

U.S. Fish and Wildlife Service
1312 Fairlane Road
Yreka, California 96097

13 June 1988

FROM: Ron Iverson
TO: Klamath Fishery Management Council
SUBJECT: Draft minutes, Meeting of June 2 and 3, 1988,
Eureka, California

Attached for your review are minutes of the Eureka meeting, along with several attachments. I have followed each motion passed, assignment made, or other decision point with a line of asterisks.

Ron Iverson
Recording Secretary

Attachments

KLAMATH FISHERY MANAGEMENT COUNCIL

PROCEEDINGS OF THE MEETING HELD 2 AND 3 JUNE 1988 IN EUREKA, CALIFORNIA

Approval of Minutes and Agenda The meeting was convened at 8:00 a.m. by Chairman Bob Fletcher, with a quorum present (see attendance roster, Attachment 1). Minutes of the meeting of 3 March 1988 were approved without changes. The agenda for the current meeting was amended to include a discussion of the framework plan amendment process of the Pacific Fishery Management Council, lead by Dr. John Coon (see Attachment 2).

Report on Proposed Legislation Bruce Taylor reported that both the amendments to the Klamath Act and the Russian River Bill are moving through the consideration process in the House of Representatives. The Klamath amendments are included in H.R. 4030, an omnibus fisheries bill expected to proceed from committee to the House floor during the week of 6 June. Bruce expected this non-controversial bill to be enacted by the October adjournment of Congress. The Russian River Bill, H.R. 2513, may be included in the omnibus fisheries bill after review by the House public works committee. The bill directs the Fish and Wildlife Service and the Corps of Engineers to conduct studies of watersheds, aquatic habitats, and fish populations. Bruce thought that passage and appropriations might take place in time for studies to get underway in FY1989.

Bob Fletcher asked about status of the bill introduced by Congressman Bosco regarding the Hoopa Reservation. Bruce responded that the bill is an attempt to resolve disputes that are the basis of the "Jessie Short Case". It includes provisions to split the Reservation between the Square and Extension, make cash payments to individuals, appoint a non-Hoopa Indian to the Klamath River Basin Fisheries Task Force, and clean up illegal dumps along Klamath River. The bill is controversial. Hearings will be held this summer by the appropriate House and Senate committees.

Report on the Trinity River Basin Fish and Wildlife Task Force Wally Steucke reported that the Trinity restoration program currently emphasizes completing the Grass Valley Debris Dam, because that project must be complete before downriver work can legally proceed. The dam should be completed by 1990. Fishery restoration work will get underway in Fiscal Year 1989, with \$1.3 million of an appropriation of \$11 million being identified for biological projects. Wally noted that Jim Smith provides liaison between the Trinity and Klamath Task Forces.

Report on the Klamath River Basin Fisheries Task Force Nat Bingham reported that the Task Force has compiled an inventory of existing fishery restoration work in Klamath Basin, and has approved a work plan for the upcoming fiscal year with a budget

of about \$1 million Federal and \$1 million non-Federal. The work plan includes funds for long-range planning of the Restoration Program.

Projects in the work plan that may be of interest to the Council include:

- o A study to partition chinook ocean stock estimates into hatchery and natural components
- o A study to determine levels of coded wire tagging needed for time/area cell management of the ocean chinook fishery in the KMZ.
- o A project to educate public school students, user groups, and the general public about the needs of anadromous fish and about restoration and management measures, including the Klamath Council.

Bob Hayden asked when studies of the productive capacity of the Klamath Basin will provide some answers. Nat responded that the Restoration Program will emphasize such studies in the initial several years.

Jim Martin asked whether Oregon's Rogue Basin study proposal is in the Task Force work plan, and whether an answer has been received to the larger question of whether funds appropriated under the Klamath Act can be spent outside the Basin. It was explained that the Regional Interior Solicitor is still considering the legal question, and the Rogue proposal was considered and rejected by the technical work group appointed by the Task Force to develop the work plan. Jim said that the Technical Advisory Team has identified a need for information on chinook stocks that are mixed with the Klamath stock in the ocean fishery, and the Rogue stock is one of the most important of these. It was suggested that Oregon look to other potential funding sources to fund the proposed study. Jim responded that these have been drying up.

Review of Draft Operating Procedures Lyle Marshall said he is concerned that the Council meeting schedule has not provided enough time to fully develop proposals for harvest regulation. Sue Masten said she felt the recommendations of the Council for the 1988 ocean chinook harvest were an example of this problem. There was general agreement that Council operating procedures are not the cause of this problem, and the draft operating procedures distributed at the 3 March meeting were approved by consensus with the following revision: In paragraph 18 of Appendix A, Travel Expense Procedures, the words: "...or they may not be honored" are deleted.

A memo from Gary Smith was distributed (Attachment 3), advising KFMC to propose to PFMC a framework plan amendment to adopt harvest rate management.

Report of the Technical Advisory Team

Update on 1988 Salmon Fisheries L.B. Boydstun described PFMC ocean harvest regulations, and chinook landings to date. He noted the pre-season chinook quota in the Klamath Management Zone (KMZ) is 48,000 fish for the general commercial troll fishery opening June 5, plus 15,000 for several special fisheries targeted on Rogue or Eel stocks, for a total quota of 63,000 through August 31. One of those special fisheries, targeted to the Rogue stock, took 8900 chinook during May 1-4, against a quota of 7500. Another special fishery was authorized by California in May in the vicinity of Shelter Cove. This fishery took 8800 chinook, of which about 6200 will be accounted against the KMZ quota.

Commercial chinook catches to date have been large south of Pt. Arena, and record-setting between Pt. Arena and Cape Vizcaino.

The sport fishing chinook quota in the KMZ is 55,000, to be caught between the weekend before Memorial Day and the weekend after Labor Day, with barbless hooks. Any portion of the sport quota that is projected to be left unharvested can be transferred to the commercial fishery in the KMZ.

The sport catch to date south of the KMZ is large. Fishing to date in the KMZ has been good for both chinook and coho. In-river sport fishing will begin in July.

L.B. distributed a memo (Attachment 4) identifying the Technical Team's analysis of 1988 chinook regulations adopted by PFMC. Subsequent discussion included the following:

Q: Is there a way to estimate the contribution of Klamath chinook to 1988 catches...say, through June?

A: Not presently. The primary constraint is the need to expand estimates from CWT recoveries to include unmarked fish. Expansion can't be done accurately until essentially all marks are recovered, which for most tagged groups would mean waiting for hatchery returns in the fall.

Q: When is the "outside" impact on Klamath stocks the greatest?

A: For age 4 fish, impacts are mostly in May and June. After that, they have tended to move into the KMZ. For 3-year-olds, harvest occurs mostly in July and August, when they have reached legal size. The extensive Coos Bay landings of Klamath chinook are mostly 3s, landed in July/August. The May/June Fort Bragg harvest of Klamath chinook takes mostly 4s.

Q: Is the Technical Team charged with developing a mechanism for in-season management of ocean chinook harvest?

A: Not aware of such an assignment to the Team, but CDFG is contracting for studies of genetic stock identification (GSI) techniques that might permit in-season management. A report is due from UC Davis in April 1989. Use of CW tags for in-season management is not promising.

Q: If GSI appears promising, when could it be implemented?

A: The time lag may not be great...CDFG is considering funding a GSI laboratory in FY1989-90. Theoretically, data collection could begin in 1990.

Q: Is the Technical Team deferring use of interim measures for in-season management...CW tags or whatever...in hope of a new technology? Is every option for correcting the present information deficiency being explored? Can you provide more information on what the options are for getting information needed for ocean management, including feasibility, cost, relative accuracy, and possible problems?

A: CW tagging is not promising for "real-time" management, because of the delays involved in expanding the mark recoveries. The Task Force will fund a study to determine CW tagging needs for upgrading ocean harvest management. In any case, mid-season information on contribution rates won't correct, for example, an inaccurate preseason estimate of ocean stock size, as in 1987.

Q: Does Oregon have better CW tag recovery information than California?

A: (Martin): Not for Klamath chinook.

Q: Is the ocean harvest model satisfactory? Can it be made a better predictor?

A: The Technical Team has identified no major problems with the model. Lack of information is the limiting factor.

Q: Could predictions be improved by using more base years?

A: 1986 and 1987 were chosen as base years for making 1988 estimates based on Team judgements about appropriateness and completeness of data.

Q: Is the Team memo distributed today a consensus view? Is there a minority report?

A: It is a true Team consensus on all the issues that arose at the PFMC Millbrae meeting in April.

Q: Why are the early-season fisheries doing so well?

A: Year-to-year variations in landing patterns are expected...does not imply stock sizes larger than predicted. Fisheries further north have not done so well.

Q: Any indication of the number of Klamath chinook in these early catches?

A: No. As explained earlier, numbers of mark recoveries are not very meaningful until they can be expanded.

Concurring with paragraph 2 of the Team memo, Lyle Marshall said the Hoopa Tribe tried to raise the issue of curtailing "outside" catches at the April PFMC meeting, but negotiation is impossible in that atmosphere. It is illogical to have rigid quotas in some areas (KMZ, Washington coast) adjacent to areas that are only loosely controlled, with fishing effort moving freely between. The

tribe would like to see some kind of ceilings placed on harvest in the outside areas, together with more flexibility in the KMZ harvest. Nat Bingham agreed that quotas are not working well to manage ocean harvest because of technical problems in getting information.

Team Plan for In-Season Monitoring L.B. reported that both Oregon and California sample intensively in the KMZ - over 30% of chinook sport landings and all commercial market receipts are observed. A KMZ report is compiled to keep harvest managers informed on landings. Using past-season catch curves, a prediction is maintained as to when quotas will be reached. This is complicated by the varying fish storage capacity of the commercial fleet at sea.

Triggering Mechanism for In-River Sport Salmon Harvest L.B. explained that when 33% of the in-river sport quota is reached, a closure of the fishery above the 101 bridge is triggered 45 days later; when 40% is caught, the sport fishery is closed below the bridge. No change in the trigger mechanism appears to be needed. The river sport fishery consistently catches 7-9% of the in-river run.

Review of Proposal for Funding Rogue River Fall Chinook Monitoring The Technical Team endorses the Rogue monitoring effort and agrees with ODFW that carcass survey effort should be expanded. The Team also recommended that Oregon sample heads from the sport catch, to test a suspicion of a high rate of straying from hatcheries in other watersheds. Information is needed on the Rogue and other "commingling" chinook stocks to provide accurate scaling factors for the Klamath harvest model. Jim Martin explained Oregon will need \$77,000 to continue the Rogue study in 1989, and the money is not available.

Other questions of L.B.:

Q: What does the Team feel needs to be done to upgrade estimates of Klamath contribution rate?

A: The two studies to be funded through the Task Force work plan: estimating the level of CW tagging needed for time/area management; and partitioning the ocean stock size and survival rate estimates into hatchery and natural components.

Q: Is there accurate information on where commercial landings were caught?

A: The state agencies depend on harvester interviews, hoping people in the industry will understand it is in their interest to report accurately.

Q: How will biologists improve estimates of the natural component of ocean stock size and the survival rate of natural stocks?

A: The aforementioned partitioning study will yield an improved estimate of the alpha parameter for natural stocks. A limiting factor in estimating survival rate has been the low confidence in the estimate of spawning escapement into Trinity River. This will

be improved by a carcass mark/recovery project.

Q: Since the Shelter Cove chinook catch in May is subtracted from the KMZ quota, wouldn't that affect Oregon fishers?

A: Yes.

Other Old Business No subjects were raised.

PFMC Framework Plan Amendment Process John Coon distributed copies of the framework amendment proposed in 1986 to incorporate the harvest rate concept for management of Klamath chinook (Attachment 5). Consideration of the proposal was delayed by PFMC from July 1987 to July 1988 to allow review by KFMC. The proposal will be considered by PFMC, without any further action by KFMC, along with the option of retaining the present PFMC management mechanism of a 20-year rebuilding schedule for Klamath chinook. Any other options to be considered should be submitted to PFMC prior to the July meeting, in sufficient detail for impact analysis. The rebuilding schedule could be modified without a formal amendment process, if justifying information were provided.

Bob Fletcher noted that the rebuilding schedule, which only requires an average in-river escapement of 82,700 during the period 1987 through 1990, could have been satisfied with an escapement of only 8,000 fish in 1988. He does not consider the schedule an acceptable management guideline.

Nat Bingham asked whether the November 1986 amendment had been reviewed by the Technical Team. L.B. replied it has not...the impact analysis would normally be done by the Salmon Planning Team, but the Technical Team could advise them if that is desired. All technical evaluations must be completed by the September PFMC meeting.

Technical Team Comparison of 1988 PFMC Regulations with KFMC Recommendations L.B. noted that the KFMC recommendation from the 3 March 1988 meeting would have provided for 153,000 adult fall chinook back to Klamath River in 1988. The PFMC regulations, including special fisheries, provide 132,000...a decrease of 21,000, all of which is subtracted from spawning escapement. The increased ocean harvest allowed by PFMC would also reduce the return of 4-year-olds in 1990.

Discussion:

Q: Considering that the ocean target for Klamath chinook in 1987 was far less than what was caught, will it really make any difference whether PFMC adopted the KFMC recommendation of 101,900 ocean Klamath catch, the target of 130,000 that was adopted, or any other number?

A:(Fletcher and Martin): Yes. If PFMC had accepted KFMC's advice, the KMZ quota would have been smaller, dampening measures in outside areas would have been more stringent, and the actual

catch of Klamath chinook in 1988 would probably be less.

Q: How does the 35,000 floor for spawning escapement in Klamath Basin relate to the long-term spawning escapement objective of 115,000 set by PFMC?

A: There is no relationship...the numbers are arrived at from different management concepts.

Q: Okay, but if we have no spawning escapement goal under the harvest rate concept, how will we ever estimate the productive capacity of Klamath Basin?

A: The 65% overall harvest rate will theoretically allow an increase in stock size. When recruitment flattens out, we can assume the population is around equilibrium, and the capacity of the Basin is being utilized.

Q: The 1987 target for ocean harvest of Klamath chinook was greatly exceeded. As has been asked several times today, what measures are in place in 1988 to prevent this from happening again? Note that impacts of that ocean harvest are felt again this year in return of 4-year-olds to the river.

A: Last year's ocean catches were still consistent with the PFMC rebuilding schedule. This year, the expected large catch of coho may dampen chinook harvest.

Q: How long do the biologists think it will take to reach maximum equilibrium stock size at constant 65% harvest, and how does this restoration rate compare with the rebuilding schedule?

A: Assuming stable environment, the model reaches equilibrium in 13 years at 65% harvest. The rate of stock rebuilding is about the same for the harvest rate concept and the rebuilding schedule.

Q: What about a rising equilibrium level as habitat is restored?

A: Our model doesn't address this...assumes constant environment.

At this point, Dave Bitts objected to further participation by Lisle Reed in the Klamath Fishery Management Council, on account of alleged conflict of interest with his job with Minerals Management Service.

Review of Harvest Sharing Agreement Bob Fletcher asked user group representatives to state any problems they see in the existing agreement that might cause the Council to amend or terminate the agreement.

Sue Masten: In-river users have harvested within quotas established under the agreement, but ocean users-with no malice intended- have harvested at much higher rates than the agreement calls for. If this continues, support for the agreement among Masten's constituents may break down.

Lyle Marshall: Ocean users signed the agreement but, when it no longer appeared to benefit them, some users appeared to label the agreement as advisory only and went to PFMC in an apparent

attempt to get around the agreement, based on an alleged change in contribution rates which the Technical Team has shown to be without basis in fact. I feel we should keep the agreement, renegotiate it as needed, make a strong recommendation to PFMC, and support it in unity rather than fragmenting and seeking our individual interests before PFMC. Let's avoid a repetition of the PFMC Millbrae meeting.

Virginia Bostwick: I concur with Lyle. Let's emphasize preserving the KFMC and the basic concepts of the agreement, and protecting spawning escapement. Deficit accounting should be re-examined as an option.

Bob Hayden: Concur with Lyle--role of KFMC has been frustrating. The technical information needed to manage is just not available. Our priorities should be to protect spawning escapement and resolve problems within KFMC.

Keith Wilkenson: I agree with Lyle Marshall that we should stay with our established process. We must solve the problem of getting data needed for management.

Nat Bingham: When the harvest sharing agreement was being developed in 1985 and 1986, Klamath chinook were relatively scarce and the user groups were just trying to get their basic needs for harvest met. Now, in renegotiating, basic needs the troll industry needs to satisfy include: (1) Maintain a viable troll fleet, which we don't have now in the KMZ ports; (2) Fully harvest non-Klamath stocks. I agree with Lyle that the 1988 regulatory process was not desirable.

Other comments:

Lisle Reed: Am concerned that PFMC be able to accept our management recommendations, as they were not able to do this year. That will require framework plan amendment. I remain troubled by the inability to monitor and control ocean harvest of Klamath chinook...it makes harvest allocation almost meaningless. If a way could be identified to get the needed information, count on me to seek funds for that purpose.

Jim Martin: The present process for managing Klamath chinook, messy as it is, is better than what we had several years ago. ODFW still endorses the harvest rate concept and the spawning escapement floor, and we will support adoption of the framework plan amendment by PFMC. The numbers, however, will need some updating. When we calculated allowable ocean harvest rate, we thought ocean fisheries outside the KMZ would take a pretty constant 0.15 of the brood. In fact, those fisheries can take the entire 0.325 ocean harvest, even with dampening measures.

Richard Schwartz: Am concerned that Council members aren't familiar with the framework amendment process...and urge you to read up on it.

Bob Fletcher: Remember that we have held to the concept of allocating harvest between ocean and river within KFMC, then leaving further allocation of those two shares to the involved user groups.

Fletcher proposed the Council deal next with options to the framework plan amendment proposed in 1986. Nat Bingham proposed consideration of: a spawning escapement ceiling, as well as a floor; and a higher overall harvest rate - 70%, for example. These options were assigned to the Technical Team for review and comment by 3 June. Bob Hayden suggested separate harvest rates for hatchery and naturally-produced fish, at least in-river.

Nat Bingham introduced a motion to form an ad hoc allocation subcommittee of user group representatives to examine the harvest sharing agreement and identify needed changes, if any, to the KFMC. The motion was passed by consensus.

Adjournment took place at 4 p.m.

Call to Order The Council reconvened at 8 a.m. on 3 June.

Review of Harvest Sharing Agreement (Continued)

Sue Masten asked that user group representatives identify deficiencies they see in the present harvest sharing agreement, to give the allocation subcommittee a starting point for negotiation. Sue indicated that enforcement or implementation of the agreement is lacking: last year, gillnetters took less than their allocation, while ocean users took far more. In the long term, after rebuilding of chinook stocks, Sue sees the appropriate tribal share of harvest as 50%.

Keith Wilkinson: Oregon KMZ ports are being affected by catch quotas and limited fishing time. As evidence of impacts of KMZ chinook management on Oregon, Keith distributed several letters (Attachments 6-9).

Bob Hayden: Early in the harvest sharing negotiations, severe constraints on harvest and fishing time in the KMZ were seen as something to be endured until stocks could be rebuilt. Now Klamath stocks seem to be rebuilt, yet the constraints are still in place.

Virginia Bostwick: My concern is not with the existing agreement, but with being pressured to make changes in it.

Nat Bingham: We ocean users see ourselves as having done most of the giving in terms of catch and time-on-water. Responding to Virginia's concern, I want to know that all user group representatives are at least willing to consider amending the sharing agreement. Otherwise, the ad hoc subcommittee is wasting time.

Bob Fletcher distributed a chronology of events related to Klamath chinook management, culminating in the 1988 PFMC regulations (Attachment 10).

Jim Martin Comments on Klamath Chinook Management At Lisle Reed's request, Jim Martin provided some background on the problems involved in meeting objectives of the harvest sharing agreement. The ocean fishery for Klamath chinook is entangled with several other fisheries, to a much greater extent than was realized when the harvest sharing agreement was being developed. To increase the 1988 in-river run by the 21,000 -fish difference between the KFMC recommendation and the PFMC regulation, ocean harvest of about 400,000 coho and chinook would have been forgone. PFMC is required to consider these other fisheries.

The KMZ was defined somewhat arbitrarily as the reach of ocean where Klamath chinook seemed to be most abundant in the catch. The Pacific Council actively manages for Klamath stocks within the KMZ, but active management outside the Zone is for other objectives, and will continue to be so. Biologists made a major error in estimating the harvest rate for Klamath chinook outside the Zone at 0.15 of available stock, when in fact the outside fisheries can take the entire allowable 0.325 ocean harvest and more. Likely causes for this unforeseen circumstance are: the large Klamath ocean stocks of recent years extend out more beyond the fixed bounds of the KMZ - here, Jim used a sandpile analogy - and fishing effort has built up in areas adjacent to the KMZ as boats are pushed out of the Zone by the quota and time-on-water restrictions.

One question facing managers is whether to try to force the outside harvest rate for Klamath chinook back to about 0.15, or to accommodate a larger harvest share.

Jim cited some examples of measures that are being taken to meet allocation objectives in other areas:

- o In the Columbia Basin, several species and stocks are managed to meet treaty allocation needs, though not every stock is shared equally. Upriver bright fall chinook are harvested mostly by treaty tribes, while tule fall chinook go mostly to the ocean fishery.

- o Through the U.S./Canada Treaty, U.S. fishermen accept a reduced share of the Fraser River sockeye harvest, in exchange for a greater share of a coho troll fishery and an overall increase in sockeye harvest through increased production.

- o In the Columbia, anglers take more than half of the harvest of hatchery steelhead (adipose-clipped), but take no naturally-produced fish. This balances random harvest of both stocks by the treaty net fishery.

Further Discussion Nat Bingham said he was confident these complexities can be overcome to get bigger returns to the river. He cited the spring run of chinook as a stock which is less vulnerable to the ocean fishery, and might be successfully restored in Klamath Basin. Sue Masten agreed the harvest sharing agreement could be expanded to stocks other than fall chinook, including coho salmon.

Responding to Jim Martin's sandpile analogy, Zeke Grader said it appears the troll industry is being regulated more stringently as the Klamath stocks rebuild. Grader criticized the 65% harvest rate established to return more spawners, when there is no assurance that productive capacity of the Basin will be maintained. Much of the natural productivity could be lost if the Bureau of Reclamation reduces Trinity River flow from the 340,000 acre-feet/year of the Andrus decision

Allocation Subcommittee Bob Fletcher asked the subcommittee to meet as needed to prepare recommendations for KFMC's next meeting this fall. The first subcommittee meeting was scheduled for 17-18 June at the Arcata Fisheries Assistance Office.

Lyle Marshall suggested the subcommittee discuss all fish stocks of interest - not just fall chinook - and asked whether management agencies can provide information on status of the other stocks. Bob Fletcher said CDFG will provide information on hatchery production. A suggestion was made from the audience that production of other stocks be increased through hatchery propagation.

Framework Plan Amendments The Technical Team (Boydstun) submitted their analysis of the two amendment options suggested by Nat Bingham (Attachment 11).

The Team did not recommend use of an escapement ceiling as a management tool, because it would have to be set so high - to provide for increases in natural stocks - as to be of little use. An escapement ceiling for hatchery fish would be simple: 8500 spawners for Iron Gate and 9000 for Trinity, to meet mitigation requirements.

The Team felt they could examine impacts of harvest rates other than 65%. To do this, they should rearrange the structure of the Klamath model, and partition ocean stock size and survival rate estimates into hatchery and natural components. The analysis could be completed by March, 1989. L.B. suggested the allocation subcommittee proceed with negotiations, because he has seen no information to suggest the model will support any change from 65% in recommended harvest rate.

John Coon suggested rewriting the 1986 proposed amendment to allow consideration of other harvest rates as information becomes available.

Extensive discussion followed on the pros and cons of a ceiling on spawning escapement. Arguments in favor included recent evidence of strong cohorts of progeny of small spawning escapements, and the need to harvest excess hatchery spawning escapements. Arguments against included evidence that natural stocks in Klamath Basin can be restored to much higher levels than the present, and the potential for habitat improvements. Lyle Marshall argued that KFMC should not simply accept the level of productivity made possible by whatever amount of water the Bureau of Reclamation decides to provide in Trinity River, but should decide on an instream flow need and aggressively pursue it.

Bob Fletcher concluded that consensus could not be reached on a spawning escapement ceiling, so the group should turn to the issue of harvest rates other than 65% to see if some language could be agreed on for a framework amendment proposal. References to maximum sustained yield were considered but did not gain support. John Coon suggested the amendment be worded generally, because its intent can be clarified during the public comment period. The Council took this approach and approved a revision of the 1986 amendment proposal (Attachment 12).

Klamath Field Office was requested to draft a letter to PFMC conveying the proposed amendment.

A motion was passed supporting a letter to the Bureau of Reclamation calling for adequate flows in Trinity River to provide for needs of anadromous fish.

Next Meeting The Council will meet November 2 and 3, in Eureka. It was suggested that the Klamath River Basin Fisheries Task Force meet on November 1.

Adjournment was at 1:30 p.m.

ATTACHMENT 1

KLAMATH FISHERY MANAGEMENT COUNCIL
ATTENDANCE, MEETING OF JUNE 2-3, 1988

Council Members

Representing

Nat Bingham	California commercial salmon fishing industry
Virginia Bostwick	In-river sportfishing community
Bob Fletcher	California Department of Fish and Game
Bob Hayden	Offshore recreation fishery
Lyle Marshall	Hoopa Indian Tribe
Jim Martin	Oregon Department of Fish and Game
Sue Masten	Non-Hoopa Indians
Lisle Reed	Department of Interior
Richard Schwarz	Pacific Fishery Management Council
Keith Wilkinson	Oregon commercial salmon fishing industry

Note: Gary Smith, National Marine Fisheries Service was not in attendance and had no alternate.

Others Attending

Name

Representing

Tom Robinson	Oregon Salmon Commission
Jim Johnson	Independent Trollers of Charleston
Bruce Taylor	Congressman Bosco's Office
Ron Jaeger	BIA
Karole Overberg	BIA
Del Robinson	BIA
Aldaron Laird	Trinity Fisheries
Wally Steucke	
Larry Six	PFMC Portland
Douglas Denton	DWR
Jim Smith	Trinity
Rod McInnis	NMFS, SWR
Michael Parton	Karuk Tribal Council
John Coon	PFMC
David O'Neill	
Paul M. Hubbell	CDFG
Mike Morford	Ocean Sport
Doug Parkinson	
Walter Lura	Yurok Gill net fishery
Mark Oliver	Yurok Gill net fishery
Michael Maahs	PCFFA
Brad Matsen	National Fisherman
Leaf Hillman	Karuk Tribe
Alvi Johnson	Karuk Tribe
John Campbell	Brookings Day Fisher
Sharon Sauter	Brookings Day Fisher
Ronnie Pierce	Klamath Task Force member
Gene Elmer	Brookings Day Fishermen
Connie Elmer	Brookings Day Fishermen

ATTACHMENT 2
KLAMATH FISHERY MANAGEMENT COUNCIL
MEETING AGENDA

June 2, 1988

- 8:00 A.M. Call to order
- 8:10 Correction and approval of minutes and agenda
- 8:20 Report on proposed legislation (Taylor)
- H.R. 3496, proposed amendments to the Klamath River Basin Fishery Resources Restoration Act
- H.R. 2513, proposed studies of Russian River fishery resources
- 8:40 Report on the Trinity River Basin Fish and Wildlife Task Force (Steucke)
- 9:10 Report on the Klamath River Basin Fisheries Task Force (Bingham)
- 9:40 Break
- 10:00 Review of draft operating procedures; Management Council adoption of operating procedures
- 10:30 Other old business
- 11:00 Report of the Technical Advisory Team (Cramer)
- Update on 1988 salmon fisheries
- Team plan for in-season monitoring of ocean chinook harvest
- Triggering mechanism for in-river sport salmon harvest
- Review of proposal for funding Rogue River fall chinook monitoring
- 12:00 Lunch
- 1:15 P.M. Framework plan ammendment process (Coon)
- 2:00 Review of Klamath River Salmon Management Long-Term Harvest Sharing Agreement (Fletcher)
- 2:45 Break
- 3:00 Review of Harvest Sharing Agreement (continued)
- 4:00 Adjourn

KLAMATH FISHERY MANAGEMENT COUNCIL
MEETING AGENDA

June 3, 1988

- 8:00 Convene. Review of Harvest Sharing Agreement
(continued)
- 9:30 Break
- 9:45 Review of Harvest Sharing Agreement (continued)
- 12:00 Lunch
- 1:15 P.M. Management Council action on revision of
Harvest Sharing Agreement
- 2:15 Break
- 2:30 Other new business
- 2:45 Discussion of next meeting
- 3:00 Adjourn

Note: Public comment will be taken throughout the Management Council meeting, as appropriate to the subject under discussion.



UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE

Southwest Region
300 S. Ferry Street, Room 2005
Terminal Island, CA 90731
(213) 514-6197
FTS 795-6197

May 27, 1988

F/SWR:JGS

Mr. Robert Fletcher, Chairman
Klamath Fishery Management Council
California Department of Fish and Game
1416 Ninth Street
Sacramento, California 95184

Dear Bob,

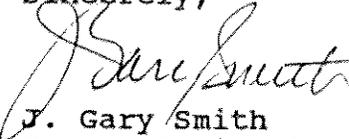
This letter is to advise you that neither Charlie Fullerton or I will be able to attend the June 1-2 meeting of the Klamath Council. As you are aware, Charlie has been serving as Acting Assistant Administrator of Fisheries in Washington D. C. and is not expected back in this office until June 3, 1988. I had planned to attend the Council meeting until I was served a Subpoena to appear in Federal Court in San Diego beginning on June 1. Rod Mc Innis will be at the meeting and should be able to answer questions about the NMFS position on Klamath matters.

In reviewing the agenda for the meeting, it appears doubtful that complete agreement can be reached on the rates used in the harvest agreement without further evaluation by the technical group. It would be useful, however, if the Council could agree that some form of harvest management is the best approach for allocating salmon to the ocean and in-river users given our current level of knowledge. This agreement should recognize that options other than the fixed rate in the current agreement may be necessary to accommodate the high and low years of salmon abundance to the Klamath system. It would also be useful if the Council would support a recommendation to the Pacific Fishery Management Council that harvest rate management be included in a framework amendment to the Ocean Salmon FMP at their July meeting. The framework amendment could include a range of options from which users and the Klamath Council could ultimately reach agreement on an acceptable option.



We are prepared to work with you and the Klamath Council to complete this task.

Sincerely,

A handwritten signature in cursive script, appearing to read "J. Gary Smith".

J. Gary Smith
Deputy Regional Director

cc: Ron Iverson

*From LBB
2 June 88*

MEMORANDUM

To: Klamath Fisheries Management Council
From: Technical Team
Subject: Development of 1988 Ocean Fishery Regulations
Date: 2 June 1988

It is the Team's perception that controversial points in development of 1988 ocean fishery regulations, as influenced by Klamath River fall chinook salmon, included (a) projected contribution rates of Klamath River chinook within the Klamath Management Zone (KMZ), (b) projected ocean fishery impacts on Klamath River chinook caught outside the KMZ (primarily in Fort Bragg and Coos Bay), and (c) preseason projections of Klamath River chinook abundance. Below we give you a brief summary of our consensus agreement on the importance of each of these issues in development of ocean fishery regulations in 1988 and subsequent seasons.

1. Contribution Rates. A KMZ ocean fishery contribution rate of about 18% was used for 1987 management, whereas the rate used for 1988 management was about 29%. Ocean commercial fishermen have reported that the rate adopted for use in 1988 exceeded the rate that existed when the harvest sharing agreement was signed in July 1987. Although the 1988 rate did exceed the 1987 rate, the 1988 rate is well within the range of annual contribution rates previously presented by the Technical Team to the KFMC (these ranged from about 14% to 48% from 1980-84, and averaged about 29%; see Table 1, attached). Therefore, with respect to previously available information regarding contribution rates, the 1988 rate of 29% must be regarded as "average". All Technical Team members are in agreement that the contribution rate adopted for 1988 does not fall outside the range of possible contribution rates as understood by all parties at the time the harvest sharing agreement was adopted.

2. Impacts Outside the KMZ. Technical Team members are in agreement that outside KMZ impacts on Klamath chinook, particularly in Fort Bragg and Coos Bay in 1986 and 1987, substantially exceeded those impacts that might have been projected prior to severe restrictions of KMZ fisheries. To the extent that these outside impacts exceeded the expectations of ocean commercial fishermen at the time the agreement was signed, there has been understandable confusion and a reluctance to impose restrictions on outside fisheries as this subject was not explicitly addressed in the sharing agreement. Modest shifts of "nominal" fishing effort (days fished) from the KMZ to these outside areas have taken place as a result of KMZ restrictions, but the Team was surprised by the "more than modest" increase of outside fishery impacts. Nevertheless, outside KMZ impacts, as revealed by CWT recoveries, have resulted in total ocean fishery exploitation rates substantially exceeding the agreed upon rates (for age 4 fish) of 35% during 1986 (prior to the long-term agreement) and of 32.5% during 1987 (when the long-term agreement was signed). The Team's projection is that 1988 ocean fishery

regulations will result in the agreed upon rate being exceeded once more.

Regardless of the cause(s) for outside impacts that have been larger than anticipated, the Team is in agreement that some measures must be taken to curtail total ocean impacts on Klamath chinook under the 1987 agreement.

3. **Preseason Predictions of Abundance.** Preseason stock abundance projections for Klamath chinook have been substantially lower than postseason estimates in the past two years, but may just as likely overestimate ocean abundance of Klamath chinook in 1988 or in subsequent years. In years when preseason abundance is overestimated, fishing under preseason agreements will result in lower spawning escapement than anticipated; when preseason abundance is underestimated, then resulting spawning escapement will exceed that anticipated. The Team wishes to point out that this problem is not specific to the harvest rate approach adopted by the KFMC, but would result also for any other method of management (such as by a fixed escapement goal) and is a direct consequence of errors in preseason projections of stock abundance. These projections must be made for all management approaches. To some extent, adopted 1988 ocean fishery regulations appear to reflect a perception that actual 1988 Klamath stock abundance will be greater than 1988 preseason projections. We feel there is no long-term basis for this perception and we are extremely concerned about its possible consequences for spawning escapement of Klamath chinook. If 1988 Klamath stock abundance has been overestimated, then adopted 1988 ocean fishery regulations may lead to serious overfishing in 1988 which could in turn lead to reduced Klamath abundance 3 and 4 years from now.

Table 1. Estimated Klamath River fall chinook salmon contribution rates in the KMZ, 1980-1984, as presented to the Klamath River Salmon Management Group in March 1986: Method A is based on inriver Ad-mark percentage and CWT shedding rate estimates; Method B is based on estimates of ocean exploitation rates and inriver run size. Recent updates of these contribution rate estimates, based on method B, have averaged about 6% higher than rates presented below, but display the same large range of contribution rates across years.

Year	Estimated Contribution Rates (%)	
	Method A	Method B
1980	22.5	18.9
1981	29.1	32.2
1982	27.5	32.5
1983	39.1	47.7
1984	13.6	19.1
Averages:	26.9	29.4

PACIFIC FISHERY MANAGEMENT COUNCIL

CHAIRMAN
Joe Easley

Metro Center, Suite 420
2000 S.W. First Avenue
Portland, Oregon 97201

EXECUTIVE DIRECTOR
Joseph C. Greenley

Phone: Commercial (503) 221-6352
FTS 8-423-6352

M E M O R A N D U M

DATE: November 13, 1986

TO: Council Members

FROM: James A. Crutchfield, Chairman *ac.*
Klamath River Salmon Management Group (KRSMG)

SUBJECT: Salmon Management Framework Amendment

This memorandum recommends that the Council initiate a framework fishery management plan (FMP) amendment providing a revised escapement objective for the Klamath River fall-run chinook. A preliminary draft providing suggested wording for the amendment is attached. The amendment proposal delineates a range of potential offshore and terminal harvest rate combinations which meet the revised escapement goal objective. A specific allocation formula for ocean and terminal user groups is not proposed at this time. This allocation is being developed in the preseason process by the KRSMG and its subgroups. It will be provided for the management options in March.

Our proposal focuses on protection of a year class escapement rate for the stock, rather than a single number goal or goal range. We believe our approach will protect the resource while providing for more stable fishing opportunities both in the ocean and river. It will provide for a wider range of escapement levels, which, over time, will improve our ability to more accurately assess the carrying capacity of the Klamath River basin for naturally spawning fall-run adults.

The proposed FMP amendment has our full support as well as that of the allocation and technical committees that have worked so closely with us over the past year. The Council staff has previously forwarded a copy of the technical report in support of our recommendation to individual Salmon Plan Development Team (SPDT) and Scientific and Statistical Committee (SSC) members.

Your timely approval of this important amendment issue for SPDT and SSC review will be appreciated in order that their comments can be available for reference in developing 1987 ocean salmon management measures.

JCC:mps
Enclosure

PROPOSED
FRAMEWORK FISHERY MANAGEMENT PLAN AMENDMENT FOR
KLAMATH RIVER FALL CHINOOK ESCAPEMENT GOAL^{1/}

Klamath River Fall Chinook

The objective of Klamath River fall chinook management is to allow a fixed percentage of the potential adults from each year class of natural spawners to escape the fisheries and spawn, subject to a minimum escapement level for naturally spawning adults. An assessment of the measurable biological parameters for the stock, and the selectivities of the ocean and river fisheries acting upon it, indicates that about 35 percent of the potential adults from each year class should be allowed to spawn. This can best be achieved by regulating offshore and terminal area harvest rates, based upon age-specific fishery impacts by ocean and inriver fisheries in combination.

A range of allowable harvest rate combinations based on current information is shown in Figure 1. These harvest rates refer to the rates at which ages four and five Klamath River chinook can be harvested in the respective areas, while adjustments for fishery selectivities have been incorporated into the analysis for impacts on younger-aged fish. Recognizing the mixed stock nature of offshore fisheries, total allowable ocean landings of chinook in the principal Klamath River ocean management zone must take into account relative abundance of other chinook stocks in the zone, as well as contributions of Klamath River chinook to fisheries in neighboring ocean areas.

An evaluation of available information on the production potential of Klamath River fall chinook indicates that a minimum escapement of 35,000 naturally spawning adults must be protected in all years in order to prevent extended periods of low juvenile production. Protection of this escapement floor may require reductions in allowable offshore and terminal area harvest rates in years of low adult production.

Various assumptions and estimates were used in the development of this harvest rate approach to the management of Klamath River fall chinook. The fishery model upon which the Klamath River escapement objective is based will be continually under review as new information on the stock and the fisheries becomes available. The optimum escapement level for the resource will be determined in future years as productivity measurements become available for higher escapement levels of naturally spawning adults.

1/ Prepared by the Klamath River Salmon Management Group.

ESCAPEMENT/LANDINGS + ESCAPEMENT

.40
.30
.20

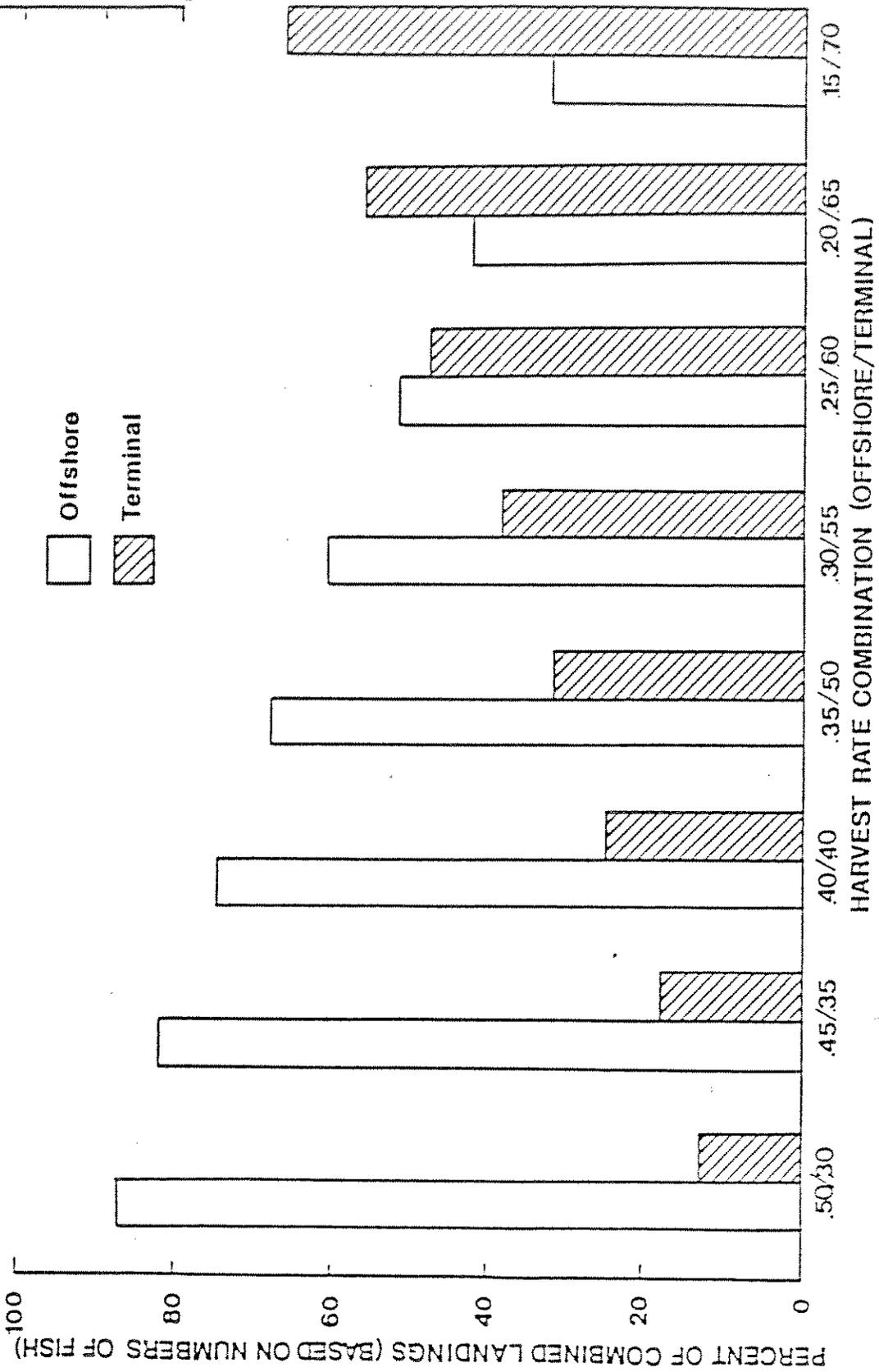


FIGURE 1. Distribution of Klamath River fall-run chinook landings over the long term under a selected range of harvest rate combinations including relative impact on the adult spawning escapements.

Table 3-2. Summary of management goals for stocks in the salmon management unit.

System	Spawning Escapement Goal	Management Objectives	
		Other	Rebuilding Schedule
Klamath River Fall Chinook	35 percent of the potential adults from each year class, but no less than 35,000 naturally spawning adults in any year.	Ocean and inriver fisheries based on allowable harvest rate combination, except as needed to protect the escapement floor.	None at present.



Department of Fish and Wildlife
OFFICE OF THE DIRECTOR

506 SW MILL STREET, P.O. BOX 59, PORTLAND, OREGON 97207 PHONE (503) 229-5406

May 24, 1988

Mr. Bob Fletcher, Chairman
Pacific Fishery Management Council
2000 S.W. 1st Avenue, Suite 420
Portland, OR 97201

Dear Bob:

The Oregon Fish and Wildlife Commission has asked me to communicate our concerns to you and the Council regarding the 1988 ocean salmon seasons. Our Commission met on April 22, 1988, to set salmon seasons for Oregon's territorial waters to ensure consistency with federal regulations. These matters arose from discussions and testimony at that meeting.

We are very concerned about the extremely reduced number of coho salmon available for ocean harvest North of Cape Falcon. In spite of greatly increased hatchery coho populations from the Columbia River, our fishermen are faced with quotas about one-third of last year. We recognize that a combination of factors including reduced abundance of wild coho, high interceptions of U.S. coho by Canadians, and Indian treaty allocation requirements are all part of the cause. We hope that the Council will do everything in its power to avoid this situation again. A review of the long-term prospects for the ocean coho fishery North of Falcon might be a useful exercise. We also renew our request that the SSC review stock predictions and post-season escapement data for key limiting stocks for North of Falcon with the same thorough approach applied to the OPI coho stocks.

We will be working through the Pacific Salmon Commission process to address the concerns about Canadian interceptions.

A second major item was the approach the Council took on allocation of harvestable coho between the North of Falcon sportfishing ports. We hope that the Council will avoid deviations from historical shares unless all parties agree. We recognize that the Council took the magnitude of the "Buoy 10" fishery at the mouth of the Columbia River into account in justifying a shift of coho to Westport and Neah Bay. However, this approach may well open a difficult issue as to what "other considerations" are appropriate. For example, should coho be allocated to southern ports because a year-round Puget Sound and Strait of Juan De Fuca sport fishery is available as a substitute to Northern Washington anglers? Should Neah Bay get less coho salmon because of its extensive halibut fishery? Should the Council consider the sturgeon

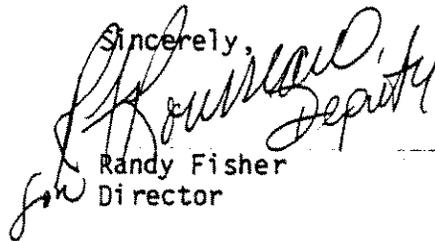
Mr. Bob Fletcher
May 24, 1988
Page 2

fishery in the lower Columbia River or the bottom fish alternatives at Westport? Should the five ports at the Columbia get less fish than the port of Westport?

We feel that the Council needs to more clearly articulate a policy on "port equity" allocation which everyone can count on. This would allow all parties to present relevant rationale on this sharing issue.

Finally, you are aware of our strong concern about establishing state waters fisheries off Shelter Cove, California, after the PFMC process was completed. We feel that this preempted the PFMC public decision-making process and damaged the cooperative Klamath Management process. We have attached a copy of our letter on this matter and will not repeat our detailed concerns here.

We appreciate the opportunity to share our concerns and ask you to distribute this letter to all Council members. Oregon remains committed to the Regional Council process to resolve matters on management of regional ocean salmon fisheries.

Sincerely,

Randy Fisher
Director

jmw

Attachment

cc: OFWC Commissioners
H. Wagner
J. Martin
B. Bohn
Oregon Salmon Users
Contact Group

WP-D

Department of Fish and Wildlife

OFFICE OF THE DIRECTOR

506 SW MILL STREET, P.O. BOX 59, PORTLAND, OREGON 97207 PHONE (503) 229-5406



May 5, 1988

Dr. William E. Evans
 Undersecretary for Oceans and Atmosphere
 United States Department of Commerce
 14th and Constitution Ave. N.E., Room 5128
 Washington, D.C. 20230

Dear Dr. Evans:

It has come to my attention that the State of California has authorized a troll chinook salmon fishery in state waters during the month of May in the area around Shelter Cove, California. This season is inconsistent with the regulatory recommendations of the Pacific Fishery Management Council which were endorsed by the State of Oregon and adopted by your office for the 1988 Pacific Ocean salmon fishery.

The State of Oregon strongly protests this action. Our Department of Fish and Wildlife worked closely with Oregon's fishermen this season to develop a regulatory regime for our offshore area which accommodates the needs of the resource as well as those of the fishing public. While our task was not easy, we were able to present to the Council a compromise package which fairly shared the conservation burden. The recent action of California jeopardizes the arrangements which fishermen and managers in communities throughout the Pacific Coast worked hard to achieve.

It is also our understanding that California is proposing to mitigate the increased impacts on Klamath River fall chinook by subtracting the appropriate number of chinook from an expected rollover of fish from the recreational fishery to the commercial fishery in the Klamath River Management Zone (KRMZ). The State of Oregon has two problems with this proposed action.

First, if there is no rollover then the next fishery that could be adjusted is the one scheduled for the Rogue River area in the fall. If this were to occur it would further increase the burden placed on Oregon fisheries to meet the Klamath River escapement goal. We recommend that the quota in the KRMZ be immediately reduced to mitigate for the Shelter Cove fishery.

Second, I would simply point out that regardless of which option is selected for mitigating for the Shelter Cove fishery, there will be a loss of economic benefits to the State of Oregon so that California can have its special fishery. If the impacts come from out of the general KRMZ troll quota, the reduced commercial catch translates into an estimated loss of \$58,500 in personal income in the Brookings, Oregon, area and statewide losses to Oregon are

Dr. William E. Evans
May 5, 1988
Page 2

estimated to be \$81,900. In contrast, if the impacts come out of the rollover to the commercial fishery from the recreational fishery in the KRMZ, assuming that there are enough fish in the recreational quota, the reduced commercial catch translates into a loss of \$96,800 in personal income in the Brookings, Oregon, area (or \$135,500 statewide). If the fall fishery in the Rogue River area has to be reduced then the loss of personal income in the Brookings, Oregon, area will be about \$243,000 (or \$341,000 statewide).

Everything considered, a fairer option, from Oregon's point of view for mitigating the Klamath River impacts as a result of the Shelter Cove fishery, would be to deduct the impacts from other California salmon fisheries that take place outside of the KRMZ.

On previous occasions deviations between Oregon's regulations for its marine waters and federal regulations in the EEZ prompted statutory preemptive action by the Department of Commerce. While we believe the actions of the State of California this year are no less serious, I do not believe we should determine preemptive action and am not requesting it at this time. We ask that you require California to maintain a rigorous accounting of all fish landed during the inconsistent state season and to keep us and the Pacific Council timely informed. Finally, we ask that California reaffirm its commitment to resolve regional marine fishery management problems in the Pacific Council forum rather than unilaterally.

Oregon is firmly committed to achieving a fair balance of fishery interests in the Pacific Council context. However, this result is severely undermined if all participants do not cooperate fully. We ask that you reinforce the importance of this guiding principle when communicating with the State of California on this subject.

Thank you for your attention.

Sincerely,

Randy Fisher
Director

Re: Rolland A. Schmitt
E. Charles Fullerton
Robert Fletcher
RMS

WEL



June 2, 1988

Klamath Fishery Management Council
1312 Fairlane Road
Yreka, CA 96097

Dear Council:

The purpose of this letter is to remind you of the extreme importance of the commercial fisheries to the continued existence of the Port of Brookings Harbor. The Corps of Engineers' dredge, the Yaquina, is here now to dredge the entrance channel to our Port. If we do not have the commercial tonnage of fish and shellfish coming into the Port in the future as in the past, there will be a real danger of losing the maintenance dredging program. Without the program, we will not have the Port -- without the Port, the local economy will suffer greatly.

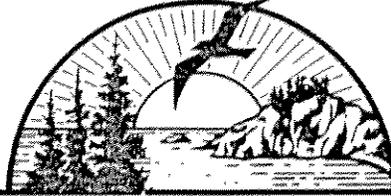
The criterion used by the Corps of Engineers to justify dredging is commercial cargo; lumber, fish, etc., sport fishing does not count. You can see how this area is completely dependent on reasonable-length commercial fishing seasons with a reasonable allowable catch. Continuing cutbacks are not in anybody's interest, especially when they are based on sampling methods where results are questionable. Even if we had confidence in the data, is it reasonable to restrict catches to set ratios with the abundance of Chinook that were in most every river on the Pacific Coast last year?

We would like to see more optimism than pessimism and hedging in the setting of quotas and seasons. Let us all share the wealth while it exists. We have to keep our commercial fishermen in business. Thank you for the opportunity to comment, we are really concerned.

Yours very truly,

Richard O. Miller
Richard O. Miller
Port Manager

ROM/es



Brookings-Harbor

CHAMBER OF COMMERCE

June 2, 1988

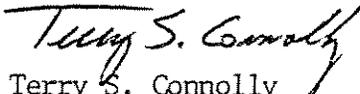
Klamath Fisheries Management Council
1312 Fairlane Road
Yreka, CA 96097

Dear Council:

The Brookings-Harbor Chamber of Commerce is working very hard to build and maintain a healthy economy in our community. If we are to achieve this objective one thing we know for sure is certain: There can be no further restraints placed upon the commercial fishermen who operate out of the Port of Brookings-Harbor. To do so would jeopardize not only the future of the fishermen, but would also directly impact the future operation of the Port of Brookings-Harbor. Both of which would have a devastating effect on the local economy of Brookings-Harbor.

Therefore, in your decision-making process on the level of the salmon harvest, please do not overlook the negative socio-economic impact that a reduction in the harvest would produce in Brookings-Harbor, both now and in the future.

Sincerely,


Terry S. Connolly
Chamber Manager

ATTACHMENT 10

Chronology of Events
Leading to The 1988 Salmon Plan of The
Pacific Fishery Management Council 1,

KEY EVENTS

- 1) Ocean commercial salmon fishing is prohibited in 1985 between Point Delgada and Cape Blanco (Klamath Management Zone, KMZ) because of low abundance of Klamath River fall chinook; the Pacific Fishery Management Council (PFMC) follows by creating the six member Klamath River Salmon Management Group (KRSMG). Page 4.
- 2) The Allocation Work Group of the KRSMG, a committee of user group representatives, on January 23, 1986, reaches a preliminary harvest sharing agreement under a preliminary harvest rate plan. As a result, the ocean users tentatively agree to a major reduction in historical ocean harvest rates for Klamath River fall chinook salmon. Page 7.
- 3) The KRSMG, on March 6, 1986, formally adopts the harvest rate plan, developed by the Technical Team to the KRSMG, and approves the 1986 harvest sharing agreement of the Allocation Work Group. Under the agreement, ocean and inriver users agree to limit their harvest rates for Klamath River fall-run chinook salmon in 1986 to 35 percent and 50 percent, respectively, of the fully vulnerable age classes of the stock. Page 7.
- 4) In April, 1987, unlike 1986, the PFMC adopts a higher quota for the KMZ troll and sport fisheries for the 1987 season than was recommended by the KRSMG Technical Team. Page 9.
- 5) Klamath River Fisheries Management Council (KFMC), created under the Federal Bosco bill, holds its first meeting July 22, 1987, and signs five-year harvest sharing agreement. The allowable ocean and inriver harvest rates for Klamath River fall-run chinook are set at .325 and .525, respectively. Page 9.
- 6) The KFMC holds its second meeting, October 29, 1987, and directs its Technical Advisory Team (TAT) to develop an ocean fishery model for evaluating a wide range of ocean fishery regulatory options beginning with the 1988 season. Page 9.
- 7) The TAT meets February 1-3, 1988 and develops 1988 stock size and ocean fishery model recommendations. Page 10.

1/ California Department of Fish and Game, Inland Fisheries Division, May 10, 1988.

- 8) The KFMC meets March 2-3, 1988 and adopts the TAT recommendations. Page 10.
- 9) The PFMC and its Salmon Advisory Subpanel meet March 7-11, 1988 and develop a wide range of ocean fishery options, including an option to meet the KFMC agreement. Page 10.
- 10) The PFMC meets in Millbrae and on April 8, 1988, after two public hearings in California, adopts an intermediate option for the ocean commercial salmon fishery (which angers some California fishermen). Again, the final regulations are not expected to meet the KFMC agreement. Page 10.

INTRODUCTION

The 1988 salmon plan of the Pacific Fishery Management Council (PFMC), adopted April 8, 1988 in Millbrae, California, has angered some California commercial salmon fishermen. This is because the PFMC plan calls for the lowest chinook salmon quota for the commercial fishery north of Horse Mountain (4 miles north of Shelter Cove, in southern Humboldt County) to Port Orford in southern Oregon (63,000) fish, since 1986; the shortest open season since 1981 (131 days) in Federal waters between Point Arena, in southern Mendocino County, and Cape Vizcaino in northern Mendocino County; and the shortest open season ever in Federal waters (100 days) between Cape Vizcaino to Horse Mountain. The increased restrictions on the commercial fishery stem from the harvest sharing agreement of the Klamath River Fisheries Management Council (KFMC). That agreement calls for an in-river run size to the Klamath River in 1988 of 153,000 adult fall-run chinook salmon, a level of in-river escapement that, reportedly, would have been economically disastrous to the ocean commercial salmon fishery. The PFMC regulatory option preferred by the ocean commercial salmon fishing industry in 1988 would have provided about 109,100 adult fall-run chinook to the river mouth, while the plan adopted by the PFMC provides for an in-river escapement of 132,000 chinook. The controversy over the PFMC plan by the ocean commercial salmon industry continues, and now is focusing on the harvest sharing agreement of the KFMC.

The objective of the following chronology is to document the events of the PFMC and KFMC leading up to the adoption of the 1988 salmon plan by the PFMC. To further assist the reader in researching the subject, appended is a listing of references that fully document the proceedings of the various entities and committees that have been involved in recent years in the management of Klamath River fall-run chinook salmon.

CHRONOLOGY

April, 1983

The PFMC, by emergency action, adopts a rebuilding schedule for Klamath River fall chinook salmon to replace the existing spawning escapement goal, in place since 1978, of 115,000 adult fish. The schedule is to achieve total in-river run size averages, for four-year periods, as follows:

<u>Period</u>	<u>In-river adults</u>
1983-86	68,900
1987-90	82,700
1991-94	99,200
1995-98	115,000 plus catch levels needed for in-river fisheries

The rebuilding schedule does not address in-river fishery needs until the 1995-98 period.

Recoveries of coded-wire tags from chinook salmon landed in ocean fisheries since 1979 establishes that the principal port areas of landing for Klamath River fall chinook to be between Fort Bragg, on the south, to Coos Bay, on the north (PFMC, 1983). The contribution rate of the stock to the commercial fisheries between Fort Bragg and Coos Bay during 1979-1982 was estimated at the time to average 21 percent. (That is, 21 percent of the chinook salmon landings were comprised of Klamath River fall-run chinook salmon). Contribution rates of 23 percent to 28 percent are estimated for the Eureka, Crescent City and southern Oregon fisheries.

October, 1984

Framework Plan Amendment, including rebuilding schedule for Klamath River fall-run chinook, is codified by U.S. Dept. of Commerce.

1983-84 Seasons

In-river run sizes of 57,915 (1983) and 43,472 (1984) Klamath River fall-run chinook fall short of rebuilding schedule goal (68,900), requiring average escapement of about 87,100 in remaining 2 years of 4-year period to achieve goal.

Commercial regulations in the area between about Shelter Cove and Port Orford are more restrictive than ever.

April, 1985

The PFMC adopts option of no commercial troll season for area between about Shelter Cove and Port Orford (Klamath Management Zone, KMZ) because of forecasted low abundance of Klamath River fall chinook salmon. This was largely due to a serious El Nino event, and was forecasted based on a low jack count (in-river age two fish). In-river adult escapement was

59,400; ocean escapement goal for 1986 increases to 114,900 fish. PFMC creates a six-member Klamath River Salmon Management Group (KRSMG) to deal with Klamath River fishery issues.

May 23, 1985

First meeting of KRSMG is held in San Francisco. The management entities and representatives are as follows:

U.S. Department of the Interior (USDOI)	Joseph Kutkuhn
Pacific Fishery Management Council	James Crutchfield
State of Oregon	James Martin
State of California	Robert Fletcher
Hoopla Valley Business Council	Danny Jordan
Department of Commerce	Charles Fullerton

A charter was adopted charging the group with making recommendations to the PFMC, USDOI, State of California and the Klamath-Trinity Tribes on the following management issues:

1. Spawning escapement goals;
2. Rebuilding schedule to meet the adopted escapement goals, including production goals;
3. Methods for harvest sharing between recreational, Indian, and commercial users; and
4. Short- and long-range data needs to meet the above goals.

A Technical Group was selected to accomplish the four items. The group was comprised of persons selected by each of the following user and management groups:

CDFG	L.B. Boydstun and Paul Hubbell (alternate)
ODFW	Steve Cramer
USDOI	Bob Adair and Del Robinson
NMFS (Dept. of Commerce)	Rod McInnis
Hoopla Valley Tribe	Bob Hannah
Inland recreational users	Bill Bemis
Ocean recreational users	Bob Haden
Commercial trollers	Don Kelley and Mike Maahs (alternate)
River resorts and guides	(none recommended)

September 4, 1985

The second meeting of the KRSMG is held in Arcata. Alternative escapement goal options and the formation of an allocation committee composed of policy makers and user groups are discussed. The harvest rate approach for fishery management is included as an option. The allocation committee is to be called the Klamath River Allocation Work Group.

September 24-25, 1985

Third meeting of KRSMG, first meeting of Allocation Work Group is held in Arcata. Spokespersons representing the following user groups describe their needs and concerns:

<u>Group</u>	<u>Representative</u>
Indian	Dan Jordan, Hoopa Valley Business Council
Ocean troll	Nat Bingham, Fort Bragg Dave Bitts, Eureka Bob Frazell, Oregon
Ocean recreational	Jim Walters, Eureka Dee Shurtleff, Brookings Bill Maloney, United Anglers of California
Lower river recreation	Virginia Bostwick, Kamp Klamath
Upper river recreation	Jim Smith, Trinity River area

The KRSMG Technical Group presents a report summarizing the utilization of Klamath-Trinity Basin fall-run chinook salmon during 1979-1983.

November 20, 1985

Second meeting of Allocation Work Group. Further discussions are held to develop an allocation agreement for 1986. Four preliminary allocation decisions are reached regarding measuring and expressing fishery yield.

January 7-8, 1986

Third meeting of Allocation Work Group. CDFG presents harvest sharing options under the harvest rate strategy (Attachment A). The Allocation Work Group tentatively approves a 0.35/0.40 harvest rate option for the 1986 season. This means that ocean users may take 35 percent of fully vulnerable (ages 4 and 5) Klamath River fall chinook salmon in the ocean and in-river users may take 40 percent of the ages 4 and 5 fish in-river. A lower harvest rate is allowed for age 3 fish in both areas due to fishery selectivities. The agreement results in roughly an ocean/in-river landing ratio of about 75/25 under a "large" stock size scenario.

(The tentative harvest sharing agreement compares to actual harvest rates during 1981-84, for fully vulnerable Klamath River fall chinook, of about 55-60 percent in the ocean and about 50 percent in the river (Hankin 1985). Thus a major reduction in the ocean harvest rate, and a relatively small one in the in-river harvest rate, are being considered.)

January 23, 1986

The KRSMG adopts a harvest sharing combination of 0.35/0.40, under CDFG preliminary plan.

January 28-29, 1986

Inriver users confirm inriver harvest sharing agreement for 1986 season. The sliding scale schedule gives the river recreational fishery 20-25 percent of the allowable inriver harvest with the balance going to the Indian fishery.

February 18, 1986

Technical Team finalizes spawning escapement (harvest rate) policy recommendation (Attachment B). Allowable harvest rate combinations change slightly. The escapement rate for each year class of fish is set at 35 percent, except an escapement floor for natural spawners of 35,000 is to be protected in all years.

March 6, 1986 (teleconference)

The KRSMG adopts the Technical Team harvest rate plan and allocation methods recommendations. The KRSMG agrees to a 0.35/0.50 harvest share between ocean and inriver users. (The revised assessment by the Technical Team indicates that this combination will provide a 68/32 ocean/in-river split, and an escapement rate of 35 percent under projected 1986 stock levels. This compares to an ocean/in-river split of about 85/15, and an escapement rate of 25 percent for years immediately preceding the harvest sharing plan). For 1986, ocean users are allocated 75,350 Klamath fall chinook and inriver users 36,000, leaving a spawning escapement of 61,200 adults. This was calculated using an average Klamath River contribution rate to the KMZ during 1980-1984 of 0.28 (Attachments C and D). The recommended chinook salmon quota for the KMZ is 123,200 (Attachment E).

April, 1986

The PFMC adopts the 123,200 chinook quota for the KMZ; 40,000 is allocated to the sport fishery with any surplus in the sport quota available for transfer in mid-July to the KMZ commercial fishery. The Salmon Team of the PFMC supports the KRSMG escapement policy recommendation, except the Salmon Team supports natural escapement floor of 43,000 adults.

October 7-8, 1986

The Technical Team presents options to the KRSMG for a multi-year harvest sharing agreement. H.R. 4712 (Bosco) has been passed; group agrees to continue to function until Klamath Fishery Management Council is formed. Each user group reports on 1986 fishery performance and all expressed general satisfaction with the plan. SB 2253 (Keene) has passed authorizing DFG director to enter into a mutual agreement or compact with Hoopas and BIA relative to Indian

fishing and commercial sales of fish on the Klamath River and Hoopa Valley reservations. Agreements and compacts are to be based on the allocation and management plans approved by the KRSMG and PFMC.

November, 1986

KRSMG submits formal plan amendment to PFMC to amend Federal Framework Plan to apply harvest rate management plan for Klamath River fall chinook. A wide range of allowable harvest rate combinations is included in the plan. Ocean users meet November 24-25 and develop ocean harvest sharing principles.

December 15-16, 1986

The KRSMG meets and receives recommendations from Technical Team to develop a harvest sharing agreement that narrows the range of harvest rate combinations for use in regulating the fisheries in future years. In-river user caucus presents a statement of inriver long-term goals and principles (eg. shift of greater harvest to in-river users, high priority to Indian subsistence and ceremonial needs, protection of escapement floor for resource viability, and that total ocean impacts must be considered).

January 20-21, 1987

The KRSMG receives 1986 Klamath River basin run size update. Technical Team presented its assessment of record high Trinity River natural chinook escapement estimates for 1986, which they could neither verify or refute using alternative methodologies. The KRSMG prepares its first draft of the Klamath River Salmon Management Long Term Harvest Sharing Agreement, which sets an ocean/river harvest share of 0.325/0.525 for 5 years and a natural spawning escapement floor of 35,000 adults. Agreement is reached by the Allocation Work Group to seek support for the harvest sharing agreement. Ocean users agree full sport season from Memorial Day through Labor Day should be protected in KMZ as part of overall area quota.

March 3, 1987

The KRSMG agrees to continue to support 35,000 escapement floor recommendation, rather than the 43,000 recommended by the PFMC Salmon Team. The Technical Team, with PFMC Salmon Team concurrence, gives stock abundance projections and 94,000 total chinook quota recommendation for the KMZ for the 1987 season. All user group representatives generally agree with harvest rate plan; lower river Indians, Hoopa Valley Business Council and PCFFA are concerned about proportional cutback provision for fisheries in years of low stock abundance, to protect escapement floor. A letter is sent to the PFMC giving KRSMG recommendations.

April, 1987

PFMC adopts Klamath River Impact Model (KRIM) for use in setting and evaluating ocean salmon regulations. The KRIM, developed by an Oregon commercial fishermen's representative, establishes a 200,000 chinook quota for the KMZ. (The recommendation of the KRSMG's Technical Team, of 94,000 for the KMZ, is not used). The ocean sport quota for the KMZ is set at 70,000 with a provision to transfer any projected surplus in the sport quota to the commercial fishery in late July, except that fishery impacts outside of the KMZ would be evaluated and could effect the transfer. (Reportedly, 30,000 of the 70,000 sport quota was to be reserved for the KMZ troll fishery).

July, 1987

The KFMC holds its first meeting the 22nd and signs 5-year, harvest sharing agreement (Attachments F and G). Nominees for the Technical Team are accepted. Cooperative law enforcement agreement between USDOJ, Hoopa Valley Business Council, and DFG is signed the 24th; Indian commercial fishing agreement, between same entities, is signed the 27th.

August 12, 1987

The KFMC decides against any actions to mitigate much larger than predicted fishery impacts for Klamath River fall chinook in 1987 stemming from large commercial chinook salmon catches in Coos Bay, Fort Bragg, and San Francisco. The preseason KRIM model is used in the fishery impact assessment, and no fish within the 70,000 KMZ sport/commercial preseason reservation are allocated to KMZ troll fishery.

October 29, 1987

The KFMC receives monetary needs (budget) report from the Interim Technical Team, and reports on 1987 ocean and in-river fisheries. The Technical Advisory Team (TAT) is increased by one and formally approved by consensus (Attachment H). The TAT is instructed to upgrade or replace the KRIM model, for use in 1988 ocean management, to evaluate a wide range of options.

November 9-10, 1987

The TAT meets to elect chairperson and delegate assignments.

December 16, 1987

Outline of 1988 stock projection report, including analytical methods recommendations, are distributed to TAT members.

January 28-29, 1988

TAT subcommittee meets in Arcata to discuss ocean fishery model structure.

February, 1988

The TAT meets February 1-3 to discuss and develop recommendations on 1988 stock size projections; the 1987 Trinity River carcass survey; and the ocean fishery regulatory model, including the base years (1986 and 1987) for use in evaluating 1988 regulatory options. Work on the model continues and copies are available by February 23. Salmon Team of PFMC meets February 17-23 and approves TAT stock size projections for Klamath River fall chinook.

March 2-3, 1988

The KFMC meets to receive, from the TAT, a wide range of past fishery information, 1988 stock projections, and allowable ocean and in-river harvest levels for Klamath River fall chinook under the 5-year agreement. A report is given that ocean harvest rates in 1986 and 1987 had exceeded the Klamath River fall chinook salmon harvest sharing agreements for those years. The TAT's ocean fishery model is described and a wide range of ocean regulatory examples are evaluated (Attachment I). The KFMC agrees to convey its recommendations to the PFMC (Attachment J).

March, 1988

The PFMC adopts ocean fishery regulatory options March 7-11, including an option to meet the KFMC agreement (Option 1 or 2) and an option, reportedly, to meet ocean commercial needs (Option 4). Option 1 provided more restrictive regulations than 1987, including no troll fishing between Hecata Head, in central Oregon, to Point Arena during the month of July and a 32,000 chinook salmon troll quota for the KMZ, through August 31. The sport fishery chinook salmon quota for the KMZ under Option 1 was 40,000 fish. Under Option 4, troll regulations were essentially the same as 1987, including a 127,500 chinook salmon quota for the KMZ through September 7, and a KMZ sport fishery quota of 55,000 chinook through September 11.

April 4-8, 1988

The PFMC, after two public hearings in California, adopts ocean regulations which are projected to provide an in-river run of Klamath River fall chinook of 132,000 adult fish. This level of escapement is intermediate to Option 1 or 2 (153,000 escapement) and Option 4 (109,100). The TAT's fishery model is modified slightly by the PFMC Salmon Team to provide for additional stock abundance scaling. The question of Klamath River contribution rate to the KMZ troll fishery is raised. The rate used for 1988 is 29 percent (while it is higher than the rate used in 1987 [18 percent]), when the 5-year agreement was signed, the model (KRIM) used in 1987, was based on only one year of very preliminary data, which has since been updated. KRIM was not age-specific or did it utilize recent years' harvest rates. Klamath River fall-run

chinook contribution rates to the KMZ troll fishery since 1980 have ranged widely (c.f. Attachments C and D) and the rate used for 1988 is very comparable to the rate used in 1986 management for the KMZ [28 percent]).

REFERENCES FOR ADDITIONAL INFORMATION

- Hankin, David G. 1985. Analyses of recovery data for marked chinook salmon released from Iron Gate and Trinity River hatcheries, and their implications for management of wild and hatchery chinook stocks in the Klamath River system. Contract assignment No. 100-FISH-513, U.S. Bureau of Indian Affairs.
- Pacific Fishery Management Council. 1983. Proposed plan for managing the 1983 salmon fisheries off the coasts of California, Oregon and Washington. Pac. Fish. Mgmt. Council, Portland. Variously paged.
- _____. 1984. A review of the 1983 ocean salmon fisheries and status of stocks and management goals for the 1984 salmon seasons off the coasts of California, Oregon, and Washington, Pac. Fish. Mgmt. Council, Portland. Variously paged, plus supplements: i) Regulations to achieve 1984 management goals; ii) a summary of 1984 ocean salmon fishery options submitted for public review; iii) Analysis of impacts of 1984 regulatory options adopted by the Council for public review; iv) Analysis of impacts of adopted 1984 regulations on the ocean salmon fisheries of California, Oregon, and Washington.
- _____. 1984. Final Framework Amendment for managing the ocean salmon fisheries off the coasts of Washington, Oregon, and California commencing in 1985. Pac. Fish. Mgmt. Council, Portland. Variously paged.
- _____. 1985. 1984 ocean salmon fisheries review. Pac. Fish. Mgmt. Council, Portland. Variously paged, plus supplements: i) 1985 ocean salmon fisheries stock status projections, management goals and regulation impact analysis; ii) 1985 ocean salmon fisheries proposed regulatory options and regulations impact analyses; iii) 1985 ocean salmon fisheries analysis of impacts of Council adopted 1985 regulations.
- _____. 1986. Review of 1985 ocean salmon fisheries. Pac. Fish. Mgmt. Council, Portland. Variously paged, plus supplements: Preseason report I, stock abundance analysis for 1986 ocean salmon fisheries; Preseason report II, Analysis of proposed regulatory options for 1986 ocean salmon fisheries; Preseason report III, Analysis of Council adopted management measures for 1986 ocean salmon fisheries.
- _____. 1987. Review of 1986 ocean salmon fisheries. Pac. Fish. Mgmt. Council, Portland. Variously paged, plus supplements: Preseason report I, stock abundance analysis

for 1987 ocean salmon fisheries; Preseason report II, analysis of proposed regulatory options for 1987 ocean salmon fisheries; Preseason report III, analysis of Council adopted management measures for 1987 ocean salmon fisheries.

_____. 1988. Review of 1987 ocean salmon fisheries. Pac. Fish. Mgmt. Council, Portland. Variousy paged, plus supplements: Preseason report I, stock abundance analysis for 1988 ocean salmon fisheries; Preseason report II, analysis of proposed regulatory options for 1988 ocean salmon fisheries; Preseason report III, analysis of Council adopted management measures for 1988 ocean salmon fisheries and final environmental assessment of proposed emergency management measures adopted by the Council for the 1988 ocean salmon season.

_____. 1988. Klamath River fall chinook contribution rates. Salmon Plan Development Team, April 7, 1988. Pac. Fish. Mgmt. Council, Portland. 4 p.

Klamath River Salmon Management Group. 1985. Summary of meeting of Klamath River Salmon Management Group, May 23, 1985, San Francisco Airport Holiday Inn. Calif. Dep. Fish and Game, Sacramento. 6 p.

_____. 1985. Report of first meeting of the Technical Advisory Team, June 12-14, 1985. U.S. Fish and Wildl. Serv., Arcata. 3 p.

_____. 1985. Report of second meeting of the Technical Advisory Team, July 24-25, 1985. U.S. Fish and Wildl. Serv., Arcata. 4 p.

_____. 1985. Report of third meeting of the Technical Advisory Team, August 27-28, 1985. U.S. Fish and Wildl. Serv., Arcata. 3 p.

_____. 1985. Summary of meeting of Klamath River Salmon Management Group, September 4, 1985, San Francisco Airport Holiday Inn. Calif. Dep. Fish and Game, Sacramento. 2 p.

_____. 1985. Summary of meeting, Klamath River Allocation Workgroup, Red Lion Inn, Eureka, California, November 20, 1985. Calif. Dep. Fish and Game, Sacramento. 5 p. plus attachments.

_____. 1985. Report on fourth meeting of the Technical Advisory Team, October 9-10, 1985. U.S. Fish and Wildl. Serv., Arcata. 3 p.

- _____ . 1985. Report on fifth meeting of the Technical Advisory Team, November 18-19, 1985. U.S. Fish and Wildl. Serv., Arcata. 3 p.
- _____ . 1986. Summary of meeting, Klamath River Allocation Work Group, Ramada Inn, Arcata, California, January 7-8, 1986. Calif. Dep. Fish and Game, Sacramento. 2 p. plus attachments.
- _____ . 1986. Report on meeting of the Technical Advisory Team, January 7-8, 1986. U.S. Fish and Wildl. Serv., Arcata. 2 p. plus attachments.
- _____ . 1986. Proposed Agenda, Klamath River Allocation Work Group, Ramada Inn, Arcata, CA, January 23, 1986. Pac. Fish. Mgmt. Council, Portland. 1 p.
- _____ . 1986. Report on meeting of the Technical Advisory Team, January 22-23, 1986. U.S. Fish Wildl. Serv., Arcata. 2 p.
- _____ . 1986. Proposed Agenda, Klamath River Salmon Management Group, Teleconference of March 6, 1986. Calif. Dep. Fish and Game, Sacramento. 1 p. plus attachments.
- _____ . 1986. Report on meeting of the Technical Advisory Team, March 5-6, 1986. U.S. Fish Wildl. Serv., Arcata. 2 p.
- _____ . 1986. Report on meeting of the Technical Advisory Team, May 19-20, 1986. U.S. Fish Wildl. Serv., Arcata. 2 p.
- _____ . 1986. Summary of meeting, Klamath River Salmon Management Group, Ramada Inn, Arcata, October 7-8, 1986. 6 p. plus attachments.
- _____ . 1986. Results of contribution rate meeting of November 18, 1986 (Technical Team). Calif. Dep. Fish and Game, Sacramento. 3 p.
- _____ . 1986. Summary of meeting, Klamath River Salmon Management Group (KRSMG), Allocation Work Group, Agricultural Extension Service Office, Eureka, December 15-16, 1986. Pac. Fish. Mgmt. Council, Portland. 4 p. plus attachments.
- _____ . 1987. Report on meeting of the Technical Advisory Team, January 6-7, 1987. U.S. Fish and Wildl. Serv., Arcata. 2 p.

- _____ . 1987. Summary of meeting, Klamath River Salmon Management Group, Allocation Work Group, Agricultural Extension Service Office, Eureka, California, January 20-21, 1987, Pac. Fish. Mgmt. Council, Portland. 3 p. plus attachments.
- _____ . 1987. Report on meeting of the Technical Advisory Team, February 9-11, 1987. U.S. Fish and Wildl. Serv., Arcata. 2 p.
- _____ . 1987. Summary of meeting, Klamath River Salmon Management Group (KRSMG), Allocation Work Group, March 3, 1987, Agricultural Extension Service Office, Eureka, California. Pac. Fish. Mgmt. Council, Portland. 4 p. plus attachments.
- Technical Team of the Klamath River Salmon Management Group.
- _____ . 1986. Projections of Klamath River fall-run chinook salmon abundance in 1986. Calif. Dep. Fish and Game, Sacramento. 23 p. plus appendices.
- _____ . 1986. Recommended spawning escapement policy for Klamath River fall-run chinook. Calif. Dep. Fish and Game, Sacramento. 96 p.
- _____ . 1986. Recommended methods of allocating harvest of Klamath River fall-run chinook in 1986 including allowable harvest levels under harvest rate management. Calif. Dep. Fish and Game, Sacramento. 10 p.
- _____ . 1986. Harvest rate options for multiyear harvest sharing agreement. Calif. Dep. Fish and Game, Sacramento. 18 p.
- _____ . 1986. Effect of varied harvest rate combinations on production and age structure of Klamath River fall chinook. Calif. Dep. Fish and Game, Sacramento. 6 p.
- _____ . 1987. Escapement floor recommendation. (Memorandum). Calif. Dep. Fish and Game, Sacramento. 3 p.
- _____ . 1987. Report on meeting of the Technical Advisory Team, June 4-5, 1987. U.S. Fish and Wildl. Serv., Arcata. 2 p.
- _____ . 1987. Allowable harvest levels, 1987 season. (Memorandum). Calif. Dep. Fish and Game, Sacramento, 2 p.
- _____ . 1987. Assessment of Klamath River fall chinook impacts in the special Eel River ocean troll fishery, 1986 season. Calif. Dep. Fish and Game, Sacramento. 11 p.

_____. 1987. Analysis of options to share in protecting the escapement floor. (Memorandum). Calif. Dep. Fish and Game, Sacramento. 5 p.

Klamath River Fisheries Management Council. 1987. July 22, 1987 minutes. Calif. Dep. Fish and Game, Sacramento. 2 p.

_____. 1987. Proceedings of meeting held 29 October, 1977, in Eureka, California. U.S. Fish and Wildl. Serv., Yreka. 5 p. plus attachments.

_____. 1987. Minutes of (Technical Team) meeting of November 9-10, 1987, FWS office, Arcata. Calif. Dep. Fish and Game, Sacramento. 2 p. plus attachments.

_____. 1987. December 14, 1987 teleconference (KFMC). Calif. Dep. Fish and Game, Sacramento.

_____. 1988. Minutes of February 1-3, 1988 (Technical Team) meeting, CDFG office, Rancho Cordova. Calif. Dep. Fish and Game, Sacramento. 4 p. plus attachments.

_____. 1988. Proceedings of the (KFMC) meeting held 3 March 1988 in Eureka, California. U.S. Fish Wildl. Service, Yreka. 6 p. plus attachments.

Technical Advisory Team of the Klamath River Fisheries Management Council. 1987. Monitoring needs for the management of Klamath River fall-run chinook salmon. Calif. Dep. Fish and Game, Sacramento. 7 p. plus attachments.

_____. 1988. Ocean stock size estimates and allowable harvest levels for Klamath River fall chinook, 1988 season. Calif. Dep. Fish and Game, Sacramento. 18 p.

_____. 1988. Description of Klamath River fall chinook ocean fishery model for use in 1988 management. Pac. Fish. Mgmt. Council, Portland. 14 p.

MEMORANDUM

TO: Klamath Fisheries Management Council

06/03/88

FROM: Technical Team

SUBJECT: Escapement Plan for Framework Plan Amendment

A majority of the Team members met this morning to address your questions regarding i) escapement ceilings for Klamath River fall chinook and ii) a revised escapement rate for the stock. Our responses follow:

Escapement Ceilings. A spawning escapement ceiling recommendation for natural stocks can probably be calculated, based on the previous technical work done for the Klamath River Salmon Management Group. However, we suspect the value that we would calculate would be of little or no use to your current allocation discussions. This is because the value would be quite high, probably exceeding the large spawning escapement levels realized in recent years.

Escapements of adult fish to the two basin hatcheries exceeding the mitigation goals or egg-take needs for the coming season can be harvested, provided the escapement rate and escapement floor for the natural stocks can be protected. The mitigation goals for IGH and TRH are 8,500 and 9,000 adult fish, respectively. The egg-take needs are determined annually by the CDFG depending on hatchery or off-site rearing capacities for fingerling or larger fish.

Escapement Rate. The Technical Team agrees we need to re-examine the harvest rate model used in developing the current harvest rate plan being considered for the PFMC Framework Plan Amendment. However, before we attempt that task we need to i) re-evaluate the structure of the model, and ii) complete partitioning of the data base into hatchery and natural components. The partitioning assignment is important for re-evaluating the "productivity" parameter for natural stocks and the age-specific maturity rates used in the model.

The outcome from re-evaluating the current harvest rate plan may modify the escapement rate recommendation, but the change would probably be quite small. A small change would not greatly affect the number of fish available for harvest, compared to current harvest rate plan.

The earliest we could re-evaluate the current rate plan would probably be this coming December or January, with completion in February or March. Regarding the effect of any re-evaluation on the Framework Plan Amendment, we expect any small technical changes can be quickly implemented.

PROPOSED
FRAMEWORK FISHERY MANAGEMENT PLAN AMENDMENT FOR
KLAMATH RIVER FALL CHINOOK ESCAPEMENT GOAL^{1/}

Klamath River Fall Chinook

The objective of Klamath River fall chinook management is to allow a fixed percentage of the potential adults from each year class of natural spawners to escape the fisheries and spawn, subject to a minimum escapement level for naturally spawning adults. An assessment of the measurable biological parameters for the stock, and the selectivities of the ocean and the river fisheries acting upon it, indicates that about 35 percent are used to determine the proportion of the potential adults from each year class that should be allowed to spawn. This can best be achieved by regulating offshore and terminal area harvest rates, based upon age-specific fishery impacts by ocean and inriver fisheries in combination.

A range of One of the allowable harvest rate combinations based on current information is shown in Figure 1. These harvest rates refer to the rates at which ages four and five Klamath River chinook can be harvested in the respective areas, while adjustments for fishery selectivities have been incorporated into the analysis for impacts on younger-aged fish. Recognizing the mixed stock nature of offshore fisheries, total allowable ocean landings of chinook in the principal Klamath River ocean management zone must take into account relative abundance of other chinook stocks in the zone, as well as contributions of Klamath River chinook to fisheries in neighboring ocean areas.

An evaluation of available information on the production potential of Klamath River fall chinook indicates that a minimum escapement of 35,000 naturally spawning adults must be protected in all years in order to prevent extended periods of low juvenile production. Protection of this escapement floor may require reductions in allowable offshore and terminal area harvest rates in years of low adult production.

Various assumptions and estimates were used in the development of this harvest rate approach to the management of Klamath River fall chinook. The fishery model upon which the Klamath River escapement objective is based will be continually under review as new information on the stock and the fisheries becomes available. The optimum escapement level for the resource will be determined in future years as productivity measurements become available for higher escapement levels of naturally spawning adults.

1/ Prepared by the Klamath River Salmon Management Group
Prepared by the Klamath Fishery Management Council

SCAPEMENT/LANDINGS + ESCAPEMENT

.40
.30
.20

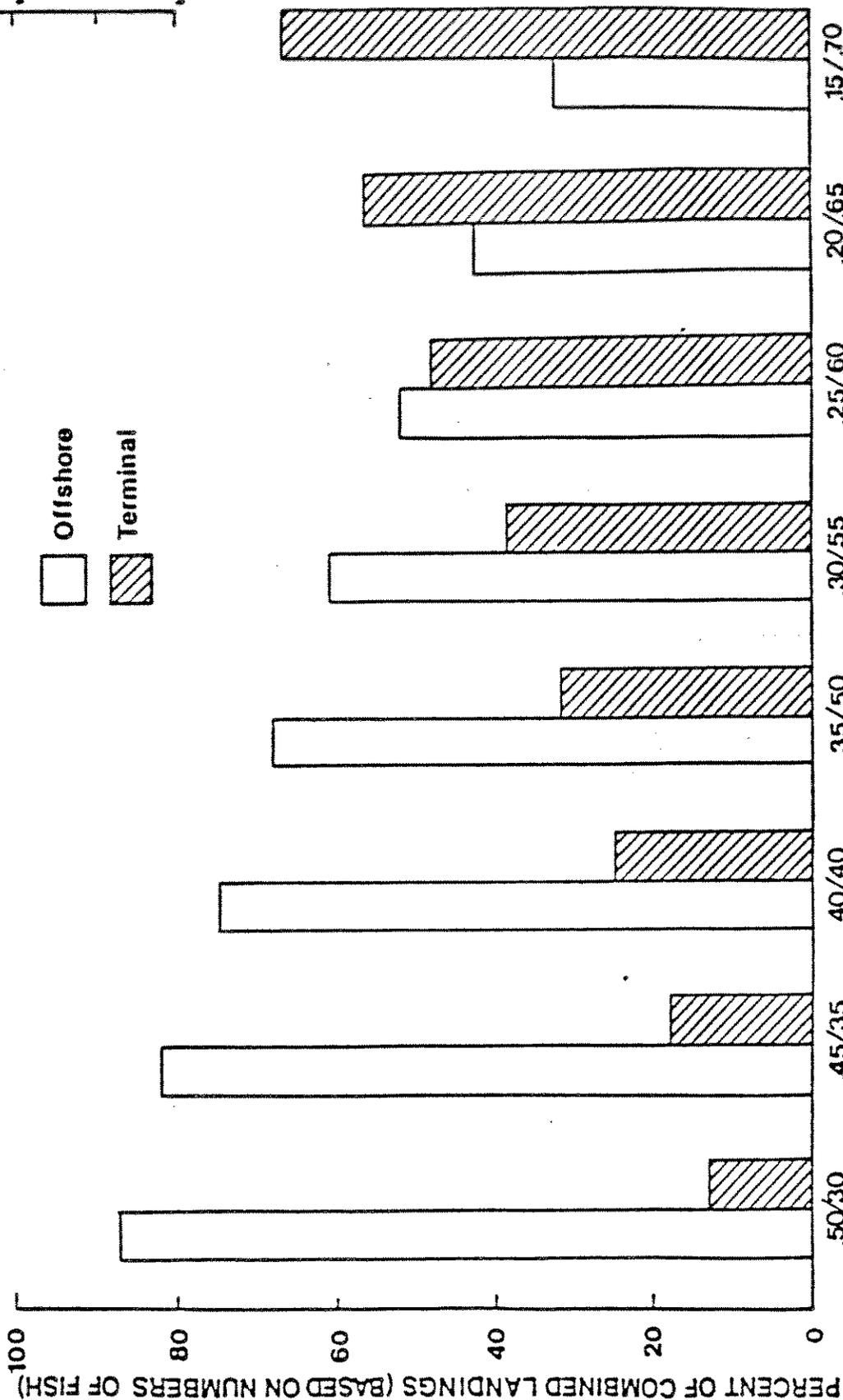


FIGURE 1. Distribution of Klamath River fall-run chinook landings over the long term under a selected range of harvest rate combinations including relative impact on the adult spawning escapement.