ADF&G

Division of Commercial Fisheries Special Publication No. 29

Southern Southeast Alaska Comprehensive Salmon Plan: 1994 Update and 5-Year Action Plan for Salmon Enhancement and Rehabilitation

by

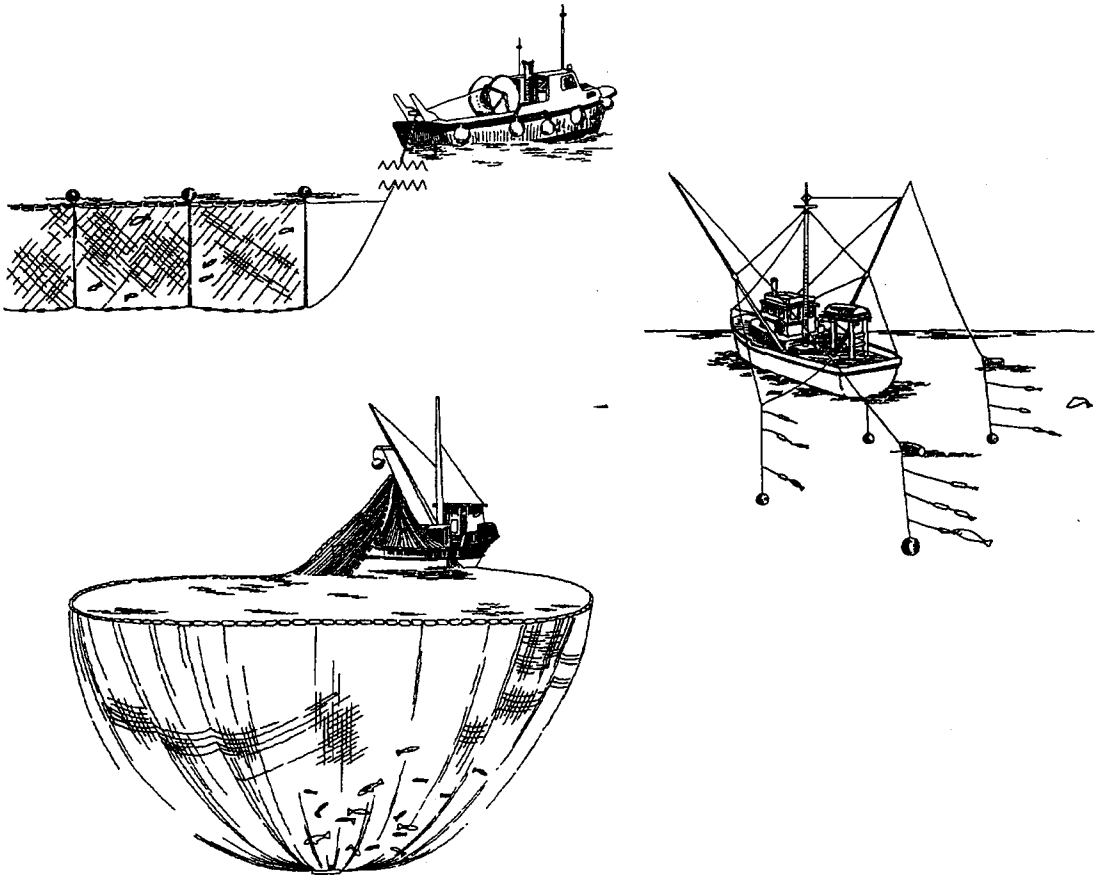
ADF&G Private Nonprofit Program Staff

December 1995

Alaska Department of Fish and Game **Division Commercial Fisheries**

SOUTHERN SOUTHEAST ALASKA COMPREHENSIVE SALMON PLAN

1994 Update and 5-Year Action Plan for Salmon Enhancement and Rehabilitation



Prepared by PNP Program Staff of ADF&G for the Southern Southeast Regional Planning Team for Frank Rue, Commissioner, ADF&G

Alaska Department of Fish and Game
Commercial Fisheries Management and Development Division
P.O. Box 25526
Juneau, AK 99802-5526

December 1995

TABLE OF CONTENTS

LIST OF TABLES

--continued--

LIST OF TABLES (Continued)

SECTION 1.

INTRODUCTION

Background

The 1994 annual update to the Comprehensive Salmon Plan for southern southeast Alaska represents the ninth time the Phase II goals have been addressed in the planning process by the Southern Southeast Regional Planning Team (SSERPT). This document contains reverences to previous updates, as well as the original Phase I (March 1981) and Phase II (September 1983) Comprehensive Plans. This update was prepared by staff from the Alaska Department of Fish and Game (ADF&G) Private Nonprofit (PNP) Program.

1994 Planning Process

The mission of the comprehensive salmon plan is "to promote through sound biological practices, activities to increase salmon production in southeast Alaska for the maximal social and economic benefits of the users consistent with the public interest." In accordance with this mission the SSERPT prioritized rehabilitation and enhancement activities in the region, and these recommended activities are incorporated into the Phase II plan and subsequent updates.

The SSERPT currently meets at least twice each year. The fall meeting of the team provides team members with the opportunity to review and comment or make recommendations regarding (1) the previous field season activities; (2) PNP hatchery permit applications (when submitted); (3) PNP permit alteration requests (when submitted); (4) Enhancement and rehabilitation project status reports; (5) draft of the current year's Phase II update; and (6)issues impacting the enhancement and rehabilitation program.

The spring meeting of the team provides an opportunity to review, comment, or make recommendations regarding (1) PNP hatchery annual reports; (2)current year's draft annual management plans for hatcheries in the region; (3) PNP hatchery permit applications and permit alteration requests; (4) issues directly and indirectly impacting or related to the fishery enhancement program; and (5) new project proposals. If proposed projects are endorsed by the SSERPT, they are included in the next Phase II update. These projects are then prioritized by the SSERPT.

1994 Progress Report

This update reports on hatchery production, current status of enhancement and rehabilitation projects, and implementation of new projects in southern Southeast Alaska for 1994. It is intended to provide current information on hatchery releases, adult returns, hatchery contributions to common property fisheries, and project status.

Section 2 of the 1994 update includes tables that identify the actual and projected enhancement contributions to the southern southeast Alaska salmon harvest by species, including steelhead. Following each summary table, individual project tables are listed that track and document the yearly production of that species from each facility.

Section 3 of the 1994 update includes the following information: (1) data concerning commercial harvest of hatchery and wild salmon from 1974 to 1994 for fishing districts 101-108, 150, and 152; (2) gap analysis; and (3) status of projects proposed in previous Phase II updates. The definitions and explanations of table categories listed below illustrate how standard "FRED" assumptions will be applied to analyze the production from hatcheries and enhancement projects.

While chinook salmon production is still a priority for southern Southeast Alaska, sockeye and coho salmon enhancement present major challenges to fisheries and enhancement managers. Mitigation for harvest losses to gear groups in Southeast Alaska directly caused by implementation of the U.S./Canada Pacific Salmon Treaty has been provided through federally funded enhancement projects. Section 4 of this update provides a narrative and associated tables that reflect the current status of these projects, which were designed to produce additional chinook, sockeye, coho, and chum salmon for harvest in Southeast Alaska.

Definitions

1. Projected common property harvest - Assumed harvest rate times total return (chinook "jacks" not included).

2. Projected total return - Assumed survival to adult times number of smolts or fry released.

3. Escapement - Includes brood stock and cost-recovery fish.

4. Production basis - Number of "green" eggs permitted.

5. Assumed percentage survival to smolts - FRED Standard Assumption.

6. Number of smolts or fry - Production basis times assumed survival to smolt or fry release.

7. Projected total return - Assumed survival of smolts times real or projected past harvest rates times number of smolts.

8. Assumed or actual harvest rate - Average of past harvest rates, if available.

Table Explanations

1. Production basis - number of "green" eggs permitted to facility.

2. Assumed percentage survived to smolts or fry - "FRED" standard assumption.

3. Projected number of smolts - Production basis times assumed percentage survival to smolts.

4. Projected total return - Assumed percentage survival to smolts times number of smolts.

5. Assumed or actual harvest rate - Average of past harvest rate.

6. Common property harvest - Harvest rate times total return.

Unfortunately, production for hatcheries that have not followed a consistent age-group release pattern cannot be projected in the format presented here. If a facility releases only two life stages (i.e., smolts and fry), production data can be projected in the tables through each life stage; however, when a hatchery releases three or more life stages with no consistency in numbers or percentages of releases (i.e., fry, fingerlings, presmolts, smolts), assumptions concerning returns, survivals, and harvest rates cannot be applied or projected in the tables. Although some hatcheries may have infrequently deviated from their normal pattern of life-stage releases for experimental purposes, such deviations are relatively minor factors, having little or no effect on survival calculations, because production has been calculated based on the traditional life stage at which each species is released (e.g., smolt for chinook salmon).

SECTION 2.

SOUTHERN SOUTHEAST ALASKA ENHANCEMENT PROJECTS

CHINOOK SALMON

1994

TABLE 1. 1994 STATUS OF SOUTHERN SOUTHEAST HATCHERIES - SUMMARY

CHINOOK SALMON

PROJECTED FULL PRODUCTION **CURRENT PRODUCTION**

OPERATIONAL PROJECTS (HATCHERY)	UNIT	PRODUCTION BASIS (EGGS)	TOTAL RETURN	COMMON PROPERTY HARVEST	RETURN YEAR	TOTAL RETURN	COMMON PROPERTY HARVEST
WHITMAN LAKE	KETCHIKAN	1,500,000	28,933	16,492	1994	2,361	1,926
NEETS BAY	KETCHIKAN	4,000,000	74,400	25,966	1994	4,309	2,091
DEER MOUNTAIN	KETCHIKAN	133,000	1,995	900	1994	1,073	586
CRYSTAL LAKE	PETERSBURG/ WRANGELL	2,500,000	46,500	35,712	1994	16,543	14,570
TAMGAS CREEK	KETCHIKAN	3,000,000	55,800	13,770	1994	2,390	712
BELL ISLAND	KETCHIKAN	65,000	N/A	N/A	N/A	N/A	N/A
TOTAL OF CURRENT PROJECTS		**11,198,000**	**207,628**	**92,840**	1994	**26,676**	**19,885**

TABLE 2. WHITMAN LAKE HATCHERY -- SSRAA
UNIT: 5 - KETCHIKAN
CHINOOK SALMON

PRODUCTION

	RELEASE DATA				RETURN DATA				
BROOD YEAR	NUMBER EGGS	LIFE STAGE AT RELEASE	NUMBER RELEASED	RELEASE SITE	RETURN YEARS	ESCAPEMENT	C.P. HARVEST	TOTAL RETURN	HARVEST RATE
1987	1,421,000	SMOLT	55,000	Herring Cove	1989	1,995	1,732	3,727	46.5%
		SMOLT	703,000	Carroll Inlet	1989	22	4,981	5,003	99.6%
1988	1,610,000	SMOLT	75,400	Herring Cove	1990	2,270	4,427	6,697	66.1%
		SMOLT	1,004,800	Carroll Inlet	1990	10,829	10,712	21,541	50.3%
1989	1,559,500	SMOLT	73,800	Herring Cove	1990	2,000	4,600	10,931	42.1%
		SMOLT	1,104,200	Carroll Inlet	1991	14,643	13,700	28,013	47.7%
1990	3,263,800	SMOLT	106,200	Herring Cove	1991	0	15,301	15,301	100.0%
		SMOLT	1,218,000	Carroll Inlet	1991	1,730	1,565	3,295	47.4%
1991	4,324,616	SMOLT	109,000[1]	Herring Cove	1992	496	223	719	30.0%
		SMOLT	1,062,000[1]	Carroll Inlet	1992	4,426	4,941	9,367	52.8%
1992	1,700,000[2]	SMOLT	123,164	Herring Cove	1993	251	159	410	38.8%
		SMOLT	1,147,826	Carroll Inlet	1993	1,725	1,506	3,231	46.6%
		SMOLT	316,100[3]						
1993	910,850	SMOLT	125,000	Herring Cove	1994	235	154	389	39.6%
		SMOLT	630,000	Carroll Inlet	1994	200	1,772	1,972	89.9%
1994	1,032,474[4]	SMOLT							
		SMOLT							
									51.9%
AVERAGES									62.0%

PROJECTED PRODUCTION AT FULL CAPACITY

PRODUCTION BASIS	ASSUMED % SURVIVAL TO SMOLT	#OF SMOLT	ASSUMED % SURVIVAL TO ADULT	TOTAL RETURN	ACTUAL HARVEST RATE	C.P. HARVEST
EGGS 1,500,000	62%	964,444	3%	28,933	57.0 (avg)	16,492

[1]High mortality because of pipeline failure in 1991.
[2]A significant mortality occurred during eyed stage, when antifungal formalin treatment was inadvertently applied for several hours (approx. 18% mortality).
[3] 320,407 smolts received from Crystal Lake Hatchery; 1994 harvest rate at EWC is not reflected in the harvest rate averages.
[4]312,474 eggs from Medvejie Hatchery and 200,600 eggs from Little Port Walter.

TABLE 3. NEETS BAY -- SSRAA
UNIT: 5 - Ketchikan
CHINOOK SALMON

PRODUCTION

	RELEASE DATA			RETURN DATA				
BROOD YEAR	NUMBER EGGS	LIFE STAGE AT RELEASE	NUMBER RELEASED	RETURN YEARS	ESCAPEMENT	C.P. HARVEST	TOTAL RETURN	HARVEST RATE
1987	1,252,000	SMOLT	889,200[1]	1989	18,055	8,093	26,148	31.0%
1988	2,569,000	SMOLT	1,608,000	1990	11,876	3,341	15,217	22.0%
1989	1,454,400	SMOLT	388,200	1991	5,100	4,395	9,495	46.2%
1990	1,431,189	SMOLT	728,460	1992	5,869	3,089	8,958	34.5%
1991	1,031,800[2]	SMOLT	377,374	1993	8,075	3,023	11,098	27.2%
1992	788,000	SMOLT	214,980	1994	2,218	2,091	4,309	48.5%
1993	NONE							
1994								
AVERAGE								34.9%

PROJECTED PRODUCTION AT FULL CAPACITY

PRODUCTION BASIS	ASSUMED SURVIVAL TO SMOLT	# OF SMOLTS	ASSUMED % SURVIVAL TO ADULT	TOTAL RETURN	ACTUAL HARVEST RATE	C.P. HARVEST
EGGS 4,000,000	62%	2,489,000	3%	74,400	34.9	25,966

[1] Due to storm damage to a net pen, approximately 190,000 (15 gram) fish were released in November, 1988.
[2] Eggs received eyed from Whitman Lake Hatchery.

TABLE 4. DEER MOUNTAIN
UNIT: 5 - Ketchikan
CHINOOK SALMON

PRODUCTION

	RELEASE DATA			RETURN DATA				
BROOD YEAR	NUMBER EGGS	LIFE STAGE AT RELEASE	NUMBER RELEASED	RETURN YEARS	ESCAPEMENT	C.P. HARVEST	TOTAL RETURN	HARVEST RATE
				1986	1,360	1,040	2,400	43.3%
1986	1,025,000	0-SMOLT 1-SMOLT[1]	302,000 121,000	1987	550	295	845	34.9%
1987	322,000	1-SMOLT[2]	191,089	1988	328	192	520	36.9%
1988	366,000	1-SMOLT	151,629	1989	983	558	1,541	36.2%
1989	361,000	1-SMOLT	153,530	1990	637	714	1,351	52.8%
1990	453,000	1-SMOLT	133,000	1991	820	482	1,302	37.0%
1991	305,000	1-SMOLT	80,000	1992	2,674	3,445	6,119	56.3%
1992	257,000	1-SMOLT		1993	565	586	1,151	51.1%
1993	273,691	1-SMOLT		1994	455	618	1,073	57.6%
1994	340,674[3]							
AVERAGE								45.1%

PROJECTED PRODUCTION AT FULL CAPACITY (IF ONLY AGE 1.2 AND UP CHINOOK SALMON ARE PRODUCED).

PRODUCTION BASIS		ASSUMED % SURVIVAL TO SMOLT	#OF SMOLT	ASSUMED % SURVIVAL TO ADULT	TOTAL RETURN	ACTUAL HARVEST RATE	C.P. HARVEST
EGGS	133,000	75%	99,750	2%	1,995	45.1	900

[1] Includes 70,226 released from hatchery (1.5% adult return throughout age 1.3) and 50,723 released at remote site (Big Salt)(0.1% survival through age 1.3).
[2] Includes 151,000 release from Deer Mountain Hatchery (.07% return at age 1.2) and 24,304 released at Thorne Bay (0.1% survival at age 1.2).
[3] Includes 240,674 from Little Port Walter and 100,000 from Ketchikan Creek

TABLE 5. CRYSTAL LAKE -- SSRAA
UNIT: 3 - Petersburg - Wrangell
CHINOOK SALMON

PRODUCTION

RELEASE DATA					RETURN DATA					
BROOD YEAR	NUMBER EGGS	RELEASE SITE	LIFE STAGE AT RELEASE	NUMBER RELEASED	RETURN YEARS	RETURN SITE	ESCAPEMENT	C.P. HARVEST	TOTAL RETURN	HARVEST RATE
1988	2,569,000	CLH	SMOLT	542,000	1988	CLH	4,400	9,400	13,800	
		EWC (SSRAA)	SMOLT	494,000		EWC (SSRAA)	N/A	950	950	
		OHMER CK	SMOLT	342,000		OHMER CK	220	1,290	1,510	
		SNETTISHAM	EYED EGGS	436,000		FARRAGUT	N/A	121	121	
	4,248,000 sent to other hatcheries									71.8%
1989	1,656,000	CLH	SMOLT	434,200	1989	CLH	5,600	5,290	10,890	
		EWC	SMOLT	399,600		EWC (SSRAA)	N/A	2,960	2,960	
	20,000 sent to other hatcheries					OHMER CK	475	705	1,180	
						FARRAGUT	4	190	184	
						HARDING	1	6	7	
	34,700 eyed eggs from Burnett	Harding River	FED FRY	FED FRY						60.1%
1990	1,714,000	CLH	SMOLT	520,000	1990	CLH	7,920	8,940	16,860	
		EWC (SSRAA)	SMOLT	368,000		EWC (SSRAA)	N/A	11,800	11,800	
		SNETTISHAM	EYED EGGS	323,000		OHMER CK	80	375	455	
	2,928,000 other hatcheries					FARRAGUT	N/A	84	84	
						HARDING	N/A	45	45	72.6%
1991	1,701,000	CLH	SMOLT		1991	CLH	3,550	13,700	17,250	
		EWC (SSRAA)	SMOLT			EWC (SSRAA)	N/A	12,720	12,720	
		SNETTIISHAM	EYED EGGS	309,000		OHMER CK	N/A	190	190	
	2,307,000 other hatcheries					FARRAGUT	8	18	26	
						HARDING	3	55	58	
	109,000	FARRAGUT	FED FRY	66,500						
	58,000	HARDING	FED FRY	41,600						88.2%
1992	2,125,000	CLH	SMOLT	540,000	1992	CLH	2,680	9 090	11,770	
		EWC (SSRAA)	SMOLT	316,100		EWC (SSRAA)	N/A	8,495	8,495	
		SNETTISHAM				OHMER CK	N/A	715	715	
						FARRAGUT	1	4	5	87.2%
						HARDING		18	18	
1993	2,180,000	SNETTISHAM	729,942		1993	CLH	1,827	4,681	6,508	
						EWC (SSRAA)	N/A	9,014	9,014	
						OHMER CK	146	875	1,021	
										88.1%
1994	2,178,903				1994	CLH	4,460	1,240	5,700	
						EWC (SSRAA)	N/A	8,900	8,900	
						OHMER CK	130	200	330	
						HARDING	N/A	4	4	
						FARAGUT		13	13	69.3%
Average										76.8%

PROJECTED PRODUCTION AT FULL CAPACITY

PRODUCTION BASIS	ASSUMED SURVIVAL TO 1-SMOLT	# OF 1-SMOLT	ASSUMED % SURVIVAL TO ADULT	TOTAL RETURN	ASSUMED HARVEST RATE	C.P. HARVEST
2,500,000	62%	1,550,000	3%	46,500	76.8%	35,712

TABLE 6. TAMGAS
UNIT: 5 - Ketchikan
CHINOOK SALMON

PRODUCTION

RELEASE DATA				RETURN DATA				
BROOD YEAR	NUMBER EGGS	LIFE STAGE AT RELEASE	NUMBER RELEASED	RETURN YEARS	ESCAPEMENT	C.P. HARVEST	TOTAL RETURN	HARVEST RATE
1986	3,922,000	0-SMOLT 1-SMOLT	2,111,700 164,400	1986	155	276	431	64.0%
1987	5,075,000	0-SMOLT 1-SMOLT	1,756,300 888,900	1987	1,000	1,825	2,825	64.6%
1988	2,614,000	1-SMOLT	1,131,800	1988	1,709	1,813	3,522	51.5%
1989	2,800,000	0-SMOLT 1-SMOLT	721,000 670,900	1989	1,102	1,302	2,404	54.2%
1990	1,400,000	0-SMOLT 1-SMOLT	871,000 527,100	1990	2,430	2,549	4,979	51.2%
1991	950,000	O-SMOLT 1-SMOLT	287,000 339,000	1991	4,700	3,507	8,207	42.7%
1992	1,538,000	0-SMOLT 1-SMOLT	893,000 284,000	1992	4,245	1,350	5,595	24.1%
1993	1,523,000	0-SMOLT 1-SMOLT	996,400	1993	1,801	800	2,601	30.8%
1994	1,500,000	0-SMOLT 1-SMOLT		1994	1,678	712	2,390	29.8%
AVERAGE								45.9%

PROJECTED PRODUCTION AT FULL CAPACITY (IF RELEASED AS 1-SMOLT).

PRODUCTION BASIS	ASSUMED SURVIVAL TO 1-SMOLT	# OF 1-SMOLT	ASSUMED % SURVIVAL TO ADULT	TOTAL RETURN	ACTUAL HARVEST RATE	C.P. HARVEST
EGGS 1,600,000	62%	1,000,000	3%	30,000	45.9%	13,770

PROJECTED PRODUCTION AT FULL CAPACITY (IF RELEASED AS 0-SMOLT).

PRODUCTION BASIS	ASSUMED SURVIVAL TO 0-SMOLT	# OF 0-SMOLT	ASSUMED % SURVIVAL TO ADULT	TOTAL RETURN	ACTUAL HARVEST RATE	C.P. HARVEST
EGGS 780,000	77%	600,000	1.5%	9,000	47.9%	4,311

[1] Metlakatla Indian Community fisheries staff is currently evaluating whether 0-smolt or 1-smolt chinook salmon are the most effective and economical to produce.

TABLE 7. BELL ISLAND HATCHERY
UNIT: 5 - Ketchikan
CHINOOK SALMON

PRODUCTION

	RELEASE DATA			RETURN DATA				
BROOD YEAR	NUMBER EGGS	LIFE STAGE AT RELEASE	NUMBER RELEASED	RETURN YEARS	ESCAPEMENT	C.P. HARVEST	TOTAL RETURN	HARVEST RATE
1989		SMOLTS[1]	5,853	N/A	N/A	N/A	N/A	N/A
1990[2]		SMOLTS[1]	5,308	N/A	N/A	N/A	N/A	N/A
1993		SMOLTS[1]	5,659	N/A	N/A	N/A	N/A	N/A
1994	NO DATA							

PROJECTED PRODUCTION AT FULL CAPACITY

PRODUCTION BASIS	ASSUMED % SURVIVAL TO SMOLT	# OF SMOLTS	ASSUMED % SURVIVAL TO ADULT	TOTAL RETURN	ACTUAL HARVEST RATE	C.P. HARVEST
EGGS 65,000	62%	40,300	3%	1,209	N/A	N/A

[1]Smolts purchased from Deer Mountain Hatchery.
[2]Annual reports for 1991 and 1992 were not submitted.

SOUTHERN SOUTHEAST ALASKA ENHANCEMENT PROJECTS

COHO SALMON

1994

TABLE 8. 1994 STATUS OF SOUTHERN SOUTHEAST HATCHERIES -- SUMMARY
COHO SALMON

		PROJECTED FULL PRODUCTION			CURRENT PRODUCTION			
OPERATIONAL PROJECTS	UNIT	PRODUCTION BASIS		TOTAL RETURN	COMMON PROPERTY HARVEST	RETURN YEAR	TOTAL RETURN	COMMON PROPERTY HARVEST
WHITMAN LAKE HATCHERY	KETCHIKAN	EGGS	3,400,000	105,400	95,282	1994	74,835	72,827
NEETS BAY HATCHERY	KETCHIKAN	EGGS	5,000,000	155,000	117,490	1994	182,231	164,381
KLAWOCK HATCHERY	WEST COAST/ POW ISLAND	EGGS	5,000,000	308,000	247,016	1994	42,134	29,171
DEER MOUNTAIN HATCHERY	KETCHIKAN	EGGS	379,700	15,200	10,200	1994	8,399	6,071
CRYSTAL LAKE HATCHERY	PETERSBURG/ WRANGELL	EGGS	415,000	5,580	3,928	1994	19,320	17,520
TAMGAS HATCHERY	KETCHIKAN	EGGS	8,000,000	248,000	165,168	1994	77,457	56,179
BELL ISLAND	KETCHIKAN	EGGS	16,800	520	N/A	1994	123	123
TOTAL OF CURRENT PROJECTS				845,450	**639,084**	1994	**404,499**	**346,272**

TABLE 9. WHITMAN LAKE - SSRAA
UNIT: 5 - Ketchikan
COHO SALMON

PRODUCTION

	RELEASE DATA				RETURN DATA				
BROOD YEAR	NUMBER EGGS	LIFE STAGE AT RELEASE	NUMBER RELEASED	RELEASE SITE	RETURN YEARS	ESCAPEMENT	C.P. HARVEST	TOTAL RETURN	HARVEST RATE
1987	2,729,000[1]	SMOLTS	301,200	Herring Cove	1989	810	2,201	3,011	73.1%
		SMOLTS	285,700	Earl West Cove	1989	0	3,300	3,300	100%
		SMOLTS	460,000	Neets Bay	1989	0	3,233	3,233	100%
1988	4,061,000[2]	SMOLTS	100,250	Naket Inlet	1989	0	2,766	2,766	100%
		SMOLTS	300,200	Herring Cove	1990	629	7,539	7,988	94.3%
		SMOLTS	223,000	Earl West Cove	1990	5,841	17,120	22,961	74.6%
		SMOLTS	983,000	Neets Bay	1990	8,190	31,380	39,570	79.4%
					1991	8,733	40,245	48,948	82.0%
1989	1,138,000	SMOLTS	304,160	Herring Cove	1992	6,328	21,827	28,155	77.5%
			214,198	Earl West Cove	1992	1,189	34,344	35,533	96.7%
			99,982	Naket Inlet	1992	0	17,437	17,437	100%
1990	1,811,000	SMOLTS	114,500	Nakat Inlet	1993	0	12,810	12,810	100%
			227,400	Earl West Cove	1993	0	27.219	27,219	100%
			304,300	Whitman Lake	1993	3,189	11,214	14,403	77.9%
1991	5,389,800	SMOLTS	92,200	Nakat Inlet	1994	0	7,110	7,110	100%
			203,500	Earl West Cove	1994	0	39,247	39,247	100%
			300,000	Herring Cove					
1992	4,388,000[3]	SMOLTS	301,088	Whitman Lake	1994	2,008	26,470	28,478	93.0%
			94,626	Nakat Inlet					
			189,539	Earl West Cove					
1993	2,452,000	SMOLTS	1,200,000	Neets Bay					
			200,000	Earl West Cove					
			200,000	Nakat Inlet					
			200,000	Herring Cove					
1994	2,388,400								

5-YEAR AVERAGE 91.1%

PROJECTED PRODUCTION AT FULL CAPACITY

PRODUCTION BASIS	ASSUMED SURVIVAL TO SMOLT	# OF SMOLTS	ASSUMED % SURVIVAL TO ADULT	TOTAL RETURN	ACTUAL HARVEST RATE	C.P. HARVEST
EGGS 3,400,000	62%	2,108,000	5%	105,400	91.1%	95,282

[1] A total of 1,227,000 eyed eggs and pre-smolts were transferred to Neets Bay.
[2] A total of 1,961,000 eyed eggs were transferred to Neets Bay.
[3] Approximately 1.0 million coho transported to Neets Bay for release. Overwinter netpen mortalities were high.

TABLE 10. NEETS BAY -- SSRAA
COHO SALMON

PRODUCTION TABLE

	RELEASE DATA			RETURN DATA				
BROOD YEAR	NUMBER EGGS	LIFE STAGE AT RELEASE	NUMBER RELEASED	RETURN YEARS	ESCAPEMENT	C.P. HARVEST	TOTAL RETURN	HARVEST RATE
1987	1,138,000[1]	SMOLTS	2,141,700[2]	1989	2,730	15,357	18,087	84.9%
1988	1,850,000[3]	SMOLTS	2,204,000	1990	82,434	217,810	291,630	71.1%
1989	3,300,000	SMOLTS	2,216,000	1991	108,000	183,745	288,982	63.1%
1990	414,000	SMOLTS	2,305,000[4]	1992	136,032	250,418	386,450	64.8%
1991	2,411,000	SMOLTS	2,676,925	1993	51,100	212,628	263,728	80.6%
1992	2,143,000[5]	SMOLTS	2,314,795	1994	17,850	164,381	182,231	90.2%
1993	2,440,000[6]							
1994	1,537,000							
AVERAGE								75.8%

PROJECTED PRODUCTION AT FULL CAPACITY.

PRODUCTION BASIS	ASSUMED SURVIVAL TO SMOLT	# OF SMOLTS	ASSUMED % SURVIVAL TO ADULT	TOTAL RETURN	ACTUAL HARVEST RATE	C.P. HARVEST
EGGS 5,000,000	62%	3,100,000	5%	155,000	75.8%	117,490

[1] 931,000 eyed eggs received from Whitman Lake.
[2] 296,000 smolt transported from Whitman Lake to Neets Bay in October, 1988. 460,000 smolt transported from Whitman Lake to Neets Bay in April,1989.
[3] 1,500,000 eyed eggs received from Whitman Lake. Does not include 550,000 pre-smolts received from Whitman Lake in September, 1989. Also, 750,000 smolts will be transported from Whitman Lake for spring 1990 release.
[4] 400,000 eyed eggs, 1,187,000 presmolts, and 697,000 smolts received from Whitman Lake.
[5] Number is approximate; eggs will be delivered in January 1993.
[6] Estimate

TABLE 11. KLAWOCK
UNIT: 2 - West Coast of Prince of Wales Island
COHO SALMON

PRODUCTION

RELEASE DATA				RETURN DATA				
BROOD YEAR	NUMBER EGGS	RELEASE[1] SITE	NUMBER RELEASED	RETURN YEARS	ESCAPEMENT	C.P. HARVEST	TOTAL RETURN	HARVEST RATE
1986	8,000 2,240,000	Cable Creek Klawock River Tunga Lake	6,516 1,005,000 200,000	1989	17,000	77,330	94,330	81.9%
1987	1,900,000 83,000	Klawock River Tunga Lake Cable Creek	1,076,524 221,736 20,000	1990	18,815	78,252	96,767	80.8%
1988	2,040,000 59,000 22,000	Klawock River Tunga Lake Cable Creek Rio Roberts	1,162,725 174,804 47,048 4,112	1991	5,453	66,429	71,882	92.4%
1989	1,561,600 82,617 56,000	Klawock River Cable Creek Rio Roberts	1,239,754 80,386 25,262	1992	12,595	51,883	64,478	80.5%
1990	1,366,000	Klawock River	891,000	1993	15,911	50,732	66,643	76.1%
1991	386,000 65,000 67,000	Klawock River Rio Roberts Cable Creek	67,400	1994	12,963	29,171	42,134	69.2%
1992	496,000	Klawock R.(93) Klawock R.(94)	485,941 259,595					
1993	510,000	Old Franks Lake	96,632					
1994	3,196,474							
AVERAGE								80.2%

PROJECTED PRODUCTION AT FULL CAPACITY (IF SMOLT ARE PRODUCED).

PRODUCTION BASIS	ASSUMED SURVIVAL TO SMOLT	# OF SMOLT	ASSUMED % SURVIVAL TO ADULT	TOTAL RETURN	ACTUAL HARVEST RATE	C.P. HARVEST
EGGS 5,000,000	61.6%	3,080,000	10%	308,000	80.2%	247,016

[1]Klawock Hatchery coho are either released as fingerlings or pre-smolts, dependent upon the site.

TABLE 12. DEER MOUNTAIN
UNIT: 5 - Ketchikan
COHO SALMON

PRODUCTION

	RELEASE DATA				RETURN DATA				
BROOD YEAR	NUMBER EGGS	LIFE STAGE AT RELEASE	NUMBER RELEASED	YEAR RELEASED	RETURN YEARS	ESCAPEMENT	C.P. HARVEST	TOTAL RETURN	HARVEST RATE
N/A	N/A	PRE-SMOLT	21,243[1]	1986	N/A	500	988	1,448	68.2%
1986	66,000	SMOLT	7,710	1988	1989	180	379	559	67.8%
1987	328,000	FINGERLINGS SMOLT	108,000 128,000[2]	1988 1989	1990 1990	25 6,676	125 5,592	150 12,628	N/A 47.1%
1988	248,000	FINGERLINGS SMOLT	85,000 136,181	1989 1990	1991 1991	12 3,117	90 10,404	102 13,521	N/A 76.9%
1989	227,000	SMOLT	117,120	1991	1992	2,987	5,833	8,820	66.1%
1990	244,000	SMOLT	162,000	1992	1993	1,702	4,216	5,918	71.2%
1991	212,000	PRE-SMOLT	103,000	1992	1994	2,328	6,071	8,399	72.3%
1992	212,000	PRE-SMOLT	90,000	1993					
1993	180,000	PRE-SMOLT	76,483	1994					
1994	152,000								
AVERAGE									67.1%

PROJECTED PRODUCTION AT FULL CAPACITY (IF ONLY COHO SALMON SMOLT WERE PRODUCED).

PRODUCTION BASIS	ASSUMED SURVIVAL TO SMOLT	# OF SMOLT	ASSUMED % SURVIVAL TO ADULT	TOTAL RETURN	ACTUAL HARVEST RATE	C.P. HARVEST
EGGS 379,700	50%	190,000	8%	15,200	67.1%	10,200

[1] Pre-smolt release at Ward Lake.
[2] Includes Ketchikan Creek smolt and Ward Lake pre-smolt.

TABLE 13. CRYSTAL LAKE
UNIT: 3 - Petersburg - Wrangell
COHO SALMON

PRODUCTION

	RELEASE DATA				RETURN DATA					
BROOD YEAR	NUMBER EGGS	LIFE STAGE AT RELEASE	NUMBER RELEASED	RELEASE SITE	RETURN YEARS	ESCAPEMENT	RETURN SITE	C.P. HARVEST	TOTAL RETURN	HARVEST RATE
1986	770,000	FRY	463,000	CLH						
		SMOLT	89,800	CLH						
		SMOLT	8,000	Petersburg	1986	3,300	CLH	14,200	17,500	
	17,000	FED FRY	15,300	St. John's		N/A	OHMER CK	9,000	9,000	87.6%
	77,000	FED FRY	64,000	Slippery C.						
1987	933,000	FRY	592,500	Crystal C.						
		SMOLT	108,000	Crystal C.	1987	2,967	CLH	4,520	7,487	60.4%
	106,000	FED FRY	36,700	St. John's						
	176,000	FED FRY	145,000	Slippery C.						
1988	522,500	EYED EGGS	10,400	UNIV IDAHO						
		FRY	346,000	CLH						
		SMOLT	96,300	Crystal C.	1988	3,861	CLH	2,700	6,561	41.2%
	114,000	FED FRY	76,700	St. John's						
	465,000	FED FRY	378,000	Slippery						
1989	519,000	EYED EGGS	10,000	UNIV IDAHO		2,350	CLH	3,450	5,800	
		FRY	366,000	CLH	1989	N/A	St. John's	24	24	62.6%
		SMOLT	78,800	Crystal C.		N/A	Slippery	455	455	
1990	574,000	FRY	412,000	CLH	1990	2,130	CLH	4,000	6,130	
		SMOLT	83,200	CLH		N/A	St. John's	36	36	68.9%
						N/A	Slippery	680	680	
1991	434,000	FRY	292,000	CLH		3,160	CLH	3,460	6,620	
		SMOLT		CLH	1991	N/A	St. John's	27	27	55.8%
						N/A	Slippery	500	500	
1992	566,000	SMOLT	480,000	CLH		1,475	CLH	3,763	5,238	
					1992	N/A	St. John's	95	95	82.9%
						N/A	Slippery	3,300	3,300	
1993	440,000	FED FRY	174,458	CLH	1993	773	CLH	3,530	4,349	
						N/A	St. John's	46	46	83.3%
1994	471,437				1994	1,800	CLH	17,520	19,320	90.7%
AVERAGE										70.4%

PROJECTED PRODUCTION AT FULL CAPACITY (IF RELEASED AS SMOLT).

PRODUCTION BASIS	ASSUMED SURVIVAL TO SMOLT	# OF SMOLT	ASSUMED % SURVIVAL TO ADULT	TOTAL RETURN	ACTUAL HARVEST RATE	C.P. HARVEST
EGGS 125,000	80%	100,000	5%	5,000	70.4%	3,928

PROJECTED PRODUCTION AT FULL CAPACITY (IF RELEASED AS FRY).

PRODUCTION BASIS	ASSUMED SURVIVAL TO FRY	# OF FRY	ASSUMED % SURVIVAL TO SMOLT	# OF SMOLT	ASSUMED % SURVIVAL TO ADULT	TOTAL RETURN	ACTUAL HARVEST RATE	C.P. HARVEST
EGGS 290,000	80%	232,000	5%	11,600	5%	580	70.4%	408

TABLE 14. TAMGAS
UNIT: 5 - Ketchikan

COHO SALMON

PRODUCTION

RELEASE DATA				RETURN DATA				
BROOD YEAR	NUMBER EGGS	LIFE STAGE AT RELEASE	NUMBER RELEASED	RETURN YEARS	ESCAPEMENT	C.P. HARVEST	TOTAL RETURN	HARVEST RATE
1986	10,200,000	1-SMOLT	7,308,500	1986	82,535	75,580	158,115	47.8%
1987	8,550,000	1-SMOLT	6,827,700	1987	12,011	20,988	32,999	63.6%
1988	3,500,000	1-SMOLT	3,226,900	1988	14,863	20,293	35,156	57.7%
1989	8,500,000	1-SMOLT	5,239,500	1989	54,132	95,709[1] 28,859[2]	149,883	63.9%
1990	6,700,000	1-SMOLT	6,159,600	1990	21,723	58,860	50,582	73.0%
1991	8,800,000	1-SMOLT	3,599,300	1991	61,500	100,117	161,617	61.9%
1992	5,100,000	1-SMOLT	3,208,065	1992	39,000	111,000	150,000	74.0%
1993	4,062,922			1993	13,700	75,000	88,700	84.6%
1994	4,700,000			1994	21,272	56,179	77,457	72.5%
AVERAGE								66.6%

PROJECTED PRODUCTION AT FULL CAPACITY

PRODUCTION BASIS	ASSUMED SURVIVAL TO SMOLT	# OF SMOLT	ASSUMED % SURVIVAL TO ADULT	TOTAL RETURN	ACTUAL HARVEST RATE	C.P. HARVEST
EGGS 8,000,000	62%	4,960,000	5%	248,000	66.6%	165,168

[1] Metlakatla fishery only, based on CWT expansions.
[2] Traditional common property fishery, based on CWT expansions.

TABLE 15. BELL ISLAND HATCHERY
UNIT: 5 - Ketchikan

COHO SALMON

PRODUCTION

RELEASE DATA				RETURN DATA				
BROOD YEAR	NUMBER EGGS	LIFE STAGE AT RELEASE	NUMBER RELEASED	RETURN YEARS	ESCAPEMENT	C.P. HARVEST	TOTAL RETURN	HARVEST RATE
1989		SMOLTS[1]	5,411	1992	N/A	855	855	N/A
1991		SMOLTS[1]	5,409	1994	N/A	123	123	N/A

PROJECTED PRODUCTION AT FULL CAPACITY

PRODUCTION BASIS	ASSUMED % SURVIVAL TO SMOLT	# OF SMOLTS	ASSUMED % SURVIVAL TO ADULT	TOTAL RETURN	ACTUAL HARVEST RATE	C.P. HARVEST
EGGS 16,800	62%	10,416	5%	520	N/A	N/A

[1] Purchased from Deer Mountain Hatchery.

SOUTHERN SOUTHEAST ALASKA ENHANCEMENT PROJECTS

SOCKEYE SALMON

1994

TABLE 16. 1993 STATUS OF SOUTHERN SOUTHEAST HATCHERIES -- SUMMARY

SOCKEYE SALMON

PROJECTED FULL PRODUCTION				CURRENT PRODUCTION				
OPERATIONAL PROJECTS	UNIT	PRODUCTION BASIS		TOTAL RETURN	COMMON PROPERTY HARVEST	RETURN YEAR	TOTAL RETURN	COMMON PROPERTY HARVEST
BEAVER FALLS HATCHERY-SSRAA	KETCHIKAN	EGGS EGGS	1,500,000 9,500,000	(0-SMOLTS)120,000 (FED FRY) 76,950	78,840 50,556	1994	277,147	143,743
KLAWOCK HATCHERY	WEST COAST/POW ISLAND	EGGS	20,000,000	456,886	221,590	1994	19,896	8,768
TOTAL OF CURRENT PROJECTS				**576,886**[1]	**300,430**[1]	1994	**297,043**	**152,511**

[1] "TOTAL RETURN" and "COMMON PROPERTY HARVEST" totals of current projects for Beaver Falls calculated for fish released as 0-smolts.

TABLE 17. BEAVER FALLS - SSRAA
UNIT: 5 - Ketchikan
SOCKEYE SALMON

PRODUCTION

	RELEASE DATA				RETURN DATA				
BROOD YEAR	NUMBER EGGS	LIFE STAGE AT RELEASE	NUMBER RELEASED	RELEASE SITE	RETURN YEARS	ESCAPEMENT	C.P. HARVEST	TOTAL RETURN	HARVEST RATE
1987	400,000	SMOLT	240,000		1991	1,983	1,870	3,853	48.5%
1988	360,000	SMOLT	60,400	Salmon Lake	1991	11	125	136	91.9%
			204,000	George Inlet					
			24,500	Shrimp Bay					
1989	1,018,000	FED FRY	218,000	Salmon Lake	1992	2,538	3,226	5,764	60.0%
		SMOLT	30,000	Shrimp Bay					
		SMOLT	367,556	George Inlet					
1990	2,414,000	FED FRY	14,550	Salmon Lake	1993	114,861	368,440	483,301	76.2%
		SMOLT	46,900	Shrimp Bay					
		FED FRY	450,000	Margaret Lake					
		FED FRY	736,753	Virginia Lake					
		FED FRY	220,000	Salmon Lake					
		SMOLT	261,000	Shrimp Bay					
1991	5,704,739	FED FRY	200,000	Margaret Lake	1994	133,404	143,743	277,147	51.9%
		FED FRY	674,000	Virginia Lake					
		SMOLT	925,000	Shrimp Bay					
		FED FRY	630,100	Salmon Lake					
		FED FRY	227,200	Old Franks					
		FED FRY	484,000	Hugh Smith Lake					
1992	4,925,000	UNFED FRY	354,000	Badger Lake					
		FED FRY	1,017,145	Salmon Lake					
		FED FRY	1,102,600	Virginia Lake					
		SMOLT	851,000	Shrimp Bay					
		UNFED FRY	200,000	Margaret Lake					
1993	6,663,700	FED FRY	1,055,365	Virginia Lake					
		FED FRY	100,000	Margaret Lake					
		ZERO SMOLT	760,902	Shrimp Bay					
		FED FRY	492,821	Bakewell Lake					
		FED FRY	532,982	Badger Lake					
		FED FRY	644,586	Hugh Smith Lake					
		PRESMOLTS	34,257	Salmon Lake					
1994	4,092,496								
AVERAGE									65.7%

PROJECTED PRODUCTION AT FULL CAPACITY (IF RELEASED AS FED FRY).

PRODUCTION BASIS	ASSUMED SURVIVAL TO FRY	# OF FRY	ASSUMED SURVIVAL TO SMOLT	# OF SMOLT	ASSUMED SURVIVAL TO ADULT	TOTAL RETURN	ACTUAL HARVEST RATE	C.P. HARVEST
EGGS 9,500,000	81%	7,695,000	10%	769,000	10%	76,950	65.7%	50,556

PROJECTED PRODUCTION AT FULL CAPACITY (IF RELEASED AS 0-SMOLT).

PRODUCTION BASIS	ASSUMED SURVIVAL TO 0-SMOLT	# OF 0-SMOLT	ASSUMED SURVIVAL TO ADULT	TOTAL RETURN	ACTUAL HARVEST RATE	C.P. HARVEST
EGGS 1,500,000	80%	1,200,000	10%	120,000	65.7%	78,840

TABLE 18. KLAWOCK
UNIT: 2 - West Coast of Prince of Wales Island

SOCKEYE SALMON

PRODUCTION

	RELEASE DATA			RETURN DATA				
BROOD YEAR	NUMBER EGGS	LIFE STAGE AT RELEASE	NUMBER RELEASED	RETURN YEARS	ESCAPEMENT	C.P. HARVEST	TOTAL RETURN	HARVEST RATE
1987	1,440,000	FRY	592,000	1991	2,600	1,140	3,740	30.4%
1988	3,590,000	FRY	2,475,000	1992	4,649	23,908	28,557	83.7%
1989	918,000	FRY	474,089	1993	5,050	2,805	7,855	35.7%
1990	652,000	FRY PRESMOLTS FINGERLINGS	127,793 19,733 68,053	1994	11,128	8,768	19,896	44.1%
1991	2,058,000	FRY	1,187,000					
1992	1,698,000	FRY	480,000					
1993	1,300,000	FRY	532,180					
1994	2,898,000							
AVERAGE								48.5%

PROJECTED PRODUCTION AT FULL CAPACITY

PRODUCTION BASIS	ASSUMED SURVIVAL TO FRY	# OF FRY	ASSUMED % SURVIVAL TO SMOLT	# OF SMOLTS	ASSUMED SURVIVAL TO ADULT	TOTAL RETURN[1]	ACTUAL HARVEST RATE	C.P. HARVEST
EGGS 20,000,000	85.5%	17,100,000	VARIABLE	3,807,383	12%	456,886	48.5%	221,590

[1] Total return based on a varialble stocking combination of fry, fingerling, presmolts, and smolts.

SOUTHERN SOUTHEAST ALASKA ENHANCEMENT PROJECTS

CHUM SALMON

1994

TABLE 19. 1994 STATUS OF SOUTHERN SOUTHEAST HATCHERIES -- SUMMARY

CHUM SALMON

		PROJECTED FULL PRODUCTION			CURRENT PRODUCTION		
OPERATIONAL PROJECTS	UNIT	PRODUCTION BASIS	TOTAL RETURN	COMMON PROPERTY HARVEST	RETURN YEAR	TOTAL RETURN	COMMON PROPERTY HARVEST
WHITMAN LAKE HATCHERY	KETCHIKAN	EGGS 45,800,000	705,320	699,677	1994	497,402	497,402
NEETS BAY HATCHERY	KETCHIKAN	EGGS 80,000,000	1,232,000	364,672	1994	1,462,573	196,263
BURNETT INLET HATCHERY	PETERSBURG/ WRANGELL	EGGS 60,000,000	924,000	406,560	1994	43,682	18,805
TAMGAS HATCHERY	KETCHIKAN	EGGS 40,000,000	616,000	273,504	1994	30,828	2,443
TOTAL OF CURRENT PROJECTS			3,477,320	**1,774,413**		**2,034,485**	**714,913**

TABLE 20. WHITMAN LAKE – SSRAA
UNIT: 5 - Ketchikan
CHUM SALMON

PRODUCTION

RELEASE DATA					RETURN DATA					
BROOD YEAR	NUMBER EGGS	LIFE STAGE @ RELEASE	RELEASE SITE	NUMBER RELEASED	RETURN YEARS	RETURN SITE	ESCAPE-MENT	C.P. HARVEST	TOTAL RETURN	HARVEST RATE
1988 (S)[1]	22,470,000[2]	FRY	Earl West	3,784,000	1989	(S) Nakat Inlet	N/A	91,908	91,908	100%
		FRY	Nakat Inlet	3,887,000		(F) Nakat Inlet	N/A	152,394	152,394	100%
		FRY	Neets Bay[3]	6,250,000		(S) Earl West	6,000	11,300	17,300	65.3%
(F)[1]	12,400,000[2]	FRY	Nakat Inlet	4,784,000						
		FRY	Neets Bay	4,000,000						
1989 (S)	4,175,000[2]				1990	(S) Nakat Inlet	580	46,452	47,032	98.1%
(F)	12,242,000[2]					(F) Nakat Inlet	120	21,206	21,326	99.4%
						(S) Earl West	1,200	9,712	10,912	89.0%
1990 (S)	24,717,337	FRY	Neets Bay	4,921,800	1991	(S) Earl West	N/A	31,345	31,345	100%
		FRY	Nakat Inlet	5,784,000		(F) Nakat Inlet	N/A	68,190	68,190	100%
		FRY	Nakat Inlet	5,988,000		(S) Nakat Inlet	N/A	26,830	26,830	100%
		FRY	Neets Bay	1,600,000						
		FRY	Kendrick Bay	6,206,000						
		FRY	Earl West	6,016,000						
1991 (S)	25,680,744	FRY	Nakat Inlet	4,118,100	1992	(S) Nakat Inlet	N/A	52,104	52,104	100%
(F)	4,398,191	FRY	Nakat Inlet	9,664,200		(F) Nakat Inlet	N/A	82,213	82,313	100%
		FRY	Kendrick Bay	8,020,800		(S) Earl West	N/A	54,874	54,874	100%
		FRY	Earl West Cove	6,030,800						
1992 (S)	23,847,000[2]	FRY	Nakat Inlet	8,250,000	1993	(S)Nakat Inlet	N/A	55,149	55,149	100%
		FRY	Earl West Cove	7,069,000		(F)Nakat Inlet	N/A	73,614	73,614	100%
		FRY	Kendrick Bay	8,168,000		(S)Earl West	N/A	14,009	14,009	100%
(F)	8,054,000	FRY	Nakat Inlet	7,905,000		(S)Kendrick Bay	N/A	24,957	24,957	100%
1993 (S)	25,593,600	FRY	Nakat Inlet (S)	7,929,557	1994	(S)Nakat Inlet	N/A	144,358	144,358	100%
(F)	8,117,000	FRY	Kendrick Bay (S)	9,067,848		(F)Nakat Inlet	N/A	70,010	70,010	100%
		FRY	Earl West (S)	7,442,915		(S)Kendrick Bay	N/A	222,490	222,490	100%
		FRY	Nakat Inlet (f)	7,702,162		(S)Earl West	N/A	60,544	60,544	100%
1994 (S)	24,390,000									
(F)	8,033,000									
5-YEAR AVERAGE										99.2%

PROJECTED PRODUCTION AT FULL CAPACITY

PRODUCTION BASIS	ASSUMED SURVIVAL TO FINGERLING	# OF FINGERLINGS	ASSUMED % SURVIVAL TO ADULT	TOTAL RETURN	ACTUAL HARVEST RATE	C.P. HARVEST
EGGS 45,800,000	77%	35,266,000	.02%	705,320	99.2%	699,677

[1] "S" = SUMMER, "F" = FALL
[2] Received as green eggs from Neets Bay.
[3] Eyed eggs received from Neets Bay are calculated as green eggs based on Neets Bay survivals of 94% from green to eyed eggs.

TABLE 21. NEETS BAY -- SSRAA
UNIT: 5 - Ketchikan
CHUM SALMON

PRODUCTION

RELEASE DATA				RETURN DATA				
BROOD YEAR	NUMBER EGGS	LIFE STAGE AT RELEASE	NUMBER RELEASED	RETURN YEARS	ESCAPEMENT	C.P. HARVEST	TOTAL RETURN	HARVEST RATE
1988 (S)[6]	67,946,000[1]	FRY	23,881,000	1989 (S)	34,061	30,600	64,661	48.0%
(F)[6]	32,104,000[2]	FRY	17,216,000	1989 (F)	48,423	100,970	149,393	67.5%
1989 (S)	14,630,000[3]	FRY	9,022,000	1990 (S)	77,915	22,821	100,736	22.7%
(F)	29,356,000[4]	FRY	23,556,000	1990 (F)	86,187	30,800	116,987	15.3%
1990 (S)	37,706,000	FRY	25,700,000[5]	1991 (S)	144,317	57,715	202,023	26.3%
(F)	38,100,000			1991 (F)	105,358	8,985	114,443	8.0%
1991 (S)	51,787,500	FRY	23,282,300[7]	1992 (S)	345,985	140,403	486,388	28.9%
(F)	30,750,700	FRY	25,205,008[8]	1992 (F)	131,685	72,418	204,103	35.5%
1992 (S)	62,321,000	FRY	32,525,000[11]	1993 (S)	282,201	197,739	479,940	41.2%
(F)	35,990,000	FRY	25,586,000[12]	1993 (F)	532,320	87,119	619,439	14.1%
1993 (S)	72,827,193[9]	FRY	40,197,000	1994(S)	927,209	135,874	1,063,083	12.8%
(F)	36,080,900[10]	FRY	25,228,000	1994(F)	339,101	60,389	399,490	15.1%
1994(S)	77,726,000							
(F)	30,434,000							
AVERAGE								30.0%
								25.9%

PROJECTED PRODUCTION AT FULL CAPACITY

PRODUCTION BASIS	ASSUMED SURVIVAL TO FRY	# OF FRY	ASSUMED % SURVIVAL TO ADULT	TOTAL RETURN	ACTUAL HARVEST RATE	C.P. HARVEST
EGGS 80,000,000	77%	61,600,000	.02%	1,232,000	28.0% (avg)	344,960

[1] 22,470,000 and 3,458,000 shipped as green eggs to Whitman Lake and Burnett Inlet, respectively.
[2] 12,400,000 shipped as green eggs to Whitman Lake.
[3] 4,175,000 shipped as green eggs to Whitman Lake.
[4] 12,242,000 shipped as green eggs to Whitman Lake.
[5] Released total include 4,922,000 fall chum salmon fry from Whitman Lake.
[6] "S" = "summer" "F" = "fall"
[7] 24,119,00 eyed eggs to Whitman Lake
[8] 4,134,000 eyed eggs to Whitman Lake
[9] 25,593,000 eyed eggs shipped to Whitman Lake.
[10] 8,117,000 eyed eggs shipped to Whitman Lake.
[11] 23,847,000 eyed eggs shipped to Whitman Lake
[12] 8,054,000 eyed eggs shipped to Whitman Lake.

TABLE 22. BURNETT INLET - ALASKA AQUACULTURE, INC.
UNIT: 3 - Petersburg - Wrangell
CHUM SALMON

PRODUCTION*

	RELEASE DATA			RETURN DATA				
BROOD YEAR	NUMBER EGGS	LIFE STAGE AT RELEASE	NUMBER RELEASED	RETURN YEARS	ESCAPEMENT	C.P.[4] HARVEST	TOTAL RETURN	HARVEST RATE
1985	274,580[1] 625,926[2]	FED FRY FED FRY	261,091 570,740	1986	4,856	4,856	9,712	50.0%
1986	4,636,233	FED FRY	4,446,275	1987	9,691	4,000	13,691	29.2%
1987	10,030,435	FED FRY	8,900,000	1988	5,194	1,731	6,925	25.0%
1988	5,145,746 3,335,087[3]	FED FRY FED FRY	4,682,628 2,700,473	1989	2,963	13,556	16,519	82.1%
1989	2,799,447	FED FRY	2,500,000	1990	29,748	20,321	50,069	40.6%
1990	20,002,500	FED FRY	2,980,447	1991	18,437	23,269	46,021	50.5%
1991	20,500,000	FED FRY	19,578,450	1992	32,117	16,500	48,167	34.3%
1992	20,450,000	FED FRY	19,220,000	1993	16,981	12,002	28,983	41.4%
1993	15,330,420	FED FRY	9,564,691	1994	24,877	18,805	43,682	43.1%
1994	22,000,000							
AVERAGE								44.0%

PROJECTED PRODUCTION AT FULL CAPACITY

PRODUCTION BASIS	ASSUMED SURVIVAL TO FRY	# OF FRY	ASSUMED % SURVIVAL TO ADULT	TOTAL RETURN	ACTUAL HARVEST RATE	C.P. HARVEST
EGGS 60,000,000	77%	46,200,000	.02%	924,000	44.0%	406,560

[1]Harding River egg take.
[2]Egg take from hatchery returns.
[3]Eggs transported from Neets Bay.
[4]Common property harvest data are based on operator's estimates.
*All numbers verified with "Historic Production from Burnett Inlet Hatchery" tables in 1992 Hatchery Annual Management Plan.

TABLE 23. TAMGAS
UNIT: 5 - Ketchikan
CHUM SALMON

PRODUCTION

	RELEASE DATA			RETURN DATA				
BROOD YEAR	NUMBER EGGS	LIFE STAGE AT RELEASE	NUMBER RELEASED	RETURN YEARS	ESCAPEMENT	C.P. HARVEST	TOTAL RETURN	HARVEST RATE
1986	3,943,000	FRY	3,723,000	1986	9,134	9,134	18,268	50.0%
1987	6,000,000	FRY	4,363,900	1987	9,368	9,368	18,736	50.0%
1988	16,000,000	FRY	13,971,200	1988	38,986	38,986	77,972	50.0%
1989	5,000,000	FRY	3,923,300	1989	12,024	12,024	24,048	50.0%
1990	1,700,000	FED FRY	1,499,000	1990	5,788	5,788	11,576	50.0%
1991	3,000,000	FED FRY	2,148,700	1991	10,565	10,565	21,130	50.0%
1992	10,800,000	FED FRY UNFED FRY	6,450,000 1,000,000	1992	22,142	22,142	44,284	50.0%
1993	5,400,628	FED FRY	4,132,922	1993	19,944	13,944	33,888	41.2%
1994	2,300,000			1994	28,385	2,443	30,828	8.0%
AVERAGE								44.4%

PROJECTED PRODUCTION AT FULL CAPACITY

PRODUCTION BASIS	ASSUMED SURVIVAL TO FRY	# OF FRY	ASSUMED % SURVIVAL TO ADULT	TOTAL RETURN	ACTUAL HARVEST RATE	C.P. HARVEST
EGGS 40,000,000	77%	30,800,000	0.2%	616,000	44.4%	273,504

SOUTHERN SOUTHEAST ALASKA ENHANCEMENT PROJECTS

PINK SALMON

1994

TABLE 24. 1994 STATUS OF SOUTHERN SOUTHEAST HATCHERIES -- SUMMARY

PINK SALMON

			PROJECTED FULL PRODUCTION		CURRENT PRODUCTION		
OPERATIONAL PROJECTS	UNIT	PRODUCTION BASIS	TOTAL RETURN	COMMON PROPERTY HARVEST	RETURN YEAR	TOTAL RETURN	COMMON PROPERTY HARVEST[1]
BURNETT INLET HATCHERY	PETERSBURG/ WRANGELL	EGGS 40,000,000	616,000	338,800	1994	819,813	546 ,542
TAMGAS HATCHERY	KETCHIKAN	EGGS 5,000,000	77,000	38,500	1994	N/A	N/A
TOTAL OF CURRENT PROJECTS			693,000	377,300		819,813	546,542

[1] Common property harvest data are operator estimates included in annual reports.

TABLE 25. BURNETT INLET - ALASKA AQUACULTURE, INC.
UNIT: 3 - Petersburg - Wrangell

PINK SALMON

PRODUCTION*

	RELEASE DATA			RETURN DATA				
BROOD YEAR	NUMBER EGGS	LIFE STAGE AT RELEASE	NUMBER RELEASED	RETURN YEARS	ESCAPEMENT	C.P.[3] HARVEST	TOTAL RETURN	HARVEST RATE
1986	13,273,500[1]	FED FRY	8,810,000	1986	32,000	32,000	64,000	50.0%
1987	4,864,850[2]	FED FRY	9,900,000	1987	132,848	60,000	192,848	31.1%
1988	6,671,289	FED FRY	5,534,150	1988	54,982	18,327	73,309	25.0%
1989	38,372,026	FED FRY	11,500,000	1989	226,936	529,514	756,450	70.0%
1990	11,301,700	FED FRY	8,968,430	1990	160,642	75,000	235,642	71.8%
1991	20,289,600	FED FRY	19,342,342	1991	178,819	271,764	450,583	60.3%
1992	20,600,000	FED FRY	20,065,000	1992	123,300	150,000	273,300	54.9%
1993	19,557,848	FED FRY	18,190,000	1993	115,743	220,000	335,743	65.6%
1994	39,980,000	FED FRY		1994	273,271	546,542	819,813	66.7%
AVERAGE								55.0%

PROJECTED PRODUCTION AT FULL CAPACITY

PRODUCTION BASIS	ASSUMED SURVIVAL TO FRY	# OF FRY	ASSUMED % SURVIVAL TO ADULT	TOTAL RETURN	ACTUAL HARVEST RATE	C.P. HARVEST
EGGS 40,000,000	77%	30,800,000	.02%	616,000	55.0%	338,800

[1] 2,500,000 eyed eggs were transported to Meyers Chuck.
[2] 1,000,000 fry were transported to Meyers Chuck.
[3] Common property harvest data are based on operator's estimates.
*All numbers verified with "Historic Production from Burnett Inlet Hatchery" tables in 1992 Hatchery Annual Management Plan.

TABLE 26. TAMGAS
UNIT: 5 - Ketchikan

PINK SALMON

PRODUCTION

RELEASE DATA				RETURN DATA				
BROOD YEAR	NUMBER EGGS	LIFE STAGE AT RELEASE	NUMBER RELEASED	RETURN YEARS	ESCAPEMENT	C.P. HARVEST	TOTAL RETURN	HARVEST RATE
1986	1,200,000	FRY	1,046,000	1986	16,446	16,446	32,892	50%
1987	1,500,000	FRY	1,038,300	1987	8,725	8,725	11,454	50%
1988	2,932,000	FRY	2,900,000	1988	22,709	22,709	37,418	50%
1989	4,600,000	FRY	4,340,000	1989	23,955	23,955	44,510	50%
1990	5,800,000	FRY	5,400,000	1990	28,770	28,770	57,542	50%
1991	558,000	FRY	500,000	1991	10,900	10,900	21,800	50%
1992	2,500,000	FED FRY UNFED FRY	1,200,000 1,000,000	1992	59,000	59,000	118,000	50%
1993	ZERO			1993	13,696	13,696	27,392	50%
1994	ZERO							
AVERAGE								50%

PROJECTED PRODUCTION AT FULL CAPACITY

PRODUCTION BASIS	ASSUMED SURVIVAL TO FRY	# OF FRY	ASSUMED % SURVIVAL TO ADULT	TOTAL RETURN	ACTUAL HARVEST RATE	C.P. HARVEST
EGGS 5,000,000	77%	3,850,000	0.2%	77,000	50.0%	38,500

SOUTHERN SOUTHEAST ALASKA ENHANCEMENT PROJECTS

STEELHEAD

1994

TABLE 27. KLAWOCK
UNIT: 2 - Prince of Wales Island

STEELHEAD

PRODUCTION

RELEASE DATA **RETURN DATA**[1]

BROOD YEAR	NUMBER EGGS	LIFE STAGE AT RELEASE	NUMBER RELEASED	RETURN YEARS	ESCAPEMENT	C.P. HARVEST	TOTAL RETURN	HARVEST RATE
1987	96,000	SMOLT	39,600					
1988	105,000	SMOLT	89,000					
1989	84,000	SMOLT	20,544					
1990	111,000	SMOLT	25,722 ('91) 1,810 ('92) 914 ('93)					
1991	101,000	SMOLT	18,910 ('92) 300 ('93)					
1992	21,600	SMOLT	11,406 ('93)					
1993	20,000							
1994	5,000							

[1] No consistent return data exists on steelhead production at Southern Southeast Alaska hatcheries.

PROJECTED PRODUCTION AT FULL CAPACITY

PRODUCTION BASIS	ASSUMED SURVIVAL TO SMOLT	# OF SMOLT	ASSUMED % SURVIVAL TO ADULT	TOTAL RETURN	ACTUAL HARVEST RATE	C.P. HARVEST
EGGS 50,000	50%	25,000	3%	750	100%	750

TABLE 28. CRYSTAL LAKE
UNIT: 3 - Petersburg - Wrangell

STEELHEAD

PRODUCTION

RELEASE DATA				RETURN DATA[1]				
BROOD YEAR	NUMBER EGGS	LIFE STAGE AT RELEASE	NUMBER RELEASED	RETURN YEARS	ESCAPEMENT	C.P. HARVEST	TOTAL RETURN	HARVEST RATE
1987	115,000	SMOLT	90,400					
1988	62,000	SMOLT	12,581					
1989	44,000	SMOLT	2,177					
1990	NONE	SMOLT						
1991	19,000	SMOLT						
1992	20,000							
1993	20,000							
1994								

[1] No consistent return data exists on steelhead production for Southern Southeast Alaska hatcheries.

TABLE 29. DEER MOUNTAIN
UNIT: 5 - Ketchikan

STEELHEAD

PRODUCTION

	RELEASE DATA			RETURN DATA[1]				
BROOD YEAR	NUMBER EGGS	LIFE STAGE AT RELEASE	NUMBER RELEASED	RETURN . YEARS	ESCAPEMENT	C.P. HARVEST	TOTAL RETURN	HARVEST RATE
1989	36,000	SMOLT FRY	7,218 16,757					
1990	25,000	0-SMOLT FRY SMOLT	5,021 13,749 1,030					
1991	14,600	SMOLT	1,029[2]					
1992	22,300							
1993	10,000	SMOLT	4,432					
1994	10,000							

[1] No consistent steelhead return data exists for Southern Southeast Alaska hatcheries.
[2] Expected release of 4,000 was vandalized.

PROJECTED PRODUCTION AT FULL CAPACITY

PRODUCTION BASIS	ASSUMED SURVIVAL TO SMOLT	# OF SMOLT	ASSUMED % SURVIVAL TO ADULT	TOTAL RETURN	ACTUAL HARVEST RATE	C.P. HARVEST
EGGS 8,500	71%	3,995	3%	180	N/A	N/A

TABLE 30. ESTIMATED PRODUCTION AND CONTRIBUTION FOR STEELHEAD[1]

FACILITY	EGGS	%SURVIVAL	SMOLT	% OCEAN	ADULTS	% HARVEST	ADULTS	CATCH PER UNIT
KLAWOCK	50,000	60%	2,000[2] age-1 2,000[2] age-2	2%	100	67%	70	0.1 Fish/Hour
CRYSTAL LAKE	34,000	60%	20,000	2%	400	67%	300	0.1 Fish/Hour
DEER MOUNTAIN	8,500[3]	60%	5,000	2%	100	67%	100	0.1 Fish/Hour

[1] As of December, 1991, the Region I office of the Sport Fish Division was in the process of drafting a SOUTHEAST ALASKA STEELHEAD ENHANCEMENT PLAN.
[2] Rearing capacity limited by water supply; full capacity smolt production (30,000) could occur only if sockeye program were discontinued.
[3] Excess fry to creek.

SECTION 3.

COMMERCIAL HARVEST, GAP ANALYSIS, AND PROJECT STATUS

1994

Table 31. Commercial Harvest of Wild and Hatchery Salmon in Districts 101-108, 150 and 151, 1974-1994.

YEAR	CHINOOK	COHO	CHUM	SOCKEYE	PINK
1974	152,000	640,000	697,000	346,000	4,220,000
1975	144,000	271,000	373,000	115,000	3,330,000
1976	104,000	292,000	509,000	257,000	5,157,000
1977	61,000	327,000	427,000	648,000	11,242,000
1978	95,866	695,787	648,520	455,157	18,423,466
1979	126,744	540,696	330,039	551,789	6,983,664
1980	83,993	529,095	832,644	738,791	12,921,518
1981	87,960	601,875	342,862	713,159	13,524,575
1982	105,823	788,286	810,877	838,734	12,956,599
1983	92,623	823,650	493,973	934,079	31,442,272
1984	67,329	674,916	1,377,873	645,922	19,635,867
1985	70,953	953,137	1,262,555	1,123,641	30,709,344
1986	67,895	1,423,773	1,745,721	901,044	44,986,451
1987	64,258	619,034	745,946	535,514	4,443,089
1988	68,446	333,485	1,546,216	884,253	8,933,757
1989	66,155	810,830	1,196,848	1,125,869	45,539,857
1990	126,966	1,259,301	899,040	1,276,163	26,687,787
1991	123,037	1,307,625	1,548,308	1,328,017	43,496,704
1992	86,584	1,300,827	2,175,968	1,797,278	19,009,365
1993	96,675	1,329,005	2,936,015	2,312,604	39,179,633
1994	55,818	1,730,951	3,441,166	1,704,152	21,059,332
5-YEAR[1] AVERAGE	97,816	1,385,542	2,200,099	1,683,643	29,886,564

[1]1990-1994

TABLE 32. GAP ANALYSIS FOR SOUTHEAST ALASKA SALMON FISHERIES, 1994

5-Year Average Harvest, Projected Harvest Potentials
and Harvest Objectives Compared

Projected Average Harvest Potential With Current Projects								
Species	5 Year Average Harvest[1]	Wild[2]	Enhanced Potential[3]		Total Enhanced Potential	Projected Potential Harvest	Harvest Objective[4]	Gap
			Northern SE	Southern SE				
Chinook	287,700	263,000	40,682	92,840	133,522	396,522	537,000	140,478
Coho	3,827,800	1,200,000	447,622	639,084	1,086,706	2,286,706	2,650,000	363,294
Sockeye	2,494,200	800,000	382,314	300,430	682,744	1,482,744	2,100,000	617,256
Pink	48,851,000	16,500,000	596,195	377,300	973,495	17,473,495	30,000,000	12,526,505
Chum	5,751,700	1,700,000	3,388,998	1,774,413	5,163,411	6,863,411	9,700,000	2,836,589

[1] 1990-1994 (rounded to nearest hundred)
[2] Best estimate of ADF&G, Commercial Fisheries Division for long-term average wild harvest.
[3] From 1994 enhancement project summary tables for northern and southern Southeast Alaska.
[4] From Comprehensive Salmon Plan, Phase II. NSE. December 1982.

TABLE 33. GAP ANALYSIS FOR SOUTHEAST ALASKA SALMON FISHERIES, 1994

5-Year Average Harvest, 1994 Harvest Estimates by Operators
and Harvest Objectives Compared

Projected Average Harvest Potential With Current Projects								
Species	5 -Year Average Harvest[1]	Wild[2]	1994 Enhanced Fish Contributions[3]		Total Enhanced Production	Projected Potential Harvest	Harvest Objective[4]	1994 Gap
			Northern SE	Southern SE				
Chinook	287,700	263,000	21,192	19,885	41,077	304,077	537,000	232,923
Coho	3,827,800	1,200,000	419,699	346,272	765,971	1,965,971	2,650,000	684,029
Sockeye	2,494,200	800,000	32,648	152,511	185,159	985,159	2,100,000	1,114,841
Pink	48,851,000	16,500,000	828,789	546,542	1,375,331	17,875,331	30,000,000	12,124,669
Chum	5,751,700	1,700,000	4,219,327	714,913	4,934,240	6,634,240	9,700,000	3,065,760

[1] 1990-1994 (rounded to nearest 100)
[2] Best estimate of ADF&G, Commercial Fisheries Division for long-term average wild harvest.
[3] Hatchery operator estimates from 1994 enhancement project summary tables for northern and southern Southeast Alaska.
[4] From Comprehensive Salmon Plan, Phase II. NSE. December 1982.

Introduction: Status of Previously Proposed Projects

Table 34 presents an updated account of projects according to name, target species, status, and phase. These updates are based upon materials provided by ADF&G, USFS, and SSRAA staffs. Each project undergoes five phases of development as follows:

(Phase I) Identify and verify potential fish habitat improvement projects, collect biological data, conduct economic analysis, and determine feasibility.

(Phase II) Conduct environmental assessment; consider alternatives suggested during scoping process; conduct evaluation by an interdisciplinary team using fish habitat analysis, engineering design, and cost analysis; and approve USFS preferred alternative from alternatives presented in the environmental document.

(Phase III) Select the optimal project design to enable force account or contract development.

(Phase IV) Construct project.

(Phase V) Conduct maintenance and evaluation activities and monitor performance of the project.

Table 34. Status of Projects Previously Proposed in Phase II.

Project Name	Target Species	1994 Status	1995 Priority
1. Stock Separation Mainland Systems	Chinook	Active Phase IV	High
2. Marten River 101-30-10600	Chinook	Inactive	Low
3. McDonald Lake Fertilization 101-80-10680	Sockeye	Active Phase IV	High
4. Cable Creek 103-60-1070	Coho	Active Phase V	High
5. Rearing Habitat Improvement 102-70-10580-2023 106-30-10120 103-90-10310 106-30-10160 106-30-10660-2004/2031 102-60-10390 102-60-10380-0020	Coho/ Steelhead	Inactive Phase I	Low
6. Tunga Inlet 103-90-10090	Coho	Inactive	Low
7. Badger/Bakewell 101-55-10730	Sockeye	Active Phase V	High
8. Rio Roberts Creek 102-70-10580-2131	Coho/ Steelhead	Active Phase V	High
9. Margaret Lake Fish Pass	Coho/ Sockeye	Active Phase V	High
10. Marx Creek Spawning Channel 101-15-105000-2006	Chum	Active Phase V	Low
11. Dog Salmon Fishpass 102-60-10380	Pink/Chum/ Sockeye	Inactive Phase V	Low

--continued--

Table 34. Continued

Project Name	Target Species	1994 Status	1995 Priority
12. Meter Bight Creek 108-20-10060	Pink	Active Phase V	Low
13. Orchard Lake 102-50-1280	Sockeye	Inactive Phase II	Low
14. Harding River	Chinook	Active Phase III	High
15. Virginia Lake	Sockeye	Active Phase V	High
16. Vixen Inlet 102-60-10380	Pink/Coho/ Sockeye	Inactive N/A	Low
17. Big Lake, Ratz Creek 106-10-10100	Sockeye/Coho	Active Phase V	Low
18. Old Franks Lake Fish pass	Sockeye/Coho	Active Phase V	High
19. Salamander Creek	Chum	Active Phase V	Low
20. Irish Creek 105-32-10120	Coho/Pink/ Chum	Active Phase V	Low
21. Muddy River	Chinook/Chum	Inactive Phase I	Low
22. Kendrick Bay Chum Release Site	Chum	Active Phase V	High
23. Frosty Creek 107-20-05	Coho	Inactive Phase I	Low
24. Tahltan Lake Transboundary River Project	Sockeye	Active Phase IV	High
25. Tuya Lake Transboundary River Project	Sockeye	Active Phase IV	High

--continued--

Table 34. Continued

Project Name	Target Species	1994 Status	1995 Priority
26. Bradfield River Rehabilitation	Chinook/Chum	Active Phase I	High
27. Mitchell Creek 106-43-80	Coho	Active Phase V	High
28. Duncan Creek 106-43-75	Coho	Active Phase III	High
29. Woodpecker Lake Creek	Coho	Active Phase V	High
30. Bryce Creek	Coho	Active Phase V	High
31. Neck Lake	Coho/Sockeye	Active Phase II	High

Comments on Previously Proposed Projects

Stock Separation, Unuk River. Chinook juveniles from brood years 1992-1994 are being coded-wire tagged. In 1994, ADF&G tagged 2,642 smolts in May and 20,542 young-of-year in October. Adult returns will provide harvest data, while adult distribution and population estimates on the Unuk River in return years 1997 to 1999 will enable calculation of exploitation rates and provide an accurate assessment of population strength.

Genetic Stock Identification. The department's Genetics Section completed the first year of a NOAA funded, two-year study to genetically define chinook stocks statewide through the allozyme electrophoresis technique. Samples are being collected from the following Southeast mainland systems: Chickamin River (including two derivative hatchery stocks), Unuk River (including one derivative hatchery stock), Farragut River, and Chilkat River (including four tributaries).

Marten River. A partial barrier falls in this system affecting chinook, coho, and steelhead was modified with explosives in 1987 at a cost of $250,000. Based on a 1992 snorkeling survey of species above the falls, the system appears to be fully passable, and is no longer being monitored.

McDonald Lake Fertilization. This ongoing lake fertilization project for sockeye salmon was transferred to the private sector (SSRAA) in 1994. The project contributes 100,000 to 300,000 sockeye salmon annually to the commercial harvest and approximately 10,000 sockeye to a subsistence fishery. In 1994 escapement to the spawning grounds was 105,000 fish, which fully seeded the lake. An additional 1,422 adults were used for brood stock to provide 2.3 million fry for the Virginia Lake project.

Cable Creek. A series of jump-pool weirs was constructed in 1986 to enable passage of coho salmon over a 20-ft barrier falls. A smaller velocity barrier upstream was modified in 1994 by blasting. The USFS is monitoring and evaluating the effectiveness of barrier modification. 1994 was the final return year for enhanced fish that had been imprinted above the barrier, and only nine cohos were observed upstream of the project area in late in the year, while a total of 743 adults had been observed below the fishpass. Commercial fishery contribution (CWT estimate) was 1,291. Survival (fry to adult return) for the contributing brood year was 1.92%.

Rearing Habitat Improvement. The USFS continues, as time and funding allow, to assess the potential of using instream structures and other methods to improve habitat and increase smolt production in regional coho and steelhead systems.

Tunga Inlet. The USFS constructed a series of jump-pool weirs in 1986 at a cost of $18,000, and several years of coho juveniles were planted (the last in 1992). Return to the commercial fishery from planted cohos was good, but the system is spawning-limited and will not be self-sustaining. No evaluation or maintenance was performed in 1994 and none is anticipated in 1995. The lake retains potential as a nursery lake.

Badger/Bakewell. A USFS fishpass constructed in 1985 at a cost of $350,000 is fully operational, and maintenance will continue annually. A coho run is now self-sustaining there, but the commercial interception rate of sockeye has been too high (i.e., >90%) to develop a self-sustaining run. Sockeye fry plants from Beaver Falls CIF continue (Hugh Smith Lake stock), with 1.03 million fry released into Badger/Bakewell in 1994; and eggs were taken at Hugh Smith for an anticipated release of 200,000 in 1995. Detailed sockeye production studies at Badger/Bakewell have occurred since 1985.

Rio Roberts Creek. A fish pass on this tributary to the Thorne River was constructed in 1989 (at a cost of $145,000) to allow passage for cohos over a 12-foot partial barrier. The fourth year of a five-year evaluation period was completed in 1994. Smolt emigration monitoring and adult escapement counts are being conducted. An evaluation report is expected in 1996. If funding allows, USFS may return after an indefinite period to monitor habitat utilization. There was a 2.15% return of enhanced fish to the 1994 commercial fisheries.

Margaret Lake. USFS continues to intensively monitor the effects of introducing anadromous species on resident trout. Another 100,000 unfed sockeye fry were released in 1994 (the final year of enhancement activity)by SSRAA, bringing the total sockeye enhancement effort to 1.9 million from 1988 to 1994. One group of summer coho was planted in 1991. Escapement numbers continue to build, with 351 sockeye, 134 coho, 103 chum and 12,847 pink salmon above the fishpass in 1994. The Forest Science Lab in Juneau produces detailed annual reports on this project.

Marx Creek Spawning Channel. The USFS developed Marx Creek in 1985, extending it to its present length of 1.8 km in 1989. Evaluation continues, with ADF&G conducting weekly chum salmon escapement counts and enumerating outmigrant fry the following spring. The 1994 outmigration was 7.5 million chum salmon fry, nearly 1 million more than the previous year; escapement in 1994 was 9,535 adults. Coho production from Marx Creek continues to serve as the control population for evaluating production from Bryce Creek Coho Rearing Area; 1,159 cohos were coded-wire tagged in Marx Creek in 1994.

Dog Salmon Fishpass. This structure was constructed in 1989 and modified in 1991 at a total cost of $186,000. Although fully

operational, the fish pass still represents a partial barrier to pink and chum salmon. No bioenhancement was undertaken. The first evaluation cycle is complete (5 years); as funding allows, USFS may return to monitor utilization.

Meter Bight Creek. Three fish passage structures have been completed by the USFS, and pink salmon now spawn in the upper watershed. "Fine-tuning" of the fishpass structures occurred in 1994; two weirs were added to one of them, and maintenance continues.

Orchard Lake. Pathology sampling of resident kokanee in 1994 completed this lake's assessment as a nursery lake for sockeye salmon. No IHN virus was detected in the kokanee population, and therefore sockeye cannot be introduced, according to ADF&G policy. The lake is considered prime habitat for resident trophy cutthroat trout. Being virus-free, the lake retains its potential as a hatchery water source. SSRAA has discontinued its sockeye rearing program in the intertidal zone below the lake.

Harding River. Severe flooding in late 1993 modified the river, and blasting planned for the large rock previously thought to be a partial barrier to coho and a total barrier to other species lost priority. Chinook were able to pass the barrier in 1993, but the river channel continued to change, and questions of a total barrier arose in 1994. USFS and ADF&G continue to assess the situation. The final egg take for chinook enhancement occurred in 1994. Full utilization of the six miles of upstream spawning and rearing habitat would produce up to 3,000 additional chinook salmon to the common property fisheries.

Virginia Lake. The Wrangell area gillnet fleet has cooperated with USFS, ADF&G, and SSRAA in developing this sockeye salmon project. A fish pass was completed in 1988. A fry planting program began in 1989, with 6.6 million planted through 1994. Lake fertilization began in 1991. Escapement in 1994 was 3,511, and it is expected to increase in subsequent years.

Vixen Inlet. This was a proposed fishpass site that was dropped from consideration after an extensive USFS review in 1993.

Big Lake, Ratz Creek. A fish pass was completed by the USFS in August 1991 at a cost of $450,000. Returns of sockeye and coho salmon to the system have been high. Escapement monitoring, using an impedance tunnel, continued in 1994 and the first 5-year evaluation cycle will be complete in 1995.

Old Franks Lake. Two fishpasses were constructed by the USFS and various partners in 1992 and are fully operational, allowing sockeye and coho salmon access to 530 acres of spawning and rearing habitat. A U.S./Canada funded coho bioenhancement project began with planting 96,600 coho fingerlings into Old Franks Lakes in

1994. Another 220,000 coho eggs were taken for culture and planting in 1995. One group of 227,000 sockeye fry were planted in the lakes in 1992. In 1994 the USFS initiated a monitoring program in the lakes for resident species and rearing juveniles of anadromous species; an impedance tunnel for enumerating returning adults was installed in the upper fish pass in 1994. Coho bioenhancement and monitoring of resident and anadromous species will continue in 1995.

Salamander Creek. Blasting at two sites in Salamander Creek (0.25 and 0.5 miles from salt water) in 1993 allowed passage of chum salmon and access to another 2.5 miles of spawning habitat. The chum salmon are surplus to the Earl West Cove terminal fishery. Escapement surveys in 1994 confirmed that the project is successful by allowing the fish to disperse upstream.

Irish Creek. The last year of coded wire returns was 1993, when 30 Irish Creek coho contributed to the commercial fishery. The project is now in a maintenance phase only.

Muddy River. This system had been proposed as a site for placement of an incubation box; however, USFS staff identified too many potential problems to pursue project development.

Kendrick Bay Chum Release Site. This SSRAA project has moved into production mode, with the floating net pen and barge camp facility fully operational in 1994. Some 222,500 Kendrick Bay chum salmon were harvested in the common property net fisheries in 1994, which was the first year that a substantial number of fish returned to this remote site. SSRAA will continue to release up to nine million chum salmon fry there annually.

Frosty Creek. This proposed USFS fish passage project would have benefited coho salmon and steelhead, but recent restrictions on steelhead harvests have altered the benefit:cost ratio. Accordingly, the project has been dropped.

Tahltan Lake. Sockeye salmon returns to Tahltan Lake are used as the brood source for fry planted in Tahltan and Tuya Lakes, which are tributary lakes of the Stikine River. In 1994, 900,000 sockeye fry were incubated at Snettisham Central Incubation Facility and then planted into Tahltan Lake. Another 4,117,000 eggs were taken from Tahltan sockeye returns in 1994. The U.S. and Canada are working cooperatively on this project, which is identified in the Pacific Salmon Treaty. Sockeye returns will benefit the gillnet fleets of both countries

Tuya Lake. In 1994, 4.6 million fry were planted in Tuya Lake (Tahltan Lake stock, incubated at Snettisham CIF).

Bradfield River. Extensive logging in the Bradfield River floodplain during the 1970s has impacted salmon production there. Feasibility studies for riparian habitat rehabilitation activities continued in 1994. Before determining a specific course of action, USFS and ADF&G are verifying present species and life stage use of habitat and attempting to quantify and describe lost habitat.

Mitchell Creek (Duncan Canal). A fishpass approximately two miles from salt water was completed in 1992. It provides access to 20 acres of spawning and rearing habitat. Two smaller barrier falls farther upstream had been previously reshaped with explosives in 1991 to enable fish passage. Coho eggs taken from the indigenous run are being cultured at Crystal Lake Hatchery. The first fry release above the fishpass occurred in 1993. Bioenhancement continued in 1994; returns of coded wire tagged fish will provide evaluation data.

Duncan Creek. Feasibility studies were completed by the USFS. The NEPA process for this project began in 1994. Two fish passage projects are proposed: (1) a traditional fish ladder at the lower barrier and (2) blasting techniques at the upper barrier, which is a velocity block. The watershed above the barriers would provide spawning and rearing habitat for an estimated 12,300 coho smolts, providing 775 adult coho to the common property fisheries. The NEPA process will continue in 1995; and if the outcome is favorable, funding will be sought in FY97.

Woodpecker Lake Creek. To allow fish passage, a waterfall was modified by blasting techniques in 1994. Bioenhancement began in 1994, with 7,534 juvenile cohos, including 4,886 fish that were coded wire tagged and transported from McDonald Lake to Woodpecker Lake. This is a cooperative USFS/ADF&G project.

Bryce Creek. The USFS excavated a channel from Fish Creek (101-15-10500-2023) into a series of sloughs and ponds in the Salmon River valley in 1992, providing access to 29,200 m^2 of high-quality coho rearing habitat. ADF&G coded wire tagged 2,026 coho juveniles produced in Bryce Creek if 1994, to evaluate migration pattern and contribution to fisheries. Modification to the lower end of Bryce Creek is planned to ensure successful outmigration.

Neck Lake. SSRAA is developing a coho release site/ cost recovery area to fund the operation of Beaver Falls Sockeye Central Incubation Facility. Summer coho (Ward Lake stock [i.e., Reflection Lake ancestral stock]) will be reared in net pens in Neck Lake and then released into the lake as presmolts. Adults returning to the outlet stream will be harvested.

SECTION 4.

U.S./CANADA PACIFIC SALMON TREATY ENHANCEMENT PROGRAM FOR SOUTHEAST ALASKA

1994

Background

In 1985 several substantive changes to the course of the fisheries development in southeast Alaska were made necessary by the implementation of the U.S./Canada Pacific Salmon Treaty (PST). To mitigate for the harvest restrictions imposed on all gear groups a new enhancement program was developed. Initial goals included the production of 100,000 chinook salmon, 1,000,000 chum salmon, and 20,000-40,000 sockeye salmon. The federal government appropriated $20.0 million for this enhancement program, defining the grant funding structure so as to provide for annual payments over a five-year period, beginning in 1986.

In the late spring of 1985, the State of Alaska began to explore various options for chinook salmon mitigation through investment in new hatchery production. A multi-disciplinary mitigation team composed of representatives of the Alaska Department of Fish and Game, National Marine Fisheries Service, commercial fishing organizations, and private sector aquaculture associations, was formed to deliberate on all aspects of chinook salmon production including various enhancement technologies, fisheries management issues, and harvest opportunities.

Although primary emphasis had been placed on implementing projects to produce chinook salmon for common property harvests by the troll fleet, other projects designed to produce chum, coho, and sockeye salmon have also been proposed and endorsed. All of these projects will provide additional benefits for each of the targeted gear groups. Every year, beginning in 1985 and ending in 1991, ADF&G has hosted mitigation group meetings to discuss the status and future direction of the U.S./Canada enhancement program. The final group meeting was held in February of 1992. At that time the mitigation team members made project recommendations for consideration by the Commissioner. The Commissioner acted upon these recommendations and made the final project determinations in April of 1992. These project choices were consolidated into a grant proposal and forwarded to NOAA for review and approval.

On September 30, 1992, ADF&G received permission from NOAA to expend the FFY91 appropriation. The final allocation of $2.2 million fulfilled the $20 million dollar commitment by the federal government to the State of Alaska for the Alaska Salmon Enhancement Program.

Current Status

The Alaska Salmon Enhancement Program currently operates under two federal grants. NOAA grant NA17FP0006-04 is funded with federal monies appropriated in federal fiscal years 1989 and 1990. NOAA grant NA17FB0424-03 receives its funding from monies appropriated in federal fiscal year 1991. Combined these grants provide $9.3 million to implement 36 salmon enhancement projects.

At the beginning of 1994, a total of 22 projects were still active. During the year, four projects progressed to completion, reducing the total number of projects to be conducted in 1995 to 18. Projects completed in 1994 focused for the most part on modifications and upgrades to existing southeast Alaska hatchery facilities. Project highlights for 1994 follow.

Snettisham CIF. This construction project was completed and put into operation in 1993. The design capacity of this facility is 30 million sockeye salmon eggs. These eggs are housed in 10 discrete incubation modules. Ponding and start-up of fry can occur in two larger rearing modules. The newly installed mechanical equipment heats, chills, gas stabilizes (using oxygen supplementation) and depurates the water used for incubation and rearing. These new mechanical systems give the hatchery workers unprecedented flexibility in their daily fish cultural procedures.

In 1994 2,341,579 BY 92 sockeye smolt were released as were 13,589,305 BY 93 sockeye fry. Egg receipts to the facility totaled 14,878,000.

Neets Bay Raceway Project. This chinook salmon enhancement project was initiated in 1993. The monies allocated to this project totaled $450,000. Upgrades which are to be made to Neets Bay include the installation of 3 each 100′ x 12′ aluminum raceways, the construction of an adult holding and spawning complex, modifying the fish pass, and putting into place all the requisite plumbing. Construction, expected to begin in 1994, was delayed one year. However, the design and fabrication of the aluminum raceways was completed and the raceways were barged to Neets Bay for installation in 1995. The construction contract for the installation of the raceways and other structures was awarded to South Coast Construction. Work is expected to be completed by June of 1995.

Hidden Falls Hatchery Increased Incubation and Rearing. This chum salmon enhancement project provides additional incubation and rearing capacity for chum salmon at the Hidden Falls Hatchery to increase production to 93 million fry annually. The increase of 31 million fry (from 35 million eggs) over the previous capacity is expected to generate an additional 620,000 adults for harvest. The funding provided to complete this project has purchased incubators, holding ponds, net pens and floats, a feed storage barge, a fish grinder, monitoring equipment for the water supply pipeline, a skiff and motor, a computer, a pallet jack and water supply piping. For the immediate future, the additional production of fry will be released at the hatchery and at a remote site at Takatz Bay. To insure that the local area has the carrying capacity to support the additional chum releases, NSRAA has determined that an incremental approach toward further releases is warranted. The first increment of 10 million eggs was taken in 1993. NSRAA will continue to slowly increase production towards the ultimate project goal of 35

million eggs, evaluating returns to gain further information about marine survival.

Crystal Lake Hatchery Ozonation. This project provided funding to install water depuration equipment (ozonation) to control the incidence of bacterial kidney disease (BKD). This facility has a long history of fish health problems attributable to this disease. The source of this pathogen has been traced to fish residing in the lake supplying the water to the hatchery. The ozone system is expected to reduce, if not completely eliminate, the incidence of this disease. Installation of the ozonation system was completed in 1993 at a cost of $175,206. This system is capable of treating 500 g.p.m. of water which is used for incubation purposes. This system was used to treat the water used for egg incubation in 1994. A malfunction of the ozone monitoring system and the ozone destruct system may have caused some mortality in the BY 94 chinook eggs. The problems have since been identified and corrected. The operation of the depuration system will help to maintain the production potential of adult salmon at the Crystal Lake Hatchery.

The Alaska Salmon Enhancement Program continues to run smoothly and will have enhancement projects continuing on until November 30, 1996. At that time all funds will be exhausted.

Tables 35-38 identify each enhancement project which have been funded through the U.S./Canada process as of December 1994. The first four tables are presented by species and include information by agency, project, adult production goal, status, and cost by federal fiscal year. The total allocation to date for the enhancement program has been $19,865,280. This includes federal fiscal years 1986 through 1991. Of this total $11,160,349 has been dedicated for chinook salmon production, $6,201,193 for sockeye production, $1,613,468 for chum production, and $314,000 for coho production. Table 39 summarizes this distribution and includes contract administration and technical support expenditures. Completion of these projects, federally funded under the Alaska Salmon Enhancement Program, will directly assist the northern and southern southeast teams in achieving the goals established in the Phase I Regional Comprehensive Salmon Plan.

Table 35. ALASKA SALMON ENHANCEMENT PROGRAM STATUS REPORT FOR CHINOOK SALMON, 1994.

	FACILITY OR PROJECT	ADULT PRODUCTION GOAL	STATUS	COST (In Thousands)
1.	SSRAA - WHITMAN LAKE HATCHERY EXPANSION	33,000	FFY 86 - COMPLETED	1,291.7
2.	NSRAA - MEDVEJIE HATCHERY EXPANSION	17,300	FFY 86/87 - COMPLETED	2,095.1
3.	ADF&G- HIDDEN FALLS HATCHERY EXPANSION	52,000	FFY 87 - ENGINEERING/ DESIGN SITE PREPARATION/CONSTRUCTION FFY 88 - CONSTRUCTION (558.8) PLUS ALLOCATION FROM BARANOF WARM SPRINGS (691.2) TOTAL	250.0 1,799.0 1,250.0 3,299.0
4.	FRED - CRYSTAL LAKE HATCHERY RENOVATION	10,000	FFY 88- COMPLETED FFY 91	420.0
5.	FRED/COMM. FISH - CARROL INLET PREDATION STUDY	N/A	FFY 86 - COMPLETED	30.2
6.	FRED - BARANOF HATCHERY	N/A	FFY 88 - DISCONTINUED	51.6
7.	FRED - FARRAGUT RIVER FRY PLANTS, 5 YEARS	4,000	FFY 89/90 - PROJECT INITIATED IN 1991	77.0
8.	FRED - HARDING RIVER FRY PLANTS, 5 YEARS	800	FFY 89/90 - PROJECT DISCONTINUED 9/30/95. - BAANCE OF FUNDS TRANSFERRED TO SNETTISHAM AND INDIRECT	113.96
9.	FRED - CRYSTAL LAKE HATCHERY WATER MAIN REPLACEMENT	N/A	FFY 89/90 - WATERLINE WORK COMPLETED RACEWAY WORK CONTINUES	725.0
10.	NSRAA - MEDVEJIE HATCHERY REARING SPACE	N/A	FFY 89/90- COMPLETED 1991	60.0
11.	SSRAA - WHITMAN LAKE HATCHERY MODIFICATIONS	17,500	FFY 89/90 -PROJECT COMPLETED 11/30/94	359.63
12.	FRED - DEEP COVE CHINOOK REMOTE RELEASE. CAPITAL AND OPERATIONAL COSTS, 5 YEARS.	N/A	FFY 89/90 -INITIATED IN 1991 - DISCONTINUED 1993. BALANCE OF FUNDS TRANFERRED TO S.E. BARANOF PROJECT (1,177.8)	137.13
13.	NSRAA - HIDDEN FALLS NET PENS	(Included in #3 above)	FFY 89/90 -COMPLETED IN 1993	70.0
14.	AKI - S.E. BARANOF CHINOOK CAPITAL COSTS	60,000	FFY 89/90 -TRANSITION FROM DEEP COVE PROJECT INITIATED IN 1992	1,177.87
15.	AKI - S.E BARANOF CHINOOK OPERATIONAL COSTS, 3 YEARS	(Included in # 14 above)	FFY 1991 - PROJECT BEGINS JULY 1, 1993	453.15
16.	FRED - CRYSTAL LAKE HATCHERY OZONIZATION	N/A	FFY 1991 - PROJECT COMPLETED IN 1993 - BALANCE TO SNETT.	175.2
17.	NSRAA - MEDVEJIE RACEWAY COVERS	N/A	FFY 1991 - PROJECT BEGINS IN 1993	70.0
18.	SSRAA - NEETS BAY HATCHERY UPGRADE	N/A	FFY 1991 - PROJECT INITIATED IN 1993	450.0
19.	FRED - UPPER LYNN CANAL CHINOOK ENHANCEMENT	3,000	FFY 1991 - PROJECT INITIATED IN 1993	103.8
ADULT PRODUCTION POTENTIAL		**197,600**	**TOTAL EXPENDITURES ALL PROJECTS**	$11,160.35

TABLE 36. ALASKA SALMON ENHANCEMENT PROGRAM STATUS REPORT FOR CHUM SALMON, 1994.

	FACILITY OR PROJECT	ADULT PRODUCTION GOAL	STATUS	COST (In Thousands)
1.	FRED - MARX CREEK SPAWNING CHANNEL	50,000	FFY 87 - BROOD TRANSPORT, FRY SURVIVAL, CODED WIRE TAGGING - COMPLETED	18.1
			FFY 88 - BROOD TRANSPORT, FRY SURVIVAL CODED WIRE TAGGING - COMPLETED	18.1
			TOTAL	36.2
2.	NSRAA - TAKATZ BAY PROJECT REMOTE CHUM REARING	600,000	FFY 86 - FRY TRANSPORT, REARING AND RELEASE - COMPLETED	95.0
3.	FRED - TAKATZ PROJECT	N/A	FFY 86 - CHUM EGG TAKE, INCUBATION AT HIDDEN FALLS - COMPLETED	23.0
	FRED - HIDDEN FALLS BARRIER NET		FFY 86 - NET PURCHASE AND INSTALLATION COMPLETED	95.0
			TOTAL	118.0
4.	SSRAA - WHITMAN LAKE HATCHERY CHUM INCUBATION	250,000	FFY 86 - CHUM INCUBATORS FOR EXPANDED CAPACITY - COMPLETED	36.9
5.	NSRAA - HIDDEN FALLS INCUBATION AND REARING	540,000	FFY 88/89 - INITIATED IN 1990, 35 MILLION ADDED EGG CAPACITY	385.0
6.	SSRAA - KENDRICK BAY FLOAT CAMP	200,000	FFY 88/89 - INITIATED 1990, CAMP AND OPERATIONAL EQUIPMENT - COMPLETED	149.39
7.	SSRAA - EARL WEST FLOAT CAMP	N/A	FFY 89/90 - INITIATED 1990, CAMP AND OPERATIONAL EQUIPMENT - COMPLETED	125.0
8.	SSRAA - NEETS BAY HATCHERY INCUBATION AND WATER SAVINGS	400,000	FFY 89/90 - PROJECT COMPLETED 1993	667.97
	ADULT PRODUCTION POTENTIAL	**2,040,000**	**TOTAL EXPENDITURES ALL PROJECTS**	**$ 1,613.47**

TABLE 37. ALASKA SALMON ENHANCEMENT PROGRAM STATUS REPORT FOR SOCKEYE SALMON, 1994.

	FACILITY OR PROJECT	ADULT PRODUCTION GOAL	STATUS	COST (In Thousands)
1.	FRED - SNETTISHAM CIF	316,800	FFY 86 - TURNER LAKE PATHOLOGY AND LIMNOLOGY INVESTIGATIONS - COMPLETED	63.2
			SPEEL LAKE INCUBATION PROJECT - COMPLETED	48.0
			FFY 87 - ENGINEERING /DESIGN - COMPLETED	155.0
			LIMNO/LAKE OUTLET INVESTIGATIONS - COMPLETED	100.0
			FFY 88 - CRESCENT LAKE LIMNO./EVALUATIONS	20.0
			18 MILLION EGG FACILITY, CONSTRUCTION - INITIATED 1992	1,100.0
			TOTAL	1,481.2
2.	SSRAA - BEAVER FALLS HEAT EXCHANGER ADULT HOLDING, BROODSTOCK RIPENING	88,000	FFY 87- COMPLETED	175.4
			FFY 88 - COMPLETED	170.0
3.	FRED - BEAVER FALLS	145,200	FFY 86 - STATE FY87 OPERATIONS	185.0
			FFY 87 - STATE FY88 OPERATIONS	168.6
			NAHA/PATCHING/KARTA EGG TAKE, TRANSPORT EVALUATION	153.6
			FFY 88 - STATE FY89 OPERATIONS	151.5
			MCDONALD/HUGH-SMITH EGG TAKE	
			MCDONALD/HUGH SMITH/VIRGINIA LAKE TRANSPORT, EVALUATION	134.2
			PATCHING /HECKMAN LIMNOLOGY	68.2
			TOTAL	1,206.5
4.	FRED - KLAWOCK HATCHERY	29,000	FFY 87 - CONVERSION COMPLETED	110.0
			KLAWOCK/NECK LAKES LIMNOLOGY	50.0
			TOTAL	160.0
5.	FRED - SITUK/MOUNTAIN LAKES	40,000	FFY 87 - LIMNOLOGY COMPLETED	18.3
6.	FRED - SNETTISHAM, PHASE II	N/A	FFY 88 - INTERIM FACILITY FOR 1990 TRANSBOUNDARY RIVER COMMITMENTS - COMPLETED 1993	90.0
			SWEET HEART /SPEEL LIMNOLOGY STUDIES	27.8
			TBR OPERATIONAL COSTS	70.0
			LONG LAKE /CRATER LAKES FISH SAMPLING	4.0
7.	FRED- SNETTISHAM CIF		FFY 89/90 - 18 MILLION EGG CAPACITY - COMPLETED 1993	1,350.0
8.	FRED - SWEATHEART/SPEEL		FFY 89/90 - 3 YEARS EVALUATION. - COMPLETED 6/30/94	113.4
			TOTAL	1,673.5
9.	FRED - HUGH- SMITH, BAKEWELL BADGER LAKES REHABILITATION	UNDETERMINED	FFY 89/90 - STATE FY 91 REHABILITATION	131.6
10.	FRED - MCDONALD LAKE	112,000	FFY 89/90 - TWO YEARS OF REHABILITATION, INITIATED 1991	78.2
11.	FRED - REDOUBT LAKE	60,000	FFY 89/90 - FIVE YEARS OF REHABILITATION , INITIATED 1991	455.0
12	NSRAA - REDOUBT LAKE CIF	CANCELLED	FFY 89/90- PROJECT MONIES REPROGRAMED INTO THREE NEW SOCKEYE SALMON PROJECTS ($495,000 TOTAL)	-0-
13.	FRED/SSRAA BEAVER FALLS OPERATIONS	N/A	FFY 89/90 - SSRAA OPERATES UNDER CONTRACT WITH ADF&G	110.0

TABLE 37. (CONTINUED)

	FACILITY OR PROJECT	ADULT PRODUCTION GOAL	STATUS	COST (In Thousands)
14.	FRED - SNETTISHAM CIF	(INCLUDED IN #15 BELOW)	FFY 89/90 - CHILKAT SOCKEYE MODULES 9 MILLION EGG CAPACITY - COMPLETED 1993	300.0
15.	NSRAA-CHILKAT LAKE SOCKEYE ENHANCEMENT	249,943	FFY 89/90 - CHILKAT SOCKEYE ENHANCEMENT 5 MILLION EGGS , COULD INCREASE TO 10 MILLION BEGINS 1993	178.0
16.	NSRAA - LAKE EKATERINA INVESTIGATIONS	N/A	FFY 89/90 - LAKE INVESTIGATIONS BEGIN 1993	17.0
17.	FRED - SALMON LAKE SOCKEYE REHABILITATION	40,000	FFY 91 - PROJECT BEGINS IN 1993	122.0
18.	FRED - SNETTISHAM OFF-HATCHERY REARING	300,000	FFY 91 - PROJECT COMPLETED- BALANCE TO SNETT. FRY/SMOLT	51.9
19.	FRED - SNETTISHAM CIF	(INCLUDED IN # 1&7 ABOVE)	FFY 1991 - PROJECT REIMBURSES FOR TBR OPERATIONAL COSTS FY 91 - COMPLETED 1993	108.8
20.	CFMD - SNETT. FRY/SMOLT	N/A	INITIATED 7/1/95	17.6
21.	CFMD - SNETT. FRY/SMOLT II	N/A	INITIATED 7/1/95	104.9
	ADULT PRODUCTION POTENTIAL	**1,380,943**	**TOTAL EXPENDITURES ALL PROJECTS**	$ 6,201.2

TABLE 38. ALASKA SALMON ENHANCEMENT PROGRAM STATUS REPORT FOR COHO SALMON, 1994.

FACILITY OR PROJECT	ADULT PRODUCTION GOAL	STATUS	COST (In Thousands)
1. NSRAA - DEER LAKE COHO BY-PASS	UNDETERMINED	FFY 91 - PROJECT STARTED 1992 - COMPLETED IN 1993	50.0
2. FRED - KETCHIKAN AREA LAKE STOCKING	25,000	FFY 91 - FRY TRANSPORT BEGINS 1993 AND RELEASE. SOME FUNDS TO SNETT. FRY/SMOLT II	114.0
3. FRED - OLD FRANKS BIOENHANCEMENT	25,000	FFY 91 - FRY TRAPPING AND TRANSPORT BEGINS 1993	150.0
ADULT PRODUCTION POTENTIAL	**50,000**	**TOTAL EXPENDITURES ALL PROJECTS**	**$ 314.0**

TABLE 39. DISTRIBUTION OF FUNDS BY SPECIES, POTENTIAL ADULT PRODUCTION, AND TOTAL ALLOCATIONS, 1994.

SPECIES	POTENTIAL ADULT PRODUCTION	ALLOCATIONS
CHINOOK SALMON	197,600	$ 11,160,349
SOCKEYE SALMON	1,380,943	$ 6,201,193
CHUM SALMON	2,040,000	$ 1,613,468
COHO SALMON	50,000	$ 314,000
CONTRACT ADMINISTRATION		$ 412,100
ADMINISTRATIVE OVERHEAD		$ 54,170
ADF&G TAG LAB COMPUTER HARDWARE AND SOFTWARE		$ 110,000
TOTAL FUNDING RECEIVED		$ 19,865,280*
TOTAL U.S./CANADA FUNDING		$ 20,000,000

* DIFFERENCE DUE TO ADMINISTRATIVE COSTS ASSESSED BY NOAA

DISTRIBUTION OF FUNDS BY AGENCY

NORTHERN SOUTHEAST REGIONAL AQUACULTURE ASSOCIATION	$ 3,020,100
SOUTHERN SOUTHEAST REGIONAL AQUACULTURE ASSOCIATION	$ 3,536,000
ARMSTRONG-KETA INC.	$ 1,631,020
ALASKA DEPARTMENT OF FISH AND GAME	$ 11,678,160
TOTAL ALLOCATIONS	$ 19,865,280

ACKNOWLEDGEMENTS

The 1994 update of the comprehensive salmon plan for southern southeast Alaska was prepared by Kevin C. Duffy, Steven G. McGee, Carol E. Denton, and Sid O. Morgan (ADF&G, CFMD Division, Planning, Permitting, and Development Section). Additional assistance by U.S. Forest Service, NSRAA, and CFMD Division regional staffs is gratefully acknowledged. This update was reviewed and approved by the Southern Southeast Regional Planning Team.

REFERENCES

1. Comprehensive Salmon Plan for Southeast Alaska, Phase I; April 1981; 219 pages; Joint NSE/SSE Regional Planning Team.

2. Comprehensive Salmon Plan, Phase II: Southern Southeast Alaska; September 1983; 51 pages; SSERPT.

3. Comprehensive Salmon Plan , Phase II Update for Southern Southeast Alaska; working document only; 31 pages; SSERPT.