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**METHOW HATCHERY**

**A COMPILATION AND SUMMARY OF  
IHOT AUDITS FOR SPRING CHINOOK  
(TWISP, METHOW, AND CHEWUCH)**

**JULY 1998**

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**HATCHERY EVALUATION REPORT  
SUMMARY FOR**

- Methow Fish Hatchery**
- **Spring Chinook (Twisp Stock)**
  - **Spring Chinook (Methow Stock)**
  - **Spring Chinook (Chewuch Stock)**

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

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## Executive Summary

This report compiles a summary of the findings of three separate Hatchery Evaluation Reports for three stocks of Spring Chinook (Twisp, Methow, and Chewuch) at Methow 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 hatchery is located along the Methow River upstream from the confluence with the Chewuch River in north-central Washington, near the town of Winthrop. The hatchery is operated by the Washington Department of Fish and Wildlife and used for adult collection, incubation, and rearing of three spring chinook stocks.

### 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.

## **Methow Fish Hatchery - Spring Chinook (Twisp, Methow, and Chewuch Stocks) Results**

The Methow Fish Hatchery includes 12 rearing ponds, 24 starter troughs, 3 adult ponds and 3 lined acclimation and release ponds. The Methow Hatchery began operating in 1992 to mitigate for fish losses caused by the construction of the Wells Project. The hatchery uses well water for incubation and a combination of well water, Methow River water for fish rearing and river water for acclimation.

### **Spring Chinook (Twisp Stock)**

The Methow Fish Hatchery - Spring Chinook (Twisp Stock) 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 for water quality monitoring requirements and, for full program, would need 12 additional starter tanks, 5 more raceways, and 2 additional acclimation ponds. The hatchery needed to develop specific incubation standards for the IHOT Operations Plan, develop a smoltification goal and monitoring plan, and double screen the raceways. The hatchery was not following some of the IHOT protocols for feed preparation and transportation.

The specific areas in which the Methow Fish Hatchery - Spring Chinook (Twisp Stock) 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
- Develop specific incubation standards for IHOT Operations Plan
- Develop smoltification goals and monitor
- Follow IHOT disinfection protocols for tank interiors
- Follow IHOT protocols for disinfection of exteriors and interiors of transport vehicles
- Follow IHOT standards for monitoring of oxygen concentration during transport
- Improve adult returns
- Install double screens on raceways
- Install foot baths in incubation facilities
- Monitor DO and TGP
- Need 12 additional starter tanks, 5 more raceways, and 2 additional acclimation ponds for full program
- Review IHOT disease-free criteria for rearing and acclimation
- Review IHOT temperature criteria for rearing
- Run analysis for missing water chemistry parameters, nitrite, and contaminants

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

### **Spring Chinook (Methow Stock)**

The Methow Fish Hatchery - Spring Chinook (Methow Stock) 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 and needed to document its adult contribution. The audit found that the hatchery was not in compliance for water quality monitoring requirements and, for full program, would need 12 additional starter tanks, 5 more raceways, and 2 additional acclimation ponds. The hatchery needed to develop specific incubation and rearing standards for the IHOT Operations Plan and a smoltification goal and monitoring plan. The hatchery was not following some of the IHOT protocols for feed preparation and transportation.

The specific areas in which the Methow Fish Hatchery - Spring Chinook (Methow Stock) 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
- Develop smoltification goals and monitor
- Develop specific incubation and rearing standards for IHOT Operations Plan
- Document adult contribution
- Follow IHOT disinfection protocols for tank interiors
- Follow IHOT protocols for disinfection of exteriors and interiors of transport vehicles
- Follow IHOT standards for monitoring of oxygen concentration during transport
- Improve adult returns
- Install foot baths in incubation facilities
- Monitor DO and TGP
- Need 12 additional starter tanks, 5 more raceways, and 2 additional acclimation ponds for full program
- Review IHOT disease-free criteria for rearing and acclimation
- Review IHOT temperature criteria for rearing
- Run analysis for missing water chemistry parameters, nitrite, and contaminants

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

### **Spring Chinook (Chewuch Stock)**

The Methow Fish Hatchery - Spring Chinook (Chewuch Stock) 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 for water quality monitoring requirements and, for full program, would need 12 additional starter tanks, 5 more raceways, and 2 additional acclimation ponds. The hatchery needed to develop specific incubation standards for the IHOT Operations Plan, develop a smoltification goal and monitoring plan, and double screen the raceways. The hatchery was not following some of the IHOT protocols for feed preparation and transportation.

The specific areas in which the Methow Fish Hatchery - Spring Chinook (Chewuch Stock) 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
- Develop smoltification goals and monitor
- Develop specific incubation standards for IHOT Operations Plan
- Document smolt to adult survival
- Document adult contribution
- Follow IHOT disinfection protocols for tank interiors
- Follow IHOT protocols for disinfection of exteriors and interiors of transport vehicles
- Follow IHOT standards for monitoring of oxygen concentration during transport
- Improve adult returns
- Install double screens on raceways
- Install foot baths in incubation facilities
- Monitor DO and TGP
- Need 12 additional starter tanks, 5 more raceways, and 2 additional acclimation ponds for full program
- Review IHOT disease-free criteria for rearing and acclimation
- Review IHOT temperature criteria for rearing
- Run analysis for missing water chemistry parameters, 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

<b>Name:</b>	Methow Fish Hatchery
<b>Stock/Species:</b>	Spring Chinook (Methow Stock) Spring Chinook (Twisp Stock) Spring Chinook (Chewuch Stock)
<b>Operating Agency:</b>	Washington Department of Fish and Wildlife
<b>Funding Agency:</b>	Douglas County PUD
<b>Location:</b>	The hatchery is located along the Methow River upstream from the confluence with the Chewuch River in north-central Washington, near the town of Winthrop.
<b>Address:</b>	Methow Fish Hatchery Washington Department of Fish and Wildlife 440 Wolf Creek Road Winthrop, WA 98862
<b>Hatchery Manager:</b>	Mr. Bob Jateff
<b>Phone:</b>	(509) 996-3114
<b>Fax:</b>	(509) 996-2605
<b>Purpose:</b>	<p>The Methow Hatchery began operating in 1992 with the purpose of mitigating fish losses caused by the construction of the Wells Project. Douglas County PUD provides funding for this hatchery under the FERC Wells Dam Settlement Agreement (FERC Project No. 2149).</p> <p>The goal of this hatchery is to increase the number of naturally spawning spring chinook salmon adults in the Methow, Twisp and Chewuch Rivers.</p>
<b>Production Goal:</b>	<p><b>Spring Chinook (Methow Stock)</b> Produce 246,000 yearling spring chinook smolts - Methow River</p> <p><b>Spring Chinook (Twisp Stock)</b> Produce 246,000 yearling spring chinook smolts - Twisp River</p> <p><b>Spring Chinook (Chewuch Stock)</b> Produce 246,000 yearling spring chinook smolts - Chewuch River</p>



**Water Supply:**

Water rights total 18 cfs for surface water from the Methow River (11 cfs full time and 7 cfs part time). Groundwater rights total 10 cfs from 4 wells. Well water is used for adult holding, incubation, and early rearing. Well water and surface water are used for final rearing and acclimation.

**Facilities:**

Adult Holding:	3 Covered concrete holding ponds, - 7,680 cf each
Incubation:	300 Isolation buckets 45 Vertical stack Incubators (360 trays)
Early Rearing:	24 Fiberglass starter tanks - 112 cf each
Raceways:	12 Covered concrete raceways - 2,560 cf each
Rearing Ponds:	1 Lined rearing pond - 24,750 cf
Satellite Facilities:	Twisp pond 1 Asphalt lined rearing pond - 22,000 cf Chewuch pond 1 Asphalt lined rearing pond - 27,000 cf

Section 3  
**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 Methow Fish Hatchery - Spring Chinook (Twisp, Methow, and Chewuch Stocks)**

This section presents the corrective actions required to bring the Methow Fish Hatchery - Spring Chinook (Twisp, Methow, and Chewuch Stocks) 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 (Table 3a, 3b, and 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 Methow Fish Hatchery - Spring Chinook (Twisp Stock)**

<b>Remedial Action Required</b>	<b>Cost</b>	<b>PMs<sup>1</sup></b>
<b>Type 1</b> - Non-compliance issues resulting from items beyond human control or Performance Measures not relevant for this hatchery		
Improve adult returns	----	4c, 4g, 22a2
<b>Type 2</b> - Remedial actions requiring changes in agency policies or procedures		
Document smolt to adult survival	----	4h
Review IHOT temperature criteria for rearing	----	5a
Review IHOT disease-free criteria for rearing and acclimation	----	5h
Conduct IHOT QA/QC tests for feed preparation	----	12
Develop specific incubation standards for IHOT Operations Plan	----	18
Develop smoltification goals and monitor	----	22a1
Follow IHOT disinfection protocols for tank interiors	----	23
Follow IHOT protocols for disinfection of exteriors and interiors of transport vehicles	----	23
Follow IHOT standards for monitoring of oxygen concentration during transport	----	23
Install foot baths in incubation facilities	----	28
<b>Type 3</b> - Remedial actions requiring changes in monitoring coverage or interval		
Monitor DO and TGP	----	5b
Run analysis for missing water chemistry parameters, nitrite, and contaminants	----	5h

<sup>1</sup> PMs are performance measures that were extracted from the IHOT 1995 report.

<b>Remedial Action Required</b>	<b>Cost</b>	<b>PMS<sup>1</sup></b>
<b>Type 4</b> - Remedial actions requiring significant capital expenditures Install double screens on raceways	\$1,200	10
<b>Type 5</b> - Remedial actions that may require significant capital expenditures but are not clearly definable at this time Need 12 additional starter tanks, 5 more raceways, and 2 additional acclimation ponds for full program	\$600,000	9, 19, 22a2

**Table 3b. Remedial Actions Required at Methow Fish Hatchery - Spring Chinook (Methow Stock)**

<b>Remedial Action Required</b>	<b>Cost</b>	<b>PMS<sup>2</sup></b>
<b>Type 1</b> - Non-compliance issues resulting from items beyond human control or Performance Measures not relevant for this hatchery Improve adult returns	----	4c, 4g, 22a4, 39
<b>Type 2</b> - Remedial actions requiring changes in agency policies or procedures Document adult contribution	----	4a
Review IHOT temperature criteria for rearing	----	5a
Review IHOT disease-free criteria for rearing and acclimation	----	5h
Conduct IHOT QA/QC tests for feed preparation	----	12
Develop specific incubation and rearing standards for IHOT Operations Plan	----	18-19
Develop smoltification goals and monitor	----	22a1
Follow IHOT disinfection protocols for tank interiors	----	23
Follow IHOT protocols for disinfection of exteriors and interiors of transport vehicles	----	23
Follow IHOT standards for monitoring of oxygen concentration during transport	----	23

<sup>1</sup> PMS are performance measures that were extracted from the IHOT 1995 report.

<sup>2</sup> PMS are performance measures that were extracted from the IHOT 1995 report.

Remedial Action Required	Cost	PMS <sup>2</sup>
Install foot baths in incubation facilities	----	28
<b>Type 3</b> - Remedial actions requiring changes in monitoring coverage or interval  Monitor DO and TGP  Run analysis for missing water chemistry parameters, nitrite, and contaminants	  ----  ----	  5b  5h

Remedial Action Required	Cost	PMS <sup>1</sup>
<b>Type 4</b> - Remedial actions requiring significant capital expenditures		
<b>Type 5</b> - Remedial actions that may require significant capital expenditures but are not clearly definable at this time		
Need 12 additional starter tanks, 5 more raceways, and 2 additional acclimation ponds for full program	\$600,000	9, 19

**Table 3c. Remedial Actions Required at Methow Fish Hatchery - Spring Chinook (Chewuch Stock)**

Remedial Action Required	Cost	PMS <sup>2</sup>
<b>Type 1</b> - Non-compliance issues resulting from items beyond human control or Performance Measures not relevant for this hatchery		
Improve adult returns	----	4c, 4g, 22a2
<b>Type 2</b> - Remedial actions requiring changes in agency policies or procedures		
Document adult contribution	----	4a
Document smolt to adult survival	----	4h
Review IHOT temperature criteria for rearing	----	5a
Review IHOT disease-free criteria for rearing and acclimation	----	5h
Conduct IHOT QA/QC tests for feed preparation	----	12
Develop specific incubation standards for IHOT Operations Plan	----	18
Develop smoltification goals and monitor	----	22a1
Follow IHOT disinfection protocols for tank interiors	----	23
Follow IHOT protocols for disinfection of exteriors and interiors of transport vehicles	----	23
Follow IHOT standards for monitoring of oxygen concentration during transport	----	23

<sup>1</sup> PMS are performance measures that were extracted from the IHOT 1995 report.

<sup>2</sup> PMS are performance measures that were extracted from the IHOT 1995 report.

Remedial Action Required	Cost	PMS <sup>2</sup>
Install foot baths in incubation facilities	----	28
<b>Type 3</b> - Remedial actions requiring changes in monitoring coverage or interval  Monitor DO and TGP  Run analysis for missing water chemistry parameters, nitrite, and contaminants	----	5b  5h

Remedial Action Required	Cost	PMs <sup>1</sup>
<b>Type 4</b> - Remedial actions requiring significant capital expenditures Install double screens on raceways	\$1,200	10
<b>Type 5</b> - Remedial actions that may require significant capital expenditures but are not clearly definable at this time Need 12 additional starter tanks, 5 more raceways, and 2 additional acclimation ponds for full program	\$600,000	9, 19, 22a2

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<sup>1</sup> 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 Methow Fish Hatchery - Spring Chinook (Twisp, Methow, and Chewuch Stocks) 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:  
Methow Fish Hatchery - Spring Chinook (Twisp Stock)**

Year	Fisheries <sup>1</sup> (Broodyear)	Spawning Grounds <sup>1</sup> (Broodyear)	Hatchery <sup>1</sup> (Broodyear)	Total Combined Contribution <sup>2</sup> (Broodyear)	Smolt to Adult Survival (percent)
1982					
1983					
1984					
1985					
1986					
1987					
1988					
1989					
1990					
1991					
1992	Hatchery began operation in 1992; do not have complete broodyear data yet	Hatchery began operation in 1992; do not have complete broodyear data yet	Hatchery began operation in 1992; do not have complete broodyear data yet	Hatchery began operation in 1992; do not have complete broodyear data yet	Hatchery began operation in 1992; do not have complete broodyear data yet

**Table 4b. Adult Contribution to Fisheries, Spawning Grounds, and Hatcheries:  
Methow Fish Hatchery - Spring Chinook (Methow Stock)**

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

<sup>2</sup> Total combined adult contribution; presented when it is not possible to subdivide the contribution into Fisheries, spawning grounds, and hatchery contributions.

Year	Fisheries <sup>1</sup> (Broodyear)	Spawning Grounds <sup>1</sup> (Broodyear)	Hatchery <sup>1</sup> (Broodyear)	Total Combined Contribution <sup>2</sup> (Broodyear)	Smolt to Adult Survival (percent)
1982					
1983					
1984					
1985					
1986					
1987					
1988					
1989					
1990					
1991					
1992	Hatchery began operation in 1992; do not have complete broodyear data yet	Hatchery began operation in 1992; do not have complete broodyear data yet	Hatchery began operation in 1992; do not have complete broodyear data yet	Hatchery began operation in 1992; do not have complete broodyear data yet	Hatchery began operation in 1992; do not have complete broodyear data yet

**Table 4c. Adult Contribution to Fisheries, Spawning Grounds, and Hatcheries:  
Methow Fish Hatchery - Spring Chinook (Chewuch Stock)**

Year	Fisheries <sup>3</sup> (Broodyear)	Spawning Grounds <sup>1</sup> (Broodyear)	Hatchery <sup>1</sup> (Broodyear)	Total Combined Contribution <sup>4</sup> (Broodyear)	Smolt to Adult Survival (percent)
1982					
1983					
1984					
1985					
1986					

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

<sup>2</sup> Total combined adult contribution; presented when it is not possible to subdivide the contribution into Fisheries, spawning grounds, and hatchery contributions.

<sup>3</sup> Data obtained from Missing Production Groups Annual Report or from the Regional Mark Information System database.

<sup>4</sup> Total combined adult contribution; presented when it is not possible to subdivide the contribution into Fisheries, spawning grounds, and hatchery contributions.

1987					
1988					
1989					
1990					
1991					
1992	Hatchery began operation in 1992; do not have complete fishery contribution data yet	0	31	Do not have complete combined contribution data yet	Hatchery began operation in 1992; do not have complete broodyear data yet

## 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, 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 Methow Fish Hatchery are presented in Table 5 by program. The detailed breakdown of program expenditures at this hatchery are presented in separate tables (Tables 6a, 6b, and 6c).

**Table 5. Annual Operating Expenses - Methow Fish Hatchery**

<b>Program</b>	<b>1994</b>	<b>1995</b>	<b>1996</b>
1. Spring Chinook (Methow Stock)	<b>\$39,405</b>	<b>\$411,000</b>	<b>\$164,031</b>
2. Spring Chinook (Twisp Stock)	<b>\$197,025</b>	<b>\$0</b>	<b>\$61,311</b>
3. Spring Chinook (Chewuch Stock)	<b>\$118,215</b>	<b>\$0</b>	<b>\$95,658</b>
4.			
5.			
<b>Total Hatchery Costs</b>	<b>\$355,000</b>	<b>\$411,000</b>	<b>\$371,000</b>

**Table 6a. Detailed Expenditures at Methow Fish Hatchery by Program  
Spring Chinook (Methow Stock)**

<b>Component</b>	<b>1994</b>	<b>1995</b>	<b>1996</b>
Personnel Costs	\$192,000	\$180,000	\$171,000
Operational Costs	\$102,000	\$171,000	\$96,000
Capital Costs	\$23,000	\$2,000	\$2,000
Indirect Costs	\$38,000	\$58,000	\$52,000
Lumped Hatchery Costs <sup>1</sup>			\$50,000
Lumped Third-Party Costs			
<b>Total Hatchery Costs</b>	<b>\$355,000</b>	<b>\$411,000</b>	<b>\$371,000</b>
<b>Source of Funds</b>			
Program Production (lb)	4,000	14,000	240,000
Total Production (lb)	36,000	14,000	470,000
Program as Percent of Total	11.1%	100%	51.1%
<b>Program Costs</b>	<b>\$39,405</b>	<b>\$411,000</b>	<b>\$164,031</b>

<sup>1</sup> 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 Methow Fish Hatchery by Program  
Spring Chinook (Twisp Stock)**

<b>Component</b>	<b>1994</b>	<b>1995</b>	<b>1996</b>
Personnel Costs	\$192,000	\$180,000	\$171,000
Operational Costs	\$102,000	\$171,000	\$96,000
Capital Costs	\$23,000	\$2,000	\$2,000
Indirect Costs	\$38,000	\$58,000	\$52,000
Lumped Hatchery Costs <sup>1</sup>			\$50,000
Lumped Third-Party Costs			
<b>Total Hatchery Costs</b>	<b>\$355,000</b>	<b>\$411,000</b>	<b>\$371,000</b>
<b>Source of Funds</b>			
Program Production (lb)	20,000	0	90,000
Total Production (lb)	36,000	14,000	470,000
Program as Percent of Total	55.5%	0%	19.1%
<b>Program Costs</b>	<b>\$197,025</b>	<b>\$0</b>	<b>\$61,311</b>

<sup>1</sup> 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 Methow Fish Hatchery by Program  
Spring Chinook (Chewuch Stock)**

<b>Component</b>	<b>1994</b>	<b>1995</b>	<b>1996</b>
Personnel Costs	\$192,000	\$180,000	\$171,000
Operational Costs	\$102,000	\$171,000	\$96,000
Capital Costs	\$23,000	\$2,000	\$2,000
Indirect Costs	\$38,000	\$58,000	\$52,000
Lumped Hatchery Costs <sup>1</sup>			\$50,000
Lumped Third-Party Costs			
<b>Total Hatchery Costs</b>	<b>\$355,000</b>	<b>\$411,000</b>	<b>\$371,000</b>
<b>Source of Funds</b>			
Program Production (lb)	12,000	0	140,000
Total Production (lb)	36,000	14,000	470,000
Program as Percent of Total	33.3%	0%	29.8%
<b>Program Costs</b>	<b>\$118,215</b>	<b>\$0</b>	<b>\$95,658</b>

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