STATE OF WASHINGTON
DEPARTMENT OF FISH AND WILDLIFE

PRIEST RAPIDS COMPLEX
JOHN DAY MITIGATION

OPERATIONS AND MAINTENANCE
ANNUAL REPORT

July 1, 2016 – June 30, 2017

Prepared For
U.S. Army Corps of Engineers

By

Mike Lewis, Priest Rapids Complex Manager
Glen Pearson, Fish Hatchery Specialist 4
Mike Erickson, Fish Hatchery Specialist 4

Table of Contents

List of Figures iii
List of Tables iv
Introduction 1
Project Location 2
Facilities 3
Fish Culture Activities (PRH) 9
Rearing Summary 10
Rearing To Fingerling Stage 10
Food Fed and Weight Gain 10
Length Frequency Data (Average) 10
Fish Health Summary 10
Release Summary 11
Fish Culture Activities (RSRF) 12
Rearing Summary 12
Rearing To Fingerling Stage 13
Food Fed and Weight Gain 13
Length Frequency Data (Average) 13
Fish Health Summary 13
Maintenance And Capital Projects 14
Worked Performed By WDFW Maintenance Crew 14
Worked Performed By RSRF Staff 14
Summary 15
Budgets (PRH) 16
Expenditures (PRH) 17
Budgets (RSRF) 18
Expenditures (RSRF) 19

List of Figures

Figure 1. Project area Map. 2
Figure 2. RSRF Hatchery shop and Residence, 9-acre pond, vinyl raceways, and fish trap. 3
Figure 3. RSRF 9-acre pond, fish trap, 2 concrete raceways and 32 blue round tanks. 4
Figure 4. RSRF Upper left Walters ponds and the 5-acre pond, Irrigation runoff channel in the center and to the right are the 5 warm water ponds. 5
Figure 5. Priest Rapids Hatchery and the original spawning channel. 6
Figure 6. Located in the Upper left is the existing volunteer trap at Priest Rapids Hatchery. 7
Figure 7. Jackson Creek. 8
Figure 8. Priest Rapids Hatchery Operating Budget 16
Figure 9. Ringold Springs Operating Budget 19

List of Tables

Table 1. Spawning Summary. 9
Table 2. Production Summary 10
Table 3. 2016 PRH Release Summary 11
Table 4. RSRF Trapping and Spawning Summary 12
Table 5. Production Summary 13
Table 6. Escapement Estimates for Priest Rapids Hatchery Fall Chinook 20
Table 7. Escapement Estimates for Ringold Springs Rearing Facility Fall Chinook 21

Introduction

The U.S. Army Corps of Engineers (USACE) is required to provide mitigation for the loss of fall Chinook salmon spawning habitat caused by the inundation associated with the construction and operation of John Day and The Dalles dams. Specifically, the USACE funds hatchery production of upriver-bright (URB) and tule fall Chinook smolts to replace lost natural production. This hatchery production is known as John Day/The Dalles Mitigation (JDM).

In 1992, the Washington Department of Fish and Wildlife (WDFW) and the USACE, in cooperation with Grant County Public Utility District (GCPUD), began rearing and releasing 1.7 million JDM fall Chinook salmon at the Priest Rapids Hatchery (PRH). USACE funding for this program initially was limited to purchasing fish food.

In 1996, a cooperative agreement was signed by USACE, WDFW, the National Marine Fisheries Service (NMFS) and U.S. Bureau of Reclamation (USBR) to share the facilities at Ringold Springs Rearing Facility (RSRF) to increase JDM fall Chinook salmon releases upstream of McNary Dam and the Snake River. The USACE agreed to provide funds to transfer 3.5 million (M) pre-smolts from Bonneville Hatchery (operated by Oregon Dept. of Fish & Wildlife) and to acclimate and release them at RSRF. Subsequent releases demonstrated that RSRF could successfully rear fall Chinook smolts for the JDM program. The RSRF program continues today at the existing capacity, which ranges from 3.5 to 5.5M fall Chinook smolts, depending on fish size. However, the abundant gravity water supply will support substantially more capacity and is currently being studied by USACE for expansion.

In May 2008, Washington, Oregon, Idaho, federal fishery agencies, and the treaty tribes agreed to a *U.S. v. Oregon* 10-year Columbia River Fish Management Plan (CRFMP), which is a detailed harvest and hatchery fish production plan. The CRFMP parties jointly develop harvest sharing and hatchery management plans that are entered as orders of the court and are binding on the parties.

In 2009, the WDFW entered into a new funding agreement with the USACE for the production of upriver bright (URB) fall Chinook salmon at both PRH and RSRF. WDFW will produce JDM fish for USACE provided adequate funding, eggs and PRH hatchery space are available annually. Current goals at PRH include rearing and releasing approximately 1.7M smolts on-station. Also, the Hatchery Scientific Review Group (HSRG) finalized their work on the mainstem Columbia River and recommended that the PRH broodstock be used for the RSRF program rather than Bonneville Hatchery mid-Columbia bright fall Chinook. PRH has been trapping adults, spawning, incubating and transferring approximately 3.7 to 4.0M eyed eggs to Bonneville Hatchery for the RSRF program since the fall of 2008.

Project Location

Figure 1. Project Area Map.

The Hanford Reach is a 56-mile segment of the Columbia River located between the upstream end of McNary Dam reservoir and Priest Rapids Dam. It is the only sizeable unimpounded reach of the mainstem Columbia River upstream of Bonneville Dam. Fall Chinook salmon continued to successfully use Hanford Reach spawning and rearing habitat as other production areas became inundated by reservoirs. The Hanford Reach contains the most significant area of URB fall Chinook salmon production in the mainstem Columbia River and is considered a higher quality food fish compared to the lower Columbia River tule fall Chinook salmon.

Broodstock collection, adult holding, spawning, incubation, rearing, and release occur at the PRH on the Columbia River at river mile (RM) 397. Release of sub-yearling smolts from the RSRF occurs at RM 352.

Facilities

Figure 2. RSRF shop and residence, 9-acre pond, vinyl raceways, and fish trap.

The RSRF 9-acre earthen rearing pond gravity water supply is primarily from the "18-inch Diversion" and "Lower Diversion", which divert spring water collected in the ditch along the upstream side of the Ringold Road visible in Fig. 2. The pond has one outlet with direct discharge into the hatchery creek (visible at right). Visible above the 9-acre pond are the 14 vinyl raceways. The gravity water supply for the vinyl raceways comes from the "Main Diversion", which also diverts from the collection ditch above the county road. The raceways can provide re-use for the 9-acre pond or discharge directly into the hatchery outlet creek. These raceways are in need of replacement.

Figure 3. RSRF 9-acre pond, outlet structure, fish trap, 2 concrete raceways and 32 blue round tanks.

RSRF's adult fish trap consists of two picket weirs constructed in the hatchery outlet creek (visible in Fig. 3). The downstream weir has a vee-shaped fish entrance which allows upstream movement of fish while preventing downstream movement.

Two concrete raceways are located next to an array of blue plastic round tanks. The concrete raceways were constructed with USACE funding following the signing of the 1996 cooperative agreement. The original purpose was to study the relative smolt-to-adult survival of fall Chinook produced in concrete raceways compared to the 9-acre earthen rearing pond. These raceways are still used primarily for fall Chinook and the round tanks are primarily used for warm water species. The water supply for all these rearing vessels comes from the Lower Diversion.

Figure 4. RSRF – Walter's Ponds and the 2.5-Acre Pond (upper left), USBR Ringold irrigation wasteway (center), and the five Meseberg warmwater ponds (right).

Ringold has a 2.5-acre earthen rearing pond that is covered with bird netting to provide nearly complete protection from avian predation. The pond was constructed in the summer/fall 2016 by extending the water supply pipeline and closing the berm that separated the upper and lower portions of the previously 5.0-acre pond shown above. USACE JDM funding helped WDFW complete these infrastructure improvements. The gravity water supply for this pond, known as the "Steelhead Diversion", is also located next to the county road, but is separate from the RSRF Main Diversion and Lower Diversion. This pond has a concrete flume downstream of the outlet structure which allows the use of an electronic fish counter for enumerating yearling steelhead smolts at release, but which does not accurately count sub-yearling fall chinook. WDFW uses the "new" 2.5-acre pond to rear/acclimate a portion (1.0 – 1.3M) of the 3.5M JDM sub-yearling fall chinook after the Mitchel Act-funded steelhead smolts are released in mid-April. The remainder of the fall chinook (2.2 – 2.5M) are reared in the 9-acre pond, which has monofilament line and flash tape to deter avian predation, but is not equipped with exclusion bird netting.

The Meseberg Warm Water facility has 5 rearing ponds. The water supply for these ponds comes from the Lower Diversion. Two of these ponds are lined and the others have earth bottoms. Mitchell Act funded coho smolt rearing/acclimation/release is proposed for the two lined Meseberg ponds beginning in 2018.

Figure 5. Priest Rapids Hatchery and the original spawning channel.

The original spawning channel at PRH was constructed to voluntarily attract adult fall Chinook and provide natural spawning habitat. Fish failed to use the channel as designed and this resulted in modifications to the channel and ultimately 5 rearing ponds were constructed in the upper end of the channel. These ponds are used today for Grant County PUD's mitigation obligation as well as rearing 1.7M fall Chinook for the USACE.

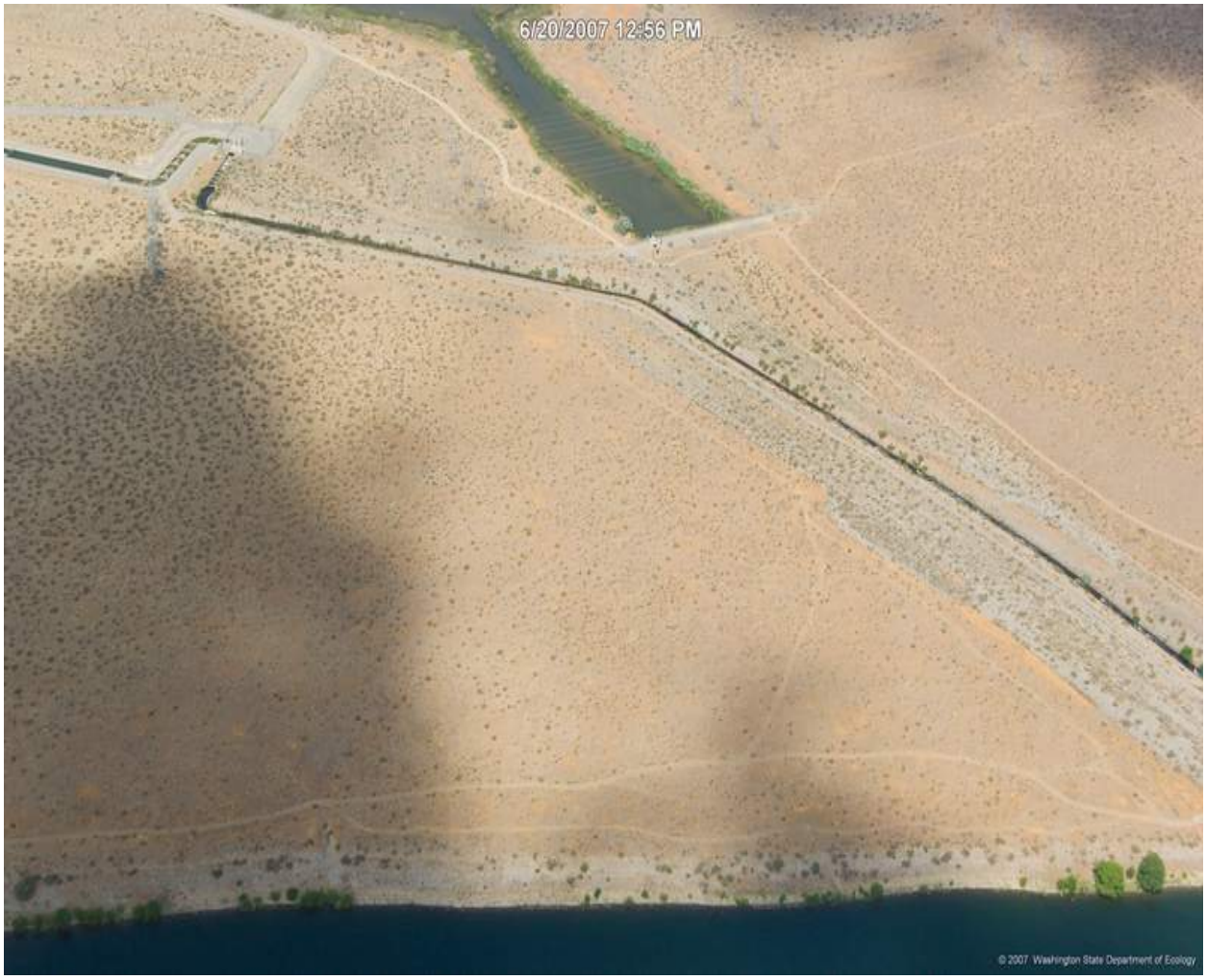

Figure 6. Existing volunteer trap at Priest Rapids Hatchery on Jackson Creek outlet channel.

The adult volunteer trap at PRH is located on the Jackson Creek hatchery outlet channel about one mile from the Columbia River. The trap was reconstructed in 2013 during the rebuild at PRH and includes an adjustable finger weir entrance to control fish densities in the trap, crowders and a pescalator to lift fish to be loaded into tank trucks for transport one mile to the adult holding ponds adjacent to the hatchery office/incubation building.

Figure 7. Jackson Creek (hatchery outlet and adult volunteer channel) at Columbia River mile 397.

Fish Culture Activities (PRH)

Adult Trapping and Brood Stock

The 2016 broodstocking season occurred at three locations: 1) the Jackson Creek volunteer trap, 2) the Priest Rapids Dam Off-Ladder Adult Fish Trap (OLAFT), located on the east side of the dam, and 3) the Hanford Reach Angler Broodstock Collection (ABC) program. The OLAFT's primary function is to conduct research for migrating adult salmon and steelhead; however, it is also being used to trap natural-origin brood stock for the hatchery.

The 2016 PRH fall Chinook collection at the volunteer trap consisted of 27,920 adults and 866 jacks (Appendix 1). Of these fish, 4,768 were kept for broodstock and held in three holding ponds and the season pond mortality was 832 (17.4%).

The 2016 PRH fall Chinook collection at the OLAFT and the Hanford Reach consisted of 773 adults. These fish were held in their own pond and the season mortality was 121 fish (15.7%).

Total egg take was 12,411,530 green eggs. A total of 7,295,413 eyed eggs were retained for all the PRH programs, including the 1.7M smolt on-site JDM production. A total of 3,834,144 eyed eggs were shipped to Bonneville Hatchery for the RSRF JDM program.

Table 1. Spawning Summary.

DATE SPAWNED	NUMBER OF EGGS TAKEN	NUMBER OF MALES	NUMBER OF FEMALES	NUMBER OF JACKS
10/24/16	672,854	93	180	0
10/25/16	572,641	80	164	0
10/31/16	2,637,024	362	717	0
11/1/16	2,439,926	349	723	0
11/2/16	1,122,063	162	320	0
11/7/16	2,727,291	194	771	0
11/8/16	764,878	111	213	0
11/14/16	1,150,499	158	307	0
11/21/16	261,459	33	66	0
11/28/16	42,428	6	11	0
12/5/16	20,467	4	6	0
TOTAL	**12,411,530**	**1552**	**3478**	**0**

NOTE: 77 non-viable females are included in table 1.

Rearing Summary

In addition to GCPUD hatchery production, 1,631,588 USACE - JDM fish were reared and released from the channel ponds May 23-June 19, 2017. They averaged 48.9 fish per pound (FPP), for a total of 33,366 pounds released. These fish were 100% adipose fin-clipped. In addition to this marking the total release group at PRH included 42,999 fish that were PIT-tagged by GCPUD and the USFWS prior to release.

The mortality from last year's records during the rearing period was 4.1%. For this season, the mortality reached 3.8%. Due to loss and inventory adjustments made during this period, PRH staff was not able to meet the USACE production goal of 1,700,000. WDFW's fish health unit performed a necropsy prior to release and found small traces of *Ichthyophthirius miltifiliis* (Ich). However, the overall diagnosis for the total population was healthy and ready for release. Recommendations were to monitor fish mortality and behavior and release fish on schedule.

Table 2. Production Summary

Fry Ponded

Total number of fry ponded	1,696,415
Total pounds of fry ponded	1,696 lbs.

Rearing to Fingerling Stage

Number of sub-yearling smolts released	1,631,588
Total pounds released	33,366
Percent survival from ponding to release	96.2
Average size(fish/lbs.)	48.9

Food Fed and Weight Gain

Total pounds of food fed	20,673
Conversion rate	0.5 to 0.7
Total pounds gained	31,670

Length Frequency Data (Average)

Mean (mm.)	89.32
Standard Deviation	5.5
Coefficient of Variation	6.18

Fish Health Summary

After PRH staff noticed a slight rise in mortality, a WDFW fish health specialist examined fish from raceways E2, E5, and D5 on February 24, 2017. Some of the fish were found to have *Flavobacterium sp.* A salt treatment was recommended for these raceways. However, mortality soon returned to normal, hence PRH staff opted to monitor fish and delay therapeutic

intervention.

On March 21, a WDFW fish health specialist examined fish from raceway B2 and found slight amounts of coagulated yolk, *Flavobacterium*, and *Costia*. Recommendations were to monitor loss and contact fish health if mortality elevated or did not begin to decline. Shortly after the fish health examination, mortality started to decline and returned to normal.

On June 6, a final fish health inspection was performed by a WDFW fish health specialist in channel ponds A, B, and C. At this time a mild infection of *Ichthyophthirius multifiliis* (Ich) was noted in A. The general observation was that the pre-smolt populations were in great condition. Recommendations were to release fish as scheduled unless mortality spiked. Mortality remained normal and fish were released as scheduled.

Release Summary

Fish releases occurred between May 23 and June 19, 2017. Table 3 provides data specific to rearing pond, dates, number of fish released, weight of the fish, and fish size. All fish released from PRH are volitionally released through the hatchery outlet channel (i.e. Jackson Creek).

Table 3. 2016 PRH Release Summary

POND	DATE	LOCATION	NUMBER	WEIGHT	FISH / LB.
RPE	5/23/17	Columbia R.	1,401,157	27,636	50.7
RPD	5/25/17	Columbia R	1,455,960	26,666	54.6
RPC	6/9/17	Columbia R.	1,450,785	32,529	44.6
RPB	6/12/17	Columbia R.	1,487,339	30,292	49.1
RPA	6/19/17	Columbia R.	1,211,019	26,499	45.7
	TOTALS		**7,006,260**	**143,622**	**48.9**

Note: This table includes releases for both the USACE's and GCPUD's programs.

Fish Culture Activities (RSRF)

Adult Trapping and Broodstock

Trapping of adult fall chinook was performed at the hatchery on a daily basis from mid-September through the mid-December, 2016. RSRF fish move volitionally through a picket weir (with a V-entrance) into Ringold Springs Creek where an upstream picket weir contains the adults. Weekly efforts (see appendix 1) to collect the adults consists of seining the fish to one corner of the trap and sorting them by gender into totes. Sampling of each fish is done by a crew checking for a coded wire tag and any visual marks. The fish are categorized as AD-ONLY, AD+CWT, CWT-ONLY and UM (unmarked). Scales and lengths were collected to be analyzed from every 20th fish to determine the age class and to determine average fork length for each age class. Initially the broodstock for the RSRF program was Bonneville Hatchery URB fall Chinook, but it was switched to Priest Rapids/Hanford Reach stock in 2008. This broodstock was selected because it had characteristics more desirable for the upper Columbia River and the Hanford Reach.

A total of 5,314 adults and 65 jacks were trapped in 2016. Fall chinook that return to the RSRF trap are normally surplused, meaning none of the returns are used as broodstock. In 2016 this changed as Oregon Dept. of Fish & Wildlife (ODFW) spawned chinook and collected 1,934,200 eggs to replace a shortfall at their other facilities. Mortalities was disposed of in the local landfill and the remainder were surplused.

Brood information relative to origin, fish size, and condition can be found in the 2016 M&E report.

Table 4. RSRF Trapping and Spawning Summary

Adults	Males	Females	Jacks
Spawn	498	509	8
Mortality	30	147	3
Carcass Distribution	2799	2338	62
Total	2829	2485	65

Rearing Summary

In May 2017, RSRF received an estimated 3,250,970 Priest Rapids-stock fall chinook fingerlings at an average 111 fpp from ODFW's Bonneville Hatchery. These fish were 100% adipose marked. The fish were distributed into the two earthen rearing ponds. The 9-acre pond received 1,895,423 and the 2.5-acre received 1,355,547. They were sampled often and a computerized growth projection program assisted in establishing the feeding rate. Fish releases occurred from the two ponds from June 13-19. An estimated 204,516 mortalities occurred during the rearing period based on survival rates from PIT-tag data collected during release. In-pond survival rates were estimated to be 97.4% for the 2.5-acre pond and 91.0% for the 9-acre pond.

RSRF staff expended a great deal of effort deterring avian predators on the 9-acre pond using propane cannons, an electric fence around the perimeter of the pond, and pyrotechnics fired from hand-held revolvers ("screamers" and bird "bangers"). Higher losses in the 9-acre pond are directly related to avian predation, not disease. The 9-acre has extensive monofilament line and flash ribbon installed to deter birds, but is not covered with netting like the new 2.5-acre pond.

Table 5. Production Summary

Fry Ponded

Total number of fingerlings ponded	3,250,970
Total pounds ponded	29,288 lbs.

Rearing to Smolt Stage

Number of sub-yearling smolts released	3,046,454
Total pounds of smolts released	62,046
Percent survival from ponding to release	93.7
Average size (fish/lbs.)	49.1

Food Fed and Weight Gain

Total pounds of food fed	28,512
Conversion rate	0.870 to 1
Total pounds of gain	32,758

Length Frequency Data (Average)

Mean (mm)	95
Standard Deviation	4.8
Coefficient of Variation	5.55

Fish Health Summary

On June 6, 2017 a WDFW fish health specialist examined 5 fish from the 2.5-acre and 5 fish from the 9-acre pond. No external parasites or lesions were found. Gills were normal without bacteria or parasites and internal organs were normal. The overall diagnosis of fish was that they were in great condition with adequate fat stores. It was recommended to release fish as planned.

Maintenance and Capital Projects

Work Performed by WDFW Maintenance Crew

1. Graded hatchery and access roads.
2. Replaced 18” water supply line for 9-acre rearing pond.
3. Reduced 5-acre rearing pond to 2.5-acres and extended water supply line to new pond.
4. Installed netting structure and netting around new 2.5-acre pond.

Work Performed by the RSRF Staff

1. Spread additional gravel around hatchery grounds.
2. In-stream work removing aquatic vegetation and silt in the primary spring water collection ditch along the county road.
3. Continued noxious weed spraying efforts.
4. Tractor disking of both dewatered earthen rearing ponds for disease and weed control.
5. Regular maintenance to earthen pond outlet structure drum screens and stop logs.
6. Additional monofilament and flash ribbon to the 9-acre rearing pond to reduce avian predation.

Work Performed by contract vendor

1. Dust abatement applied on county roads and hatchery roads by Envirotech Services INC.
2. Irrigation pump for resident #2 installed by ECS North West.

Summary

The hatchery operations during this reporting period should be considered typical for these facilities. The 2016 fall Chinook handled the release well. The extremely large earthen 9-acre pond at RSRF continues to be challenging to staff in preventing avian predation. We will continue normal fish culture practices to include frequent growth sampling and monitoring feed practices, adjusting as needed.

Budgets (PRH)

USACE JDM @ Priest Rapids Hatchery										
OPERATIONS AND MAINTENANCE BUDGET REQUEST										
July 1, 2016 through June 30, 2017										
25-May-16										
A. Salaries							**Direct**	**Indirect**	**Grand Total**	
		Regional Fish Program Manager		0.45 MM	Pos # 70069636	John Easterbrook	3,429	968		
		Complex Manager		3.21 MM	Pos # 70068842	Mikel Lewis	19,696	5,560		
		Hatchery Specialist 4		4.29 MM	Pos # 70068703	Glen Pearson	19,083	5,387		
		Maintenance Mechanic 2		4.29 MM	Pos # 71038876	Matt Phillips	17,754	5,012		
		Hatchery Specialist 3		4.29 MM	Pos # 70068705	Jakob Lee	16,288	4,598		
		Hatchery Specialist 2		4.29 MM	Pos # 70069141	Renee Shaw	13,902	3,924		
		Hatchery Specialist 2		4.29 MM	Pos # 70068709	Paul Goodmanso	12,978	3,664		
		Hatchery Technician		3.6 MM	Pos # 71034002	Christina	9,087	2,565		
		Hatchery Technician		3.6 MM	Pos # 71035319	David Thomas	9,087	2,565		
		Hatchery Technician		3.6 MM	Pos # 70068887	Nicholas Jenks	9,087	2,565		
		Fish Hatchery Technician (4)		5.7 MM	Pos #	Vacant	12,676	3,579		
		Overtime/Holiday Pay					8,930	2,521		
		Truck Driver Pay					964	272		
		Standby					2,643	746		
					Salaries SubTotal		**155,606**	**43,927**	**199,533**	
B. Benefits										
		Regional Fish Program Manager		0.45 MM	Pos # 70069636	John Easterbrook	1,058	299		
		Complex Manager		3.21 MM	Pos # 70068842	Mikel Lewis	6,674	1,884		
		Hatchery Specialist 4		4.29 MM	Pos # 70068703	Glen Pearson	7,998	2,258		
		Maintenance Mechanic 2		4.29 MM	Pos # 71038876	Matt Phillips	7,750	2,188		
		Hatchery Specialist 3		4.29 MM	Pos # 70068705	Jakob Lee	7,474	2,110		
		Hatchery Specialist 2		4.29 MM	Pos # 70069141	Renee Shaw	7,025	1,983		
		Hatchery Specialist 2		4.29 MM	Pos # 70068709	Paul Goodmanso	6,852	1,934		
		Hatchery Technician		3.6 MM	Pos # 71034002	Christina	5,383	1,520		
		Hatchery Technician		3.6 MM	Pos # 71035319	David Thomas	5,383	1,520		
		Hatchery Technician		3.6 MM	Pos # 70068887	Nicholas Jenks	5,383	1,520		
		Fish Hatchery Technician (4)		5.7 MM	Pos #	Vacant	3,153	890		
		Overtime/Holiday Pay					4,019	1,134		
		Truck Driver Pay					434	123		
		Standby					1,189	336		
					Benefits SubTotal		**69,775**	**19,698**	**89,473**	
E - Supplies and Materials										
	EA - Supplies and Materials						1,786	504		
		0003	Fish Food				45,579			
	EB - Communication/Telecommunications						786	222		
	EC - Utilities							0		
	EE - Repairs, Alterations, Maintenance						1,072	303		
	EF - Printing and Reproduction						143	40		
	EG - Employee Prof Dev & Training						196	55		
	EL - Data Processing Services (Interagency)						857	242		
	EN - Personnel Services						572	161		
	ER - Other Contractual Services						179	50		
			Marking				82,416	23,266		
			Pass-Thru				396,224	111,854		
			OLAFT/ABC					0		
			Otolith Recovery					0		
			Fish Health				5,297	1,495		
	ES - Vehicle Maintenance & Operating Costs						4,388	1,239		
	EZ - Other Goods and Services						1,429	403		
G - Travel								0		
	GA - In-State Subsistance & Lodging						357	101		
	GC - Private Automobile Mileage						0	0		
	GD - Other Travel Expenses						0	0		
	GF - Out-Of-State Subsistance and lodging						0	0		
	GN - Motor Pool Services						2,553	721		
J - Non-Capitalized Assets										
	JA - Non-Capitalized Assets						8,930			
		Fish Stunner					5,358			
		Egg Picker					1,786			
					E,G,J Subtotal		**559,907**	**140,657**	**700,564**	
K. Contract Services										
T. Overhead										
		28.23% of Total Excluding Fish Food & Capital Assets						204,282		
					GRAND TOTAL		**785,288**	**204,282**	**989,570**	

Figure 8. Priest Rapids Hatchery Operating Budget

Expenditures (PRH)

OFM

477 - Department of Fish and Wildlife

Expenditure Summary Flexible

Report Number: EXF02 **Date Run:** Aug 9, 2017 1:24PM

Biennium: 2017 **Fiscal Months:** Jul FY2 **Through:** Adj FY2 **Transactions Through:** Aug 8, 2017 8:00PM

By Object	Disbursements	Liquidations	Accruals	Encumbrances	Total
A - Salaries and Wages	138,032.65	0.00	0.00	0.00	138,032.65
B - Employee Benefits	62,094.85	0.00	0.00	0.00	62,094.85
E - Goods and Other Services	387,031.44	0.00	46,236.85	0.00	433,268.29
G - Travel	2,124.03	0.00	1,359.18	0.00	3,483.21
J - Capital Outlays	3,747.29	0.00	0.00	0.00	3,747.29
Total for Agency					
By Object	593,030.26	0.00	47,596.03	0.00	640,626.29

If accruals and liquidations are included on the same report, the amounts in the total column may be distorted.

Budgets (RSRF)

USACE JDM @ Ringold Springs
OPERATIONS AND MAINTENANCE BUDGET REQUEST
July 1, 2016 through June 30, 2017
25-May-16

					Direct	Indirect	Grand Total
A. Salaries							
	Regional Fish Program Manager						
	Complex Manager	0.80 MM	Pos # 70068842	Mikel Lewis	4,903	1,384	
	Hatchery Specialist 4	4.0 MM	Pos # 70069329	Mike Erickson	17,806	5,027	
	Maintenance Mechanic 2					0	
	Hatchery Specialist 3	4.0 MM	Pos # 70068706	Vacant	13,063	3,688	
	Hatchery Specialist 2	4.0 MM	Pos # 70068856	Bruce Ault	13,151	3,713	
	Hatchery Specialist 2	4.0 MM	Pos # 70068887	Nathen Roberts	9,551	2,696	
	Fish Hatchery Technician	3.0 MM	Pos #	Vacant	6,048	1,707	
	Overtime/Holiday Pay				830	234	
	Truck Driver Pay				0	0	
	Standby				2,453	692	
			Salaries SubTotal		**67,805**	**19,141**	**86,946**
B. Benefits							
	Regional Fish Program Manager						
	Complex Manager	0.80 MM	Pos # 70068842	Mikel Lewis	1,657	468	
	Hatchery Specialist 4	4.0 MM	Pos # 70069329	Mike Erickson	7,467	2,108	
	Maintenance Mechanic 2					0	
	Hatchery Specialist 3	4.0 MM	Pos # 70068706	Vacant	6,574	1,856	
	Hatchery Specialist 2	4.0 MM	Pos # 70068856	Bruce Ault	6,582	1,858	
	Hatchery Specialist 2	4.0 MM	Pos # 70068887	Nathen Roberts	5,915	1,670	
	Fish Hatchery Technician (4)	3.0 MM	Pos #	Vacant	3,396	959	
	Overtime/Holiday Pay				374	105	
	Truck Driver Pay				0	0	
	Standby				1,104	312	
			Salaries SubTotal		**33,068**	**9,335**	**42,404**
E - Supplies and Materials							
	EA - Supplies and Materials				3,800	1,073	
	0003	Fish Food			42,000		
	EB - Communication/Telecommunications				1,541	435	
	EC - Utilities				2,200	621	
	EE - Repairs, Alterations, Maintenance				901	254	
	EF - Printing and Reproduction				0	0	
	EG - Employee Prof Dev & Training				156	44	
	EL - Data Processing Services (Interagency)				373	105	
	EN - Personnel Services				256	72	
	ER - Other Contractual Services				60	17	
		Marking			0	0	
		Pass-Thru			-	0	
		OLAFT/ABC				0	
		Otolith Recovery				0	
		Fish Health			0	0	
	ES - Vehicle Maintenance & Operating Costs				770	217	
	EZ - Other Goods and Services				2,647	747	
G - Travel							
	GA - In-State Subsistance & Lodging				0	0	
	GC - Private Automobile Mileage				0	0	
	GD - Other Travel Expenses				0	0	
	GF - Out-Of-State Subsistance and lodging				0	0	
	GN - Motor Pool Services				7,230	2,041	
J - Non-Capitalized Assets							
	JA - Non-Capitalized Assets						
			E,G,J Subtotal		**61,934**	**5,627**	**67,561**
K. Contract Services							
	Replace the 18" water supply line				**77,394**	22,607	
T. Overhead							
	28.23% of Total Excluding Fish Food & Capital Assets					56,711	
			GRAND TOTAL		**240,201**	**56,711**	**296,912**

Figure 9. Ringold Springs Operating Budget

Expenditures (RSRF)

OFM

477 - Department of Fish and Wildlife

Expenditure Summary Flexible

Report Number: EXF02
Biennium: 2017

Fiscal Months: Jul FY2 **Through:** Adj FY2

Date Run: Aug 4, 2017 12:33PM
Transactions Through: Aug 3, 2017 8:00PM

By Object	Disbursements	Liquidations	Accruals	Encumbrances	Total
A - Salaries and Wages	64,432.53	0.00	0.00	0.00	64,432.53
B - Employee Benefits	29,718.81	0.00	0.00	0.00	29,718.81
E - Goods and Other Services	119,718.90	0.00	2,437.40	0.00	122,156.30
G - Travel	5,299.53	0.00	1,348.16	0.00	6,647.69
J - Capital Outlays	5,877.96	0.00	33.23	0.00	5,911.19
T - Intra-Agency Reimbursements	244.85	0.00	0.00	0.00	244.85
Total for Agency					
By Object	225,292.58	0.00	3,818.79	0.00	229,111.37

If accruals and liquidations are included on the same report, the amounts in the total column may be distorted.

Appendix 1: Weekly Escapement Estimates

Table 6. Escapement Estimates for Priest Rapids Hatchery Fall Chinook

Stock ID	Date of Report	Lethal Spawned	Adults Shipped	Mortality	On Hand	Jack Total	Comments
Priest Rapids(H)	9/12/16-9/18/16	0	573	6	86	39	First report for season
Priest Rapids(U)	9/12/16-9/18/16	0	0	1	65	0	
Priest Rapids(H)	9/19/16-9/25/16	0	1306	4	277	61	
Priest Rapids(U)	9/19/16-9/25/16	0	0	0	170	0	
Priest Rapids(H)	9/26/16-10/2/16	0	1527	2	579	77	
Priest Rapids(U)	9/26/16-10/2/16	0	0	0	370	0	
Priest Rapids(H)	10/3/16-10/9/16	0	1753	9	1550	76	
Priest Rapids(U)	10/3/16-10/9/16	0	0	2	408	0	
Priest Rapids(H)	10/10/16-10/16/16	0	2568	71	4686	140	
Priest Rapids(U)	10/10/16-10/16/16	0	0	0	444	0	
Priest Rapids(H)	10/17/16-10/23/16	0	3800	65	5808	119	
Priest Rapids(U)	10/17/16-10/23/16	0	0	1	448	0	
Priest Rapids(H)	10/24/16-10/30/16	517	7284	118	4784	170	
Priest Rapids(U)	10/24/16-10/30/16	0	0	1	732	0	
Priest Rapids(H)	10/31/16-11/6/16	2556	1911	128	2590	103	
Priest Rapids(U)	10/31/16-11/6/16	77	7	19	658	0	Shipped fish were spawned out or had hatchery clip
Priest Rapids(H)	11/7/16-11/13/16	967	1529	222	662	75	
Priest Rapids(U)	11/7/16-11/13/16	324	17	30	289	0	Shipped fish were males found to be hatchery fish
Priest Rapids(H)	11/14/16-11/20/16	317	308	197	152	19	
Priest Rapids(U)	11/14/16-11/20/16	148	0	41	100	0	
Priest Rapids(H)	11/21/16-11/27/16	43	64	67	46	4	
Priest Rapids(U)	11/21/16-11/27/16	56	0	18	26	0	
Priest Rapids(H)	1128/16-12/4/16	10	0	22	14	0	
Priest Rapids(U)	11/28/16-12/4/16	17	0	6	3	0	
Priest Rapids(H)	12/5/16-12/12/16	0	4	2	0	0	
Priest Rapids(U)	12/5/16-12/12/16	0	0	3	0	0	Final in season estimate

Table 7. Escapement Estimates for Ringold Springs Rearing Facility Fall Chinook

Stock_ID	Date of report	Lethal Spawned	Adults Shipped	Mortality	On hand	Jack total	Comments
Priest Rapids	9/26/16-10/2/16	0	459	0	0	10	First report of the season.
Priest Rapids	10/3/16-10/9/16	0	850	0	0	12	
Priest Rapids	10/10/16-10/16/16	0	1271	0	0	16	
Priest Rapids	10/24/16-10/30/16	0	1269	0	0	9	
Priest Rapids	10/31/16-11/6/16	580	690	7	0	4	First spawn for ODFW
Priest Rapids	11/7/16-11/13/16	303	354	59	0	5	
Priest Rapids	11/14/16-11/20/16	132	142	77	0	8	Last spawn for ODFW
Priest Rapids	11/22/16-12/4/16	0	99	37	0	1	Final in-season estimate
Priest Rapids	12/5/16-12/11/16	0	0	0	0	0	
Priest Rapids	12/12/16-12/18/16	0	0	0	0	0	
Priest Rapids	12/19/16-12/25/16	0	0	0	0	0	
Priest Rapids	12/26/16-1/1/17	0	0	0	0	0	