

# YAKIMA SCREENS - PHASE II O&M

9200900

## SHORT DESCRIPTION:

Provide preventative and major maintenance on Yakima Basin Phase 2 fish screen facilities.

## SPONSOR/CONTRACTOR: WDFW, YSS

Wash. Dept. of Fish & Wildlife, Yakima Screen Shop

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## SUB-CONTRACTORS:

N/A

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## GOALS

### GENERAL:

Supports a healthy Columbia basin, Maintains biological diversity, Maintains genetic integrity, Increases run sizes or populations

### ANADROMOUS FISH:

Habitat or tributary passage

### NPPC PROGRAM MEASURE:

7.11B.1

### RELATION TO MEASURE:

YSS performs preventative maintenance and operational adjustments on completed Phase 2 screen projects to assure optimal fish protection on an ongoing basis and to extend facility lifespan.

### BIOLOGICAL OPINION ID:

N/A

### OTHER PLANNING DOCUMENTS:

N/A

### TARGET STOCK

Yakima Coho

Yakima Fall Chinook

Naches Steelhead

Naches Spring Chinook

Yakima Steelhead

Yakima Spring Chinook

### LIFE STAGE

Juveniles

Juveniles

Juveniles

Juveniles

Juveniles

Juveniles (fry, parr, smolts)

### MGMT CODE (see below)

A

S, W

N, P, W

N, W

S, P, W

S, W

### AFFECTED STOCK

Naches Resident Trout

Yakima Resident Rainbow Trout

### BENEFIT OR DETRIMENT

Beneficial

Beneficial

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## BACKGROUND

### Stream name:

Yakima R. & tributaries (Naches R., Teanaway R., Ahtanum Cr., etc.)

### Subbasin:

Yakima

### Land ownership:

Public (BPA owns screen facility & land)

### Hydro project mitigated:

N/A

**Habitat types:**

N/A

**HISTORY:**

Since June 1993, WDFW has performed preventative maintenance and major repairs on the majority of completed Phase 2 fish screen facilities. Currently, WDFW is responsible for 18 sites (FY 97). Remaining sites are Bureau of Reclamation (BR) responsibility. Duties also include acting as BPA's local liaison with the diversion owner. WDFW monitors and verifies diversion owner performed "routine" maintenance eligible for BPA reimbursement and processes claims for payment.

**BIOLOGICAL RESULTS ACHIEVED:**

Biological evaluation of recently completed Phase 2 fish screens by Battelle (Proj # 8506200) has shown juvenile salmonid survival and guidance rates approaching 100%. Without comprehensive preventative maintenance, long-term screen performance will decline as will fish survival. The life span of BPA's investment in new screens also depends on a program of regular maintenance.

**PROJECT REPORTS AND PAPERS:**

Yakima Basin BPA Phase II Fish Screen O&M, Progress Reports 1 through 7 (#1: 5/93 - 8/93; #2: 9/93 - 12/93; #3: 1/94 - 5/94; #4: 6/94 - 12/94; #5: 1/95 - 6/95; #6: 7/95 - 12/95; #7: 1/96 - 6/96)

**ADAPTIVE MANAGEMENT IMPLICATIONS:**

Knowledge gained from fish screen evaluation studies performed by Pacific Northwest Labs (Proj. 8506200) is used by YSS staff in a feedback process to improve O&M procedures.

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**PURPOSE AND METHODS**

**SPECIFIC MEASUREABLE OBJECTIVES:**

Perform operation and preventative maintenance on assigned Phase 2 fish screen facilities in order to preserve facility life span and maintain peak fish protection and guidance efficiency on a long-term basis.

**CRITICAL UNCERTAINTIES:**

None

**BIOLOGICAL NEED:**

Juvenile anadromous salmonid survival is being increased at Yakima Basin irrigation diversions by constructing state-of-the-art fish screen facilities (Proj # 9105700 and # 9107500). However, the improvements in survival and capital facility investments can only be sustained through a long term commitment to comprehensive and regular O&M. Failure to do so will result in facility deterioration and an increase in fry, fingerling and smolt injury and mortality.

**HYPOTHESIS TO BE TESTED:**

N/A

**ALTERNATIVE APPROACHES:**

N/A

**JUSTIFICATION FOR PLANNING:**

N/A (project provides tangible on-the-ground survival benefits to juvenile salmonids)

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**PLANNED ACTIVITIES**

**SCHEDULE:**

<u>Planning Phase</u>	<u>Start</u>	<u>End</u>	<u>Subcontractor</u>
ONGOING BPA PROJECT SUMMARY		7/24/97	9200900



**Changes assumed or expected for affected environmental attributes:**

N/A

**Measure of attribute changes:**

N/A

**Assessment of effects on project outcomes of critical uncertainty:**

N/A

**Information products:**

N/A

**Coordination outcomes:**

N/A

**MONITORING APPROACH**

Target stock monitoring is performed by the Yakama Indian Nation at Prosser Dam and Roza Dam. Both adults and migrant smolts are enumerated each year to track stock status. Fish screen evaluation studies (Proj. No. 8506200) define the fish protection performance of individual or types of Phase 2 screen facilities. No M&E is directly performed as a task of this project.

**Provisions to monitor population status or habitat quality:**

N/A (see above)

**Data analysis and evaluation:**

N/A

**Information feed back to management decisions:**

Information from the related fish screen evaluation project (8506200) performed by Pacific Northwest Labs (Battelle) feeds back into the design, fabrication and O&M components of the Yakima Phase 2 program. Results of PNL studies have been used by WDFW and BOR to improve fish screen designs and fabrication methods to increase fish protection and survival rates. Evaluation results have also been used to fine tune O&M procedures to increase screen life and maximize fish protection in the long term.

**Critical uncertainties affecting project's outcomes:**

N/A

**EVALUATION**

For this project, success is measured in the steady completion of state-of-the-art fish screen facilities at Yakima Basin gravity water diversions.

**Incorporating new information regarding uncertainties:**

N/A

**Increasing public awareness of F&W activities:**

Fish screen O&M activities at some Phase 2 sites (e.g. Congdon screen next to Eschbach County Park) are visible to the public and are a tangible testimony that the region is actively working to recover weak anadromous fish stocks in the Yakima Basin.

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**RELATIONSHIPS**

**RELATED BPA PROJECT**

**RELATIONSHIP**

8506200	Monitoring & evaluation of Phase 2 screens (Pacific NW Labs)
9107500	Bureau of Reclamation Phase 2 civil works construction
9105700	WDFW Fabrication of Phase 2 Fish Screens

**RELATED NON-BPA PROJECT**

**RELATIONSHIP**

N/A

**OPPORTUNITIES FOR COOPERATION:**

The addition of new sites each fiscal year is dependent on completion of fabrication (# 9105700) and civil works construction (# 9107500). WDFW derives the O&M budget based on assumed "online" dates, but delays can result in lower expenditures and carrying over funds to the next fiscal year. WDFW and BOR work cooperatively to assure that project objectives are attained with the least cost to BPA. WDFW and BOR share equipment and manpower as needed to accomplish project objectives.

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**COSTS AND FTE**

**1997 Planned:** \$85,000

**FUTURE FUNDING NEEDS:**

**PAST OBLIGATIONS (incl. 1997 if done):**

<u>FY</u>	<u>\$ NEED</u>	<u>% PLAN</u>	<u>% IMPLEMENT</u>	<u>% O AND M</u>
1998	\$100,000		0%	100%
1999	\$110,000		0%	100%
2000	\$120,000		0%	100%
2001	\$130,000		0%	100%
2002	\$140,000		0%	100%

<u>FY</u>	<u>OBLIGATED</u>
1993	\$68,401
1994	\$39,716
1995	\$94,982
1996	\$76,850
TOTAL:	\$279,949

Note: Data are past obligations, or amounts committed by year, not amounts billed. Does not include data for related projects.

<u>FY</u>	<u>OTHER FUNDING SOURCE</u>	<u>AMOUNT</u>	<u>IN-KIND VALUE</u>
1998	Diversion owners (pre-P2 obligation)	Varies by site	N/A
1999	Diversion owners (pre-P2 obligation)	Varies by site	N/A
2000	Diversion owners (pre-P2 obligation)	Varies by site	N/A
2001	Diversion owners (pre-P2 obligation)	Varies by site	N/A
2002	Diversion owners (pre-P2 obligation)	Varies by site	N/A

**OTHER NON-FINANCIAL SUPPORTERS:**

N/A

**LONGER TERM COSTS:** \$150,000 (adjusted annually for inflation)

Operation & Maintenance

**1997 OVERHEAD PERCENT:** 23.3% (19% Agency Administrative O/H + 4.3% Yakima Screen Shop Fixed Operating Cost)

**HOW DOES PERCENTAGE APPLY TO DIRECT COSTS:**

O/H applied to total direct project costs

**CONTRACTOR FTE:**

Maximum direct YSS staff employed on project = 6 (two permanent, full-time field O&M employees; four permanent management and clerical employees work part-time on this project)

**SUBCONTRACTOR FTE:** N/A

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