

**DRAFT -- MEETING SUMMARY
KLAMATH FISHERY MANAGEMENT COUNCIL
SEPTEMBER 25-26, 1996
VICTORIAN INN, WEAVERVILLE, CA
MEETING #46**

Wednesday, September 25

8:00 am **Convene Klamath Council meeting.** Members present: Bitts, Bostwick, Boydston, Fletcher, Grover, Kirk, McIsaac, McInnis, Wilkinson

McIsaac: We will re-arrange the agenda items: Items 2 and 8 will be presented together; item 3 will be deferred until Mr. Royer can get here; and items 22 and 25 will be set over from today to tomorrow, and will be presented together.

1. LEGISLATIVE UPDATE ON PROPOSED HATFIELD LEGISLATION AND MAGNUSON ACT RE-AUTHORIZATION (JORDAN ROYER, SENATOR BARBARA BOXER'S STAFF)

c The Hatfield Legislation will probably be part of the Omnibus Parks Bill. We hope that it will pass this week.

c The Magnuson Act did pass the Senate. We are hoping the same bill will pass the House.

Q: (Wilkinson): What about the other components of the Hatfield Legislation (e.g. the parts that deal with creeks in Oregon)?

A: (Royer): There is quite a bit of controversy over the Opal Creek portion of the bill. I am not as familiar with the other parts of the bill because they are in Oregon.

Q: (Wilkinson): What about the working group part of the bill?

A: (Royer): The membership of the working group is a little more balanced now. We feel that it is something we can work with, now that it has the California representation that we've been wanting.

Q: (McIsaac): Do you know whether the Coquille Tribal feature is still in the Bill?

A: (Royer): I'm not sure. I can find out for you.

Q: (Fletcher): Could you identify who some of the California constituents are who are added to the Hatfield Working Group?

A: (Royer): It says environmental and fishing groups. It isn't specific to naming the specific California constituents. Part of the reason I am here today is that we want to make sure that we have the water users, the fishermen, the tribes, and the environmentalists represented.

Q: (McIsaac): Could you please highlight the changes that are part of the reauthorized Magnuson Act?

A: (Royer): On the Senate side, we have been working to extend the state jurisdiction for California, Oregon and Alaska on the Dungeness crab fishery and increase the emphasis on habitat restoration. As far as Individual Transferable Quotas (ITQ), I will have to check on the status and get back to you.

Q: (McIsaac): How about membership on the Regional Management Councils? At one point in time, there was a question of whether it was perceived as people active in the fishery would be eligible to be on the Regional Management Councils or not. Where does that stand?

A: (Royer): I am not familiar with that provision. I will get an answer later for you.

McCovey: I know that the tribes in Washington, Oregon and California have all pushed for a permanent position on the Council. I think that, at one time, we were pushing for regional representation for all three regions.

Royer: I will have to check on the membership on the Regional Councils, but I think Senator Boxer would agree with you that the tribes should have membership.

McIsaac: If there are no further questions for Mr. Royer, we would like to thank you for coming and talking to us.

2. CURRENT ACTIVITIES IN THE KLAMATH RIVER BASIN (GROVER)

C As far as U.S. Fish and Wildlife Service (FWS) activities in the Klamath and Trinity River basins go, the key is funding. Right now, Interior's budget for the FWS has a House passed version and a Senate committee passed version. Both of them are pretty good budgets for us this year. Some things are still unclear, such as how exactly the funding is going to occur. We will be operating under a continuing resolution if they cannot reach resolution by Monday. This process is confusing, but I believe that if it comes to a floor vote, we will be operating under a *de facto* Appropriations Bill. We will not be furloughed like we were last year. The funding for the Klamath River Fish and Wildlife Office in Yreka is coming through. The Hatfield working group will receive \$1.225 million for restoration projects above and below Iron Gate Dam. The budget for the BOR is also moving towards getting signed. It includes funding for Tulana Farms restoration (\$2.5 million) that will restore some 38,000 acres of delta land/water for the recovery of the two listed suckers. This project could also receive \$3 million of FWS funds.

C Other related issues: botulism die-off of migratory birds in the Klamath National Wildlife Refuge Complex; Klamath Project Operations Plan (KPOP) process going slowly; flow study on the mainstem Klamath funded by Hatfield working group; exemplary efforts by the Coordinated Resource Management Programs in the Scott, Shasta and Salmon River sub-basins; and efforts to resolve the issues surrounding the President's Forest Plan.

3. REVIEW OF BACKGROUND MATERIALS (PARKER)

In your packet, you will find: a revised agenda (dated September 9, 1996), April 23, 1996, letter to the Fish and Game Commission (the Commission) from Humboldt County; seven page fax on the Trinity Restoration Program, packet on Amendment 12 (agendum #21); information on the whiting season; a July 10, 1996, newspaper article; a letter from the California Department of Fish and Game (CDFG) dated September 13, 1996, on funding for Klamath Project activities; and an informational item on the Klamath listserver from the Trinity County Planning Department.

Since the last meeting in April, you have received the following correspondence:

- C August 28, 1996, a revised draft agenda.
- C August 16, 1996 - a draft agenda with three informational items: information on the Klamath list server, the Eureka Times article, a letter from the Klamath Forest Alliance (re: Hatfield legislation) and the July 30, 1996, press release from National Marine Fisheries Service (NMFS) on the decision to list steelhead as endangered in Oregon.
- C July 18, 1996 - letter from Jerry Grover regarding reimbursement for travel expenses.
- C On July 11, 1996, you were sent a mailing from our office with a copy of the June 4, 1996, letter from NMFS on potential late adjustments to Salmon Fisheries Management Measures for 1996.
- C In May 1996, you received the Yurok Tribe's proposal, the May 14, 1996, letter from the the Commission and a copy of the Scott River CRMP's letter to CDFG recommending changes to Iron Gate Hatcheries excess spawners policy.
- C On May 3, 1996, you received a copy of the letter to the Commission from the Pacific Fishery Management Council (PFMC) regarding them being concerned that the Commission's pending decision regarding the recreational chinook allocation for the Klamath River could unbalance the tribal/nontribal allocation of Klamath River fall chinook and encouraging the Commission to adopt the 15% share for the Klamath River fishery.
- C Also, as part of the background, I want to talk to you a little bit about the three sets of minutes that are on the agenda to be approved today. Regarding the March 5-7, 1996, minutes, Rod McInnis provided the only comments on those minutes. Those comments were provided as Attachment #3 to the April 8, 1996, minutes which you should have all received months ago. The comments did not change any of the action that occurred at that meeting. The March 10-13, 1996, minutes were given to you at the April 8, 1996, meeting in San Francisco, California. We have not received any comments on those minutes. The April 8-10, 1996, minutes were mailed to members on June 6, 1996; the comments were due by August 14, 1996. There were no comments received.

ADMINISTRATION

4. REVIEW AND APPROVE AGENDA. CONFIRM ATTENDANCE FOR FIELD TRIPS.

- C Paul Kirk will have to depart early due to Humboldt County employees going on strike.
- C On agendum #9, Keith Wilkinson will speak on the mid-program review.
- C Coordination will be addressed under agendum #7.
- C Four people (at least) will attend Thursday's field trip to the hatchery. Friday's field trips were cancelled due to lack of interest and schedule difficulties.

** Motion (Wilkinson): I move to approve the agenda as amended. Seconded (Bitts).

****Consensus.

5. APPROVE MINUTES OF MEETINGS HELD MARCH 5-7, MARCH 10-13 AND APRIL 8-10, 1996

McIsaac: Staff has indicated there have been comments put forward for the March 5-7, 1996, meeting with ample alert time. There were no comments on the other two sets of minutes.

** Motion (Wilkinson): I move that the minutes be approved as amended of all three meetings.
Seconded (McInnis).

****Consensus. (Abstention: Fletcher)

6. REPORT FROM MEMBERS ON RE-APPOINTMENT STATUS. REPORT FROM STAFF ON CALIFORNIA'S REAPPOINTMENTS.

Parker: I contacted the Governor's office many times; I have faxed notes to the appropriate person five times since April asking for an update. On August 19, 1996, I got really excited because he (Marko Mlikotin) called and I spoke to him on the phone. Marko thought the re-appointments were about to happen, and I haven't heard anything since. No change; that is all I can report.

Kirk: Tricia's diligent efforts were met with the same type of response I've been getting for the last four years.

Boydston: You both have just met with the success that I have met with going on a couple of years. Right now there is only one person here from California (Virginia Bostwick) who is an officially recognized member of this Council from the Governor's office. I sense, from the Governor's office, a real reluctance of appointing anybody unless they are on the political list of that office. They are very reluctant to accept nominations from outside the ranks.

McCovey: On a different topic, I know that we are behind in appointing a vice chairman. Is Jerry Grover interested in serving in this position?

Grover: I appreciate the support, but this Council will need a long term vice-chair and since I have a retirement appointment set for next March, I will decline.

***ACTION: (McIsaac): Let's put this on the agenda at the next meeting.

7. REPORT ON FIVE CHAIRS MEETING (MCISAAC).

McIsaac: There was a Five Chairs meeting in Sacramento, California, on September 16, 1996. The Five Chairs represent the Trinity Restoration Program (Roger Patterson), the Klamath Basin Task Force (Dale Hall), the Klamath Compact Commission (Alice Kilham), the Klamath Intertribal Fish and Water Commission (Elwood Miller) and the Klamath Council (myself). The agenda included seven items: 1) a retrospective and update from each of the Five Chairs; 2) coordination; 3) summary of the Trinity Reauthorization legislation; 4) Bureau of Reclamation's (BOR) new organization; 5) long term funding for common fishery monitoring needs (e.g. age composition studies on the Trinity and the Klamath, salmonid outmigration studies, mainstem fishery escapement monitoring, carcass counts, etc); 6) a presentation of the Klamath Resource Information System (KRIS); and 7) the Hatfield initiative (e.g., flow studies).

KRIS is primarily a habitat information data set that is accessible by this group and agencies who have CD ROM capacity. It looks like a pretty large compendium of useful information.

A considerable amount of the meeting revolved around the issues of coordination and how do these five entities ensure that they don't get crosswise with each other (e.g. coordination of restoration projects in the lower Klamath where Klamath Task Force and Trinity Programs have overlapping jurisdiction). There was discussion about a proposed Yurok Tribal role in coordinating these activities.

We also discussed the need for a future Five Chairs meeting.

Fletcher: One of the provisions in the reauthorization language for the Trinity Restoration Program is that the Secretary will appoint a coordinator to coordinate activities where there is an overlap in jurisdiction. The Yurok Tribe envisions that this coordinator would prevent duplication of activities. The role of this position is not to redo work that has already been done. Since the Yurok Tribe is in the middle of developing a strategic restoration plan for the lower Klamath basin, it could also make sense to have the Yurok Tribe fill this coordination role. We will offer to develop a working paper of the issues for coordination (e.g. water management below the Klamath and Trinity confluence, escapement to the Trinity River, etc.). The timeframe for this working paper will be sometime in the next few months. I'll keep this group and the Klamath Task Force informed. The funding required to fulfill this role is unclear. We will develop the costs as the issue paper is developed.

McCovey: The Hoopa Tribe is in favor of an on-the-ground coordinator such as the Yurok Tribe.

Grover: My notes from the Trinity Task Force meeting show that Byron Lydecker, Friends of the Trinity, clarified that the intent of the legislation is to have a facilitator and coordinator in this role.

NEW AGENDUM: CDFG FUNDING SHORTFALL FOR MONITORING ACTIVITIES

Boydston: At the Five Chairs meeting, CDFG clarified that due to lack of Federal funding under the Anadromous Fishery Act, there would be immediate problems with conducting fishery monitoring activities.

Dale Hall offered to try to find some funds in the FWS Regional Office to meet the shortfall. Jerry, do you have any further information on this?

Grover: We will work hard to quickly utilize some of our year-end funds to cover the state's shortfall. Yesterday, I asked the Yreka Office to amend an existing agreement that we have with CDFG to provide money for these projects. We aren't sure if CDFG intended for us to also include their overhead (24.4%) charges in the \$53,000 that we are providing to them--we hope that they will put their overhead costs into the category of in-kind funding on the Klamath Program. The funds are not coming out of Klamath Task Force funding.

McIsaac: It sounds like this issue is settled for the upcoming fiscal year, but it still represents a problem for the future.

Boydston: Costs are continuing to increase, so I would suspect that this will be an issue in the future.

McInnis: Our budget for NMFS is within the Department of Commerce's budget. It hasn't been passed yet, but the last version I looked at showed a 40% reduction in Anadromous Fish Act funds (House version). I agree that this funding shortfall is likely to be a problem in the future.

McIsaac: Perhaps we could ask CDFG to give us as much advance notice as possible if this is going to be a problem again next year.

- 8. TRINITY RESTORATION PROGRAM (GROVER)**
 - a. Update on status of Trinity Restoration Program**
 - b. Review of Trinity Restoration Program's Action Plan**
 - c. Report on Trinity River Task Force meeting.**

c The Trinity River Task Force met in Sacramento, California, on September 17, 1996. The Trinity Restoration Program was extended for three years; now 2 years of funding remain. The new authorization increases the number of representatives from 14 to 19, including: Pacific Coast Federation of Fishermen's Association (PCFFA), Yurok Tribe, In-river Sport Fishing, and the California Department of Forestry. Other house-keeping items were addressed as well (e.g. charter approved by the Federal Advisory Committee Act, interim operating procedures, and definition of a quorum).

c The other big issue we dealt with was the workplan for the upcoming year. At the top of the list is completing the programmatic Environmental Impact Statement (EIS) on the Trinity. Operations and maintenance has a budget from BOR of \$2.4 million.

Q: (Kirk): When do you expect that the Trinity EIS/EIR would be completed?

A: (Grover): Later on the agenda, Bernice Sullivan will answer this question and tell us many more details about this project.

McCovey: I think the possibility of supplementation needs to be addressed.

Fletcher: I think we should look at the entire range of supplementation options.

Q: (Fletcher): Jerry, what is the extent of the sucker mortality in Upper Klamath Lake? Are any management changes going to come about as a result of this mortality?

A: (Grover): Although there is usually some sucker die off in August, this year was record setting. Biologically, the die off was due to warm water temperatures (above 68 degrees F), and low dissolved oxygen concentrations (2-3 ppm, threshold = 4 ppm). These factors weakened the fish and they succumbed to a disease called columnaris. BOR weighed their actions to either maintain lake levels or increase flows. They decided to: 1) meet increased flows below Iron Gate (from 1,000 cfs to 1,300 cfs), 2) deliver water to the agricultural community, and 3) provide water to the National Wildlife Refuges.

Fletcher: Since May, the Inter-tribal Fish and Water Commission has been meeting with the BOR. We know that in June, BOR decided to deviate from their water advisory (to maintain lake levels for suckers). BOR decided to increase deliveries to agriculture. The tribes feel that this is why the suckers are dying.

Grover: The Klamath Tribe put out a sincere effort to stop BOR from deviating from their water advisory.

Q: (McIsaac): Is there a debate over whether or not water deliveries to agriculture were increased?

A: (Grover): It appears that BOR made a decision in May that we did not know about until September when it was too late -- the water was already gone.

Fletcher: Fortunately, we got the flows we needed for the mainstem river in September, but we are frustrated that the BOR's earlier actions resulted in lake levels not being adequate for sucker survival.

Q: (Barnes): When will the Secretary make the decision on Trinity flows for this year?

A: (Grover): That decision was supposed to come out this year, but it will be late.

KLAMATH RESTORATION PROGRAM

9. KLAMATH TASK FORCE UPDATE AND ACTION ITEMS FOR FY97 (IVERSON)

C The Klamath Task Force will meet October 10-11, 1996, in Brookings, Oregon, to recommend projects to be funded in FY97. There is a possibility that data needs for harvest monitoring will be recommended for funding.

C The big issue is the flow study. The flow study elements will be a predictive model that attempts to relate various levels of flow/water management options to the needs and well-being of different life stages of anadromous fish. There will be a water quality predictive model that looks at some of the limiting factors for the Klamath (e.g. dissolved oxygen, unionized ammonia, pH, and nutrients). There will also be elements that look into the geomorphology, infiltration of fine sediments, cold water refugia, and maintenance of stream gauges. In the past, National Biological Service (NBS) did an institutional analysis of the Klamath Restoration Program's advisory committees. I will distribute a copy of this to you sometime in the future.

Q: (McIsaac): Ron, do the people from NBS in Fort Collins incorporate the estuary life stage into their transects?

A: (Iverson): My understanding is that there will be habitat suitability curves developed for steelhead and coho. The curves have already been developed for chinook on the Trinity River. Future curves will be developed wherever fish are located, so that should include the estuary life stage. [Note: as of this writing, tasks for this project are being re-negotiated.]

Q: (McIsaac): I understood that we were to be seeing an answer soon to the questions of "what is a restored salmon population", "what is the harvest rate", and "what is the economic value of this restored fishery"?

A: (Iverson): NBS must be behind schedule, because we have not even seen a review report. Let's all keep our eyes open for this report.

Q: (Boydston): Where are we in regard to funding the proposals that have been received by the Task Force?

A: (Iverson): The technical subcommittee of the Task Force, the Technical Work Group, is meeting this week to review and rate these proposals that have been received for consideration for FY97 funding. They will bring their report to the October 10-11, 1996, Task Force meeting in Brookings.

Q: (Boydston): Are there fishery monitoring proposals in the set of proposals that are being rated?

A: (Waldvogel): I have the set of proposals. Six of them are for monitoring work.

Boydston: We need to support monitoring because it has such a high value to the work we do at this table. I am prepared to make a motion to send a letter to the Task Force highlighting our support for these types of projects year after year. I am specifically speaking of the overall monitoring projects, not just the CDFG funding shortfall for this year

Barnes: The coordination between the Technical Advisory Team and the Technical Work Group is not perfect. The point system for rating the proposals is fixed and I don't feel it allows enough points to be given to monitoring projects.

Fletcher: We need to ask the Task Force to encourage their Technical Work Group to understand the value of these projects to the entire restoration effort. We also need to get BOR to fund these monitoring projects because it is their fair share of the burden (i.e. it has a direct relationship to water management).

Wilkinson: I recommend that we develop some other allocation process for these monitoring projects. Monitoring projects need to be funded over the long-term.

Q: (McIsaac): In the ranking process, is there recognition of the projects that benefit both restoration and harvest management activities?

A: (Wilkinson): No.

McIsaac: Perhaps we could give the Task Force a broad policy statement for guidance on these types of proposals.

Waldvogel: The criteria are described in handout NN and the list of projects is shown in handout OO. The money is not allocated between the main categories. The budget subcommittee takes care of/reviews that portion of this task.

NEW AGENDUM: MID-PROGRAM REVIEW OF KLAMATH RESTORATION PROGRAM

Wilkinson: I was appointed to chair a subcommittee to develop a request for proposals (RFP) for a mid-program review of the Klamath Restoration Program. That RFP is now ready to be mailed out, so soon the Yreka Office will be receiving proposals to address this activity. Separately, the inspector general will be conducting a financial review of the program.

Q: (McIsaac): Will this review be funded out of the \$600,000 of restoration money?

A: (Grover): It is my understanding that this will come out of the FY97 restoration money.

Break

McIsaac: Let's look for a motion that would either lead us to a broad policy statement to convey to the Task Force or perhaps some way of preserving funding under a long-term status as opposed to an annual year-to-year budget fight.

Kautsky: In fiscal year 1996, BOR came up with funding to maintain the monitoring activities. On the Trinity side, the Trinity Task Force identifies, up front, that monitoring projects are top priority.

Wilkinson: From looking at the proposals received this year, it looks like the monitoring projects total about \$40,000.

Q: (McIsaac): Troy, what is your recommendation?

A: (Fletcher): We should make a strong recommendation to BOR to fund monitoring (e.g. screw traps, spawning ground surveys, carcass surveys). This body and the Klamath Task Force should get together and write a letter to BOR. The letter should point out how much BOR relies on this information that is gathered.

*** ACTION: (Boydston): I am willing to draft a letter to BOR from the Klamath Council and the Klamath Task Force to request their long-term commitment to fund the monitoring projects. I'll work with Pliny and whoever else volunteers to help.

Wilkinson: I support LB's proposal. Perhaps we will see some kind of commitment from BOR prior to the Task Force meeting in Brookings.

McIsaac: LB, your offer of drafting a letter sounds like a good solution. Perhaps you can work with the Yreka staff on this. We will be watching our fax machines for a draft of this letter -- possibly prior to the Task Force meeting.

Q: Tricia, isn't there a way for the Task Force's Technical Work Group to revise the criteria to include a category for, for example, five bonus points to projects that benefit the monitoring needs of this restoration program?

A: (Parker): I was a member of the Technical Work Group for several years and during that time I saw that the existing criteria can be used to accommodate many types of proposals depending on the bias of the user group. The criteria aren't as cut and dry as they first appear. I would recommend contacting the appropriate representative on the Technical Work Group (Handout W) who represents your user group and making sure that they understand that you want the monitoring proposals given high consideration.

Wilkinson: In the past, we've had projects such as the curriculum development project that were funded for several years. The Task Force made a decision beforehand to continue funding for this five-phase project. My concern is that we should either look at alternative identification of Council needs or alternative funding sources.

Fletcher: I discussed these proposals with our TWO representative prior to the rating process. The long-term solution, as I see it, is to get BOR to provide funding.

Wilkinson: I will make sure the ODFW representative on the TWO hears my concerns about the priority of these monitoring projects.

Pierce: From an historical perspective, ten years ago the Task Force decided that ongoing monitoring projects would not be funded. Now, this issue is in a time crunch. The proposals are being rated this week and will be

presented to the Task Force in two weeks. If we present this group's recommendation at the Task Force meeting, it could undo all the work by the TWO. Our other option is to ask BOR for funding.

***ACTION: (McIsaac): Let's look towards advising our technical representatives to support these monitoring proposals more strongly. Let's also look toward advising the Task Force to include base level funding for this item as well as criteria that accommodate these type of proposals. LB should take the lead in drafting a letter to this effect, Yreka staff to get it ready for signature, and Keith to use the letter to press our case before the Task Force.

In further discussion, the following points were made:

- C The Klamath Task Force emphasizes on-the-ground projects rather than studies and data collection. As other sources of funding for monitoring have eroded over the years, information needs are not being met.
- C Potential funding sources other than the Task Force should be informed of the information needs of the Council. These include the BOR, and Pacific Power.
- C Those responsible for hatchery mitigation should consider monitoring to be part of their responsibility, as much as production is.
- C The Trinity restoration program includes \$1.7 million in FY97 for monitoring.

TECHNICAL REPORTS

In-season management

10. IN-SEASON MANAGEMENT ANALYSIS OF OCEAN TROLL FISHERIES -- FINAL REPORT (JERRY BARNES, TECHNICAL ADVISORY TEAM [TAT])

Barnes: See our report, "IN-SEASON ADJUSTMENT OF HARVEST CONTROLS ON THE OCEAN POPULATION OF KLAMATH FALL CHINOOK," (Handout N) prepared by Rich Dixon who is not here. This was prepared at the Council's request.

In 1991, Dixon analyzed the pros and cons of a Fort Bragg test fishery. His results are shown in Figure 9 of our report. It shows a pretty strong correlation between catch per delivery in the May-June Fort Bragg fishery and age 3 ocean abundance, but the Salmon Technical Team concluded that, given the low Klamath contribution to that fishery, the correlation was due to some factor other than Klamath chinook abundance -- probably overall ocean abundance. The Fort Bragg correlation derives mostly from the three high-abundance data points, and disappears at lower abundance.

Since 1991, there have been no early periods of full fishing at Fort Bragg, so TAT looked at the Southern (SOC) cell, which has a 15-year data set of full early fishing. Postseason estimates of age 3 Klamath chinook abundance was chosen as the dependent variable, because 3's comprise the bulk of the troll catch. R-squared values using catch/day and catch/delivery at San Francisco or Monterey were low, explaining at most 60% of the variation in abundance. Technical Advisory Team does not recommend use of this correlation for in-season

management.

Question: Any dissent from this conclusion? **Barnes:** This was worked up by a subgroup, so not every TAT member participated. Mike Maahs was a subgroup member. Dixon and Barnes prepared the report and sent it to all members for review. There were no strong disagreements in discussions...no dissent from the conclusions.

11. IN-SEASON MANAGEMENT OF RIVER NET FISHERIES -- PRELIMINARY REPORT (DAVE HILLEMEIER, YUROK TRIBE)

Barnes: The original assignment from the Council was to look at tools for in-season adjustment of ocean and river fisheries. This proved too complex to handle as one task, so what you will see now is a preliminary set of data which TAT has not yet considered.

Hillemeier: I looked at catch/hour for the tribal estuary set net fishery over various time periods, and for the sport fishery in the estuary and river. Figures 1 and 2 of Handout X should have the axes switched, so that catch/hour is the independent variable. The strongest correlation for the set net fishery is for the two-week period August 26-September 8, 1996. This is a period when Trinity fish are typically beginning to enter and Klamath fish are still present, so the data represent both sides of the basin. If I eliminate the 1995 data point, the correlation becomes very strong. Arguments for calling this point an outlier include a very late run in that year, and the closure of the fishery in the middle of the first week of September.

Correlations for other time intervals of the set net fishery (not shown), and for the sport fishery, were not strong.

Question: Given the late time period where the strong correlation appears, how would you use this information for in-season management? **Hillemeier:** There could be another three weeks of the Yurok fishery remaining after September 8, 1996.

Question: Do you have catch/hour data for the 1996 set net fishery? **Hillemeier:** That statistic is 3.42 which gives an in-river run size estimate of about 180,000 with the 1995 data point included, or about 155,000 without it.

Question: If this correlation were to give you a run size estimate very different than the predictor we are now using, would you be willing to use it? **Hillemeier:** Too preliminary. **Barnes:** Another problem such an adjustment would mostly affect Trinity fish. **Bitts:** True, but note that the Trinity stock tends to be under-harvested.

***ACTION: (McIsaac): This appears to be a good piece of work, not yet finished. I encourage you to continue and to involve the TAT. Regarding that last point of discussion, it could be there is some positive correlation between run strength on the Trinity and Klamath sides.

Other technical reports

12. ANALYSIS OF STOCK, RECRUITMENT AND YIELD WITH REFERENCE TO SPAWNING FLOOR (MIKE PRAGER, NATIONAL MARINE FISHERIES SERVICE)

Barnes: Mike Prager replaces Robert Cope as NMFS rep to the TAT, having the same computer modeling

gene as Robert. His report has been reviewed by the Team...at least by the minority who can understand it.

Prager: The TAT was asked by the Council to assess the appropriateness of the 35,000 fish floor for naturally-spawning fall chinook. We did four analyses, in two groups of two: an equilibrium stock/recruitment model, based on 13 years of record; a non-equilibrium computer simulation over a long time period; and two groups of analyses corresponding to the two just mentioned but with an environmental variable added -- rainfall at Eureka. With the non-equilibrium models we modeled effects of a range of spawning floor levels and environmental conditions on fish yield and on some other harvest variables.

Turn to the figures in our report (Handout O). In Figure 2, note that the “both” model, incorporating both rain and parent stock size, provides a better fit to the observed spawning success than for either independent variable alone.

Question: Why rainfall at Eureka? Data from within Klamath basin where spawning occurs might be more appropriate. **Prager:** Seems like a rainy year in Eureka would also be a rainy year in adjacent inland areas. We can investigate this more.

Question: How were the rainfall observations defined? In the year of spawning, or a 3-year lag? Prager: For 1980, the rainfall is from 7/1/79 through 6/30/80 -- not a 3-year lag. The 1980 parent stock size data point is from the CDFG run size data. Note that both stock and recruitment represent only natural spawning.

Discussion

McIsaac: This rainfall period misses the spawning and rearing period for the 1980 brood. For the 1980 brood, a more meaningful rainfall figure might be 7/1/80 through 6/30/81.

Prager: Suggest we withdraw the report and review these questions about the data.

McCovey: Seems like we are operating on minimums here...we have not looked at robust natural spawning populations. **McInnis:** I don't think it was an assignment to Prager to look beyond the actual data to bigger parent stock sizes that the basin might theoretically be capable of producing.

Prager: The Council must decide whether these data are representative of the stock.

In Figure 3, note that, by including rainfall in the model, there is less variability in the estimates of MSY and P_{msy} , and also the median estimate of P_{msy} is a little larger.

In Figure 4, note that yield decreases as we proceed from “perfect” management to less precise management. Note also that maximum yield seems to be attained at a spawner floor of around 30-35,000.

In Figure 5, note that, when the environmental variable is introduced into the model, yield becomes very insensitive to spawning floor level, although the peak seems to remain at around 30-35,000 fish floor level.

Figure 6 indicates that the annual variability in yield increases as the spawning floor level increases. This is chiefly because, at higher floor levels, there are a few more years in the time series when the floor is not met and

the fishery is closed.

In Figure 7, consider panel (b), the moderate level of management uncertainty, and look at the open circles, indicating no environmental change. For a spawning floor of 35,000, the model predicts fishery closures in about 25% of the years. If you reduce the spawning floor level, you might reduce the number of annual closures by 3 or 4 years in a century, and the yield (Figure 5(a)) hardly changes at all.

Note the many simplifying assumptions in our analysis: assumes spawning at age 3 only, lumps all fall chinook in the basin into one stock, and takes no account of hatchery fish.

Discussion (Continued)

Fletcher: Our hydrologist analyzed rainfall in the Klamath basin, and there seem to be some major differences with what you have here. We can provide that information for your use.

Bits: Your modeling shows that yield is insensitive to the spawner floor level. What is the function of a spawner floor? What does it do for us? **Prager:** It can be a safety measure, protecting weaker substocks from depletion below the level where they can sustain themselves. That issue is not addressed in our report.

Bits: I believe your report says that the Klamath spawner floor, being an aggregate for the whole basin, does not protect substocks. **Prager:** In my opinion, any spawner floor will increase the probability that those substocks will continue, even though the floor is not specifically directed at managing those stocks.

McIsaac: Table 2 shows there is little change in yield as the spawner floor rises, yet the proportion of years closed to fishing goes up sharply. How is this possible? **Prager:** Yield increases in the other years, when fishing is allowed. Thus, the year-to-year variability in yield increases with floor level -- the stability of the fishery decreases -- but the average annual yield doesn't change much.

McIsaac: Seems like your conclusions (top of page 15) treat the floor more as a goal. They seem to support a natural escapement goal of 30-35,000 fish, rather than a floor in that range. **Prager:** I agree. Our results indicate that 35,000 fish is approximately the number that produces MSY.

McInnis: How much of a constraint is the .67 harvest rate goal in managing for MSY? **Prager:** We concluded that, in order to increase average yield, a higher harvest rate in high-abundance years should be considered.

Bits: Let's return to the issue of confounding the floor with P_{msy} . Is a rigorous application of the current floor appropriate? **Prager:** The current management scheme is working to some degree. I suggest you be conservative in changing it -- wait for strong evidence of gains to be made through change.

McInnis: Defining the goals of the spawning escapement floor is the job of the Council, not TAT. They can provide us estimates of effects of various floor levels on yield or frequency of fishery closures, but we must decide goals. Do we want the floor to help meet endangered species goals? To reduce the frequency of years of extremely low population size? We have not gone through that goal-setting exercise.

McIsaac: Regarding Mike Prager's comment that the floor should not be changed without strong evidence of benefits from change, I would note that a change in perceived P_{msy} from around 75,000 to 30-35,000 is pretty compelling evidence that things are different than previously assumed. On the other hand, the simplifying assumptions you mentioned might call for more analysis. For example, the assumption that all spawners are age 3. Do the figures in Table 1 refer to all natural spawners, or just 3-year-olds? **Prager:** Believe these are 3's...I could be wrong. [NOTE: "parent stock" numbers in Table 1 appear to be TOTAL natural spawner estimates from the CDFG megatable].

McIsaac: Besides the goal issues mentioned by McInnis, an issue to pursue in this exercise would be: the effect of allowing an incidental harvest rate of 5-10% in those years when the floor would not be met, and where the Prager model assumed fishery closures. Before we form conclusions from this exercise, we should complete some refinements of the technical analysis, and address some of the policy questions raised.

McInnis: On the issue of age of spawners and recruits, I think the spawner figures we are seeing here are both 3's and 4's. Since we consider 3's to be fully recruited to the fishery by late winter, the 3-year-old recruit number seems an appropriate one to use in this analysis.

Boydston: I suggest some refinements to the technical analysis. First, take into account that chinook spawn over a range of ages, rather than assuming a three-year cycle; second, take into account the ocean and river fisheries, rather than just applying an overall .67 harvest rate. Take a look at these refinements to see if they make significant differences in your results.

***ACTION: (Barnes): Would you like an update of Prager's report, to include the refinements requested here? McIsaac: Yes, and we will add this to our next agenda. Any other requests by Council members for additions to this task?

Bits: Agree a *de minimis* fishery should be included in the modeling.

McInnis: This analysis will give us just one facet -- the spawner/recruit relation -- of what the dangers might be in prolonged periods of low escapements below the floor. This approach can't address the risks to subpopulations or genetic diversity. We need a parallel track to address these other issues...to examine the entire range of risks associated with not meeting the spawning floor.

Bits: Analysis of risk to subpopulations should include effects of land use practices, which I feel present a greater risk to those stocks than do fishing regimes.

McIsaac: Shall we ask the TAT to attempt the substock analysis, or do we accept the data is not available for that?

McInnis: I would rather see TAT close out this exercise as usefully as possible, then we can address these other sources of risk separately. I would like to hear from TAT what data is available and what analyses they could reasonably do, rather than to set them an unreasonable task.

Boydston: I agree the focus should be on refining the existing analysis -- the stock/recruit relationship and the environmental parameters. I am glad to see Dr. Jones is here today to discuss possible genetics work in the

basin. That might get at whether there really are substocks in the basin.

McIsaac: A few more suggestions to the TAT: Clear up the report language to convey that the generation time being three years is a computer simulation element only, and doesn't mean that only 3-year-old spawners were considered. Second, include some discussion of earlier estimations of MSY, and how the results of this analysis relate to that earlier work; and finally, review your conclusions to clear up the "floor" versus "goal" issue. On earlier MSY work, a lot of material was assembled for the preparation of Amendment 9.

Bitts: Congratulations to the TAT for developing a spawner/recruit curve which fits the observed data, and for introducing an environmental variable which appears to improve curve fit.

13. POTENTIAL FOR KLAMATH RIVER SPRING CHINOOK HARVEST MANAGEMENT -- PRELIMINARY REPORT (GEORGE KAUTSKY, HOOPA TRIBE)

Kautsky: This report (Handout Y) addresses TAT's assignment on spring chinook harvest management. The report needs review by TAT. The regression statistics reported here are from coded wire tagged hatchery fish only. Natural stocks are not included. There are 13 years in the data set -- 1978 through 1990...although the 1995 recovery of CWTs at Trinity Hatchery was incomplete. Some tagged fish were apparently released back into the river. There are 27 data points because each marked group is a discrete observation, giving us multiple observations within one year. Note the R squared values -- fisheries have probably been managed using weaker correlations than these.

Discussion

McIsaac: This looks promising. In the absence of this kind of analysis, how have tribal spring chinook fisheries been planned in the past? **Kautsky:** In Hoopa, we don't have restrictions. It has been an abundance-driven fishery, ranging from a few hundred to about 1,000 fish in recent years. High river flows limit the set of net fishing.

Fletcher: We have tried to spare the Salmon and South Fork Trinity natural stocks by allowing up to 3 or 4 days closure in our spring fishery. High flows also limit gear efficiency. **Kautsky:** Hoopa Fisheries has been collecting spring chinook scales to be able to distinguish hatchery and South Fork stocks. I have five years of collections, not yet analyzed. The hope is that we could dampen effort at the time South Fork fish are passing. Note also that spring tags were recovered from ocean fisheries in the protracted fisheries we had up into the 1970s. We have had some recent May ocean fisheries in Oregon, which could take Klamath spring chinook.

14. IRON GATE HATCHERY STRAYING ISSUE -- NEW PROCEDURES FOR 1996 MANAGEMENT (MIKE RODE, CDFG, MT. SHASTA CITY)

Note the draft production goals and constraints for Iron Gate and Trinity Hatcheries (Handout Z). These are being revised as an outgrowth of the May 2, 1996 meeting held in Redding, California. Review of hatchery procedures and goals is a public process. Anyone here is invited to comment on the draft documents. Comment deadline is October 4, 1996.

Highlights of the draft policies include:

c Free access of spawners to the ladder, at both hatcheries. This is a new goal, and is subject to some

physical and operational constraints.

- C All adult salmon entering the hatchery to be killed. Excess fish will no longer be returned to the river. This is a major change.

Discussion

McInnis: Do the physical constraints mean that the gates will sometimes be closed? **Rode**: The limitations include operation of the lower ladder at Iron Gate, which can't be kept open, and the limited water supply, which constrains the number of fish we can hold. The ladder can't be open all the time this year. We are taking steps to increase efficiency of handling spawners, including a new anesthetizing procedure, and use of volunteers. You should see improvements this year, then further improvements in the future.

Barnes: Is it correct that about 3,000 salmon were put back in the river last year at Iron Gate, but you don't expect that this year because of the new policy? **Rode**: That's a rough estimate of numbers. I think we will correct the greater part of that problem this year through the processing of excess fish.

McIsaac: At Trinity Hatchery, could you be reducing productive capacity of the river by removing excess hatchery fish rather than letting them spawn in the river? **Rode**: Fish that choose to spawn downstream of the hatchery will do so. Trinity Hatchery is not so constrained by water quantity and quality as Iron Gate, but we had excess spawners at Trinity last year. We feel the excess spawner policy is appropriate for both hatcheries. Wilkinson: The draft policy says carcasses can be disposed as refuse, or returned to the river at the discretion of management. What would be the basis of a decision on this? EPA or river residents might object to returning carcasses to the river. **Rode**: Our first choice is to give all the carcasses away, but we want some fallback alternatives. Returning carcasses to the river would be biologically justified.

Bits: To minimize impacts on natural fish, would you reduce release numbers if you increase average release size? **Rode**: We haven't looked at that question in this policy revision process. The release numbers are pretty much fixed by mitigation requirements. Larger fish tend to survive at higher rates. We try to release fall chinook smolts as late as possible to minimize interaction with natural fish, but before temperatures become lethal. This is a balancing act.

McCovey: Will Bogus Creek weir be funded this year? **Rode**: Yes. We will have a marking weir, carcass survey, and CWT recoveries.

Question from the audience: Is there a shortage of organizations to take the fish? Don't think that nonprofits in Weaverville know fish are available. **Rode**: Yes. People may express interest, but then not be organized to handle large numbers of fish coming in over a short time period. Trinity Hatchery has given away surplus fish for years and people know about it but there is not enough demand in the Weaverville area to absorb the supply.

Boydston: I suggest the goals document include a procedure for dealing with a diseased cohort of fish. Second, I question the proposed policy of holding steelhead smolts for an additional year at Trinity Hatchery, if they have not reached 6 inches. Has this been evaluated? You may want to change "shall be held" to "may". **Rode**: That has been the policy all along...it is not a change. I would guess there have been studies on this.

McIsaac: A few more comments: 1) How about a release period goal of June 1-15 “or later” for Iron Gate fall chinook smolts, taking advantage of any temperature improvements that might come along; 2) The policy of no stock transfers might preclude you from a conservation type of operation, supporting a troubled natural stock of steelhead. We are considering this in some Oregon hatcheries; 3) when steelhead numbers at Iron Gate are reduced by September 1, 1996, to meet the goal, would the excess be released at the hatchery? **Rode**: The goals document does not preclude us from rearing stocks from distant drainages, or from outside the Klamath. Right now, there is no space at Iron Gate to do that. Regarding 3, the excess steelhead would probably be destroyed. They would not be released into the Klamath.

Grover: I suggest you add some language that your Trinity Hatchery release times could take advantage of any prescribed releases from Trinity reservoir that might help migration. Second, I question giving extra rearing to small steelhead. This may be favoring a genetic component of runts that you don’t want to maintain. If steelhead are to be held a second year, I suggest you hold a cross section of all sizes. **Rode**: We wouldn’t release fish that were stunted by disease. The procedure of holding small steelhead over was arrived at through marking and evaluation of returns.

15. COUNCIL DISCUSSION OF ITEMS #10-14. ALSO, DISCUSS REQUEST FROM YUROK TRIBE TO ANALYZE ALLOCATION USING EQUILIBRIUM HARVEST RATE AND KOHM MODELS.

Fletcher: The Yurok Tribe wrote to PFMC expressing concern that the allocation of fish to tribal fisheries in 1996 fell a little short -- 2-3,000 fish -- in the output of the Klamath ocean harvest model as compared with the in-river harvest model. PFMC then shipped the issue back to this Council. I am requesting that we ask the TAT to resolve this. The Yurok Tribe would take the lead in working with the TAT on this. Any management regime we adopt needs to be consistent with the 50/50, fish for fish, annual sharing that was upheld in *Parravano v. Babbitt*.

Discussion

McIsaac: I understood we were going to have a cookbook method for solving this. Troy, are you asking that we rewrite the cookbook and make sure the Salmon Technical Team gets the results?

Fletcher: Yes.

***Action: (McIsaac): Hearing no objection, this assignment is made to the TAT.

1996 MANAGEMENT SEASON

Oregon ocean fisheries

16. RETROSPECTIVE ON 1996 SEASON (TRIBES, AGENCIES, TROLLERS, SPORT FISHING REPRESENTATIVES)

McIsaac: Alaska, caught quota of 150,000 chinook; British Columbia, chinook fisheries closed -- total catch about 50,000, coho catch probably less than 700,000; Puget Sound, sockeye runs less than predicted; Columbia coho near prediction...>1000,000; and Columbia, chinook brights exceeding prediction, tules about

as predicted.

For Oregon, the KMZ recreational harvest -- seasonal, not quota -- was somewhat less than expected. On the back of the handout (Handout AA), note that KMZ effort was much less than expected. There had been concern about excessive effort with no quota, but that did not happen. On line 2 of the table, the Cape Arago-to-the-border fishery went over quota because of good fishing over a weekend; Cape Falcon to Humbug; the non-quota troll fishery went over expectations...most catches occurred off Newport.

Discussion

Question: What stocks constrained the troll fishery north of the KMZ? **McIsaac:** The Snake River wild complex, and also Klamath constraints toward the southern end. This fishery catches Rogue, Chetco, Elk River chinook, and Columbia chinook mushrooming south in abundant years. The Newport catch includes Rogue brights being pen-reared in the lower Columbia. We would be more concerned if the high catches were more southerly, in the Coos Bay area.

Question: Was the high troll catch north of KMZ related to high effort, or high catch rate? **McIsaac:** Higher catch rate. Effort was down, related to low prices.

Boydston: Regarding the "expected" KMZ sport catch of 19,500, wasn't a number higher than that discussed as a proposed quota? **McIsaac:** Correct. In choosing a seasonal approach, we managed for a smaller number, in consideration of the risk involved, in seasonal management.

Wilkinson: The material on KMZ recreational landings and effort doesn't exactly match Oregon Department of Fish and Wildlife's (ODFW) statistics. It shows a disparity in landings between California and Oregon ports, but I think the KMZ Coalition is going to hold together for the 1997 season.

Bitts: See my anecdotal summary of the 1996 troll season (Handout BB). I noted: excellent August fishing off Fort Bragg, but few boats; many "yearling" (<12") chinook...hope this means a strong 1995 brood; a very successful September fishery off Eureka, with few outside boats...apparently because of the 30 fish/day limit. Price was \$1.75 for all grades, which seemed pretty good.

River fisheries

Bostwick: We had a good sport season on the river, with increased effort. Recreational/tribal fishery interactions were pleasant; we will probably catch our quota below Coon Creek. Anglers are still on the water.

Fletcher: I concur with Virginia. We hope to have less and less friction between the river fisheries. Yurok Tribe has harvested 54,160 chinook to date...41,000 commercial. We have another week to go, 15,000 fish left to catch. Handout CC shows that fish were late, not showing up in numbers until September. Note also, the significant proportion of early CWT recoveries that were spring chinook. Trinity fish are late...we hope to see them this week.

Question: Were fish large? **Fletcher:** Mostly 4-year-olds.

McIsaac: Note preliminary CWT return data indicating Trinity tags show up in the Oregon ocean fishery in much greater numbers than Iron Gate tags.

Kautsky: (Handout DD) The first page indicates a spring chinook/fall chinook break at August 3, 1996, but some new data indicates we were still recovering Trinity Hatchery spring chinook tags at the end of August. Possibilities include a very strong spring chinook run this year, or something goofy in the way tags were applied at the hatchery, or late runs of springs in the parent 1992 and '93 broods, so that fish considered falls were really springs dribbling in late to the hatchery. It is confusing and we need to look at this further and report back to you later.

Bitts: Late returns would be consistent with what we saw in the ocean, with cold water at the surface much later than normal.

1997 MANAGEMENT SEASON

17. REPORT FROM THE HARVEST ALLOCATION WORK GROUP (HAWG) (WILKINSON)

The HAWG met informally yesterday, with some members absent. Topics discussed: funding for our information needs, achieving 50/50 harvest sharing, and a change from quotas to seasonal management. We are developing assignments for the TAT.

18-20. UPDATE ON PARRAVANO V BABBITT: RESULTS & IMPLICATIONS (PARKER) (Read article on the subject from PCFFA Friday from July 1996, Handout EE).

Fletcher: That article is political...don't understand why you are bringing this to us. It gives the troll fishery perspective -- why didn't you contact us for our perspective?

McIsaac: I asked for this item because this is our first meeting since Supreme Court action on this case.

Bitts: The Supreme Court declined to hear our case, so Parravano v. Babbitt is dead, and the Solicitor's opinion is the "prevailing legal definition" of tribal rights.

McCovey: But, another case could be filed.

OTHER REPORT

21. OVERVIEW OF KFMC'S PAST ACTIONS ON THE WHITING BYCATCH ISSUE AND THE 1997 WHITING SEASON (PARKER)

In March 1992, a year of very low fall chinook stock size projection, the Council asked PFMC to reduce impacts of the whiting fishery on salmon in the KMZ. That year, PFMC asked NMFS to impose emergency restrictions on the whiting fishery to reduce bycatch. For the 1997 fishing season, note the recent PFMC news release (Handout FF), indicating actions to be considered by PFMC related to the whiting fishery and salmon bycatch.

Bitts: Following that 1992 Klamath Council request, I recall that factory trawlers were limited from operating south of the Oregon border, inside 100 fathoms, and at night, to reduce salmon bycatch and to benefit the shore-based whiting fishery.

McInnis: The other step taken was a cap on the salmon bycatch rate. That has been exceeded at times but the concept is for the whiting fishery to move away from areas with high bycatch. Most bycatch is small fish, and high bycatch tends to indicate a strong salmon year class. The greatest concern is for Snake River listed stocks.

Question: In 1995, bycatch was high and PFMC indicated a workshop would be held. Did that happen?

McInnis: Yes, as I recall. One tool discussed there was improved real time communication between trawlers on areas where bycatch is high, so as to avoid them.

Thursday, September 26

8:00 am **Reconvne.** Members present: Bitts, Fletcher, Grover, McCovey, McIsaac, McInnis, Wilkinson

22. REPORT ON ESA STATUS REVIEW OF SALMON AND STEELHEAD (MCINNIS)

McInnis: Next decision point will be on listing of coho coastwide (Handout GG). By October 25, 1996, NMFS must decide whether listing is needed, and the degree of threat -- threatened or endangered. Another possible outcome: the decision could be deferred on account of controversy over the science. Note that California has already listed coho as endangered under state law. There has been much coordination with states and private landowners to develop plans that could either preclude listing, or serve as elements of recovery plans if listing proceeds.

For steelhead, a listing decision is due in August 1997. The listing proposal identifies 15 ESUs -- 6 in California. The 4 southernmost of those are proposed for endangered status. The northern California coast/Klamath ESU would be threatened. A series of public meetings are coming up soon to get comments on the steelhead proposal.

Question: Will the numerous cooperative projects to protect coho be a factor in listing? **McInnis:** The California Coastal Salmon Initiative doesn't have a product yet so it is hard to see what influence it will have. The Oregon counterpart is further along and could have some influence on listing.

McCovey: Proposed listing indicates the importance of tagging steelhead at Trinity Hatchery.

Wilkinson: For Oregon, I am concerned about blanket prescriptions under the ESA, and am anxiously awaiting numerical goals for recovery. In our local Coquille/Coos Bay area, the limiting factor seems to be overwintering habitat more than spawning habitat, and our restoration work seems to be moderately successful.

McInnis: The usual pattern is to write a recovery plan, with numerical goals, within a year of listing. For coho, we ought to have at least ballpark numbers.

Wilkinson: The Southwest Oregon PAC and other restoration groups need information from NMFS on what your prescriptions will be for restoration for the Rogue and Umpqua drainages. We realize your staffing

shortages, but we desperately need help. **McInnis:** The main increase in staffing we have had is for listings in the Columbia basin, and to work on the Forest Plan, which is limited to public lands.

Wilkinson: We are concerned about our private lands restoration partnerships coming apart over resentment at blanket prescriptions.

Bits: The handout notes for the ocean fishery management for 12% hook/release mortality of coho. Would that change if central California stocks were listed as endangered? **McInnis:** I think it would continue as is.

Bits: The handout mentions overharvest as a cause of steelhead decline. Given the negligible encounter rate in the ocean, where does this occur? Also, consider hatchery-driven steelhead runs like the Mad River. Under listing, would there be scope to continue harvest on those? **McInnis:** It would be in-river harvest...not sure where. The listing process treats hatchery stocks separately from natural stocks. There has been discussion of continuing harvest of hatchery stocks, or perhaps curtailing hatchery production to promote natural stock recovery.

McIsaac: Can we anticipate a consultation process on any listed Klamath steelhead stocks similar to that for winter chinook and Snake River stocks -- for example, incidental take allowances so fisheries can proceed? **McInnis:** Consultation might determine there is no effect of ocean fisheries on steelhead. For river fisheries, there would be examination of state harvest regulations which might involve a Section 10 permit.

McIsaac: Would tribal fisheries require a Section 7 permit? **McInnis:** Don't know. **Fletcher:** The Klamath Intertribal Fish and Water Commission proposed to NMFS that we meet and discuss listing issues. That hasn't happened yet.

McIsaac: Was the southernmost coho ESU considered for endangered status? If so, why was it downgraded to threatened? **McInnis:** Typically, the petitioner makes a worst case. We looked into it, put people out on streams, and found coho in more streams than had been reported. Based on this presence/absence information, the proposal was toned down to threatened.

McIsaac: The Council needs to consider, how would listings complicate our business of making recommendations on fishery management. Listing has complicated management everywhere else, so I presume it will do so here.

23. REPORT ON KLAMATH RIVER FLOWS/TEMPERATURE (JIM BRYANT, BOR, KLAMATH FALLS)

Inflows to Upper Klamath Lake are about average now. They were at 60-70% of average during the summer (Handout HH). It could be that springs are finally recovered from the drought. Water temperatures are down. This has helped with the columnaris problem in suckers. Iron Gate flows were raised to 1300 cfs around September 5, 1996, rather than September 1, 1996, because of the sucker disease problem. Flows are now held at 1350 cfs to give Pacific Power some flexibility above the FERC minimum. Lake levels will not drop significantly below the requirements of the biological opinion. It has been a normal, boring year which I like. We anticipate another operational advisory for 1997 -- probably not before March.

Fletcher: We had a pretty good water year, but in the opinion of the tribes the water needs were still not met. What is the status of a decision on an EA or EIS on water operations? **Bryant:** It won't be ready for the 1997 season. We are contracting with tribes to help prepare NEPA documentation.

24. REVIEW STATE-OF-THE-ART GENETIC STOCK IDENTIFICATION METHODS (DR. KENNETH JONES, GENETIC IDENTIFICATION SERVICES, CHATSWORTH, CA)

There are 6 or 7 methods of genetic identification. Use of microsatellites, or short tandem repeats, is considered the state of the art method because it is rapid and provides high resolution. The first sheet of your handout (Handout II) shows a microsatellite with flanking regions. The microsatellites are useful in genetic identification because they are very numerous, and they are polymorphic -- a given microsatellite can have different base sequences in different individuals.

The technique for isolating microsatellites is shown in Figure 1 of the handout. In the illustration, we have two genetic types in the fish population, with either 9 or 12 repeats of the AAT base sequence. The smaller fragments move faster across the electrophoresis gel, which separates them from the larger fragments. A fish inheriting the 9-repeat fragment from both parents can thus be distinguished from one inheriting the 12-repeat fragment from both parents, or one inheriting a 9-repeat and a 12-repeat.

We can refine the genetic identification by looking at fragments from several loci. In our lab, we have isolated up to 9 microsatellite loci from one organism.

We used this technique to assist in a study of the genetic diversity of white seabass in Southern California. The question of interest was whether the seabass population is genetically uniform, or made up of substocks. It was also of interest to know whether the artificial production facilities might reduce genetic diversity, through release of their product. Table 2C shows that fish from the Oxnard growout facility (OX) are much less genetically diverse than fish sampled from the fishery at various points along the coast.

We did a parentage study in the seabass hatchery to help them determine which animals in their broodstock are contributing to reproduction. We examined 16 offspring and were able to identify unambiguously the parents for each of these, out of 130 or so fish in the broodstock. All 16 juveniles had the same mother and three male parents contributed.

With some species, including polar bears, microsatellite analysis has been used to assign individual animals to various source populations, based on the probability that its particular genotype might have come from a given source. This involves examining a large number of loci and, of course, it depends on the source populations being genetically distinct.

Question: Could you use scales as a tissue source? **Jones:** We haven't tried scales. We need tissue with nucleated cells. Typically we take a very small clip of fin tissue, because that contains blood cells which are nucleated.

Question: Cost? **Jones:** For the results I have shown here, probably tens of thousands of dollars and weeks to months of work time.

Question: Did your results indicate a need for greater genetic diversity in the seabass spawning stock? **Jones:**

Yes, but we looked at one spawning and what really counts is the total diversity from all the spawnings over the year. If we found the same female is producing the offspring spawn after spawn, that would be a problem. Also, the genetic diversity of the hatchery product should be matched to that of the local area where fish are going to be released.

Answer to question inaudible on tape: To maximize the probability that your locus is polymorphic, try to obtain animals that you would expect to be different. For example, we have salmon tissue from Alaska and from the Salmon River in the Klamath. We would like to get tissue samples from Oregon and Washington.

25. COASTAL SALMON INITIATIVE (PARKER)

John Amodio attended a meeting of the Scott River CRMP and told us the CSI process is underway. We have had no update since then (Handout JJ).

Fletcher: The Yurok Tribe has participated. It has been a slow process, involving a big group and a lot of difficulty getting consensus. (Handout KK). There will be recommendations on habitat, harvest, and water management.

Question: How does this overlay with the PFMC process for coho? It looks similar. **Fletcher:** Nat Bingham is involved with both. I believe he will take CSI recommendations to the PFMC.

Question: Is it useful? Who is committed to implement the outcomes? **Fletcher:** It is advisory only. Nothing CSI does will relieve agencies of responsibilities.

26. COUNCIL DISCUSSION

McIsaac: Regarding a Council comment to NMFS on listings, it would be better to leave that to member organizations.

Bits: As we have paid little attention to steelhead, we may not have the background to comment on that subject.

27-29. TRINITY RIVER UPDATE (JOE POLOS, USFWS, ARCATA)

See Handout S, for the principal new elements of the reauthorized Trinity Restoration Program, and the Trinity flow study. Note that the range of flows to be studied is higher than the range identified in the 1981 Secretarial Decision. The present minimum of 340,000 acre feet was arrived at through administrative appeal by the Hoopa Tribe. Flows at the higher part of the range would maintain the geomorphology of the river channel, as did the high spring flows of the undiverted river. Historic average flow was 1.2 million acre feet (AF), and flows fell below 340,000 AF only three years in the historic record.

Question: It looks like the three-year action plan (Handout LL) will cost \$21 million, yet you are authorized to spend only \$12 million? **Grover:** There is always more to do than money available. The projects are prioritized, to make use of whatever funds become available. The table you are looking at shows o&m costs in the right hand columns, for which \$2.4 million is available per year. The left hand columns show construction projects, totaling about \$13 million. The Program is authorized to spend \$12 million more for construction, and the Bureau is seeking an appropriation for that amount.

Question: What happens next on the flow study? **Polos:** The flow study recommendations were supposed to go to the Secretary by the end of FY96. We are hoping to send it forward early in 1997, after peer review by agencies, tribes and technical experts. That will not be in time to affect decisions on the 1996-97 water year. If the Secretary and the Hoopa Tribe can't agree on a new range of flows, the instream flow requirement will remain at 340,000 AF.

Question: What about those flows lower than 340,000 AF. **Polos:** Those were identified in the 1983 EIS as flows to be analyzed. Current thinking is, they are insufficient to support a fishery resource.

Question: Is it pretty well established that the range of flows will be from 365-750,000 AF, and it just remains to present the arguments to defend this? **Polos:** Some of the high channel-moving flows are theoretical -- we have not had those flows during the flow study. I am somewhat uncomfortable with benefits claimed for those flows. Some of this is based on work funded by the Hoopa Tribe, where they used bulldozers to pull out willows to see what kind of force is required, then extrapolated from that. For the lower part of the flow range, we have actual observations.

30. TRINITY RIVER EIS/EIR (BERNICE SULLIVAN, PROJECT MANAGER, BOR, DENVER)

Highlights:

- C Purpose and need: to restore natural anadromous fish populations to levels approximating what existed prior to construction of the Trinity Project.
- C EIS study area is Lewiston Dam to Weitchpec.
- C Four co-lead agencies: Fish and Wildlife Service, Hoopa Tribe, Trinity County, BOR.
- C Several technical teams for channel restoration, fisheries, tribal trust, other issues.
- C Ties in with the EIS now being prepared for the Central Valley Project
- C Will analyze six action alternatives, and a no action alternative of 340,000 AF. The "maximum flow" alternative would have a critically dry year flow of 463,000 AF; the "percent inflow" alternative would have a critically dry year flow of 165,000 AF, which is proportional to 40% of Trinity Lake inflow based on historic record; the "mechanical restoration" alternative would keep flows at 340,000 AF, and rely on mechanical means to restore and maintain habitat; the "harvest control" alternative would keep flows at the no action level and would rely on harvest regulation to restore fish populations.
- C Other alternatives were considered and eliminated, such as removing Trinity and Lewiston dams.
- C Will consider economic impacts to the Central Valley.
- C Will use a number of predictive models for reservoir operation, temperature, fish production, other variables.

C Hoping to complete the review draft in late 1997.

Fletcher: Could the harvest regulation alternative be implemented, legally, given tribal trust responsibilities?

Sullivan: The tribal trust team under Robert Franklin will look into that.

Bitts: Since a purpose of restoration is to restore harvests, seems like you are unclear on the concept if you are looking at cheating restoration by reducing harvest. **Sullivan:** I believe it would be a temporary restriction.

Bitts: We began hearing that in 1979.

Fletcher: We would rather see the harvest restriction alternative put into that group that was considered but not put forward to the public.

Sullivan: We want to present a full range of alternatives. The “remove the dams” alternative was taken out because the effects would be too extreme. **Bitts:** To get to your objective of pre-dam levels of natural stocks, removing the dams is the only realistic alternative.

Question: Does mechanical restoration work? **Sullivan:** Some pilot projects have worked, some have not, in terms of promoting adult spawning and juvenile rearing.

Question: When the EIS is done in 1997, what happens next? **Sullivan:** The EIS and flow study will go to the Secretary for his decision on permanent instream flows and approval of a preferred alternative.

McCovey: Subsistence fisheries should be treated differently than commercial fisheries in your analysis. Tribes feel you can't put an economic value on subsistence. **Sullivan:** We will need to hear from the tribes how they want subsistence considered in the EIS.

Grover: Suggest your economic analysis look at social and economic dislocation in Oregon as a result of Trinity/Klamath harvest restrictions.

STATUS OF HABITAT CONDITIONS

31a. SCOTT RIVER (JEFFY DAVIS, RIVER COORDINATOR, ETNA)

Highlights:

C Davis is recently hired as Scott River watershed CRMP coordinator.

C The CRMP was formed in 1992. It has 18 members, voting or advisory.

C The CRMP deals mainly with the portion of the Scott River within the Scott Valley, and the tributaries coming into that area.

C One feature of the Scott Valley is the huge area of dredge tailings along the Scott River, near Callahan.

C Plans have been developed for fish restoration and for water management. These plans are the bases for projects. About \$700,000 is in hand for restoration projects.

- C A large grant was received from the Cantara Trust and the Wildlife Conservation Board for bank protection, instream structures, and fish screens.
- C One of our objectives is to increase fall flows. Temporary dams are installed in summer to increase bank storage, then removed.
- C Temperatures are monitored with hobotemps at 40+ sites, and the U.S. Geological Survey (USGS) gage at the lower end of the valley.
- C Alternative stock watering systems are installed to allow cattle to get water away from the streambank. Ranchers who are provided these systems have agreed to return fall flows to the river, rather than divert for stock watering.
- C We emphasize education, and hold a couple of workshops every year. Jim Lecky and John Amodio spoke to landowners on the coho issue, which was helpful. We also generate newspaper articles.
- C One of the more significant projects has been the French Creek erosion control and sediment monitoring. We are seeking Task Force funds to start the sediment monitoring again.
- C The number of landowners participating in our program is slowly increasing.
- C It would be helpful if our landowners could get more information on fish harvest issues. There is a tendency to blame everything on overharvest.

Question: There is aggregate mining in the dredger tailings area. Are you watching that for water quality?

Davis: We have a tailings committee, including landowners and gravel operators. We are hoping to get a restoration project started there, preceded by a study of what is going on there.

Wilkinson: Suggest you approach Fruitgrowers for funding of sediment monitoring in French Creek.

Question: What about instream flows? How do you convince your landowners that flows are needed? **Davis:** We have come a long way, but people are not ready to give up their water. When we bring up flows, we get squelched. I don't see a dialog happening between agricultural and coastal interests on this point.

***Action: (McIsaac): Following up on Jeffy's suggestion, I recommend that Council members plan to attend a CRMP meeting to provide some insights into fishery management. Staff should provide background on CRMP issues to our members who are planning to attend.

31b. SHASTA RIVER (DAVE WEBB, RIVER COORDINATOR, MOUNT SHASTA)

Highlights:

- C Shasta CRMP has existed since 1991, with Dave as coordinator since that time.
- C Shasta CRMP deals with the portion of the Shasta watershed accessible to anadromous fish -- below

Dwinnell Reservoir.

- C Some exciting recent changes: chinook salmon in Yreka Creek, Little Shasta River, Parks Creek and Oregon Slough in 1995. Restoration projects could be a factor along with good flows and straying of fish from Klamath River in a high abundance year.
- C In 1995, we saw increased chinook spawning in the upper accessible areas of Shasta River, which should yield enough juveniles to make use of the productive capacity of 25-30 miles of river.
- C Restoration projects are scattered among the 60 land ownerships along the Shasta River...projects here and there, not continuous. Restored habitats show improvement. Other areas are stable or degrading.
- C Limiting factors in getting landowner cooperation include their lack of knowledge, lack of concern, and lack of ability to correct problems. Lack of knowledge is less an issue than formerly -- there has been outreach. Lack of concern could be reduced by landowners hearing from those affected by reduced harvests. The opposite is also true: harvest regulators should listen to concerns of inland residents...people talking to people. We've got to build that bridge between inland and coastal people.

Question: Do you have good evidence that fish numbers have increased in the areas you mentioned? **Webb:** Some areas are accessible to CDFG and volunteers. From some areas that are not routinely surveyed, we have anecdotes from locals. The Big Springs area is not accessible -- a problem. There was widespread interest around Shasta Valley in the large numbers of spawning salmon last year.

Question: What do you know about egg taking at the Yreka electric power station early in this century?

Webb: Eggs were taken at the head of the Shasta canyon. I believe they were steelhead, or maybe salmon. Eggs were apparently transported to the Mount Shasta Hatchery, and some were exported. Someone should dig in the documents in the attic at the hatchery -- probably lots of interesting history there. **Wilkinson:** I have some information on steelhead egg taking on Bogus Creek, around 1910.

Question: How widespread is this attitude of not caring about the fish runs? **Webb:** Can't give you a count. When people are on the defensive and feel they have no options, they tend to harden their attitudes.

Fletcher: I suggest that some representatives of the fishing interests talk with your group once or twice a year, to exchange ideas. **Webb:** This is essential. We need to see ourselves as a watershed community.

Rode: Access to private property to monitor spawning or conduct research seems to be declining. People feel the information will be used to take away their property rights or water rights. Do you have a suggestion for improving this? **Webb:** About one-third of the fish spawning is now inaccessible to monitoring, and other areas are not consistently accessible. The problem exists in Scott Valley too. On one side are property rights advocates who feel they don't have to grant, and on the other are those who feel that access to streams is guaranteed in the State constitution. It would be good to resolve this [in court], but whoever takes the initiative to do so will be the bad guy. The political climate in Siskiyou County is quite polarized right now, and some people like it that way. **Jeffy Davis:** Part of the answer is getting the landowner involved in developing projects...getting a stake in restoration.

Question: Are some landowners concerned that fish are appearing where there were none before? **Webb:** On the Little Shasta River, I encounter that attitude of “no fish, no problem.” On lower Yreka Creek, irrigators are glad to see the salmon because it strengthens the case for keeping water in the creek from the Yreka sewage ponds.

31c. SALMON RIVER (PETER BRUCKER, RIVER COORDINATOR, FORKS OF THE SALMON)

Highlights:

- C Brucker is coordinator for Salmon River Concerned Citizens, which functions as a CRMP group in the Salmon River basin.
- C Salmon River watershed is about the size of the Scott -- 400,000 acres -- but has only 250 inhabitants. Private land is about 1% of the watershed. Forest Service is the major landowner.
- C Problems: low flows, high temperatures, poaching.
- C Projects: temperature monitoring with 24 hobotemps involving 50 kids from Forks of Salmon school. SRCC assists and provides continuity when new teachers come in. Emphasis is on learning the causes of local high temperature problems.
- C Goals of the community action plan: restore the watershed, emphasizing fisheries; create a stable economic base, consistent with restoration; and promote cooperation.
- C SRRC conducts workshops on restoration issues. Most recent was on role of fire, which is a major factor in the Salmon watershed. We are excited that the Forest Service has changed emphasis from timber production to ecosystem management, including preventing catastrophic fire. My house has burned twice in forest fires.
- C 50 local volunteers participated in the 1995 spring chinook adult count.
- C Volunteer contribution is increasing -- probably 500 volunteer days in 1995.
- C We are entering data in the Klamath Resource Information System (KRIS) -- a good tool.
- C We have held workshops on how ESA listings may impact our area. We invite the Council to participate in discussions like this. A lot of people in our area perceive harvesting to be the problem. We need you to tell us what you are doing -- how you arrive at the numbers.
- C We focus on private land. We feel individuals should take responsibility for their property.
- C Another area of emphasis is roads. We have an adopt-a-road program, asking people who use the road to help keep culverts cleaned out.

Question: Handout MM shows Wooley Creek lagging behind in numbers of adults. Why? **Brucker:** That

figure refers to the reach of the main Salmon River from Wooley Creek to the mouth. Wooley Creek itself is in good condition. The handout doesn't have spring chinook counts from Wooley Creek which is monitored by agency staff.

Question: Is there an annual CRMP forum in the Klamath? **Webb:** No, but maybe it is time to organize one.

Fletcher: Thanks to all for the frankness of your discussions.

31d. TRINITY RIVER (POLOS)

See handouts.

32. COUNCIL DISCUSSION (SEE AGENDUM 34)

33. PUBLIC COMMENT (NONE)

34. IDENTIFICATION OF AGENDA ITEMS FOR THE NEXT MEETINGS. DECIDE ON THE DATES AND LOCATIONS.

Technical Advisory Team assignments [A] spawner floor report and substock analysis:

[Mike Prager responds to points made yesterday on his report]. **Prager:** I understand these points to be: incorporate by reference the Amendment 9 floor analysis; check the temporal relation of stock/recruit and rainfall data; clarify the text on the issue of age 3 spawners, to say that the 3-year spawning cycle refers to the computer simulation only; fourth, distribute spawning between ages 3, 4, and 5, (this would take considerable work in programming, and delay the report); fifth, clarify the conclusions to distinguish the floor from P_{msy} ; sixth, add analysis for other management scenarios the Council may be interested in, such as higher harvest rates at high abundance levels; and, seventh, add data on rainfall and runoff which Troy Fletcher will provide. Then, do you want analysis of substock issues? That should be a separate TAT project.

McIsaac: Does the Council wish to see item 4 done, given it will delay the analysis? Let's delay that to 1997.

Bitts: Regarding item 6, something like this was proposed for -- I think -- 1989, with half of the projected excess over the spawner floor to be identified for harvest, half for escapement. Could we look at something like that? **Prager:** Any rule that can be stated clearly can be programmed in and analyzed. **McIsaac:** We would have to tell the TAT what we consider a "high abundance" year.

Bitts: I suggest analysis of a *de minimis* harvest rate of 0.20 in years when abundance is predicted to be below the floor. Second, I suggest evaluation of a partial escapement ceiling, such that when natural escapement is projected at greater than 70,000, half of the excess over 70,000 goes to harvest.

Fletcher: Could we also look at a *de minimis* harvest rate of 0.10?

McInnis: Alternatively, how about a *de minimis* 6% ocean and 12% overall harvest rate. This is an experience we have had recently. **Bitts:** 20% overall is going to be pretty close to an 8% ocean harvest rate (2% late prior season + 6% current season) plus in-river harvest.

McIsaac: So far we have two management scenarios for the Team to look at.

Fletcher: I would like the Team to identify the issues, variables, kinds of information needed for an analysis of effects of the floor on substocks. **Prager**: A big assignment. I don't know how far we could get on it in the context of the current report. One difficulty would be examining what happens to substocks at very low levels of abundance. Information coming out of the model at the extremes is less reliable. **McIsaac**: I believe Troy is asking only for the prospectus of a future report on what would be needed to implement substock management. A separate report. **Prager**: We will also address the substocks issue in the conclusions to the spawner floor report, as appropriate.

Bitts: In the substock report, please address the issue of whether depleted substocks can be restored through fishery management.

Ronnie Pierce: In looking at a 0.20 harvest rate in below-floor years, we want to know the impacts on substocks, as well as on overall yield. **McIsaac**: I don't think this is what we are requesting in finalizing the spawner floor report.

Bitts: The management changes we are examining would require framework amendments, so they are not quick solutions.

Prager: Our analysis is rather one-sided in that it can show the benefits of a more aggressive harvest policy in terms of increased yield, but it does not show the risk in loss of genetic variability.

McInnis: The decision on listing chinook salmon coastwide is about 15 months ahead. Could be that some of the analyses leading up to that would assist TAT.

Grover: The 35,000 floor was sold to the Interior Secretary with the idea that, as restoration proceeds and basin productivity goes up, the floor would rise. **Bitts**: I can't buy that, given that P_{msy} appears to be lower than formerly assumed. **Grover**: Nevertheless, the Secretary bought into the concept of building up the stock. **McIsaac**: The Technical Advisory Team, I would like to see you bring in to your report those assumptions about productivity from earlier years.

Technical Advisory Team assignments [B] other assignments:

Barnes: Here are the assignments I have picked up -- let's see if the Council agrees.

- C Report on in-river in-season adjustments using CPUE: We will complete a final report before the next Council meeting.
- C Spring chinook report: to be expanded to a final report by the next Council meeting.
- C Review of the use of abundance of ocean 3's as a predictor of ocean 4's.
- C Divergence of a few thousand fish between outputs of the Klamath ocean harvest model and the harvest rate model.

- c Problem of “late” spring chinook in 1996, and how that works into the fall chinook run size estimate. Note that our analysis will come after completion of the megatable for 1996. **McIsaac:** Even so, I request this be done. Note the possibility of mis-tagging or other problems at the hatchery that Kautsky mentioned.

Future meeting dates

McIsaac: When will the 1997 stock forecast be available? **Barnes:** Depends on returns of tags from the states. At the latest, February 10, 1997. **McIsaac:** Let’s then look at the week of February 17. Keep your calendars open February 18-20, 1997. We will meet in Santa Rosa, in conjunction with the CDFG harvest workshop.

McIsaac: Tying our subsequent meetings into the PFMC schedule, let’s meet on Sunday afternoons March 2 and April 6, 1997 and during the course of the weeks of PFMC meetings, as needed.

(Note: The Pacific Fishery Management Council meets in Portland, at the Lloyd Center Red Lion, the week of March 2, 1997. They meet in San Francisco (hotel tba) the week of April 7, 1997)

Adjourn

Thursday, September 26: Field trip to the Trinity River Hatchery, Lewiston, CA

2:00 pm Meet at the Victorian Inn's hotel lobby, then travel as a group to the hatchery.