

Oregon Department of Fish and Wildlife

Lookingglass Hatchery Monthly Progress Report

Reporting Month: **October 2009**
Author(s) : **Roger Elmore**

Fish Culture:

BY 2008 fingerlings were PIT tagged over a two week period. A total of 53,692 PIT tags were placed into each of the stocks as follows: Catherine Creek-20,955, Grande Ronde-2,487, Lookingglass-2,986, Lostine-6,392, and Imnaha-20,872. Lookingglass received 111,600 BY 2008 Lookingglass stock fingerlings back from Irrigon Hatchery. They had been sent to Irrigon last spring because of rearing space limitations at Lookingglass. After holding broodstock adults in adult holding ponds C and D, the ponds have been retrofitted to temporarily rear the Lookingglass fingerlings until release this coming spring.

Eyed egg shocking, machine picking, and enumerating of BY 2009 conventional eggs finished up in October. The amount of eggs and fry in incubation and the percent eye up for each conventional stock are: Lookingglass-99,378 and 97.8%, Catherine Creek-154,481 and 93.5%, Grande Ronde-221,618 and 86.8%, Imnaha- 475,730 and 92.7%, and Lostine- 244,976 and 93.3%. The total is 1,196,183 conventional eggs and fry. Rick Zollman and Rusty Eschler from the Nez Perce fisheries helped shock and pick Imnaha and Lostine eggs. A deep matrix egg incubator was provided to the hatchery from ARED Inc. to experiment with. The incubator is intended to be used in conjunction with moist air incubation technology as a place to hold eggs after they have eyed up in the moist air incubator. A total of 330 Grande Ronde conventional eggs were delivered to Wallowa Hatchery for the Safety Net Adult Program.

Scott Favrot, Chinook and Steelhead assistant Project Leader, experimented with implanting radios into 30 Catherine Creek stock juveniles. Another 30 were used as a control group. The experiment ended in October with Scott retrieving the radios. There were no mortalities during the experiment. Now the intent is to implant radios into wild CC parr and track where they overwinter in Catherine Creek.

Visual Implant Elastomer (VIE) marking is being given to the conventional Catherine Creek stock to be able to distinguish between conventional and captive adults returning to the weir.

The first two spawn groups of BY 2009 captive eyed eggs were received in October. A total of 50,779 eggs were received as follows: Catherine Creek-24,262, Grande Ronde-21,567, and Lostine-4,950.

Maintenance:

Several cattle drives were undertaken to round up and herd rogue cattle off the property. The cattle have been attracted to the green grass and shrubbery of the hatchery residences. Numerous calling cards were left behind. Oregon Department of Transportation inspected the culvert underneath the road in which Jarboe Creek flows

through. No structural defects or problems were detected. Oregon Trail Electric Coop trimmed tree limbs and cut down dead trees along the power line next to the entry road into the hatchery. Work was completed on the construction of a firewood storage shed for residence #2. Winterization of the Imnaha satellite facility has been finished and the acclimation pond is set up for acclimation next spring. Winterization of the hatchery facility is almost complete except for putting on studded snow tires.

NPDES Waste Discharge Permit Monitoring

After the detection of coliform bacteria in the domestic water supply in September, follow up sampling and testing indicated absence of coliform bacteria in the water supply. No further testing is required at this point. NPDES sampling was not performed in October.

Miscellaneous:

Quality Paving of Springville, Utah spent three days preparing areas around the hatchery and on the entry road repairing and laying asphalt. Union County Sheriffs' Department led a community service work crew which shoveled rock and gravel out of the fish ladder. A tour was given to 22 kids from Cove, Oregon. The water chillers were shut down with eggs and fry in incubation being held on UV treated creek water tempered with unchilled well water.

Personnel:

Roger Elmore and Tim Helwick attended a demonstration of moist air egg incubation at Irrigon Hatchery. Mike Herr attended Employee Rights and Responsibilities training. All staff members observed a mandatory furlough day on October 16 except Tim Helwick who worked that day. Diane Deal is preparing a presentation for the Northwest Fish Culture Conference.

Safety:

The monthly safety meeting was held October 27th with a follow up discussion on Nov. 2. The safety topic in conjunction with Fire Safety Month was a demonstration of how to operate the fire suppression system. One fire suppression station was chosen and the fire hoses were taken out and connected to the fire hydrant. Water at the hydrant was turned on to demonstrate how much water pressure is available. A follow up discussion was held regarding what procedures to take to winterize the system.

Fish Production and Distribution:

Fish in Raceways

Pond #	Species	Stock	Number of Fish	lbs of fish	F/lb	grams/Fish
1	CHS	CQ 201-08	73,147	1,977	37.0	12.3
2A	CHS	CQ 201-08	39,176	1,152	34.0	13.4
2B	CHS	CQ 201-F-08	35,149	1,134	31.0	14.6
3	CHS	LG 81-08	74,082	2,849	26.0	17.5
4	CHS	LG 81-08	80,753	2,991	27.0	16.8
C & D	CHS	LG 81-08	111,474	5,867	19.0	23.9
5	CHS	GQ 80-08	42,435	1,415	30.0	15.1
6	CHS	GQ 80-F-08	64,926	1,804	36.0	12.6
7	CHS	GQ 80-F-08	65,096	1,713	38.0	11.9
8	CHS	GQ 80-F-08	61,155	1,568	39.0	11.6
9	CHS	LQ 200-08	62,043	2,139	29.0	15.7
10	CHS	LQ 200-F-08	62,083	1,634	38.0	11.9
11	CHS	LQ 200-08	62,082	2,217	28.0	16.2
12	CHS	LQ 200-08	61,344	2,045	30.0	15.1
13	CHS	IM 29-08	66,930	2,479	27.0	16.8
14	CHS	IM 29-08	66,929	2,479	27.0	16.8
15	CHS	IM 29-08	67,225	2,401	28.0	16.2
16	CHS	IM 29-08	67,290	2,492	27.0	16.8
17	CHS	IM 29-08	67,106	2,237	30.0	15.1
18	CHS	IM 29-08	60,587	2,020	30.0	15.1
Totals/Average			1,291,012	44,612	29.0	15.7

Stock	# of Fish	Production Goal	% of Goal	Meeting Goal
CQ 201-08	112,323	130,000	113.4	YES
CQ 201-F-08	35,149			
LG 81-08	266,309	250,000	106.5	YES

GQ 80-08	42,435	250,000	93.4	NO
GQ 80-F-08	191,177			
LQ 200-08*	185,469	187,500	98.9	NO
LQ 200-F-08	62,083	62,500	99.3	NO
IM 29-08	396,067	360,000	110.0	YES

*66,820 released as parr

Fish Health

Fish pathology performed monthly sampling on October 26th. The first water sample since the UV system was started back up was taken this month. There was 99.7% reduction in total bacteria counts of post UV treated Lookingglass Creek water. The August/September Fish Health report is below.

II. LSRCP Fish Health Examinations

A. Lookingglass Hatchery

BY2008 ChS – We conducted monthly monitoring on August 12 and September 22 – see combined summary table below. All BY2008 fish tested for virus were negative and no BKD has been detected thus far with this brood year – some results are pending. In early September a white film appearance on some fish was reported. Upon examination of grab-sampled fish with this condition during the September monthly this was determined to be excessive mucus production. This condition was most pronounced, evaluated by pond-side, in raceways 1, 2A, 3, 4, 11 & 15. This could be a response to the lesions/wounds, anterior to the dorsal fin, reported at a higher prevalence earlier in the summer.

August/September Fish Health summary for BY2008 spring Chinook juveniles on hand at Lookingglass Hatchery

Stock #	Stock Name	Culture Results	Comments
201W08	Catherine Creek Conventional	8/20 aeromonad pseudomonad (APS) bacteria	9/20 examined in August/September combined had an open lesion anterior to dorsal fin
201F08	Catherine Creek Captive Brood progeny	2/13 APS, 3/13 internal fungus	3/13 examined in Aug/Sept combined had an open lesion anterior to the dorsal fin
80W08	Grande Ronde River Conventional	1/10 APS	5/10 examined in Aug/Sept combined had an open lesion anterior to the dorsal fin. <i>Ichthyophthirius multifiliis</i> (Ich) detected at low levels in August on 3/5 grab-sampled fish.
80F08	Grande Ronde River Captive Brood progeny	10/20 APS	6/20 examined in Aug/Sept combined had an open lesion anterior to the dorsal fin. Ich at low levels on 2/5 grab-sampled fish in August
8108	Lookingglass Creek	4/18 APS, 1/18 internal fungus 1/18 <i>Flavobacterium psychrophilum</i> (CWD bacteria) at a very low level	6/18 examined in Aug/Sept combined had an open lesion anterior to dorsal fin. Ich at low levels on one moribund fish in August
200W08	Lostine River Conventional	3/16 APS	Ich found at low levels on 4/10 fish examined for parasites in Aug/Sept combined
200F08	Lostine River Captive Brood	2/18 APS, 3/18 internal fungus	5/18 examined in Aug/Sept combined had an open lesion anterior to the

	progeny		dorsal fin
2908	Imnaha River	1/20 CWD (very low level), 4/20 APS	3/20 examined in Aug/Sept combined had an open lesion anterior to the dorsal fin. Ich at low levels on 3/4 moribund fish in August

Adult Spawner Examinations, Imnaha, Lostine River, Lookingglass Creek, Catherine Creek and Grande Ronde – Infectious hematopoietic necrosis virus (IHNV) was detected in all but the Lostine River stock. A high prevalence of IHNV was found in the Grande Ronde, Lookingglass Creek and Catherine Creek stocks.

See Lookingglass Hatchery Broodstock results summary table by stock (next page)

Lookingglass Hatchery Broodstock results summary table by stock

Stock	Number of females	Findings		Comment
		BKD ELISA	Cell Culture Virus Results- IHNV	
IM	109	#97 = 0.418 OD units others (N=107) ≤ 0.172 OD units	1/109 (0.9%) females positive for IHNV All six males tested were negative	Recommend culling eggs from females #97 and #109 (female #109 no sample)
LR	57	#15 = 0.545 OD units #3 = 0.264 OD units All others ≤ 0.184 OD units	No virus detected in 57 females and 6 males tested for the season	Recommended culling eggs from females #3 and #15
LG-CK	26	#20 = 0.251 OD units All others ≤ 0.181 OD units	17/26 (65.4%) females positive for IHNV* two males tested were negative	Recommended culling eggs from female #20 *final virus testing results are pending
CC	43	All ≤ 0.193 OD units	23/43 (53.5%) females positive for IHNV two males tested were negative	
GR	61	#43 = 0.295 OD units All others ≤ 0.187 OD units	40/61 (65.6%) females and 3/16 (18.8%) males positive for IHNV	-Recommended culling eggs from female #43 -Recommended only using eggs from females <0.100 OD units for the Captive Broodstock program

Adult Spring Chinook Mortality Examinations – See table below for mortalities examined in Aug/Sept.

Stock	Number Examined	Findings			Comment
		BKD ELISA	Systemic Bacteria ^a	External Fungus	
IM	10	All ≤ 0.132 OD units	7/10 (70%) of fish cultured for systemic bacteria had APS and 1/10 (10%) had a heavy level of <i>Aeromonas salmonicida</i>	2/10 (20%) had patches of external fungus, six had low-moderate levels of copepods on the gills	<i>Aeromonas salmonicida</i> (furunculosis bacteria) detected in one fish
LR	7	All ≤ 0.096 OD units	5/7 (71.4%) APS 2/7 (28.6%) <i>Yersinia ruckeri</i> (enteric redmouth)	2/7 (28.6%) had some external fungus 3 had low levels of copepods on the gills	Includes some recycled males
LG-CK	3	2.380 0.094 0.094	3/3 (100%) APS	1/3 had some external fungus and two had gill fungus	-One had gross signs of BKD -two had low levels of

CC	5	All \leq 0.131 OD units	4/5 (100%) APS	4/5 had some external fungus and two had gill fungus	copepods on the gills All had heavy levels of copepods on the gills
GR	5	All \leq 0.194 OD units	2/5 (40%) APS 1/5 (20%) <i>Y. ruckeri</i> 1/5 (20%) moderate level of mixed growth	1/5 had patches of fungus and low level gill fungus	Four had low-moderate levels of copepods on the gills

^a APS = aeromonad-pseudomonad bacteria.

- B. Imnaha Weir adult Chinook weir mortalities** - In August we sampled 20 weir mortalities. One of 20 (55%) had a BKD ELISA value of 1.722 OD units and all others were \leq 0.131 OD units. Ten of 19 (52.6%) tested for systemic bacteria had APS bacteria and 9/19 (47.4%) had moderate to heavy levels of mixed bacterial growth. Two of 20 (10%) had low levels of gill copepods and 4/20 (20%) had some external fungus.

Distribution:

Joe Krakker	Lower Snake, Boise
Chris Starr	Lower Snake, Boise
Scott Marshall	Lower Snake, Boise
Tammy Froscher	Lower Snake, Boise
Sam Onjukka	Pathology, LaGrande
Mary Hoverson	N. E. Region, LaGrande
Scott Patterson	N. E. Region, LaGrande
Kim Sines	N. E. Region, LaGrande
Bill Knox	N. E. Region, Enterprise
Joe Feldhaus	Research, La Grande
Rich Carmichael	Research, LaGrande
Pat Keniry	Research, LaGrande
Tim Hoffnagle	Research, LaGrande
Deb Eddy	Research, LaGrande
Steve Boe	C.T.U.I.R., LaGrande
Mike McLean	C.T.U.I.R., LaGrande
Carrie Crump	C.T.U.I.R., LaGrande
Laurie Hewitt	C.T.U.I.R., LaGrande
Gary James	C.T.U.I.R., Pendleton
Brian Zimmerman	C.T.U.I.R., Pendleton
Becky Johnson	Nez Perce, Enterprise
Jim Harbeck	Nez Perce, Enterprise
Rick Zollman	Nez Perce, Enterprise
Peter Cleary	Nez Perce, Enterprise
Rusty Eschler	Nez Perce, Enterprise
Mary Edwards	Nez Perce, Enterprise
Cameron Albee	Nez Perce, Enterprise
Mike Gribble	Irrigon Hatchery
Marla Chaney	Bonneville Hatchery
Guy Chilton	ODFW, Salem HQ
Muhammad Latif	ODFW, Salem HQ
Roger Elmore	Lookingglass Hatchery
Diane Deal	Lookingglass Hatchery