration of:
 - a) OCN coho constraints,
 - b) Constraints from other weak stocks, and
 - c) Allocation issues.
- 3) Adopt final fisheries regulations in April that meet biological needs of stocks and address allocation requirements and concerns.

The purpose of this staff report is to brief the Commission on steps 1 and 2 of this process and obtain guidance for the package of fishery options that the State of Oregon would like the PFMC to adopt for agency, tribal, and public review in March.

Amendment 13 to the FMP was designed to insure that fishery related impacts do not act as a significant impediment to the recovery of depressed OCN coho stocks. The principal attributes of Amendment 13 are as follows:

- 1) Management for exploitation rates appropriate to achieve recovery.
- 2) Appropriate exploitation rates are determined from a habitat-based production model that incorporates:
 - a) Parental and grandparental spawner abundance, and
 - b) Smolt to adult marine survival data.
- 3) The OCN aggregate divided into sub-aggregates and harvest rates that are based on performance of weakest sub-aggregate.

When the PFMC adopted Amendment 13 in November 1997, they stipulated that it should be reviewed and updated on a periodic basis. With respect to the review, they specifically referenced technical concerns raised by the Scientific and Statistical Committee (SSC) and the Salmon Technical Team (STT) regarding parameters in the management matrix that trigger allowable fishery impacts. In their November 1999 meeting, the PFMC approved an Oregon Department of Fish and Wildlife (ODFW) proposal to form an ad hoc OCN Work Group composed of representatives from ODFW, PFMC, and National Marine Fisheries Service (NMFS) to complete the stipulated 2000 review. The Governor's

Independent Multi-disciplinary Science Team was to participate in the group in an advisory capacity. The group met five times following their inception and, at the October 30 - November 3, 2000 meeting of the PFMC, they presented a final draft report of their findings to the SSC and the Council.

During the last decade OCN coho spawner abundance has been low, the progeny from those spawners have experienced extremely low marine survival, and the 1994, 1995, and 1996 brood cycles failed to replace themselves. Because similar spawner abundance and marine survival conditions were expected to continue in the near future, the OCN work group focused the majority of their attention on management trigger points for conditions of low spawner abundance and marine survival.

The final draft report of the OCN Work Group contains an expanded management matrix that includes two new parental spawner categories and one new marine survival category. Hence, what was formerly a 3x3 matrix is now a 4x5 matrix (Figures 1 and 2). The new parental spawner categories occur in the low end of the spawner abundance range and are designated as "Very Low" and "Critical". The new marine survival category, designated as "Extremely Low", is also in the low end of the range and corresponds to levels observed from 1992 through 1998. In addition to the inclusion of new marine survival categories, there has also been a shift in the boundary between the "Low" and "Medium" categories.

The sensitivity of OCN coho productivity was examined for conditions of variable spawner abundance and protracted "Extremely Low" marine survival. Model results predict that any impacts that result in OCN spawner densities being reduced to below a "Critical" level of four fish-per-mile increase the risk of extinction for the population. They also indicate that when the marine survival index is "Extremely Low" (hatchery jack to smolt ratio ≤ 0.0008), fishery related impacts in excess of 8% are likely to significantly impede recovery of the population

ODFW staff presented draft preliminary findings of the OCN Work Group to the Commission during their October 2000 meeting in Newport. At that time the Commission endorsed the recommendations of the work group and directed staff to use the recommendations as a conceptual framework for pursuing changes to the management matrix in Plan Amendment 13 pending comments from the public, scientific advisory bodies, and other fishery co-managers.

The OCN Work Group presented summary findings of their draft final report to the SSC and the PFMC during their October/November 2000 meeting in Vancouver, WA. Following those presentations, the PFMC staff advised the Council that they could pursue one of three op-

tions with respect to the OCN review:

- 1) Adopt the recommendations of the OCN Work Group as technical changes to Amendment 13 provided there was consensus in that regard among the SSC, the STT, and the PFMC.
- 2) Initiate the process for a new plan amendment that would incorporate the recommendations of the OCN Work Group.
- 3) Adopt the recommendations of the OCN Work Group as a scientific advisory document.

The PFMC did not adopt the recommendations of the work group as technical changes to Amendment 13 in part because the SSC and the STT requested some additional documentation with respect to analyses completed by the OCN work group before they could reach consensus on proposed technical changes. Furthermore, the PFMC has never constrained preseason fishery impacts on OCN coho to less than 8%. Doing so will likely require additional constraints on chinook fisheries and selective fisheries for hatchery fin-clipped coho and extensive PFMC negotiations with respect to the geographic allocation of available fisheries resources. Because of the tremendous time and work load associated with adopting a new amendment, the PFMC also did not initiate that process. Hence, the Council opted for the third course of action proposed by their staff and adopted the recommendations of the OCN Work Group as a scientific advisory document to help guide management of OCN coho.

Although the PFMC did not adopt recommendations of the OCN Work Group as technical changes to Plan Amendment 13 or move to initiate the process to incorporate them into a new plan amendment, ODFW has adopted the recommendations as the conceptual framework that they will use in negotiating incidental impact rates for OCN coho in PFMC as well as Oregon fisheries.

For OCN coho, population parameters that are required to complete the formulation of fisheries options for 2001 based on Amendment 13 and the recommendations of the OCN Work Group are:

- 1) abundance of OCN coho parental spawners in brood year 1998,
- 2) marine survival experienced by adults returning in 2001,
- 3) abundance projections of hatchery and OCN coho returns in the 2001 Oregon Production Index (OPI, natural and hatchery coho stocks from the Columbia River and the coasts of Oregon and California), and
- 4) projections of potential incidental fishery impacts on OCN coho returning in 2001.

The parental spawning escapement that produced OCN coho returning in 2001 was the third lowest observed since 1950. Final estimates of marine survival for fish returning as adults in 2001 are based upon smolt to jack survival observed among hatchery returns in 2000. They will not be available until the edits and summaries of 2000 OPI coho returns are completed by the Oregon Production Index Technical Team (OPITT) on

February 6. However, examination of preliminary data suggest that marine survival for brood year 1998 and was likely at the upper end of the "Medium" range and the highest observed since the mid-1970's.

OPITT will forecast adult OPI hatchery and natural stocks returns for 2001 during their February 6 meeting. During the following week, the STT of the PFMC will incorporate OPI forecasts into the PFMC Fisheries Regulatory Assessment Model (FRAM). That model projects impacts to OCN coho by fishery, time, and area. Although final stock abundance projections for OPI hatchery and OCN coho and projections of fishery impacts in 2001 on OCN coho will not be officially available until February 26, staff will be able to brief the Commission on the projections at their February 16 meeting.

PUBLIC INVOLVEMENT

ODFW and the Oregon Coastal Zone Management Association (OCZMA) co-hosted a January 11, 2001 meeting of Oregon Salmon Industry Group (OSIG) in Newport. The purpose of the meeting was to brief salmon industry representatives and interested public on results of the 2000 ocean fisheries and the preliminary outlook for 2001 based on limited information available at that time. ODFW and OCZMA will co-host another OSIG meeting scheduled for March 1 in Newport. At that meeting ODFW will present updated impact guidelines and forecasts and will identify sideboards for formulating 2001 fisheries options.

During the March 5-9 meeting of the PFMC in Portland, the public has full opportunity to comment on fisheries options. Following their March meeting the PFMC has scheduled public hearings in Westport WA (March 26), North Bend OR (March 26), Eureka CA (March 27), and Sacramento CA (March 28). In addition, ODFW will also host a meeting in Tillamook, OR (March 27). North of Falcon Forum meetings are also scheduled for March 13-15 and March 26-28. The public may make written comments to the Council at any time prior to the April 6 date for adopting final regulatory measures and the public can also comment in person during the April 2-6 Council meeting in Sacramento.

ISSUE 1

- Forecasted abundance for OPI hatchery and OCN coho returns in 2001.

ANALYSIS

Formal forecast to be completed by OPITT on February 6, 2001 however, based upon hatchery jack returns and preliminary environmental data, the hatchery forecast could be more than double the 2000 forecast and the OCN forecast could be for returns equal to or larger than in 2000.

OPTIONS

NA

STAFF

RECOMMENDATIONS NA

ISSUE 2

- Allowable fishery impacts on OCN coho in 2001.

ANALYSIS

The pre-season projection for incidental fishery impacts of fisheries on OCN coho prior to the 2000 season was approximately 8.23%. Final post-season estimates will not be available until after the February meeting of the STT but it is likely that they were similar to preseason projections. Adult OCN coho destined to return in 2001 originated from the third lowest parental spawning escapement since 1950 and falls within the "Critical" spawner abundance category that has been described by the OCN Work Group. A final estimate of marine survival for the 1998 brood is not available but preliminary data indicate that it is likely to be on the upper end of the range for the newly configured "Medium" category. Nevertheless, regardless of the final marine survival projection, the maximum allowable fishery impact on OCN coho, based on the trigger points in the management matrix that was recommended by the OCN Work Group, would be 0-8%.

OPTIONS

Option 1: Pursue 2001 allowable impacts for OCN coho in the 0-8% range according to the recommendation of the OCN Work Group for parental spawners in the "critical" category.

Option 2: Pursue 2001 allowable impacts for OCN coho consistent with the 2000 PFMC approved precautionary and conservative application of guidelines in Amendment 13 for 2000 returns that also originated from a near record low parental spawning population.

RECOMMENDATION

ODFW staff recommends pursuing allowable impacts for OCN coho in the 0-8% range according to the recommendation of the OCN Work Group for parental spawners in the "critical" category.

ISSUE 3

- Sharing OCN constraints.
- Other constraining stocks and sharing issues.

ANALYSIS

Whereas, incidental fisheries impacts on OCN coho will be a primary constraint again, preliminary indications are that returns of fall chinook to the Sacramento and Klamath rivers in 2001 will be even greater than in 2000. Furthermore, returns of Puget Sound and Washington Coastal coho and Columbia River chinook stocks that constrained fisheries north of Cape Falcon in 2000 are projected to be much better in 2001. Because fisheries in southern British Columbia will be very restricted in 2001, listed chinook stocks from the upper Columbia River basin are also not likely to be limiting on PFMC fisheries in 2001. Constraints to protect Sacramento winter run chinook will continue to play a role in shaping fishing opportunities off central California but not at levels any greater than in 2000.

Hence, it is likely that recreational and commercial industry groups in fisheries immediately to the north and south of the principal Oregon fishing areas will be interested in expanded fishing opportunities in 2001. Expansion of fishing opportunities north of Cape Falcon and south of Humbug Mountain could increase incidental impacts on OCN coho since more than half of the impacts on OCN coho in 1999 and 2000 occurred in fisheries in those areas. If the fisheries north of Cape Falcon and south of Humbug Mountain increase substantially relative to 2000, it is very likely that Oregon troll and recreational fisheries will have to be reduced to maintain incidental impacts on OCN coho at or below allowable levels set by the PFMC.

OPTIONS

- Option I: Formulate sharing of coastwide incidental fishery impacts on OCN coho among geographic areas according to average proportions observed in the 1999 and 2000 fisheries.
- Option II: Formulate sharing of coastwide incidental fisheries impacts on OCN coho during PFMC deliberations and not based on historic precedent.

RECOMMENDATION

ODFW staff recommends pursuing the implementation of fisheries options for the 2001 season that include sharing of OCN impacts between fisheries north of Cape Falcon, from Cape Falcon to Humbug Mountain, and south of Humbug Mountain in proportions similar to the recent two year average trend. If OCN impacts are simply permitted to evolve according to the abundance trends of other stocks it is likely that fisheries off the Oregon Coast will have to unfairly absorb a disproportionate amount of OCN constraints in 2001.

DRAFT MOTION

I move to direct staff to pursue allowable incidental fisheries impacts on OCN coho in the 0-8% range according to the recommendation of the OCN Work Group for parental spawners in the "critical" category and to seek agreement within the PPMC for sharing of coastwide incidental impacts on OCN coho among geographic areas according to average proportions observed in the 1999 and 2000 fisheries.

EFFECTIVE DATE

February 16, 2001 if approved.

Table 1. Current Amendment 13 harvest management matrix with parental spawner and marine survival categories and associated fishery harvest impact rates for OCN coho.

| PARENT SPAWNER STATUS ^{b/} | SMOLT TO ADULT MARINE SURVIVAL ^{a/} | | |
|--|--|-------------------|------|
| | Low | Medium | High |
| High Parent Spawners achieved Level #2 rebuilding criteria <i>and</i> grandparent spawners achieved Level #1 rebuilding criteria | ≤15% | ≤30% | ≤35% |
| Medium Parent spawners achieved Level #1 or greater rebuilding criteria | ≤15% | ≤20% | ≤25% |
| Low Parent spawners less than Level #1 rebuilding criteria | ≤15% | ≤15% | ≤15% |
| | ≤10-13% ^{c/} | | |
| | | | |
| Stock Component Rebuilding Criteria: | Level #1 (50%) | Level #2 (75%) | |
| Northern | 10,900 | 16,400 | |
| North - Central | 27,500 | 41,300 | |
| South - Central | 25,000 | 37,500 | |
| Southern | 2,700 | 4,100 | |
| Total | 66,100 | 99,300 | |

a/ Smolt to adult marine survival is projected from smolt to jack marine survival for representative OPI hatchery stocks from the appropriate brood year. Low medium and high marine survival categories are defined as less than 0.09%, from 0.09% to 0.34% and greater than = 0.34% respectively.

b/ In the event that a spawner criteria is achieved, but a *major* basin within the stock component is *less than ten percent of the full seeding level*, the next tier of additional harvest would not be allowed in mixed stock fisheries for that component, nor additional impacts within that particular basin. (see Table A-3 in Appendix A of Amendment 13 to the FMP for a listing of major basins within stock components and Table A-2 in Appendix A of Amendment 13 for spawners needed for full seeding at 3% marine survival.

c/ This exploitation rate criteria applies when parent spawners are less than 38% of the Level #1 rebuilding criteria, or *when marine survival conditions are extremely low as in 1994-98 (i.e. < 0.06% hatchery smolt to jack survival)*

Table 2. Proposed revisions to the harvest management matrix in Plan Amendment 13 showing allowable fishery impacts and ranges of resulting recruitment for each combination of parental spawner abundance and marine survival.

| Parent Spawner Status ^{1/} | Marine Survival Index (based on return of jacks per hatchery smolt) | | | | | | |
|---|--|---------------------------|-------------------------------|---------------------|------------------------------|---------------------|---------------------|
| | Extremely Low (<0.0008) | Low (0.0008 to 0.0014) | Medium (>0.0014 to 0.0040) | High (>0.0040) | | | |
| High Parent Spawners > 75% of full seeding | E ≤ 8% | J ≤ 15% | O ≤ 30% | J ≤ 45% | | | |
| Medium Parent Spawners > 50% & ≤ 75% of full seeding | D ≤ 8% | I ≤ 15% | N ≤ 20% | I ≤ 38% | | | |
| Low Parent Spawners > 19% & ≤ 50% of full seeding | C ≤ 8% | H ≤ 15% | M ≤ 15% | H ≤ 25% | | | |
| Very Low Parent Spawners > 4 fish per mile & ≤ 19% of full seeding | B ≤ 8% | G ≤ 11% | L ≤ 11% | Q ≤ 11% | | | |
| Critical ^{2/} Parental Spawners ≤ 4 fish per mile | A 0-8% | F 0-8% | K 0-8% | P 0-8% | | | |
| Sub-aggregate and Basin Specific Spawner Criteria Data | | | | | | | |
| Sub-aggregate | Miles of Available Spawning Habitat | 100% of Full Seeding | "Critical" | | Very Low, Low, Medium & High | | |
| | | | 4 Fish per Mile | 12% of Full Seeding | 19% of Full Seeding | 50% of Full Seeding | 75% of full Seeding |
| Northern | 899 | 21,700 | 3,596 | NA | 4,123 | 10,850 | 16,275 |
| North - Central | 1,163 | 55,000 | 4,652 | NA | 10,450 | 27,500 | 41,250 |
| South - Central | 1,685 | 50,000 | 6,740 | NA | 9,500 | 25,000 | 37,500 |
| Southern | 450 | 5,400 | NA | 648 | 1,026 | 2,700 | 4,050 |
| Coastwide Total | 4,197 | 132,100 | 15,636 | | 25,099 | 66,050 | 99,075 |

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

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