

ANNUAL REPORT
LYONS FERRY SALMON HATCHERY
FUNDED BY: USFWS

FISCAL YEAR 1988
OCTOBER 1, 1987 - SEPTEMBER 30, 1988

PROJECT LEADER: LEW ATKINS

OPERATIONS REPORT

LYONS FERRY SALMON HATCHERY

JULY 1, 1987 TO DECEMBER 31, 1987

FUNDED BY U.S. FISH AND WILDLIFE

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INTRODUCTION

LYONS FERRY HATCHERY IS LOCATED ON THE SNAKE RIVER IN FRANKLIN COUNTY. IT IS 7 MILES NORTH OF STARBUCK ON HIGHWAY 261. THE HATCHERY IS 56 MILES UPSTREAM FROM THE MOUTH OF THE SNAKE RIVER AND 380 MILES FROM THE PACIFIC OCEAN.

THE HATCHERY WAS CONSTRUCTED IN 1983 AND 1984 BY THE U.S. ARMY CORPS OF ENGINEERS. IT CONSISTS OF 28 RACEWAYS, HATCHERY BUILDING, STORAGE BUILDING, VISTOR CENTER, SPAWNING BUILDING, 2 ADULT PONDS AND FISH LADDER. THE VISTOR CENTER, STORAGE BUILDING, FISH LADDER AND WATER SUPPLY, WHICH IS WELL WATER, IS SHARED WITH THE DEPT. OF WILDLIFE HATCHERY.

THE RELEASE FIGURES FOR 1987 WERE 12,922 YEARLING SPRING CHINOOK; 386,919 YEARLING FALL CHINOOK AND 674,054 ZERO AGE FALL CHINOOK.

THE FOLLOWING INFORMATION IS A REPORT SHOWING THE ENTIRE HATCHERY OPERATIONS FROM JULY 1 TO DECEMBER 31, 1987.

TRAPPING OPERATIONS

TRAPPING FOR SPRING CHINOOK WAS DONE AT THE TUCANNON WILDLIFE HATCHERY SATELLITE POND. THE FIRST FISH WAS TRAPPED APRIL 26, 1987 AND THE LAST FISH TRAPPED WAS JULY 7, 1987. A TOTAL OF 209 FISH WERE TRAPPED WITH 108 OF THEM BEING PUT UP STREAM FOR NATURAL SPAWNING.

TRAPPING FOR FALL CHINOOK WAS DONE AT ICE HARBOR DAM AND AT THE HATCHERY. THE FISH TRAPPED AT ICE HARBOR WERE TRUCKED TO THE HATCHERY ADULT PONDS. THE FIRST FISH TRAPPED THERE WAS ON SEPTEMBER 2, 1987 AND THE LAST ONE TRAPPED WAS ON OCTOBER 11, 1987. A TOTAL OF 1,613 ADULTS AND 47 MARKED JACKS WERE BROUGHT IN.

THE FIRST FISH TRAPPED AT THE HATCHERY WAS ON SEPTEMBER 18 AND THE LAST WAS TRAPPED DECEMBER 12, 1987. A TOTAL OF 1,654 ADULTS AND 543 JACKS WERE TRAPPED AT THE HATCHERY. THIS GAVE A GRAND TOTAL OF 3,267 ADULTS AND 590 JACKS RETURNING IN 1987.

ESCAPEMENT AND SPAWNING JULY 1, 1987 THROUGH DECEMBER 31, 1987

A SUMMARY DESCRIPTION FOR 1987 BROOD

TUCANNON SPRING CHINOOK

THE 1987 TRAPPING OF SPRING CHINOOK WAS 209 ADULTS. A TOTAL OF 108 FISH WERE PUT UPSTREAM TO SPAWN NATURAL AND 101 FISH WERE PUT INTO THE ADULT POND FOR HATCHERY SPAWNING. THE YEARS PRODUCTION WAS 196,600 EGGS TAKEN.

LYONS FERRY FALL CHINOOK.

THE TRAPPING OF ADULTS STARTED SEPTEMBER 2 AT ICE HARBOR DAM. A TOTAL OF 1,613 ADULTS AND 47 MARKED JACKS WRE TRUCKED TO THE HATCHERY. A TOTAL OF 1,654 ADULTS AND 543 JACKS WERE TRAPPED AT THE HATCHERY. 1,593 FEMALES, 643 MALES AND 562 JACKS WERE SPAWNED. 327 FEMALES, 704 MALES AND 28 JACKS DIED IN THE HATCHERY PONDS. THE YEARS PRODUCTION WAS 5,958, 000 EGGS TAKEN.

ESCAPEMENT AND SPAWNING FOR 1987 BROOD TUGANON SPRING CHINOOK Stock

Week Ending	Est Arrival Week	Arrival Season	Upstream			Mortality			Spawning			Green/Strip/Bud/SC	Sold/Donated			Shipped		
			M	F	J	M	F	J	M	F	J		M	F	J			
JULY 11	8	209				1												
JULY 18																		
JULY 25						1			2									
AUGUST 8									1									
AUGUST 22									1									
AUGUST 29																		
SEPT. 5																		
SEPT. 12																		
SEPT. 19																		
SEPT. 26						4			1									
OCT. 3						1												
Report Total	8	209				10			7									
Pre-Balance	201					3			1									
Season Total	209	209	108			13			8									

EGG TAKE AND DISPOSITION for 1987 Brood TUGANNON SPRING CHINOOK

Stock

Week Ending	No. Eggs taken-est.	No. Eggs Received/From	No. Eggs Shipped/To	No. Eggs Lost	No. Eggs on Hand
AUG. 29	4,000				4,000
SEPT. 5	20,000				24,000
SEPT. 12	56,000				80,000
SEPT. 19	76,000				156,000
SEPT. 26	36,000				192,000
OCT. 3				1,300	190,700
OCT. 10				14,300	176,400
OCT. 17				6,400	170,000
OCT. 24				6,300	163,700
Report Total	192,000			28,300	163,700
Pre-Balance					
Season Total	192,000			28,300	163,700

INCUBATION SUMMARY

1987 TUCANNON SPRING CHINOOK

THE FIRST TAKE OF SPRING CHINOOK EGGS WAS ON AUGUST 25, 1987. THE LAST SPAWNING WAS ON SEPTEMBER 22, 1987. THE FIRST TAKE WAS SHOCKED SEPTEMBER 28th, AND THE LAST TAKE WAS SHOCKED OCTOBER 19, 1987.

THE ACTUAL NUMBER OF EGGS TAKEN WAS 196,573 WITH 28,286 EGGS LOST. THIS WAS A 14.38 PER CENT EGG LOSS. THE HIGH LOSS WAS DUE TO KILLING OF SOME EGGS DUE TO I.H.N.. THE FEMALES AVERAGED 4,095 EGGS EACH.

ESCAPEMENT AND SPAWNING for 1987 Brood FALL CHINOOK Stock

Week Ending	Est. Arrival Week	Est. Arrival Season	Upstream			Mortal Ity			Spawmed			Groom/Strip/Brad/SC	Sold/Donated			Shipped			
			M	F	J	M	F	J	M	F	J		M	F	J	M	F	J	
SEPT. 5	87	87																	
SEPT. 12	174	261																	
SEPT. 19	408	669																	
SEPT. 26	747	1,416																	
OCT. 3	542	1,958				3	2												
OCT. 10	400	2,358				3	1												
OCT. 17	136	2,494				2	3												
OCT. 24	89	2,583				6	11	1											
OCT. 31	78	2,661				6	17	1	10	3	112								
NOV. 7	196	2,857				9	31		10	18	205								
NOV. 14	55	2,912				9	31		82	125		9							
NOV. 21	114	3,026				46	46	2	10	192	41	5							
NOV. 28	160	3,186				111	120	14	58	514	44	12							
DEC. 5	28	3,214				188	36	3	155	377	28	11							
DEC. 12	24	3,238				220	42	3	223	296	6	4							
DEC. 19	3	3,241				92	15	4	118	92	1	1							
DEC. 19	3	3,241				18	3		69	19		5							
Report Total	3,241					704	327	28	643	1,593	562	47							
Pre-Balance																			
Season Total	3,241					704	327	28	643	1,593	562	47							

EGG TAKE AND DISPOSITION for 1987 Brood FAIL CHINOOK Stock

Week Ending	No. Eggs Taken-est.	No. Eggs Received/From	No. Eggs Shipped/To	No. Eggs Issued	No. Eggs on Hand
OCT. 24	13,500				13,500
OCT. 31	81,000				94,500
NOV. 7	328,500				423,000
NOV. 14	841,500				1,264,500
NOV. 21	2,223,000			8,900	3,487,500
NOV. 28	1,647,000				5,125,600
DEC. 5	1,314,000			53,600	6,439,600
DEC. 12	414,000			51,800	6,800,000
DEC. 19	63,000			51,400	6,820,100
DEC. 26					6,663,300
Report Total	6,925,500			165,700	6,663,300
Pre-Balance					
Season Total	6,925,500			165,700	6,663,300

INCUBATION SUMMARY

1987 LYONS FERRY FALL CHINOOK

THE FIRST TAKE OF FALL CHINOOK WAS ON OCTOBER 20 AND THE LAST TAKE WAS ON DECEMBER 14, 1987. THERE WAS A TOTAL OF 5,957,976 EGGS TAKEN. A TOTAL OF 227,476 DEAD EGGS WERE PICKED OFF FOR A LOSS OF 3.81 PER CENT. THE FEMALES AVERAGED 3,874 EGGS EACH AND THE EGGS AVERAGED 1,539 PER POUND.

FEED USAGE BY STOCK FOR JULY 1, 1987 through DECEMBER 31, 1987

Stock Feed Type/Size	JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER	Totals
1986 SPRINGS							
OMP 3/32	781	2,288	2,482	2,489	1,572	855	5,551
OMP 1/8			196				5,112
1/8 GALLIUMCIN	1,439						1,439
1/8 ROMET				320	1,180		1,500
1986 FALL CHINOOK							
OMP 3/32	1,280	3,322	4,281				8,883
3/32 GALLIUMCIN	2,000						2,000
1/8 GALLIUMCIN	200						200
OMP 1/8			288	5,405	6,069	6,566	18,328
1987 SPRING CHINOOK						45	45
BIO-STARTER						5	5
OMP 1/32							
Report Total	5,700	5,610	7,247	8,214	8,821	7,471	43,063
Pre- Balance							
Season Total							

DISEASES AND TREATMENTS

DATE	BROOD YEAR	SPECIES	POND NUMBER	TREATMENT	DISEASE
7/87	1986	SPRING CHINOOK	1 TO 10	GALLIMYCIN	KIDNEY DISEASE
7/87	1986	FALL CHINOOK	11 TO 19	GALLIMYCIN	KIDNEY DISEASE
7/87	1987	SPRING CHINOOK ADULTS	TUCANNON POND	EYTHRO 200 INJECTION	KIDNEY DISEASE
7/87	1987	SPRING CHINOOK ADULTS	TUCANNON POND	MALICHITE	FUNGUS
8/87	1987	SPRING CHINOOK ADULTS	TUCANNON POND	MALICHITE	FUNGUS
8/87	1987	SPRING CHINOOK EGGS	INCUBATION ROOM	FORMALIN	FUNGUS
9/87	1987	FALL CHINOOK ADULTS	ADULT PONDS	MALICHITE	FUNGUS
9/87	1987	SPRING CHINOOK EGGS	INCUBATION ROOM	FORMALIN	FUNGUS
10/87	1986	SPRING CHINOOK	1 TO 10	ROMET	KIDNEY DISEASE
10/87	1987	SPRING CHINOOK EGGS	INCUBATION ROOM	FORMALIN	FUNGUS
10/87	1987	FALL CHINOOK ADULTS	ADULT PONDS	MALICHITE	FUNGUS
11/87	1986	SPRING CHINOOK	1 TO 10	ROMET	KIDNEY DISEASE
11/87	1987	SPRING CHINOOK EGGS	INCUBATION ROOM	FORMALIN	FUNGUS
11/87	1987	FALL CHINOOK ADULTS	ADULT PONDS	MALICHITE	FUNGUS
11/87	1987	FALL CHINOOK EGGS	INCUBATION ROOM	FORMALIN	FUNGUS
12/87	1987	FALL CHINOOK EGGS	INCUBATION ROOM	FORMALING	FUNGUS

SUMMARY

THE FALL CHINOOK EGG TAKE WAS UP THIS YEAR DUE TO IT BEING OUR FIRST YEAR OF FOUR YEAR OLD FISH RETURNING.

THE SPRING CHINOOK EGG TAKE WAS ENOUGH TO MEET THE REQUIREMENTS FOR THE REARING PROGRAM. STILL USEING A TEMPORARTY RACK FOR TRAPPING AND HOPEFULLY WILL HAVE A PERMANT RACK SOME DAY.

STILL HAVE A TOXICITY PROBLEM WITH THE WATER SUPPLY DUE TO MANGANESE.

OPERATIONS REPORT

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INTRODUCTION

LYONS FERRY HATCHERY IS LOCATED ON THE SNAKE RIVER IN FRANKLIN COUNTY. IT IS 7 MILES NORTH OF STARBUCK ON HIGHWAY 261. THE HATCHERY IS 56 MILES UPSTREAM FROM THE MOUTH OF THE SNAKE RIVER AND 380 MILES FROM THE PACIFIC OCEAN.

THE HATCHERY WAS CONSTRUCTED IN 1983 AND 1984 BY THE U.S. ARMY CORPS OF ENGINEERS. IT CONSISTS OF 28 RACEWAYS, HATCHERY BUILDING, STORAGE BUILDING, VISTOR CENTER, SPAWNING BUILDING, 2 ADULT PONDS AND FISH LADDER. THE VISTOR CENTER, STORAGE BUILDING, FISH LADDER AND WATER SUPPLY, WHICH IS WELL WATER, IS SHARED WITH THE WILDLIFE DEPT. HATCHERY.

THE RELEASE FIGURES FOR 1988 WERE 153,725 YEARLING SPRING CHINOOK, 4,610,864 ZERO AGE FALL CHINOOK AND 407,840 YEARLING FALL CHINOOK.

THE FOLLOWING INFORMATION IS A REPORT SHOWING THE ENTIRE HATCHERY ACTIVITIES FROM JANUARY 1, 1988 TO JUNE 30, 1988.

TRAPPING OPERATIONS

TRAPPING FOR SPRING CHINOOK WAS DONE AT THE TUCANNON WILDLIFE HATCHERY SATELLITE POND. THE FIRST FISH WAS TRAPPED MAY 6, 1988 AND THE TRAPPING WAS STILL GOING ON AS OF THE REPORT PERIOD. BY THE END OF JUNE A TOTAL OF 257 ADULTS AND 16 JACKS WERE TRAPPED WITH 142 ADULTS AND 4 JACKS BEING PUT UPSTREAM TO SPAWN NATURAL.

ESCAPEMENT AND SPAWNING JANUARY 1 THROUGH JUNE 30, 1988
A SUMMARY DESCRIPTION FOR 1988 BROOD

TUCANNON SPRING CHINOOK

THE 1988 TRAPPING OF SPRING CHINOOK WAS 257 ADULTS AND 16 JACKS. A TOTAL OF 142 ADULTS AND 4 JACKS WERE PUT UPSTREAM FOR NATURAL SPAWNING AND 115 ADULTS AND 12 JACKS WERE PUT INTO THE ADULT POND FOR HATCHERY SPAWNING. THROUGH THE END OF JUNE 1 MALE; 2 FEMALES AND 1 JACK HAVE DIED IN THE POND.

REARING PROGRAM SUMMARY

1986 TUCANNON SPRING CHINOOK

THE 1986 BROOD SPRING CHINOOK WERE PLANTED ON MARCH 7 AND APRIL 11 TO APRIL 13, 1988. IN MARCH A TOTAL OF 40,000 WERE PLANTED AT 10 FISH PER POUND FOR A TOTAL OF 4,000 POUNDS. IN A APRIL OF TOTAL OF 113,725 FISH WERE PLANTED AT 10 FISH PER POUND FOR A TOTAL OF 11,372 POUNDS. OVERALL A TOTAL OF 153,725 FISH WERE PLANTED, FOR A TOTAL PRODUCTION OF 15,372 POUNDS. ALL FISH RELEASED WERE FIN CLIPPED AND CODED WIRE TAGGED. THE TOTAL FEED FED WAS 20,080 POUNDS, WITH A CONVERSION OF 1 : 1.31.

1987 TUCANNON SPRING CHINOOK

THE SPRING CHINOOK FRY WERE PONDED STARTING DECEMBER 8, 1987 AND THE LAST PONDING WAS DECEMBER 22, 1987. IN MAY ALL OF THE FISH WERE FIN CLIPPED AND CODED WIRE TAGGED. A TOTAL OF 156,981 WERE TAGGED. TO DATE A TOTAL OF 4,171 POUNDS OF FEED HAVE BEEN FED. THE FISH WILL BE TRUCKED TO THE RELEASE POND AT THE TUCANNON HATCHERY IN DECEMBER 1988 FOR RELEASE IN APRIL 1989.

1986 LYONS FERRY FALL CHINOOK

THE 1986 BROOD FALL CHINOOK WERE PLANTED ON STATION APRIL 14, 1988. A TOTAL OF 286,611 WERE PLANTED, OF THESE 117,705 WERE AD CLIPPED AND C.W.T.; 473 WERE AD CLIPPED ONLY. ALSO 39,952 WERE BRANDED AND 128,481 WERE UNMARKED. THE FISH WERE PLANTED AT 8 FISH PER POUND FOR A TOTAL OF 35,826 POUNDS OF FISH. ON APRIL 19, 1988 A TOTAL OF 121,229 FISH AT 8 PER POUND WERE PUT ON A FISH RUN BARGE AND RELEASED BELOW ICE HARBOR DAM. THE YEARLINGS ACCOUNTED FOR 50,980 POUNDS OF PRODUCTION. A TOTAL OF 81,011 POUNDS OF FEED WERE FED TO THE BROOD FOR A CONVERSION OF 1 : 1.33.

1987 LYONS FERRY FALL CHINOOK

THE FALL CHINOOK FRY WERE PONDED STARTING JANUARY 18 THROUGH MARCH 1, 1988. IN MAY A TOTAL OF 500,587 WERE FIN CLIPPED AND C.W.T.. ALSO 80,120 WERE FREEZE BRANDED. ON JUNE 1, 1988 A TOTAL OF 248,739 AD CLIPPED AND C.W.T.; 748 AD ONLY; 79,961 FREEZE BRANDED AND 1,679,700 UNMARKED FISH WERE PLANTED ON STATION. THEY WERE 53 FISH PER POUND FOR A TOTAL OF 37,908 POUNDS OF PRODUCTION. ON JUNE 8, 1988 A TOTAL OF 245,749 AD CLIPPED AND C.W.T.; 4,250 AD CLIPPED ONLY AND 2,314,300 UNMARKED FISH WERE LOADED ON A FISH TRANSPORTING BARGE AND WERE PLANTED BELOW ICE HARBOR DAM THE SAME EVENING. THERE WERE 27,335 POUNDS OF FISH BARGED OUT. A TOTAL OF 463,000 FISH WERE KEPT FOR YEARLING RELEASE IN APRIL 1989.

PIAPPS AND TRANSFERS for 1986 Brood TUGANNON SPRING CHINOOK Stock

Date	TRANSFERRED IN	TRANSFERRED OUT	PIAPPS		Size	Location	Marks
	Number	Pounds	Number	Pounds			
MARCH 7			38,520	3,852	10	TUGANNON RIVER	AD & C.V.T.
MARCH 7			1,480	148	10	TUGANNON RIVER	AD ONLY
APRIL 11			109,517	10,951	10	TUGANNON RIVER	AD & C.V.T.
APRIL 11			4,208	421	10	TUGANNON RIVER	AD ONLY
Report Total			153,725	15,372			
Pre-Balance							
Season Total			153,725	15,372			

NOTES:

PLANTS AND TRANSFERS for 1986 Brood LYONS FERRY FALL, CHITNOOK Stock

Date	TRANSFERRED IN		TRANSFERRED OUT		PLANTED		Size	Location	Marks
	Number	Pounds	Number	Pounds	Number	Pounds			
APRIL 14					117,705	14,713	8	HATCHERY SITE	AD & C.W.T.
APRIL 14					473	60	8	HATCHERY SITE	AD ONLY
APRIL 14					39,952	4,994	8	HATCHERY SITE	BRANDED
APRIL 14					128,481	16,060	8	HATCHERY SITE	UNMARKED
APRIL 19					120,804	15,100	8	BELOW ICE HARBOUR	AD & C.W.T.
APRIL 19					425	54	8	BELOW ICE HARBOUR	AD ONLY
Report Total					407,840	50,981			
Pre-Balance					674,054	10,800			
Season Total					1,081,894	61,781			

NOTES:

PLANTERS AND TRANSFERS for 1987 Brood LYONS FERRY FALL GUNOOK Stock

Date	TRANSFERRED IN		TRANSFERRED OUT		PLANTED		Stbe	Location	Mark's
	Number	Pounds	Number	Pounds	Number	Pounds			
FEB. 11			TO RINGOLD	1,799					
APRIL 25	FROM RINGOLD	17,042							
	1,892,000								
JUNE 1					248,739	4,693	53	HATCHERY SITE	AD & C.M.F.
JUNE 1					748	14	53	HATCHERY SITE	AD ONLY
JUNE 1					79,961	1,509	53	HATCHERY SITE	BRANDED
JUNE 1					1,679,700	31,692	53	HATCHERY SITE	UNMARKED
JUNE 8					245,749	4,637	53	BELOW ICE HARBOR	AD & C.M.F.
JUNE 8					4,250	80	53	BELOW ICE HARBOR	AD ONLY
JUNE 8					46,750	882	53	BELOW ICE HARBOR	UNMARKED
JUNE 8					271,500	3,879	70	BELOW ICE HARBOR	UNMARKED
JUNE 8					886,300	8,953	99	BELOW ICE HARBOR	UNMARKED
JUNE 8					1,114,000	8,984	124	BELOW ICE HARBOR	UNMARKED
Report Total	1,892,000		1,979,079		4,577,697	65,323			
Pre-Balance									
Season Total	1,892,000		1,979,079		4,577,697	65,323			

NOTES:

FEED USAGE BY STOCK FOR JANUARY 1 through JUNE 30, 1988

Stock Feed Type/Size	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	Totals
<u>1986 SPRINGS</u> OMP 1/8	345	1,200	4,300	1,550			7,395
<u>1987 SPRINGS</u> OMP 1/32	244	130					244
OMP 3/64		208	90				130
1.3mm GALLO			263				298
OMP 1/16			264				263
OMP 3/32				821	921	1,161	3,167
<u>1986 FALLS</u> OMP 1/18	6,809	9,627	12,444	6,232			35,112
<u>1987 FALLS</u> BIO STARTER#3	31	621	610				1,262
OMP 1/32		404	715	151			1,270
OMP 3/64			305	1,403	1,113		2,821
1/32 TM-50			1,411				1,411
1.0mmBIODIET			78	8			86
1.3mm GALLO			1,083	2,166	52		3,301
Report Total	7,429	12,190	21,563	12,331	2,086	1,161	56,760
Pre-Balance							
Season Total							

FEED USAGE BY STOCK FOR JANUARY 1

through JUNE 30, 1988

Stock Feed Type/Size	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	Totals
1987 FALLS							
1.3mmBIODIET			11	434	125	400	570
OMP 1/16				2,461	3,202		5,663
1/16 ROMET				115	885	400	1,400
OMP 3/32				450	21,206	4,899	26,555
1.5mm BIODIET					1,579	124	1,703
2.5mm BIODIET					440	532	972
Report Total			11	3,460	27,437	5,955	36,863
Pre-Balance	7,429	12,190	21,563	12,331	2,086	1,161	56,760
Season Total	7,429	12,190	21,574	15,791	29,523	7,116	93,623

DISEASES AND TREATMENTS

DATE	BROOD YEAR	SPECIES	POND NUMBER	TREATMENT	DISEASE
1/88	1987	FALL CHINOOK	INCUBATION ROOM	FORMALIN	FUNGUS
2/88	1987	SPRING CHINOOK	1 & 2	GALLIMYCIN	KIDNEY DISEASE
2/88	1986	SPRING CHINOOK	TUCANNON POND	DIQUAT	BACTERIAL GILL
3/88	1987	SPRING CHINOOK	1 & 2	GALLIMYCIN	KIDNEY DISEASE
3/88	1987	FALL CHINOOK	3 TO 13	TM-50	ERM
3/88	1987	FALL CHINOOK	3 TO 20	GALLIMYCIN	KIDNEY DISEASE
3/88	1987	FALL CHINOOK	4	DIQUAT	BACTERIAL GILL
4/88	1987	FALL CHINOOK	3 TO 20	GALLIMYCIN	KIDNEY DISEASE
4/88	1987	FALL CHINOOK	3 TO 20	DIQUAT	BACTERIAL GILL
4/88	1987	FALL CHINOOK	3	ROMET	ERM
5/88	1987	FALL CHINOOK	12-13-19	DIQUAT	BACTERIAL GILL
5/88	1988	SPRING CHINOOK ADULTS	TUCANNON POND	FORMALIN	FUNGUS
6/88	1988	SPRING CHINOOK ADULTS	TUCANNON POND	FORMALIN	FUNGUS
6/88	1987	FALL CHINOOK	13 & 14	ROMET	ERM
6/88	1988	SPRING CHINOOK ADULTS	TUCANNON POND	EYTHRO-200 INJECTION	KIDNEY DISEASE

SUMMARY

WE ARE STILL HAVEING A TOXICITY PROBLEM WITH THE WATER SUPPLY. IT CAUSES A LOW GRADE STRESS TO THE FISH AT ALL TIMES. WE DID SOME LOADING AND FEED STUDIES WITH THE 1987 BROOD FALLS TO TRY AND FIND SOME SOLUTIONS TO THE PROBLEM. STILL NO SOLUTION TO THE PROBLEM YET.

WE HAVE HAD QUITE A BIT OF BACTERIAL GILL PROBLEMS THIS SPRING BUT OVERALL THE FISH DID WELL. THE BARGEING OF THE FISH BELOW ICE HARBOR DAM LOOKS GOOD WITH NO PROBLEMS WITH THE PROJECT.

THE 1988 BROOD SPRINGS ARE HOLDING GOOD WITH LOW MORTALITY AS OF NOW. THE RUN SIZE IS UP FROM LAST YEAR BUT THE WATER FLOW IS DROPIG RAPIDLY SO FIGURE THE RUN IS OVER FOR THIS YEAR.

OPERATIONS REPORT

LYONS FERRY SALMON HATCHERY

JULY 1, 1988 TO DECEMBER 31, 1988

FUNDED BY U.S. FISH AND WILDLIFE

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INTRODUCTION

LYONS FERRY HATCHERY IS LOCATED ON THE SNAKE RIVER IN FRANKLIN COUNTY. IT IS 7 MILES NORTH OF STARBUCK ON HIGHWAY 261. THE HATCHERY IS 56 MILES UPSTREAM FROM THE MOUTH OF THE SNAKE RIVER AND 380 MILES FROM THE PACIFIC OCEAN.

THE HATCHERY WAS CONSTRUCTED IN 1983 AND 1984 BY THE U.S. ARMY CORPS OF ENGINEERS. IT CONSISTS OF 28 RACEWAYS, HATCHERY BUILDING, STORAGE BUILDING, VISITOR CENTER, SPAWNING BUILDING, 2 ADULT PONDS AND FISH LADDER. THE VISITOR CENTER, STORAGE BUILDING, FISH LADDER AND WATER SUPPLY, WHICH IS WELL WATER, IS SHARED WITH THE WILDLIFE DEPT. HATCHERY.

THE RELEASE FIGURES FOR 1988 WERE 153,725 YEARLING SPRING CHINOOK, 4,610,864 ZERO AGE FALL CHINOOK AND 407,840 YEARLING FALL CHINOOK.

THE FOLLOWING INFORMATION IS A REPORT SHOWING THE ENTIRE HATCHERY ACTIVITIES FROM JULY 1, 1988 TO DECEMBER 31, 1988.

TRAPPING OPERATIONS

1988 TUCANNON SPRING CHINOOK

TRAPPING FOR SPRING CHINOOK WAS DONE AT THE TUCANNON WILDLIFE HATCHERY SATELLITE POND. THE FIRST SPRING CHINOOK WAS TRAPPED AS STATED IN OUR LAST REPORT ON MAY 6, 1988 AND THE LAST SPRING CHINOOK WAS TRAPPED ON JUNE 27, 1988. A TOTAL OF 261 ADULTS AND 15 JACKS WERE TRAPPED, OF WHICH 142 ADULTS AND 4 JACKS WERE PUT UPSTREAM FOR NATURAL SPAWNING.

1988 LYONS FERRY FALL CHINOOK

TRAPPING FOR FALL CHINOOK WAS DONE AT ICE HARBOR DAM AND AT THE LYONS FERRY SALMON HATCHERY. THE FISH TRAPPED AT ICE HARBOR WERE TRUCKED TO THE HATCHERY ADULT HOLDING PONDS. THE FIRST FISH TRAPPED AT ICE HARBOR DAM WAS ON SEPTEMBER 3, 1988 AND THE LAST FISH TO BE TRAPPED WAS ON OCTOBER 11, 1988. A TOTAL OF 1076 ADULTS AND 6 JACKS WERE TRAPPED AT ICE HARBOR DAM AND TRUCKED TO THE ADULT HOLDING PONDS AT THE LYONS FERRY SALMON HATCHERY.

TRAPPING OPERATIONS (CONT.)

1988 LYONS FERRY FALL CHINOOK (CONT.)

THE FIRST ADULT ARRIVALS TRAPPED AT THE LYONS FERRY SALMON HATCHERY OCCURED ON SEPTEMBER 9, 1988. THE TRAPPING OPERATION WAS CONTINUED UNTIL DECEMBER 5, 1988. A TOTAL OF 327 ADULTS AND 1,053 JACKS ARRIVALS WERE TRAPPED AT THE LYONS FERRY SALMON HATCHERY. THIS GAVE THE HATCHERY A GRAND TOTAL OF 1,403 ADULTS AND 1,059 JACKS RETURNING IN 1988.

ESCAPEMENT AND SPAWNING

A SUMMARY DESCRIPTION FOR THE 1988 BROOD

1988 TUCANNON SPRING CHINOOK

THE TOTAL NUMBER OF ARRIVALS TRAPPED AT THE TUCANNON TRAP WAS 261 ADULTS AND 15 JACKS. A TOTAL OF 142 ADULTS WERE PUT UPSTREAM TO SPAWN NATURAL. THE REMAINING 119 ADULTS AND 15 JACKS WERE PUT INTO THE ADULT HOLDING PONDS FOR HATCHERY SPAWNING. OUR MORTALITIES AMOUNTED TO 8 MALES, 21 FEMALES, AND 5 JACKS. WE ENDED UP SPAWNING A TOTAL OF 41 MALES AND 49 FEMALES. 6 JACKS WERE KILLED IN THE ROUND AND NOT USED FOR SPAWNING. THE 1988 PRODUCTION OF TUCANNON SPRING CHINOOK EGGS TAKEN AMOUNTED TO 182,400.

1988 LYONS FERRY FALL CHINOOK

THE TOTAL NUMBERS OF ARRIVALS TRAPPED AT THE ICE HARBOR DAM WAS 1,076 ADULTS AND 6 JACKS. THESE WERE ALL TRUCKED TO THE LYONS FERRY ADULT HOLDING PONDS. A TOTAL OF 327 ADULTS AND 1,053 JACKS ARRIVALS WERE TRAPPED AT THE LYONS FERRY SALMON HATCHERY. THESE COMBINED TRAPPING EFFORTS SUPPLIED US WITH A TOTAL OF 1,403 ADULTS AND 1,059 JACKS FOR HATCHERY SPAWNING. OUR MORTALITIES AMOUNTED TO 302 MALES, 90 FEMALES, AND 61 JACKS. OF THE TOTAL MORTALITIES 169 MALES, 61 FEMALES AND 9 JACKS DIED ON NOVEMBER 26 AND 27 DO TO A DRUM OF COMTAMINATED FORMALIN. 348 MALES, 659 FEMALES AND 69 JACKS WERE SPAWNED. 927 JACKS WERE KILLED IN THE ROUND AND SOLD FOR BAIT USE ONLY. THE 1988 PRODUCTION OF LYONS FERRY FALL CHINOOK EGGS TAKEN AMOUNTED TO 2,830,000.

ESCAPEMENT AND SPAWNING for 1988 Brood Tucannon Spring Chinook Stock

Week Ending	Est Arrival		Upstream			Mortality			Spawners			Green/Strip/Bud/SC	Sold/Donated			Shipped		
	Week	Season	M	J	W	M	J	W	M	J	W		M	J	W	M	J	W
7-30-88						1	1											
8-6-88						1												
8-13-88						2	1											
8-20-88						1		1										
8-27-88						1												
9-3-88						5												
9-10-88						2												
9-17-88						1												
9-24-88	*4	*4				3	1	2	31	6	12	6				**6		
<p>*: Adults added to estimated arrivals to balance the season total. **: Jacks killed in the round. Note: All adults released upstream were unsexed.</p>																		
Report total	4	4				7	19	4	41	48						6		
Pre-Balance	257	257	142		4	1	2	1										
Season Total	261	261	142		4	8	21	5	41	48						6		

ESCAPED AND SPAWNING for 1988 Brood IYONS FERRY FALL CHINOOK Stock

Week Ending	Est. Arrival		Upstream			Mortality			Spawned			Green/Strip/Brd/SC	Sold/Donated			Shipped		
	Week	Season	M	P	J	M	P	J	M	P	J		M	P	J	M	P	J
AUG. 10	226	226																
AUG. 17	356	582																
AUG. 24	304	886				11	2	18										
SEPT. 1	197	1083																
SEPT. 8	135	1218				1	1											
SEPT. 15	104	1322				1												
SEPT. 22	56	1378				1	2	4	5	10								
SEPT. 29	34	1412				4	10	1	21									
OCT. 5	12	1424				3	2	4	74	6								
OCT. 12	21	1445				8	1	12	196	5								
OCT. 19	38	1483				37	3	6	185	9								
OCT. 26	28	1511				63	6	6	148	39								
DEC. 3	17	1528				172	61	10	13									
DEC. 10	3	1531				1			3	2								
Report Total	1531	1531				302	90	61	349	71								
Pre-Balance																		
Season Total	1531	1531				302	90	61	349	71								

EGG TAKE AND DISPOSITION FOR 1988 Brood TICANNON SPRING CHINOOK Stock

Week Ending	No. Eggs taken-est.	No. Eggs Received/From	No. Eggs Shipped/To	No. Eggs Issued	No. Eggs on Hand
9-3-88	28,700			8,600	17,480
9-10-88	94,300			11,500	92,895
9-17-88	49,200			3,500	136,284
9-24-88	24,600			6,100	152,743
Report Total	196,800			29,700	152,743
Pre-Balance					
Season Total	196,800			29,700	152,743

EGG TAKE AND DISPOSITION for 1988 Brood

LYONS FERRY FALL CHINOOK

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Week Ending	No. EGGS Taken-est.	No. EGGS Received/From	No. EGGS Shipped/To	No. EGGS Lost	No. EGGS on Hand
OCT. 22	20,000			4,000	25,000
OCT. 29	84,000			3,700	125,000
NOV. 5	296,000			9,300	470,000
NOV. 12	784,000			20,400	1,355,000
NOV. 19	740,000			30,000	2,170,000
NOV. 26	584,000			22,800	2,780,000
DEC. 3	48,000			1,800	2,830,000
DEC. 10	12,000				
Report Total	2,568,000			92,000	2,830,000
Pre-Balance					
Season Total	2,568,000			92,000	2,830,000

INCUBATION SUMMARY

1988 TUCANNON SPRING CHINOOK

THE FIRST 1988 TUCANNON SPRING CHINOOK EGG TAKE WAS ON AUGUST 30 FOLLOWED BY EGG TAKES ON SEPTEMBER 7,13 AND THE LAST TAKE ON SEPTEMBER 20. THESE EGG TAKES WERE SHOCKED STARTING ON SEPTEMBER 26; OCTOBER 3, 10 AND THE LAST TAKE WAS SHOCKED ON OCTOBER 17, 1988. OUR AJUSTED EGG TAKE NUMBERS AMOUNTED TO 182,400. WE ENDED UP WITH AN EGG LOSS OF 29,700 FOR A 19.4%. THIS HIGH EGG LOSS WAS DO TO SOFTSHELL EGG DISEASE.

OUR FRY LOSS AMOUNTED TO 2,100 FOR A 1.4 PER CENT LOSS. THE 1988 TUCANNON SPRING CHINOOK FEMALES AVERAGED 3,801 EGGS EACH.

1988 LYONS FERRY FALL CHINOOK

HE FIRST 1988 LYONS FERRY FALL CHINOOK EGG TAKE WAS ON OCTOBER 18, FOLLOWED BY TAKES ON OCTOBER 25, NOVEMBER 1, 8, 15, 22, 29 AND THE LAST EGG TAKE WAS ON DECEMBER 6, 1988. THESE EGG TAKES WERE SHOCKED STARTING ON NOVEMBER 14 AND FOLLOWED BY WEEKLY SHOCKING UP TO DECEMBER 26, 1988. AS OF DECEMBER 31, 1988 WE HAVE ONE 1988 LYONS FERRY FALL CHINOOK EGG TAKE REMAINING TO BE SHOCKED AND PICKED. AS OF DECEMBER 31, 1988 WE HAVE NOT ADJUSTED OUR FINAL EGG TAKE NUMBERS AS WE STILL HAVE ONE TAKE LEFT TO INVENTORY. AS OF DECEMBER 31, 1988 OUR EGG LOSS HAS AMOUNTED TO 91,997 WHICH IS A 3.15% OVERALL LOSS.

REARING PROGRAM SUMMARY

1987 TUCANNON SPRING CHINOOK

THE 1987 BROOD TUCANNON SPRING CHINOOK HAVE BEEN FED, SAMPLED AND WATCHED FOR DISEASE OUTBREAKS SINCE THE END OF THE LAST REPORT. OUR MORTALITIES HAVE BEEN LOW. IN NOVEMBER 1988 THESE 1987 TUCANNON SPRING CHINOOK WERE ALL TRANSFERRED TO OUR POND AT THE TUCANNON WILDLIFE HATCHERY FOR WINTERING AND RELEASE IN MARCH THROUGH APRIL 1989. THIS TRANSFER AMOUNTED TO 156,138 FISH AT 16 FISH PER POUND FOR A TOTAL OF 9,759 POUNDS. AS OF DECEMBER 31, 1988 WE HAVE 156,077 FISH ON HAND AT 14 FISH PER POUND FOR A TOTAL WEIGHT OF 11.149 POUNDS.

1987 LYONS FERRY FALL CHINOOK

THE 1987 LYONS FERRY FALL CHINOOK HAVE BEEN FED, SAMPLED AND WATCHED FOR DISEASE OUTBREAKS SINCE THE END OF THE LAST REPORT. OUR MORTALITIES HAVE BEEN SOME WHAT ELEVATED BECOUSE OF CHILLS AND BLOOD INCLUSIONS (EIBS) AND EYE PICKING BUT THESE FISH ARE DOING WELL OVERALL. IN AUGUST OF 1988 A TOTAL OF 242,887 OF THESE FISH WERE AD CLIPPED AND C.W.T.. THESE 1987 LYONS FERRY FALL CHINOOK WILL BE REARED THROUGH THE WINTER AND RELEASED IN APRIL 1989. AS OF DECEMBER 31, 1988 WE HAVE 240,235 TAGGED FISH AND 186,400 UNMARKED FISH ON HAND. THE FISH AVERAGE 22 PER POUND FOR A TOTAL OF 19,393 POUNDS ON HAND.

1988 TUCANNON SPRING CHINOOK

THE 1988 TUCANNON SPRING CHINOOK FRY WERE PONDED STARTING ON DECEMBER 6, 1988 THROUGH DECEMBER 19, 1988. WE PONDED A TOTAL OF 150,600 FRY AT AN AVERAGE OF 1,345 FISH PER POUND, TOTALING 112 POUNDS PONDED. AS OF DECEMBER 31, 1988 OUR MORTALITIES HAVE BEEN NORMAL AND THESE 1988 TUCANNON SPRING CHINOOK ARE LOOKING VERY GOOD.

FEED USAGE BY STOCK FOR JULY 1 through DECEMBER 31, 1988

Stock Feed Type/Size	JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER	Totals
<u>1987 SPRINGS</u>							
OMP 3/32	207						207
OMP 3/32	897						897
GALLIUMYCIN							
OMP 1/8	490	2170	2200	2200	1396	1675	8,456
OMP 1/8					945		2,620
DOUBLE VITAM							
<u>1987 FALLS</u>							
OMP 3/32	900	3,665	1,581				6,146
OMP 3/32	1,170						1,170
GALLIUMYCIN							
OMP 1/8			1,983	3,564	3,990	4,531	14,068
<u>1988 SPRINGS</u>							
BIO-DIFF						49	49
SPARKER #3							
Report Total	3,664	5,835	5,764	5,764	6,331	6,255	33,613
Pre-Balance							
Season Total	3,664	5,835	5,764	5,764	6,331	6,255	33,613

DISEASES AND TREATMENTS

DATE	BROOD YEAR	SPECIES	POND NUMBER	TREATMENT	DISEASE
7-88	1987	SPRING CHINOOK	1 TO 10	GALLIMYCIN	PROPHYLACTIC FOR K.D.
7-88	1987	FALL CHINOOK	11-14	GALLIMYCIN	PROPHYLACTIC FOR K.D.
7-88	1988	SPRING CHINOOK ADULTS	TUCANNON POND	EYTHRO 200 INJECTION	KIDNEY DISEASE
7-88	1988	SPRING CHINOOK ADULTS	TUCANNON POND	FORMALIN	FUNGUS
8-88	1988	SPRING CHINOOK ADULTS	TUCANNON POND	TERRAMYCIN INJECTION	COLUMNARIS
8-88	1988	SPRING CHINOOK ADULTS	TUCANNON POND	FORMALIN	FUNGUS
8-88	1988	SPRING CHINOOK EGGS	INCUBATORS	IODAPHORE	PROPHYLACTIC DISINFECTIO
8-88	1988	SPRING CHINOOK EGGS	INCUBATORS	FORMALIN	FUNGUS
9-88	1988	SPRING CHINOOK ADULTS	TUCANNON POND	FORMALIN	FUNGUS
9-88	1988	SPRING CHINOOK EGGS	INCUBATORS	IODAPHORE	PROPHYLACTIC DISINFECTIO
9-88	1988	SPRING CHINOOK EGGS	INCUBATORS	FORMALIN	FUNGUS
9-88	1988	FALL CHINOOK ADULTS	ADULT POND 29	FORMALIN	FUNGUS
9-88	1988	FALL CHINOOK ADULTS	ADULT POND 30	MALICHITE	FUNGUS
10-88	1988	SPRING CHINOOK EGGS	INCUBATORS	FORMALIN	FUNGUS
10-88	1988	FALL CHINOOK ADULTS	ADULT POND 29	FORMALIN	FUNGUS
10-88	1988	FALL CHINOOK ADULTS	ADULT POND 30	MALICHITE	FUNGUS
10-88	1988	FALL CHINOOK EGGS	INCUBATORS	IODAPHORE	PROPHYLACTIC DISINFECTIO
10-88	1988	FALL CHINOOK EGGS	INCUBATORS	FORMALIN	FUNGUS
11-88	1988	SPRING CHINOOK EGGS	INCUBATORS	FORMALIN	FUNGUS
11-88	1988	FALL CHINOOK ADULTS	ADULTS PONDS	FORMALIN	FUNGUS
11-88	1988	FALL CHINOOK EGGS	INCUBATORS	IODAPHORE	PROPHYLACTIC DISINFECTIO
11-88	1988	FALL CHINOOK EGGS	INCUBATORS	FORMALIN	FUNGUS
12-88	1988	FALL CHINOOK EGGS	INCUBATORS	IODAPHORE	PROPHYLACTIC DISINFECTIO
12-88	1988	FALL CHINOOK EGGS	INCUBATORS	FORMALIN	FUNGUS

SUMMARY

THE SPRING CHINOOK EGG TAKE WAS ENOUGH TO MEET OUR REQUIREMENTS FOR THE REARING PROGRAM, BUT BECAUSE OF SOFT-EGG DISEASE WE DROPE BELOW OUR EYED EGG PROGRAM GOAL.

THE FALL CHINOOK EGG TAKE WAS DOWN FROM LAST YEAR BUT WAS ENOUGH TO MEET OUR REQUIREMENTS FOR THE REARING PROGRAM GOAL.

WE USED A TEMPORARY RACK FOR TRAPPING ON THE TUCANNON THIS YEAR. BUT IT LOOKS LIKE WE WILL HAVE A PERMANENT RACK BY NEXT YEARS ADULT RETURN.

WE ARE STILL HAVING A TOXICITY PROBLEM WITH THE WATER SUPPLY DUE TO MANGANESE.

1981 6 5 AM