



# United States Department of the Interior

## FISH AND WILDLIFE SERVICE

Klamath River Fishery Resource Office  
P.O. Box 1006  
Yreka, CA 96097-1006

April 5, 1991

### Memorandum

TO: Klamath River Basin Fisheries Task Force

FROM: Ron Iverson *Ron Iverson*

SUBJECT: Draft minutes of the Task Force meeting held March 11, 1991.

Attached for your review are minutes of the subject meeting held in Millbrae.

### Attachments

cc: TF Technical Work Group  
TF Interested Parties  
Management Council  
MC Tech Team

NOTES FROM THE MEETING OF  
THE KLAMATH RIVER FISHERIES TASK FORCE  
MILLBRAE, CA, MARCH 11, 1991

Members present: Bingham, Hillman, McInnis, Odegar, Orcutt (replaced later by Franklin), Pierce (substituting for Lara at chairman Shake's request), Shake, Wilkinson

Absent: Thackeray, Sumner, Holder, Whitridge, DeVol, Farro

Agenda item: Call to order. Adoption of agenda. (Attachment 1)

Call to order at 7:10 p.m.

Agenda item: Report on joint subcommittee meeting to assess consistency of the Task Force and KFMC long-range plans. (Attachment 2)

(Bingham): The subcommittee was directed to assess consistency of the two long range plans and to make recommendations to both advisory groups. Most recommended changes are for the Council's plan, and they have voted to include them in their final plan. A few changes were recommended to the Task Force. For example,

- o The Task Force plan, Policy 4.4.a. Action: Amend to read as follows: "mark by fin clipping or other method all hatchery steelhead at Iron Gate Hatchery as well as Trinity River Hatchery so that:"
- o Task Force plan, Policy 4.4. Action: Amend to include Policy 4.4.e, which reads "Promote genetic stock identification or DNA programs for ocean and river sampling to determine fish stock identification".
- o Task Force plan, Chapter 6 (page 6-9). Action: Add policy 6.3, which would address production of newsletters and fliers. We recommend the Task Force inform the public about Council activities as well as Task Force activities.
- o KFMC plan, Option 5.1. Action: (after lengthy discussion) The KFMC should adopt the "native stock group" language and the words "prevent extinction" should be replaced with "protect locally adapted stocks".
- o Task Force plan, Chapter 4, Table 4-1, (page 4-11). Action: Table 4-1 should be reviewed by a technical panel before being adopted by the Task Force. (We recommend formation of blue ribbon panel to assess the validity of this table. A work-group convened of folks not from the other two technical advisory groups.)
- o KFMC plan, Options 6.1, 6.2, 6.3. Action: Amend the Task Force plan to include these options as policy. (I would like this to be addressed by the Task Force in a future meeting.)
- o Task Force plan, Policy 4.4.7, (page 4-50). Action: edit policy to read "The Task Force will work towards determining spawning population levels appropriate to achieve optimal smolt production for all self sustaining populations of anadromous salmonids in the basin."

(Bingham): I don't know how you want to deal with these recommended changes. The Council approved them all at once.

(Shake): We can discuss changes, then give them to Ron and staff.

Discussion of Table 4-1 in the Task Force long range plan:

(Odegar): We discussed using the word "historic" to describe these stocks. We want the table in indicate that we recognize these as "historic" stocks in the basin. This goes along with your locally adopted stocks item.

Q: If labeled "historic", would a scientific group be needed to study this. This changes the meaning of the table.

(Bingham): A judgement call for the Task Force, whether we identify them as "historic" or as stocks we want to manage for.

Additional discussion:

- o If the panel puts the list together, there is authenticity implied. This could cause problems later.
- o I suggest we leave the title of Table 4.1 generic.
- o Suggestion to identify stocks by tributary and watershed.
- o This was put together on semi-official data and anecdotal information.
- o Stocks are identified to function as an indicator. We don't want to be burdened with rehabilitation of a stock that can't sustain itself.
- o The American Fisheries Society will publish a list of stocks that may be in trouble. Someone will then have to take action. I'm sure some of these are on there.

Q: Do we really know how to define "stocks". Let's consult the glossary.

Stock (n): a species or population of fish that maintains itself over time in a defined area.

(Shake): Why not identify this as an agenda item for a future Task Force meeting? We need input from geneticists.

**\*\*\* Action \*\*\***

To be included as an agenda item for the next Task Force meeting, subject -- Identifying a panel to discuss stock identification issue.

Incorporate subcommittee recommendations into the long range plan before publication.

Q: Language regarding stock identification on pages 4-6 to 4-10. Should it remain in or be deleted?

(Bingham): The word in there now is "proposed" and I don't think it's the right word at all.

Q: Doesn't this really tell us where certain species were and are found? And couldn't we re-title to say "Species of salmon found in the Klamath basin, by tributaries."?

(Bingham): The recommendation stands, the council agreed with it.

(Shake): So, "Tentative stock groups" will be used in the title.

**\*\*\* Action \*\*\***

Change title of Table 4-1 to "Tentative stock groups of Anadromous Fishes on the Klamath River Basin"

Motion:

(Bingham): I'll make the motion to accept and adopt the subcommittee report. Motion second by McInnis.

\*\* Motion carried \*\*

Discussion of upper basin plan amendment

(Kier): My reason for being here is to hear from this group on how to complete the contract for the upper river amendment to the plan. I didn't see discussion of the upper basin amendment on the agenda.

Q: What was the comment close off date.

(Iverson): March 8, 1991.

(Kier): I need comments, but will cut it off. We left Yreka without a date.

(Franklin): I'd like to have it through the end of the month.

(Kier): You got it on the 5th of Feb. I'm anxious to close the contract.

(Odemar): Bill Kier, having dealt with the Task Force, did you see areas that could create a problem? Were there policy issues? I'm assuming at this point, that most early concerns have been dealt with, along with wishes of the Task Force.

(Kier): I came away from Yreka, on February 5, feeling that the upper river amendment material was non-controversial. The contract amendment asked us to look at water quality problems. We told you what we found.

(Odemar): Are there policy additions? If we could address the policies, we could go to those policies. The rest, I would take on faith that this is an accurate description of water quality in the upper basin.

(Kier): Right, we talk about water quality problems up there, also endangered species that the Klamath Tribe is working with. We addressed the issue of restoring salmonid stocks. It's pretty much a narrative of water quality.

(Wilkinson): The Oregon Dept. Fish and Wildlife has to have time to comment on the consistency of the upper basin plan amendment with their operating policies.

(Kier): Our contract instructed us to turn over a draft to you. It didn't say anything about your discussing this. We have fulfilled our contract. We heard your comments at the last meeting, and haven't heard anything since that time.

(Iverson): The KRFRO believes that the contractual obligations have been met.

(Shake): We can deal with the contractual issue now, and deal with consistency review later. We can accept the draft and finalize it after dealing with policy issues at a later meeting.

(McInnis): I'm ready to accept it as a draft. There are areas that will require discussion by the Task Force at a later meeting.

(Shake): Ron, can you verify the contract calls for only a draft?

A: Yes.

Motion:

(McInnis): I move to accept the upper basin amendment in draft form.  
Motion second by Bingham.

\*\* Motion carried \*\*

\*\*\* Action \*\*\*

Put discussion of the upper basin plan amendment on next meeting's agenda.  
(Discussion of controversial policies and issues, if any.)

Agenda item: Discussion of substantive changes to the long-range plan.

(During discussion, Orcutt leaves the table and appoints Bob Franklin to sit in as his alternate.)

(Shake): I presume everyone's reviewed the plan. I recommend a chapter-by-chapter discussion of substantive issues.

\*\* Consensus \*\*

Q: Mike (Orcutt), do you require action on your comments before you leave, regarding acceptance of the plan?

(Orcutt): Not if editorial changes are to be made by KRFR staff. The only substantive comment is: Chapters 4 and 5 have inconsistent priorities for policies dealing with protection and restoration of green sturgeon.

(Pierce): I'm glad to see the changes in the tribal language. We feel comfortable. We hope there will be a responsive process in the future to make amendments if and when necessary.

(Hillman): Regarding the inclusion of tribal language, most of the major changes have been addressed. There are a lot of editorial changes still needed.

(Odemar): My concern is with the description of goals in Chapter 8. All of the actions and objectives apply to Goal I. Goals II through V have no policies or objectives. I don't see how the Task Force can ensure that the Council will get all information they need for management. If we accept this goal II as a duty, then let's say it. Right now, it doesn't say it. There are no objectives that show how that will be achieved. At one time we had a clear statement that it was the responsibility of the Task Force to provide management information to the Council. It should not be a goal, but it should be an objective. The goal is the mission statement, one way of achieving the goal is to have an objective of advising the council. So we should remove it and call it an objective. This is what I see as wrong with the plan.

(Shake): After reviewing the plan, then you get to the other 4 goals, the plan comes to a screeching halt. If you look at all of the remaining Goals, they could be interpreted as objectives also.

(Bingham): I think the other goals are pertinent.

Q: What do you want to do, Mel?

(Odemar): I don't have difficulty with Goals III to V, but Goal II should be an objective under Goal I. We advise the KFMC of stocks of concern needing management. This is an advisory goal.

Q: So, we should advise the KFMC, so that they may devise harvest regulation recommendations that will take stocks of special concern into consideration?  
(Shake): No, this is too different.

(Odemar): I suggest Goal II be reworded as follows: "Support the KFMC in development of harvest regulation recommendations that will provide for viable fisheries and escapements".

**\*\*\* Action \*\*\*** Re-word Goal II of the long range plan to read "Support the KFMC in development of harvest regulation recommendations that will provide for viable fisheries and escapements".

Continuation with the agenda item discussion:

(McInnis): With the interest expressed by the joint sub-committee about amending the plan to include stronger habitat policies, I have no problem with the plan.

(Franklin): A couple of things:

- o Page 3-37, Policy 3.13.a, "fund or find funding from such cooperators as the USFS, for completion of habitat typing and other quantitative habitat assessment of all basin streams;". This should be streams with significant restoration potential.

- o Conclusions, page 8-4, Conclusion #18. It begins with a good statement talking about securing adequate streams flows in the Trinity River. Then, a much stronger statement should be made that the Task Force would secure and maintain adequate stream flows for fish populations below Iron Gate dam. Nothing is indicated that the present level is good enough.

(Odemar): This is an issue that came up recently. We have no instream flow studies on the Klamath River. If this isn't in the plan, shouldn't we include it as an objective? We should get an instream flow study done, or at least seek funds to do so.

(Wilkinson): No comments on the plan. It's acceptable.

(Bingham): I don't have anything to recommend as far as substantive changes now. I think we must keep in mind this is a living document. I suggest we have a portion of a meeting each year, to sit down with the plan, assess what we're doing, with regard to what our plan says, and check for consistency that we're doing it. I have amendments for the future, but for now, I think we should go forward with it. I like Ron's suggestion that the Task Force begin putting its own proposals in to drive the program.

(Shake): We (USFWS) do not have any major problems with it. There are editorial issues, but I don't think there are new surprises. I echo what Nat has said. There is much work in this, lots of public input, lots of interest. One of the things apparent to all of us, is that we need to get on with the program, focus where we will get the biggest bang for the buck. We need to facilitate our budget process.

Motion:

(Wilkinson): I move to accept the plan.  
Motion second by Odemar.

\*\* Motion carried \*\*

Agenda item: Discussion on plan reproduction and distribution

(Iverson): We think the printing and distribution step is not the place to be cheap. We've invested about 1/2 million dollars to get the plan to this point. The demand will probably call for about 1,000 copies. Regarding an executive summary, our recommendation is that for now, we concentrate on distributing the entire document, perhaps distributing Chapter 8 as a plan summary, where appropriate. Production of a glossy executive summary could be considered in the FY92 budget process.

(Calame): We included the following specifications when requesting bids:

- |                                  |                             |
|----------------------------------|-----------------------------|
| o No binder                      | o 90 lb bookstock cover     |
| o Pages to be heavy weight paper | o Printed both sides        |
| o Three hole punched             | o Gum padded on the back    |
| o Camera ready charts and photos | o Dividing pages (not tabs) |

(Calame): With these specifications, Joanne's Print Shop, for 1,000 copies, bid \$13.35 each. The Government Printing Office (GPO) quoted about \$12.40 each. We could distribute widely, at \$10 to \$12 dollars each. The price goes up about \$2 per copy when just 500 copies are printed.

(Kier): The binder set-up would almost double the cost to do this.

(Bingham): Binders will cost a lot to ship also. I agree with what Ron said, let's not be cheap. I support offset printing and good photo quality. I think Harleigh's recommendation is good and I don't think we should buy binders.

(Pierce): I assume you considered the amendment process, so we wouldn't have to send out amended copies.

(Iverson): We wouldn't just mail the 1,000 copies. We'll initially just send to agencies and send a letter to interested parties to ask if they want copies.

Q: Ron, do you know what the amendment process will be and how it will be handled?

(Iverson): No, but we can assume there will be amendments.

(Wilkinson): I would suggest a less costly form until the amendments are completed.

Q: How long will printing take?

(Iverson): 4-6 weeks at the GPO. We'll go low bid.

(Calame): Once the final document is sent to the printer, we can send notification letters to the public.

Q: Will printing costs require separate funding consideration by the Task Force?

(Iverson): Yes. Something will have to be deferred to free up funds for printing. Our administrative side of the budget is going to overrun because of extensive long range planning of the Council, plus the printing costs, and the fact that the original Task Force recommendation was for \$1,028,000 in Federal projects.

(Shake): We discussed this in the budget committee. We thought we could defer the curriculum contract to next year.

Q: Why was the curriculum agreement not up to speed?

(Iverson): We haven't gone through the contracting process on it yet. For FY90, it was contracted at the end of the fiscal year. Assuming we get full funding, we could start the contract process early in FY-92. This isn't a lower priority project, just one where funds are not yet obligated.

Motion:

(Wilkinson): I move to endorse, in principle, the copying of 1,000 copies, with the specifications as presented.  
Motion second by Odemar.

(Shake): KRFRO would send out notices to the public stating when the long-range plan will be available.

(Calame): We will need the plan disks to do enable a reprint after editorial changes are done.

\*\* Motion carried \*\*

\*\*\* Action \*\*\* KRFRO to get 1,000 copies printed and provide public notice of plan availability.

Agenda item: Discussion on distribution of abbreviated copy:

(Kier): (In support of an executive summary.) Something should be produced in sufficient quantities so folks could take these from county fairs and other places. (Shows a copy of an executive summary produced by multiple agencies on the Patapsco River restoration.)

(Shake): These executive summaries can be expensive. Also, there is money available from other funding sources.

(Pierce): We're approaching the 5 year point. We could entertain a proposal to do a 5 year re-cap, and cover an executive summary at the same time.

(Kier): This takes care of two issues identified in the long-range plan: 1) a report to the people; and 2) an executive summary.

(Shake): OK, let's discuss as an agenda item in a future meeting.

\*\*\* Action \*\*\*

Ron Iverson will flesh out and place this item on future agenda.

Meeting adjourned at 9:07.

List of Attachments:

Attachment 1: Agenda

Attachment 2: Report -- Joint subcommittee on long range plan consistency

KLAMATH RIVER BASIN FISHERIES TASK FORCE  
DRAFT AGENDA  
SAN FRANCISCO, CA

March 11, 1990

- 7:00 p.m. Call to order. Adoption of agenda.
- 7:10 Approval of the long-range plan.
- o Report on joint subcommittee meeting to assess consistency of the Task Force and KFMC long-range plans (Bingham).
  - o Task Force discussion of substantive changes to the long-range plan.
- 8:30 Discussion on plan reproduction and distribution.
- o Printing alternatives and cost break-out (KRFRO staff).
  - o Task Force discussion whether to distribute full or abbreviated plan.
- 9:15 Action
- o Direction to KRFRO for long-range plan reproduction and distribution.
- 9:30 Public Comment
- 10:00 Adjourn

JOINT SUBCOMMITTEE MEETING TO ASSESS CONSISTENCY  
OF THE KLAMATH RIVER TASK FORCE AND  
THE KLAMATH FISHERY MANAGEMENT COUNCIL  
LONG RANGE PLANS

Meeting held February 6-7 in Yreka, CA

Subcommittee members in attendance: Nat Bingham (Chair), Rod McInnis, Mel Odemar, Ronnie Pierce, Jack West, Keith Wilkinson

Purpose:

The joint subcommittee met with the charge by the Klamath Fishery Management Council (KFMC) and the Klamath River Task Force to assess the consistency between recommended policies and objectives of the Task Force's and KFMC's long-range plans. The committee was also charged by both groups, to assess the wording of policy 4.7 (page 4-50) of the Task Force's final long-range plan, and make recommendations to the Task Force.

Provided here, are recommended actions pertaining to the KFMC plan "Options" found to be inconsistent with policies in the Task Force's long-range plan.

We recommend that each KFMC member read these recommendations today, and prepare for discussion tomorrow.

Option 2.6 "Design Harvest regimes to achieve an appropriate balance between available natural and surplus hatchery stocks".

Action:

1. The KFMC should be aware that the Task Force will determine optimum balance between hatchery and natural fish, while minimizing effects on natural stocks, and typically, a slight surplus will occur.

Option 3.6 "Develop a method to immediately identify hatchery fish"

Action: (Editorial)

1. Re-word Task Force policy 4.4.a to read "mark by fin clipping or other method all hatchery steelhead at Iron Gate Hatchery as well as Trinity River Hatchery so that:" (Attachment 1)
2. Advise Task Force of recommended action.

Option 3.7 "Improve harvestability of hatchery fish by altering stocks, release locations, and by fin clipping"

Action:

1. Suggest rewording to "Improve harvestability of hatchery fish using methods consistent with Task Force plan" (Attachments 1 and 2)

Option 3.9 "Institute a coast-wide Genetic Stock Identifier ocean landing sampling program to determine stock composition of ocean-caught landings"

Action:

1. Recommend to the Task Force, that they amend policy 4.4, of their plan, to include item 4.4.e, which would read "Promote genetic stock identification or DNA programs for ocean and river sampling to determine fish stock identification"

Option 4.7 "Produce Newsletters and Flyers"

Action:

1. The KFMC should be advised that this will be taken care of by KRFR staff, as described in Chapter 8, page 8-7, item 40, of the Task Force plan.
2. Recommend the Task Force amend their plan to include a Policy 6.3, which would address this issue of providing public information services, i.e. producing Newsletters and Flyers, for the KFMC.

Option 5.1 "Manage escapement to produce maximum sustained yield for each Klamath River run while preventing extinction of any Klamath River tributary natural sub-population"

Action:

1. Recommend the KFMC adopt the "native stock group" language, and adopt those stock groups identified in the Task Force plan (Table 4-1, page 4-11).
2. Remove "prevent extinction" language and substitute "protect locally adopted stocks".
3. The Task Force plan, Table 4-1, native stock group list should have technical review by a special scientific sub-committee for re-evaluation before adoption by the Task Force and the KFMC in their respective plans.

Option 5.2 "Develop optimum escapement levels through harvest rate management"

Action:

1. Clarify to the KFMC the "optimum escapement levels" are for fall run chinook salmon.

Option 5.5 "Establish a threshold for natural stock productivity below which the KFMC will re-examine management methods for natural stocks."

Action: (Editorial)

1. Change the words "management method" to "harvest strategies" in all cases within the Option and the descriptive text.

Options 6.1, 6.2, 6.3

- 6.1 "Require water flows adequate to achieve optimal productivity of the basin"
- 6.2 "Mandate by law minimum habitat standards"
- 6.3 "Seek the establishment of law that mandates minimum stream-flow standards"

Action:

1. Recommend that the Task Force amend their plan to include these Options as policy.

Option 6.4 "Manage all ocean activities consistent with Klamath River natural production"

Action: (Editorial)

1. Strike the word "estuarine" in the Option.

Option 8.1 "Production of more fish, i.e. target on surplus hatchery stock to strengthen depleted natural stocks"

Action: (Editorial)

1. Edit the Option to remove the phrase "Production of more fish, i.e.", just have "Target harvest on surplus hatchery stock to strengthen depleted natural stocks."

Option 8.2 "Recommend to the Klamath Fisheries Basin Task Force habitat and/or bio-enhancement measures for basin stocks found by Klamath Fishery Management Council to be weak relative to general basin productivity"

Action:

1. Recommend that both the Task Force and KFMC adopt the stock groups list in the Task Force plan, only after technical review as described in Option 5.1 actions, above.

Policy 4.7 of Task Force Plan

"The Task Force will determine a carrying capacity-based escapement goal for each species and run in each sub-basin, stream reach by stream reach."

Action: (Editorial)

1. Recommend editorial change for Task Force policy 4.7 to read "The Task Force will work towards determining spawning population levels appropriate to achieve optimal smolt production for all self sustaining populations of anadromous salmonids in the basin."

## ATTACHMENT 1

der to stop poaching however, a new level of cooperation with communities and other law enforcement personnel must be reached. As Basin communities become aware of the potential economic benefit of a successful Restoration program, they will take a more proprietary interest in their local fisheries resources.

### Policies for Fish Population Protection

**Objective 4: Strive to protect the genetic diversity of anadromous fishes in the Klamath River Basin.**

4.1 Increases in populations of self-sustaining runs of fish separate in time or space from hatchery stocks, referred to here as "native" populations, will be the basis upon which the success of the Restoration Program will be judged.

4.2. The Task Force will work closely with the Klamath Fisheries Management Council to protect locally-adapted anadromous fish stocks that return to all areas of the Klamath Basin, so that self-sustaining runs can be restored, with emphasis given to priority stocks for recovery.

4.3. The Task Force shall recognize the fish populations adapted to the various areas of the Klamath Basin as stock groups until further study indicates that finer or broader distinctions better serve the Klamath River Basin Fisheries Restoration Program. To this end, the following will be undertaken:

- a. fall chinook salmon escapement should continue to be monitored by use of weirs on the Shasta, Scott, and Salmon rivers and on Blue Creek, and an additional monitoring effort begun on a Middle Klamath tributary;
- b. native spring chinook populations shall continue to be monitored closely in the Salmon River and in the lower river net harvest;
- c. CDFG will be requested to continue to monitor population trends of summer steelhead through direct observation surveys;
- d. study feasibility of weir operation later in the season to get more information on coho and steelhead;
- e. the Task Force will provide training and supervision for community volunteers interested in conducting spawner surveys to help gather information about native salmon stocks, including coho;
- f. ask CDFG to analyze the angler success data currently collected from guides to provide a steelhead catch-per-effort baseline from which to measure the success of the Restoration Program;
- g. collect information on green sturgeon harvest
- h. get the information suggested in Nicholas and Hankin (1988) with which to better identify stock groups, beginning with chinook salmon and proceeding on to all salmon and steel-

head stock groups;

- i. include the fish counting methods suggested by Hankin and Reeves (1988) when habitat typing, in order to have consistent estimates of standing crops of juvenile fish;
- j. request NMFS to fund a study of green sturgeon, including its distribution, population structure, and level of harvest of Klamath stocks in other areas, to provide sufficient information so that a management plan for the Klamath green sturgeon can be devised; and
- k. create incentives for graduate students and other qualified investigators on cutthroat trout, eulachon, and lamprey of the Klamath Basin.

4.4 The Task Force will work with the California Department of Fish and Game to

- a. fin-clip all hatchery steelhead at Iron Gate Hatchery as well as Trinity River Hatchery so that:
  - voluntary selective harvest will be possible,
  - the problem of residualism can be investigated
  - the contributions of hatchery and native steelhead to returns can be determined;
- b. mark a consistent fraction of all hatchery chinook salmon to help in the Natural Stocks Assessment study of the native-to-hatchery relationship of Klamath Basin chinook stocks;
- c. share information gathered through research in a timely manner to enable adaptive management techniques; and
- d. investigate the practicality of closing anadromous fish-producing streams to "trout" fishing.

4.5 To strengthen law enforcement protection of Klamath Basin fish populations, the Task Force will

- a. encourage the formation of local citizen "watch groups" to help in the protection and monitoring of remnant fish populations throughout the basin;
- b. ask CDFG to seek cooperative agreements with other law enforcement agencies so that sheriffs' deputies, Forest Service and CDF officers, and highway patrolmen may be interested in helping wardens curb poaching.

4.6 The Task Force will encourage local judges to punish poachers to the full extent of the law. Where necessary, particularly to protect stocks in danger of becoming extinct, increases in penalties for poaching should be sought.

4.7 The Task Force will determine a carrying capacity-based escapement goal for each species and run in each sub-basin, stream reach by stream reach.

4.8 The Task Force will support the ban on the use of large-scale driftnets for fishing on the high seas.

stocks through inbreeding. Small scale programs need to recognize they may be handling threatened stock groups. Policies are being developed by CDFG for the operation of small scale rearing programs. Parallel policies need to be adopted by tribal governments and the BIA. A Task Force technical work group should work with CDFG to make sure that policies provide adequately for the conservation of gene resources. All small scale rearing operations sponsored by the Restoration Program should strictly adhere to such rules, especially as they pertain to brood handling to avoid irretrievable losses of genetic resources. Although facilities involved are temporary, they should be state-of-the-art, and technical assistance should be available to all project operators. The cost-effectiveness of small scale rearing programs can be improved and additional benefits for the program derived by also rearing coho salmon and steelhead.

While some habitat has been lost due to dams, much of the degraded habitat can be restored. Unlike Atlantic salmon restoration on the East Coast, where habitat problems were so serious and long-standing that most native stocks had been lost, the Klamath retains many of its wild strains of salmon and steelhead. As the river and its tributaries are reshaped through natural processes and accelerated by the restoration program, these fish will return to areas of improved habitat once inhabited by their ancestors. The last decade has seen native chinook populations on the northern Oregon coast rise to their highest levels in a century. Nicholas and Hankin (1989) attribute this to natural habitat recovery and the presence of sufficient remaining genetic diversity in local stocks for the populations to rebound. With commitment and creativity, the Klamath River Basin Fisheries Task Force can achieve similar results.

#### Policies for Fish Population Restoration

Objective 5.A: Iron Gate Hatchery and Trinity River Hatchery should be operated to produce salmon and steelhead to mitigate for the losses of habitat above their dams and, at the same time, strive to reduce impacts on native fish.

5.A.1. The Task Force's Technical Team will work with CDFG to insure that the Basin's large-scale hatcheries operate to mitigate for loss of habitat above dams while limiting their impacts on wild stocks and maintaining the long term viability of hatchery broodstock. In coordination with Trinity River Task Force, the Task Force will

- a. determine the optimal levels and composition of hatchery releases that can best achieve mitigation goals while minimizing impacts on native stocks;

- b. identify opportunities for enhancement and harvest supplementation using surplus hatchery eggs where it can be assured that there would be no disease transmission, genetic harm, in-river density dependent effects, or adverse harvest impacts to native stocks;
- c. encourage the continuation of hatchery practices that will maintain the fitness of hatchery broodstock and decrease undesirable impacts of straying on native fish;
- d. conduct a study to determine the resistance of Iron Gate Hatchery steelhead broodstock to Ceratomyxa shasta; and
- e. support the CDFG in its effort to secure a water supply filter for Iron Gate Hatchery.

**Objective 5.B:** Small-scale rearing programs should be temporary measures, primarily for the purpose of accelerating the rebuilding of locally-adapted native salmon and steelhead populations, and operated to maintain the genetic integrity of such populations. Ideally, small-scale rearing programs should be operated in conjunction with habitat restoration projects.

5.B.1 Those parties having management authority over small scale rearing and pond programs in the Klamath River Basin shall, through coordinated planning, formulate independent guidelines, for activities which will avoid negative effects on the genetic characteristics of native stocks. (The relevant parties, in this instance, are the Yurok, Hoopa, and Karuk Tribes and the State of California, acting through the California Department of Fish and Game.)

5.B.2 The guidelines for small-scale facilities will, to the extent possible, be consistent in content. The guidelines will be developed in accordance with the best known biological practices and their development shall be guided by a technical advisory committee, appointed by the Task Force, having expertise in genetics and fish culture. The small-scale facilities guidelines shall consider, but need not be limited to

- a. procedures for trapping, rearing, incubating, and transferring fish, and for the control of fish diseases;
- b. broodstock management rules that ensure the maintenance of genetic integrity and the diversity of the stocks handled;
- c. requirements that an appropriate number of fish produced by small-scale rearing and enhancement programs are marked and coded wire tagged so that ocean migration may be determined and that inbreeding can be avoided;
- d. methods by which to determine release strategies for pond reared steelhead from rescue programs in order to minimize residual behavior; and
- e. methods to by which to evaluate program success.

5.B.3 The Task Force shall encourage small-scale fish rearing project operators to participate in research to determine

- a. habitat quality to assess appropriate stocking levels;
- b. early life histories of fish cultured so that appropriate time for release can be determined; and
- c. those levels of spawning escapement that represent "full seeding" so the Task Force may determine when populations have recovered sufficiently to close or move a facility.

5.B.4 The Task Force will explore means of improving the cost-effectiveness of those small-scale rearing programs now targeting late-run fall chinook by capturing other species, such as coho and steelhead, where such efforts would contribute to Restoration Program objectives.

5.B.5 The Task Force will explore the need for green sturgeon population restoration measures.

5.B.6 The Task Force will support the continuation of fish rescue efforts in the middle Klamath Basin and the Scott and Shasta rivers as a viable tool for providing additional salmon and steelhead production.