
ELOKOMIN HATCHERY

A COMPILATION AND SUMMARY OF
IHOT AUDITS FOR FALL CHINOOK AND
COHO

JULY 1998

**HATCHERY EVALUATION REPORT
SUMMARY FOR**

- Elokomin Hatchery**
- **Tule Fall Chinook**
- **Coho (N)**
- **Coho (S)**
-

**A Summarized Compilation of Independent Audits Based on
Integrated Hatchery Operations Team (IHOT) Performance
Measures**

SUMMARY REPORT PREPARED BY:
DON SAMPSON
SAMPSEL CONSULTING SERVICES
FOR THE
NORTHWEST POWER PLANNING COUNCIL
JULY 1998

Original IHOT Audit Reports Prepared by:

Montgomery Watson
2375 130th Avenue NE
Suite 200
Bellevue, WA 98005
March 1997

BPA Project Number 95-2
Contract Number 95AC49468

CONTENTS

Section 1 Executive Summary.....	1
Section 2 Facility Description	5
Section 3 Remedial Actions	6
Section 4 Hatchery Contribution to Fisheries, Spawning Grounds and Hatcheries	14
Section 5 Annual Operating Expenditures	17

Section 1

Executive Summary

This report compiles a summary of the findings of three separate Hatchery Evaluation Reports for Tule Fall Chinook, Coho (N), and Coho (S) at Elokomín Hatchery. The original Hatchery Evaluation Reports, prepared by Montgomery Watson, presented each species and program separately and include the complete findings. Details on the audit compliance status for each species and program are included in the original reports. The Hatchery Evaluation Reports were based upon audits conducted in 1996-1997 as part of a 2-year effort that will include 67 hatcheries and satellite facilities located on the Columbia and Snake River system in Idaho, Oregon, and Washington. The hatchery operating agencies include the U.S Fish and Wildlife Service, Idaho Department of Fish and Game, Oregon Department of Fish and Wildlife, and Washington Department of Fish and Wildlife.

The Elokomín Hatchery is located on the Elokomín River, 7 miles upstream from the river mouth. The hatchery is operated by the Washington Department of Fish and Wildlife. The Elokomín River is a north bank tributary of the lower Columbia River below Bonneville Dam. It enters the Columbia at river mile 38, just downstream of Cathlamet, Washington. The hatchery is used for adult collection, incubation, and rearing of lower river fall chinook and coho (Type-S and Type-N).

Background

The audit is being conducted as a requirement of the Northwest Power Planning Council (NPPC) “Strategy for Salmon” and the Columbia River Basin Fish and Wildlife Program. Under the audit, the hatcheries are evaluated against policies and related performance measures developed by the Integrated Hatchery Operations Team (IHOT) in January 1995. IHOT is a multi-agency group established by the NPPC to direct the development of new basinwide standards for managing and operating fish hatcheries. The Bonneville Power Administration (BPA) contracted with Montgomery Watson to act as an independent contractor for the audit.

IHOT has established five basic policies that cover: (1) hatchery coordination, (2) hatchery performance standards, (3) fish health, (4) ecological interaction, and (5) genetics. The audit focuses on all these policies, with the exception of hatchery coordination. These policies are set forth in *Policies and Procedures for Columbia Basin Anadromous Salmonid Hatcheries (IHOT 1995)*, which is the source for the performance measures that are the basis of this audit.

The Audit Process

The audit was based on the facility management’s response to a 109-page questionnaire. This audit form was completed through a five-step process in which:

- Information was obtained from headquarters.
- The hatchery manager was asked to fill out and return the audit form.
- A 1-2 day site audit visit was conducted to inspect facilities, review hatchery records, discuss audit form responses, and develop remedial action plans.
- A compliance report was developed to document the compliance status of each performance measure. This report was then shared with the hatchery manager and IHOT representative.

- This hatchery evaluation report was written to document compliance with IHOT performance measures and develop cost estimates for remedial actions when needed.

Elokomin Hatchery - Tule Fall Chinook, Coho(N), and Coho(S) Results

The Elokomin facility includes 20 raceways, 3 large ponds, and incubation facilities. Elokomin Hatchery was authorized under the Mitchell Act and began operating in 1954 as part of the Columbia River Fisheries Development Program -- a program to mitigate for fishery losses caused by human impact such as hydroelectric system development.

FALL CHINOOK

The Elokomin Hatchery - Tule Fall Chinook program was in general compliance with most of the performance measures. The audit found that the hatchery was not in compliance with the water quality monitoring requirements, disease-free water criteria, and needed to redesign the adult trap and intake and to construct a settling basin and incubation filtration system, which are all facilities requirements. The hatchery was not in compliance with all of the alarm, feed monitoring, smoltification, or transportation requirements. The hatchery did not have a Genetics Monitoring and Evaluation Program in place.

The specific areas in which the Elokomin Hatchery - Tule Fall Chinook program requires remedial actions based on the IHOT performance measures are listed below. These remedial actions are listed in alphabetical order without intent of ranking or otherwise assigning priority:

- Conduct IHOT QA/QC tests for feed preparation
- Construct settling basin
- Develop a genetics M&E program
- Develop alarm logs
- Develop smoltification goal and monitor
- Develop IHOT criteria for freestyle incubators
- Follow IHOT disinfection protocols for exteriors and interiors of transport vehicles
- Follow IHOT loading criteria for loading in pond 23
- Follow IHOT protocols for daily checking of flow alarms and weekly checking of other alarms
- Follow IHOT water temperature criteria for transportation
- Install filter to remove fine sediment in incubation and early rearing water (4 cfs)
- Install security alarms
- Install telephone pagers
- Modify ambient water temperature or production program to meet size goal
- Monitor and record DO and TGP
- Provide disease-free water for incubation and early rearing(4 cfs)
- Rebuild adult trap
- Redesign intake
- Review IHOT criteria for incubation temperature
- Run analysis for water quality parameters, turbidity, alkalinity, hardness, nitrite, and contaminants

Non-compliance issues resulting from items beyond human control or Performance Measures not relevant to this hatchery were not listed above.

COHO (N)

The Elokomin Hatchery - Coho (N Type) program was in general compliance with most of the performance measures. In the area of program objectives, the hatchery was not meeting its adult return goal. The audit found that the hatchery was not in compliance with the water quality monitoring requirements, disease-free water criteria, needed to redesign the adult trap and intake and needed to construct a settling basin and incubation filtration system, which are all facilities requirements. The hatchery also exceeded its flow and loading criteria for incubation in the free-style units and exceeded the loading criteria in rearing ponds 22 and 23. The hatchery was not in compliance with all of the alarm, feed monitoring, smoltification, or transportation requirements. The hatchery did not have a Genetics Monitoring and Evaluation Program in place.

The specific areas in which the Elokomin Hatchery - Coho (N Type) program requires remedial actions based on the IHOT performance measures are listed below. These remedial actions are listed in alphabetical order without intent of ranking or otherwise assigning priority:

- Conduct IHOT QA/QC tests for feed preparation
- Construct settling basin
- Develop a genetics M&E program
- Develop alarm logs
- Develop smoltification goal and monitor
- Follow IHOT disinfection protocols for exteriors and interiors of transport vehicles
- Develop IHOT loading and flow criteria for free-style incubators
- Follow IHOT loading criteria for ponds 22 and 23
- Follow IHOT protocols for daily checking of flow alarms and weekly checking of other alarms
- Follow IHOT recommendations on release size
- Follow IHOT water temperature criteria for transportation
- Install filter to remove fine sediment in incubation and early rearing water (4 cfs)
- Install security alarms
- Install telephone pagers
- Line pond 23 with asphalt
- Monitor and record DO and TGP
- Provide disease-free water for incubation and early rearing (4 cfs)
- Rebuild adult trap
- Redesign intake
- Review IHOT criteria for incubation temperature
- Run analysis for water quality parameters, turbidity, alkalinity, hardness, nitrite, and contaminants

Non-compliance issues resulting from items beyond human control or Performance Measures not relevant to this hatchery were not listed above.

COHO (S)

The Elokomin Hatchery - Coho (S Type) program was in general compliance with most of the performance measures. In the area of program objectives, the hatchery was not meeting its adult

return goal. The audit found that the hatchery was not in compliance with the water quality monitoring requirements, disease-free water criteria, needed to redesign the adult trap and intake, and needed to construct a settling basin and incubation filtration system, which are all facilities requirements. The hatchery also exceeded its flow and loading criteria for incubation in the free-style. The hatchery was not in compliance with all of the alarm, feed monitoring, smoltification, or transportation requirements. The hatchery did not have a Genetics Monitoring and Evaluation Program in place.

The specific areas in which the Elokommin Hatchery - Coho (S Type) program requires remedial actions based on the IHOT performance measures are listed below. These remedial actions are listed in alphabetical order without intent of ranking or otherwise assigning priority:

- Conduct IHOT QA/QC tests for feed preparation
- Construct settling basin
- Develop a genetics M&E program
- Develop alarm logs
- Develop smoltification goal and monitor
- Follow IHOT disinfection protocols for exteriors and interiors of transport vehicles
- Develop IHOT loading and flow criteria for free-style incubators
- Follow IHOT protocols for daily checking of flow alarms and weekly checking of other alarms
- Follow IHOT water temperature criteria for transportation
- Install filter to remove fine sediment in incubation water and early rearing (4 cfs)
- Install security alarms
- Install telephone pagers
- Monitor and record DO and TGP
- Provide disease-free water for incubation and early rearing (4 cfs)
- Rebuild adult trap
- Redesign intake
- Review IHOT criteria for incubation temperature
- Run analysis for water quality parameters, turbidity, alkalinity, hardness, nitrite, and contaminants

Non-compliance issues resulting from items beyond human control or Performance Measures not relevant to this hatchery were not listed above.

Facility Description

Name:	Elokomin Fish Hatchery
Stock/Species:	Tule Fall Chinook Coho (S Type) Coho (N Type)
Operating Agency:	Washington Department of Fish and Wildlife
Funding Agency:	NMFS (Mitchell Act)
Location:	Elokomin Hatchery is located on the Elokomin River, 7 miles upstream from the river mouth. The Elokomin River is a north bank tributary of the lower Columbia River below Bonneville Dam. It enters the Columbia at river mile 38, just downstream of Cathlamet, Washington.
Address:	1318 Elokomin Valley Road Cathlamet, WA 98612
Hatchery Manager:	Mr. Dick Aksamit
Phone:	(360) 795-3608
Fax:	(360) 795-6029
Purpose:	Elokomin Hatchery was authorized under the Mitchell Act and began operating in 1954 as part of the Columbia River Fisheries Development Program -- a program to mitigate for fishery losses caused by human impact such as hydroelectric system development.
Production Goal:	Tule Fall Chinook Produce 4 million subyearlings for on-station release. Provide 325,000 egg/fish to co-op programs Coho (S Type) Produce 500,000 yearlings for on-station release Coho (N Type) Produce 1,200,000 yearlings for on-station release Provide egg/fish (surplus to on-station needs) to other facilities

Water Supply:

Water rights total 20,583 gpm from four sources: the Elokomin River, one well, a small, unnamed stream, and Clear Creek.

Facilities:

Adult Holding:	1 earth pond - 58,000 cf
Incubation:	72 - 16 tray vertical incubators
	12 deep troughs
	6 shallow troughs
Early Rearing:	
Raceways:	20 concrete raceways - 4,800 cf each
Rearing Ponds:	1 earth pond - 64,000 cf
	2 asphalt ponds - 60,100 and 75,200 cf
Satellite Facilities:	None

Remedial Actions

Based on the compliance status for each performance measure, remedial actions were developed. The required remedial actions are organized into five categories. The types of categories range across a spectrum from those actions that are beyond human control, to those that require a change in agency policy or procedures, to those that involve a significant capital cost to put in place. The following are the five types of remedial actions identified under phase 1 of the audit:

The Five Types of Remedial Actions

Type	Description
1	Non-compliance issues resulting from items beyond human control or Performance Measures not relevant for this hatchery
2	Remedial actions requiring changes in agency policies or procedures
3	Remedial actions requiring changes in monitoring coverage or interval
4	Remedial actions requiring significant capital expenditures
5	Remedial actions that may require significant capital expenditures but are not clearly definable at this time

Remedial Actions at Elokomin Hatchery - Tule Fall Chinook, Coho (N), and Coho (S)

This section presents the corrective actions required to bring the Elokomin Hatchery - Tule Fall Chinook, Coho (N), and Coho (S) programs into compliance with IHOT performance measures. The remedial actions described here are suggestions developed by the Montgomery Watson Audit Team. The remedial actions and associated cost estimates have not been analyzed or prioritized by the respective operating agencies, fishery managers, or IHOT. There may be additional remedial actions, not included in this report, proposed by the respective operating agencies. For some non-compliance areas, other remedial actions could be proposed. The required remedial actions are cross-referenced to each IHOT performance measure that was not in compliance. Where appropriate, the costs associated with the remedial actions are also presented (Tables 3a, 3b, 3c).

The cost estimates presented in this section are based on professional experience from similar projects. In most cases, only a lump-sum figure is presented, and detailed take-off lists have not been prepared. The cost estimates are essentially order of magnitude estimates ($\pm 40\%$).

The suggested remedial activities may also present several levels of action. Optional actions have been listed for several problems. These optional actions are desirable for either operational or safety considerations.

Table 3a. Remedial Actions Required at Elokomin Hatchery - Tule Fall Chinook

Remedial Action Required	Cost	PMS¹
Type 1 – Non-compliance issues resulting from items beyond human control or Performance Measures not relevant for this hatchery		
Improve adult returns	----	4c, 4g,4h
Type 2 – Remedial actions requiring changes in agency policies or procedures		
Review IHOT criteria for incubation temperature	----	5a
Follow IHOT protocols for daily checking of flow alarms and weekly checking of other alarms	----	6
Develop alarm logs	----	6
Conduct IHOT QA/QC tests for feed preparation	----	12
Develop IHOT criteria for freestyle incubators	----	18
Follow IHOT loading criteria for loading in pond 23	----	19
Develop smoltification goal and monitor	----	22a1
Follow IHOT disinfection protocols for exteriors and interiors of transport vehicles	----	23
Follow IHOT water temperature criteria for transportation	----	23
Develop a genetics M&E program	----	43
Type 3 – Remedial actions requiring changes in monitoring coverage or interval		
Monitor and record DO and TGP	----	5b
Run analysis for water quality parameters, turbidity, alkalinity, hardness, nitrite, and contaminants	----	5c-5g
Remedial Action Required		
Cost		
PMS²		
Type 4 - Remedial actions requiring significant capital expenditures		
Rebuild adult trap	\$250,000-\$400,000	4b

¹ PMS are performance measures that were extracted from the IHOT 1995 report.

² PMS are performance measures that were extracted from the IHOT 1995 report.

Remedial Action Required	Cost	PMS¹
Install filter to remove fine sediment in incubation and early rearing water (4 cfs)	\$130,000	4d-4e
Construct settling basin (6,000 gpm)	\$200,000	5d
Provide disease-free water for incubation and early rearing (4 cfs)	\$1,000,000	5h, 28
Install security alarms	\$5,000	6
Install telephone pagers	\$2,000	6
Type 5 - Remedial actions that may require significant capital expenditures but are not clearly definable at this time		
Redesign intake		5d
Modify ambient water temperature or production program to meet size goal	----	22a5

Table 3b. Remedial Actions Required at Elokomin Hatchery - Coho (N Type)

Remedial Action Required	Cost	PMS¹
Type 1 – Non-compliance issues resulting from items beyond human control or Performance Measures not relevant for this hatchery		
Improve adult returns	----	4c, 4g, 4h
Type 2 – Remedial actions requiring changes in agency policies or procedures		
Review IHOT criteria for incubation temperature	----	5a
Follow IHOT protocols for daily checking of flow alarms and weekly checking of other alarms	----	6
Develop alarm logs	----	6
Conduct IHOT QA/QC tests for feed preparation	----	12
Develop IHOT loading and flow criteria for free-style incubators	----	18
Follow IHOT loading criteria for ponds 22 and 23	----	19
Develop smoltification goal and monitor	----	22a1

¹ PMS are performance measures that were extracted from the IHOT 1995 report.

Remedial Action Required	Cost	PMs¹
Follow IHOT recommendations on release size	----	22a5
Follow IHOT disinfection protocols for exteriors and interiors of transport vehicles	----	23
Follow IHOT water temperature criteria for transportation	----	23
Develop a genetics M&E program	----	43

Remedial Action Required	Cost	PMS ¹
Type 3 - Remedial actions requiring changes in monitoring coverage or interval		
Monitor and record DO and TGP	----	5b
Run analysis for water quality parameters, turbidity, alkalinity, hardness, nitrite, and contaminants	----	5c-5g
Type 4 - Remedial actions requiring significant capital expenditures		
Rebuild adult trap	\$250,000 - \$400,000	4c
Install filter to remove fine sediment in incubation and early rearing water (4 cfs)	\$130,000	4d, 4e
Provide disease-free water for incubation and early rearing (4 cfs)	\$1,000,000	5h, 28
Construct settling basin (6,000 gpm)	\$200,000	5d
Install security alarms	\$5,000	6
Install telephone pagers	\$2,000	6
Line pond 23 with asphalt	\$25,000	9
Type 5 - Remedial actions that may require significant capital expenditures but are not clearly definable at this time		
Redesign intake	----	5d

Table 3c. Remedial Actions Required at Elokomin Hatchery - Coho (S Type)

Remedial Action Required	Cost	PMS ²
Type 1 - Non-compliance issues resulting from items beyond human control or Performance Measures not relevant for this hatchery		
Improve adult returns	----	4c, 4h
Type 2 - Remedial actions requiring changes in agency policies or procedures		
Review IHOT criteria for incubation temperature	----	5a

¹ PMS are performance measures that were extracted from the IHOT 1995 report.

² PMS are performance measures that were extracted from the IHOT 1995 report.

Remedial Action Required	Cost	PMS²
Follow IHOT protocols for daily checking of flow alarms and weekly checking of other alarms	----	6
Develop alarm logs	----	6
Conduct IHOT QA/QC tests for feed preparation	----	12
Develop IHOT loading and flow criteria for free-style incubators	----	18
Develop smoltification goal and monitor	----	22a1
Follow IHOT disinfection protocols for exteriors and interiors of transport vehicles	----	23
Follow IHOT water temperature criteria for transportation	----	23
Develop a genetics M&E program	----	43
Type 3 - Remedial actions requiring changes in monitoring coverage or interval		
Monitor and record DO and TGP	----	5b
Run analysis for water quality parameters, turbidity, alkalinity, hardness, nitrite, and contaminants	----	5c-5g
Remedial Action Required	Cost	PMS¹
Type 4 - Remedial actions requiring significant capital expenditures		
Rebuild adult trap	\$250,000 - \$400,000	4b
Install filter to remove fine sediment in incubation water and early rearing (4 cfs)	\$130,000	4c
Construct settling basin (6,000 gpm)	\$200,000	5d
Provide disease-free water for incubation and early rearing (4 cfs)	\$1,000,000	5h, 28
Install security alarms	\$5,000	6
Install telephone pagers	\$2,000	6
Type 5 - Remedial actions that may require significant capital expenditures but are not clearly definable at this time		
Redesign intake		5d

¹ PMs are performance measures that were extracted from the IHOT 1995 report.

Hatchery Contribution to Fisheries, Spawning Grounds, and Hatcheries

This section presents the audit findings for the Elokomin Hatchery - Tule Fall Chinook, Coho (N), and Coho (S) programs contribution of adult fish to fisheries, local fisheries, spawning grounds, and hatcheries (Tables 4a, 4b, and 4c). Data is reported by broodyear. A broodyear refers to the adult contribution from the eggs produced from a single group of spawning adults. For some species, this may include fish caught as 2-, 3-, 4-, 5-, and 6-year old fish. Because of the return distribution and data processing delays, the complete adult contribution for a given broodyear may not be available until 4 to 5 years after the fish have been released from the hatchery.

**Table 4a. Adult Contribution to Fisheries, Spawning Grounds, and Hatcheries:
Elokomin Hatchery - Tule Fall Chinook**

Year	Fisheries ¹ (Broodyear)	Spawning Grounds ¹ (Broodyear)	Hatchery ¹ (Broodyear)	Total Combined Contribution ² (Broodyear)	Smolt to Adult Survival (percent)
1984					
1985	1,088	101	47	1,236	1.26%
1986					
1987					
1988	85	23	22	130	0.06%
1989					
1990					
1991					
1992					

**Table 4b. Adult Contribution to Fisheries, Spawning Grounds, and Hatcheries:
Elokomin Hatchery - Coho (N Type)**

--	--	--	--	--	--

¹ Data obtained from Missing Production Groups Annual Report or from the Regional Mark Information System database.

² Total combined adult contribution; presented when it is not possible to subdivide the contribution into fisheries, spawning grounds, and hatchery contributions.

Year	Fisheries¹ (Broodyear)	Spawning Grounds¹ (Broodyear)	Hatchery¹ (Broodyear)	Total Combined Contribution² (Broodyear)	Smolt to Adult Survival (percent)
1983					
1984					
1985					
1986					
1987					
1988	2,250	1	225	2,476	8.05%
1989	114	No information provided	36	150	0.3%
1990	80	No information provided	26	106	0.35%
1991	No information provided	No information provided	4	4	0.01%
1992					

¹ Data obtained from Missing Production Groups Annual Report or from the Regional Mark Information System database.

² Total combined adult contribution; presented when it is not possible to subdivide the contribution into fisheries, spawning grounds, and hatchery contributions.

**Table 4c. Adult Contribution to Fisheries, Spawning Grounds, and Hatcheries:
Elkomin Hatchery – Coho (S Type)**

Year	Fisheries¹ (Broodyear)	Spawning Grounds¹ (Broodyear)	Hatchery¹ (Broodyear)	Total Combined Contribution² (Broodyear)	Smolt to Adult Survival (percent)
1983					
1984					
1985					
1986					
1987					
1988					
1989					
1990	96	No information provided	46	142	0.48%
1991	3	No information provided	5	8	0.03%
1992					

¹ Data obtained from Missing Production Groups Annual Report or from the Regional Mark Information System database.

² Total combined adult contribution; presented when it is not possible to subdivide the contribution into fisheries, spawning grounds, and hatchery contributions.

Annual Operating Expenditures

The level and detail of annual operating expenditures varies widely depending on hatchery, operating agency, and funding source. When provided, expenditures were presented in terms of personnel costs, operating costs (power, feed, and supplies), capital costs, indirect costs charged to the federal government, third-party costs, and other costs. These cost components were summed to determine a total hatchery annual cost. Based on discussion with the hatchery manager, the percent of total hatchery costs allocated to a given program was estimated. The total hatchery costs and the percent of hatchery costs allocated to a given program were used to compute the cost of a given program. The total expenditures for the Elokomin Hatchery are presented in Table 6 by program. The detailed breakdown of program expenditures for Tule Fall Chinook, Coho (N), and Coho (S) at this hatchery are presented in separate tables (Tables 6a, 6b, and 6c).

Table 5. Annual Operating Expenses - Elokomin Hatchery

Program	1994	1995	1996
1. Tule Fall Chinook	\$106,476	\$84,683	\$81,386
2. Coho (N Type)	\$146,874	\$111,270	\$150,949
3. Coho (S Type)	\$61,380	\$50,219	\$47,291
4.			
5.			
Total Hatchery Costs	\$313,164	\$246,173	\$274,953

Table 6a. Detailed Expenditures at Elokomin Hatchery by Program

Tule Fall Chinook

Component	1994	1995	1996
Personnel Costs	\$121,036	\$100,922	\$114,673
Operational Costs	\$121,100	\$102,000	\$110,311
Capital Costs		\$55,000	
Indirect Costs	\$71,028	\$43,251	\$49,969
Lumped Hatchery Costs ¹			
Lumped Third-Party Costs			
Total Hatchery Costs	\$313,164	\$246,173	\$274,953
Source of Funds			
Mitchell Act	100%	100%	100%
Program Production (lb)	58,873	60,173	49,453
Total Production (lb)	173,252	174,839	166,864
Program as Percent of Total	34.0%	34.4%	29.6%
Program Costs	\$106,476	\$84,683	\$81,386

¹ When it was not possible to obtain a detailed cost breakdown from an agency or third party, the undivided costs were entered here.

Table 6b. Detailed Expenditures at Elokomin Hatchery by Program

Coho (N Type)

Component	1994	1995	1996
Personnel Costs	\$121,036	\$100,922	\$114,673
Operational Costs	\$121,100	\$102,000	\$110,311
Capital Costs		\$55,000	
Indirect Costs	\$71,028	\$43,251	\$49,969
Lumped Hatchery Costs ¹			
Lumped Third-Party Costs			
Total Hatchery Costs	\$313,164	\$246,173	\$274,953
Source of Funds			
Mitchell Act	100%	100%	100%
Program Production (lb)	81,418	79,083	91,681
Total Production (lb)	173,252	174,839	166,864
Program as Percent of Total	46.9%	45.2%	54.9%
Program Costs	\$146,874	\$111,270	\$150,949

¹ When it was not possible to obtain a detailed cost breakdown from an agency or third party, the undivided costs were entered here.

Table 6c. Detailed Expenditures at Elokomin Hatchery by Program

Coho (S Type)

Component	1994	1995	1996
Personnel Costs	\$121,036	\$100,922	\$114,673
Operational Costs	\$121,100	\$102,000	\$110,311
Capital Costs		\$55,000	
Indirect Costs	\$71,028	\$43,251	\$49,969
Lumped Hatchery Costs ¹			
Lumped Third-Party Costs			
Total Hatchery Costs	\$313,164	\$246,173	\$274,953
Source of Funds			
Mitchell Act	100%	100%	100%
Program Production (lb)	32,961	35,633	25,730
Total Production (lb)	173,252	174,839	166,864
Program as Percent of Total	19.6%	20.4%	17.2%
Program Costs	\$61,380	\$50,219	\$47,291

¹ When it was not possible to obtain a detailed cost breakdown from an agency or third party, the undivided costs were entered here.