

LOOKINGGLASS FISH HATCHERY ANNUAL REPORT FY2010

INTRODUCTION

Location

Lookingglass Fish Hatchery is located on Lookingglass Creek 2.2 miles upstream from its confluence with the Grande Ronde River near the small community of Palmer Junction. The Grande Ronde flows another 85 miles before entering the Snake River at Heller Bar. The Imnaha satellite facility is located at river mile 46 on the Imnaha River, a tributary to the Snake River as well, and is used as a smolt acclimation and release site in the spring and for adult trapping in the summer.

OBJECTIVES

Program Goals

Lookingglass Fish Hatchery is part of the Lower Snake River Compensation Program (LSRCP) and has been in operation since 1982. Long term goals of 5,720 fish in the Grande Ronde sub-basin is to mitigate for fish losses occurring as a result of the construction and operation of the four Lower Snake River Dams. Short term goals are recovery, delisting, and utilizing captive broodstock technology and conventional supplementation to prevent the extinction of three wild Chinook populations namely the Upper Grande Ronde River stock, Catherine Creek stock, and Lostine stock. Also, reintroduction of spring/summer Chinook into Lookingglass Creek using Catherine Creek stock is a goal of the program. In the Imnaha River system, the program mitigation goal is to return 3,210 hatchery adults to the area above Ice Harbor Dam. In addition, program goals include restoring and maintaining the natural spawning population, reestablishing sport and tribal fisheries, and minimizing the impacts of the program on resident stocks of fish.

CHINOOK

Trapping and Adult Returns

The adult trap on Lookingglass Creek was put into operation on March 1, 2010 primarily to trap adult steelhead returning at this time of year. Wild steelhead are enumerated and then released upstream of the weir to spawn naturally and hatchery origin steelhead are removed. A total of 332 unmarked steelhead were trapped and released with 12 unmarked fish being re-captured. There were 23 ad-clipped steelhead trapped with 9 being re-captured. The first Chinook was trapped on May 14. A total of 899 fish were trapped consisting of 657 Lookingglass stock fish, 195 Catherine Creek stock fish, and 47 Grande Ronde stock fish. The Catherine Creek fish were surplus fish trapped at the Catherine Creek weir and trap, uniquely marked, and brought to Lookingglass Creek and outplanted to enhance the tribal fishery. The Grande Ronde stock fish were fish that swam into the Lookingglass trap and identified by their intact adipose fin and CWT mark. Lookingglass Creek stock fish trapped consisted of 255 males, 266 females, and 136 jacks. On July 6 and 7, 2010, the Confederated Tribes of the Umatilla (CTUIR) along with ODFW personnel released a portion of trapped fish above the weir to spawn naturally. Released were 224 fish consisting of 71 males, 140 females, and 13 jacks. The trap was in continuous operation until September 10, 2010.

The weir at the Imnaha Satellite Facility was installed on July 6 and in operation until September 8, 2010. A total of 2,155 fish were trapped consisting of 892 males, 963 females, and 300 jacks. There were 99 males, 110 females, and 42 jacks used for broodstock purposes with 4 pre-spawning mortalities. Fish that were excess to broodstock needs were distributed to the Nez Perce Tribe for ceremonial and subsistence use, to charitable food banks, re-cycled through the fishery, out planted, released above and below the weir, and taken to Wallowa Fish Hatchery for M & E purposes. A total of 172 fish were distributed to the Nez Perce Tribe, 551 to food banks, 97 re-cycled through the fishery, 280 out planted into Big Sheep Creek and Lick Creek tributaries to the Imnaha River, 424 released above the weir, 49 released below the weir, and 289 taken to Wallowa Hatchery for recovery of CWT for M & E. Also, there were 16 trap mortalities and 4 fish killed and not used.

Located on the Upper Grande Ronde River and Catherine Creek, weirs and traps are operated by the Confederated Tribes of the Umatilla (CTUIR). A portion of returning adults trapped are transported to Lookingglass and held for spawning. Lookingglass Hatchery received a total of 153 fish from the Upper Grande Ronde facility. There were 68 males, 82 females, and 3 jacks. In addition, 24 males, 24 females, and 2 jacks swam into the Lookingglass trap and were identified as Grande Ronde fish due to unique marks placed on the fish. Lookingglass received 40 males, 44 females, and 3 jacks from the Catherine Creek weir and trap.

Located on the Lostine River, a weir and trap is operated by the Nez Perce Tribe. A portion of returning adults trapped are transported to Lookingglass and held for spawning. A total of 59 males, 89 females, and 6 jacks were brought to Lookingglass Hatchery. Seven females were subsequently returned to the Lostine River.

Spawning and Egg Production

All conventional broodstock of the various stocks of fish were spawned at Lookingglass and all fertilized eggs were incubated at Lookingglass. There were 30 Lookingglass stock females' eggs incubated in a Moist Air Incubation unit as part of an experiment to determine the feasibility of incubating all eggs in the future using Moist Air Incubation units. The experiment using the 30 females turned out well as the eggs eyed up at 93%. It is anticipated that all resulting fry will be reared at Lookingglass Hatchery with the exception of approximately 250,000 Lookingglass stock fry being sent to Irrigon Hatchery in the spring of 2011. This group of fish will be reared at Irrigon until September of 2011 and then returned to Lookingglass for rearing until release in the spring of 2012. The final rearing at Lookingglass will take place in the adult holding ponds which have been modified to hold fish at 20-30 fish per pound.

Egg production from 2010 spawning efforts, number of females spawned, percent eye up, green and eyed egg numbers, and fecundities for the various stocks is as follows:

There were 110 Imnaha stock females spawned yielding 518,403 green eggs resulting in 475,232 eyed eggs for an eye up of 91.7%. Average fecundity was 4,756.

A total of 76 Lostine females were spawned yielding 331,956 green eggs resulting in 309,266 eyed eggs for an eye up of 93.2%. Average fecundity was 4,368.

A total of 75 Lookingglass females were spawned yielding 300,100 green eggs resulting in 260,562 eyed eggs for an eye up of 86.8%. Average fecundity was 4,002.

A total of 42 Catherine Creek females were spawned yielding 176,409 green eggs resulting in 161,562 eyed eggs for an eye up of 91.6%. Average fecundity was 4,200.

A total of 82 Grande Ronde females were spawned yielding 318,955 green eggs resulting in 297,738 eyed eggs for an eye up of 93.3%. Average fecundity was 3,890.

Total conventional egg take was 1,645,823 green eggs yielding 1,504,360 eyed eggs.

Captive Broodstock Chinook Program

A separate annual report covers the details for operation of this program. However, a total of 286,034 smolts were released in 2010 from this program including; 61,147 Lostine River stock into the Lostine River, 34,215 Catherine Creek stock into Catherine Creek, and 190,531 Grande Ronde stock into the Grande Ronde River. An additional 12,654 Lostine River stock parr were released in June 2009 into the Lostine River.

Miscellaneous

Coded Wire Tagging was completed on the BY 2009 Imnaha, Lostine, Catherine Creek, Lookingglass, and Upper Grande Ronde River stocks of Chinook in September, 2010. A total of 254,150 fish received a CWT only, 493,519 were CWT and ad-clipped, and 73,118 were ad-clipped only. There were 58,662 Catherine Creek conventional fish that received a visual implant tag (VIE).

PIT-tagging was completed on the BY 2009 Imnaha, Lostine, Catherine Creek, Lookingglass, and Upper Grande Ronde River stocks of Chinook during October, 2010. A total of 47,925 fish received PIT tags.

CONSTRUCTION AND MAINTENANCE

MAINTENANCE PROJECTS ACCOMPLISHED BY ODFW PERSONNEL

- Serviced and repaired vehicles and equipment.
- Placed cyclone fence screen covers over the fish ladders at Imnaha and Lookingglass
- Install new hot water heater in hatchery building
- Install windshield on Kawasaki mule
- Remove freezer air compressors and de-commission, move air compressors out of spawn room and move air compressor from wood shop into fish feed room
- Adapted fish transport slip tank to accommodate an additional oxygen bottle
- Repaired various snow removal equipment

- Remove 9 heath style egg incubation stacks and plumb in additional two Canadian troughs for early rearing
- Build wood storage rack
- Build steps for accessing adult holding ponds and raceways
- Continued a re-cycling program re-cycling computer paper, catalogs, plastic bottles, cardboard, aluminum, and tin cans
- Add running boards to pick up truck
- Construct keyways to place dam boards in at intake to increase depth of water pool
- Repaired leaking water line and valve to shower inside Imnaha cabin
- Excavated and repaired the main water line clean out valve

MAINTENANCE PROJECTS ACCOMPLISHED BY CONTRACTORS

Action Plumbing – replace Visitor Center men’s restroom toilet and main office toilet

Barnes Diesel Power – Repair/Maintenance hatchery generator, vehicles

Cooke & Emele – Maintenance and repair on residence water furnaces

Delta Environmental – Domestic water quality analysis and DEQ environmental water sample analysis

Eagle Carriage & Machine – Repair hatchery valve, repair weir panels

Ed Staub & Sons – Repair propane heaters and replace the propane heater in the front room at Imnaha cabin

Eastern Oregon Petroleum – Performed maintenance and repairs on fuel storage tanks

La Grande Drywall – Replaced water damaged sheet rock in Visitor’s Center

Ladco Electric – General electrical maintenance throughout the facility and replacement of the variable frequency drive for the TW2 well

Lower Snake River Compensation Plan – Provided the hatchery with a 2010 Ford F-250 pickup truck

Gary Marks & Son – Gravel and tree removal at the Imnaha trapping facility

Kevin McBride Flooring – replaced crew quarters restroom floor and kitchen/dining room floor to residence # 1

McMillen Company – Completed domestic water line replacement to existing residences and constructed two new hatchery residences

Miller’s Home Center – Replaced garage man door to residence 1

Oregon Dept. of Transportation – Inspected the culvert underneath the road at the hatchery where Jarboe Creek passes under it

Partney/Mitrac Construction – Remove rock and gravel from Lookingglass Creek in front of water intake

Pendleton Grain Growers – Domestic water well repair

Quality Paving-Patched asphalt damaged areas along the hatchery entry road and laid 3 new asphalt coverings in back of the hatchery building

Rapid Rooter – Clean drain lines and repair toilets at hatchery main building

R & C Fire Extinguisher – Annual maintenance and recharge fire extinguishers for LGH and ISF

Ridley Pest control – Spray noxious weeds around facility and residences

Rodgers Asphalt – Asphalt roadway from the hatchery to new residences

Ron Kringlen Refrigeration – Remove refrigerant from freezer compressors taken out of service

S K Keys – Replace main entrance door lock with keyless entry system

Sims Fiberglass – Provided two additional Canadian Troughs for increased rearing space

Stoffel Bros. Well Drilling Company – Shock TW1 Well and send in water for sampling

The Door Guy – Repair automatic garage doors on existing residences

Water Management Technology – Repair D.O. Meter

Wheeler Communication – Repair handheld Motorola Radios, maintenance on existing alarm system, change alarm enunciation

MAJOR EXPENSES

Repair & maintenance of buildings and grounds	\$ 41,928.28
Fish food	\$ 66,379.00
Repairs and maintenance to equipment	\$ 5,026.27
Supplies (Program related)	\$ 34,846.87
Other Services	\$ 19,119.83
Communication services	\$ 7,385.35
Utilities *	\$ 1,189.06
Technology	\$ 1,297.56
Uniform items, PPE	\$ 2,471.19
Chemicals	\$ 8,603.85
Equipment Rental	\$ 1,541.42
Office supplies	\$ <u>1,190.48</u>
Total	\$190,979.16

*Utilities does not include an estimated \$80,000 paid directly by LSRCP

Adult Returns to Hatchery

Chinook Lookingglass Creek Stock BY10

Lookingglass Fish Hatchery	
Where trapped:	Lookingglass Creek Weir
Dates trapped:	June 14 – September 10, 2010
Number of adults trapped:	255 males, 266 females, 136 jacks
Date of peak returns:	June 23, 2010
Number of adults released to spawn naturally:	131 males, 215 females, 30 jacks
Number of adults to hatchery for broodstock:	120 males, 47 females, 106 jacks
Number given away:	0 males, 0 females, 72 jacks
Mortality of all adult returns	<i>at trap:</i> 0 males, 0 females
	<i>at hatchery:</i> 28 males, 6 females, 0 jacks

Chinook - Conventional Broodstock Program Grande Ronde River Stock BY10

Lookingglass Fish Hatchery	
Where trapped:	Lookingglass Creek Weir
Dates trapped:	May 28 – September 9, 2010
Number of adults trapped:	24 males, 24 females, 2 jacks
Date of peak trapping:	June 25, 2010
Number of adults released to spawn naturally:	20 males, 16 females, 3 jacks
Number of adults to hatchery for broodstock:	6 males, 4 females, 1 jack
Number given away:	0 males, 0 females, 2 jacks
Mortality of all adults	<i>at trap:</i> 0 males, 0 females, 0 jacks

Summer Steelhead Lookingglass Creek Stock BY10

Lookingglass Fish Hatchery	
Where trapped:	Lookingglass Creek Weir
Dates trapped:	March 1 – June 9, 2010
Number of adults trapped:	147 males, 187 females, 0 jacks
Date of peak returns:	April 16, 2010
Number of adults released to spawn naturally:	137 males, 183 females, 0 jacks
Number of adults to hatchery for broodstock:	0 males, 0 female, 0 jacks
Number given away	0 males, 1 female, 0 jacks
Mortality of all adult returns	<i>at trap:</i> 0 males, 0 females
	<i>at hatchery:</i> 0 males, 0 female, 0 Jacks

Adults Trapped Off Hatchery and Transported to Hatchery

Chinook Imnaha Stock BY10

Lookingglass Fish Hatchery	
Where trapped:	Imnaha Satellite Facility
Date weir installed:	May 24, 2010
Dates trapped:	July 13 - Sept 8, 2010
Number of adults trapped:	892 males, 963 females, 300 jacks
Date of peak trapping:	July 16, 2010
Number of adults released to spawn naturally:	
<i>Imnaha River</i>	337 males, 151 females, 55 jacks
<i>Big Sheep Creek</i>	51 males, 55 females, 0 jacks
<i>Lick Creek</i>	86 males, 88 females, 0 jacks
Number of adults to hatchery for broodstock:	94 males, 113 females, 68 jacks
Number given away	216 males, 411 females, 96 jacks
Mortality of all adults	<i>at trap:</i> 4 males, 9 females, 5 jacks
	<i>at hatchery:</i> 18 males, 2 females, 8 jacks

Chinook - Conventional Broodstock Program Grande Ronde River Stock BY10

Lookingglass Fish Hatchery	
Where trapped:	Upper Grande Ronde Weir
Dates trapped:	June 2 – June 28, 2010
Number of adults trapped:	597 males, 599 females, 32 jacks
Date of peak trapping:	June 14, 2010
Number of adults released to spawn naturally:	511 males, 512 females, 28 jacks
Number of adults to hatchery for broodstock:	68 males, 82 females, 3 jacks
Mortality of all adults	<i>at trap:</i> 2 male, 2 females, 0 jacks
	<i>at hatchery:</i> 20 males, 6 females, 3 jacks

Adults Trapped Off Hatchery and Transported to Hatchery

Chinook - Conventional Broodstock Program Catherine Creek Stock BY10

Lookingglass Fish Hatchery	
Where trapped:	Catherine Creek Weir
Dates trapped:	May 19 – July 24, 2010
Number of adults trapped:	634 males, 657 females, 116 jacks
Date of peak trapping:	June 16, 2010
Number of adults released to spawn naturally:	
<i>Catherine Creek</i>	402 males, 402 females, 56 jacks
<i>Lookingglass Creek</i>	150 males, 152 females, 47 jacks
<i>Indian Creek</i>	50 males, 49 females, 5 jacks
Number of adults to hatchery for broodstock:	40 males, 44 females, 3 jacks
Mortality of all adults	
<i>at trap:</i>	1 males, 1 females, 0 jacks
<i>at hatchery:</i>	2 males, 1 female, 0 jacks

Chinook - Conventional Broodstock Program Lostine River Stock BY10

Lookingglass Fish Hatchery	
Where trapped:	Lostine River Weir
Dates trapped:	June 20 – August 18, 2010
Date of peak trapping:	July 7, 2010
Number of adults trapped:	59 males, 89 females, 6 jacks
Number of adults to hatchery for broodstock	59 males, 89 females, 6 jacks
Number of adults released to spawn naturally:	0 males, 7 females, 0 jacks
Mortality of all adults	
<i>at trap:</i>	0 males, 0 females, 0 jacks
<i>at hatchery:</i>	6 males, 4 females, 0 jacks

The Lower Snake River Compensation Plan funds the Chinook Captive Broodstock Program from egg incubation through release of progeny. Spawning took place at Bonneville Fish Hatchery, green eggs were incubated at Oxbow Fish Hatchery, and the resulting eyed eggs and fry were reared at Lookingglass Fish Hatchery

SPAWNING RECORD

Chinook Captive Broodstock Program Upper Grande Ronde River Stock BY09

Bonneville Fish Hatchery

Date Spawned	Number of Eggs Taken	Females Spawned	Males Spawned
9/09/09	2,136	1	2
9/16/09	20,393	11	11
9/23/09	83,091	46	46
10/02/09	86,547	57	52
10/07/09	18,714	13	11
10/14/09	8,182	4	3

Captive broodstock fish are spawned according to specific matrices, depending on treatments and cohorts of mature fish.

Total number of females spawned:	132
Total number of males spawned:	125
Total number of cryopreserved sperm samples used:	0
Total number of green eggs:	219,066
Total number of eyed eggs:	202,129
Number of eggs retained for rearing:	0*
Number of eggs shipped:	202,129
Number of eggs culled due to high BKD titers	0
Date of last spawning:	10/14/09

**All upper Grande Ronde River stock green eggs were shipped to Oxbow Fish Hatchery for incubation. Once eyed, the eggs were shipped to Lookingglass Fish Hatchery for rearing.*

SPAWNING RECORD

**Chinook Captive Broodstock Program
Catherine Creek Stock BY09**

Bonneville Fish Hatchery

Date Spawned	Number of Eggs Taken	Females Spawned	Males Spawned
9/16/09	29,176	15	11
9/25/09	64,249	32	17
9/30/09	31,035	17	14
10/14/09	1,702	1	6
10/07/09	7,157	2	2

Captive broodstock fish are spawned according to specific matrices, depending on treatments and cohorts of mature fish. Males were live spawned and used up to three times.

Total number of females spawned:	69
Total number of males spawned:	25
Total number of cryopreserved sperm samples used:	0
Total number of green eggs:	133,319
Total number of eyed eggs:	119,759
Number of eggs retained for rearing:	0*
Number of eggs shipped:	104,589
Number of eggs culled due to high BKD titers	15,170
Date of last spawning:	10/07/09

**All Catherine Creek stock green eggs were shipped to Oxbow Fish Hatchery for incubation. Once eyed, the eggs were shipped to Lookingglass Fish Hatchery for rearing.*

SPAWNING RECORD

**Chinook Captive Broodstock Program
Lostine River Stock BY09**

Bonneville Fish Hatchery

Date Spawned	Number of Eggs Taken	Females Spawned	Males Spawned
9/16/09	9,181	5	11
9/24/09	40,957	25	58
10/01/09	104,548	67	146
10/07/09	40,957	25	48
10/14/09	8,069	15	11

Captive broodstock fish are spawned according to specific matrices, depending on treatments and cohorts of mature fish. Males were live spawned and used twice each

Total number of females spawned:	127
Total number of live males spawned:	13
Total number of cryopreserved sperm samples used:	251
Total number of green eggs:	194,891
Total number of eyed eggs:	113,681
Number of eggs retained for rearing:	0*
Number of eggs shipped:	113,681
Number of eggs culled due to high BKD titers	0
Date of last spawning:	10/14/09

**All Lostine River stock green eggs were shipped to Oxbow Fish Hatchery for incubation. Once eyed, the eggs were shipped to Lookingglass Fish Hatchery for rearing.*

SPAWNING RECORD

**Chinook
Imnaha Stock BY10**

Lookingglass Fish Hatchery

Date Spawned	Number of Eggs Taken	Females Spawned	Males Spawned
8/24/10	112,284	23	21
8/31/10	245,494	52	47
9/07/10	134,144	29	26
9/14/10	26,481	6	5

Imnaha stock chinook eggs and sperm were combined according to matrices, depending on available mature broodstock. Sperm from hatchery jacks was pooled.

Total number of females spawned:	110
Total number of males spawned:	99
Total number of green eggs:	518,403
Total number of eyed eggs:	475,232
Number of eggs retained for rearing:	475,232
Date of last spawning:	9/14/10

**Chinook
Lookingglass Stock BY10**

Lookingglass Fish Hatchery

Date Spawned	Number of Eggs Taken	Females Spawned	Males Spawned
8/12/10	4,542	1	1
8/19/10	17,952	4	4
8/26/10	71,181	17	16
9/02/10	122,256	30	28
9/09/10	84,249	23	22

Eggs and sperm were combined by matrices, according to available mature broodstock.

Total number of females spawned:	75
Total number of males spawned:	71
Total number of green eggs:	300,180
Total number of eyed eggs:	260,562
Number of eggs retained for rearing:	260,562
Date of last spawning:	9/09/10

Spawning Record

**Chinook - Conventional Broodstock Program
Upper Grande Ronde Stock BY10**

Lookingglass Fish Hatchery

Date Spawned	Number of Eggs Taken	Females Spawned	Males Spawned
8/19/10	36,420	8	7
8/26/10	61,945	16	14
9/02/10	145,391	37	33
9/09/10	75,199	21	20

Eggs and sperm were combined by matrices, according to available mature broodstock.

Total number of females spawned: 82
 Total number of males spawned: 74
 Total number of green eggs: 318,955
 Total number of eyed eggs: 297,738
 Total number of eggs shipped: 300*
 Number of eggs retained for rearing: 297,638
 Date of last spawning: 9/09/10

**Eyed eggs shipped to Wallowa Hatchery for SNAP program*

**Chinook - Conventional Broodstock Program
Catherine Creek Stock BY10**

Lookingglass Fish Hatchery

Date Spawned	Number of Eggs Taken	Females Spawned	Males Spawned
8/19/10	10,574	2	2
9/02/10	60,153	14	10
9/03/09	105,682	26	16

Egg and sperm were combined by matrices, according to available mature broodstock.

Total number of females spawned: 42
 Total number of males spawned: 31
 Total number of green eggs: 176,409
 Total number of eyed eggs: 161,562
 Number of eggs retained for rearing: 161,562
 Date of last spawning: 9/03/10

Spawning Record

**Chinook - Conventional Broodstock Program
Lostine Stock BY10**

Lookingglass Fish Hatchery

Date Spawned	Number of Eggs Taken	Females Spawned	Males Spawned
8/17/10	8,721	2	1
8/24/10	15,028	4	2
8/31/10	91,494	22	11
9/07/10	145,810	32	16
9/14/10	70,903	16	7

Lostine stock chinook were spawned by matrices, depending on available mature broodstock.

Total number of females spawned:	76
Total number of males spawned:	37
Total number of green eggs:	331,956
Total number of eyed eggs:	309,266
Number of eggs retained for rearing:	309,266
Date of last spawning:	9/14/10

Rearing to Smolt Stage Only

**Chinook
Imnaha Stock BY08**

Number of smolts produced:	390,064
Weight of smolts produced (lbs.):	19,503.2
Percent mortality to stocking:	6.32%
Average number/pound of smolts produced:	20.0
Conversion rate:	1.35 at Lookingglass

391,998 smolts (17,930.0 pounds) were transferred from Lookingglass Fish Hatchery to Imnaha Satellite Facility 3/10-3/11/2010 for acclimation. Volitional release began on 4/1/2010 and the remaining fish were forced out on 4/15/10.

Rearing to Smolt Stage Only

**Chinook
Lookingglass Stock BY08**

Number of smolts produced:	262,911
Weight of smolts produced (lbs.):	13,145.6
Percent mortality to stocking:	3.09%
Average number/pound of smolts produced:	20.0
Conversion rate:	1.62 at Lookingglass

Fish were released directly into Lookingglass Creek on 3/31 - 4/01/2010

**Chinook - Captive Broodstock Program (F1's)
Upper Grande Ronde River Stock BY08**

Number of smolts produced:	190,531
Weight of smolts produced (lbs.):	8,207.2
Percent mortality to stocking:	4.58%
Average number/pound of smolts produced:	23.2
Conversion rate:	1.21 at Lookingglass

Smolts were transferred to Grande Ronde Acclimation Facility in two groups. The first group of 125,951 smolts (4,466.6 pounds) were transferred on 3/8 – 3/9/2010 for volitional release from 3/15- 3/30/2010. The Second group of 64,721 smolts (3,030.0 pounds) was transferred on 3/23/2010 for volitional release from 4/07-4/13/2010. Grande Ronde Acclimation Facility is operated by the CTUIR. Facility operations are BPA funded. Fish feed is provided by the LSRCP.

**Chinook - Conventional Broodstock Program
Upper Grande Ronde River Stock BY08**

Number of smolts produced:	41,819
Weight of smolts produced (lbs.):	2,144.5
Percent mortality to stocking:	3.30%
Average number/pound of smolts produced:	19.5
Conversion rate:	1.57 at Lookingglass

41,873 smolts (1,822.2 pounds) were transferred on 3/23/2010 to Grande Ronde Acclimation Facility for volitional release from 3/30- 4/13/2010. Grande Ronde Acclimation Facility is operated by the CTUIR. Facility operations are BPA funded. Fish feed is provided by the LSRCP.

Rearing to Smolt Stage Only

**Chinook - Captive Broodstock Program (F₁'s)
Catherine Creek Stock BY08**

Number of smolts produced:	34,111
Weight of smolts produced (lbs.):	1,564.7
Percent mortality to stocking:	5.02%
Average number/pound of smolts produced:	21.8
Conversion rate:	1.12 at Lookingglass

34,215 smolts (1,630.1 pounds) were transferred to Catherine Creek Acclimation Facility on 3/15/2010. Volitional release began 3/29/2010, and all remaining fish were forced out 4/12/2010. Catherine Creek Acclimation Facility is operated by the CTUIR. Facility operations are BPA funded. Fish feed is provided by the LSRCP.

**Chinook - Conventional Broodstock Program
Catherine Creek Stock BY08**

Number of smolts produced:	110,242
Weight of smolts produced (lbs.):	5,802.2
Percent mortality to stocking:	5.04%
Average number/pound of smolts produced:	19.0
Conversion rate:	1.25at Lookingglass

110, 445 smolts (5,319.0 pounds) were transferred from Lookingglass Fish Hatchery to Catherine Creek Acclimation Facility on 3/15 – 3/16/2010. Volitional release began 3/29/2010 and all remaining fish were forced out 4/12/2010. Catherine Creek Acclimation Facility is operated by the CTUIR. Facility operations are BPA funded. Fish feed is provided by the LSRCP.

**Chinook - Captive Broodstock Program (F₁'s)
Lostine River Stock BY08**

Number of smolts produced:	60,997
Weight of smolts produced (lbs.):	2,253.3
Percent mortality to stocking:	3.77%
Average number/pound of smolts produced:	27.1
Conversion rate:	1.42 at Lookingglass

61,147 smolts (2,179 pounds) were transferred on 3/31/ 10 from Lookingglass Hatchery to Lostine Acclimation Facility for acclimation and release on 4/10/10. Lostine Acclimation Pond is operated by the Nez Perce Tribe. Facility operations are BPA funded. Fish feed is provided by the LSRCP.

Rearing to Smolt Stage Only

**Chinook - Conventional Broodstock Program
Lostine River Stock BY08**

Number of smolts produced:	182,665
Weight of smolts produced (lbs.):	7,508.3
Percent mortality to stocking:	2.57%
Average number/pound of smolts produced:	24.3
Conversion rate:	1.46 at Lookingglass

Smolts were transferred from Lookingglass Fish Hatchery to Lostine Acclimation Facility in two groups. The first release group of 121,837 smolts (4,968.7 pounds) was transferred to the acclimation facility on 3/01 -3/02/2010, volitional release began 3/17/2010, and all remaining fish were forced out 4/031/2010. The second release group of 61,269 smolts (2,600.2 pounds) was transferred to the acclimation facility 3/31 – 4/01/2010, volitional release began on 4/10/2009, and all remaining fish were forced out 4/17/2010. Lostine Acclimation Facility is operated by the Nez Perce Tribe. Facility operations are BPA funded. Fish feed is provided by the LSRCP.

Food Fed and Weight Gain

**Chinook
Imnaha Stock BY08**

Lookingglass Fish Hatchery	
Total pounds of food fed	6,779.5
Conversion rate	1.87
Total weight gain (lbs.) - all sizes produced	3,618.2

**Chinook
Imnaha Stock BY09**

Lookingglass Fish Hatchery	
Total pounds of food fed	7,325.5
Conversion rate	1.04
Total weight gain (lbs.) - all sizes produced	7,046.6

**Chinook
Lookingglass Stock BY08**

Lookingglass Fish Hatchery	
Total pounds of food fed	4,809.2
Conversion rate	2.91
Total weight gain (lbs.) - all sizes produced	1653.5

**Chinook
Lookingglass Stock BY09**

Lookingglass Fish Hatchery	
Total pounds of food fed	1,240.0
Conversion rate	1.05
Total weight gain (lbs.) - all sizes produced	1,177.3

Food Fed and Weight Gain

**Chinook – Conventional Program
Upper Grande Ronde River Stock BY08**

Lookingglass Fish Hatchery	
Total pounds of food fed	774.2
Conversion rate	2.21
Total weight gain (lbs.) - all sizes produced	349.6

**Chinook – Conventional Program
Upper Grande Ronde River Stock BY09**

Lookingglass Fish Hatchery	
Total pounds of food fed	6,023.4
Conversion rate	1.08
Total weight gain (lbs.) - all sizes produced	5,552.6

**Chinook – Captive Broodstock Program (F₁'s)
Upper Grande Ronde River Stock BY08**

Lookingglass Fish Hatchery	
Total pounds of food fed	3,577.1
Conversion rate	1.40
Total weight gain (lbs.) - all sizes produced	2,560.7

**Chinook – Captive Broodstock Program (F₁'s)
Upper Grande Ronde River Stock BY09**

Lookingglass Fish Hatchery	
Total pounds of food fed	1,439.9
Conversion rate	0.94
Total weight gain (lbs.) - all sizes produced	1,531.9

Food Fed and Weight Gain

**Chinook - Conventional Broodstock Program
Catherine Creek Stock BY08**

Lookingglass Fish Hatchery	
Total pounds of food fed	2,478.0
Conversion rate	1.18
Total weight gain (lbs.) - all sizes produced	2,101.5

**Chinook - Conventional Broodstock Program
Catherine Creek Stock BY09**

Lookingglass Fish Hatchery	
Total pounds of food fed	1,705.0
Conversion rate	1.21
Total weight gain (lbs.) - all sizes produced	1,406.7

**Chinook - Captive Broodstock Program (F₁'s)
Catherine Creek Stock BY08**

Lookingglass Fish Hatchery	
Total pounds of food fed	1,034.2
Conversion rate	2.24
Total weight gain (lbs.) - all sizes produced	462.0

**Chinook - Captive Broodstock Program (F₁'s)
Catherine Creek Stock BY09**

Lookingglass Fish Hatchery	
Total pounds of food fed	1,214.0
Conversion rate	1.08
Total weight gain (lbs.) - all sizes produced	1,122.4

Food Fed and Weight Gain

Chinook - Conventional Broodstock Program Lostine River Stock BY08

Lookingglass Fish Hatchery	
Total pounds of food fed	2,613.7
Conversion rate	2.45
Total weight gain (lbs.) - all sizes produced	1,065.7

Chinook - Conventional Broodstock Program Lostine River Stock BY09

Lookingglass Fish Hatchery	
Total pounds of food fed	1,996.9
Conversion rate	1.43
Total weight gain (lbs.) - all sizes produced	1,399.8

Chinook - Captive Broodstock Program (F₁'s) Lostine River Stock BY08

Lookingglass Fish Hatchery	
Total pounds of food fed	1,023.8
Conversion rate	2.05
Total weight gain (lbs.) - all sizes produced	500.4

Captive Broodstock Chinook (F₁'s) Lostine River Stock BY09

Lookingglass Fish Hatchery	
Total pounds of food fed	510.8
Conversion rate	-24.4
Total weight gain (lbs.) - all sizes produced	-20.97

**On Hand at Lookingglass Fish Hatchery
September 30, 2010**

Fish on Hand – BY09

Species	Stock	Number
Spring Chinook	Imnaha	253,807
Spring Chinook	Grande Ronde	190,718
Spring Chinook	Grande Ronde Captive Brood	53,308
Spring Chinook	Lookingglass	103,102
Spring Chinook	Lostine River	61,161
Spring Chinook	Lostine River Captive Brood	1,913
Spring Chinook	Catherine Creek	59,000
Spring Chinook	Catherine Creek Captive Brood	100,701

FY2009 Stocking

Total number of distribution trips:	21*
Number of fry stocked:	0
Weight of fry stocked:	0 lbs
Number of parr stocked:	0
Weight of parr stocked:	0 lbs
Number of smolts stocked:	1,273,340
Weight of smolts stocked:	60,129.1 lbs
Date, location, number and weight at each stocking:	See Attached

**17 distribution trips were made to acclimation facilities associated with Lookingglass Fish Hatchery, and 4 trips were made to transfer fish to Irrigon Hatchery*

Lookingglass Fish Hatchery and Associated Facility Stocking Records
October 1, 2009 through September 30, 2010

HATCHERY	SPECIES	STOCK	TYPE	DATE	FROM/TO	NO/LB	MORTS	NUMBER STOCKED	POUNDS STOCKED
CATH.CR. ACC	SPRING CHINOOK	201 08	LIBERATION	3/29/2010	CATHERINE CR	19.00	0	88,194	4,641.8
CATH.CR. ACC	SPRING CHINOOK	201F08	LIBERATION	3/29/2010	CATHERINE CR	21.80	0	27,289	1,251.8
CATH.CR. ACC	SPRING CHINOOK	201 08	LIBERATION	4/12/2010	CATHERINE CR	19.00	0	22,048	1,160.4
CATH.CR. ACC	SPRING CHINOOK	201F08	LIBERATION	4/12/2010	CATHERINE CR	21.80	0	6,822	312.9
GRND RND ACC	SPRING CHINOOK	080F08	LIBERATION	3/15/2010	GRANDE RONDE R	26.30	0	125,868	4,785.9
GRND RND ACC	SPRING CHINOOK	080 08	LIBERATION	3/30/2010	GRANDE RONDE R	19.50	0	33,455	1,715.6
GRND RND ACC	SPRING CHINOOK	080F08	LIBERATION	3/30/2010	GRANDE RONDE R	18.90	0	51,730	2,737.0
GRND RND ACC	SPRING CHINOOK	080 08	LIBERATION	4/13/2010	GRANDE RONDE R	19.50	0	8,364	428.9
GRND RND ACC	SPRING CHINOOK	080F08	LIBERATION	4/13/2010	GRANDE RONDE R	18.90	0	12,933	684.3
IMNAHA PD	SPRING CHINOOK	029 08	LIBERATION	4/1/2010	IMNAHA R	20.00	0	390,064	19,503.2
LOSTINE ACC	SPRING CHINOOK	200 08	LIBERATION	3/17/2010	LOSTINE R	25.08	0	121,227	4,833.6
LOSTINE ACC	SPRING CHINOOK	200 08	LIBERATION	4/10/2010	LOSTINE R	22.97	0	61,438	2,674.7
LOSTINE ACC	SPRING CHINOOK	200F08	LIBERATION	4/10/2010	LOSTINE R	27.07	0	60,997	2,253.3
LOOKINGGLASS	SPRING CHINOOK	081 08	LIBERATION	3/31/2010	LOOKINGGLASS CR	20.00	0	13,146	657.3
LOOKINGGLASS	SPRING CHINOOK	081 08	LIBERATION	4/1/2010	LOOKINGGLASS CR	20.00	0	249,765	12,488.3
LOOKINGGLASS	SPRING CHINOOK	081 09	TRANSFER	4/28/2010	IRRIGON HATCHERY	295.92	0	48,398	163.6
LOOKINGGLASS	SPRING CHINOOK	081 09	TRANSFER	4/29/2010	IRRIGON HATCHERY	386.00	0	48,530	125.7
LOOKINGGLASS	SPRING CHINOOK	201F09	TRANSFER	4/26/2010	IRRIGON HATCHERY	252.30	0	45,729	181.3
LOOKINGGLASS	SPRING CHINOOK	201F09	TRANSFER	4/27/2010	IRRIGON HATCHERY	318.42	0	47,026	147.7
LOOKINGGLASS	SPRING CHINOOK	029 08	ACCLIMATE	3/10/2010	IMNAHA PD	20.49	0	66,503	3,245.6
LOOKINGGLASS	SPRING CHINOOK	029 08	ACCLIMATE	3/10/2010	IMNAHA PD	23.19	0	44,757	1,930.0
LOOKINGGLASS	SPRING CHINOOK	029 08	ACCLIMATE	3/10/2010	IMNAHA PD	21.42	0	66,537	3,106.3
LOOKINGGLASS	SPRING CHINOOK	029 08	ACCLIMATE	3/11/2010	IMNAHA PD	22.65	0	36,618	1,616.7
LOOKINGGLASS	SPRING CHINOOK	029 08	ACCLIMATE	3/11/2010	IMNAHA PD	23.18	0	20,448	882.0
LOOKINGGLASS	SPRING CHINOOK	029 08	ACCLIMATE	3/11/2010	IMNAHA PD	21.03	0	43,200	2,054.2
LOOKINGGLASS	SPRING CHINOOK	029 08	ACCLIMATE	3/11/2010	IMNAHA PD	21.03	0	23,647	1,124.4
LOOKINGGLASS	SPRING CHINOOK	029 08	ACCLIMATE	3/11/2010	IMNAHA PD	22.77	0	66,505	2,920.7
LOOKINGGLASS	SPRING CHINOOK	029 08	ACCLIMATE	3/11/2010	IMNAHA PD	22.65	0	23,783	1,050.0
LOOKINGGLASS	SPRING CHINOOK	080 08	ACCLIMATE	3/23/2010	GRND RND ACC	22.98	0	41,873	1,822.2

Lookingglass Fish Hatchery and Associated Facility Stocking Records
October 1, 2009 through September 30, 2010

HATCHERY	SPECIES	STOCK	TYPE	DATE	FROM/TO	NO/LB	MORTS	NUMBER STOCKED	POUNDS STOCKED
LOOKINGGLASS	SPRING CHINOOK	080F08	ACCLIMATE	3/8/2010	GRND RND ACC	27.36	0	35,568	1,300.0
LOOKINGGLASS	SPRING CHINOOK	080F08	ACCLIMATE	3/8/2010	GRND RND ACC	27.36	0	29,399	1,074.5
LOOKINGGLASS	SPRING CHINOOK	080F08	ACCLIMATE	3/9/2010	GRND RND ACC	29.15	0	30,500	1,046.3
LOOKINGGLASS	SPRING CHINOOK	080F08	ACCLIMATE	3/9/2010	GRND RND ACC	29.15	0	30,484	1,045.8
LOOKINGGLASS	SPRING CHINOOK	080F08	ACCLIMATE	3/23/2010	GRND RND ACC	21.36	0	64,721	3,030.0
LOOKINGGLASS	SPRING CHINOOK	200 08	ACCLIMATE	3/1/2010	LOSTINE ACC	25.66	15	30,495	1,188.4
LOOKINGGLASS	SPRING CHINOOK	200 08	ACCLIMATE	3/1/2010	LOSTINE ACC	25.66	17	30,073	1,172.0
LOOKINGGLASS	SPRING CHINOOK	200 08	ACCLIMATE	3/2/2010	LOSTINE ACC	23.49	16	30,645	1,304.6
LOOKINGGLASS	SPRING CHINOOK	200 08	ACCLIMATE	3/2/2010	LOSTINE ACC	23.49	28	30,624	1,303.7
LOOKINGGLASS	SPRING CHINOOK	200 08	ACCLIMATE	3/31/2010	LOSTINE ACC	23.65	0	30,742	1,299.9
LOOKINGGLASS	SPRING CHINOOK	200 08	ACCLIMATE	4/1/2010	LOSTINE ACC	23.65	0	30,752	1,300.3
LOOKINGGLASS	SPRING CHINOOK	200F08	ACCLIMATE	3/31/2010	LOSTINE ACC	28.06	0	45,878	1,635.0
LOOKINGGLASS	SPRING CHINOOK	200F08	ACCLIMATE	3/31/2010	LOSTINE ACC	28.06	0	15,269	544.2
LOOKINGGLASS	SPRING CHINOOK	201 08	ACCLIMATE	3/15/2010	CATH.CR. ACC	20.50	0	17,425	850.0
LOOKINGGLASS	SPRING CHINOOK	201 08	ACCLIMATE	3/15/2010	CATH.CR. ACC	20.50	0	21,339	1,040.9
LOOKINGGLASS	SPRING CHINOOK	201 08	ACCLIMATE	3/15/2010	CATH.CR. ACC	20.91	0	17,774	850.0
LOOKINGGLASS	SPRING CHINOOK	201 08	ACCLIMATE	3/16/2010	CATH.CR. ACC	20.91	0	53,907	2,578.1
LOOKINGGLASS	SPRING CHINOOK	201F08	ACCLIMATE	3/15/2010	CATH.CR. ACC	20.99	0	34,215	1,630.1