KLAMATH FISHERY MANAGEMENT COUNCIL
5 APRIL 1992, MILLBRAE, CA

MINUTES FOR THE RECORD

ADMINISTRATIVE

Meeting called to order at 1:08 p.m. by Chairman Charlie Fullerton.
A quorum of members and alternates were present: Dave Bitts, Virginia Bostwick, Mel Odemar, Bill Shake, Charlie Fullerton, Sue Masten, Pliny McCovey, Don McIsaac, Jim Walters, Frank Warrens, and Keith Wilkinson.

Review, approve agenda and previous minutes

Moved the agenda item "technical team assignments" to the agenda category "Technical Reports."

** Consensus on agenda ** (attachment 1)

The council will review the minutes of the March 3-5 meeting and send any corrections to KRFRO within two weeks. If corrections are not received, then the minutes will be approved.

Introduce new members/alternates

Bill Shake served as the alternate for Lisle Reed. Mel Odemar served as the alternate for Spike Naylor. Dave Bitts served as the alternate for Nat Bingham.

TECHNICAL REPORTS

Water outlook, Klamath and Trinity Rivers (Odemar, McCovey)

Odemar: I have nothing new to report. The letter requested by this council requesting adequate flows for Klamath fish has been signed by Charlie Fullerton and sent to the Bureau of Reclamation. Copies of this letter will be distributed to the council later.

McCovey: Trinity Lake level is up a bit. The tribe is working with Bureau of Reclamation to have enough flushing flows to move smolts downriver (attachment 2).

Report of the Technical Advisory Team (Barnes)

Here is a breakdown of the options that the salmon technical team (STT) produced (attachment 3). These were used to derive the seasons and the closures along the coast.

Correction: Option 1's subtotal for RECREATIONAL should be 0.0500.

Team comments on PFMC options for ocean salmon fisheries

Baracco: There are not enough Klamath fish in the ocean to support harvest of any kind.

This handout (attachment 4) is an excerpt from the technical team's 1986 report. 1/beta is the number of spawners that produces the maximum recruitment of progeny. The natural spawning floor of 35,000 represents 50% of the adults required to achieve MSY using the Ricker method.

CDFG estimates that the basin capacity of natural spawners is 106,000. Basin spawner capacity was determined by measuring a portion (approximately 10%) of the spawning grounds then making calculations to determine the total basin spawner capacity.

Baracco: At the time that this basin spawner capacity was developed, the technical team used the best information that they had available, which was not all-inclusive. For example, the technical team used Boydsen and Hubbell's report that included many estimates and concluded that a more extensive study be conducted.

The purpose of the 35,000 fish natural spawning floor was to prevent long-term damage to the stock. The technical team concluded that harvesting fish below this floor will require many generations before the population can recover back to maximum sustainable yield (MSY).

McIsaac: Here is another graph (attachment 5) that shows Klamath fish stocks have been below the floor 6 times since 1978 (preliminary estimate). I feel that it is appropriate for this council to examine the merits of the floor at this time. The original curve used to develop the floor may be incorrect. I feel that the 35,000 fish floor does not represent a population that cannot recover back to MSY.

Bitts: I feel that higher numbers of recruits came from lower numbers of spawners.

Shake: This issue of altering the 35,000 fish floor needs to be reviewed. These points need to be considered by the group who will be putting together the overfishing report.

[Note: Adoption of the 1992 fishing regulations gives a high probability of "overfishing" as defined by the PFMC. If the escapement target is missed 3 consecutive times (e.g., 1990, 1991, 1992) then an overfishing report will be prepared.]

Masten: We don't have time to address the issue of changing the floor today.

McIsaac: I am not here to change the floor. I am concerned that we are not using the information produced in the correct way. We know more now than we knew in February of 1986 and we should adjust our thinking.

Discussion

- We are trying to make the decision of what to do for Klamath stocks. The question we need to ask ourselves is if we advocate an option within the range that we've recommended are we going to push this stock off the edge? Is the risk worth losing the fishery?

- We owe it to the fishing community to consider how much it will hurt the communities to not fish for one or two years, versus hurting them for many years.

- The real problems are environmental problems not harvest problems.

- The problem with seeing how far you can go towards pushing a stock off the edge is that you can't revive them later.

- Flows and temperatures are limiting factors and land management is a culprit for the problem we are having with fish populations.

- I understand the economic impact of the seasons that we have proposed, but I also realize that the target ocean harvest rate has always been exceeded by at least 50%. I am not sure that we want to take these kinds of risks with this low population.

Baracco: The determination of the harvest rate of age 4 fish is based on an assumption of 94% of the fish returning to the river to spawn.

Fullerton: The Klamath Technical Team will review the points brought up by McIsaac at their June meeting. If they deem it necessary, they will forward the concern of altering the 35,000 fish natural spawning floor to the PFMC.

Discussion on water flows

- We don't know if there is going to be enough water to support any number of fish, let alone the floor.

- We (Klamath Council, habitat committee, agencies and tribes) could request the Bureau of Reclamation for more water, but they'll argue that not enough fish are escaping to utilize the extra flow that is being provided. People who control the water could say that they are not going to allow more water to flow downriver if we are not going to let more fish return.

- We don't have the authority to insure that the agencies controlling the water flows will allow us the water we need.

- Advocating a zero fishery gives people the message that we can survive without having a season.

Methodology for projecting spring chinook abundance and allowable harvest

Barnes: This handout (attachment 6) is from an individual team member, not the full technical team. The spring chinook run size projection methodology

described here gives you an idea of why the technical team is not giving a spring chinook projection. The system that was developed is not performing -- it has severely overestimated the actual run size to the Klamath basin. Therefore, we don't feel it is justifiable to make a spring chinook projection. We could look at other predictive methods to find a better one.

- The spring chinook ocean harvest rate is approximately 40-50% of the fall chinook harvest rate.

- Trinity River hatchery did not make the escapement goal in 1985.

Cohort analysis -- Shasta River fall chinook

Barnes: Attachment 7 shows that Shasta River fish are in the estuary at about the same time as the rest of the fish, although the small sample (low number of recoveries) is too limited to determine if there is an early or late pattern to their appearance.
This inconclusive data does not help to answer the question posed by the Shasta River CRMP about selectively targeting harvest of fish in the estuary to lessen the impact on Shasta River stocks.

Status of hatchery evaluation

John Wilson: Table 1 (attachment 8) shows the tag recovery rate for Iron Gate and Trinity River Hatchery fingerlings and yearlings. I calculated the tag recovery rate by taking representative values for tag recovery then dividing by the number of tagged fish released. The data shows that for one returning fingerling, you get four yearlings. On the Trinity River Hatchery side the ratio is almost five to one.

In table 2 (attachment 9) the same comparison was used for "on site vs off site releases" for "yearlings vs fingerlings." Fingerlings released off site were 3x more successful at surviving than fingerlings released on-site. Trinity River Hatchery releases were downstream from the hatchery but still in the upper basin. The table only contains data up to 1985 because hatchery policies changed after 1985 -- off site releases are now reared off-site.

McIsaac: John, this is valuable information that you have put together and analyzed. We appreciate your volunteer efforts -- good job.

Discussion on technical team's methodology

Barnes: I have some concerns about the technical team's methodology. KRFRO requested that the technical team analyze the KMZ Fishery Coalition proposal. I responded to the technical team with my opinion, but they lambasted it. In attachment 10, you can see that the technical team received comments from the Trinity office assuming that the team would be taking on hatchery evaluation -- but a special committee to look at hatchery evaluation will be set up at the Three Chairs meeting (Klamath Management Council, Klamath Task Force and Trinity Task Force chairs). We seem to need guidance on our operations.

McIsaac: All technical team products should be team reviewed.

Odemar: CDFG was planning to work on hatchery evaluation, but this is an area that could best be worked on by a team of specialists who could be assigned after the Three Chairs meeting.

New agenda item: Technical Team Assignments

#1: The technical team should go through this list (attachment 10) prioritizing and splitting the concerns into niches for the Task Force and Management Council. The list should also be prioritized for the ability to complete tasks within the year.

#2: The technical team will look at potential alternatives for projecting the spring run population data and come up with alternatives, identify holes in data, and determine if a program needs to be instigated to get that data.

Public Comment

Bill Duncan, president of Shelter Cove Fisherman's Association:
We are only being offered 8% of what our fishery used to be. It is a sad state of affairs when overfishing gets blamed when the real problem is with the habitat and the water. I'd like to see this council make a statement regarding this.

John Wilson: I'll read the letter I'm submitting to the council (attachment 11). The information in Figure 6 (attachment 12) looks at the estimated hatchery and natural stock component of chinook catch by week, Klamath River, 1989.

Odemar: In response to the last question in your letter regarding which agency is overseeing all the activities conducted by the Basin Restoration Plan, there is no single agency that has complete authority over the basin.

Warrens: The only time that a single agency has complete authority is when a threatened or endangered listing is underway.

Jim Welter, KMZ Fishery Coalition: I agree with John's portrayal of the situation. The problems that we are having now are a result of the restrictions placed on the fishery in 1985.

Mike Morford, Technical Team, ocean sport fisherman: A couple of years ago I proposed that we use catch-per-unit-effort as an in-season adjuster. I would like the council to break that proposal out of PFMC's attic and have it looked at. I am also extremely concerned about the bacterial kidney disease that is infecting Trinity River fish and fish from other places in California. The disease is prevalent, highly devastating, and needs to be seriously and quickly addressed as a potential problem. Another concern I have is the productivity of the spring run. Salmon river spring fish populations are down to an extremely low level. I caution you that hatchery fish may not be as able to spawn in the wild as well as natural fish. The Humboldt Chapter of American Fisheries Society is concerned about these low levels. This is another reason that I'd like to see the PFMC's catch-per-unit-effort methodology used as a management tool.

Mike Orcutt, public: The council needs to act responsibly today because the Indian people who rely on the fish feel that they are extremely valuable. I have not been able to catch any for the last 2 years. I echo the thoughts about the need for a Three Chairs Meeting. I hope that a strong recommendation for coordination comes from this council.

Mr. Brown, public: At the public meeting here last week, people mentioned that Garlon 4 is being used as an herbicide on private land along the Klamath. I'm concerned about the consequences to fish and water resources that may occur as a result of using this chemical.

Masten: GarlonIV is used to control the underbrush that competes with young conifer seedlings for sunlight and water. The Yurok Tribe is also very concerned about the health effects that may occur as a result of the use of this chemical. The tribe is concerned about the high incidence of cancer of people who live in the area (possibly from groundwater contamination) although we don't have the data to assess the impacts. GarlonIV is a component of Agent Orange.

McCovey: Our tribe banned herbicide spraying because our people were having negative health effects.

Wilkinson: The USFS has completed a cumulative impacts study that looks at herbicide spraying. Are there any controls on this spraying? Perhaps the state Board of Forestry will have to look at this.

HARVEST MANAGEMENT PLANS

Plans for spring chinook harvest

Indian tribes:

- The Yurok Tribe does not have any proposed plans, except to proceed as we did last year under 25 CFR regulations.

- The same holds true for the Hoopa Tribe. We will have a subsistence fishery only.

California Department of Fish and Game

- California Department of Fish and Game is seriously looking at stopping all sportfishing this year. This means that we would be more restrictive than ever before for both in-river and ocean harvests. We don't have any specific plans for changing the regulations for spring chinook harvest because the spring angler harvest is very small.

Plans for in-river fall chinook harvest

- We don't know the plans at this time.

- The tribes have expressed concern for the economic position of local economies and ports. They are also extremely concerned about the indian people, our neighbors who have RV parks, and the significance of the salmon

to the indian people. If Indian people cannot make money off the fishery then they have no other jobs. This is not a year where we are going to make any income. We need to look at the utmost importance of the resource.

Other harvest plans

None.

COUNCIL ACTION

Council recommendations to managers on proposed spring chinook fisheries

Discussed earlier.

Council recommendations to PFMC and states on 1992 ocean salmon fisheries

** Motion **
McIsaac: I move we recommend support for Option II (attachment 3). This would be a 10% target harvest rate hard quota for ocean troll and sport fishing.

Seconded.

Discussion

- The Klamath model was not designed for the use of a quota.
- This motion is appropriate because it is consistent with PFMC's actions north of Point Falcon.
- I am against this motion. California cannot support any directed fisheries in the zone on salmon this year. There are not enough fish under any harvest scenario to provide enough fish to California Department of Fish and Game to allocate.

Odemar: The state has 2 objectives this year. One is to protect the spawning floor for Klamath fish and the other is to harvest a lot of Sacramento River fish. The first objective will be foremost in the mind of the Secretary of Commerce.

Roll call vote: Bitts: no, Bostwick: yes, Odemar: no, Shake: no, Fullerton: no, Masten: no, McCovey: no, McIsaac: yes, Walter: yes, Warrens: yes, Wilkinson: yes.

** Motion failed. **

** Motion **
Shake: I move that we recommend 4% harvest (with 2% harvest having already occurred).

Second: Masten.

Discussion

- It is not the harvesters fault that we don't have any fish. Habitat and water limitations are the true culprits. This council needs to take a courageous step and recommend to the PFMC that we recommend extremely conservative harvest regulations.

Roll call vote: Bitts: no, Bostwick: no, Odemar: abstain, Shake: yes, Fullerton: yes, Masten: yes, McCovey: no, McIsaac: no, Walter: no, Warrens: no, Wilkinson: no.

** Motion fails.

** Motion **
Bitts: I move that we recommend Option One from the PFMC package. This would give an ocean impact of 12% or 5,300 adults and still leave a natural escapement of 28,900 fish.

Seconded: Warrens.

Discussion

- If in-river harvesters harvested at the same rate (12%) it would produce a natural escapement of 25,000 adults this year.

- The natural escapement for the 3 years that produced the highest returns were years in which only 24,500 fish returned to spawn. If we get rain we could expect adequate returns from these numbers.

- This is the only option that allows access to Sacramento stocks. We are looking at only a tiny change in the number of Klamath River fish harvested that results in a large change in the numbers for total ocean harvest.

** Motion fails.

** Motion **
Odemar: I move that we recommend a harvest rate not to exceed .08 which is evenly divided north and south of the zone. There would be no ocean sport fishing targeted on chinook in the zone. We would also recommend to the California Fish and Game Commission that there would be no sport fishing in the Klamath River Basin targeted on fall chinook.

Second McIsaac.

** Motion for amendment **
Warrens: In order to allow some level of recreational fishery within the KMZ, I amend the motion to craft a season based on a 4 day fishing week with a bag limit of 1 chinook. This amendment includes a quota of 8,400 fall chinook which still allows some level of opportunity in the zone.

Seconded.

Discussion

- This amendment would allow for a total in-river harvest of 8,400 fish.
- Everybody will bite the bullet for these severely depressed stocks.
- Is the economic negative stronger than the economic benefit for allowing fishing in the zone? The result would show that there is a need to fish in the zone.
- The tribal take would equal the ocean harvest impacts.
- I cannot support zeroing the zone, but the 8,400 Klamath fall chinook is the only reasonable option.
- We need to craft an option that will get by the Department of Commerce. Last year the director of commerce said he would not support any option that would totally zero out an area.
- In the past we didn't plan to fish into the floor, now we are purposely considering fishing into the floor. We need to think about what we are doing.
- How far can we justify fishing into the floor? We've had 3 years where we went into the floor without planning for it. Are we now considering planning to fish into the floor?

** Amendment does not pass.

Discussion on main motion (continued).

- Based on relative abundance, the hooking mortality could exceed the 4,000 fish proposed by the other motion.
- We need some sort of a directed fishery. The hooking mortality is 100%.
- The number of chinook impacted would be determined by how many coho you want to catch.

** Motion does not carry.

break

** Motion **
Wilkinson: I move that we forward to the PFMC the range of options developed at the Seattle PFMC meeting. This range would incorporate the public comments that have been received by PFMC.

** Motion does not carry.

** Motion **
Warrens: I move that we use Option 2 with a total harvest rate of .08 but with a recreational fishery in the zone with a quota total of 8,000 chinook (harvest rate 10%). The in-river fishery would narrow their 80:20 split after agreement by those 2 parties of what the split would be. The actual ocean harvest will come out to close to 4,000 fish.
note: This quota is 400 fish less (total) than PFMC's option. This motion eliminates option 1.

Seconded (McIsaac)

Discussion

- The Salmon Technical Team did not make harvest determinations -- they only worked the data up.

- Last year the time objective fell short by 30 days.

- I like this option because it attempts to address some kind of equity in the ocean. After this is decided, the problem of dividing up the escapement and in-river harvest shares will still remain.

- At the levels of harvest that we are looking at, there would be equal amounts of fish for in-river harvest and spawning escapement.

- If we are advocates for the resource, then we need a zero fishery for all. If you choose to fish into the spawning escapement, then the tribes will share equally with others.

- A natural spawning escapement of 26,000 fish would be acceptable to the state of Oregon.

- If we recommend a zero fishery then the message we are sending out to others (timber harvesters and water exporters) is that we (fish users) will go away if the fish aren't available. I don't want them to get this message.

- My bottom line for natural spawning escapement is 24,000. I would rather leave a little cushion and go with 25,000.

** Amendment **
(Shake): I move that we recommend a range of options from option 3 (.02) to option 2 (.10) (see attachment 3). Option 2 would remain as stated by Frank. This would give an escapement of a bit less than 26,000 fish.

Seconded.

Break

** Amendment does not carry.

Discussion on original motion

- I do not support this motion because I do not see what we gain by giving up those 400 fish.

- There is no way for the PFMC to enforce our recommended allocation split between tribal and non-tribal users. We could intend for there to be a 80:20 split, but it may not come out that way.

** Motion fails.

** Motion **
Shake: I move that we report to the PFMC that "after lengthy discussion we are unable to make a harvest recommendation."

Seconded (Bitts).

** Motion carries **

Clarification of tribal, non-tribal allocation (Odemar): At this point, the state is not operating under any harvest agreement. For planning purposes, we are accepting what people say they will be trying to catch. This will end up in the courts. The state is not (at this point) accepting the 50:50 allocation.

Council recommendations on in-river fall chinook fisheries

- Under the PFMC framework, we have to consider a zero option.

- It may be appropriate to explore a slightly later season opening.

- The focus of harvest should be on the end of the run so that it won't have a big impact on Shasta River fish.

- Another assignment to the technical team is to research the timing of the return of Iron Gate Hatchery tags.

- Generally Iron Gate Hatchery fish return before Trinity River Hatchery fish. Data from '82-'84 support the run timing split. There is not enough coded-wire tag data to make this determination for the sport fishery.

No motion was made on a council recommendation for in-river fall chinook fisheries.

NEW BUSINESS

None.

Next meeting

The next meeting will be held in Brookings, Oregon, in September.

Adjourned 7:15 p.m.

ATTACHMENT 1

KLAMATH FISHERY MANAGEMENT COUNCIL

DRAFT AGENDA

MEETING OF 5 APRIL 1992, MILLBRAE, CA

ADMINISTRATIVE (1:00 - 1:30 p.m.)

Review, approve agenda and previous minutes

Introduce new members/alternates

TECHNICAL REPORTS

Water outlook, Klamath and Trinity Rivers (Odemar, McCovey)

Report of the Technical Advisory Team (Barnes)

Team comments on PFMC options for ocean salmon fisheries

Methodology for projecting spring chinook abundance and allowable harvest

Status of hatchery evaluation

Cohort analysis -- Shasta River fall chinook

> team assignments

HARVEST MANAGEMENT PLANS

Plans for spring chinook harvest

Plans for in-river fall chinook harvest

Other harvest plans

PUBLIC COMMENT (3:00 p.m.)

COUNCIL ACTION

Council recommendations to managers on proposed spring chinook fisheries

Council recommendations to PFMC and states on 1991 ocean salmon fisheries

Council recommendations on in-river fall chinook fisheries

NEW BUSINESS

ADMINISTRATIVE

Assignments to Tech Team

Next meeting

Adjourn

ATTACHMENT 2

1992 TRINITY RIVER STREAMFLOWS
Report of

PLINY MCCOVEY
HOOPA VALLEY TRIBE

In accordance with Interior Secretary Lujan's May 8, 1991 Trinity River decision, Trinity River fishery releases from the Central Valley Project's Trinity River Division will be **at least** 340,000 acre feet in 1992. The major question still to be resolved is the timing of the releases. Representatives of the Hoopa Valley Tribe will be meeting with the Bureau of Reclamation this week to attempt to resolve this question.

The Tribe believes that current Reclamation operations plans for the CVP in 1992 will divert too much water out of the Trinity basin by the end of June. This will prematurely deplete the overall cold water supply in the CVP's Shasta and Trinity reservoirs, with likely adverse impacts to the Trinity and Sacramento fisheries. The Tribe would like the PFMC to take a position in support of optimizing CVP operations for the fisheries in both basins.

The Hoopa Tribe also urges both the KFMC and the PFMC to support the inclusion of Congressman Frank Riggs' Trinity River legislation in the final Reclamation and CVP legislation to be enacted by Congress. The Trinity River provisions overwhelmingly passed the House last June as Title XXX of H.R. 429. When the bill went to the Senate Water and Power Subcommittee, Title XXX was made part of Senator Bradley's version of CVP reform, S.484, and S.484

was then made part of H.R. 429. The full Senate Energy and Natural Resources Committee then replaced S. 484 in H.R. 429 with Senator Seymour's version of CVP reform, and as a result the Trinity River provisions dropped out of the package. Senator Seymour's legislation does not address the Trinity at all. The Senate may well enact H.R. 429, with the Seymour provisions, in the near future.

If the Senate enacts H.R. 429, it will then go to a House-Senate Conference to resolve differences between the two versions. That is the most likely place to restore the House-passed Trinity River provisions. The Hoopa Tribe believes that it is eminently possible to restore the Trinity provisions in Conference. There is support from both parties for it, and it is generally recognized that the Trinity provisions were an unintended casualty of the broader CVP and other national politics in the Senate Energy and Natural Resources Committee.

A copy of the Riggs Trinity legislation is attached, which contains the language passed by the House. The Tribe believes that its enactment is necessary to codify and insure the proper implementation of Secretary Lujan's May 8, 1991 decision. This will in turn insure that CVP Trinity and Shasta operations are coordinated to make best use of the limited cold water supply that is available to benefit the fisheries in both the Sacramento and Trinity River basins.

102D CONGRESS
1ST SESSION

H. R. 2269

To require the Secretary of the Interior to provide minimum instream flows for the Trinity River in the State of California, and for other purposes.

IN THE HOUSE OF REPRESENTATIVES

MAY 8, 1991

Mr. RIGGS introduced the following bill; which was referred jointly to the Committees on Interior and Insular Affairs and Merchant Marine and Fisheries

---

A BILL

To require the Secretary of the Interior to provide minimum instream flows for the Trinity River in the State of California, and for other purposes.

1 *Be it enacted by the Senate and House of Representa-*
2 *tives of the United States of America in Congress assembled,*
3 SECTION 1. INSTREAM RELEASES FROM THE TRINITY
4 RIVER DIVISION, CENTRAL VALLEY PROJECT,
5 FOR FISHERY RESTORATION AND FULFILL-
6 MENT OF FEDERAL TRUST RESPONSIBIL-
7 ITIES.
8 (a) INSTREAM RELEASES.—In order to meet Federal
9 trust responsibilities to protect the fishery resources of the

1 Hoopa Valley Tribe, and to achieve the fishery restoration
2 goals of the Act of October 24, 1984 (98 Stat. 2721, Pub-
3 lic Law 98–541), for water years 1992 through 1996, the
4 Secretary of the Interior, through the Trinity River Divi-
5 sion of the Central Valley Project, shall provide an
6 instream release of water to the Trinity River for the pur-
7 poses of fishery restoration, propagation, and maintenance
8 of not less than 340,000 acre feet per year. For any water
9 year during this period for which the forecasted inflow to
10 the Central Valley Project's Shasta Reservoir equals or ex
11 ceeds 3,200,000 acre feet, based on hydrologic conditions
12 as of June 1 and an exceedance factor of 50 percent, the
13 Secretary shall provide an additional instream fishery re-
14 lease to the Trinity River of not less than 15 percent of
15 the amount by which forecasted Shasta Reservoir inflow
16 for that year exceeds 3,200,000 acre feet.

17 (b) COMPLETION OF STUDY.—By September 30,
18 1996, the Secretary, with the full participation of the
19 Hoopa Valley Tribe, shall complete the Trinity River Flow
20 Evaluation Study currently being conducted by the United
21 States Fish and Wildlife Service under the mandate of the
22 Secretarial Decision of January 14, 1981, in a manner
23 which insures the development of recommendations, based
24 on the best available scientific data, regarding permanent
25 instream fishery flow requirements and Trinity River Divi-

1 sion operating criteria and procedures for the restoration
2 and maintenance of the Trinity River fishery.
3 (c) STUDY RECOMMENDATIONS.—Not later than De-
4 cember 31, 1996, the Secretary shall forward the recom-
5 mendations of the Trinity River Flow Evaluation Study,
6 referred to in subsection (b) of this section, to the Com-
7 mittee on Interior and Insular Affairs of the House of
8 Representatives and to the Committee on Energy and
9 Natural Resources and the Select Committee on Indian
10 Affairs of the Senate. If the Secretary and the Hoopa Val-
11 ley Tribe concur in these recommendations, any increase
12 to the minimum Trinity River instream fishery releases
13 established in subsection (a) and the operating criteria
14 and procedures referred to in subsection (b) shall be im-
15 plemented accordingly. If the Hoopa Valley Tribe and the
16 Secretary do not concur, the minimum Trinity River
17 instream fishery releases established in subsection (a)
18 shall remain in effect unless increased by an Act of Con-
19 gress, appropriate judicial decree, or agreement between
20 the Secretary and the Hoopa Valley Tribe.

O

ATTACHMENT 3

Klamath Age 4 Ocean Harvest Rates, Ocean Harvest of Adults, and Escapement of Adults for 1992 South of Cape Falcon Chinook Options

		Option I	Option II	Option III
TROLL				
North of KMZ		0.025	0.02	0.00
KMZ		0.000	0.00	0.00
South of KMZ		0.025	0.02	0.00
	Subtotal	0.050	0.04	0.00
RECREATIONAL				
North of KMZ		0.0125	0.01	0.00
KMZ		0.0250	0.02	0.00
South of KMZ		0.0125	0.01	0.00
	Subtotal	~~0.5000~~	0.04	0.00
	(Correction)	0.0500		
FALL OF 1991		0.02	0.02	0.02
TOTAL Age 4 Ocean Impacts		0.12	0.10	0.02
Ocean Harvest of Klamath Adults		5,300	4,300	900
Escapement to River, Total Adults 1/		39,000	39,800	43,000
Natural Escapement 1/		28,800	29,400	31,800

1/ Assumes no river harvest.

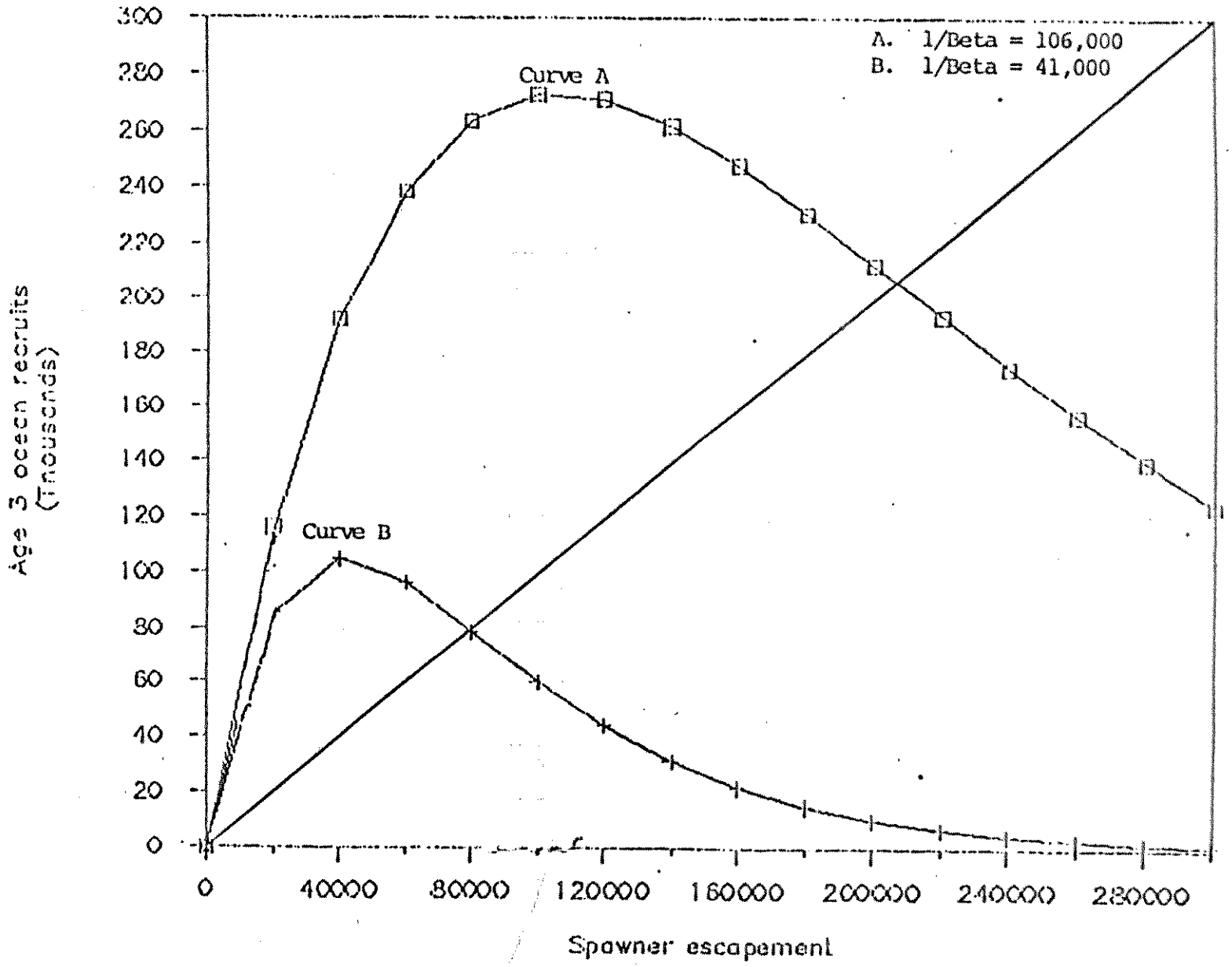
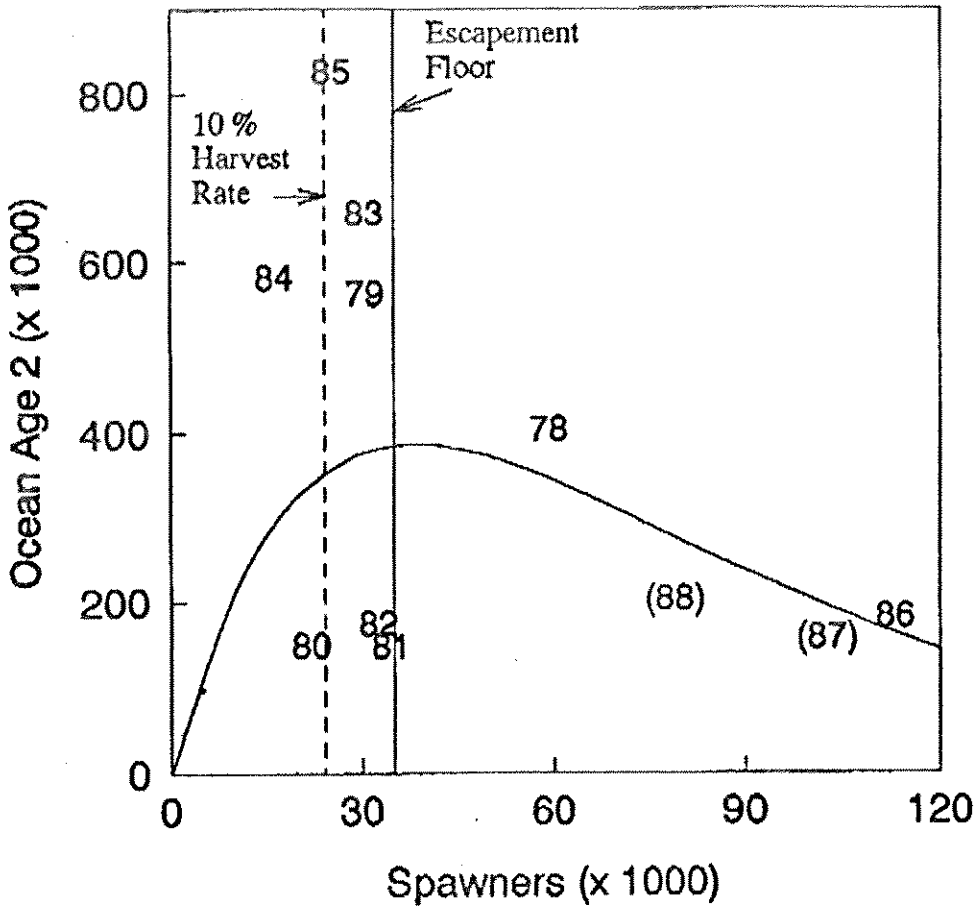


FIGURE 5. Ricker curves bracketing the probable range of stock recruitment curves for Klamath River fall-run chinook. (Alpha based on age 3 recruits)

Naturally Spawning Klamath River Fall Chinook, Brood Years 1978 - 1988



Klamath River fall chinook age 2 ocean population vs. spawners. 1987 and 1988 brood years are preliminary estimates that will be revised when all age classes have returned. Recruits = 27.4*Spawners*exp(-0.026*Spawners), $r^2 = 0.46$.

ATTACHMENT 6

04/01/92

TO: Klamath Fishery Management Council

FROM: KRTAT, (POLOS)

SUBJECT: Spring Chinook Run Size Projection Methodology.

Table 1 presents the pre- and post-season estimates of Klamath River spring chinook. The pre-season estimates were calculated using average return rates for hatchery releases and average harvest and escapement rates. This methodology has severely overestimated the (post-season) run of spring chinook to the Klamath basin. As stated in the memo to KFMC, dated 2/19/92, "The KRTAT chose not to make a projection of the 1992 spring chinook run. Based on the depressed status of most salmon stocks along the west coast, there is little reason to expect a large return of spring chinook to the Klamath basin."

Table 1. Pre-season and post-season estimates of Klamath River spring chinook runs for 1990 and 1991.

	1990		1991	
	Pre	Post	Pre	Post
Trinity River Hatchery	3462	2411	5054	685
Trinity Natural Esc.	8340	2975	10996	1363
Angler Harvest	1764	796	2394	333
Junction City Weir	13566	6182	18414	2381
Hoopa Harvest	1362	865	1862	263
Lower Trinity Nat. Esc.	462	218	627	66
Run at mouth of Trinity	15400	7265	20904	2710
Upper Klamath Nat. Esc.	314	148	427	190
Run at Weitchpec	15714	7413	21331	2776
Yurok Harvest	1446	1413	1963	290
Run at mouth of Klamath	17161	8826	23294	3066

ATTACHMENT 7

04/02/92

TO: Klamath Fishery Management Council

FROM: KRTAT

SUBJECT: Occurrence of Shasta River Fall Chinook Coded Wire Tags in the Yurok Gill Net Fishery

---

The California Department of Fish and Game (CDFG) Natural Stock Assessment Program (NAS) has coded wire tagged natural fall chinook from various tributaries in the Klamath basin since 1984. Fall chinook tagged in the Shasta River have been recovered in the gill net fishery on the Yurok Indian Reservation (YIR) in 1987, 1988, and 1989. The first day, median (50% above/50% below), and last day Shasta River CWT's were recovered in the estuary area of YIR are presented in Table 1. In 1988, two Shasta River CWT's were recovered in the Middle Klamath Area of the YIR, one on September 8, and one on September 17. It should be noted that the estuary gill net fishery was closed in late August or early September during these years and fall chinook from the Shasta River may have still been present in the estuary.

Table 1. Occurrence of CWT's from Shasta River fall chinook in the estuary area of the Yurok Indian Reservation.

	N	First Day	Median	Last Day	Closed due to Attainment of Quota
1987	9	8/12	8/24	8/29	9/5
1988	7	8/8	8/17	8/29	8/25 *
1989	13	8/9	8/16	8/30	9/3

* The tag recovered on 8/29 was collected from fish collected during the gill net selectivity study conducted by USFWS.

ATTACHMENT 8

TABLE 1

The following table lists recovery rates(number recovered divided by number released) in % forCWT production releases from IGH and TRH for fingerlings and yearlings by brood year. Also included in the columns to the right are natural spawning escapement, and number and age of fall chinook released from corresponding brood years. The ten year average is listed at the bottom of the first four columns, and the comparisons of those averages are entered below the ten year averages. Useing this method yearlings would be expectd to survive at a rate 3.92 times for IGH and 4.86 times for TRH, that of fingerlings.

Year	IGH-F	IGH-Y	TRH-F	TRH-Y	NAT.es	Hat.fing	Hat.year	B.year
1978	*	2.949	.564	1.173	58492	378572	401935	1978
1979	2.485	4.462	.521	5.297	30637	1740500	1648739	1979
1980	837	2.144	.296	3.340	21483	3450072	2068524	1980
1981	1.106	.945	.185	1.012	33857	1858366	2095613	1981
1982	.455	5.615	.357	2.773	31951	1316695	1777263	1982
1983	1.112	6.232	3.708	17.154	30784	5568717	2272070	1983
1984	.897	5.992	2.708	8.344	16064	3410369	1923606	1984
1985	.753	3.815	3.217	8.263	25677	14054694	2126337	1985
1986	.039	.294	.127	8.976	113360	16525007	1184764	1986
1987	.075	1.339	.168	1.255	101717	8610205	1002343	1987
total	7.76	33.79	11.85	57.59	78886	13028695	2109038	1988
10 yr. av.	.862	3.379	1.185	5.76	43718	7861460	1424342	1989
Y/f		3.92		4.86	13051			1990
					11110			1991

Prepared by J.Wilson, KRTAT

The following table compares recovery rates (total tags recovered divided by total tags) of on site and off site releases of hatchery fall chinook fingerling and yearling releases from Klamath Basin hatcheries. The right column (offsite/onsite) indicates the expected increase or decrease in survival rate for offsite releases compared to onsite production releases at the hatchery. The bottom three entries represent the average rate for all releases, fingerlings and yearlings. Off site fingerlings would be expected to survive at a rate three times that of on site releases, while yearling offsite releases showed only slight improvement over onsite releases. The offsite releases represented in this table were not entirely in the lower river, but represented several release sites.

Brood Yr.	on site	off site	type	off/on
1978	.564	.995	F	1.76
1979	.52	4.479	F	8.61
1981	.185	.785	F	4.24
1982	4.587	3.934	Y	.86
1982	.455	.426	F	.94
1982	2.773	4.923	Y	1.78
1982	.357	.699	F	1.96
1983	6.232	8.299	Y	1.33
1983	1.123	1.575	F	1.40
1983	17.154	9.814	Y	.57
1983	3.242	9.101	F	2.80
1984	5.992	3.650	Y	.61
1984	.897	3.379	F	3.79
1984	8.344	6.415	Y	.77
1984	2.708	2.973	F	1.10
1985	3.815	12.039	Y	3.16
1985	3.815	3.107	Y	.81
Av.off/on				2.15
F.off/on				2.96
Y.off/on				1.03

Prepared by J.Wilson, KR TAT

ATTACHMENT 10

United States Department of the Interior

U.S. FISH AND WILDLIFE SERVICE

TRINITY RIVER BASIN FIELD OFFICE
P.O. Box 1450
Weaverville, CA 96093
(916) 623-3931

TRB-400

MAR 1 2 1992

Mr. Jerry Barnes
Chairman, Klamath River Technical
Advisory Team
Six Rivers National Forest
500 Fifth Street
Eureka, California 95501

Dear ~~Mr. Barnes~~ Jerry:

We are taking this opportunity to provide input into the fish hatchery review the technical team was directed to undertake for the Klamath River Fishery Management Council. The questions presented herein reflect our concern for the welfare of the restoration program and may be appropriate for consideration under the hatchery review. Also, we would appreciate having Lee Hillwig of this office and Serge Birk of the USBR fully involved in the process.

Our major concerns are:

1. Are the present mitigation goals conducive to achieving long-term fishery restoration or has new information become available that indicates changes may be in order?

2. Is the present practice of measuring mitigation success by returns to the hatcheries still appropriate or should harvest contribution also be considered?

3. Has it been adequately documented that the released coded-wire tagged fish accurately represent the brood for each year?

4. Has it been adequately documented that estimates of total releases from the hatcheries are accurate?

5. Has it been adequately documented that fish are being released at the optimum level of smoltification to ensure rapid emigration and survival to the ocean?

6. Has it been adequately documented that release schedules are being timed to minimize interaction with natural fish?

7. Has it been adequately documented that hatchery fish are in optimal health at the time of release?

8. Has it been adequately documented that hatchery fish are in optimal condition at the time of release?

9. Has the level of disease transmission between hatchery fish and natural fish been adequately identified and evaluated?

10. Have in-hatchery disease problems been adequately assessed and resolved?

11. Has the survival rate of hatchery fish at ocean entry been adequately assessed?

12. Has the optimum production ratio of fingerlings to yearlings been adequately determined? If so, is it being adhered to?

13. Has the straying rate of hatchery fish been adequately determined and evaluated?

14. Has the apparent high (mean 58%) onsite released straying rate for Trinity River hatchery chinook been adequately evaluated for genetic impacts to natural stocks?

15. Has the genetic impact on natural salmon populations of the Trinity River Hatchery practice of allowing surplus hatchery returnees to spawn in the river been adequately evaluated?

16. Has the problem of too warm water temperatures in the lower Klamath River as a hatchery time-of-release constraint been adequately studied and documented?

We appreciate the opportunity to contribute to the hatchery review. It appears that once the initial review is accomplished, there will be some questions requiring further work.

We will provide you with the information requested by John Wilson in the very near future.

Sincerely,

Chuck Lane

Charles B. Lane
Project Leader

cc: Project Manager, USBR, Weaverville, CA
Mike Aceituno, FWE, Sacramento, CA
Project Leader, CCFRO, Arcata, CA
Project Leader, KRFRO, Yreka, CA
Bob Franklin, HVT, Hoopa, CA

ATTACHMENT 11

To: Klamath Fishery Management Council, Basin Task Force, Klamath Technical Advisory Team and anyone interested in Klamath Restoration.

From: John Wilson

Survival of yearling chinook salmon is four to five times that of fingerlings. Fingerling salmon require additional growth to reach smoltification and will utilize available habitat, space, and food. Naturally produced fingerlings also utilize the same habitat,space and food. Fingerling salmon move out of tributary streams in early spring and rear in the main channel as they migrate to sea. Natural timing of these outmigrations occur over several months and may be a factor of genetics and environment. Recent drought conditions have greatly reduced water flow and quality, diversions and withdrawals have intensified the impacts of this drought. Natural production faces extreme stress from these factors. Present hatchery practices and mitigation obligations are adding to the stress and decreasing the survival of the natural component of chinook salmon in the following ways.

1. Mitigation from Iron Gates Hatchery is stated in terms of smolts planted, six million, or the equivalent of 48,000 spawners (250 smolts per spawning pair) .Presently a large portion of this mitigation is released at IGH in April. Wild salmon from Bogus, Shasta and Scott River located below IGH are moving out of these tributaries into the main stem of the Klamath River at the same time. Chinook habitat and carrying capacity are rapidly decreasing. The result is low survival rate for both natural and hatchery production. Since hatchery fingerling tend to be larger than naturally produced fingerlings, the impact on these smaller fish may be extreme. Shasta River has shown major declines in production in recent years, and is of great concern to managers..

2. Trinity River Hatchery operates on a mitigation goal of 9000 fish returning to the hatchery. To accomplish this requires a large number of nonfecund jacks or an upper Trinity Basin escapement of 45,000 adults. If the strategy to meet this goal is to operate the hatchery to produce the greatest number of jacks,(fingerling releases), then the stage is set for a stock collapse due to the shortening of the maturity schedule. (three consecutive years of broodyear failure, and only a few four year old

fish left to spawn). Other downsides include egg availability, contribution to fisheries,and adult escapement.

If the hatchery strategy is to pump 45,000 spawners annualy into the upper Trinity, to get 9,000 into the hatchery, many of these fish would have little spawning success due to imposition of redds, and their offspring would experience even less success rearing, due to the large numbers of hatchery fish competing for the limited habitat available in the mainstem below Lewiston. The lack of geographic distribution of natural spawners and hatchery plants places excessive demands on the limited habitat available. Acomplishing the mitigation.goal could also be met by restricting both ocean and river fisheries to generate the needed escapement. The present mitigation goal is not compatible with the present basin recovery plan. Present mitigation practices must be changed to protect wild fish populations.

Changes should include:

1.Release strategy based on seasonal environmental conditions present in the basin, number of natural fingerlings utilizing natural rearing areas and total numbers of natural spawners. Reduce or eliminate fingerling releases when natural populations are high, drought conditions are present,and natural seeding is adequate. Increase fingerling releases in years of poor emergence or low spawner counts,if habitat is underseeded. Yearling releases should be used to meet mitigation and broodstock requirements. Some fish may end up as surplus and might have to be destroyed.

2. Establish mitigation goals that are consistant with maximizing natural production. Raw numbers, be they smolts or spawners, are a poor method of evaluating the success of the mitigation program. Contribution to fisheries and perpetuation of the species are better indices of mitigation success. Yearling releases would have minimal impact on natural production.

3. Develop and maintain a selective breeding program that will increase the natural component of hatchery broodstock, create genetic diversity within the hatchery program and mark all hatchery releases for identification so that a proper mix of hatchery and wild fish can be maintained in natural spawning populations. Improve homeing tendency and genetic makeup of hatchery fish to

minimize effects of straying on natural spawning populations.

4. Acknowledge that mitigiation has not been provided to offset adverse effects on downstream habitat, and resulting reduction of productivity of fish populations.Include these losses for consideration when defining mitigation responsibility at time of relicensing power and water projects.

5 Additional information required to make wise management decisions;

Do CWT groups accurately represent production hatchery releases, and are the numbers of fish released accurate?
Are the fish released adequately smoltified to guarantee rapid outmigration and optimal ocean survival?
Are they in good condition,good health and free of disease?
Are diseases effecting hatchery production and are diseases being transmitted to natural populations?
What additional measures can be done to combat disease?
Has the genetic impact of straying of hatchery fish been determined?
Have the environmental conditions (hot water) limiting release timing of hatchery production been documented? Have release strategies incorporated this data?

Will successful hatchery programs discount the need for additional streamflows to protect natural fish production?
Are all agencies involved in Klamath Basin restoration working together to accomplish the same goals?
Are research projects co-ordinated between agencies to avoid duplication? Is there one agency overseeing all activities conducted by the Basin Restoration Plan? WHO?

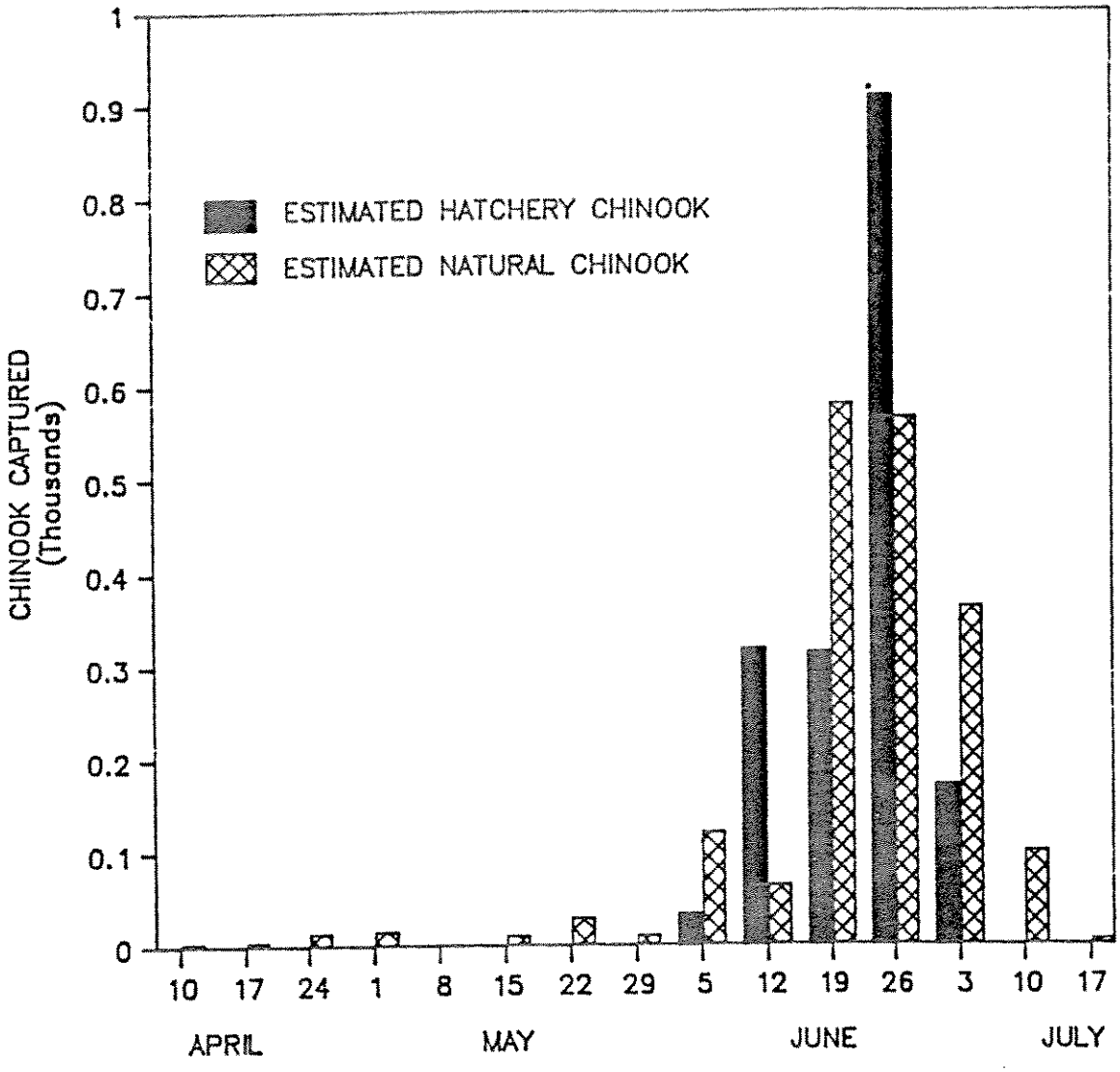


Figure 6. Estimated hatchery and natural stock component of chinook catch by week, Klamath River, 1989.