

**WASHINGTON DEPARTMENT OF FISH & WILDLIFE
LYONS FERRY COMPLEX**

**2012-13 Annual Performance Report
to**

**Lower Snake River Fish and
Wildlife Compensation Plan**

December 2013



Prepared by:
Washington Department of Fish and Wildlife
Lyons Ferry Complex Staff

Fish Health by
Steve Roberts

Table of Contents

BACKGROUND..... 3

PROJECTS 4

I. Lyons Ferry Complex Administration..... 5

II. Lyons Ferry Fish Health..... 7

 Broodstock viral testing in 2012-2013.....8

 BKD-ELISA testing of female chinook broodstocks at Lyons Ferry Hatchery in 2012. 9

 2012-2013 Fish Health Review – Major Fish Health Problems..... 10

III. Lyons Ferry and Tucannon Hatcheries..... 10

IV. 2012-2013 PERSONNEL/PURCHASES/MAINTENANCE..... 12

 LYONS FERRY HATCHERY..... 12

 TUCANNON FISH HATCHERY 13

V. Lyons Ferry Complex 2012-2013 Production Summary 15

 2012-2013 production footnotes: 16

BACKGROUND

The Lower Snake River Fish and Wildlife Compensation Plan (LSRCP), was approved by the Water Resources Development Act of 1976, PL 94-587, Section 102. The LSRCP was prepared and submitted in compliance with the Fish and Wildlife Coordination Act of 1958, PL 85-624, to mitigate for the losses of fish and wildlife caused by construction and operation of the four dams and locks on the lower Snake River.

The Secretary of the Army, acting through the Chief of Engineers, was authorized to implement the LSRCP and to construct Lyons Ferry and Tucannon Fish Hatcheries, Dayton Pond, Curl Lake and Cottonwood Satellite Facilities. Upon completion the Secretary of the Army was authorized to turn ownership of these hatcheries and satellite facilities over to the U.S. Fish and Wildlife Service.

This Cooperative Agreement is established to facilitate the cooperation of the U.S. Fish and Wildlife Service and Washington Department of Fish and Wildlife in accomplishing the purposes and objectives of the LSRCP, primarily within the state of Washington. It provides for specified interchange of services, personnel, equipment, facilities and funds in order to accomplish LSRCP objectives through operation and maintenance of the hatcheries and satellite facilities.

WDFW will operate and maintain the aforementioned fish facilities with the goal of rearing sufficient numbers of fish to return 18,300 fall Chinook, 1,152 spring Chinook and 4,656 steelhead adults back to the Snake River basin and rear 86,000/lbs. of catchable trout to compensate for lost angler opportunities in the lower Snake River project.

PROJECTS

This report summary includes four (4) projects that were funded under the agreement by LSRCP and WDFW for the period October 1, 2012 to September 30, 2013. For the purpose of reviewing overall fish production goals and achievements, this report includes the Lyons Ferry and Tucannon Hatchery projects as one deliverable. Interaction between WDFW, LSRCP and the co-managers in the Snake River Basin provided the policy and guidelines for production and operations. Individual budgeted projects were as follows:

Lyons Ferry Complex Administration

Lyons Ferry Fish Health

Lyons Ferry Fish Hatchery

Tucannon Fish Hatchery

I. Lyons Ferry Complex Administration

Objective 1: Supervise, manage policy and administratively oversee operations, while cultivating a safe and productive work environment at the Lyons Ferry Hatchery, the Tucannon Hatchery, the Cottonwood Satellite Facility, the Dayton Pond Satellite Facility and the Curl Lake Satellite Facility.

Deliverable: *Safety compliance and work productivity emphasized. Oversight on USFWS Safety and Environmental Audits during FFY-12. Operational issues were addressed relative to multiple electrical failures and subsequent repairs. Subsequent corrections have been completed in FFY-13 and will continue in FFY-14.*

Objective 2: Oversee facility operations with the goal of rearing sufficient numbers of fish to return 18,300 fall Chinook, 1,152 spring Chinook and 4,656 steelhead adults back to the Snake River basin and rear 86,000/lbs. of catchable trout to compensate for lost angler opportunities in the lower Snake River project.

Deliverable: *Adult collection goals were achieved to meet the production objectives of all stocks and species. See the 2012-13 Lyons Ferry Complex Production Summary in Section V.*

Objective 3: Maintain all appropriate permits necessary for operations, including any and all ESA related items.

Deliverable: *All appropriate permits were renewed for operational compliance, including: Public Water Source through Dept. of Health; NPDES for Cottonwood AF, Lyons Ferry and Tucannon Hatcheries; U.S. Army Corps access approval for adult collection at Lower Granite Dam; NOAA extension on Section 10 permit #1530 for collection of hatchery broodstock at LGR.*

Objective 4: Ensure and oversee appropriate maintenance of all facilities and equipment.

Deliverable: *Maintenance of all facilities and equipment performed per the objective. See Section IV, 2012-2013 PERSONNEL/PURCHASES/MAINTENANCE, for a review of all activities.*

Objective 5: Manage policy and procedures to meet annual adult fish escapement and juvenile fish rearing goals, as described in a NOAA Fisheries approved HGMP.

Deliverable: *All policy and procedures implemented in meeting adult fish escapement and juvenile fish rearing goals, including: second year discontinuation of aquamycin treatment on yearling fall Chinook released on-station at LFH; Implementation of adult trapping protocols, as provided by Fish management and RM&E relative to origins and run timing.*

Objective 6: Oversee and ensure the development of an Annual Operations Plan for LSRCP facilities and production in Washington.

Deliverable: *The 2013-14 AOP was developed. Assistance provided by all of the co-managers during the AOP draft meeting which occurred on September 5 & 6 2013 in Dayton, WA.*

Objective 7: Oversee the fish marking program at all LSRCP facilities in Washington.

Deliverable: All marking and tagging events were coordinated by hatchery staff leads (HS-3's), with guidance from the complex manager and HS-4's. The spring and summer tag orders were submitted by complex manager and RM&E staff to the LSRCP for purchase discount and timely delivery. Marking and tagging was performed by WDFW M&T Unit, utilizing the automated trailer for the majority of the marking and tagging events.

Objective 8: Schedule all fish transportation associated with the LSRCP program in Washington.

Deliverable: All transportation events were coordinated by hatchery staff leads (HS-3's), with guidance from the complex manager and HS-4's. WDFW Construction and Maintenance assisted in fish hauls to Captain John Rapids (fall Chinook yearlings), Cottonwood AF (Wallowa steelhead), Pittsburgh Landing (fall Chinook yearlings) and Walla Walla River (LF-steelhead direct release). All other fish hauls performed by LFH and TFH staff, including adult hauls (w/exception of Touchet steelhead adults, as hauled by RM&E staff).

Objective 9: Maintain real property and personal property inventories for all facilities and equipment.

Deliverable: Successfully completed. All items were accounted for.

II. Lyons Ferry Fish Health

WDFW's Lyons Ferry complex fish health mission is to ensure and protect the health and productivity of fish cultured at Lyons Ferry (LF) complex facilities. All fish production at LF complex is conducted according to the Washington Co-managers Salmonid Disease Control Policy. The Lyons Ferry complex fish health program is staffed locally with a Fish Health Specialist. The WDFW Olympia fish health lab performs virology, bacteriology and parasitology testing on samples submitted.

Objective 1: The Fish Health Specialist will visit the Lyons Ferry Hatchery and the Tucannon Hatchery once a month to monitor fish health. During each visit, fish will be inspected and production and mortality records will be reviewed.

Deliverable: The fish health specialist visited Lyons Ferry and Tucannon at least monthly during the past year. During the visit, fish were inspected and mortality records were reviewed.

Objective 2: Respond to all fish disease outbreaks at all Lyons Ferry Complex facilities to diagnose problem and recommend treatment as needed. The Fish Health Specialist will direct the use of drugs and chemicals in a safe, effective and legal manner. The Fish Health Specialist will also monitor the use of any new drug treatments at Lyons Ferry Complex facilities under the USFWS – Aquatic Animal Drug Approval Partnership.

Deliverable: In some case, fish disease problems required treatment. The fish health specialist diagnosed the problem and recommended treatments at that time. Erythromycin was administered under Investigational New Animal Drug (INAD) permit.

Objective 3: All Chinook and steelhead broodstocks will be tested for viral pathogens. Ovarian fluid and kidney/spleen samples from each stock will be tested for the viral pathogens at a minimum of the 5% assumed pathogen prevalence level.

Deliverable: All broodstocks were sampled for viral pathogens as shown in table 1. Infectious hematopoietic necrosis virus was detected in the Wallowa stock summer steelhead. Eggs from IHN virus positive females were destroyed.

Table 1. Broodstock viral testing in 2012 – 2013.

Location	Date	Species-Stock	No. OF	No. KS	Results	% Positive
Lyons Ferry	08-28 to 09-18-12	CHS-Tucannon River	60	60	Negative	0
Lyons Ferry	11-13-12	CHF-Snake River	60	60	Negative	0
Cottonwood Pond	03-19 to 04-02-13	SS-Wallowa	144	60	IHNv	2.7
Lyons Ferry	03-18 to 04-1-13	SS-Touchet River	10	10	Negative	0
Lyons Ferry	03-25 to 04-16-13	SS-Tucannon River	25	25	Negative	0

OF = ovarian fluid, KS = kidney/spleen

Objective 4: All Chinook stocks will be tested for bacterial kidney disease with ELISA assay.

Deliverable:

For the Tucannon spring Chinook, BKD prevalence was low with 98.9% Below-Low (see table 2). No segregation or destruction efforts were employed with the Tucannon spring Chinook.

For the Snake River fall Chinook, BKD prevalence was low with 99.6% Below-Low females (see following table). Progeny of Below-Low BKD females were selected for the yearling programs. Progeny of Below-Low and Low BKD females were selected for shipment to IDFG and ODFW. Progeny of all other females were utilized in the sub-yearling programs.

Table 2. BKD-ELISA testing of female chinook broodstock at Lyons Ferry Hatchery in 2012.

Species-Stock	No. Tested	Below Low		Low		Mod		High	
		No	%	No	%	No	%	No	%
CHF - Snake R.	728*	725	99.6%	3	0.4%	0	0%	0	0%
CHS - Tucannon R.	95	94	98.9%	1	1.1%	0	0%	0	0%

Below-Low = < 0.10, Low = 0.11 - 0.199, Mod = 0.2 - 0.45, High= > 0.45

*125 fish tested by ODFW

Objective 5: The Fish Health Specialist will recommend specific health management tools and strategies for all spawning and production at Lyons Ferry Complex facilities.

Deliverable: *Specific fish health management strategies were employed with bacterial gill disease (BGD), bacterial kidney disease (BKD) and infectious hematopoietic necrosis (IHN). With BGD in sub-yearling fall chinook, low rearing densities were followed. BKD preventive measures for spring chinook included erythromycin injection of female broodfish, low rearing densities and a single feeding of erythromycin medicated rations. BKD preventive measures for fall chinook included screening and segregation of progeny and low rearing densities. With IHN in steelhead, female broodfish were screened and segregation and/or destruction of progeny of IHN positive females were employed.*

Objective 6: The Fish Health Specialist will be consulted during all fish production planning.

Deliverable: *The fish health specialist was involved in fish production planning include annual operating plan development.*

Objective 7: The Fish Health Specialist will communicate and coordinate with co-managers and cooperators concerning issues of fish disease control and prevention at the Lyons Ferry Complex and facilities receiving fish from the Lyons Ferry Complex.

Deliverable: *Any major fish health problems at Lyons Ferry complex are communicated to co-managers and cooperators. One avenue of communication is the semi-annual Pacific Northwest Fish Health Protection Committee meetings.*

Objective 8: The Fish Health Specialist will maintain an appropriate database pertaining to all fish health visits for disease identification and treatment, pre-liberation examinations, and broodstock testing. This data log should be readily available at the Lyons Ferry Complex.

Deliverable: *The fish health specialist maintains databases with fish health inspection, broodstock viral test, Chinook broodstock BKD-ELISA test and Myxobolus cerebralis (whirling disease parasite) tests.*

Objective 9: The Fish Health Specialist will write the fish health section of the Lyons Ferry Complex annual performance report.

Deliverable:

2012-2013 Fish Health Review – Major Fish Health Problems

The fish health problems at Lyons Ferry and Tucannon hatcheries were:

Bacterial Coldwater Disease (BCWD) was observed in Spokane stock rainbow trout at Lyons Ferry and Tucannon hatcheries and in Wallowa and Tucannon stock steelhead at Lyons Ferry Hatchery. All fish were successfully treated with Aquaflor (florfenicol) medicated feed.

Chronic low level mortality due to bacterial kidney disease was observed in January 2013 in Tucannon spring chinook yearlings at Tucannon Hatchery. No treatment was administered and the fish were successfully transferred to the acclimation pond and released as scheduled.

III. Lyons Ferry and Tucannon Hatcheries

WDFW will operate and maintain the Lyons Ferry and Tucannon Hatcheries and the associated Satellite Facilities as part of the Lower Snake River Compensation Plan.

Objective 1: Proposed spawning, fish marking, and fish production at Lyons Ferry Complex facilities for FY2012-13 is presented in Section V. WDFW staff will operate these facilities to meet the goals listed in the Production Summary Table.

Deliverable: *Completed. See the 2012-13 Production Summary table in Section 5 for actual broodstock collection, egg takes, rearing and release numbers.*

Objective 2: WDFW staff will maintain all Lyons Ferry Complex facilities and equipment in a safe and operable condition.

Deliverable: Successfully completed.

Objective 3: WDFW staff will directly schedule and oversee all fish marking at Lyons Ferry Complex facilities.

Deliverable: Successfully completed.

Objective 4: WDFW staff will directly schedule and oversee all transportation of fish reared at the Lyons Ferry Complex for liberation or transfer.

Deliverable: Successfully completed.

Objective 5: WDFW staff will participate in the development of an Annual Operations Plan for LSRCP programs at the Lyons Ferry Complex.

Deliverable: Completed and implemented. New procedures were approved by co-manager agreement for this AOP cycle.

Objective 6: WDFW staff will maintain in detail, all data associated with each fish production program at the Lyons Ferry Complex. This data shall be readily accessible at the Lyons Ferry Complex.

Deliverable: Successfully completed. All fish production information was entered into the WDFW database, Fish Books. Production reports were submitted to LSRCP by the monthly deadlines.

IV. 2012-2013 PERSONNEL/PURCHASES/MAINTENANCE

LYONS FERRY HATCHERY

PERSONNEL:

1. Colin Mathieson accepted a transfer to Kalama Falls Hatchery.
2. Dan Pounds and Tim Kuzan were hired into the vacant FHS2 positions.

SIGNIFICANT PURCHASES:

1. Caterpillar tractor.
2. Aqua-Life Bio Stream 4" fish pump.
3. Garage doors for north side shop and south side feed room.
4. Replaced 2 sets of truck tires.
5. Replaced 5,000 gal. fish tanker tires.
6. Replaced some south side raceway alarms.
7. Repaired Marmes pump #9.
8. Valve actuators for the 3 steelhead adult ponds and the north side incubation room.
9. Hotsy hot water/steam cleaner.
10. Aquis 20E for use at Lower Granite Dam fish sorter.
11. Honda generators for use at residences.

PROJECTS:

1. Replacement of the last remaining distribution tower Koch rings. Good to go for 6 years.
2. Finished the rebuild of the 5,000 gal. fish tanker oxygen system.
3. Cleaned out north side incubation room water line and valves – removal of iron and manganese.
4. Removed old chiller and turned building into equipment storage.
5. Built kiosk for fishing access parking lot.

HOUSING MAINTENANCE:

1. Replaced res #1 heat pump and serviced all others.
2. New garage door and opener for Res #2.
3. Rebuilt res #8 deck.

SIGNIFICANT EVENTS:

1. Continuation of the Marmes pump station electrical rebuild with the bid awarded to CTA Architects Engineers.
2. Finished the Lyons Ferry medium voltage electrical underground wire replacement with the bid awarded to Michels Power.
3. Loss of some rainbow trout due to the failure of the Marmes generators and water shortage up to 2 hours – twice in the same night. Problem solved.

TUCANNON FISH HATCHERY

PERSONNEL:

1. Scott Breslin successfully completed his FHS1 one year probation period and is now a Fish Hatchery Specialist 2
2. From October 1, 2012 through July 31, 2013, Doug Maxey was the acting Lyons Ferry Complex Manager, and continued to perform his Specialist 4 duties.
3. Doug Maxey and Scott Breslin attended the Annual Fish Culture Conference in Portland, OR.

SIGNIFICANT PURCHASES:

1. LSRCP replaced the 2004 Ford F450 4x4 that was giving us ongoing mechanical problems with a new Dodge 4500 4x4 cab & chassis. We were able to transfer the flatbed from the old cab & chassis to the new one with only a few minor modifications. This work was completed at Jetco Machine in Asotin, WA.
2. Sun shade material overhead of three round ponds. Last year we purchased enough material for the first three round ponds as a trial and felt the value to purchase material for the other remaining three.
3. Jensorter JM4 fish egg sorter / counter. This picker is same unit already in place at the Lyons Ferry Hatchery for consistency.
4. Pesticide delivery system mounted on a small utility trailer.
5. Updated backup domestic system pump & motor and in addition purchased a variable speed drive (VSD) controller.
6. Empire Insulation applied a 1 ½" of spray on insulation inside the feed room building. This building had no insulation prior to this application.

PROJECTS:

1. Updated facility core and key system.
2. Spring collection pump motor #2 was pulled and transported to Lewiston Electric to get checked out. Bearings and cleanup was all that needed to be addressed.
3. Klicker Enterprises applied a two coat sealer to the portion of the facility asphalt from residence #2 to the aeration tower. This addressed approximately half of the asphalt in need of seal coating.
4. Paint bird predation prevention steel pole structures.
5. Lyons Ferry maintenance staff upgraded Tucannon Hatchery fish pump power plant and tower. This was completed in October of 2013. They did a great job on the remodel.
6. Installed secondary "man door" exit in shop including "exit" emergency lighted signage. The past USFWS Safety inspection identified the need for a secondary exit in the back part of the shop.
7. Replaced rubber perimeter seal on intake brail floor.
8. Welded I-beam extension and tubing support system for intake trap exit water regulation.

HOUSING MAINTENANCE:

1. No significant housing maintenance was scheduled or needed during this period.

SIGNIFICANT EVENTS:

1. No significant events occurred during this period.

DAYTON ACCLIMATION FACILITY

1. Working with Yakima Screen Shop and screen manufacture to improve potential freezing and debris issues with screen operation.
2. Milled new tongue & groove dam boards for bypass section between hatchery and irrigators diversion bays.

COTTONWOOD ACCLIMATION FACILITY

1. Working with county road department to remove sediment from adjacent pond drainage ditch that fills in annually.
2. Paint skirting below bunk house.

CURL ACCLIMATION POND

1. 61 TONS of $\frac{3}{4}$ inch minus gravel was delivered and spread around the perimeter of the pond onto the access road (two truck & trailer loads).

V. Lyons Ferry Complex 2012-2013 Production Summary

Stock / Species	Brood Year	Brood Stock Collection	Egg Take	Transfer / Release	Size (fpp)	lbs.	Marks/CWT/Elastomer	PIT Tags
Tucannon Spring Chinook	2011 ¹	165	325,700	259,964	13.6	19,115	257,099 CWT	15,000
	2012 ¹	170	269,500	258,400	At TFH	At TFH	231,800 CWT	15,000
	GOALS	170	260,000	225,000	12	20,000	225k CWT	15,000
Snake River Fall Chinook ^b	2011	N/A	N/A	977,300	10 to 12	85,307	461,449 AdCWT 515,851 CWT	39,000
	2012 ²	3,033	4,396,750	1,819,200 1,480,000 994,000	50 to 75 Eyed Eggs At LFH	27,276 910 At LFH	720,751 AdCWT N/A 304,072 CWT	32,000 39,000
	GOALS	3,000	4,555,000	1,800,000 1,554,000 900,000	50 to 75 Eyed Eggs 10 to 12	26,667 1,036 82,500	700k AdCWT, 300k CWT ^b 400k AdCWT, 800k Ad ^b 435k AdCWT, 465k CWT	32,000 6,000 39,000
	Lyons Ferry Summer Steelhead	2012	1,650	603,823	146,358 84,946 100,975	4.3 4.1 4.3	34,037 20,718 23,483	125k Ad, 21k Ad-LV-CWT 64k Ad, 21k Ad-LV-CWT 80k Ad, 20k Ad-LV-CWT
GOALS			This Program Has been Discontinued					
Tucannon Summer Steelhead	2012	N/A	N/A	58,357	4.6	12,686	58,357 CWT	15,000
	2013	43	150,614	50,688 28,108 13,298	At LFH	At LFH	50,688 CWT Only 28,108 AD CWT 13,298 AD Only	7,500 7,500
	GOALS	40	120,000	100,000	4.5	22,222	50k CWT Only 25k Ad CWT 25K Ad Only	15,000
Touchet Summer Steelhead	2012	31	81,555	38,726	4.8	8,068	38,726 CWT Only	5,000
	2013	29	65,469	50,370	At LFH	At LFH	50,370 CWT Only	0
	GOALS	36	65,000	50,000	4.5	11,111	50k CWT Only	5,000

Lyons Ferry Complex 2012-2013 Production Summary cont.

Stock / Species	Brood Year	Brood Stock Collection	Egg Take	Transfer / Release	Size (fpp)	lbs.	Marks/CWT/ Elastomer	PIT Tags
Wallowa Summer Steelhead	2012	500	305,070	205,913	4.7	43,811	185k Ad, 22k Ad-LV-CWT	6,000
	2013	500	846,970	210,705 91,310 108,012 119,106	At LFH	At LFH	189k Ad, 21k Ad-LV-CWT 70k Ad, 21k Ad-LV-CWT 87k Ad, 21k Ad-LV-CWT 98k Ad, 21k Ad-LV-CWT	6,000 3,000 3,000 3,000
	GOALS	120	600,000	495,000	4.5	110,000	180k Ad, 20k Ad-LV-CWT 66k Ad, 20k Ad-LV-CWT 80k Ad, 20k Ad-LV-CWT 90k Ad, 20k Ad-LV-CWT	6,000
Spokane Rainbow	2011	N/A	N/A	103,312 4,163 ^f 101,870 18,475 ^c 1,725 ^d 1,266 ^e	2.28 0.62 2.4 2.5 1 0.85	45,396 6,707 41,095 7,390 1,725 1,519	None	None
	2012	N/A	N/A	107,450 4,200 ^f 77,900 7500 ^c 799 ^e 1295 ^d	On Hand On Hand On Hand 3 On Hand On Hand	On Hand On Hand On Hand 2,500 On Hand On Hand	None	None
	GOALS	N/A	278,000	197,500 17,600^c 1,650^d 1,000^e 4,000^f	2.5 to 3.0 3 1 0.67 0.67	77,033 5,867 1,650 1,500 6,000	None	None

^a Total Marks and PIT tags include all juveniles reared in the Snake River Basin for program release goals.

^b 1.0 million fall Chinook transferred/released by WDFW and co-managers are unmarked. Eyed egg transfers are marked at Irrigon and Oxbow.

^c Rainbow for IDFG are triploids.

^d Rainbow for Nez Perce tribe resident fish program.

^e Mitigation jumbo trout.

^f The Tri State Steelheaders fund 4,000 jumbo trout for the state program which is not included in total pounds reared for mitigation.

¹ Higher than anticipated fecundity.

² Lower than anticipated fecundity.

