FY 1998 Implementation Workplan

March 1998

Columbia Basin Fish and Wildlife Authority
Watershed Technical Work Group

2501 S. W. First Avenue, Suite 200
Portland, OR 97201
Phone: 503-326-7031
Fax: 503-326-7033
Web Page: www.cbfwf.org

FY 1998 Implementation Workplan

February 24, 1998

Table of Contents

Section 1 Executive summary

The Columbia Basin Fish and Wildlife Authority (CBF WA) has completed revisions to the FY 1998 Draft Implementation Work Plan initially submitted to the Northwest Power Planning Council on June 4, 1997. This revised Work Plan recommends funding a total of 3l0 projects within an integrated budget of $135.347 million.

	FY 1998 Budget	Number of Projects
Anadromous Fish	65,726,000	245
Resident Fish	16,671,000	45
Wildlife	15,332,000	20
Capital	29,251,000	
BPA/ISRP costs	8,367,000	
Total	**$ 135,347,000**	**310**

The revisions to the original Work Plan submitted in June 1997 are the results of the following processes and/or reviews generated by the Council and/or CBFWA.

- FY 1998 integrated watershed process
- Integrated Hatchery Operations Team (IHOT)
- Northern Pikeminnow (Squawfish) Management Program
- Hatchery Operations Coordination
- Feasibility of Captive Broodstock Technology
- On-going Habitat Maintenance, Screening, and Coordination
- New Research Projects
- Dissolved Gas
- Law Enforcement
- Fiscal Review of PATH Projects

Section 2 Introduction

Each year the members of the Columbia Basin Fish and Wildlife Authority (CBF WA) recommend a suite of projects to be funded under the Northwest Power Planning Council's (Council) Fish and Wildlife Program. For Fiscal Year 1998, the initial recommendations, known as the a Draft Annual Implementation Work Plan, were submitted to the Council on June 4, 1997. Subsequent to that, CBFWA members developed a new process to evaluate FY 98 watershed projects (see the *Integrated Watershed Projects. The Process and Criteria for Selecting Watershed Projects for the Columbia Basin Fish and Wildlife Program* included in the back of Appendix 1, part 1). In addition, the Council, in approving the Draft FY 1998 Work Plan in September 1997, initiated the following reviews of programmatic areas (see *Fiscal Year 1998 Annual Implementation Work Plan Recommendations of the Northwest Power Planning Council):*

- FY 1998 integrated watershed process
- Integrated Hatchery Operations Team (IHOT)
- Northern Pikeminnow (Squawfish) Management Program
- Hatchery Operations Coordination
- Feasibility of Captive Broodstock Technology
- On-going Habitat Maintenance, Screening, and Coordination
- Coded Wire Tags
- Research, Monitoring and Evaluation Framework
- New Research Projects
- Dissolved Gas
- Law Enforcement
- Coordinated Regional Information Service
- Fiscal Review of PATH Projects

These reviews are either complete or in progress, as noted in Section *5,* and the resulting changes to the FY 1998 Draft Annual Implementation Work Plan are presented here.

Section 3 Budget summary

The total fish and wildlife funds available to be spent in FY 1998 are $135.398 million. These represent $100 million from the BPA Direct budget and $27 million available for capital investments under the BPA fish and wildlife funding M.O.A. In addition at the January 1998 Quarterly Review BPA indicated that there is $2.594 million in interest on unobligated FY 1997 funds, $.810 million in budgeted but unobligated BPA administrative overhead from FY 1997, and $1 .888 million in three unallocated place holders (anadromous, resident and wildlife) from FY 1997. These three "placeholder" accounts within BPA's fish and wildlife budget are the net savings from contracts slightly (less than 10%) above or below the recommended budgets. The interest and BPA administrative funds are divided among the three caucuses in the ratio of 70:15:15. Finally, the NMFS made available *$0.450* million from the approximately $5.64 million ESA research funds.

In determining the amounts of funds available to the three caucuses, the calculation is based on several previous decisions. In estimating the Direct fish and wildlife budget under the M.O.A., BPA included $87 million for fish and wildlife mitigation and $40 million to meet its ESA obligations. On May 15, 1996, the CBFWA members accepted a proposal from the NMFS that presumes (subject to rebuttal) that $27 million ($25 million for anadromous species and $2 million for Kootenai River sturgeon) will be needed to meet BPA' s ESA obligations and that $13 million of the original $40 million in "ESA" funds be made available for mitigation. Thus in the Section 3 calculation of the fish and wildlife mitigation budget to be divided (70:15:15) among the caucuses, $27 million is subtracted from the Direct budget of $127 million. Further, the Members agreed that BPA's administrative costs and those associated with the operation of the ISRP be "taken off the top." In a May 10, 1997 memo from Bob Lohn, BPA estimated that its administrative costs for FY 1998 would be about $7.867 million. The June DAIWP used an $8M estimate. This reduction results in a net addition of $113,020,020 to the caucus budgets.

These calculations result in a F & W mitigation budget of $91.633 million for FY 1998. This mitigation budget is divided among the caucuses, and the ESA budget amounts added back in ($25 million to anadromous and $2 million to resident fish) along with the FY 97 unallocated place holders and pro-rata shares of the FY 1997 interest and BPA administrative carry-forward. Finally, $27 million in capital investment funds is subtracted from the anadromous budget to arrive at a total of $65.8 17 million available for non-capital anadromous fish projects.

For resident fish projects, there is $0.068 million available from unobligated FY 1997 project funds for a total of $ 16.671 million available for resident fish projects in FY 1998. The Resident Fish Managers recommend that these funds be spent according to their recommendations in the CBFWA Draft Annual Implementation Work Plan (June 1997) and three additions for a total of $15.987 million. This would leave a currently unallocated Resident Fish surplus of $0.684 million. Details can be found in Section 4b.

For wildlife mitigation, the CBFWA Members Steering Group agreed to assure that the wildlife budget be at least $15 million. To that end, the managers recommend that $0.744 million be transferred from the anadromous budget to the wildlife. In addition, there is wildlife-specific carry-forward, bringing the total available for wildlife to $15,332 million. The Wildlife Caucus recommends that this entire amount be spent, leaving a zero balance. Details can be found in Section 4c.

Table 1. Proposed allocation

	$ Millions	
Direct Budget Available	100.000	
FY98 M.O.A. Capital	27.000	
Inflation/Contingency Reserve	2.251	
From ESA Research Place Holder	0.450	
FY97 Unallocated Place Holders	1.888	
FY97 BPA Admin. Carry-Forward	0.810	
Misc. FY97 Project Specific Carry Forward	0.405	
FY97 Interest	2.594	
Total Available	**135.398**	
Anadromous Non-Capital	65.726	
Resident Fish	16.671	
Wildlife	15.332	
Capital	29.251	
BPA/ISRP	8.367	
Recommended Spending Total	**135.347**	
Overall Budget Balance	**0.051**	
Direct F & W Budget	127.000	
BPA Administrative Costs	-8.000	DAIWP 6/97
Reduction in BPA Estimated Admin. Costs	0.133	Per 5/97memo

Anadromous ESA	-25.000
Sturgeon ESA	-2.000
ISRP	-0.500
F & W Mitigation Budget	**91.633**
Anadromous	
Anadromous Portion (70%)	64.143
ESA Add-Back	25.000
FY97 BPA Admin. Carry Forward-70%	0.567
FY97 Interest - 70%	1.816
FY97 Anadromous Place Holder	1.291
	92.817
Less Capital	-27.000
Non-Capital Available for Anad. Fish	**65.817**
Recommended Anadromous Project Need	64.982
Transfer to Wildlife	0.744
Recommended Anadromous Spending	**65.726**
Non-Capital Anadromous Balance	**0.091**
Resident Fish	
Resident Fish Portion (15%)	13.745
Sturgeon-Add Back	2.000
FY97 Interest (15%)	0.389
FY97 BPA Admin. Carry-Forward (15%)	0.122
FY97Carry Forward from #9404300	0.068
FY97 Resident Fish Place Holder	0.347
Available for Resident Fish	**16.671**
DAIWP '98	15.725
Addition-RFM Chair Responsibilities	0.010
Addition-Loan Sturgeon Hatchery (#8806400)	0.200
Addition-Watershed Project #8032	0.052
Unallocated Resident Fish Balance	0.684
Recommended Resident Fish Spending	**16.671**
Resident Fish Balance	**0.000**
Wildlife	
Wildlife Portion (15%)	13.745
FY97 Interest (15%)	0.389
FY97 BPA Admin. Carry-Forward (15%)	0.122
Subtotal	14.256
Transfer from Anadromous	0.744
Subtotal	15.000
FY97 Carry Over	0.082
FY97 Wildlife Place Holder	0.250
Available for Wildlife	**15.332**

FY98 Wildlife Committed Spending	15.084
FY98 Wildlife Uncommitted Spending	0.248
Recommended Wildlife Spending	**15.332**
Wildlife Balance	**0.000**

Capital Investments

FY98 Capital (M.O.A.)	27.000
Inflation/Contingency Reserve	2.251
Capital Available	**29.251**
Anadromous Capital Projects	27.537
Resident Fish Capital (Sturgeon Hatchery)	1.714
Recommended Capital Spending	**29.251**
Capital Balance	**0.000**

Section 4 Integrated watershed project evaluation

In 1997, CBFWA developed a process for evaluating FY 1998 watershed projects (see *Integrated Watershed Projects. The Process and Criteria for Selecting Watershed Projects/or the Columbia Basin Fish and Wildlife Program* in Appendix 1, part 1). During this process the CBFWA Watershed Technical Work Group (WTWG) evaluated the technical merits of 137 proposed watershed projects using the Integrated Technical Criteria. The detailed results of the initial WTWG meeting are presented in Appendix 1, part 1. As described in Appendix 1 part 2, the WTWG re-evaluated 63 anadromous fish proposals which received a "fix" or a "fail" in the first review. Following the WTWG reviews, each of the three CBFWA caucuses evaluated their respective subset of the FY 98 watershed proposals using Integrated Caucus Criteria and/or criteria unique to the caucus. The results of the caucus reviews are presented here in Sections 4a, 4b, and 4c. Section 4d of this report responds to the recommendations outlined Council's January 29, 1998 letter to CBFWA about the FY 98 watershed process.

Section 4a Anadromous fish late 1998 budget

The capital investment portion of the budget (see Table "FY98 Anadromous Budget - Late 98 Balance") is summarized in the anadromous fish section because most of the capital budget goes to anadromous fish projects. In the DAIWP, the managers recommended that $9.169 million be spent on watershed capital projects (tributary passage) and $33.437 million be spent on other capital projects (primarily production facilities). After a close review of the capital projects, in conjunction with the NPPC review of capital projects ("Steps 1, 2, & 3") and subsequently, the managers recommend $15. 069 million in project reductions and deferrals of work (see Table "FY98 Capital Adjustment"). Deferrals include $3.1 million in the Nez Perce Hatchery program(#8335000), *$0.5* million in the Johnson Creek Artificial Propagation program (#9604400), $3 million worth of chillers have been deferred in the Yakima Hatchery program (#833500) and $1.4 million in the Walla Walla screening program (#9601100). The managers

recommend construction of a hatchery for resident Kootenai sturgeon and have included $1.714 million for that effort.

On paper, this capital investment recommendation shows a $2.251 million deficit. Experience shows that this amount will not be obligated. However, to show a balance on paper, the managers recommend using the "inflation/contingency" reserve to cover this difference in the interim, while we work closely with BPA staff to manage construction spending and obligations during FY 1998.

For anadromous fish expenses, the managers recommended spending $64.167 million in expenses in the DAIWP (June 1997). The managers are recommending adjustments totaling a $0.103 million reduction. These specific project adjustments are detailed in the Table "FY98 Other Adjustments." These adjustments include corrections to errors in project budgets (e.g., #9000501 and #9603002), FY 1997 carry-forward (e.g., #833 1900 and #9706200), changes in project scope since June 1997 (e.g., #9603201, #9603301, and #9604000) and reductions resulting from project reviews requested by the NPPC in its September 17, 1997 decision (e.g., #9007700, #9204300, #9602100 and #9602400).

Also the managers have included an additional $1.172 million for projects that BPA has designated as non-discretionary (see Table "FY98 Other Adjustments) and $0.846 million for new projects including the Comprehensive Review of Artificial Production. The managers recommend that the three studies included in the NPPC decision on September 17, 1997 be funded from funds held in reserve for ESA research.

These adjustments result in a surplus of $0.091 million in the anadromous expense budget.

Table 2. Late 1998 balance

	$ Millions	Notes
Construction (Capital)		
FY98 DAIWP - Other	33.437	See Table (Capital Adjust.)
FY98 DAIWP - Watershed	9.169	See Table (Capital Adjust.)
Production Project Adjustments(& FY97 CF)	-10.568	See Table (Capital Adjust.)
Watershed Project Adjustments(& FY97 CF)	-4.501	See Table (Capital Adjust.)
Kootenai Sturgeon - Addition	1.714	
New Need Subtotal	29.251	
Sources		
MOA	27.000	
Inflation/Contingency Reserve	2.251	
Sources Subtotal	29.251	
Construction Surplus(Deficit)	**0.000**	
Anadromous Expenses		
FY98 DAIWP-Other Proj.	53.568	See Table (NPPC Disposition)
FY98 DAIWP-Watershed Proj.	10.599	See Table (Watershed)

	Subtotal	64.167	
Other Project Adjustments (& FY97 CF)		-0.103	See Table (Other Adjust.)
Watershed Project Adjustments(& FY97 CF)		0.918	See Table (Watershed)
	Subtotal	0.815	
Non-Capital Anadromous Expenses		64.982	
Transfer to WILDLIFE		0.744	
New Expense Need		**65.726**	
Sources			
Non-Capital Available for Anadromous		62.143	
FY97 BPA Admin. Carry Forward - 70%		0.567	BPA FY97 Rpt.
FY97 Interest - 70%		1.816	BPA FY97 Rpt.
FY97 Anadromous Place Holder		1.291	BPA FY97 Rpt.
	Subtotal	**65.817**	
Expense Surplus (Deficit)		**0.091**	

Table 3. Capital adjustments

Proj. #	Title	Sponsor	DAIWP '98	FY97 CF	Current	Adjustment
	Production Facilities					
8335000	Nez Perce Tribal Hatchery - Construction	NPT	7,900	1,742	4,800	-4,842
8403306	Umatilla Hatchery - Water Supply	Montgomery Watson	0	198	0	-198
8805301	Northeast Oregon Outplanting Facilities Master Plan(NPT) - Construction	NPT/ODFW	2,700	66	900	-1,866
8805302	NEOH - ChS Production @ S.Fk.WW - Construction	CTUIR	500		100	-400
8811500	Yakima Hatchery - Construction	BPA	12,000	1,514	10,514	-3,000
9006900	Yakima Hatchery - Final Design	CH2M Hill	400		400	0
9101400	Umatilla Hatchery Satellite Facilities - Planning, Siting, Design, & Construction	CTUIR	2,200		2,236	36
9301900	Hood River Product. Program (Parkdale & Oak Springs)-Implementation	ODFW	3,800		3,954	154
9603201	K-BasinFall Chinook Acclimation & M P Development-Construction	YIN	628		0	-628
9603301	Yakima River Fall Chinook Supplementation - Construction	YIN	349	580	349	-580
9603302	Yakima River Coho Restoration - Construction	YIN	100		100	0
9604000	Wenatchee & Methow River Coho Restoration - Construction	YIN	150		200	50
9604300	Johnson Creek Artificial Propagation Enhancement - Construction	NPT	1,800		1,300	-500
9604400	Grande Ronde Basin Spring Chinook Captive Broodstock Program	ODFW	910		910	0
9800701	Upper Grande Ronde, Catherine Cr. & Lostine Satellites	CTUIR	0	994	2,200	1,206
	Subtotal		**33,437**	5,094	27,963	**-10,568**
	Watershed Facilities					
9105700	Yakima Phase 2 Screen Fabrication	WDFW	300		300	0
9107500	Yakima Phase II Screens - Construction	US BOR	1,500		1,500	0
9306600	Oregon Fish Screens Project	ODFW	426		426	0
9401500	Idaho Fish Screening Improvement - Construction	IDFG	800		800	0
9506800	Klickitat Passage/Habitat Preliminary Design - Construction	YIN	700	166	78	-788
9600700	Upper Salmon River Diversion Consolidation Program - Construction	SBT	1,548	645	767	-1,426
9601100	Juvenile Fish Screens & Smolt Traps at Irrigation Diversion Dams on the Walla Walla and Touchet Rivers-Construction	CTUIR	2,775	180	1,550	-1,405
9601200	Adult Anadromous Fish Passage Improvement at Irrigation Diversion	CTUIR	1,120	12	250	-882

Dams on the Walla Walla River					
	Subtotal	**9,169**	1,003	5,671	**-4,501**
	Total Capital Requests	42,606		33,634	
	Total FY 1997 Carry Forward		6,097		
	Total Capital Budget Adjustment				-15,069

All figures in thousands of dollars

Table 4. Other adjustments

Proj. #	Name	Sponsor	DAIWP '98	FY97 CF	Current	Adjustment
	Other Project Adjustments					
8201300	Coded-Wire Tag Recovery	PSMFC	1,401	0	1,483	82
8331900	New Fish Tag System	NMFS	750	429	750	-429
8816300	Effects of Coded Wire Tagging on the Survival of Spring Chinook	WDFW	0	136	136	0
8906200	Prepare Draft Annual Implementation Work Plan	CBFWA	1,045	106	1,186	35
9000501	Umatilla Basin Natural Production Monitoring & Evaluation (UBNMPE)	CTUIR	0	0	300	300
9007700	Northern Squawfish Management Program	PSMFC	3,700		3,306	-394
9008000	Columbia Basin PIT-Tag Information System	PSMFC	1,100	33	1,100	-33
9202604	Spring Chinook Salmon Early Life History	ODFW	626	4	626	-4
9204300	Integrated Hatchery Operations Team	PSMFC	465		118	-347
9403400	Assessing Summer/Fall Chinook Restoration in the Snake River Basin	NPT	117	0	197	80
9506300	Yakima/Klickitat Monitoring & Evaluation Program	BPA	1,550	222	1,755	-17
9601500	FISH.NET Newsletter	?	0	0	100	100
9602100	Gas Bubble Disease Monitoring & Research of Juvenile Salmonids	NBS	851	0	522	-329
9202400	Columbia Basin Law Enforcement Program	A/T	4,000		2,150	-1,850
9602400	Changes in Gas Bubble Disease Signs & Survival of Migrating Juvenile Salmonids Experimentally Exposed to Supersaturated Gases	BPA	228		20	-208
9603002	CTWS-John Day Watershed Restoration	CTWSRO	0	0	100	100
9603201	Hanford K-BasinFall Chinook Acclimation & M P Development - M & E	YIN	266	0	0	-266
9603201	Hanford K-BasinFall Chinook Acclimation & M P Development - O & M	YIN	235	0	135	-100
9603301	Yakima River Fall Chinook Supplementation - M & E	YIN	150	0	350	200
9603301	Yakima River Fall Chinook Supplementation - O & M	YIN	194	0	165	-29
9604000	Wenatchee & Methow River Coho Restoration - M & E	YIN	100	0	250	150
9604000	Wenatchee & Methow River Coho Restoration - O & M	YIN	90	0	175	85
9606700	Manchester Captive Broodstock O & M	NMFS	391	-29	391	29
9701000	Essential M&E Infrastsructure - PIT Tag Monitor Procurement & Installation (8331900)	BPA	750	444	1,985	791
9706200	Development & Refinement of Natural Production Objectives & Enhancement Strategies for Yakima Basin Anadromous Salmonids	YIN	67	67	67	-67
	Subtotal					-2,121
	BPA Non-Discretionary Projects					
8910700	Epidemiological Survival Method	Univ/WA	150	0	180	30
8910800	Monitoring and Evaluation Modeling Support	Univ/WA	200	0	350	150

Proj. #	Name	Sponsor	DAIWP '98	FY97 CF	Current	Adjustment
9105100	Run Timing Predictions for the Columbia River Basin Including Individual ESA Demes	Univ/WA	Not reviewed	0	310	310
9203200	Life Cycle Model Development & Application to System and Subbasin Planning in Snake River	USFS	68	0	70	2
9303701	Technical Assistance with the Life Cycle Model	Paulsen	60	0	190	130
9601700	Technical Support for PATH - Chapman Consulting	Chapman Consultants, Inc.	60	0	110	50
9601900	Second-Tier Database Support for Ecosystem Focus	?	Not reviewed	0	100	100
9700200	PATH - UW Tech Support	Univ/W	Not reviewed	0	400	400
	Subtotal					1,172
	New Projects					
	Comp Review of Artificial Production	NPPC	0	0	700	700
To ESA	Assessment of salmon population structure	NPPC	0	0	100	0
To ESA	Assess Impacts on Estuary/Plume	NPPC	0	0	150	0
To ESA	Assess mainstem habitat	NPPC	0	0	200	0
	StreamNet - Watershed efforts	NPPC	0	0	100	100
	ODFW- Regional Coordination	ODFW	0	0	46	46
	Subtotal					846
	Other Project Adjustment Total			0		**-103**

All figures in thousands of dollars

Table 5. NPPC disposition

Proj. #	Status	Title	Sponsor	DAIWP '98	FY97 CF*	Current	Adjustment
		EXPENSE					
		OK to Fund					
8331900	OK	New Fish Tag System	NMFS	750	429	750	-429
8332300	OK	Smolt Condition & Arrival Timing at Lower Granite	IDFG	314		314	0
8343600	OK	Umatilla Passage O&M	US BOR	400		400	0
8401400	OK	Smolt Monitoring at Federal Dams	PSMFC	600		600	0
8712700	OK	Smolt Monitoring by Non-Federal Entities	PSMFC	1,696		1,696	0
8740100	OK	Travel Time and Survival Smolt Physiology	NBS	203		203	0
8802200	OK	Umatilla River Basin Trap & Haul Program	CTUIR	370		370	0
8805303	OK	Hood River Production Program - CTWS - M&E	CTWSIR	466		466	0
8805304	OK	Hood River Production Program - ODFW - M&E	ODFW	304		304	0
8810804	OK	STREAMNET (formerly CIS and NED)	PSMFC	1,700		1,700	0
8812001	OK	Yakima/Klickitat Fisheries Project Management	YIN	750		750	0
8812005	OK	Fish Passage Video Monitoring	YIN	215		215	0
8812008	OK	Fisheries Technician Field Activities	YIN	943		943	0
8816000	OK	Willamette Hatchery Oxygen Supplementation	ODFW	96		96	0
8816300	OK	Effects of Coded Wire Tagging on the Survival of Spring Chinook	WDFW	0	136	136	0
8902700	OK	Power/Repay O&M For USBR CPR Pumping Project	PPL/UECA	500		500	0
8902900	OK	Hood River Production Program - Pelton Ladder - Hatchery	ODFW	120		120	0
8903000	OK	Evaluation of Pre-Release Temperature Acclimation at Klickitat Hatchery	WDFW	23		23	0
8903500	OK	Umatilla Hatchery Operations & Maintenance	ODFW	797		797	0
8906200	OK	Prepare Draft Annual Implementation Work Plan	CBFWF	1,045	106	1,186	35
8909600	OK	Genetic Monitoring & Evaluation of Snake River Salmon & Steelhead	NMFS	250		250	0
9000500	OK	Umatilla Hatchery - Monitoring/Evaluation Projects	ODFW	615		615	0
9000501	OK	Umatilla Basin Natural Production Monitoring & Evaluation (UBNMPE)	CTUIR	0		300	300
9005200	OK	Perf/Stock Production Impacts of Hatchery Suppl	NBS	409		409	0
9008000	OK	Columbia Basin PIT-Tag Information System	PSMFC	1,100	33	1,100	-33
9009300	OK	Genetic Analyses of Oncorhynchus Nerka (ESA)	UI/WSU	130		130	0
9102800	OK	Monitoring the Smolt Migrations of Wild Snake River Spring/Summer Chinook Salmon	NMFS	228		228	0
9102900	OK	Life History of Fall Chinook in Columbia River Basin	NBS	900		900	0
9105500	OK	Supplementation Fish Quality (Yakima)	NMFS	400		400	0
9107100	OK	Snake River Sockeye Salmon Habitat	SBT	750		750	0
9107200	OK	Redfish Lake Sockeye Salmon Captive	IDFG	700		700	0
9200900	OK	Yakima Screens - Phase II - O & M	WDFW	85		85	0

Proj. #	Status	Title	Sponsor	DAIWP '98	FY97 CF*	Current	Adjustment
9202200	OK	Wild Smolt Behavior/Physiology (ESA)	NMFS	380		380	0
9202604	OK	Spring Chinook Salmon Early Life History	ODFW	626	4	626	-4
9204000	OK	Redfish Lake Sockeye Salmon Captive Broodstock Rearing & Research	NMFS	500		500	0
9204101	OK	Evaluation of Adult Salmon & Steelhead Migration Past Dams & Through Reservoirs in the Lower Columbia River and Into Tributaries	COE	200		200	0
9207102	OK	Technical Assistance for Juvenile & Adult Migrant Monitoring Facilities	Battelle Labs	70		70	0
9207300	OK	An Automated Fish Marking & Tagging System	WDFW	250		250	0
9301900	OK	Hood River Production Program (Parkdale & Oak Springs) - O & M	ODFW	277		277	0
9302900	OK	Survival Estimation for Dam/Reservoir Passage	NMFS	900		900	0
9401004	OK	Monitoring & Evaluation of Yearling Snake River Fall Chinook	USFWS/NPT	180		180	0
9402600	OK	Pacific Lamprey Research & Restoration Project	CTUIR	320		320	0
9403300	OK	Fish Passage Center	PSMFC	1,066		1,066	0
9403400	OK	Assessing Summer/Fall Chinook Restoration in the Snake River Basin	NPT	117		197	80
9406900	OK	Spawning Habitat Model for Snake R. Fall Chinook	Battelle Labs	165		165	0
9500700	OK	Hood River Production Program - PGE O&M	PGE	74		74	0
9503300	OK	O&M of Yakima Fish Protection, Mitigation & Enhancement Facilities	US BOR	210		210	0
9506401	OK	Refinement of Marking Methods for YKFP	WDFW	0		0	0
9506402	OK	Upper Yakima Species Interaction Studies	WDFW	400		400	0
9506404	OK	Policy/Technical Involvement & Planning for YKFP	WDFW	275		275	0
9506406	OK	Monitoring of Supplementation Response Variables for YKFP	WDFW	200		200	0
9600500	OK	Operation of the Independent Scientific Advisory Board	CBFWF	745		745	0
9600500	OK	Operation of the ISRP	CBFWF	500		500	0
9601500		FISH.NET newsletter	NPPC	0		100	100
9603002		John Day Watershed Restoration	CTWSIR	0		100	100
9701000	OK	Essential M&E Infrastsructure - PIT Tage Monitor Procurement & Installation (833190)	BPA	750	444	1,985	791
9701300	OK	Yakima River Cle Elum Hatchery O & M	YIN	1,300		1,300	0
9701400	OK	1996-97 Evaluation of Juvenile Fall Chinook Stranding on the Hanford Reach	WDFW	250		350	100
9701800	OK	PIT Tag Purchases LSRCP M & E	USFWS	0		0	0
9703000	OK	Listed Stock Adult Escapement Monitoring	NPT	138		138	0
9703800	OK	Listed Stock Gamete Preservation	NPT	140		140	0
9801001	OK	Grande Ronde Basin Spring Chinook Captive Broodstock O&M, M&E	ODFW/NPT	423		423	0
9801003	OK	M&E of Yearling Snake River Fall Chinook Upstream of Lower Granite	USFWS	99		99	0
9801005	OK	Pittsburg Landing Portable Acclimation/Release Facility (5521300, 5521400, 5521500)	NPT	510		510	0
	OK	Purchase PIT Tag - Place Holder	CBFWA	1,511		1,511	0
		Total OK to Fund		29,434	1,152	**31,626**	**1,040**
			$ 53,568				

Proj. #	Status	Title	Sponsor	DAIWP '98	FY97 CF*	Current	Adjustment
		Fund Pending Review					
9306000	?	Columbia River Terminal Fisheries Research Project	ODFW/WDFW	900		900	0
9107300	HOLD	Idaho Natural Production Monitoring/Evaluation 83-7(ESA)	IDFG	650		650	0
8909800	OK(R2)	Idaho Supplementation Studies (ISS)	IDFG	850		850	0
8909801	OK(R2)	Salmon Supplementation Studies in Idaho Rivers - USFWS	USFWS	112		112	0
8909802	OK(R2)	Salmon Supplementation Studies in ID Rv. - Nez Perce Tribe	NPT	233		233	0
8909803	OK(R2)	Salmon Supplementation Studies in Idaho Rivers - Shoshone-Bannock Tribes	SBT	181		181	0
9005500	OK(R2)	Steelhead Supplementation Studies in Idaho Rivers	IDFG	190		190	0
						3,116	
8200300	R10	Selective Predation/Development of Prey Protection	NBS	0		0	0
9007700	R10	Northern Squawfish Management Program	PSMFC	3,700		3,306	-394
9007800	R10	System-Wide Significance of Predation on Juvenile Salmonids in Columbia and Snake River Reservoirs & Evaluation of Predation Control Measures	NBS	40		40	0
9702400	R10	Predation by Fish-Eating Birds on Juvenile Salmonids in the Columbia River Basin	CRITFC/OSU	280		280	0
9300802	R11	Symptoms of Gas Bubble Trauma Induced in Salmon by Total Dissolved Gas Pressure Supersaturation in the Snake & Columbia Rivers	CRITFC	425		425	0
9602100	R11	Gas Bubble Disease Monitoring & Research of Juvenile Salmonids	NBS	851		522	-329
9602200	R11	Evaluating Effects of Dissolved Gases on Resident Fish	NMFS	40		40	0
9602400	R11	Changes in Gas Bubble Disease Signs & Survival of Migrating Juvenile Salmonids Experimentally Exposed to Supersaturated Gases	BPA	228		20	-208
				0		0	0
5502700	R12	Enhanced Tribal Tributary Fish and Wildlife Law Enforcement -- Part 5. Shoshone-Bannock Tribes	SBT	0		0	0
5505500	R12	CTUIR Tributary Enforcement	CTUIR	0		0	0
5522700	R12	Enhanced Tribal Tributary Fish & Wildlife Law Enforcement -- Part 1. Nez Perce Tribes	NPT	0		0	0
9202400	R12	Columbia Basin Law Enforcement Program	CBLEC	4,000		2,239	-1,761
				0		0	0
9704400	R13	Hydro Regulator Model Development	CRITFC	92		92	0
9602000	R13	1997 Hatchery Pit Tag Study	IDFG	168		168	0
8910700	R13	Epidemiological Survival Method	Univ/WA	150		180	30
8910800	R13	Monitoring and Evaluation Modeling Support	Univ/WA	200		350	150
9105100	R13	Run Timing Predictions for the Columbia River Basin Including Individual ESA Demes	Univ/WA	Not reviewed		310	310
9203200	R13	Life Cycle Model Development & Application to System and Subbasin	USFS	68		70	2

Proj. #	Status	Title	Sponsor	DAIWP '98	FY97 CF*	Current	Adjustment
		Planning in Snake River					
9303701	R13	Technical Assistance with the Life Cycle Model	Paulsen	60		190	130
9600600	R13	PATH - Facilitation, Tech.Assistance & Peer Review	Essa Tech	450		450	0
9600800	R13	PATH - Participation by State & Tribal Agencies	ODFW	791		791	0
9601700	R13	Technical Support for PATH - Chapman Consulting	Chapman Consultants, Inc.	60		110	50
9601900	R13	Second-Tier Database Support for Ecosystem Focus	?	Not reviewed		100	100
9700200	R13	PATH - UW Tech Support	Univ/W	Not reviewed		400	400
9506300	R2	Yakima/Klickitat Monitoring & Evaluation Program	BPA	1,550	222	1,755	-17
8812004	R2	Hatchery Training & Education	YIN	231		231	0
8343500	R2	Umatilla Hatchery Satellite Facilities Operation & Maintenance	CTUIR	680		680	0
8805305	R2	NEOH-Grande Ronde Master Plan	ODFW	182		182	0
8805301	R2	Northeast Oregon Outplanting Facilities Master Plan(NPT) - O & M	NPT/ODFW	300		300	0
9603201	R2	Hanford K-BasinFall Chinook Acclimation & M P Development - M & E	YIN	266		0	-266
9603201	R2	Hanford K-BasinFall Chinook Acclimation & M P Development - O & M	YIN	235		135	-100
9603301	R2	Yakima River Fall Chinook Supplementation - M & E	YIN	150		350	200
9603301	R2	Yakima River Fall Chinook Supplementation - O & M	YIN	194		165	-29
9603302	R2	Yakima River Coho Restoration - M & E	YIN	90		90	0
9603302	R2	Yakima River Coho Restoration - O & M	YIN	75		75	0
9604000	R2	Wenatchee & Methow River Coho Restoration - M & E	YIN	100		250	150
9604000	R2	Wenatchee & Methow River Coho Restoration - O & M	YIN	90		175	85
9705700	R2	Salmon River Production Program	SBT	180		180	0
8335000	R2	Nez Perce Tribal Hatchery - O & M	NPT	100		100	0
9604300	R2	Johnson Creek Artificial Propagation Enhancement - O & M	NPT	0		0	0
8805302	R2	NEOH - Grande Ronde Satellite Facilities - O & M	CTUIR	175		175	0
9706200	R2	Development & Refinement of Natural Production Objectives & Enhancement Strategies for Yakima Basin Anadromous Salmonids	YIN	67	67	67	-67
9305600	R3	Assessment of Captive Broodstock Tech	NMFS	1,250		1,250	0
9606700	R3	Manchester Captive Broodstock O & M	NMFS	391		391	0
9700100	R3	Captive Rearing Initiative for Salmon River Chinook Salmon	IDFG	145		145	0
9801002	R3	Captive Rearing Initiative for Salmon River Chinook Salmon (9700100) - M & E	IDFG (LSRCP)	78		78	0
9801006	R3	Captive Broodstock Artificial Propagation (5520700)	NPT	97		97	0
9204300	R4	Integrated Hatchery Operations Team	PSMFC	465		118	-347

Proj. #	Status	Title	Sponsor	DAIWP '98	FY97 CF*	Current	Adjustment
8201300	R5	Coded-Wire Tag Recovery	PSMFC	1,401		1,483	82
8906500	R5	Annual Fish Marking Program-Missing Hatchery Production Groups OR/WA/ID (USFWS)	USFWS	400		400	0
8906600	R5	Annual Coded Wire Tag Program-Missing Production WA HTCH (WDF)	WDFW	335		335	0
8906900	R5	Annual Coded Wire Tag Program-Missing Production OR HTC (ODFW)	ODFW	190		190	0
		Total Fund Pending Review		24,134	289	25,710	-1,829
		Non-Watershed Total		**53,568**	1,441		**-789**
		Review in Watershed Process					
5509900	WS	Methow Basin Side Channel Habitat Construction	YIN	0		0	0
5510800	WS	Upper Yakima Tributary Irrigation Improvement	YIN	0		0	0
8400800	R6	North Forh John Day Habitat Improvement	USFS	26		26	0
8402100	R6	Mainstem, Middle Fork & N. Fork John Day River - Implementation/O&M	ODFW	310		310	0
8402500	WS	Grande Ronde Habitat Enhancement - Implementation/O&M	ODFW	225		225	0
8506200	OK	Passage Improvement Evaluation	Battelle Labs	120		120	0
8612400	OK	Inspection Service for Little Fall Creek Passage (Re: 86-090)	ODFW	2		2	0
8710001	R6	Umatilla River Basin Anadromous Fish Habitat Enhancement	CTUIR	242		242	0
8710002	R6	Umatilla Habitat Improvement/ODFW - Impmentation/O&M	ODFW	213		213	0
8902401	OK	Evaluation Umatilla Basin Project - Threemile/WEID Canal Scr.	ODFW	260		260	0
9202601	WS	Grande Ronde Model Watershed - Project Planning/Support	GRMWP (Blue Mtns.)	266		266	0
9202602	WS	Eastern Washington Model Watershed Coordinators	Washington State Cons. Comm.	138		138	0
9202603	WS	Idaho Model Watersheds Admin./Impl. Support	ID Soil Cons. Comm.	152	4	152	-4
9303000	R6	Buck Hollow Watershed Enhancement (SWCD)	Wasco Co SWCD	105		105	0
9303501	R6	Lower Red River Meadow Restoration Project	Pocket Water Inc/River Master Engineering	450		450	0
9303800	R6	North Fork John Day Area Riparian Fencing	USFS	68		68	0
9304000	WS	Fifteen Mile Creek Habitat Improvement - O & M	ODFW	220		220	0
9304500	WS	Buck Hollow Watershed Enhancement (ODFW)	ODFW	0		0	0
9306200	R6	Salmon River Anadromous Fish Passage Enhancement, Idaho	Lemhi and Custer Soil and Water Conservation	37		37	0

Proj. #	Status	Title	Sponsor	DAIWP '98	FY97 CF*	Current	Adjustment
			Districts				
9401500	OK	Idaho Fish Screening Improvement - O & M	IDFG	0		0	0
9401700	WS	Idaho Model Watershed Habitat Projects	Lemhi and Custer SWCD	350		350	0
9401800	WS	Washington Model Watershed Habitat Projects	Conserv. Dist.	579		579	0
9402700	WS	Grande Ronde Model Watershed Habitat Projects	GRMWP (Blue Mtns.)	868	73	868	-73
9403900	WS	Wallowa Basin Project Planning - G. R. Model Watershed	NPT	50		50	0
9404200	R6	Trout Creek Operation & Maintenance	ODFW	250		250	0
9405000	R6	Salmon River Habitat O&M/Monitoring & Evaluation	SBT	245		245	0
9405900	WS	Yakima Basin Environmental Education	YIN	125		125	0
9502100	WS	Okanogan Watershed Planning	CCT	105		105	0
9506000	WS	Umatilla River Riparian Corridors: Squaw Creek Watershed Project (Anadromous Portion)	CTUIR	467		467	0
9506800	WS	Klickitat Passage/Habitat Preliminary Design - O & M	YIN	78		700	622
9600700	WS	Upper Salmon River Diversion Consolidation Program - O & M	SBT	0		0	0
9601100	WS	Fish Screens & Smolt Traps at Irrigation Diversions on the Walla Walla-O&M	CTUIR	0		0	0
9601200	WS	Adult Passage Improvement at Irrigation Diversions on the Walla Walla River-O&M	CTUIR	0		0	0
9603401	WS	Methow Valley Irrigation District Conversion	WA. DOE	861	2,161	3,022	0
9603501	WS	Satus Watershed Restoration	YIN	799		799	0
9603700	WS	Tribal Watershed Projects		Not reviewed		0	0
9603900	WS	Focus Watershed Projects		Not reviewed		0	0
9604600	WS	Riparian/Fish Habitat Analysis & Enhancement for Steelhead & Spring Chinook in the Walla Walla	CTUIR	215		215	0
9605300	R6	North Fork John Day River Dredge Tailings Restoration Project	USFS	85		85	0
9606400	WS	Walla Walla County Watershed Habitat Enhancement	Walla Walla County Cons. Dist.	100		100	0
9607000	WS	McKenzie River Focus Watershed Coordination	McKenzie WSC	115		115	0
9607700	R6	Meadow Creek Restoration	USFS	50		50	0
9608200	WS	Materials/Supplies for Early Action Watersheds	YIN	Not reviewed		0	0
9608300	WS	Grande Ronde Subbasin Watershed Restoration	CTUIR	152		152	0
9608500	WS	Coordination of Watershed Projects in Umatilla River Basin	Umatilla Basin Watershed Council	45		45	0
9608600	R6	Clearwater Basin Focus Watershed	NPT/IdSCC	378		378	0
9609500	WS	Riparian Habitat Education Project		Not reviewed		0	0
9702500	WS	Wallowa County/Nez Perce Tribe Salmon Habitat Recovery Plan Implementation	NPT	50		50	0

Proj. #	Status	Title	Sponsor	DAIWP '98	FY97 CF*	Current	Adjustment
9703100	WS	Meadow Creek Instream Structure & Riparian Evaluation	USFS	0		0	0
9703400	WS	Monitoring Fine Sediment Levels in Substrate & Overwinter Sedimentation in Cleaned Gravels in Portions of the Grande Ronde & John Day Rivers	CRITFC	26	30	30	-26
9703500	WS	Eval. of Watershed & Habitat Response to Recent Storms: Effects on ESA Salmon	CRITFC	37	115	115	-37
9703900	?	Columbia R. Basin Watershed Restoration Activities: 1996-97 Funding	CRITFC	750		750	0
9704700	WS	Yakima River Basin Side Channel Survey & Rehabilitation	YIN	0		0	0
9704900	WS	Teanaway River Instream Flow Restoration	YIN	680	1,700	2,380	0
9705000	WS	Little Naches River Riparian & In-Channel Habitat Enhancement Project	YIN	0		0	0
9705100	WS	Yakima Basin Side Channels	YIN	0		0	0
9705200	WS	Yakima River Rearing Habitat Enhancement Between Selah & Union Gaps	YIN	0		0	0
9705300	WS	Toppenish/Simcoe Instream Flow Restoration	YIN	0		0	0
9705400	WS	Upper Klickitat Meadows Riparian Restoration	YIN	96		96	0
9705500	WS	Klickitat Basin Culvert Rehabilitation	YIN	22		22	0
9705600	WS	Lower Klickitat River Riparian & In-Channel Habitat Enhancement Project	YIN	295		295	0
9706000	R6	O'Hara Watershed Restoration	USFS	0	25	0	-25
		Total Non-Capital Watershed (see Watershed Project Sheet)		**10,599**	4,108	**11,517**	**918**
		New Projects					
	R1	Comp Review of Artificial Production	NPPC	0		700	700
	R9	Assessment of salmon population structure	NPPC	0		100	0
	R9	Assess Impacts on Estuary/Plume	NPPC	0		150	0
	R9	Assess mainstem habitat	NPPC	0		200	0
	?WS	StreamNet - Watershed efforts	NPPC	0		100	100
	ODFW- Regional Coordination		ODFW	0		46	46
		New Project Subtotal				1,296	**846**
		CAPITAL					
		Capital Requests					
		Production Facilities					
8335000	R2	Nez Perce Tribal Hatchery - Construction	NPT	7,900	1,742	4,800	-4,842
8403306	R2	Umatilla Hatchery - Water Supply	Montgomery Watson		198	0	-198
8805301	R2	Northeast Oregon Outplanting Facilities Master Plan(NPT) - Construction	NPT/ODFW	2,700	66	900	-1,866
8805302	R2	NEOH - Umatilla, Walla Walla, Grande Ronde Satellite Facilities-Construction	CTUIR	500		100	-400
8811500	OK	Yakima Hatchery - Construction	BPA	12,000	1,514	10,514	-3,000

Proj. #	Status	Title	Sponsor	DAIWP '98	FY97 CF*	Current	Adjustment
9006900	OK	Yakima Hatchery - Final Design	CH2M Hill	400		400	0
9101400	R2	Umatilla Hatchery Satellite Facilities - Planning, Siting, Design, & Construction	CTUIR	2,200		2,236	36
9301900	OK	Hood River Production Program (Parkdale & Oak Springs)-Implementation	ODFW	3,800		3,954	154
9603201	R2	Hanford K-BasinFall Chinook Acclimation & M P Development-Construction	YIN	628		0	-628
9603301	R2	Yakima River Fall Chinook Supplementation - Construction	YIN	349	580	349	-580
9603302	R2	Yakima River Coho Restoration - Construction	YIN	100		100	0
9604000	R2	Wenatchee & Methow River Coho Restoration - Construction	YIN	150		200	50
9604300	R2	Johnson Creek Artificial Propagation Enhancement - Construction	NPT	1,800		1,300	-500
9604400	OK	Grande Ronde Basin Spring Chinook Captive Broodstock Program	ODFW	910		910	0
9800701		Upper Grande Ronde, Catherine Cr, & Lostine Satellites	CTUIR/NPT	0	994	2,200	1,206
8806400		Kootenai Sturgeon Hatchery (ESA)	KTOI	0		1,714	1,714
		Subtotal		33,437	5,094	27,963	-8,854
		Watershed Facilities					
9105700	OK	Yakima Phase 2 Screen Fabrication	WDFW	300		300	0
9107500	OK	Yakima Phase II Screens - Construction	US BOR	1,500		1,500	0
9306600	OK	Oregon Fish Screens Project	ODFW	426		426	0
9401500	OK	Idaho Fish Screening Improvement - Construction	IDFG	800		800	0
9506800	WS	Klickitat Passage/Habitat Preliminary Design - Construction	YIN	700	166	78	-788
9600700	WS	Upper Salmon River Diversion Consolidation Program - Construction	SBT	1,548	645	767	-1,426
9601100	WS	Fish Screens & Smolt Traps at Irrigation Diversions - Walla Walla/Touchet Rivers-Construction	CTUIR	2,775	180	1,550	-1,405
9601200	WS	Adult Fish Passage Improvement at Irrigation Diversion Dams - Walla Walla River	CTUIR	1,120	12	250	-882
		Subtotal		9,169	1,003	5,671	-4,501
		Total Capital Requests		**42,606**	11,191	33,634	**-13,355**
					6,097		

All figures in thousands of dollars

Section 4a1 Anadromous fish watershed project evaluation process and budget update

As reflected in the February 13, 1998 memo from Anadromous Fish Managers (AFM) chair Si Whitman to CBFWA Members:

Between January 30 and February 6, subregional teams appointed by the AFM evaluated FY98 watershed project proposals using the Integrated CBFWA Caucus Criteria. The groups then made judgements on whether the proposal addressed specific management needs for that geographic area consistent with a specific management plan, and whether that management need is urgent or more urgent.

On February 6, the AFM received evaluation reports and preliminary recommendations from the Subregional Teams that reviewed the FY98 watershed project proposals. On February 12 the AFM further reviewed that evaluation information and produced the enclosed table that summarizes the final watershed project recommendations for anadromous fish projects in FY98 (Attachment 1).

The AFM evaluated 102 of the 113 project proposals that the Watershed Technical Work Group evaluated, referring nine enforcement proposals (project #8017, 8058, 8059, 8060, 8061, 8062, 8063, 9202408 and 9202409) to an enforcement project review; excluding one duplicate proposal (#8018 duplicates #9703 100); and excluding one non-watershed project (#8902401).

Of the 102 proposals reviewed, the AFM recommended 62 for FY98 funding (15 new and 47 ongoing). The WTWG had passed 59 of the 102 proposals, and of those 59, the AFM recommended funding 49. The WTWG determined that 43 of the 102 proposals failed the technical review, and of those *43*, the AFM recommend funding 12.

The following summary table shows the number of projects passed and failed by the WTWG and the respective number of those recommended for funding by the AFM, along with the total number of projects the AFM subregional teams reviewed and recommend for funding.

Subregion	WTWG Pass	(ST Pass)	WTWG Fail	(ST Pass)	ST Pass	Reviewed
Central Oregon	12	(9)	10	(2)	11	22
Northeast Oregon	14	(14)	5	(5)	19	19
Idaho	15	(13)	3	(1)	14	18
Washington	13	(11)	20	(3)	14	33
Other	5	(3)	5	(1)	4	10
Total	59	(50)	43	(12)	62	102

Please refer to the attached explanations detailing the rationale for funding proj ects that did not pass the WTWG review.

As a result of the watershed project review, the total AFM recommendation for watershed projects is $11,516,808, whereas the “placeholder” dollar amount in the original DAIWP was

$10,599,058. This recommendation does not include tributary passage projects that were reviewed by the WTWG and the AFM because they are categorized under the capital budget.

Rationale for support of anadromous fish projects that failed the watershed technical work group review

Project: 8036
Sponsor: JCSWCD
Title: Implement Trout Creek Watershed Restoration Phase 1 and Trout Creek Habitat Restoration
Subregion Managers: Central Oregon

Response to WTWG Comments:

Comment #1 Include more detail.

The subregion review team agrees that this project needs more detail. The Oregon Department of Fish and Wildlife and the Confederated Tribes of Warm Springs will work more closely with the Watershed Council to address the lack of detail. Despite its lack of technical detail we believe the project intent is appropriate and beneficial to the watershed.

Comment #2 Explain how the proposed action addresses the critical resource conditions of the subbasin.

Critical resource conditions include low flows in some reaches due to irrigation withdrawals and poor natural storage capabilities, high stream temperatures and increased sedimentation from erosion of streambanks and road crossings in the watershed. The proposed action will improve riparian condition and will contribute to overall watershed health.

Comment #3 Explain how the project will significantly benefit fish.

Stabilizing streambanks will reduce sediment input directly into the stream thus improving spawning and rearing conditions and improve riparian conditions improving overall habitat.

Comment *#4* Combine all three proposals into one project.

The subregional team agrees with this comment, however we want to go forward with one proposal while we work with the watershed council on improving the other remaining proposals.

The subregional review team believes that the watershed council is the appropriate group to implement new restoration activities in the Trout Creek Watershed because of landowner support and diverse watershed council membership. As ODFW reduces their implementation of new projects, the watershed council and local landowners are the appropriate group to continue the efforts. The Oregon Department of Fish and Wildlife and the Confederated Tribes of the Warm Springs Reservation of Oregon will work with the council to provide technical assistance.

Significant investment has been made in the Trout Creek watershed and support of the watershed council will ensure that benefits will continue.

Project: 9404200
Sponsor: ODFW
Title: Trout Creek Habitat Restoration Project
Subregion
Managers: Central Oregon

Response to WTWG Comments:

Comment #1 Explain the O&M budget in detail. Although maintaining the fences is important, there are concerns that the funding requested for O&M of 70 miles of fence in excessive.

O&M funding on this project not only covers maintenance of 132 miles of riparian fence, but also covers the maintenance of 11 spring developments 4,545 instream habitat structures, and 19,643 feet of bank stabilization structures. Although there are 70 miles of stream fenced there is an additional 12 miles of stream protected through riparian lease agreements. O&M funding also covers personal services to secure and provide administration for additional habitat work using other funding sources such as GWEB, R&E, A&H, Oregon Trout, etc.. Recently the personal funded under this project were able to secure approximately $100,000 from FEMA following a major flood event in 1996-97. This money was used to repair damage caused to BPA funded habitat improvements. In addition personnel from this project are involved in providing technical assistance for watershed restoration to private landowners and the Trout Creek Watershed Council as well as other NGO' s that are providing watershed improvements in Trout Creek. In addition the Trout Creek project O&M costs are lower than many of the other habitat improvement projects in the Columbia River Basin relative to the amount of dollars per mile of fence maintained, and dollars per mile of stream restored.

Comment #2 Revise Section 4 to include the objective of providing unobstructed passage to adult salmon.

When this project began all irrigation diversions in the basin were unscreened. Buell and Associates calculated that 3 *0-50%* of outmigrating juvenile steelhead were being intercepted by irrigation diversions. This project has completed screening on all 48 diversions in the basin. The maintenance for these structures is currently funded through Mitchell Act funds. However, funding for the Trout Creek Habitat Project is crucial for continued Mitchell Act funding. The Mitchell Act screens project relies heavily on the existence of the habitat project to cost share in the leasing of shop space, office space, and common supplies. If this project is no longer funded the Mitchell Act funds that maintains these screens will be incapable of maintaining all 48 screens.

The Oregon Fish Screening Project (9306600) is addressing passage improvements at 13 gravel push up diversions, by constructing fish ladders and removable diversions. These passage structures are important to provide unimpeded passage for adult and juvenile steelhead, and

Pacific lamprey. This project also relies heavily on the Trout Creek Habitat project for assistance by providing office and shop space, and sharing of personnel.

Comment #3 Identify the critical limiting factors in the sub-basin and explain how the objectives address those factors.

The factors limiting summer steelhead production in the Trout Creek sub-basin as reported by Buell & Associates, Inc. 1983 are: high summer stream temperatures; low summer flows; habitat simplification; obstructed fish passage, and increased sediment delivery.

The Trout Creek Habitat Restoration Project addresses these limiting factors in the following ways:

High summer stream temperatures. The Trout Creek watershed has suffered from over 100 years of poor land use practices. Poor grazing management practices and extensive channelization work by the Army Corps of Engineers following the 1964 flood led to streambanks and riparian areas with little riparian vegetation. The primary focus of the Trout Creek Project is to restore important riparian vegetation by constructing and maintaining riparian fencing, riparian pasture fencing and by negotiating agreements with landowners to remove livestock from the stream bottoms. As riparian areas recover and once again provide shade to the stream water temperatures will decrease. This project has constructed 132 miles of riparian fencing. Although in this Central Oregon High Desert region with only 11-18 inches of rainfall per year recovery in some areas is slow, we are showing vast improvement in stream shading. Some reaches on upper Trout Creek are nearing 100% canopy cover.

The success of this project and the ability to address the problem of high summer stream temperatures hinges on the ability to maintain the fencing that has been constructed. On this project it has been shown several times in periods of low funding that if riparian fencing is not properly maintained the vegetative recovery can be set back several years in a matter of days when trespass cows enter the riparian enclosures.

Low summer flows. Trout Creek suffers from low flows in the tributaries and some reaches of Trout Creek. This is due to heavy irrigation withdrawals as well as the loss of an intact riparian area that would normally store and slowly release water. The Trout Creek Habitat Project addresses this problem primarily through restoration of riparian areas through riparian fencing and promoting better cattle management leading to increased water retention capabilities. Instream flows are also increased through decreased evaporation due to increases in stream shading. Project personnel have worked with Oregon Water Resources, Oregon Water Trust and Oregon Trout to investigate several flow augmentation possibilities. These possibilities are: purchasing instream water rights, ditch consolidation, more efficient water delivery methods, improved water right enforcement, and headwater off-channel storage sites.

Habitat Simplification. The Trout Creek habitat project is addressing this limiting factor through placement of instream structures, LWD, restoration of stream side woody vegetation. In the 1983 habitat survey the pool to riffle ratio was 10:90. Habitat structures installed have provided over 4550 additional pools. These structures along with the improved riparian

vegetation has led to increased habitat diversity on Trout Creek and tributaries in the project area.

Obstructed Fish Passage. The Trout Creek Project has addressed fish passage problems by installing and maintaining 48 fish screens, and assisting in the construction of three fish ladders. The Trout Creek personnel have secured approximately $120,000/yr of Mitchell Act funding to assist with fish screen maintenance. Further improvement of fish passage at gravel push up diversions is being addressed with funding from the Oregon Fish Screens Project.

Increased Sedimentation. The Trout Creek Project is actively pursuing all possible techniques to reduce sedimentation. Existing riparian fencing has and will continue to reduce the sediment input. Improved forest practices on the privately owned timber land, and road obliteration on the National Forest has also reduced sediment delivery to the system. The Trout Creek Project is also working with private landowners, the Trout Creek Watershed Council, and private forest owners to improve land management practices to decrease sediment input. Also, initial consultation has started with the COE to address removal of 1964 berms that are causing erosion problems that increase sediment in the basin.

Comment #4 Demonstrate the cost and biological benefits of this project. Is the return on the investment worth it considering the location of the project? Explain what proportion of the subbasins fish population directly benefit from this project. Strategically, this is a large expenditure for a small portion of the fish population.

Benefit cost analysis was conducted in 1985 by Buell and Associates and Northwest Biological Inc. under contract to BPA. The benefit cost analysis directed where stream work would be conducted. The overall benefit cost ratio for the project area exceeded 1.6. This benefit cost assumed a 35 year maintenance investment. Expenditures on this project are appropriate for this important portion of the wild Deschutes summer steelhead population. Trout Creek provides as much as 25% of the wild summer steelhead to the Deschutes River. Trout Creek provides a genetic sanctuary for wild summer steelhead in the Deschutes.

Criterion #1 Does the proposal demonstrate that the project uses appropriate, scientifically valid strategies or techniques, and sound principals?

It is generally assumed that riparian habitat improvement is a universally accepted method of stream restoration that relies on sound principals of hydrology to prevent further stream habitat degradation.

Criterion #2

N/A

Criterion #3 Does the proposal demonstrate that the project benefits are likely to persist over the long term.

The project benefits are likely to persist as long as riparian leases with private landowners are honored until their expiration. The term of these leases was for 15 years. The last lease was signed in 1994. The presence of this project and personnel has contributed to a change of attitudes in private landowners that will help to continue the benefits of this project after the leases expire. Landowners are beginning to understand the concepts of holistic watershed management, and the value of restoring fish habitat. It is the goal of this project to continue this education process until the Trout Creek Watershed Council can sustain and further the work accomplished.

Criterion #4 Does the proposal include an appropriate implementation and monitoring and evaluation plan?

This project conducts annual steelhead redd counts, collects the thermograph data, and photo point documentation, ODFW is proposing to use ODFW funds to measure outmigrants in the spring of 1998.

Criterion #5 Are the objectives clearly defined and achievable?

Provide unobstructed passage for migrations of adults and juveniles to achieve full utilization of suitable habitat.

Project has provided screening to 48 irrigation diversions, and has constructed 3 fish passage structures. An additional 12 fish passage structures are proposed to be constructed to eliminate gravel push up dams.

Maintain an average maximum summer water temperature of 75 F or less at the mouth of Trout Creek.

The project has increased the riparian shading through a large portion of the project. Decreases in maximum temperatures are difficult pinpoint, however it is generally accepted that the increase in stream shading is providing some decrease in maximum temperatures.

Provide healthy riparian vegetation on at least 80% of the perennial stream miles in the drainage.

The Project has increased the amount of healthy riparian vegetation. Aerial photos suggest that 95% of the project area has healthy vegetation. Personnel on the project are continuing to promote riparian vegetation health outside the project area.

Increase habitat diversity by increasing pool habitat to historical levels.

This project has installed 4545 instream structures that have created additional pool habitat.

Within the constraints of land use practices achieve <20% active stream bank erosion. Within the project area active stream bank erosion has been minimized. Additional work will center on COE berm removal. This in conjunction with ongoing Forest Service road obliteration will continue the trend towards achieving this goal.

Provide technical assistance to landowners to reduce the amount of sediment delivery from upland sources.

Currently project personnel serve in an advisory role to the Trout Creek Watershed Council. Also work with individual landowners is occurring to promote additional projects with other funding sources.

Achieve water quality standards that will comply with the clean water act, or assist in establishing a plan that will bring the basin into compliance.

Above goals will assist in several areas of noncompliance. As additional standards are established and monitored project personnel will help to serve as a liaison between the private landowners and ODEQ.

Maintain work that has been completed over the past 11 years.

All of the above goals center around, and build upon the habitat work that has been completed over the past 11 years. Without this cornerstone of habitat improvement additional projects will have a more difficult time in achieving additional habitat improvement in the basin.

Criterion #6 Is the project likely to meet, or is it currently meeting objectives and time frame milestones?

See answers under Criterion #5.

Criterion #7

N/A

Criterion #8 Will the target or indicator species, be significantly benefited from this project?

1997 summer steelhead redd counts in the Trout Creek basin were the highest in the last eight years.

Criterion #9 Are the resources proposed appropriate to achieve the objectives and time frame milestones?

We have identified a funding level that will insure the continued maintenance of the 132 miles of fence, the instream habitat structures, and the continued landowner contacts. Maintenance of work completed will assure success of future projects in the basin. If we fail to maintain the habitat improvements as was agreed to in the 15 year riparian leases. Any further cooperation by landowners will be jeopardized by developing a mistrust of fisheries managers and their projects.

Criterion #10 Does the project address watershed or habitat strategies related to fish and wildlife goals and objectives?

This project is related to the Deschutes River basin plan and the Trout Creek Project meets all five of the co-managers goals and objectives. This project also relates to the Wy-Kan-Ush-Mi

Wa-Kish-Wit Summer Steelhead Strategy 3 by addressing habitat restoration to increase natural production in the Trout Creek basin.

Project: 9401807
Sponsor: PCD
Title: Enhance Habitat for fall chinook, steelhead and bulltrout in Pataha Creek/Tucannon River
Subregion Managers: Northeast Oregon and Southeast Washington

Response to WTWG criteria:

Comment #1 Has a watershed plan been reviewed and adopted?

The Pataha Creek Model Watershed plan is in final draft and will go through SEPA review this spring. The plan was developed through technical advisory and landowner steering committees.

Comment #2 Explain the inconsistency between the target species (including chinook) and the statement that chinook have "never" been documented in the creek.

Reference to that statement does not reflect the importance of management practices within the Pataha, but does emphasize the critical importance of these practices on the sedimentation from Pataha Creek to the Tucannon River Fall Chinook spawning and rearing area. In consultation with Rick Edwards, NMFS, the Pataha is listed as critical habitat and is addressed in NPPC F&W Program 94-55, part 7.6D, Habitat Objectives.

The Pataha Creek project addresses the habitat management activities identified in the 1994 Fish and Wildlife Program, section 7.6D and CRITFC's Wy Kan Ush Mi Wa Kish Wit under watershed management as water quality needs for temperature and sedimentation reduction and riparian restoration. This proposal addresses temperature and sedimentation rate reduction which have a detrimental effect on Fall Chinook spawning grounds in the lower Tucannon. Riparian plantings and fencing projects are identified along with upland BMPs to reduce soil erosion.

Comment #4 Identify the limiting factors and explain how this project alleviates those factors.

High sediment delivery rates and high water temperatures are limiting factors to fish production in Pataha Creek and greatly influence the lower Tucannon River below the confluence. Funding for implementation of upland and riparian practices can dramatically reduce the sediment load in the Pataha.

Comment #5 Explain how the instream structures constructed in the recent past have been tied to the major problem of sedimentation in the Columbia River Basin.

In stream structures were utilized as demonstration projects to educate landowners on bioengineering techniques available for streambank and geomorphic stabilization as listed in NPPC 94-55 7.6D Bank Stability.

Comment #6 Refer to Question #3: Does the proposal demonstrate that project benefits are likely to persist over the long term?

The implementation of the Pataha Creek Model Watershed Plan will ensure that project benefits will help restore habitat. Historical records indicate that the Pataha Creek is the largest supplier of sediment to the Tucannon River and the fall chinook spawning grounds. With continued installation of cropland, rangeland and forestland BMPs and with education and public awareness, sedimentation and temperature concerns will be positively impacted in the watershed.

Comment #7 Question #10 was addressed under Direct links to NPPC F&W program above.

Comment #8 Project does not have enough "bank for the buck."

Agree with watershed TWG regarding low "bang for buck" however, support reduced funding, not elimination of the entire ongoing effort.

Less relative benefits to anadromous fish and multiple life history stages compared to other regional projects, however there are some sediment reduction benefits to fall chinook spawning in the lower Tucannon River.

Additional comments:

- Funding requested goes 100% to on-the-ground implementation of cost shared projects.
- Pataha Creek is the highest producer of sedimentation of any tributary of the Tucannon River. Continued efforts in dealing with landowners to improve the problems in this subsystem is a valuable component in the overall SE Washington model watershed program.

Project: 8612400
Sponsor: ODFW
Title: Inspection Service for Little Fall Creek Fishway
Subregional Managers: AFM

Response to WTWG Criteria:

Criterion #1 Fishway was constructed in 1986 with BPA funds to allow fish access to 12.5 miles of habitat in upper Willamette watershed. Fishway improves access for natural spawning and rearing by Spring chinook and steelhead.

Criterion #2 Structural solution is most economical method and least damaging to area for providing fish passage.

Criterion #3 Additional natural fish production is ongoing, as long as the fishway is maintained. It is estimated that habitat will generate 543 steelhead and 256 Spring chinook each year.

Criterion #4 Condition of fishway is checked at least twice yearly and improved fish counts have been noted above fishway. Monitoring is ongoing by District fish staff

Criterion #5 Repairs will be made to better resist Mother Nature and flood damages.

Criterion #6 Project is currently meeting design objectives.

Criterion #7 No negative impacts noted on other species.

Criterion #8 Target species have lost a large share of spawning and rearing habitat and this fishway allows better access to 12~ miles of stream. The estimated several hundred more naturally raised fish from the system should be a significant help to the population.

Criterion #9 The requested dollars are sufficient to accomplish the project in a timely fashion.

Criterion #10 Proposed repairs are the continuation of the project that started when the fishway was constructed in 1986 as part of the Columbia River Basin Fish and Wildlife Program 1984

Project: 9202602
Sponsor: WSCC
Title: Implement Eastern Washington Model Watershed Plans
Subregion managers: Northeast Oregon and Southeast Washington

Note: The WTWG inadvertently reviewed a letter of support only and did not review the corrections to this project. The corrected proposal was evaluated in the management review, thus the status of this project remains a "fix," not "fail."

Additional Information:

- Provides necessary administrative function for three other projects which are 100% implementation (projects 9401800, 9401805, 9401806). Unlike many proposals which are submitted with administrative and on-the-ground portions together, these four SE Washington projects were submitted separately (one for administration and three for implementation).

- Necessary to develop, implement, and monitor on-the-ground projects funded by BPA and others.

- Provides essential project coordination, education and database functions for SE Washington model watershed projects.

- Administrative portion requested to implement projects is not higher than other habitat enhancement projects in region.

- Agree with TWG concern drop out M & E methodology and hypotheses that don't belong in an administrative services proposal (particularly those tied to fish catch rates).

Project: 9702500
Sponsor: NPT
Title: Implement Wallowa County/Nez Perce Tribe Salmon Recovery Plan
Subregion managers: Northeast Oregon and Southeast Washington

Rationale for funding Response to WTWG Comments:

Comment #1 How does project differ from Grand Ronde Model Watershed Projects?

Wallowa County projects implemented under this effort are a component that enhances (not duplicates) the Grande Ronde model watershed plan. Specific projects under this effort are generally smaller projects that normally do not go through the GRMW process.

Additional Comments:

- Funding requested goes to on-the-ground implementation of cost shared projects.
- Implements habitat enhancement projects that are part of the locally derived (county and tribe) "salmon recovery plan."
- Benefits to multiple ESA listed and pending species (spring chinook, steelhead & bull trout)
- Concur with watershed TWG that written proposal is unclear and lacks specificity in some areas, however, managers recommend reducing not eliminating this ongoing effort.

Project: 9601100
Sponsor: CTUIR
Title: Screens and Traps on the Walla Walla River
Subregion Managers: Northeast Oregon and Southeast Washington

Rationale for funding Response to WTWG Comments:

Comment #1 Define long-term benefits and dependence on O&M funding in the future.

Long-term benefits include reduced mortality of all smolts migrating past water diversion project sites in the future. Ditch consolidations will reduce annual construction of gravel push-up dams. Screens will require normal O&M (trash clearing, greasing, etc.), similar to other screens in Columbia Basin. Fish trap and haul O&M will be added to ongoing Umatilla trap and haul project in order to cut costs and maximize use of existing personnel and equipment.

Comment #2 Question validity of trapping and hauling (e.g., Mainstem Columbia issues).

Fisheries managers are seeking to restore salmon and steelhead in the Walla Walla Basin without impacting irrigation/agricultural values (similar to successful Umatilla program). In order to secure both fish and agricultural interests, projects like this must be implemented.

Project proposes to add smolt trapping and hauling at the largest diversion to ensure safe smolt passage during low flow periods. This will be utilized only if and when necessary (when fish would otherwise be killed). Trap and haul application as a contingency plan here does not relate to Columbia River barging where fish are hauled as part of standard operations.

Additional Comments:

- Project proposes to properly screen the two largest diversions in the Walla Walla Basin. One diversion diverts the entire mainstem Walla Walla River through substandard screens with no bypass for smolts back to the river.

- An estimated 50% of the smolt outmigration is lost in low flow years due to substandard fish screening and bypasses.

- Project also proposes to consolidate irrigation diversion which will result in less annual

- Affected species include summer steelhead and bull trout (both on pending ESA list) and spring chinook (to be reintroduced in near future).

- Project has been ongoing for two years. Designs are completed through coordination with fisheries agencies, tribes, irrigation districts, flood control districts, and landowners.

- Fully support funding this capital construction project.

Project: **9601200**
Sponsor: **CTUIR**
Title: Adult Fish Passage Improvement - Walla Walla River
Subregion
Managers: **Northeast Oregon and** Southeast Washington

Rationale for funding - Response to WTWG Comments:

Comment #1 Need better analysis of problem.

Project to include new ladders at dams on the mainstem Walla Walla River which currently have substandard passage conditions. Summer steelhead can annually be seen smashing their heads against a concrete dam in Milton-Freewater, Oregon, as they unsuccessfully attempt to jump it. A current ladder at Burlingame is poorly designed, silted in, and non-functional for passing fish.

Comment #2 Project history not described.

Project ongoing for two years. Two diversion dams removed (one each from mainstem Walla Walla and Touchet Rivers) in 1997 under this project. Designs completed for Nursery Bridge Dam ladder (preliminary) and Burlingame Dam ladder (final) in 1997.

Comment #3 Potential negative impacts to non-target species.

There are no anticipated negative impacts from laddering irrigation diversion dams which currently block or delay adult anadromous fish passage.

Additional Comments:

- Affected species include summer steelhead (pending ESA listing), spring chinook (to be re-introduced in near future), and bull trout (upstream migration to cooler waters is inhibited).

- US Army COB to provide approximately $750K in cost share funding over the 3-year project implementation period.

- Similar projects in Umatilla Basin have been very successful where fish passage problems and solutions are nearly identical to the Walla Walla Basin.

- Fully support funding this capital construction project.

Project: 9608600
Sponsor: ISCC
Title: Clearwater Subbasin Focus Program
Subregion Managers: Idaho

Rationale for funding:

- Co-coordinated on behalf of Idaho State by the Soil Conservation Commission and on behalf of the Nez Perce Tribe by Tribal Fisheries. The program is authorized under section 7.7A of the Columbia River Basin Fish and Wildlife Program. The mission of the Clearwater Focus Program is to coordinate actions occurring within the subbasin that affect fisheries habitat, develop partnership efforts to implement restoration/enhancement projects, and seek funding for such from available sources. This work requires bringing together federal, state, private, and Nez Perce Tribal interests; the complexity of this coordination cannot be overstated.

- There are multiple jurisdictional interests that exist in the Clearwater River subbasin, all of which are inter-related. Different rules and regulations affect resource use, depending upon the land status: the federal government has obligations toward preservation and wise management of resources; the Nez Perce Tribe has treaty resource responsibilities

throughout the Clearwater subbasin; Idaho State agencies are charged with a variety of resource management duties, including law enforcement; and private landowners have property concerns. That these interests can be in conflict with one another is the socio-political reality of the Clearwater subbasin. The Clearwater Focus Program has two co-coordinators, each representing approximately one half of the subbasin ownership and/or management interests. Without this representational management design, coordination and cooperation of watershed restoration and enhancement would be seriously compromised.

- It is the opinion of the Soil Conservation Commission and the Nez Perce Tribe that, since the creation of the Clearwater Focus Program, there has been increasing cooperation among tribal, federal, state, and private interests. Elimination of either of the coordinator positions would be a significant setback to the cooperation and trust the project has fostered, and ultimately to project implementation.

Project: 8068
Sponsor: UW
Title: Measure Mine Drainage Effects at Confluence of Alder Creek and Methow River
Subregion Managers: Washington

Rationale for Funding:

The location of the mine is at the upper limit of spawning spring chinook populations in the Methow Basin. A watershed analysis will result from the study to assist in restoration of the Methow Basin. Mining adjacent to Alder Creek and the resulting impacts in the Methow Basin have existed since the 1930's. The low population status of Methow spring chinook warrants an evaluation of the mining impacts. Specific responses to the WTWG comments and criteria will be provided by February 24, 1998.

Project: 9603401
Sponsor: YIN
Title: Methow River Valley Irrigation Conservation Project
Subregion Managers: Washington

Rationale for Funding:

This is the last year of a major cost-sharing project between BPA, WDFW and WDOB. The MVID, environmental groups, state agencies, local governments, tribes BPA and others have been working closely over the past three years to complete environmental work and approval coordination to complete the project. The WTWG failed this project primarily because "No NEPA preferred alternative was identified." BPA has recently completed the BA and part of the decision on which alternative is to be selected rests in the hands of the local irrigation board. The $686,535 required in FY98 brings the BPA cost share to $2,847,535 out of the total project cost

of $4,954,735. Specific responses to the WTWG comments and criteria will be elaborated upon at the NPPC meeting on February 24, 1998.

Project: 9704900
Sponsor: YIN
Title: Teanaway River Instream Flow Restoration
Subregion Managers: Washington

Rationale for Funding:

The WTWG stated that it was a "good idea," but "perhaps this project is premature." This is another project that is in its last year of funding and contains a great deal of cost sharing amnong **BPA, BOR and private** entities. The results of the work will be increased flows in the Teanaway River which is essential for one of the spring chinook acclimation sites under the Yakima Hatchery Project. Specific responses to the WTWG comments and criteria will be elaborated upon at the NPPC meeting on February 24, 1998.

Rationale for support of anadromous fish project that failed the watershed technical work group review

Project: 9608600
Sponsor: YIN
Contractor: WDOE
Title: Methow Valley Irrigation Conservation Project
Subregion Managers: Washington

Response to WTWG Comments:

Comment # 1: Explain the project in more detail. It was difficult to evaluate**.**

BPA is proposing to assist with funding changes to the Methow Valley Irrigation District's (MVID) irrigation system to increase the efficiency of the system. In doing so, BPA is responding to a need to increase in-stream flows and fish passage in the Methow and Twisp rivers for resident and anadromous fish. Also important is the need to promote more efficient use of water in the Methow River Basin. This is the last year of a major cost-sharing project between BPA, WDFW, and WDOE. The MYID, environmental groups, state agencies, local governments, tribes, BPA and others have been working closely over the past three years to complete the environmental work. The *$686,535* required in FY98 brings the BPA cost share to *$2,847,535* out of the total project cost of $4,954,735. The WDOE and WDFW cost share is $2,107,200.

This need to increase the efficiency of water use, instream flow, and improve fish passage has been identified in several recent studies of fish and water issues in the Methow Basin. The Columbia System Planning Salmon and Steelhead Production Plan, Methow and Okanogan

Rivers Subbasin (WDW et al., 1990) discusses fish production constraints for the anadromous species currently present in the Methow. In-basin limitations cited included:

- Steelhead - slow juvenile growth rates and losses due to winter icing, spring flooding, lack of instream water cover, and unscreened irrigation diversions.

- Spring chinook - loss of rearing habitat due to dewatering and low flows resulting from irrigation diversions, loss of juveniles due to substandard irrigation diversions and winter icing conditions, and habitat losses from riparian development.

One of the recommended strategies for spring chinook is to implement water conservation and acquisition measures, including conversion to sprinkler irrigation systems, lining of earthen irrigation ditches and/or conversion to pump irrigation systems. The conversion of the MVID canal system to individual wells is specifically mentioned.

The draft Methow River Basin Plan (Methow Valley Water Pilot Planning Project Planning Committee, 1994) included in its major conclusions, "4. Instream flow must be increased to improve fish and wildlife habitat and preserve and enhance the unique quality of the Methow Valley while allowing for growth." They also state, "...the Committee recognized that existing instream flow levels are well below those needed to meet regional fish management objectives, and that significant opportunities exist to improve stream flows." Appendix D, which discusses Agricultural conservation Alternatives, states, "While there are a host of factors contributing to the poor status of these stocks, irrigated agriculture is a significant contributing factor." It lists the MVID east and west canals as having the highest potentials of the irrigation systems listed for increasing instream flows at the points of diversion through conversion to wells and/or enclosed pipes.

- A new irrigation system will be built. It will use 46-centimeter groundwater wells from three well fields, one for the east canal and two for the west canal. About 12 kilometers of new low-pressure pipe will be placed in the existing canal rights-of way.
- Three small concrete tanks will be built above ground to act as reservoirs for the new system. Each tank will be about 6 meters tall by 6 meters in diameter.
- Diversion and fish-screening facilities at the east and west canal diversion points will be removed.
- Rehabilitate those portions of the Barkley Ditch system currently sharing portions of the MVTD canal
- Cultural resource mitigation in the form of special documentation because the canal is considered historically significant.

Several existing canal reaches will be abandoned: east canal: reaches 1,2, lower 4, 5,6; west canal: 1, middle of reach 3. (West reach 5 has already been abandoned.) Areas severed by these canal reaches will be removed from the MYID and served by existing or new, privately owned groundwater irrigation wells.

MVID members wishing to leave the District will keep benefits under MVID water rights and claims. The remaining 376 hectares will be irrigated by piped groundwater system. The MVID

will receive authorization to transfer surface water points-of-diversion to points-of-withdrawal for existing or new, privately developed groundwater wells.

BPA, WDOE, and Washington Department of Fish and Wildlife (WDFW) will fund new system construction. BPA will provide compensation funds for MVID members leaving the district, based on an acreage formula.

Comment #2: Identify the critical limiting factors in the Methow subbasin and explain how the project addresses them.

The limiting factors are 1) passage, and 2) inadequate instream flows.

Removal of fish screen and diversion facilities. This project calls for the removal of the diversion and fish-screening facilities at the east canal and west canal diversion points. Removing the in-stream diversion will improve upstream fish passage past both canals' intakes. The diversions span most of the river widths, and cause delay in upstream migration. This delay is a particular problem for spring chinook, because the adults need to have access to deep holes in the upper watersheds, where they hold before spawning. In some years, the diversion totally blocks migration of adult salmon and spawning takes place below the diversion. Temperatures and habitat features below the diversions are probably not suitable for spring chinook holding areas, given the number of spring chinook that need to access the upper Twisp and Methow rivers. Removal of the diversion will also result in elimination of the annual in-river bulldozing operations that adversely impact juvenile rearing and water quality.

Instream fish habitat analysis methodology. The IFIM study conducted by Caldwell and Catterson (1992) in the Methow River Basin was reviewed by CH2M HILL and used to evaluate changes in in-stream fish habitat, h-stream fish habitat is defined in terms of physical habitat as a function of streamflow. IFIM is typically applied only for the spawning and rearing portions of the life cycles of salmon, because the criteria used to define a fish's preference for certain hydraulic conditions and physical habitat, including cover and substrate, are mostly developed when fish are active and easily observed. A basic IFIM premise is that fish populations respond to changes in the environmental conditions of their habitat. IFIIM data can help make decisions about water management. Other factors—water temperatures, harvest, downstream fish passage, and management objectives, for instance—must also be considered when assessing the overall impacts of a project flow change.

Changes in in-stream fish habitat were evaluated as they relate to changes in flow for one section of the Methow River and one section of the Twisp River: the upper Methow River from the diversion point at the west canal to the confluence with the Twisp, and the Twisp River diversion point of west canal to the confluence with the Methow River. There will be benefits to in-stream flow, and consequently to physical habitat, below the confluence of the two rivers. However, relationships between diversion rates, canal seepage, return flows, groundwater recharge, and groundwater-surface water continuity could not be modeled adequately to predict river flows.

The factors evaluated included adult holding (areas in which adults reside before spawning occurs), spawning habitat, and juvenile rearing habitat for spring chinook salmon; spawning habitat for summer chinook; juvenile rearing for summer steelhead; juvenile rearing for Bull

trout. These were used, as applicable, for each river section. September flows were selected for evaluation because September irrigation diversions are highest in comparison to in-stream flows, presenting the greatest challenge to the fish.

Analysis were conducted for two conditions—50-percent "exceedance flows" (which means normal conditions) and 90-percent exceedance flows (dry conditions). Using exceedance flows (rather than average flows) is a more meaningful way to assess impacts on aquatic resources. This is because averages often tend to mask true impacts. For example, fish survival in a particular stream may be more affected by the amount of water present during dry conditions than by the average flows. Exceedance values are computed by compiling the daily flow records for a given stream, or section of stream, over the period of record of interest. These daily flows are then ranked from highest to lowest. The 50-percent exceedance flow, or the normal condition, is the normal flow for the entire period of record. The 90-percent exceedance flow, or the dry condition, is the flow level at which 90 percent of all the recorded daily flows are greater than (or exceed) that flow.

In-stream fish habitat. The habitat-versus-flow relationships (Weighted Usable Average or WUA curves) for the species/life history stages were evaluated in the Methow River above Twisp and the Twisp River to provide an evaluation of habitat quality. All show habitat generally increasing with increasing flow, over the range of flows evaluated. Therefore, the percentage of habitat increase is related to the increased flow resulting from the implementation of the project, as well as the pre-existing flow.

The results of the evaluation are:

- Maximum habitat for most of these species/lifehistory stages occurs at flows above 650 cfs. The most substantial gains in habitat occur between 90 cfs and 500 cfs.

- Under normal (50-percent exceedance) flows in the Methow River above Twisp, habitat area (WIJA) will increase by 10 to 13 percent for almost all of the species/lifehistory stages evaluated (Table 3-5). The exception is for spring chinook juvenile rearing, which will essentially not change. Their habitat-vs.-flow relationship is relatively flat at flows between 200 and 300 cfs.

- Because the flow increases in the Twisp River will be greater in percent terms than those in the Methow River above Twisp, habitat increases will also be greater. Habitat in the Twisp River for four of the five species/lifehistory stages evaluated will increase by 45 to *57* percent under normal (50-percent exceedance) conditions; rearing habitat for juvenile spring chinook will increase by only 10%.

- Under dry conditions (90-percent exceedance flows), habitat increases in both the Methow River above Twisp and in the Twisp River will be greater than those under 50-percent exceedance flows. This difference is due primarily to the relatively large percentage increase in flows under the project, as well as the relatively low flows in both rivers under No Action. Dry-condition flows for September under No Action conditions are only about *150* cfs in the Methow above Twisp and 24 cfs in the Twisp.

- Under dry conditions in the Methow River above Twisp, habitat will increase by 16 to 25 percent for four of the five species/lifehistory stages evaluated; only spring chinook rearing habitat shows a smaller increase of 2%.

- In the Twisp River, habitat increases for all species/lifehistory stages during dry conditions will be substantial, ranging between 57 and 224 percent. (Again, spring chinook rearing will have the lowest increase.) These potentially substantial habitat increases can be attributed to the fact that, under dry conditions, flows in the Twisp River are very low. Even a slight absolute increase in flows will result in a substantial percentage increase in habitat.

Fish habitat in the project irrigation canals. Presently, the project canals dry up after irrigation season because water is no longer diverted to them. Therefore, there is no effective year-round fish habitat in the project canals. For this reason, canals are screened to keep fish out of the canals. However, because screening is inefficient, some resident and anadromous fish may occasionally get into the canals during periods of high flow. This occasional use of canal habitat by fish is considered to be detrimental because the canals are essentially isolated from the project rivers; any fish in them cannot return to the river and will be considered "lost" to the river populations. Therefore, the elimination of the canal system will not reduce fish populations in the project rivers, and will, in fact, prevent the straying of fish into a canal system from which there was no escape.

Comment #3: No NEPA preferred alternative identified, instead referred to environmental assessment.

On December 9, 1997, based on information in the EA, BPA determined that the actions proposed, as described and analyzed in either Alternative A or C, are not major Federal actions significantly affecting the quality of the human environment within the meaning of NEPA. An BIS is not required, and BPA issued a Finding of No Significant Impact (FONSI). The membership of the MYID must meet to determine which of the two approved alternatives will be selected. Alternative A includes conversion of the open canal system to a pipeline and compensation to those who leave the MYID and convert to groundwater use. Under Alternative C, the MYID would be dissolved and all members would convert to groundwater use, with BPA providing compensation to assist members with obtaining groundwater wells and other necessary equipment.

Additional Comments:

The Washington Watershed Subregional Team evaluated this project based on 13 management criteria and determined that it is an essential project for funding. It is in the last year of a 3-year budget and it makes no sense to stop funding at this point. A great amount of credibility would be lost with all of the entities (MVID, WDOE, WDFW, environmental groups, federal agencies, local governments, NPPC, BPA, and tribes) that have been working to get this project completed. The $686,535 requested for FY98, however, will not be needed until October 15, 1998. The AFM of CBFWA decided to defer the project until FY99 to allow for other projects to be funded that would be able to spend their funds in FY98. A proposal was not submitted for the MVID project for FY99 but the AFM recognized the importance of the project and request funds from BPA beginning October 1998. BPA has completed the NEPA work and issued a FONSI,

and final negotiations by the MVID membership are being completed. The AFM of the CBFWA respectfully request that the NPPC provide funds for the MVID project in FY99 as one of the highest priority watershed projects.

Rationale for support of anadromous fish project that failed the watershed technical work group review

Project: 9704900
Sponsor: YIN
Title: Teanaway River Instream Flow Restoration
Subregion
Managers: Washington

Response to WTWG Comments:

Comment # 1: Good idea. Needs to be accomplished under a proposed Land and Water Rights Acquisition Fund recommended under Project 8067.

We agree that a Land and Water Rights Acquisition Fund needs to be established. However, this project is on-going and already underway. FY 1997 Watershed Restoration funds have been provided and are being utilized to as part of a three-year program to increase flows in the Teanaway River. It makes no sense to terminate this project in the middle of implementation and attempt to combine it with other projects under a new umbrella. In fact, such a process would very likely lead to the failure of attempts to restore instream flows in the Teanaway River due to the rupture of relationships with private landowners that such a termination would cause. A sound working relationship with appropriate landowners is essential for the success of this effort. A start-and-stop approach would in all likely-hood cause private landowners to cease their cooperative involvement in this project.

Comment #2: Clearly define the objectives, demonstrate what the project will accomplish, and show how the 3 cfs will be achieved.

The general objective of this project is to increase instream flows in the Teanaway River. Specifically, FY 1998 funds will be utilized to implement water conservation projects on approximately 500 acres of irrigated farmland in the Teanaway Valley. Open irrigation water delivery systems will be converted to piped, enclosed, systems; gravity diversions converted to pump installations; and nil and flood irrigation converted to sprinkler systems. The current open, gravity diversion and delivery systems were constructed in the 1880's, are extremely inefficient, and have limited or no ability to measure actual diversions. As a result, diversions in excess of entitlements occur. The new pump diversions will be sized to prevent diversions in excess of legal entitlements. Closing the gravity diversions eliminates annual in-river equipment activities that adversely impact the riverine ecosystem, and also obviates the need to construct new fish screens under Project Numbers 9107500 and 9105700. Two diversion points will be moved downstream, one approximately one mile and one approximately three miles. The entire diversion amount, approximately 7 cfs, will remain in the river one mile, while 3.5 cfs will remain in the river for three miles. Downstream of the lower diversion, approximately 4 cfs of conserved water will remain in the Teanaway River for instream flows to the confluence with the

Yakima River, AND will remain in the Yakima River to the confluence with the Columbia River. The conserved water will be protected from downstream diversion by either retaining federal ownership of the water and dedicating this water to instream flows, or by transferring the saved water to the State of Washington's Trust Water Program and dedicating it to instream flows. Either way, the water will be protected from downstream diversion.

Comment #3: The proposal does not identify funding for purchasing water rights.

The Bureau of Reclamation had provided funds in FY 96, FY 97, and FY 98 to lease water for instream flows in the Teanaway River. This has resulted in approximately 16 cfs being dedicated to instream flows that were previously diverted for irrigation. Leasing of water for instream flows in the Teanaway River has been reviewed and approved by Yakima County Superior Court, in the water adjudication proceedings State of Washington v. James Aquavella. BOR has also received $1 million for wetland/floodplain and water rights purchase in the Teanaway River Basin in FY 98. The selection and appraisal process is currently in progress. These funds are provided pursuant to Title XII, P.L. 103-434, which authorizes over $10 million dollars for the purchase of water in the Yakima Basin as part of the effort to restore anadromous fish.

Comment # 4: Clearly explain in detail how the money will be spent.

FY 1998 funds will be utilized to implement water conservation projects on approximately 500 acres in the Teanaway River Basin. Open delivery systems will be converted to piped, enclosed systems; gravity diversions converted to pump installations; and rill and flood irrigation converted to sprinkler systems. The current open, gravity diversion and delivery systems were constructed in the 1880's, are extremely inefficient, and have limited or no ability to measure actual diversions. As a result, diversions in excess of legal entitlements occurs. The new pump diversions will be sized to prevent diversions in excess of legal entitlements. Closing the gravity diversions eliminates annual in-river equipment activities that adversely impact the riverine ecosystem, and also obviates the need to construct new fish screens under Project Numbers 9107500 and 9105700. Two diversion points will be moved downstream; one approximately one mile and one approximately three miles

Comment #5: No discussion of instream water rights, perhaps this project is premature; still incomplete; needs to be proposed under a different program; forward project to another funding board?

The conserved water will be protected from downstream diversion by either retaining federal ownership of the water and dedicating this water to instream flows, or by transferring the saved water to the State of Washington's Trust Water Program and dedicating it to instream flows. Either way, the water will be legally protected from downstream diversion.

We are somewhat mystified by the remainder of the comments. How can a project be "premature" when it is already in progress? In addition, this project is part of extensive on-going efforts to restore anadromous fish in the Yakima River Basin. This effort began with the adoption of the 1982 Columbia River Basin Fish and Wildlife Program by the Power Planning Council. To date, over $70 million has been invested in new fish ladders and fish screens in the Yakima Basin. The Yakima Klickitat Fisheries Project (YKFP) has also been implemented with

facilities in operation at Cle Elum. As part of the YKFP, acclimation ponds will be constructed on the North Fork of the Teanaway River. The first juvenile spring chinook will be released from those acclimation ponds in the spring of 1999. Adults from those releases will return in 2001. The improvement of instream flows in the Teanaway River is an essential component to these fisheries restoration efforts.

In 1994, Congress passed Title XII, P.L. 103-434. One of the primary purposes of this legislation is to restore anadromous fish in the Yakima River Basin. Title XII authorizes over $10 million expressly for the purpose of acquiring water for instream flows. This project, 9704900, is an integrated part of cooperative efforts to restore anadromous fish in the Yakima Basin that includes local, state and federal agencies, the YIN, and private landowners. We believe that this project is very timely, that it is an important part of all on-going efforts in the Yakima Basin, and has promoted cooperation among agencies and landowners in the Teanaway River. We further believe that this funding source is the appropriate venue for this project, and that it would be tragic to stop the progress that has been made to this point in time with this on-going project.

Rationale for support of anadromous fish project that failed the watershed technical work group review

Project: 8068
Sponsor: UW
Title: Measure Mine Drainage Effects at Confluence of Alder Creek and Methow River
Subregion Manager: Washington

Rationale for Funding:

Comment #1: Much of this research has been done already

Research similar to this project have been done in other parts of the US. The author states that the work “will help to establish an understanding of consideration appropriate for evaluating the aquatic impacts of mine sites on small watersheds...” This work will be done in a basin where salmonid stocks have been listed with the emphasis of developing a watershed analysis to define whether or not the mine continues to be a limiting factor in the productivity of Alder Creek. Results of the work may offer insight into the water quality limiting factors of increasing listed salmonids if the concentrations of heavy metals continue above Clean Water Act standards.

Comment #2: Clearly describe the benefits to fish and wildlife

The Alder Creek mine produces acidic metal-rich effluent that affects the quality of water in Alder Creek. A series of beaver ponds and cattail marshes originating from Alder Creek provide nesting sites for waterfowl, game and songbirds near its confluence with the Methow River. Spring chinook spawn in areas downstream of Alder Creek. Results from the study should indicate if poor water quality including heavy metals in Alder Creek pose a distinct health risk to fish populations. Additional work would be needed with this baseline data to evaluate the potential impacts of restoring salmonid population downstream of Alder Creek.

Attachment 1 Anadromous fish watershed projects

ID	Title	DAIWP COST	Proposed Cost	Final WTWG	AFM Recom.	SRT Recom.
8017	Umatilla Tribal Fish And Wildlife Enforcement		234,776	**Fail**	**Defer to Enforcement**	
8058	Screening and Passage on Columbia River and Tributaries		184,399	**Fail**	**Defer to Enforcement**	
8059	Wild Steelhead Broodstock - Lower Columbia River, Cowlitz River		109,956	**Fail**	**Defer to Enforcement**	
8060	Protective Screening Program on the Washington River Basins		5,265	**Fail**	**Defer to Enforcement**	
8061	Protect Klickitat River Salmonids		137,398	**Fail**	**Defer to Enforcement**	
8062	Sturgeon Broodstock Protection Project (SBPP)		100,436	**Fail**	**Defer to Enforcement**	
8063	Aircraft Monitoring of Tributary Systems		12,509	**Fail**	**Defer to Enforcement**	
9202408	Protect Critical Salmonid Habitat and Habitat Restoration Investments		193,980	**Fail**	**Defer to Enforcement**	
9202409	Enhance Law Enforcement For Fish & Wildlife And Watersheds Of The Nez Perce		468,388	**Fail**	**Defer to Enforcement**	
8023	Create fish passage and wild anadromous fish spawning and rearing habitat		200,000	**Fail**		
8024	Hood River Fish Habitat Project		97,198	**Pass**	**Pass**	70,000
8026	Acquisition Of Pine Creek Ranch		350,000	**Pass**	**Pass**	300,000
8027	John Day Watershed Restoration		229,397	**Pass**	**Pass**	203,000
8028	Warm Springs Reservation 1998 Watershed Enhancement Project		391,848	**Pass**	**Pass**	275,000
8031	Eliminate Gravel Push-Up Dams On Lower North Fork John Day		50,000	**Pass**	**Pass**	50,000
8033	Monitor natural escapement & productivity of John Day Basin spring chinook		123,200	**Pass**	**Pass**	86,240
8034	Evaluate Effects Of Habitat Work Conducted In Fifteenmile Creek (Fy 98)		258,933	**Pass**		
8036	Implement Trout Creekwatershed Restor/Enhance Phase I -1998 Funds		56,400	**Fail**	**Pass**	56,000
8037	Restor/Enhance Trout Creek @ Ashwood Phase II 1998 Funding		56,800	**Fail**		
8038	Restor/Enhance Trout Creek @ Willowdale 1998 Funding		83,400	**Fail**		
8043	Hydrologically Close 75 M. Of Roads In The Bear And Trout Creek Watersheds.		20,000	**Fail**		
8044	Plant Aspen And Other Riparian Vegetation Along 12 Miles Of Streams.		23,000	**Fail**		
8045	Rebuild 12 Miles Of Fence And Remove 10 Miles Of Old Unnecessary Fence.		56,000	**Fail**		
8400800	North Fork John Day Habitat Improvement	26,000	26,000	**Fail**		
8402100	Protect And Enhance John Day River Fish Habitat	310,000	368,600	**Pass**	**Pass**	356,000
9303000	Buck Hollow Watershed Enhancement	105,000	104,875	**Fail**		

ID	Title		DAIWP COST	Proposed Cost	Final WTWG	AFM Recom.		SRT Recom.
9303800	North Fork John Day Area Riparian Fencing		68,000	68,000	**Pass**			
9304000	Fifteenmile Creek Habitat Restoration Project (For Funding In Fy 98)		220,000	307,982	**Pass**	**Pass**		220,000
9306600	Oregon Fish Screens Project	CAPITAL		426,000	**Pass**	**Pass**	CAPITAL	
9404200	Trout Creek Habitat Restoration Project		250,000	250,000	**Fail**	**Pass**		220,000
9605300	North Fork John Day River Dredge Tailings Restoration		85,000	85,000	**Pass**	**Pass**		85,000
8021	Restore Habitat within Dredge Tailings on the Yankee Fork Salmon River			109,380	**Pass**	**Defer**		
8035	Assesment Salmon River Subbasin			20,486	**Fail**	**Defer**		
8071	Reduce Sediment Delivery From Kline Mountain Road To The S.F. Salmon River.			307,042	**Fail**			
9202603	Idaho Model Watersheds Admin./Impl. Support		152,000	152,000	**Pass**	**Pass**		152,000
9303501	Enhance Fish, Riparian, And Wildlife Habitat Within The Red River Watershed		450,000	449,931	**Pass**	**Pass**		449,900
9306200	Salmon River Anadromous Fish Passage Enhancement		37,000	37,000	**Pass**	**Pass**		37,000
9401500	Idaho Fish Screening Improvement - O&M			200,000	**Pass**	**Defer**		
9401700	Idaho Model Watershed Habitat Projects		350,000	350,000	**Pass**	**Pass**		350,000
9405000	Salmon River Habitat Enhancement		245,000	245,193	**Pass**	**Pass**		245,200
9600700	Irrigation Diversion Consolidation & Water Conservation; Upper Salmon River, Idaho	CAPITAL		766,071	**Pass**	**Pass**	CAPITAL	
9607700	Meadow Cr. Resoration		50,000					
9607701	Meadow Creek Restoration - Idaho			59,780	**Pass**	**Pass**		40,000
9607702	Protecting And Restoring The Lolo Creek Watershed			360,705	**Pass**	**Pass**		299,705
9607703	Protecting And Restoring The Squaw And Papoose Creek			257,050	**Pass**	**Pass**		232,050
9607704	Final Design For Fish Passage Improvements At Lower Eldorado Falls			14,827	**Pass**	**Pass**		14,827
9607705	Restore Mccomas Meadows			118,962	**Pass**	**Pass**		83,962
9607706	Rehabilitation Of Johnson Creek/Cox Ranch			78,287	**Pass**	**Pass**		40,287
9608600	Clearwater Subbasin Focus Watershed Program		378,000					
9608600	Clearwater Subbasin Focus Watershed Program			75,742	**Fail**	**Pass**		75,742
9700600	Clearwater Subbasin Focus Watershed Program			76,500	**Pass**	**Pass**		76,500
8016	Assess Fish Habitat & Salmonids in the Walla Walla Watershed in Washington			138,691	**Pass**	**Pass**		100,000
8402500	Protect And Enhance Fish Habitat In Grande Ronde Basin Streams		225,000	265,034	**Pass**	**Pass**		250,000
8902401	Evaluation Umatilla Basin Project - Threemile/WEID Canal Scr.		260,000					260,000

ID	Title		DAIWP COST	Proposed Cost	Final WTWG	AFM Recom.		SRT Recom.
8710001	Enhance Umatilla River Basin Anadromous Fish Habitat		242,000	242,000	**Pass**	**Pass**		242,000
8710002	Protect & Enhance Coldwater Fish Habitat In The Umatilla River Basin.		213,000	592,540	**Pass**	**Pass**		579,540
9202601	Grande Ronde Model Watershed - Project Planning/Support		266,000	295,000	**Pass**	**Pass**		266,000
9202602	Implement Eastern Washington Model Watershed Plans		138,000	143,600	**Fail**	**Pass**		143,600
9401800	Washington Model Watershed Habitat Projects		579,000					
9401805	Enhance Habitat For Spring Chinook, Summer Steelhead, And Bull Trout.			193,000	**Pass**	**Pass**		170,000
9401806	Enhance Habitat For Spring & Fall Chinook, Summer Steelhead, And Bulltrout.			193,000	**Pass**	**Pass**		193,000
9401807	Enhance Habitat For Fall Chinook, Steelhead And Bulltrout			193,000	**Fail**	**Pass**		107,500
9402700	Grande Ronde Model Watershed - Project Planning/Support		868,000	863,000	**Pass**	**Pass**		630,000
9403900	Wallowa Basin Project Planning		50,000	50,000	**Pass**	**Pass**		50,000
9506000	Enhance Squaw Creek Watershed for Anadromous Fish Habitat		467,000	667,000	**Pass**	**Pass**		454,000
9601100	Screens and Traps on the Walla Walla and Touchet	CAPITAL		2,750,000	**Fail**	**Pass**	CAPITAL	
9601200	Adult Fish Passage Improvement - Walla Walla River	CAPITAL		250,000	**Fail**	**Pass**	CAPITAL	
9604600	Riparian/Fish Habitat Analysis & Enhancement - Walla Walla River		215,000					
9604601	Riparian/Fish Habitat Analysis & Enhancement - Walla Walla River			215,000	**Pass**	**Pass**		215,000
9606400	Walla Walla Co. Watershed Habitat Enhancement		100,000					
9608500	Coordination Of Watershed Restoration Projects In Umatilla River Basin		45,000	69,955	**Pass**	**Pass**		20,000
9702500	Implement the Wallowa County/Nez Perce Tribe Salmon Recovery Plan		50,000	50,000	**Fail**	**Pass**		28,500
9703100	Evaluate Meadow Creek Instream Structure and Riparian Restoration		0	219,545	**Pass**	**Pass**		50,000
9608300 (8069)	Grande Ronde Subbasin Watershed Restoration		152,000	152,000	**Pass**	**Pass**		152,000
8001	Inform Public			115,500	**Fail**			
8025	Introducing Systems Science to Planning and Implementing Fish and Wildlife Recovery			1,143,000	**Fail**			
8030	Trials of Smolt Herding by Periodic Feeding			0	**Fail**			
8046	Implement Wy-Kan-Ush-Mi Wa-Kish-Wit Watershed Restoration Plan Now			113,121	**Pass**	**Pass**		113,100
8055	Educate Landowners And Agencies On Salmon Stream Restoration Methods			997,743	**Fail**			
8057	Evaluate effects of grazing exclosures on habitat conditions			72,973	**Pass**	**Pass**		73,000
8064	Determine Salmonid Carrying Capacity in Watersheds by Flir Remote Imagery			165,663	**Fail**			

ID	Title	DAIWP COST	Proposed Cost	Final WTWG	AFM Recom.	SRT Recom.
8612400	Inspection Service For Little Fall Creek Passage	2,000	15,074	**Fail**	**Pass**	15,074
9607000	McKenzie River Focus Watershed Coordination	115,000	115,000	**Pass**	**Pass**	115,000
9703400	Monitor fine sediment and overwinter sedimentation in John Day & Gr. Ronde	26,000	26,293	**Pass**	**Pass**	26,293
9703500	Evaluate responses of Snake Basin watersheds & salmonid habitats to storms	37,000	38,861	**Pass**	**Pass**	38,861
9703900	Columbia R. Basin Watershed Restoration Activities	750,000				
8002	Monitor Water Quality And Quantity In L. Klickitat R. And Its Tributaries		16,800	**Fail**		
8003	Monitor Water Quality And Quantity In Eastern Klickitat County		11,285	**Fail**		
8019	Identify Dispersal Corridors, for the Northern Spotted Owl		143,500	**Fail**		
8020	Build Rock Vortex Weirs on Entiat River, Washington		19,800	**Pass**		
8022	Analyze Ahtanum Creek Storage Project		802,000	**Fail**		
8029	Restore Steelhead and Chinook habitat in Early Winters Creek		104,200	**Pass**	**Pass**	104,200
8039	Restore in-stream habitat for salmonids on Goat Creek		200,000	**Pass**	**Pass**	200,000
8041	Reduce Stream Sedimentation In The Yakima River By Reducing Farm Runoff.		800,000	**Fail**		
8042	Educate/Support Yakima River Basin Groups		130,000	**Pass**	**Pass**	45,000
8047	Improve Yakima River Water Quality		161,000	**Fail**		
8048	Improve Return Flow Water Quality		68,000	**Fail**		
8049	Improve Water Quality Monitoring Program		55,000	**Fail**		
8050	Landowner Communication Program		9,000	**Fail**		
8051	Construct Sediment Settling Basins		262,000	**Fail**		
8052	Construct Wetlands		10,000	**Fail**		
8053	Evaluate Return Flow Recovery		35,000	**Fail**		
8054	Wind River Watershed Project		822,366	**Pass**	**Pass**	350,000
8056	Teach adults to become holistic Master Watershed Stewards		79,409	**Pass**		
8065	Upper Toppenish Creek Watershed Analysis		93,681	**Pass**	**Pass**	93,681
8066	Reestablish Safe Access into Tributaries of the Yakima Subbasin		396,801	**Pass**	**Pass**	396,801
8067	Acquisition Of Water And Floodplain Fisheries Habitat In The Yakima Basin		5,000,000	**Fail**		
8068	Measure Mine Drainage Effects At Confluence Of Alder Creek And Methow River		30,542	**Fail**	**Pass**	30,542
8070	Engineered Channels For Natural-Type Chinook Salmon Production		266,018	**Fail**		

ID	Title	DAIWP COST	Proposed Cost	Final WTWG	AFM Recom.	SRT Recom.
8072	Construct Sediment Settling Basins		341,500	**Fail**		
8073	Improve Return Flow Water Quality from Farms		33,500	**Fail**		
8074	Improve Water Quality Monitoring Program		25,000	**Fail**		
8506200	Passage Improvement Evaluation	12,000	300,000	**Pass**	**Pass**	100,000
9405900	Yakima Basin Environmental Education	125,000	112,703	**Pass**	**Pass**	112,703
9506800	Klickitat Passage/Habitat Improvement Construction And O&M	78,000	238,000	**Pass**	**Pass**	238,000
9603401	Methow River Valley Irrigation Conservation Project	861,000	686,535	**Fail**	**Defer**	0
9603501	Satus Watershed Restoration	799,368	799,000	**Pass**	**Pass**	750,000
9704900	Teanaway River Instream Flow Restoration	680,000	775,000	**Fail**	**Pass**	680,000
9705400	Upper Klickitat Meadows Riparian Restoration	95,690				
9705500	Klickitat Basin Culvert Rehabilitation	22,000				
9705600	Lower Klickitat Riparian and In-Channel Habitat Enhancement	295,000				
9604200 - 9502100	Restore & Enhance Anadromous Fisheries & Habitat in Salmon Creek	105,000	105,000	**Pass**	**Pass**	105,000
	Anadromous Watershed Project Totals	**$ 10,599,058**	$ 32,036,929			**$ 11,516,808**
	Anadromous Watershed Adjustment	**$ 917,750**				

Section 4b Resident fish watershed project evaluation process and budget update

Watershed evaluation process

The Columbia Basin Fish and Wildlife Authority (CBFWA) Resident Fish Caucus (RFC) followed the multi-step process outlined in the November 12, 1997 Northwest Power Planning Council (NPPC)-approved *Integrated Watershed Projects. The Process and Criteria for Selecting Watershed Projects for the Columbia Basin Fish and Wildlife Program* to evaluate 30 resident fish-related FY 1998 watershed proposals. Steps 1- 4 were completed by early January, 1998. The Watershed Technical Work Group (WTWG) completed Step 5 on January 14-16, 1998 and prepared the January 21, 1998 *FY 1998 Watershed Project Technical Evaluation.*

To complete Step 6, the Resident Fish Caucus asked each of six Subregion Teams to apply the 13 Integrated CBFWA Caucus Criteria (Appendix 4 in the November 12, 1997 report mentioned above.) to proposed watershed projects within that subregion. The subregion teams met between January 30 and February 3, 1998. On February 4, 1998, the RFC discussed the both the WTWG and the subregional evaluations and came to consensus recommendations on each proposal.

The RFC considered giving sponsors whose projects did not pass the WTWG's first review (January 14-16) the opportunity to submit additional information to the WTWG's second review (February 6, 1998) of anadromous fish proposals. The Caucus ultimately decided to forego the second WTWG review. The RFM did request additional information on 4 projects for re-evaluation at the caucus level. All four projects passed the second caucus evaluation and a bulleted summary of the supplemental information is provided in Attachment 1.

Attachment 2 shows the WTWG and RFC consensus recommendations for 30 proposed FY 98 watershed projects. The table below summarizes the RFM recommendations. In addition to approving all of the ongoing projects at the level included in the June 4, 1997 DAIWP, the RFM recommended funding a new genetics study proposed by Washington Trout. Further, one proposed project was withdrawn by the sponsor and the RFM deferred 20 proposals to other caucuses or to future budget years.

Watershed Proposal Status	**Number of Projects**
Passed	7 (6 ongoing, 1 new)
Inappropriately included in the Watershed Review (explanation provided in Attachment 1)	2 (ongoing)
Deferred to FY 99 and Beyond	12 (new)
Deferred to Anadromous Fish	5 (1 ongoing, 4 new)
Deferred to Wildlife	1 (new)
Deferred to Enforcement	2 (new)
Withdrawn by Sponsor	1
Total	**30**

FY 1998 Budget

The resident fish budget (Attachments 3 and 4) shows an unallocated balance of about $683,287, including $52,290 earmarked for the new native trout genetics study.

Attachment 1 Supplemental Information on Six Resident Fish Projects

1. 9608701 Flathead Focus Watershed Coordination

The FY 1998 project proposal was reviewed by the WTWG on January 14-16, 1998 and received a "fix". At that time, the WTWG recommended the sponsor "provide enough detailed information to adequately evaluate the proposal". The revised the proposal (on file at CBFWA and BPA) includes adequate information and a detailed tabular presentation of the objectives and tasks.

On February 3-4, the RFM evaluated the proposal using the Integrated CBFWA Caucus Criteria (Appendix 1) The original proposal received a "No" for criteria 1, 5, 6, and 12. The revised proposal addressed these criteria as summarized below:

- *Criterion 1* (demonstrated support from other stakeholders): Project 9608701 is supported by Montana Fish, Wildlife and Parks, the Flathead Basin Commission, four local conservation districts, the Natural Resources Conservation Service, Citizens for a Scenic Lake County, and Yellow Bay Biological Station.
- *Criterion 5* (implementation cost-share): During FY 98, this project does not include a construction or implementation phase.
- *Criterion* 6 (O&M): No project is sustainable without operations and maintenance funds.
- *Criterion 12* (project success not compromised by other activities in the basin): There are no guarantees.

2. 9701100 Enhance and Protect Habitat and Riparian Areas on the Duck Valley Indian Reservation

The FY 1998 project proposal was reviewed by the WTWG on January 14-16, 1998 and received a "pass." On February 3-4, the RFM evaluated the proposal using the Integrated CBFWA Caucus Criteria (Appendix 1) At the caucus level, the original proposal received a "No" for criteria 1, 3, 5, 6, 7, and 8. The revised proposal (on file at CBFWA and BPA) addressed these and other criteria as summarized below:

- *Criterion 1* (demonstrated support from other stakeholders): The Sho-Pai Tribes will be coordinating with Idaho Fish and Game, the Bureau of Land Management, Duck Valley Cattlemen's Association, Soil Conservation Service, and the Owyhee School District.
- *Criterion 2* (watershed assessment). A watershed assessment is currently being developed and data from the 1997 field work season will be included in the annual report.
- *Criterion 3* (adequate strategic plans exist): Strategic plans include the Duck Valley Indian Reservation Natural Resources Plan, the Duck Valley Soil Conservation Plan, and the CBFWA Resident Fish Managers Multi-Year Implementation Plan.

- *Criterion 5* (implementation cost-share): Cost-sharing with the Duck Valley Cattleman's Association for maintenance of fencing and windmills.
- *Criterion 7* (proposal address strategic plans): The proposed project addresses maintenance and repair of springs which have already been prioritized under the Duck Valley Indian Reservation Natural Resources Plan. In addition the CBFWA Resident Fish Managers Multi-Year Implementation Plan accords a high priority to protecting high quality habitat.
- *Criterion 8* (watershed-level monitoring and evaluation): The Environmental Protection Agency's representative overseeing rivers and streams on the reservation is developing a monitoring and evaluation plan.
- Criterion 11 (complement management actions): The Sho-Pai Tribe, Idaho Fish and Game and the Bureau of Land Management are working together share data and to ensure that there is no duplication in past, present and/or future work.
- *Criterion 13* (public awareness): In addition to newspaper articles and BPA Quarterly Reports, the Tribe holds monthly public meetings to inform people about projects on the reservation.

3. 9700300 Box Canyon Watershed

The FY 1998 project proposal was reviewed by the WTWG on January 14-16, 1998 and received a "fail". At that time, the WTWG recommended the sponsor, among other things, "...provide clearly defined and specific information about the objectives and methods... .and...link fish habitat condition to upland land management..."

- The revised proposal (on file at CBFWA and BPA) provided much more detail and more specific tasks associated with the objectives in Section 4. The text in Sections 6, 7, and 8 outlines the objectives, why the objectives are in place, tasks associated with the objectives and the methods used to accomplish the tasks.
- Linking upland management strategies to instream habitat condition is well documented and was addressed in the original proposal. The specific details about linkages found in the Cee Cee Ah Watershed, as described in the revised proposal, demonstrate the need for this project.
- Sections 7 and 8 of the revised proposal provide the necessary details (in text and bulleted form) about the project history and completed work.

On February 3-4, the RFM evaluated the proposal using the Integrated CBFWA Caucus Criteria (Appendix 1) The original proposal received a "No" for several criteria. The revised proposal addressed these concerns as summarized below:

- *Criterion 1* (support from stakeholders): The revised proposal outlined how the Pend Oreille Watershed Coordinating Committee coordinates with all of the affected landowners and included a letter of support from the Washington State Department of Natural Resources.
- *Criterion 2* (watershed assessments): The original proposal cryptically outlined the watershed assessments used in making decisions. The revised proposal explains and cites these three documents and points to their monitoring and evaluation measures.

- *Criteria 3, 7* (strategic plans): The strategic plans for this project can be found in the Kalispel Natural Resource Department Fish and Wildlife Management Plan and in the Pend Oreille Watershed Coordinating Committee Plan which is currently being developed.

4. 8032 Document Native Trout Populations

The FY 1998 project proposal was reviewed by the WTWG on January 14-16, 1998 and received a "pass". At that time, the WTWG recommended that the "...sponsor describe how the information will be made available to the managers,... how the project relates to the watershed assessment, and... provide more detail about the sampling program...." In addition, the RFM had some questions about Integrated Caucus Criteria 1, 2, 3, 7, and 8 and suggested sponsor coordinate with the fish and wildlife managers to refine the objectives, schedule, budget and information transfer.

- The information collected during this project will be made available to the managers through regular contact with Washington Department of Fish and Wildlife and the affected Tribes, as well as through peer-reviewed published literature, in-season reports and public presentations.
- *Criteria 2, 3, 7, and 8* (watershed assessments, plans, and monitoring and evaluation). The project will identify populations of native trout or char in subbasins where their existence is unknown or inadequately documented. A well documented baseline knowledge of key species within a watershed is essential to the responsible, cost-effective prioritization of watershed projects and to monitoring programs.

5. 9700400 Resident Fish Stock Status above Chief Joseph and Grand Coulee Dams, and

6. 9500100 Kalispel Tribe Resident Fish

It appears that because the proposals for these two ongoing projects were submitted to BPA for the FY 1999 process prior to December 23, 1997 deadline for FY 98 watershed projects, they were automatically assumed to be watershed projects. However, they are not watershed projects and the Council did not recommend inclusion in the FY 98 watershed process. Including them in the Watershed Technical Workgroup process was simply a sorting error. Based on this situation, the RFM did not consider them in the FY 98 watershed process and will evaluate them in the FY 99 process as originally planned.

Attachment 2 Resident fish watershed projects

ID	Title	Subbasin	ResSubregion	Sponsor	Focus	Cost	Final WTWG	RFM Criteria 1	2	3	4	5	6	7	8	9	10	11	12	13	Status
8025	Introducing Systems Science to Planning and Implementing Fish and Wildlife Recovery	Snake	Upper Snake, Lower Snake		ARW	1,143,000	**Fail**														**Deferred to Wildlife**
9701100	Enhance and Protect Habitat and Riparian Areas on Duck Valley Reservation	Upper Snake, Owyhee	Upper Snake	SPT	R	293,072	**Pass**	N	Y	N	Y	N	N	N	N	Y	Y	Y	N	Y	**Pass w/ more information**
8056	Teach adults to become holistic Master Watershed Stewards	1. Yakima; 2. Lower Columbia	Upper Mid Columbia, Lower Columbia	WGCEE	ARW	79,409	**Pass**														**Deferred to AF caucus**
8042	Educate/Support Yakima River Basin Groups	Yakima	Upper Mid Columbia	YRWC	ARW	130,000	**Pass**														**Deferred to AF caucus**
9700400	Resident Fish Stock Status above Chief Joseph and Grand Coulee Dams	Pend Oreille, Spokane, Upper Columbia Mainstem	Upper Columbia	Kalispel Tribe	R	405,007	**Fail**		**Inappropriately included in the FY 98 watershed evaluation process**												
9700300	Box Canyon Watershed Project	Pend Oreille	Upper Columbia	Kalispel Tribe	R	70,809	**Fail**	Y	Y	I	Y	Y	N	I	I	Y	Y	Y	N	Y	**Pass w/ more information**
9608720	Focus Watershed Coordination-Kootenai River Watershed (FY98)	Kootenai	Upper Columbia	MDFWP	R	99,547	**Pass**	Y	Y	Y	Y	Y	N	Y	Y	Y	Y	Y	N	Y	**Pass**
9608701	Focus Watershed Coordination-Flathead River Watershed	Flathead	Upper Columbia	CSKT	R	100,000	**Fix**	N	Y	Y	Y	N	N	Y	Y	Y	Y	Y	N	Y	**Pass w/ more information**
9500100	Kalispel Tribe Resident Fish	Pend Oreille	Upper Columbia	Kalispel Tribe	R	286,000	**Fail**		**Inappropriately included in the FY 98 watershed evaluation process**												
9101903	Hungry Horse Dam Mitigation - Watershed Restoration and Monitoring	Flathead, Upper Columbia	Upper Columbia	MDFWP	R	474,255	**Pass**	Y	Y	Y	Y	Y	N	Y	Y	Y	Y	Y	N	Y	**Pass**
8346700	Mitigation for the Construction and Operation of Libby Dam (FY98)	Kootenai	Upper Columbia	MDFWP	R	141,996	**Pass**	Y	Y	Y	Y	Y	N	Y	Y	Y	Y	Y	N	Y	**Pass**
8015	Sullivan Creek Watershed Project	Pend Oreille	Upper Columbia	Kalispel Tribe	R	51,100	**Fix**								**Deferred to FY99 and beyond**						
8014	Middle Creek Watershed Project	Pend Oreille	Upper Columbia	Kalispel Tribe	R	51,100	**Fix**								**Deferred to FY99 and beyond**						
8013	Mill Creek Watershed Project	Pend Oreille	Upper Columbia	Kalispel Tribe	R	51,100	**Fix**								**Deferred to FY99 and beyond**						
8012	Ruby Creek Watershed Project	Pend Oreille	Upper Columbia	Kalispel Tribe	R	51,100	**Fix**								**Deferred to FY99 and beyond**						

ID	Title	Subbasin	ResSubregion	Sponsor	Focus	Cost	Final WTWG	RFM Criteria 1	2	3	4	5	6	7	8	9	10	11	12	13	Status
8011	Evaluate and Manage Fisheries Within the Pend Oreille River Watershed	Pend Oreille	Upper Columbia	Kalispel Tribe	R	85,160	**Fail**														**Deferred to FY99 and beyond**
8010	West Branch of Priest River Watershed Project	Pend Oreille	Upper Columbia	Kalispel Tribe	R	51,100	**Fix**														**Deferred to FY99 and beyond**
8009	Davis Creek Watershed Project	Pend Oreille	Upper Columbia	Kalispel Tribe	R	51,100	**Fix**														**Deferred to FY99 and beyond**
8008	Tacoma Creek Watershed Project	Pend Oreille	Upper Columbia	Kalispel Tribe	R	51,100	**Fix**														**Deferred to FY99 and beyond**
8007	Indian Creek Watershed Project	Pend Oreille	Upper Columbia	Kalispel Tribe	R	51,100	**Fix**														**Deferred to FY99 and beyond**
8006	Slate Creek Watershed Project	Pend Oreille	Upper Columbia	Kalispel Tribe	R	51,100	**Fix**														**Deferred to FY99 and beyond**
8005	Kalispel Creek Watershed Project	Pend Oreille	Upper Columbia	Kalispel Tribe	R	51,100	**Fix**														**Deferred to FY99 and beyond**
8004	Granite Creek Watershed Project	Pend Oreille	Upper Columbia	Kalispel Tribe	R	51,100	**Fix**														**Deferred to FY99 and beyond**
8040	Develop, Analyze and Map Clearwater Basin Bull Trout Distribution, Strength, and Trends	Clearwater	Lower Snake	IDFG	R	30,100	**Fail**														**Withdrawn by sponsor**
8035	Assesment Salmon River Subbasin	Salmon	Lower Snake	NPT	ARW	20,486	**Fail**														**Deferred to AF caucus**
8064	Determine Salmonid Carrying Capacity in Watersheds by Flir Remote Imagery	John Day and Grande Ronde	Lower Mid Columbia, Lower Snake	OS-DWFFS	AR	165,663	**Fail**														**Deferred to AF caucus**
8032	Document Native Trout Populations	Wind, Big White Salmon, Little White Salmon, Klickitat, Yakima…	Lower Columbia, Lower Mid Columbia, Upper Mid Columbia, Upper Columbia	WT	R	52,290	**Pass**	N	N	N	Y	Y	Y	N	N	N	N	Y	Y	N	**Pass w/ more information**
9607000	McKenzie River Focus Watershed Coordination	Willamette	Lower Columbia	MWC	ARW	115,000	**Pass**														**Deferred to AF caucus**
8063	Aircraft Monitoring of Tributary Systems	Walla Walla, Touchet, Snake River, Columbia River, Asotin, and Grande Ronde	Lower Snake, Lower Mid Columbia, Lower Columbia	WDFW	AR	12,509	**Fail**														**Deferred to Enforcement**
8060	Protective Screening Program on the Washington River Basins	Walla Walla, Touchet, Snake River, Columbia River, Asotin, and Grande Ronde	Lower Snake, Lower Mid Columbia, Lower Columbia	WDFW	AR	5,265	**Fail**														**Deferred to Enforcement**

Attachment 3 Resident fish budget

June 4, 1997 FY 98 RFM budget (15%)	$13,725,000
June 4, 1997 ESA Sturgeon Add-back	2,000,000
June 4, 1997 FY 98 DAIWP Starting Point	15,725,000
June 4, 1997 FY 98 DAIWP Priority Projects	-15,725,000
Oct 1, 1997 FY 98 Balance	**$0**
Jan 14, 1998 Estimated FY 97 Unallocated Balance	$346,861
Jan 14, 1998 Estimated FY 97 BPA Support Unallocated Balance	121,525
Feb 2, 1998 Estimated BPA FY 97 Interest	389,143
Feb 4, 1998 Estimated Unallocated Balance from 9404300	68,048
Feb 10, 1998 Estimated Reduction in FY 98 BPA Admin Costs	20,000
Feb 10, 1998 Estimated RFM Unallocated Balance	**$945,577**
Sept 3, 1997 Allocation to RFM Chair responsibilities (9500100)	-$10,000
Dec 11, 1997 Allocation (loan) to sturgeon hatchery (8806400)**	-200,000
Feb 4, 1998 Allocation to watershed project 8032	-52,290
Feb 10, 1998 Estimated RFM Unallocated Balance	**$683,287**

** Another $1.514 M needed from the ESA/Capital Construction budget

Feb 10, 1998 Estimated total FY 98 Resident Fish Budget	**$16,670,577**

Attachment 4 Resident fish workplan

Subbasin	Project	Title	Sponsor	FY 97	FY 98	FY 99	FY 00	FY 01	FY 02	Explanation of major budget increases
Lower Columbia Subregion										
Willamette	9405300	Bull Trout Assessment - Willamette/ McKenzie	ODFW	48	85	10	10	10	10	Budget change reflects real rather than approximate costs. Increase from $60,000 to $85,000 comprises a large percent because the budget is so small. This is more than offset by reductions in other lower river projects relative to earlier approximations.
Lower Mid-Columbia Subregion										
Mainstem	8605000	White Sturgeon Productivity, Status, and Habitat Requirements	ODFW	2,054	2,157	2,265	2,378	2,497		
Deschutes	9405400	Bull Trout Studies in Central and NE Oregon	ODFW	239	325	300	300	250		Change corresponds to an increase in project activities on the Warm Springs Reservation to address new information on bull trout population status (poorer than previously thought).
Mid Columbia Subregion										
Yakima	8032	Document Native Trout Populations	Wash Trout		52	53	54	55		
Upper Columbia Subregion										
Spokane	9104600	Spokane Tribal Hatchery (Galbraith Springs) O&M	ST	420	680	473	496	521	547	The budget increase covers electricity to operate a new 50 hp pump and blacktopping the hatchery access road. Currently the road is dangerous for feed trucks and busses because it is 1 lane, unpaved, an 11% grade and 90 yards washed out.
Spokane	9104700	Sherman Creek Hatchery O&M	WDFW	178	185	244	210	215	226	
UC Mainstem	8503800	Colville Tribal Fish Hatchery	CCT	350,00	355	360	365	370		
UC Mainstem	9001800	Habitat Improvement - Lake Roosevelt	CCT	199	216	225	236			
UC Mainstem	9404300	Lake Roosevelt Monitoring / Data Collection Program	ST	1,243	1,300	1,400	1,400	700	700	
UC Mainstem	9500900	Lake Roosevelt Rainbow Trout Net Pens	LRDA	96	100	110	110	110		
UC Mainstem	5528100	Lake Roosevelt Kokanee Net Pens	ST		175					This new FY 98 project is a one-time purchase of netpens.
UC Mainstem	9501100	Chief Joseph Kokanee Enhancement Project	CCT	574	600	600	600			

Subbasin	Project	Title	Sponsor	FY 97	FY 98	FY 99	FY 00	FY 01	FY 02	Explanation of major budget increases
UC Mainstem	9700400	Resident Fish Stock Status Above Chief Joseph and Grand Coulee Dams	KT	56	390	405	421	438	438	The first phase of this project, initiated in FY 97, consisted of planning and organization. Implementation and construction of the database will begin in FY 98.
UC Mainstem	9502800	Assessment of Fishery Improvements in Moses Lake	WDFW		52					New FY 98 project.
Couer D' Alene	9004400	Fisheries Enhancement -- Coeur D' Alene Reservation	CDA	765	1,512	918	726	417		The FY 98 budget request will be lower than shown here because the hatchery will not be constructed this year.
Lower Pend Oreille	9500100	Kalispel Tribe Resident Fish	KT	645	521	286	297	303	309	
Lower Pend Oreille	9700300	Box Canyon Watershed Project	KT	61	67	69	72	75		
Upper Pend Oreille	9404700	Lake Pend Oreille Fishery Recovery	IDFG	315	360	370	370	370		The FY 98 budget increase reflects the cost of full implementation of the project, including personnel to accomplish the tasks outlined in the scope of work and more intensive field work (gravel/sediment sampling).
Kootenai	9608702	Kootenai Focus Watershed	MDFWP/ CSKT		100	100	100	100	100	This project was initiated in FY 97 but funded using carryover from FY 96.
Kootenai	9500400	Libby Reservoir Mitigation Plan	MDFWP / CSKT	38						
Kootenai	8346500*	Libby and Hungry Horse Modeling Technical Analysis	MDFWP	33	25	37	40	40	45	
Kootenai	8346700*	Libby Reservoir Levels/Kootenai IFIM	MDFWP	311	450	500	1,000	1,000	1,000	The FY 98 budget increase results from a shift from research to pilot projects which guide the Libby Mitigation Plan. Future budget increases will occur when mitigation projects are implemented according to the Libby Mitigation and Implementation Plan.
Kootenai	8806400*	Kootenai River White Sturgeon Study and Experimental Aquaculture	KTOI	460	820	1,281	2,782	1,942	1,000	A change in direction from an experimental facility to implementation of conservation aquaculture resulted in increased costs related to fail-safe measures, disease testing, genetics, and feasibility studies..
Kootenai	8806500*	Kootenai River Fisheries Investigations	IDFG	486	559	615	676	744	818	The FY 98 budget increase covers planned phase-in of rainbow trout work (including life history and stock status), as outlined in the original project work plan.

Subbasin	Project	Title	Sponsor	FY 97	FY 98	FY 99	FY 00	FY 01	FY 02	Explanation of major budget increases
Kootenai	9401200*	Kootenai River White Sturgeon M&E	IDFG/ KTOI	96	100	101	111	112	113	
Kootenai	9404900*	Kootenai River Ecosystem Improvement Study	KTOI	227	250	300	320	325	325	
Flathead	9101901	Hungry Horse Fisheries Mitigation - Confederated Salish and Kootenai Tribes	CSKT	67	145	65	65	65	65	The budget increase for FY 98 will cover the post kokanee experiment creel survey (creel clerks, flight time etc.) as outlined in the Hungry Horse Implementation Plan.
Flathead	9101903	Hungry Horse Mitigation - Habitat Improvements	MDFWP	382	470	480	490	500	515	During FY 97, some of the project costs were covered by carryover from FY 96. The FY 98 budget amount represents the true cost of the project.
Flathead	9101904	Hungry Horse Mitigation - Creston Fish Recovery	USFWS	465	484	484	484	484	484	
Flathead	9501200	Monitoring of Integrated Rule Curve Implementation Hungry Horse/Libby (Formerly Biological Rule Curves)	MDFWP							
Flathead	9608701	Flathead Focus Watershed	CSKT		100	100	100	100	100	
Flathead	9502500	Flathead River Instream Flow Study	MDFWP / CSKT		100	100	100			This budget "increase" simply reflects a shift in timing of project implementation.
Lower Snake Subregion										
Clearwater	8709900	Dworshak Dam Impacts Assessment	IDFG	167	180	180	190	190	190	
Clearwater	8740700	Dworshak Dam Impacts/ M&E & Bio-Int Rule Curves	NPT	143	175	200	200	180	175	The budget increase provides funding for subcontractors to start model development.
Clearwater	9501300	Nez Perce Trout Ponds	NPT	286	750	750	750	300	300	Budget increases reflect the beginning of a three-year construction phase and will also cover NEPA compliance work that has historically been included in BPA's administrative costs.
Clearwater	9501600	Genetic Inventory Westslope Cutthroat Trout	NPT	167	202	190	202	218	227	The 1998 budget reflects a more accurate estimation of project costs than was possible prior to completion experimental design phase in 1997.
Lower Snake	9700900	Evaluate Potential Means of Rebuilding Sturgeon Populations in the Snake River between Lower Granite and Hells Canyon Dams	NPT	266	391	400	412	425	438	The biological risk assessment using the patient-template analyses was completed in FY 97. Research based on the template will be implemented in FY 98 and beyond.
Upper Snake										

Subbasin	Project	Title	Sponsor	FY 97	FY 98	FY 99	FY 00	FY 01	FY 02	Explanation of major budget increases
Subregion										
Upper Snake	9106700	Idaho Water Rental - Resident F&W Impacts Phase III	IDFG	115	125	125	125	125	125	
Upper Snake	9201000	Habitat Enhancement/Restoration Fort Hall Bottoms	SBT	120	130	130	130	135	140	
Upper Snake	9500600	SBT/SPT Joint Culture Facility	SBT	315	350	350	350	350	350	
Upper Snake	5502000	Snake River Native Salmonid Assessment	IDFG		200	250	250	250	250	New FY 98 project.
Malheur	9701900	Stinkingwater Salmonid Project	BPT	183	200	200	200	200		
Owyhee	8815600	Duck Valley Fish Stocking Program	SPT	105	110	110	120	120	120	
Owyhee	9501500	Billy Shaw Reservoir Development	SPT	3,360	200	200	200	200	200	
Owyhee	9701100	Habitat Enhancement & Protection - Shoshone Paiute Reservation	SPT	463	240	240	240	240	240	
		Unallocated Balance			683					
		Totals		**15,149**	**16,671**	**15,575**	**17,682**	**14,676**	**9,550**	
All figures in thousands		* ESA projects subtotal		1,612	2,204	2,834	4,929	4,163	3,302	

Section 4c Wildlife watershed project evaluation process and budget update

The process outlined in *Integrated Watershed Projects: The Process and Criteria for Selecting Watershed Projects* guided the Wildlife Managers in their review of FY98 watershed projects seeking wildlife funding. As with all projects that receive wildlife funding and result in mitigation credit for inundation losses, the Wildlife Managers used their Council-approved caucus criteria to evaluate the watershed proposals.

The attached table (Attachment 1. Wildlife FY98 Watershed Projects) summarizes the Wildlife Caucus' response to each watershed proposal seeking wildlife funding. The Wildlife Managers did not to review projects in the "fail" category of the Watershed Technical Workgroup's report. Some projects seeking wildlife funding were deferred to the Anadromous Fish Caucus. Two wildlife projects initially in the "fix" category (which passed when the WTWG reconvened) were run through the caucus criteria, as documented in Attachment 1 and outlined below:

8026 Acquisition of Pine Creek Ranch, CTWSRO was in the "fix" category because its FY98 budget information did not fit correctly in the electronic data form. The Wildlife Caucus reviewed additional information provided by Terry Luther, CTWSRO and scored the project using the wildlife criteria. The project ranked among the highest-scored wildlife projects, and was recommended for funding in FY98. The Oregon Coalition, a subgroup of Oregon Wildlife Managers coordinating wildlife mitigation in the state of Oregon, also ranked the project highly and approved transferring $150,000 in FY98 funding from their FY98 allocation (project 9705900).

9506001 Squaw Creek Watershed Project - Wildlife Portion, CTUIR was recommended for funding based on its previous ranking and approval by the wildlife caucus.

The second attachment (Attachment 2. FY98 Wildlife Planning Budget) shows the current and outyear wildlife budget, noting the inclusion of project 8026, Pine Creek.

Attachment 1 Wildlife watershed projects

					Final	Wildlife Criteria														
ID	**Title**	**Sponsor**	**Focus**	**Cost**	**WTWG**	**A-F**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**Status**
8019	Identify Dispersal Corridors, for the Northern Spotted Owl	USFS Giford/Pinchot NF	W	143,500	**Fail**																**Fail**
8025	Introducing Systems Science to Planning and Implementing Fish and Wildlife Recovery	DU	ARW	1,143,000	**Fail**																**Fail**
8026	Acquisition Of Pine Creek Ranch	CTWSRO	AW	350,000	**Pass**	Y	2	1	2	0	1	1	1.5	0	2.8	3	3	1	3	3	**Pass**
8035	Assesment Salmon River Subbasin	NPT	ARW	20,486	**Fail**																**Fail**
8042	Educate/Support Yakima River Basin Groups	YRWC	ARW	130,000	**Pass**																**Defer to AF Caucus**
8056	Teach adults to become holistic Master Watershed Stewards	WGCEE	ARW	79,409	**Pass**																**Defer to AF Caucus**
9506000	Enhance Squaw Creek Watershed for Anadromous Fish Habitat	CTUIR	AW	667,000	**Pass**																**AF Project**
9506001	Enhance Squaw Creek Watershed for Wildlife Habitat	CTUIR	AW	667,000	**Pass**	NA	NA	3	1	0	1.5	2	1	1	3	2.5	1	2.5	NA	NA	**Pass**
9607000	McKenzie River Focus Watershed Coordination	MWC	ARW	115,000	**Pass**																**Defer to AF Caucus**

Attachment 2 Wildlife planning budget

ID		Sponsor	1997	1998	1999	2000	2001	5 Year Total
	1. Ongoing Enhancement and O&M							
9106001	Kalispel Pend Oreille Wetlands II	KTI		$0	$0	$0	$0	$0
9009200	Conforth Ranch - O&M and Enhancement	CTUIR	$200,000	$200,000	$150,000	$150,000	$150,000	$850,000
9106000	Kalispel Pend Oreille Wetland	KTI	$150,000	$156,000	$162,000	$168,000	$175,000	$811,000
9107800	Burlington Bottoms Wildlife Mitigation Project	ODFW	$52,000	$55,000	$58,000	$62,000	$65,000	$292,000
9205900	Amazon Basin/Eugene Wetlands - Phase II	TNC	$51,000	$45,000	$25,000	$25,000	$25,000	$171,000
9608000	Northeast Oregon Wildlife Mitigation Project	NPT		$411,393	$227,734	$235,325	$242,917	$1,117,369
		Sub-Total	**$453,000**	**$867,393**	**$622,734**	**$640,325**	**$657,917**	**$3,241,369**
	2a. Other Ongoing Projects							
9206100	Albeni Falls Wildlife Mitigation Implementation	IDFG	$800,000	$1,510,000	$790,000	$800,000	$810,000	$4,710,000
9608000	Northeast Oregon Wildlife Mitigation Project	NPT	$1,500,000					$1,500,000
9206800	Willamette Basin Acquisition	ODFW	$200,000	$1,000,000	$500,000	$200,000	$200,000	$2,100,000
9506001	Squaw Creek Watershed Project - Wildlife Portion	CTUIR	$600,000	$200,000	$200,000	$200,000	$200,000	$1,400,000
9701200	Crates Point	CTWSR	$200,000	$50,000	$200,000	$150,000	$150,000	$750,000
		Sub-Total	**$3,300,000**	**$2,760,000**	**$1,690,000**	**$1,350,000**	**$1,360,000**	**$10,460,000**
	2b. Planning & Coordinated Implementation							
9505700	S. Idaho Wildlife Mitigation Project	IDFG, SBT	$3,000,000	$3,450,000	$3,511,446	$3,230,970	$2,857,976	$16,050,392
9705900	Securing Wildlife Mitigation Sites - Oregon	ODFW	$275,000	$350,000	$4,000,000	$5,000,000	$6,000,000	$15,625,000
9706400	Wildlife Plan Monitoring and Evaluation	Various	$100,000	$100,000	$150,000	$150,000	$150,000	$650,000
8026	Acquisition of Pine Creek Ranch	CTWSR		$150,000	*	$95,000	$95,000	$340,000
		Sub-Total	**$3,375,000**	**$4,050,000**	**$7,661,446**	**$8,475,970**	**$9,102,976**	**$32,665,392**

ID		Sponsor	1997	1998	1999	2000	2001	5 Year Total
9305800	**3a. Washington Agreement - Acquisitions (Non-Discretionary)**							$7,600,000
	WDFW Projects	WDFW		$5,307,565	$3,130,100	$1,912,335	$0	$10,350,000
	3b. Washington Agreement - Acquisitions (Discretionary)							
9206200	Yakima Nation Riparian/Wetlands Restoration	YIN		$1,500,000	$1,500,000	$1,500,000	$1,500,000	$6,000,000
	Lower Yakima Valley Riparian Mgmt.							
	Double Z Property							
	Satus Wildlife Area							
	Wapato Wildlife Area							
	Coordination Contract							
	HU Contract							
		Sub-Total	**$7,600,000**	**$6,807,565**	**$4,630,100**	**$3,412,335**	**$1,500,000**	**$23,950,000**
*$1.36M in FY99 Funding for project 8026 is expected to come from the allocation for project 5519400, Securing Wildlife Mitigation Sites - Oregon								
	3c. Washington Agreement - Ongoing Enhancement and O&M							
	WDFW Projects	WDFW		$0	$233,300	$468,483	$2,663,713	$3,365,496
	Pygmy Rabbit Management							
	Dormier Property							
	Scotch Creek							
	Coordination Contract							
	HU Contract							
	Swanson Lakes	WDFW		$244,000				$244,000
	Rolloff Property							
	DNR Lease							
	Startup Costs							
	Welch Relocation/Cleanup							
5509500	Spokane Tribe Grande Coulee Mitigation	STI		$100,000	$100,000	$100,000	$100,000	$400,000
	Abramson Property							
	HU Contract							
9204700	NPS Peregrine Project	NPS		$5,000				$5,000
9204800	Hellsgate Big Game Winter Range	CCT		$250,000	$250,000	$250,000	$350,000	$1,100,000
	Klune Property							
	HU Contract							
9506000	McNary and Walla Walla O&M	CTUIR		$248,000	$350,000	$400,000	$400,000	$1,398,000
	Umatilla Tribe Coordination							

ID		Sponsor	1997	1998	1999	2000	2001	5 Year Total
	Contract							
	Umatilla Tribe HU Contract							
9506700	Colville Confed. Tribes Performance	CCT		$0	$100,000	$100,000	$150,000	$350,000
	Contract							
	Steigerwald	USFWS						$0
	Straub Property							
	James Property							
	Bliss Property							
	O&M Sub-Total - Committed		**$0**	**$599,000**				**$599,000**
	O&M Sub-Total - Uncommitted		**$0**	**$248,000**	**$1,033,300**	**$1,318,483**	**$3,663,713**	**$6,263,496**
	Total Washington Agreement		**$7,600,000**	**$7,654,565**	**$5,663,400**	**$4,730,818**	**$5,163,713**	**$30,812,496**
		Total Uncommitted		**$248,000**	**$11,884,746**	**$12,644,453**	**$15,626,689**	**$40,403,888**
		Total Committed	**$14,728,000**	**$15,083,958**	**$3,752,834**	**$2,552,660**	**$657,917**	**$36,775,369**
		FY 96 Carryover funds		**($82,000)**				
		Balance		**$15,001,958**				
		Total Available (@ $15M/yr)	**$272,000**	**($1,958)**	**$11,247,166**	**$12,447,340**	**$14,342,083**	**$38,306,631**
		Total	**$14,728,000**	**$15,249,958**	**$15,637,580**	**$15,197,113**	**$16,284,606**	**$77,097,257**

=Uncommitted Funds

Section 4d Response to NPPC comments on the watershed project evaluation process

For the background and history of the watershed project selection process please refer to the Watershed Technical Work Group reports *("FY 1998 Watershed Project Technical Evaluation, January 21, 1998"*, and *"FY 1998 Watershed Project Technical Evaluation, Review 2, February 8, 1998."*)

The CBFWA acknowledges that the NPPC approved the CBFWA "Integrated Watershed Projects. The Process and Criteria for Selecting Watershed Projects for the Columbia Basin Fish and Wildlife Program" (letter from Chairman Etchart, January 29, 1998), and take this opportunity to address the caveats that the NPPC attached to their approval.

The NPPC included specific comments to the criteria and process (Attachment 2 of the NPPC 1/29 letter), and the CBFWA response to each of those comments follows:

1) **Is the Watershed Technical Work Group sponsored by CBFWA or does it operate independently?** The WTWG is appointed by the CBFWA and works under the auspices of the CBF WA, and as such can be considered to be sponsored by the CBFWA. The WTWG is not independent, in that the group includes technical expertise from several scientific disciplines including members from the CBFWA. However, the WTWG could be considered independent in that the process developed for FY98 did not include the opportunity for the project sponsors or the CBFWA to meet with the WTWG to discuss the WTWG recommendations on individual projects.

2) The recommended additional language under Section 4.0 "Unique Circumstances" is being reviewed by the CBFWA for possible inclusion. This section of the process is intended for rare and unique project opportunities that arise outside the time frame of the standard process. This circumstance has not yet arisen for FY98 funded projects.

3) Step 2: The WTWG qualifications and scope of work developed by the CBFWA for the selection of the WTWG and implementation of their activities clearly require that the group be multi-disciplinary (including expertise from many different watershed-related fields such as hydrology, geology, engineering, soil and range, wildlife, fisheries, ecology, water resources, etc.) and highly qualified (requiring extensive education and work experience). The WTWG is "non-representational" in that the WTWG members do not bias their evaluations based on affiliations with their employer. The CBFWA is considering clarifications to this language.

4) Step 5b: Proposals that do not pass the technical review are returned to the project sponsors for correction and resubmission, so that the WTWG and/or the CBFWA Caucuses can determine if the deficiencies in the proposal have been corrected. The details of this step are included in the WTWG reports.

   CBFWA asked the WTWG to determine if the proposed projects were technically sound and to assign each a "pass" or a "fail". The WTWG created a third category called "fix".

Because this was a new process and the proposal forms were not designed for the watershed criteria, the Anadromous Fish Managers provided the opportunity for the sponsors of projects that received a fix or a fail to correct the deficiencies and resubmit the proposal for a second WTWG review.

5) Step 7: The NPPC suggests additional language referencing the ISRP peer review. The document reviewed by the NPPC described the process for evaluating watershed proposals for FY98 funding, and the ISRP and/or their peer review groups did not review individual FY98 project proposals.

6) WTWG Integrated Technical Criteria #1: The suggested addition by the NPPC to the explanatory language under this criteria further clarifies the intent of the CBFWA to place a higher priority on habitat projects that are non-structural and allow the natural channel and riparian forming and maintenance processes to function.

7) WTWG Integrated Technical Criteria #2, #3 and #5, and Integrated CBFWA Caucus Criteria #9: The examples that the NPPC suggest appear to add clarity and reduce duplication and the CBFWA is considering incorporating the additional clarifying language.

The NPPC decision in September, 1997 provided direction to the CBFWA for the development of an integrated process that was submitted to the NPPC on November 12, 1997 and used for project recommendations in January and February 1998. For clarification, the CBFWA offers the following explanations of how the specific direction provided by the NPPC in September is addressed:

1) **Watershed assessments** - the Integrated CBFWA Caucus Criteria 2, *3* and 7 address the need for a watershed assessment, plan or program with clear explanations of the current resource condition, critical limiting factors, objectives and a strategic plan that describes how the problems that are identified in the watershed assessment will be fixed and how those strategic actions will be monitored and evaluated to determine if the expected results are achieved. The proposal form also requested that the specific assessment/plan be identified.

   Resident fish proposals which were based on watershed assessments or which included developing an assessment as one of the objectives generally received a yes on these criteria. Proposals which lacked ties to watershed assessments received a no or an incomplete.

2) **Integrate resident fish, anadromous fish, and wildlife** - the CBFWA established a Watershed Integration Subcommittee to integrate these areas for the November 12, 1997 submission to the NPPC. The process included a technical review of all three project types by the WTWG using one set of Integrated Technical Criteria. The fish and wildlife managers used the Integrated CBFWA Caucus Criteria as well as criteria unique to each caucus to develop the final recommendation of projects. During the review, the caucuses

operated in a "coordinated but distinct" manner. Each caucus took a slightly different path. These are explained in detail in Sections 4a, 4b, and 4c of this report.

3) **Identify basins that provide the best opportunities for investments** - the criteria incorporate three watershed principles: 1) protect high quality habitats that support multiple species; 2) restore those subbasins where habitat disruption and fragmentation is not so great that the ability to restore and reconnect the habitats is achievable; and 3) do not "write off' those habitats that are heavily fragmented by extensive habitat disruption where opportunities to restore connectivity and the full expression of life histories (especially for isolated small populations) exist. Each subbasin is given an equal opportunity for a deliberate and open assessment based on the existing resource condition, management objectives, and the strategic actions required to fix identified problems. Thus, the resultant funding allocations among subbasins are based on the opportunities present in each area, and do not comprise a judgement on the relative importance of one subbasin over another. The ISRP, in their review of the process and criteria submitted by the anadromous fish managers in June 1997, stated that prioritizing subbasins cannot be based solely on fragmentation and connectivity, but rather involves many factors including policy issues. They do not describe those additional factors (ISRP Report 97-2). Thus, the watershed selection process identifies projects that provide the best opportunities within each subbasin.

Prioritizing subbasins based on aggregate fish and wildlife ratings does not make sense biologically. For example, native shrub-steppe habitat in north-central Oregon is of high priority for the Wildlife program because it constitutes a habitat type inundated by the mainstem dams, has few remaining examples, and is poorly protected. However, the area in general is poor fish habitat, and would probably not rank high for fish. Averaging these differing priorities does not accurately reflect the reality for fish or wildlife.

4) **Clearly explain the basis for policy/management recommendations that alter the technical evaluations** - Clear justification and rationale for projects that are not recommended by the WTWG and are subsequently recommended by the managers are included in the individual caucus recommendations. In general, these situations occur when the WTWG did not have enough detailed information to have their questions/concerns answered (e.g., the proposal did not include a lengthy NEPA document); and the project history is not fully understood (e.g., significant past investments would be completely lost if the project was abandoned near its end).

5) **Coordinate watershed information, assessments and projects through StreamNet** - The PSMFC did not submit a proposal for this function for FY98 because they are working with the relevant entities and fish and wildlife managers to develop a clear scope of this activity for FY99 and beyond. The fish and wildlife managers are currently reviewing a PSMFC internal working draft of objectives, tasks and products that the StreamNet might provide as data services to the Fish and Wildlife Program's watershed planning and habitat restoration initiatives. The proposed FY99 StreamNet budget includes this.

6) **Watershed project recommendations must be consistent with the 70/15/15 budget allocation and provide for a balanced budget** - The watershed project recommendation herein is included in a balanced budget recommendation that is consistent with the *70/15/15* rule.

Section 5 Status reports for Council-requested program reviews

Integrated Hatchery Operations Team (IHOT)

Council Recommendation. The Council recommended funding only those activities necessary to complete the audit process which will include two tasks: 1) Complete the audit reviews. 2) Recommend a procedure to ensure that the audits and audit reviews will be made available to the hatchery managers, to guide the managers in making any needed reforms in their operations, including a reporting element to assure accountability. The Council recommended discontinuation of funding for staff participation in the IHOT process.

CBFWA Action. On January 27, 1998 the AFM acted to accept the proposal if the co-managers adjust it to reflect any needed corrections to overhead rates, confirm tribal budgets, and do not exceed $128,700. On January 29, 1998 the AFM accepted revisions to the proposed statement of work for completing the audit summaries for $118,455 (Appendix A.).

Northern Pikeminnow (Squawfish) Management Program

Council Recommendation. The Council recommended elimination of the less effective elements of the Program and a reduction in evaluation activities.

CBFWA Action. The cost of the dam-angling and gill-net fisheries has been reduced by 31%. Additional cuts to Program administration and evaluation bring the total reduction to *$400,545* from the FY 1997 Contract. Since these cuts result in significant cost savings with minimal impact to harvest rate and focus tribal dam-angling and gill-net fisheries into areas that critically contribute to harvest objectives, the managers believe that they have achieved the intent of the Council's directive concerning "less effective" Program elements. Evaluation has been reduced as originally intended by the Program managers, so these cuts meet both the Program and Council intent to shift to a low intensity monitoring and evaluation effort. The review and budget is attached as Appendix B.

Hatchery operations coordination

Background. The CBFWA budget request for FY 97 included 0.25 ETE for coordination activities associated with the Integrated Hatchery Operations Team (IHOT) called for in the Council's Program. Subsequent action by the Council eliminated funding IHOT and on that basis funding for this purpose was denied. Even though IHOT has been discontinued, there is a continuing and expanding need for hatchery operations coordination, especially with the expected interactions necessaty for the upcoming Artificial Production Review.

CBFWA Action. The fishery managers have approved a proposal for a contract modification to

Project No. 8906200 for $35,000 to provide facilitation services for the coordination of CBFWA members responses to hatchery operations initiatives as well as providing facilitation for the resolution of hatchery operations issues within CBFWA.

Council Recommendation. The Council recommended continued funding of ongoing projects in the interim while addressing issues raised in the 1995 NMFS status report on captive broodstock technology. No new projects are to be funded prior to this review.

CBFWA Action. The managers are preparing a report which addresses how captive broodstock technology is being applied as part of a systematic production risk assessment that is tied to research while addressing the feasibility of this technology relative to the Salmon River initiative and any further significant investments in the Grande Ronde and elsewhere.

Ongoing habitat maintenance, screening, and coordination

Council Recommendation. The Council recommended that on-going habitat projects be reviewed to identify essential tasks for continued funding. Funding for non-essential tasks will be determined through the FY 1998 habitat selection process.

CBFWA Action. If watershed projects with ongoing maintenance obligations do not pass the watershed project selection process, then the project sponsor will have to itemize appropriate maintenance costs to protect past investments.

Coded Wire Tags

Council Recommendation. The Council recommended that interim funding be provided for on-going projects while the Coded Wire Tag Program is reviewed to determine BPA's fair share and the relevance of that Program to the Council's Program.

CBFWA Action. This recommendation is under review.

Research, monitoring and evaluation framework

Council Recommendation. The Council recommended the development of an interim or preliminary coordinated research, monitoring, and evaluation framework to identify priority research needs for the project selection and competitive grants process and the request for research proposals for FY 1999.

CBFWA Action. This recommendation is under review.

New research projects

Council Recommendation. The Council recommended the development of detailed scopes-of-work and a competitive bid process for four new proposed research projects regarding mainstem habitat and population structure, impacts of the hydroelectric system on mainstem processes and salmon habitats, assessment of Columbia River chinook population structure and application to

existing populations, and impact of the hydroelectric system on the Columbia River estuary and near-shore plume.

CBFWA Action. The AFM acknowledge that $450,000 has been put aside for NPPC proposed research areas. The AFM expect that before any of these funds are spent, a formal solicitation process occurs and the fish managers will evaluate the proposals and they expect to focus research on the subject areas described in the June DAIWP (estuarine and near-ocean research, regional mainstem M&E). NMFS presented an unsolicited proposed statement of work for El Niño research as an example.

Dissolved gas

Council Recommendation. The Council recommended that the Dissolved Gas Team develop a coordinated research plan for gas supersaturation evaluations and make recommendations for FY 1998 project funding.

CBFWA Action. The AFM considered proposed research, which comprises three major components: adult sampling, quality control for gas bubble monitoring, and in-river juvenile sampling. Ongoing CRITFC and USGS studies should be continued in FY 1998 to allow projects to be carried out in accordance with the study design. The USGS proposal was reduced to account for FY 1997 carry over and was further reduced to defer laboratory studies for higher priority projects in other areas. The AFM recommends $1 .007 million to be allocated to the dissolved gas program.

Law enforcement

Council Recommendation. The Council recommended no law enforcement funding for FY 1998 and for the managers to identify for future funding those law enforcement tasks that are not “in lieu” and are directly associated with Program objectives.

CBFWA Action. The CBFWA Members are developing consensus-based recommendations for individual FY 1998 law enforcement projects. The Members agree to set forth a budget of $2.239 million (reduced from $4.0 million) for law enforcement as a placeholder, which is an amount equal to the currently proposed FY 1998 law enforcement projects, provided however that funding for FY 1998 law enforcement projects is conditioned upon a review among the co-managers of the specific law enforcement efforts proposed for FY 1998. So as not to prejudice options for FY 1998 law enforcement funding, the Bonneville Power Administration should extend funding beyond February 28, 1998 for 90 days for the ongoing law enforcement efforts for which proposals have been submitted. The total amount of $2.239 shall be reduced by the sums spent to extend funding for ongoing efforts through the review periods.

The Resident Fish Managers agreed to consider three law enforcement proposals (totaling $429,615), as new starts, and to evaluate them for FY 98 relative to other pending projects consistent with the RFM policies and procedures outlined on page 116 of the June 4, 1997 Draft Annual Implementation Work Plan.

Coordinated regional information service

Council Recommendation. The Council recommended the assessment of current information sources and future needs and the development of a proposal for a coordinated system to meet hose needs including a proposal for how to select the contractor to develop and maintain the system.

CBFWA Action. No action for CBFWA at this time.

Fiscal review of PATH projects

Council Recommendation. The council recommended re-writing PATH project activities using a time-and-task format and review cost and management of future activities with the Council.

CBFWA Action. The state and tribal PATH participants have completed a time-and-task basis Statement of Work and budget for FY 98 that has been approved and funded by the Bonneville Power Administration.

Appendix A Statement of Work - Hatchery Operations Working Group

Analysis of the IHOT Hatchery Evaluation Reports
December 1, 1997

Overview

The hatchery audits have been recently completed by the independent contractor Montgomery-Watson. The criteria used to conduct these audits were the performance measures in the IHOT document titled “Policies and Procedures for Columbia Basin Anadromous Salmonid Hatcheries”, January, 1995. The results of the audit process are presented in what are called the Hatchery Evaluation Reports which are organized by species and fish stock. There are approximately 150 reports covering every stock of anadromous salmonids being produced in Columbia River Basin fish hatcheries.

The intent of this analysis is to refine these reports into a more useful and readable form for Columbia River Basin fish managers. The remedial actions for multiple stocks of fish at a facility will be merged into a single facility report. The development of recommendations and options addressing the remedial actions will be listed for each facility and be done in a coordinated manner among work group members.

This analysis will also provide a summary of the auditing procedures highlighting both the weakness and strengths of the audit process that were encountered. This summary will also recommend changes that should be made to the IHOT Policies and Procedures document which was used for the audit criteria.

Deliverables

1. Hatchery specific audit review documents compiled geographically by agency. June30. 1998

2. A coordinated basin wide summary of the whole audit process, remedial actions and recommendations. June 30. 1998

Tasks

1. Write a facility specific audit review document for each hatchery which will include an assessment of the remedial actions with options and estimated costs for implementation. These will be written by the hatchery operators and reviewed by the appropriate specific tribal co-managers.

2. Write a coordinated basin wide summary and analysis of the hatchery remedial actions. Summarize the auditing procedure highlighting both the weaknesses and strengths of the audit process that were encountered. Identify changes that could be made to the IHOT *Policies and Procedures for Columbia Basin Anadromous Salmonid Hatcheries.* This summary will be written by the representatives of the hatchery operators in coordination with the appropriate co-managers.

Confederated Tribes of the Colville Reservation Analysis of IHOT Hatchery Audits - FY 98

BUDGET: Tasks 1 and 2 combined

Number of Audit Reports	11
Cost per report	$250
Subtotal - Reports Cost	$2,750
Indirect costs @ 39.2 percent	$1,078
Total Project Cost	$3,828

Idaho Department of Fish and Game
Budget needs for attached Statement of Work
Anadromous Hatchery Operations Group
November 25, 1997

Completion of the audit process will require travel to each facility to ensure hatchery managers input for prioritizing remedial actions. This travel is included in the report costs.

12 reports @ $500 per report	$6,000.00
Portland travel and per diem	1,000.00
Government Indirect (21.3%)	1,491.00
Total:	$8,491.00

Summary by Program
ODFW IHOT audits analysis budget request for FY 1998
(January through June 30, 1998)

Program	ODFW Audit Analysis
53 reports @ $500/ea	$26,500
OPE @ 37%	Included
Total P.S.	**26,500**
Chemicals	0
Utilities	0
Other S&S	500
Contract services	0
Coded wire tagging	0
Fin clipping	0
Subtotal S&S	**500**
Subtotal P.S. and S&S	**27,000**
Indirect @ 22.9%	6,183
Non expendable items	0
Fish feed	0
Subtotal	**33,183**
Capital	
Outlay	0
Improvements	0
Construction	0
Subtotal	**0**
Grand total	**33,183**

U.S. Fish And Wildlife Service - Analysis of IHOT Hatchery Audits January 1, 1998 - June 30, 1998

BUDGET: Tasks 1 and 2 combined

A.. Audit Review

Number of Audit Reports	19
Cost per report	$500
Subtotal - Reports Cost	$9,500

B. Travel

Vehicle Cost	$50

C. Miscellaneous:

Copies and Mailing	$200

Sub-Total Project Cost	$9,750
Indirect costs @31.5 percent	$3,071
Total Project Cost	$12,821

Yakama Indian Nation analysis of IHOT hatchery audits FY 98

BUDGET: Tasks 1 and 2 combined

A. Audit Review:

Number of Audit Reports	29
Cost per report	$250
Subtotal - Reports Cost	$7,250
Indirect costs @ 26.6 percent	$1,929
Total Project Cost	$9,179

Appendix B Northern Pikeminnow Management Program

The Anadromous Fish Managers have completed their review of the Northern Pikeminnow Management Program (NPMP) to determine 1) whether the original objectives of the Program have been realized and 2) the future direction of the Program.

The NPMP was begun in 1990 as an experiment to test the hypothesis that a sustained harvest rate of 10 to 20 percent on predator-sized northern pikemmnnows would result in a 50% reduction in juvenile salmonid predation. This hypothesis was developed from model simulations based on predation studies by the Oregon Department of Fish and Wildlife (ODFW) from 1982 through 1988 in John Day Reservoir. Based on these studies researchers estimated that about 80% of the loss due to predation in John Day Reservoir was caused by northern pikemmnnows. The program goal was to reduce juvenile salmonid predation losses by altering the age and size structure of the northern pikeminnow population. To determine the feasibility of accomplishing this goal a number of removal methods were tested during 1990-97.

A sport-reward angling fishery and commercial longline fishery were implemented in John Day Pool in 1990. An angling fishery was also conducted in the Boat Restricted Zone at four mainstem dams on the Columbia River and at Ice Harbor Dam on the Snake River. Based on the success of these limited efforts, three test fisheries were implemented on a larger scale; a tribal longline fishery above Bonneville Dam, a system-wide sport-reward angling fishery, and a dam-angling fishery at four mainstem Columbia River dams and four mainstem Snake River dams. Low catch of northern pikeminnows and high cost of implementation resulted in discontinuation of the tribal longline fishery. A commercial longline fishery was attempted below Bonneville Dam in 1992, found to be infeasible, and discontinued. During 199 1-93 a modified Merwin floating trapnet fishery was developed and tested below Bonneville but discontinued because of high incidental catches of juvenile salmonids. In 1994 a gill-net fishery was initiated by the tribes at selected sites near the mouths of tributaries above Bonneville Dam where northern bigmouth

minnows concentrate immediately after releases of juvenile salmon from hatcheries. Only the sport-reward angling, dam-angling, and site-specific gill-net fisheries have continued to the present.

Program evaluation has been conducted by the ODFW. The results of this evaluation are reported in the Draft Final Report of Research, 1990-96 for the Evaluation of the Northern Pikeminnow Management Program (summarized in Attachment 1), which concludes that predation by northern pikeminnows has been reduced by 38% from the pre-program level. The Program has sustained an average harvest rate of 12% resulting in the removal of more than 1.2 million northern pikeminnows. Researchers report no evidence of compensation in populations of northern pikeminnows, smallmouth bass, or walleye in response to this reduction.

The tribal dam-angling and gill-net fisheries have been reduced substantially over the past two years in response to reduced catches associated primarily with increased river flows. The fishery managers have determined that, even though these fisheries are relatively less effective at saving juvenile salmonids than the sport-reward angling fishery, they should continue at the proposed reduced level since they contribute significantly to the program goal.

The sport-reward angling fishery was not reduced to the extent of other Program elements at this time because this fishery has been very effective and cost efficiencies have been implemented annually over the past three years in response to cost-effectiveness analyses. These efficiencies have included elimination of and changes in the number and location of primary registration stations and their satellites, reduction in hours of registration station operation, implementation of self registration, staff reductions, and streamlining of fish handling procedures (Attachment 2).

In response to the Council's requirement that the Program eliminate the less effective elements and reduce evaluation activities before funding approval for FY 98 is granted, the managers have cut 31% from the tribal dam-angling and site-specific fisheries with additional cuts to Program administration and evaluation costs for a total project reduction of $400,545 (Attachment 3). Since these cuts result in significant cost savings and focus tribal dam-angling and site-specific gill-net fisheries into areas that critically contribute to harvest objectives, the managers believe that they have achieved the intent of the Council's directive concerning "less effective" Program elements. Evaluation has been reduced as originally intended by the Program managers, so these cuts meet both the Program and Council intent to shift to a low intensity monitoring and evaluation effort.

Based on the above considerations the fishery managers have concluded that the experimental phase of this project has been completed and recommend that the NPMP be funded as a continuing fisheries mitigation measure with annual monitoring to measure benefits. The managers also recommend that an expanded evaluation be conducted every 3 to 5 years to determine the response of northern pikeminnows and other predators to removal fisheries.

Summary of project
ODFW final report, 1990-96

Introduction

Development of the hydropower system in the lower Columbia and Snake rivers has resulted in increased losses of juvenile salmonids to resident fish predators. Impoundments delay the downstream migration of juveniles, increasing their exposure to predators and high water temperatures. Migrating fish are concentrated and endure stress as they pass dams, increasing their vulnerability to predation. The native northern squawfish *Ptychocheilus ore gonensis* is the dominant predator of juvenile salmonids, but introduced smalimouth bass *Micropterus dolomieu* and walleye *Stizostedion vitreum* are also abundant.

A large-scale management program for northern squawfish was begun in 1990 to increase survival of juvenile salmonids in the Columbia and Snake rivers. The Northern Squawfish Management Program (NSMP) consists of a public sport-reward fishery, and agency-operated dam-angling and gillnet fisheries that target northern squawfish ≥250 mm fork length, approximately the size at which northern squawfish become important predators on juvenile salmonids. Because consumption of juvenile salmonids generally increases with size of northern squawfish, low exploitation rates may result in relatively large reductions in predation. The goal of the program is to sustain annual exploitation of "predator-size" northern squawfish at 10-20%, which may reduce losses of juvenile salmonids by as much as 50%.

We evaluated the management program to determine if annual exploitation of northern squawfish was maintained in the target range. We also monitored predator populations to describe the response of northern squawfish, smallmouth bass, and walleye to the management program. Benefits of the management program could be less than expected if surviving northern squawfish or other predators increase their rates of predation, growth, or reproduction. We used our findings to estimate the benefits of the management program in terms of reduced predation on juvenile salmonids. Study objectives included:

(1) Determine the exploitation rate and size of northern squawfish harvested annually for each fishery;

(2) Index abundance and consumption of juvenile salmonids by northern squawfish annually;

(3) Describe the response of northern squawfish population structure, growth, mortality, fecundity, and year-class strength to sustained removals;

(4) Describe the response of smallmouth bass and walleye density, consumption of juvenile salmonids, population structure, growth, mortality, and year-class strength to sustained removals of northern squawfish;

(5) Examine annual and spatial variation in diets of northern squawfish, smallmouth bass, and walleye;

(6) Integrate data on northern squawfish harvest, and response of northern squawfish, smallmouth bass, and walleye to northern squawfish removals to estimate effects of the NSMP on losses of juvenile salmonids to predation.

Conclusions

We believe there are several important findings of our study. These include:

(1) **Management fisheries in the Columbia and Snake rivers are effective at removing large northern squawfish**. From 1990-96, over 1.1 million northern squawfish ≥250 mm fork length were removed from the lower Columbia and Snake rivers (Paper I). Annual exploitation averaged 12.0%, and ranged from 8.1% to 15.5%. Exploitation was greater than 10% all years except 1993. The sport-reward fishery accounted for 86.5% of the harvest. All fisheries targeted large, piscivorous, northern squawfish (96.1-99.5% of reported catch); however, mean fork length was higher in the gillnet (409 mm) and dam-angling (401 mm) fisheries than in the sport-reward fishery (346 mm).

(2) **We found no evidence that surviving northern squawfish compensated for sustained removals**. Indices of northern squawfish abundance and consumption of juvenile salmonids were consistently lower from 1994-96 than 1990-93 (Paper 2). We found no single environmental or salmonid passage variable to be consistently related to consumption of juvenile salmonids by northern squawfish. Size structure of northern squawfish populations appeared to decrease in response to removals of large fish (Paper 3); however, we found no trend of increased growth, fecundity, or year-class strengths.

(3) **We found no evidence of smallmouth bass or walleye response to sustained removals of northern squawfish**. No trends in smallmouth bass density, consumption of juvenile salmonids, population structure, growth, mortality, or year-class strength have been realized concurrent with the NSMP (Paper 4). Variations in walleye density and population structure appear to be driven by variations in year-class strength, not by response to removals of northern squawfish. We found no trends in growth or mortality of walleye (Paper 5).

(4) **We found no evidence that diets of northern squawfish, smallmouth bass, or walleye changed in response to sustained removals of northern squawfish**. Piscivory and salmonid predation varied annually for smallmouth bass and walleye, but did not increase coincident with removals of northern squawfish (Paper 6). Piscivory by northern squawfish declined over time from 1990-96 (Papers 2 and 6). Consumption rates of non-salmonid prey fishes by smallmouth bass exceeded consumption rates by northern squawfish (Paper 6).

(5) **Losses of juvenile salmonids to predation have probably decreased since implementation of the NSMP**. Modeling results indicate that if all variables other than exploitation of northern squawfish were held constant, predation by northern squawfish on juvenile salmonids has decreased to 62% (range 45-75%) of pre-program levels (Paper 1). Estimates of predation by northern squawfish (Paper 2) support results from modeling. Lack of response by surviving northern squawfish and other predators (Papers

3, 4, and 5), and lack of changes in diet of these fish (Papers 2 and 6) increases confidence in the hypothesis that sustained removals of northern squawfish increases survival of juvenile salmonids.

Limitations

Some of our results are uncertain because of important limitations. Limitations were generally the product of working in a large and complex system. In addition, limitations existed because of the difficulty of controlling conditions during sampling periods. Several important limitations were:

(1) **Benefits of the NSMP could only be measured indirectly.** Our estimate of reductions in predation were based on changes in northern squawfish size structure in response to removals (Papers I and 3), combined with lack of compensation by surviving northern squawfish and other predators (Papers 2, 3, 4, 5, and 6). Direct measurement of survival of migrating juvenile salmonids to the Columbia River estuary were not possible. Numbers of returning adult salmonids are affected by too many additional variables (ocean conditions, harvest, etc.) to be used to measure success of the program.

(2) **Estimates of predation are indices, not absolute**. Estimates of absolute predation for the entire lower Columbia and Snake rivers would be prohibitive in time and cost. Managers need a quick, efficient method to determine the spatial and temporal dynamics of predation on juvenile salmonids.

(3) **Actual predation on juvenile salmonids is influenced by variables we were unable to control**. Environmental variables including river flow, spill at dams, and water temperature vary annually. Numbers of migrating juvenile salmonids and passage timing also vary annually. Although these variables undoubtedly influence predation, we were unable to identify any consistent relationships between predation and environmental or passage variables (Paper 2).

Recommendations

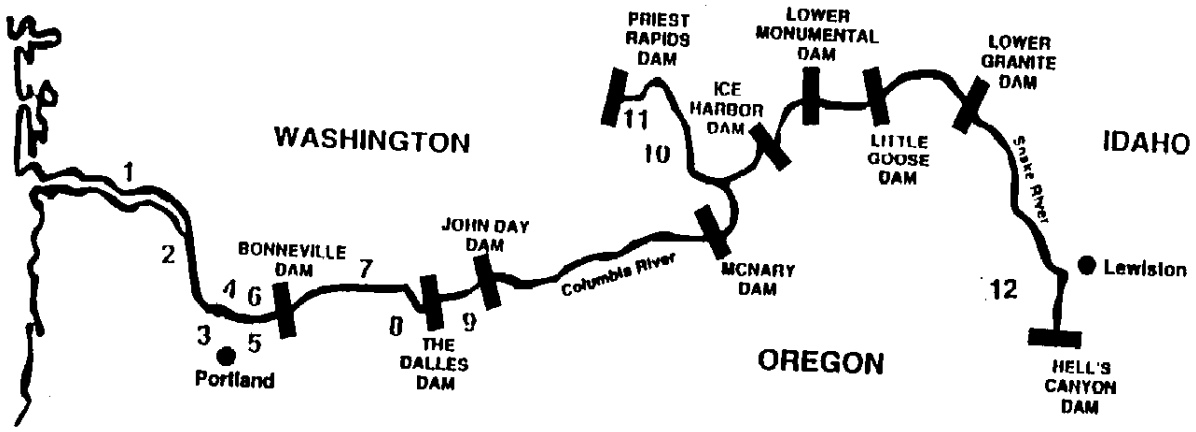
Based on our findings, we have several recommendations concerning the NSMP:

(1) **Management of northern squawfish should continue to be used as a method to increase survival of juvenile salmonids**. The program is successful at removing large numbers of northern squawfish ≥250 mm fork length, and this exploitation translates to a considerable reduction in predation on juvenile salmonids. The program is an effective tool for improving salmonid survival in the Columbia and Snake rivers.

(2) **Total catch and exploitation rates of the fisheries should continue to be monitored annually**. Annual exploitation rates must be sustained at 10-20% to meet program goals. Information on exploitation rates will be needed as a basis for continuing or discontinuing the program or individual fisheries, or for implementing changes to fisheries (incentives to increase effort, adjustments to season length to increase or decrease catch, etc.).

(3) **Response of northern squawfish and other predators should be evaluated every 3-5 years. We** have found no evidence of compensation to date by surviving northern squawfish, smallmouth bass, or walleye. Although compensation is unlikely, it remains possible, particularly if removals are sustained over a number of years. Periodic sampling to monitor predation and biological characteristics of predaceous fish species would be prudent.

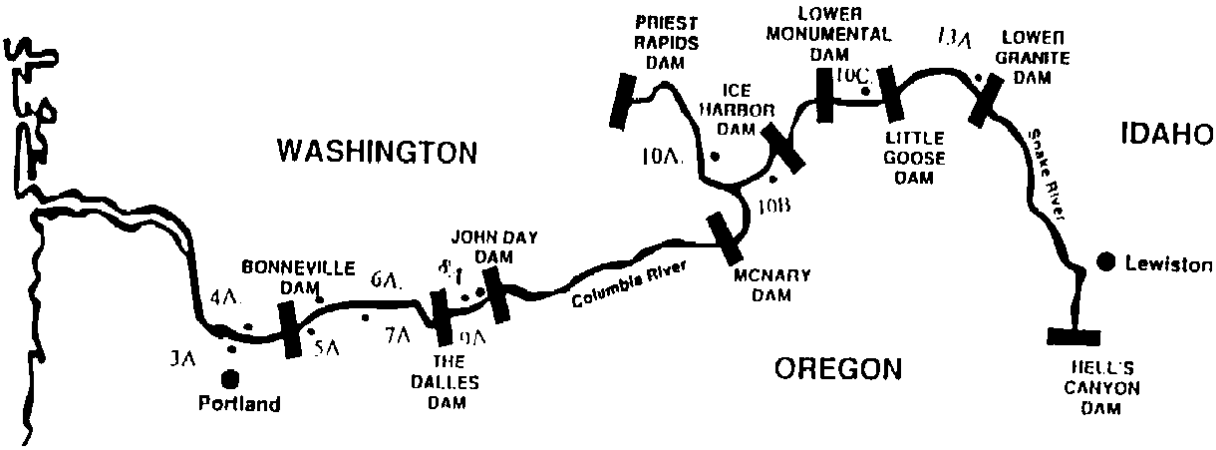
1997 Northern Squawfish Sport-Reward fishery registration stations



Access sites:

1. Cathlamet Marina
2. Rainier Marina/Weyerhaueuser
3. Gleason Boat Ramp
4. Washougal Boat Ramp
5. The Fishery at Covert's Landing
6. Hamilton Island
7. Bingen Marina
8. The Dalles Boat Basin
9. Giles French
10. Columbia Point
11. Vernita
12. Greenbelt

1997 Northern Squawfish Sport-Reward fishery satellite stations



Satellite sites:

3A. Chinook Landing
4A. Marine Park
5A. Cascade Locks
6A. Home Valley
7A. Hood River
8A. Lyle Boat Ramp
9A. Maryhill State Park
10A. Ringold Boat Ramp
10B. Hood Park
10C. Lyons Ferry
13A. Boyer Park

Table 1. Northern Big Mouth Minnow sport reward fishery program

Year	Sport-Reward fishery total	Fish handling	PSMFC reward admin.	WDFW contract	Fishing clinic budget	Number stations	Satellite sites	WDFW FTEs
1994	1,503,000	164,000	147,000	1,192,000	0	14	0	24.70
1995	1,625,000	192,000	178,000	1,255,000	0	13	17	27.75
1996	1,487,000	0	189,000	1,298,000	26,000	12	12	25.50
1997	1,401,000	0	166,000	1,201,000	34,000	12	10	25.50
1998	1,354,000	0	154,000	1,193,000	7,000	12	7	24.25

1996: WDFW took over all fish handling. Contract figure reflects this inclusion.
1998: Proposed Contract and Budget.

Stations: Full time Registration Stations, operated for eight hours per day.
Satellites: Sites operated on a reduced schedule of one to two hours, or for registration only.

Table 2. 1991 to 1997 harvest by registration station. Stations on Columbia River from mouth upstram and Snake River from mouth upstream.

STATION	1991	1992	1993	1994	1995	1996	1997
COLUMBIA RIVER							
Cathlamet Marina			3,960	5,591	7,175	14,414	4,742
Willow Grove		5,676					
Rainier Boat Ramp			1,561				5,049
Akalama Marina		6,799	1,605	3,703	2,724		
Bayport Marina		1,606					
Marine Park (Portco)		8,637					
M.J. Gleason Boat Ramp		15,494	9,719	10,742	11,510	11,579	14,096
Camas/Washougal Boat Ramp			5,927	9,105	8,659	7,039	7,158
Hamilton Island	18,219	17,048	9,039	13,732	11,936	10,020	6,969
The Fishery at Covert's Landing	40,674	23,851	16,308	27,935	30,154	20,224	15,389
Cascade Locks	9,143	6,779	1,881				

STATION	1991	1992	1993	1994	1995	1996	1997
Bingen Boat Ramp	12,711	12,513	6,408	5,038	11,555	7,772	2,282
The Dalles Boat Basin	3,828	6,806	4,338	7,137	22,895	19,382	15,980
Maryhill State Park	1,001	5,074					
Giles French				13,430	45,790	25,639	13,996
LePage Park	32,141	16,926	10,643				
Plymouth Boat Ramp	5,556	2,414					
Umatilla Boat Ramp			1,000	1,586			
columbia Point Park	1,104	11,148	5,192	6,133	12,418	8,409	6,338
Ringold Access		5,139					
Vernita Rest Area			9,765	11,597	15,577	15,261	16,967
SNAKE RIVER							
Hood Park	3,676	9,199	4,119	4,112	3,750	1,953	
Windust Park	919	1,456					
Lyons Ferry	4,211	3,131	1,466				
Central Ferry Park	7,485						
Boyer Park		5,875	1,296				
Chief Timothy Park	1,048						
Greenbelt Boat Ramp	17,446	21,333	10,309	9,593	15,645	15,538	10,081
TOTAL ANNUAL HARVEST	159,162	186,904	104,536	129,434	199,788	157,230	119,047