

93(FR-6)

JUL 16 1993

FINAL REPORT

on the

COOPERATIVE AGREEMENT

between

FISH AND WILDLIFE SERVICE

UNITED STATES DEPARTMENT OF INTERIOR

and the

NORTHERN CALIFORNIA INDIAN DEVELOPMENT COUNCIL

CAPTURE AND WIER COMPONENT

YUROK ACCELERATED STOCKING PROGRAM

KLAMATH RIVER LATE RUN FALL CHINOOK

FY 199²₃

✓

FINAL REPORT YUOK FALL CHINOOK CAPTURE PROGRAM FY 1993

INTRODUCTION

Late run fall chinook salmon endemic to the lower 40 miles of the Klamath River and its tributaries, are severely depressed due to both manmade and natural habitat degradation.

Six separate small scale stream side incubation and or rearing facilities have been developed which are operated to restore natural spawning populations of these late run salmon in select streams which are tributaries to the Yurok Reservation.

The majority of streams on the Reservation are depleted to the point that instream capture of brood stock is not possible. To answer the problem, in 1985 the Bureau of Indian Affairs initiated a program of mainstem gill net capture of late run brood stock to procure eggs for the accelerated stocking projects.

Hunter Creek, which is the largest tributary to the Klamath estuary, was chosen as a first year project for the instream rearing and release of yearling late run chinook.

The goals of the restocking of Hunter Creek are to restore a natural spawning population to that system, and to develop sufficient spawning returns so that late run brood stock returning to that system may augment or replace gill net captured brood for the restoration program.

In the Fall of 1988 the Bureau of Indian Affairs, using Yurok Tribal funds, funded the construction and operation of the Hunter Creek trap and weir to evaluate returns from the stocking program and if feasible to augment egg requirements.

In FY 93 the total Yurok accelerated stocking program, including capture, was funded by the USFWS FOA Yreka, using Klamath Reastoration Act funds.

This report is on the capture component of that program and will cover both the weir operations and the mainstem gillnet capture operations.

HUNTER CREEK TRAP AND WEIR
FY 1993 ✓

DESCRIPTION OF THE STUDY AREA

Hunter Creek is the largest tributary to the Klamath estuary drainage app, 24 square miles. Its mouth is located at app. river mile 1.3, entering on the north bank.

The Hunter Creek weir and trap is placed just downstream from the Requa road bridge a app. stream mile 1.0. The site is also the site of the instream cages which are used to rear yearling chinook salmon for the release into that system.

The number of yearlings released into that systems are:

Oct. 1986 -	6,350
Oct. 1987 -	7,400
Oct. 1988 -	8,900
Oct. 1989 -	14,964
Oct. 1990 -	16,350 (all cwt)
Oct. 1991 -	10,442 (5,740 cwt)
Oct. 1992 -	18,219 (all cwt)

The stream topography is low gradient at this location and slow flowing during dry periods with a wetted width of app. 15 ft. and a one foot depth. After initial fall rains the stream is subject to radical changes in depth and width, with increases in depth up to six feet. Temperatures remain fairly constant at app. 50 degrees fahrenheit.

METHODS AND MATERAILS

The wier is of the "Alaska" design, constructed of wooden tripods and wier panels of removeable aluminum tubing; the trap is a 8'x 8'x 4' aluminum cage with horizontal bars.

Weir panels placed instream block upatream migrants and lead them into the trap.

The weir and trap are in close proximity of the operators home, and the site is checked for fish and cleaned regularly several times a day as conditions require.

Trapped fish are placed in an instream cage or released depending on spieces or condition.

RESULTS AND DISCUSSION

The wier and trap were placed in Hunter Creek on Oct. 26. Flows were low at the time. Rains started on that date and continued, by Nov. 1 flows had increased tot he point that the trap and wier had to be pulled. No fish were trapped between Oct. 26 and Nov. 1.

The trap was damaged while removing it from the creek and had to be taken to the welding shop for repairs.

Flows in the creek remained high from Nov 1. thru Nov 15. Trapping was not possible.

The trap and weir went back in on the 16th of Nov. On Nov 20 it started to rain again and by 3 AM on the 22 of Nov the water was up to the middle of the trap. It was to dangerous to go out and try to pull it at nite. The pickets were pulled so the water could flow thru. By 6 Am the wier had weakened and the trap was washed thru the weir to a point app. 600 ft downstream. The weir and trap were then pulled completely out of the creek and repaired once again. No fish were trapped between Nov.16 & Nov. 22.

Flows in the creek remained high from Nov. 23 to 26. No trapping occurred.

Weir and trap went back into creek on Nov. 27 it trapped under nice conditions till Dec.5. There were no fish trapped. It began to rain again on the 5th of Dec. and by the 8th it was coming up. Early AM on Dec 8 there were 3 fish trapped. 2 males that were released because they were not ripe and 1 female that was spawned with milt from capture camp upriver.

Later in the day we pulled the weir and trap out compeletly as the water was coming up fast. It continued to rain for at least a week and the creek stayed pretty crazy thru the End of Dec. So we called it quits for the year.

Hunter Creek Sightings: Nov 11, one chinook sighted app. one mile above the Hunter Creek subvision.

Nov 17, four chinook sighted app. two miles above the subvision. Two females, Two males one of the females were dead and spawned out.

Nov. 19, two unsexed chinook sighted app. one mile above the subvision.

SUMMARY

The weir was trapping an actual 25 to 30 days this year. The weather was not very agreeable this year. With the large and constant amount of rain we had it was difficult to trap consistently through the season.

There were a total of 3 fish trapped 2 males and one female (which was spawned). 7 fish were sighted above weir after periods of non trapping.

MAINSTEM GILLNET CAPTURE DOWN RIVER PROGRAM

DESCRIPTION OF THE STUDY AREA

All gillnet capture operations are conducted in the mainstem of the Klamath River within the boundaries of the Yurok Reservation. The down river program takes place app. 16.4 mile up river from the estuary, near Blue Creek.

METHODS AND MATERIALS

Capture of mainstem brood stock is accomplished by the use of monofilament gill nets. The capturing of the fish is done both by drift net and set net which both require constant attention. Fish entangled in the net are immediately brought on board and put into a tank of water then transported back to a cage in the river near the spike camp set up for watching these fish. Fish in these cages are sorted on following days and checked for sex and ripeness. They are double checked for species and graded accordingly. Most fishing is done at night, and the immediacy of the situation does not always allow for

determining sex and species at the moment they are caught. If they are obviously not the species we're after they are released at that immediate time.

Fish that are ripe males or near ripe females they are put in holding tubes to await spawning. Most green fish are held in cages as they seem to hold longer and better in cages.

Fish are spawned in a plywood shed that is built just for this purpose. The eggs are water hardened and transported by truck or boat to the incubation facilities.

There is a spike camp on site and all captured brood stock are monitored on a 24 hour basis to prevent losses from unpredictable flow changes or vandalism.

RESULTS AND DISCUSSION

Oct. 8th was the first nite of trial fishing there were fish in the river. The fish were being held down river from camp. On the morning of Oct 10 all the fish either broke out of the cages or someone turned them loose. It was decided at that time it was to early to start capturing.

We went back up on Oct. 16 and fished thru app Dec 15th. At the end of Oct. we were holding 36 males and 30 females. We seen 3 tagged fish in that period, one was checked by USFWS and came from Horse Linto Creek it was captured app. Oct 16th, the second one was released and never held. The third died in capture and the head is still frozen pending getting to USFWS. In the month of Nov we caught app 46 fish -23 males and 23 females.

This table will show dates & # of fish caught:

RECAP FOR 92 CAPTURE SEASON LOWER KLAMATH RIVER FISH ENHANCEMENT PROJECT

Week endings	Total Females Caught	Total Males Caught
10/31	30	36
11/7	4	1
11/15	7	7
11/30	12	15
	53 F	59 M

Out of these Totals the breakdown is:

53 Females = 17 Spawned, 12 released or escaped, and 24 died before they ripened.

59 Males = 23 different fish used for spawning of females, 18 released or escaped and 18 died before ripening.

There was 18 females spawned totally only one was from Hunter Creek and the rest were from camp.

The tagging system was tried and it really wasn't a success. The tags were electrical ties and we tried putting them around their tails and it wore the skin off and left room for fungus to invade. We also tried cattle tags, injecting them into the top fin, that did not work because it tore right thru the fin. The only successful way we have found is to just keep numbers on cages with inventory and numbers on tubes for ID. We will continue to research new and different tagging and recording keeping systems.

This table is to show how many fish we spawned, how many eggs from each, what dates they were spawned on, and where they went for incubation.

SPAWNERS FOR CAPTURE SEASON
LOWER KLAMATH RIVER PROJECT
1992

<u>DATE</u> <u>SPWNED</u>	<u>#FEMALE</u>	<u>WGHT\LNHT</u>	<u>#MALES</u>	<u>TOTAL EGGS</u>	<u>TRAY#</u>
11\4	#3	13lbs\20"	11B-14-4A	3289 Eggs	#1sprc
11\8	#7	18lbs\28"	11-14-15	3360 Eggs	#2sprc
11\10	#16B	18lbs\30"	14-11B-15	4158 Eggs	#3sprc
11\15	tag#26	16lbs\32"	12B-2-11B	3965 Eggs	#4sprc
11\15	tag#25	18lbs\36"	12B-2-11B	3841 Eggs	#5sprc
11\21	#12 dead fish	18lbs\90cnt.	13B-16	3534 Eggs	#6sprc
11\24	#8B	16lbs\33"	16-1B	4232 Egg	#7sprc
11\24	#10	15lbs\34"	16-1B	5362 Eggs	#8sprc
12\2	#15	22lbs\39"	4-13B-6B	5806 Eggs	#9sprc
Tray #9 consists of one big fish=3993 and part of a small fish=1813 mixed					
12\2	#16B	26lbs\40"	4-1B-13B	4602 Egg	#10sprc
12\7	#14	18lbs\35"	10-20-12B	6714 Eggs	#11sprc
12\7	#2	16lbs\37"	10-20-12B	6117 Eggs	#12sprc
Trays#11&12 have a small fish divided equally between trays #s already incl.					
12\8	Hunter Cr	15lbs\33"app	Camp Males app	3500 Eggs	#13sprc
TOTAL GREEN EGGS AT SPRUCE CREEK				58,480 Eggs	

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SPAWNERS FOR CAPTURE SEASON
LOWER KLAMATH RIVER PROJECT
1992

DATE	SPWND	#FEMALE	WGHT\LNIGHT	#MALES	TOTAL EGGS	TRAY#
11\4		#3	131bs\20"	11B-14-4A	3289 Eggs	#1sprc
11\8		#7	181bs\28"	11-14-15	3360 Eggs	#2sprc
11\10		#16B	181bs\30"	14-11B-15	4158 Eggs	#3sprc
11\15		tag#26	161bs\32"	12B-2-11B	3965 Eggs	#4sprc
11\15		tag#25	181bs\36"	12B-2-11B	3841 Eggs	#5sprc
11\21		#12 dead fish	181bs\90cnt.	13B-16	3534 Eggs	#6sprc
11\24		#8B	161bs\33"	16-1B	4232 Eggs	#7sprc
11\24		#10	151bs\34"	16-1B	5362 Eggs	#8sprc
12\2		#15	221bs\39"	4-13B-6B	5806 Eggs	#9sprc
Tray #9 consists of one big fish=3993 and part of a small fish=1813 mixed						
12\2		#16B	261bs\40"	4-1B-13B	4602 Eggs	#10sprc
12\7		#14	181bs\35"	10-20-12B	6714 Eggs	#11sprc
12\7		#2	161bs\37"	10-20-12B	6117 Eggs	#12sprc
Trays#11&12 have a small fish divided equally between trays #s already incl.						
12\8	Hunter Crk		151bs\33"app	Camp Males app	3500 Eggs	#13sprc
			Very Few Coho Eggs			#14sprc

TOTAL GREEN EGGS AT SPRUCE CREEK 58,480 Eggs

DATE	SPWND	#FEMALE	WGHT\LNIGHT	#MALES	TOTAL EGGS	TRAY#
12\15		#1	251bs\38"	3 males	3750 Eggs	#1HP
12\15		#2	221bs\32"	""""""	5300 Eggs	#2HP
12\19		#3	201bs\38"	3 males	3703 Eggs	#3HP
12\19	#4 not total ripe		181bs\38"	""""""	2613 Eggs	#3HP

TOTAL GREEN EGGS AT HIGH PRARIE 15,366 Eggs

TOTAL GREEN EGGS FOR 1992 CAPTURE SEASON 73,846 EGGS

12\15	#1	25lbs\38"	3 males	3750 Eggs	#1HP
12\15	#2	22lbs\32"	5300 Eggs	#2HP
12\19	#3	20lbs\38"	3 males	3703 Eggs	#3HP
12\19	#4(not all ripe)	18lbs\38"	2613 Eggs	#3HP
TOTAL GREEN EGGS AT HIGH PRARIE				15,366 Eggs	
TOTAL GREEN EGGS FOR 1992 CAPTURE SEASON				73,846 EGGS	

CONCLUSION

The target of 60 to 70 thousand green eggs was met this year. It was an overall pretty successful year there seemed to more fish in the system which made our task a slight bit easier. Funds will be sought for FY 94 and hopefully will be made available to continue this program.

MAINSTEM AND PECWAN CREEK CAPTURE UPRIVER PROGRAM

CAPTURE

Capture activities took place in mainstem between Cappell Creek and Pecwan Creek During the dates of late Oct till Dec. 10th. There were a total of 36 fish caught. Three of these were caught in Cappel Creek there was one female and two males. A new trap and wier was manufactured for use in Pecwan Creek. Delays in manufacturing and high flows prevented placement of wier until Nov. 20. Flows were so erratic after that date that the weir could not remain in place for any length of time. No fish were captured by weir in Pecwan. There was a total of 25,430 green eggs taken to the Cappell hatchery from the upriver capture program.

FISHERIES FEEDING & FISH LOG RECORD

POND: Caprell MONTH: Nov 19 92 DIET: _____

Date:	Water Temperature:		Size Per Pound:	# of Fish:	Total Fish Weight:	% Feed	Size	Amt. Daily	Amt. Per Feeding:	Fish Loss:
	a.m.	p.m.								
1				2						
2				3						
3				1						
4				0						
5				6						
6				0						
7				0						
8				1						
9				1						
10				1						
11				0						
12				0						
13				2						
14				1						
15				0						
16				1						
17				0						
18				1						
19				0						
20				0						
21				2						
22				0						
23				1						
24				0						
25				0						
26				0						
27				3						
28				1						
29				0						
30				0						
31				1						
Totals:										

MONTHLY SUMMARY

1. Fish on hand start of month: _____
2. Loss for month: _____
3. Fish on hand end of month: _____
4. Total loss to date: _____
5. Weight at start of month: _____
6. Weight at end of month: _____
7. Pounds gained: _____
8. Size at start of month: _____
9. Size at end of month: _____
10. Pounds of food left: _____

COMMENTS: Month of Nov in stream capture in place 1st new location
 TOTAL OF 28 SPAWNERS CAPTURED, LOST 3 IN CAPTURE PROCESS
 FROM LOSS OF O.D. SET UP IN LATTER PART OF MONTH AT PEWMA WELK OPERATION
 FLOUATION OF WATER PREVENTS SUCCESSFUL INSTALLATION & OPERATION WELK AIDS
 TOOK SET UP 1ST PART OF NOV. REBUILT TAPS TO FISH TANKS AT CAPRELL
 TO HOLD SPAWNERS TANK OF 24 CAPTURED THIS MONTH WE DID NOT SET UP

SPAWNERS FOR CAPTURE SEASON
LOWER KLAMATH RIVER PROJECT
1992

DATE	SPWND	#FEMALE	WGHT\LNIGHT	#MALES	TOTAL EGGS	TRAY#
11\4		#3	131bs\20"	11B-14-4A	3289 Eggs	#1sprc
11\8		#7	181bs\28"	11-14-15	3360 Eggs	#2sprc
11\10		#16B	181bs\30"	14-11B-15	4158 Eggs	#3sprc
11\15		#19 tag#26	161bs\32"	12B-2-11B	3965 Eggs	#4sprc
11\15		#8B tag#25	181bs\36"	12B-2-11B	3841 Eggs	#5sprc
11\21		#12 dead fish	181bs\90cnt.	13B-16	3534 Eggs	#6sprc
11\24		#8B	161bs\33"	16-1B	4232 Eggs	#7sprc
11\24		#10	151bs\34"	16-1B	5362 Eggs	#8sprc
12\2		#15	221bs\39"	4-13B-6B	5806 Eggs	#9sprc
Tray #9 consists of one big fish=3993 and part of a small fish=1815 mixed						
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12\7		#14	181bs\35"	10-20-12B	6714 Eggs	#11sprc
12\7		#2	161bs\37"	10-20-12B	6117 Eggs	#12sprc
Trays#11&12 have a small fish divided equally between trays #s already inc.						
12\8	Hunter Crk		151bs\33"app	Camp Males	3501 Eggs	#13sprc
			Very Few Coho	Eggs		#14sprc
P A I D						
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TOTAL GREEN EGGS AT SPRUCE CREEK					58,480 Eggs	
NORTHERN CALIFORNIA INDIAN DEVELOPMENT COUNCIL, INC						
12\15		#1	251bs\38"	3 males	3750 Eggs	#1HP
12\15		#2	221bs\32"	""""""""	5300 Eggs	#2HP
12\19		#3	201bs\38"	3 males	3703 Eggs	#3HP
12\19		#4 not total ripe	181bs\38"	""""""""	2613 Eggs	#3HP
TOTAL GREEN EGGS AT HIGH PRARIE					15,366 Eggs	

TOTAL GREEN EGGS FOR 1992 CAPTURE SEASON **73,846 EGGS**

FISHERIES FEEDING & FISH LOG RECORD

POND: Copple

MONTH: Dec 19 92

DIET: _____

67 MARCH

Date:	Water Temperature:		Size Per Pound:	# of Fish:	Total Fish Weight:	% Feed	Size	Amt. Daily	Amt. Per Feeding:	Fish Loss:
	a.m.	p.m.								
1				0						
2				1						
3				0						
4				1						
5				0						
6				2						
7				1						
8				0						
9				0						
10				0						
11										
12										
13										
14										
15										
16										
17										
18										
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21										
22										
23										
24										
25										
26										
27										
28										
29										
30										
31										
Totals:										

MONTHLY SUMMARY

1. Fish on hand start of month: _____
2. Loss for month: 31
3. Fish on hand end of month: _____
4. Total loss to date: 7
5. Weight at start of month: _____
6. Weight at end of month: _____
7. Pounds gained: _____
8. Size at start of month: _____
9. Size at end of month: _____
10. Pounds of food left: _____

*Pick Eggs
 TRAYS 1-9
 Eggs out
 Dec 18th
 2102 EGGS
 LOSS TRAYS
 1-9
 TRAYS LOSSES
 567 735
 TRAY 8 will be
 empty see 7.*

COMMENTS: *CAPTURE THROUGH TUB MOUTH C
 SPAWN FISH, WINTERING HATCHERY REBUILT FISH CAGES (2) 6'x12'x9'
 FOR PEWEE FACILITY TOTAL OF 5 IN MONTH OF DECEMBER
 SET UP WEIR IN PEWEE CREEK, HIGH WATER
 FORCED RENOVATION. NEED TO START EARLIER IN SEASON FOR WEIR
 SET UP. TOTAL OF 36 CAPTURED 5 IN CREEK.*

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HUNTER CREEK WIER REPORT
CAPTURE SEASON 1992

10\26 - Put wier in today. Water is very low app 1 ft. The creek is no wider than the creek. Started raining this eveing.

10\27 - Cleaned in AM no fish. The mouth of the river closed yesterday and the water has backed up pretty good by afternoon it was almost to top of trap. It stayed the same till after dark.

10\28 - The mouth busted open the water is back to normal app 1 to 1.6 ft. But it is still raining. No fish in wier.

10\29 - Still raining it has not came up yet but if it doesnt stop raining it will. No fish in the wier today.

10\30 - Just watching and cleaning no fish. It is atarting to raise came up app 7" from morning till dark.

10\31 - Well its up this morning we pulled the pickets up to the second channel last nite and its still raising. No fish.

11\1 - By app 10 Am Walter said we were pulling it. The water was over halfway up the trap very muddy and swift. It took us 4.5 hours to get it out and bruises from hangin on. We couldnt get the middle tripod out as the creeek was raising while we were pulling. It came up app 6to 8 inches while we were pulling. It was raining the whole time. When we pulled the trap out it got preety bent up so we will have to take it to Two Guys to get it welded.

11\2 - Damn good thing we took it out the creek is higher yet this morning and the middle tripod is gone. We will have to go down the creek and look for it when the water goes down.

11\3 - 11\10 - The creek stayed up pretty high with the rain off & on.

11\11 - 11\15 - Two Guys are working on the trap . On Nov. 11 Scott said there was a female fish spotted up Hunter Creek app 1\2 mile above the sub divison.

11\16 - Wier went back in. We had to put a new bottom in it.

11\17 - Walter III and Joe went up Hunter creek today. They seen 4 more fish. They were paired up 1 female and 1 male was in one hole and the other two were in another hole. One female was dead and spawned. They were not stranded in the Holes they could get on up the creek if they wanted to.

11\18 - Watching wier and cleaning it. No fish today.

11\19 - 2 more fish were sited up the creek by the boys. These fish were not as far up as the ones seen the other day.

11\20 - Started raining this morning. Cleaning and checking but no fish.

11\21 - Water is raising came up to just past the first channell around 11PM. Its still raining pretty hard. No fish.

11\22 - App 3 AM last nite the creek was up to the middle of the trap We cleaned it and pulled pickets to the second channell. By 6 AM the trap had washed through the wier and landed down the creek app 600 ft or more. We starting Immediate pulling. It was another 4.5 hour show with bruises.

11\23 - 11\26 - Wier is out. Got the trap drug back up to safety and the creek is still pretty high.

11\27 - Wier went back in today. The creek is settled down some about 1\4 way up trap. Prefect trapping if it doesnt rain for awhile.

11\28 - Watchin and cleaning wier. No fish though.

11\29 - The rain has stoped for awhile I guess its nice trapping water but no fish.

11\30 Just Watching and cleaning wier. No fish.

12\1 - 12\7 - Had weir in all week with nice trapping conditions but no fish. It stared raining on the 5th and the water had came up pretty good by the 7th but we are still trapping.

12\8 - Our lucky day finally came we had three fish in the wier today!!!!!! 1 female nice fish and ripe 2 were males 1jack and one nice one niether were ripe though. We spawned the female with milt from up river. After the spawn we thought that we should pull the wier becuz the water was over half way up the trap. Walter wanted to leave it in cuz we had just caught fish so we thought we would watch it till eveing and see what it did. It was still raining. We went to the store about 20 mins after making this decision and when we came back the water had lifted the trap halfway out of the water so we figured that was our message to get that thing out of there. So we pulled it and I was really glad we did. It kept raining and the creek kept coming up.

12\9 - 12\20 - The creek got pretty out of hand for a while. There was no way we could put the wier back in and so we called it quits for the year.

HUNTER CREEK WIER
RECAP FOR 92 SEASON

11\11 - 1 FISH SIGHTED APP 1\2 MILE ABOVE SUB DIVISON.

11\17 - 4 FISH SIGHTED - 2 FEMALES - 2 MALES APP 2 MILES
ABOVE SUB DIVISION. 1 FEMALE WAS DEAD & SPAWNED OUT.

11\19 - 2 FISH SIGHTED APP 1 MILE ABOVE SUB DIVISON COULDNT
TELL IF THEY WERE MALES OR FEMALES.

12\8 - 3 FISH WERE CAPTURED IN THE WIER - 1 FEMALE - APP 18
LBS AND 34" LONG AND RIPE. ONE MALE WAS A JACK AND THE OTHER
WAS APP 13 TO 14 LBS AND 28 TO 30" LONG.

I DONT BELIVE ANY FISH SIGHTED WERE CLIPPED. THEY WERE ALL
LARGER FISH. THE FISH CAUGHT IN THE WIER WERE NOT CLIPPED.