

WALLOWA HATCHERY ANNUAL REPORT FY2005

INTRODUCTION

Location

Wallowa Hatchery is located in northeast Oregon, two miles west of Enterprise. The hatchery is adjacent to Spring Creek, one mile upstream from the confluence of Spring Creek and the Wallowa River. Five rivers comprise the 613 river miles to the ocean: Spring Creek, Wallowa, Grande Ronde, Snake and Columbia Rivers. Two satellite stations, Big Canyon (Wallowa system) 30 miles west of the hatchery and Little Sheep (Imnaha system) 30 miles east of the hatchery, are used for adult trapping, spawning and smolt acclimation.

OBJECTIVES

Mitigation Goals

Wallowa Hatchery is operated as part of the Lower Snake River Compensation Program. Mitigation goals include, collecting 1,210,000 (green) Wallowa stock (56) summer steelhead eggs and 448,000 (green) Imnaha stock (29) summer steelhead eggs. Additional green eggs were collected at Wallowa Hatchery from 40 females for production needs at the LSRCF Cottonwood facility, Washington. The smolt release goal for the Wallowa stock is 870,000 smolts. The Imnaha stock goal is 330,000 smolts, 165,000 to Little Sheep (acclimated) and 165,000 to Big Sheep (direct steam). Fall collected brood stock goal for Wallowa is collecting 50 adult pairs. 2005 will be the first year for releasing smolts from the fall collected brood stock program at Wallowa

SUMMER STEELHEAD

Adult Returns

There was a significantly lower return of adult steelhead at Wallowa and Little Sheep facilities than during the spring 2004 season. Big Canyon also saw slightly decreased returns. The stock designations for adults collected during the 2004/2005 season were, Wallowa and Big Canyon (5605) and Little Sheep/Imnaha (2905).

Wallowa Hatchery collected 2,360 hatchery origin steelhead. Of those, 1,276 were male and 1,084 were female. This is a decrease of 25% from the 2004 total of 3,147 hatchery returns.

This is the second year of supplementing our existing steelhead program with Fall Collected Brood (FCB). The main goals of the program are reduce the potential for straying into Columbia River tributaries and enhance fall harvest opportunities within the LSRCP compensation area. The program involves collecting and holding 50 pairs of early arriving Wallowa stock adult summer steelhead until spawning season. The adults were collected in the Lower Grande Ronde River by fisherman using conventional fishing gear. 108 adults were collected in a 2 week period in early October 2004. The adults were held in our acclimation pond from October 2004 until maturation in April 2005. All eggs collected from the FCB adults are segregated, uniquely marked as smolts, and then incorporated into our rearing program. We replaced conventional program eggs with eggs from the FCB thus maintaining our goal of 870,000 smolts.

Big Canyon satellite facility had a return of 494 males and 575 females, for a total of 1069 adult hatchery origin steelhead. We had 76 (35 males, 41 females) natural origin steelhead return, all of which were passed above the weir in Deer Creek to spawn naturally. This is a 26% decrease from the 1,440 returning adults in 2004. The comparison of natural origin steelhead returns to Big Canyon was (76 adults) in 2005, slightly higher than the 67 adults returning in 2004.

Little Sheep facility also had a smaller return of hatchery origin adults. There was a return of 2025 (988 males, 1037 females) in 2005, which is 23% lower than the 2004 return of 2,613 hatchery adults. Natural origin returns were 188 (80 male, 108 female) adults compared to 141 in 2004. Of the adults collected, 289 hatchery and 170 natural origin steelhead were passed above the weir in Little Sheep Creek. Additional releases include 1555 hatchery adults transferred to Big Sheep Creek to spawn naturally.

Egg Production - Wallowa Stock (5605) Summer Steelhead

There were 1,117,400 Wallowa stock eggs taken during the season. 944,200 eyed eggs were transferred to Irrigon Hatchery. 1,800 eggs were transferred to STEP programs. The green to eyed egg loss was 8.2%, down from 11.7% in 2004.

Egg Production - Wallowa Stock (5605) Fall Collected Brood (FCB)

We collected 193,200 Wallowa stock (FCB) eggs during the season. 176,900 eyed eggs were transferred to Irrigon Hatchery. The green to eyed egg loss was 8.4%.

Egg Production - Imnaha Stock (2904) Summer Steelhead

A total of 439,275 green eggs were taken in the 2005 season. We transferred 397,400 eyed eggs to Irrigon Hatchery. Egg loss was only 9.5%, up from 7.9% in 2004.

Smolt Acclimation Summer Steelhead

There were 542,761 Wallowa stock (5604) smolts acclimated and released from Wallowa Hatchery. Big canyon acclimated and released 170,129 Wallowa stock (5604) smolts.

Little Sheep satellite facility acclimated and released 152,048 Imnaha stock (2904) smolts to Little Sheep Creek. There were 8,571 potential residual smolts outplanted to a closed water body (Kinney Lake) in 2005. Irrigon Hatchery reared the above stocks of smolts used for acclimation and release.

CAPITAL CONSTRUCTION AND MAINTENANCE

There were no capital construction projects at Wallowa Hatchery or its satellite facilities during the report period.

MAJOR PROJECTS ACCOMPLISHED BY ODFW PERSONNEL

Wallowa Facility

Modifications to the adult pond were completed creating an adult isolation pen, replacing wooden jump boards with high density plastic, hand rail modifications, and building a fish return chute which allows fish to be transferred to three separate destinations. Dividers for the steelhead segregation channel were also built and installed.

New indoor tanks were modified and installed by the crew for whirling disease water source testing.

New ladders were installed in the acclimation ponds. Man grates were also installed in several locations.

We installed a new walkway over the steelhead segregation channel. A new walkway was also installed around the power crowder and at the Spring Creek intake.

Big Canyon Facility

Pond and intake alarms were rebuilt. The building doors received new paint jobs and we tried to rodent proof the facility garage.

Little Sheep Facility

A new pulley system was installed help make the fish ladder flush gates more user friendly. We also built new flush gates for the acclimation pond.

Several dump truck loads of gravel were delivered and spread on the facility driving and parking areas.

MAINTENANCE PROJECTS ACCOMPLISHED BY CONTRACTORS

Wallowa Hatchery

The Enterprise screens shop finished covering our upper spring with stone and replaced outlets and pipes.

Electrical contractors removed sagging power lines and rerouted electricity from a safer location.

The motors on the power crowder were replaced as were the rubber seals on its perimeter,

The Wallowa intake rotating screen was removed and brought to Fish screens to be completely rebuilt and reinstalled.

A local fabricator was hired to construct several ladders for the acclimation ponds and facilities as well as several man grates to address safety concerns.

A new phone system was installed to replace an older system.

Malfunctioning heating systems were repaired and new parts installed by a heating contractor.

Big Canyon Facility

There were no renovations or major repairs made at Big Canyon Facility this year.

Little Sheep Facility

There were no renovations or major repairs made at Little Sheep Facility this year.

MAJOR PURCHASES

Adult power crowder replacement motors	\$2,081
Aluminum mesh sheets for adult pond – Little sheep	\$1,965
Computer – replacement	\$1,255
Grip-strut walkway grating	\$1,297
Pressure Washers (2)	\$4,025
Lawn Mower – replacement	\$840
D.O. meters	\$1836

MAJOR REPAIRS and MAINTENANCE

Reroute power lines for safety enhancement – Erne's	\$4,229
Reroute power lines for safety enhancement – Bane's	\$3661
Light installation	\$717
Wallowa intake screen parts	\$2206
Steel for rotating screen	\$717
Phone system and installation	\$3776
Weed spraying	\$934
Metal for crowder walkway, handrail	\$623
Heating system maintenance and repair	\$927
Supplemental gravel for road and parking areas	\$760
Ladder and man grate fabrication	\$1149
Generator maintenance	\$1536
Compressor installation	\$1128
Chemical toilet rental and tank pumping	\$505

Adult Returns to Hatchery

Steelhead Wallowa Stock BY04

Big Canyon Facility	
Date of first return:	March 4, 2005
Date of last return:	May 13, 2005
Number of females returning:	616
Number of males returning:	529
Date of peak returns:	April 8, 2005
Number of fish released to spawn naturally:	39 females, 35 males
Number of fish planted for angling opportunity:	
<i>Ladd Pond</i>	16 females, 14 males
<i>Marr Pond</i>	22 females, 28 males
<i>Roulet Pond</i>	16 females, 24 males
<i>Wallowa River</i>	19 females, 17 males
<i>Wallowa Wildlife Pond</i>	21 females, 26 males
Mortality of all adult returns:	0 females; 1 male

Wallowa Fish Hatchery	
Date of first return:	February 22, 2005
Date of last return:	May 16, 2005
Number of females returning:	1,277
Number of males returning:	1,088
Date of peak returns:	March 15, 2005
Number of fish released to spawn naturally:	4 females, 1 males
Number of fish planted for angling opportunity:	
<i>Marr Pond</i>	18 females, 32 males
<i>Wallowa Wildlife Pond</i>	6 females, 17 males
Mortality of all adult returns:	4 females; 26 males

Wallowa Fish Hatchery - <i>Fall Caught Brood</i>	
Date of first return:	October 12, 2004
Date of last return:	October 22, 2004
Number of females returning:	46
Number of males returning:	62
Date of peak collection:	October 13, 2004
Number of females released to spawn naturally:	0
Number of males released to spawn naturally:	0
Mortality of all adult returns:	2 females; 9 males

Fall Caught Brood are Wallowa stock steelhead which were collected from the lower Grande Ronde River by angling during October 2004. They were spawned exclusively with other Fall Caught Brood fish and their offspring will be reared and marked separately from steelhead that returned to Wallowa Fish Hatchery in the spring of 2005. Survival of progeny returning from both groups will be evaluated.

**Steelhead
Imnaha Stock BY04**

Little Sheep Creek Facility	
Date of first return:	March 10, 2005
Date of last return:	May 16, 2005
Number of females returning:	1,145
Number of males returning:	1,068
Date of peak returns:	April 7, 2005
Number of fish released to spawn naturally:	230 females, 238 males
Number of fish outplanted to Big Sheep Creek:	721 females, 825 males
Mortality of all adult returns:	1 female; 9 males

Spawning Record

**Steelhead
Wallowa Stock BY05 (includes Fall Caught Brood fish)**

Wallowa Fish Hatchery

Date Spawned	Number of Eggs Taken	Females Spawned	Males Spawned
3/16/05	119,700	22	20
3/22/05	100,000	20	20
3/23/05	204,800	37	35
3/29/05	100,000	20	20
3/30/05	252,400	44	43
4/06/05	242,850	44	43
4/13/05	218,900	44	43
4/20/05	174,000	33	34
4/27/05	91,700	18	20
5/03/05	6,250	2	4

Total number of females spawned:	284
Total number of males spawned:	282
Total number of green eggs:	1,510,600
Total number of eyed eggs:	1,122,900
Number of eggs retained for rearing:	0*
Number of green eggs shipped:	200,000**
Number of eyed eggs shipped:	1,202,300
Date of last spawning:	5/03/05

*All eyed eggs were shipped to Irrigon Fish Hatchery for incubation and rearing.

**Green eggs were shipped to Lyons Ferry WDFW

Spawning Record

Steelhead Imnaha Stock BY05

Little Sheep Creek Facility

Date Spawned	Number of Eggs Taken	Females Spawned	Males Spawned
3/22/05	19,075	4	4
3/29/05	35,100	8	7
4/05/05	40,700	9	9
4/12/05	142,800	30	29
4/19/05	72,400	15	12
4/25/05	51,500	11	12
5/03/05	34,000	8	6
5/10/05	43,700	10	8

Total number of females spawned:	95
Total number of males spawned:	87
Total number of green eggs:	439,275
Total number of eyed eggs:	397,400
Number of eggs retained for rearing:	0*
Number of eggs shipped:	397,400
Date of last spawning:	5/10/05

**Unfertilized eggs and milt were transported to Wallowa Fish Hatchery for fertilization.
All eyed eggs were shipped to Irrigon Fish Hatchery for incubation and rearing.*

Smolts Reared

**Spring Chinook – Captive Brood Program
Grande Ronde River Stock BY03**

Number smolts produced:	496
Weight of smolts produced (lbs.):	35.70
Percent mortality to transfer:	0.8%
Average number/pound of smolts produced:	13.9
Conversion rate:	0.81

**Spring Chinook – Captive Brood Program
Catherine Creek Stock BY03**

Number smolts produced:	492
Weight of smolts produced (lbs.):	34.70
Percent mortality to transfer:	1.6%
Average number/pound of smolts produced:	14.2
Conversion rate:	0.94

**Spring Chinook – Captive Brood Program
Lostine River Stock BY03**

Number smolts produced:	492
Weight of smolts produced (lbs.):	34.80
Percent mortality to transfer:	1.6%
Average number/pound of smolts produced:	14.1
Conversion rate:	0.93

**Steelhead
Wallowa Stock BY04**

Number of smolts produced:	712,890*
Weight of smolts produced (lbs.):	164,224.00
Percent mortality to stocking:	10.9%
Average number/pound of smolts produced:	4.34
Conversion rate:	1.00 at Irrigon Fish Hatchery

**Irrigon Fish Hatchery reared 714,902 smolts weighing 146,720 pounds for this program. A total of 170,129 smolts survived to release from Big Canyon Acclimation Facility. A total of 542,761 smolts survived to release from Wallowa Acclimation Facility.*

Pounds produced at Wallowa Fish Hatchery facilities totaled 17,504. Conversion rates at Big Canyon and Wallowa Acclimation facilities were 1.54 and 1.12, respectively.

Smolts Reared

Steelhead

Imnaha Stock BY04

Number smolts produced:	297,268*
Weight of smolts produced (lbs.):	65,957.50
Percent mortality to stocking:	6.5%
Average number/pound of smolts produced:	4.5
Conversion rate:	1.12 at Irrigon Fish Hatchery

**Irrigon Fish Hatchery reared 298,289 smolts weighing 62,840 pounds for this program. A total of 136,750 smolts weighing 29,610 pounds were direct-stream released to Big Sheep Creek from Irrigon Fish Hatchery. A total of 160,518 smolts survived to release from Little Sheep Creek Facility, where they were acclimated prior to release. Pounds produced at Little Sheep Creek Facility totaled 3,118.00, and the conversion rate was 1.44.*

Food Fed and Weight Gain

**Chinook – Captive Broodstock Program
Grande Ronde River Stock BY03**

Wallowa Hatchery	
Total pounds of food fed	21.65
Conversion rate	0.76
Total pounds weight gained - all sizes produced	28.47

**Chinook – Captive Broodstock Program
Grande Ronde River Stock BY04**

Wallowa Hatchery	
Total pounds of food fed	1.79
Conversion rate	1.08
Total pounds weight gained - all sizes produced	1.65

**Chinook – Captive Broodstock Program
Catherine Creek Stock BY03**

Wallowa Hatchery	
Total pounds of food fed	21.19
Conversion rate	0.80
Total pounds weight gained - all sizes produced	26.47

**Chinook – Captive Broodstock Program
Catherine Creek Stock BY04**

Wallowa Hatchery	
Total pounds of food fed	2.33
Conversion rate	1.10
Total pounds weight gained - all sizes produced	2.11

Food Fed and Weight Gain

**Chinook – Captive Broodstock Program
Lostine River Stock BY03**

Wallowa Hatchery	
Total pounds of food fed	19.80
Conversion rate	0.78
Total pounds weight gained - all sizes produced	25.47

**Chinook – Captive Broodstock Program
Lostine River Stock BY04**

Wallowa Hatchery	
Total pounds of food fed	1.84
Conversion rate	1.05
Total pounds weight gained - all sizes produced	1.75

**Steelhead
Wallowa Stock BY04**

Big Canyon Facility	
Total pounds of food fed	3,150.00
Conversion rate	1.54
Total pounds weight gained - all sizes produced	2,049.00

**Steelhead
Wallowa Stock BY03**

Wallowa Acclimation Pond	
Total pounds of food fed	17,350.00
Conversion rate	1.12
Total pounds weight gained - all sizes produced	15,455.00

Food Fed and Weight Gain

Steelhead Imnaha Stock BY04

Little Sheep Creek Facility	
Total pounds of food fed	4,500.00
Conversion rate	1.44
Total pounds weight gained - all sizes produced	3,117.50

Rainbow Trout Cape Cod Triploid Stock BY04

Wallowa Hatchery	
Total pounds of food fed	220.00
Conversion rate	1.63
Total pounds weight gained - all sizes produced	134.74

On Hand at Wallowa Fish Hatchery September 30, 2005

Fish On Hand - BY04

Species	Stock	Number
Spring Chinook	Grande Ronde River Captive Brood	298
Spring Chinook	Lostine River Captive Brood	296
Spring Chinook	Catherine Creek Captive Brood	607
Rainbow Trout	Cape Cod Triploid	607

FY05 Stocking

Total number of distribution trips:	3*
Number of fry stocked	0
Weight of fry stocked:	0 lbs.
Number of fingerlings stocked:	0
Weight of fingerlings stocked:	0 lbs.
Number of smolts stocked:	873,408
Weight of smolts stocked:	200,572 lbs
Date, location, number and weight at each stocking:	See Attached

**Captive brood spring chinook transferred to Bonneville and Manchester*

Wallowa Fish Hatchery and Associated Facility Stocking Records
October 1, 2004 through September 30, 2005

FACILITY	SPECIES	LOT	TYPE	DATE	FROM/TO	NO/LB	MORTS	NUMBER STOCKED	POUNDS STOCKED
WALLOWA	SPRING CHINOOK	080Z03	TRANSFER	5/4/05	MANCHESTER	14.3	0	10	0.7
WALLOWA	SPRING CHINOOK	080Z03	TRANSFER	5/11/05	BONNEVILLE HATCHERY	13.9	0	249	17.9
WALLOWA	SPRING CHINOOK	080Z03	TRANSFER	5/12/05	MANCHESTER	13.86	0	237	17.1
WALLOWA	SPRING CHINOOK	200Z03	TRANSFER	5/4/05	MANCHESTER	14.3	0	10	0.7
WALLOWA	SPRING CHINOOK	200Z03	TRANSFER	5/11/05	BONNEVILLE HATCHERY	14.2	0	246	17.3
WALLOWA	SPRING CHINOOK	200Z03	TRANSFER	5/12/05	MANCHESTER	14.05	0	236	16.8
WALLOWA	SPRING CHINOOK	201Z03	TRANSFER	5/4/05	MANCHESTER	14.3	0	10	0.7
WALLOWA	SPRING CHINOOK	201Z03	TRANSFER	5/11/05	BONNEVILLE HATCHERY	14.06	0	246	17.5
WALLOWA	SPRING CHINOOK	201Z03	TRANSFER	5/12/05	MANCHESTER	14.3	0	236	16.5
BIG CANYON	SUMMER STEELHEAD	056 04	LIBERATION	4/14/05	DEER CREEK	4.45	0	87924	19758
BIG CANYON	SUMMER STEELHEAD	056 04	LIBERATION	5/3/05	DEER CREEK	4.6	0	82205	17871
LITTLE SHEEP	SUMMER STEELHEAD	029 04	LIBERATION	4/11/05	SHEEP CR, L	4.4	0	152048	34557
LITTLE SHEEP	SUMMER STEELHEAD	029 04	LIBERATION	5/12/05	KINNEY LK	4.73	0	5745	1214.5
LITTLE SHEEP	SUMMER STEELHEAD	029 04	LIBERATION	5/12/05	KINNEY LK	4.73	0	2725	576
WALLOWA ACC	SUMMER STEELHEAD	056 04	LIBERATION	4/11/05	SPRING CR	4.3	0	199883	46484
WALLOWA ACC	SUMMER STEELHEAD	056 04	LIBERATION	4/12/05	SPRING CR	4.1	0	197060	48063
WALLOWA ACC	SUMMER STEELHEAD	056 04	LIBERATION	4/30/05	SPRING CR	4.55	0	145818	32048