

## **WALLOWA HATCHERY ANNUAL REPORT FY2006**

### **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 1,112,000 (green) Wallowa stock (56) summer steelhead eggs and 366,000 (green) Imnaha stock (29) summer steelhead eggs. The smolt release goal for the Wallowa stock is 800,000 smolts. The Imnaha stock goal is 265,000 smolts, 165,000 to Little Sheep (acclimated) and 100,000 to Big Sheep (direct stream). Fall Collected Brood (FCB) stock goal for Wallowa is collecting 50 adult pairs. 2006 will be the second year for releasing smolts from the FCB stock program at Wallowa

### **SUMMER STEELHEAD**

#### Adult Returns

There was a significantly higher return of adult steelhead to Wallowa and Big Canyon facilities compared to spring 2005. Little Sheep also saw a slight increase in returns. The stock designations for adults collected during the 2005/2006 season were, Wallowa and Big Canyon (5606) and Little Sheep/Imnaha (2906).

Wallowa Hatchery collected 2,960 hatchery origin steelhead. Of those, 1,598 were male and 1,362 were female. This is an increase of 25% from the 2005 total of 2,360 hatchery returns.

This is the third 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. 115 adults were collected in a 2 week period in early October 2005. The adults were held in our adult holding pond from October 2005 until maturation in April 2006. 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 800,000 smolts.

Big Canyon satellite facility had a return of 805 males and 1177 females, for a total of 1982 adult hatchery origin steelhead. This was an 85% increase from the 1069 returning adults in 2005. We had 89 (38 males, 51 females) natural origin steelhead return, all of which were passed above the weir in Deer Creek to spawn naturally. The natural origin steelhead returns in 2005 were 76 adults.

Little Sheep facility had better than projected returns of hatchery origin adults. In 2006 we had 2349 hatchery adults return (1089 males, 1260 females), which is 16% higher than the 2005 return of 2025 hatchery adults. Natural origin returns however were slightly lower with 120 adults (37 male, 83 female), compared to 188 in 2005. Of the adults collected, 245 hatchery and 111 natural origin steelhead were passed above the weir in Little Sheep Creek. Additional releases include 1934 hatchery adults transferred to Big Sheep Creek to spawn naturally.

#### Egg Production - Wallowa Stock (5606) Summer Steelhead

There were a total of 1,322,980 Wallowa stock eggs taken during the season, 1,086,450 production and 236,530 FCB eggs. 1,018,300 eyed eggs were transferred to Irrigon Hatchery. 1,200 eggs were transferred to local school education programs. The green to eyed egg loss was 11.5% for the production group and 17% for the FCB group.

#### Egg Production - Imnaha Stock (2906) Summer Steelhead

A total of 408,230 green eggs were taken in the 2006 season. We transferred 350,990 eyed eggs to Irrigon Hatchery. Egg loss was 9.3%, comparable to the 9.5% loss in 2005.

### Smolt Acclimation Summer Steelhead

There were 585,808 Wallowa stock (5605) smolts acclimated and released from Wallowa Hatchery. Big canyon acclimated and released 273,840 Wallowa stock (5605) smolts. Potential residual smolts from Big Canyon in 2006 were out-planted to two closed water bodies, Kinney Lake (3670 smolts) and Wallowa Wildlife Pond (1028 smolts).

Little Sheep satellite facility acclimated and released 151,860 Imnaha stock (2905) smolts to Little Sheep Creek. There were 9,187 potential residual smolts out-planted to a closed water body (Kinney Lake) in 2006.

Irrigon Hatchery reared the above stocks of smolts acclimated and release at our facilities.

## **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

The SI-5 fish stunner was co-purchased by Wallowa and Lookingglass Hatchery for use during each facility's respective spawning season. The system was installed in time for use during the 2006 spawning season and has greatly improved processing efficiency. The stunner is a more humane method of euthanizing fish and has improved the overall fish handling experience for the staff, public and visiting school groups.

The staff completed a major pipeline replacement project that started in July and concluded September 2006. The scope of the work included removing and rerouting a deteriorating section of the upper spring line and replacing the entire section of Wallowa River water line that feeds ponds 4 and 5. The pipeline had several large leaks that could not be patched and were causing damage to the adjacent ponds.

A walkway and handrail was installed around the adult trap and crowder, creating a safe pathway around the power crowder.

Fabricated and installed an adult return chute which allows us to distribute fish to three separate holding areas, improving spawning operations and FCB adult handling.

A filtration system was added to the old hatchery building eye wash line due to rust in the lines.

Replaced water damaged sheetrock in visitor area and repainted.

A footbridge separating the hatchery grounds and the old hatchery building was replaced with a new bridge of synthetic lumber.

A new stairway was built in the landscape area next to the office providing better access to the lib truck building.

### Big Canyon Facility

Fabricated several building-specific rodent exclusion devices to hopefully reduce or eliminate an ongoing rodent problem.

A fishing line recycling station was installed at the parking lot of the Big Canyon fishing area.

### Little Sheep Facility

Several trees were planted to help reduce the institutional look of the facility.

## **MAINTENANCE PROJECTS ACCOMPLISHED BY CONTRACTORS**

### Wallowa Hatchery

Verizon and ODFW-ISD staff networked the hatchery computers to ODFW headquarters and district office via high-speed internet.

Tony's Heating completed annual heating and air conditioning maintenance at all three facilities.

Rahn Sanitary provided septic maintenance, system inspection and ADA portable toilet rental throughout the year.

E.C. Power completed the annual inspection and maintenance of all three facility's backup generators.

Ern's Electric replaced a shorted-out pump starter switch, used to fill liberation trucks with water.

VEMCO fabricated aluminum brackets for a new fish diversion pipe to facilitate spawning operations and FCB handling.

Northwest Fence Company installed a security fence at the Wallowa River intake, as well as a vehicle exclusion fence near the Hurricane Creek end of the property to help prevent fire and vandalism.

Executive Tree Care topped and chipped 12 willow trees that had become a road hazard and danger to passing motorists.

Leroy Bennett was hired to apply herbicides at all three facilities to control weeds.

### Big Canyon Facility

Joseph Electric worked with E.C. Power to troubleshoot and repair a battery charging problem with the backup generator.

### Little Sheep Facility

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

### **MAJOR PURCHASES**

Aluminum brackets for diverter pipe	\$518
SI-5 Fish stunner and shipping	\$5,789
Onset temperature loggers	\$771
Trex lumber for pedestrian bridge	\$798
Polyethylene for fish return diversion pipe	\$814
Pipe, fittings and related materials for pipeline repair	\$16,861

### **MAJOR REPAIRS and MAINTENANCE**

Vehicle services and maintenance	\$561
Dump truck repair	\$878
Truck fill switch	\$598
Weed spraying at 3 facilities	\$684
Intake and Hurricane Creek fences	\$1,750
Tree removal	\$2,880

## Adult Returns to Hatchery

### Steelhead Wallowa Stock BY04

Big Canyon Facility	
Date of first return:	February 3, 2006
Date of last return:	June 5, 2006
Number of females returning:	1,243
Number of males returning:	894
Date of peak returns:	April 7, 2006
Number of fish released to spawn naturally:	51 females, 38 males
Number of fish planted for angling opportunity:	
<i>Ladd Pond</i>	14 females, 6 males
<i>Marr Pond</i>	7 females, 2 males
<i>Roulet Pond</i>	11 females, 14 males
<i>Wallowa River</i>	36 females, 94 males
<i>Wallowa Wildlife Pond</i>	33 females, 24 males
Mortality of all adult returns:	0 females; 0 males

Wallowa Fish Hatchery	
Date of first return:	February 8, 2006
Date of last return:	May 27, 2006
Number of females returning:	1,370
Number of males returning:	1,601
Date of peak returns:	April 12, 2006
Number of fish released to spawn naturally:	8 females, 3 males
Number of fish planted for angling opportunity:	
<i>Marr Pond</i>	33 females, 58 males
<i>Roulet Pond</i>	6 females, 19 males
Mortality of all adult returns:	20 females; 24 males

Wallowa Fish Hatchery - <i>Fall Caught Brood</i>	
Date of first return:	October 10, 2005
Date of last return:	October 21, 2005
Number of females returning:	60
Number of males returning:	55
Date of peak collection:	October 20, 2005
Number of females released to spawn naturally:	0
Number of males released to spawn naturally:	0
Mortality of all adult returns:	2 females; 2 males

*Fall Caught Brood are Wallowa stock steelhead which were collected from the lower Grande Ronde River by angling during October 2005. 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 2006. Survival of progeny returning from both groups will be evaluated.*

**Steelhead  
Imnaha Stock BY04**

Little Sheep Creek Facility	
Date of first return:	March 6, 2006
Date of last return:	May 25, 2006
Number of females returning:	1,343
Number of males returning:	1,127
Date of peak returns:	April 10, 2006
Number of fish released to spawn naturally:	199 females, 157 males
Number of fish outplanted to Big Sheep Creek:	1,061 females, 873 males
Mortality of all adult returns:	1 female; 14 males

**Spawning Record**

**Steelhead  
Wallowa Stock BY06** (*includes Fall Caught Brood fish*)

Wallowa Fish Hatchery

Date Spawned	Number of Eggs Taken	Females Spawned	Males Spawned
3/15/06	113,980	19	17
3/22/06	191,900	33	33
3/29/06	213,950	39	33
4/05/06	221,400	39	34
4/12/06	232,000	39	39
4/19/06	177,550	31	24
4/26/06	172,000	33	42

Total number of females spawned:	233
Total number of males spawned:	222
Total number of green eggs:	1,322,780
Total number of eyed eggs:	1,158,150
Number of eggs retained for rearing:	0*
Number of eyed eggs shipped:	1,019,500
Date of last spawning:	4/26/06

\*1,200 eyed eggs were transferred to STEP, and the remainder were shipped to Irrigon Fish Hatchery for incubation and rearing.

## Spawning Record

### Steelhead Imnaha Stock BY05

Little Sheep Creek Facility

Date Spawned	Number of Eggs Taken	Females Spawned	Males Spawned
3/27/06	26,250	5	4
4/04/06	95,100	16	16
4/11/06	105,780	22	23
4/18/06	58,700	12	11
4/25/06	56,100	11	11
5/02/06	46,200	11	8
5/8/06	14,200	3	4
5/15/06	5,900	1	2

Total number of females spawned:	81
Total number of males spawned:	83
Total number of green eggs:	408,230
Total number of eyed eggs:	370,250
Number of eggs retained for rearing:	0*
Number of eggs shipped:	350,990
Date of last spawning:	5/15/06

*\*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.*

## Fingerlings Reared

<b>Rainbow Trout</b>	
<b>Cape Cod Triploid Stock BY05</b>	
Number of smolts produced:	735
Weight of smolts produced (lbs.):	12.17
Percent mortality to transfer:	26.5%
Average number/pound of fingerlings produced:	60.39
Conversion rate:	1.53

### Smolts Reared

**Spring Chinook – Captive Brood Program  
Grande Ronde River Stock BY04**

Number smolts produced:	298
Weight of smolts produced (lbs.):	12.14
Percent mortality to transfer:	1.0%
Average number/pound of smolts produced:	24.55
Conversion rate:	1.11

**Spring Chinook – Conventional Program  
Grande Ronde River Stock BY05**

Number smolts produced:	150
Weight of smolts produced (lbs.):	7.6
Percent mortality to transfer:	4.5%
Average number/pound of smolts produced:	19.74
Conversion rate:	1.08

**Spring Chinook – Captive Brood Program  
Catherine Creek Stock BY04**

Number smolts produced:	282
Weight of smolts produced (lbs.):	12.3
Percent mortality to transfer:	6.0%
Average number/pound of smolts produced:	22.93
Conversion rate:	1.32

**Spring Chinook – Captive Brood Program  
Lostine River Stock BY04**

Number smolts produced:	293
Weight of smolts produced (lbs.):	12.1
Percent mortality to transfer:	2.3%
Average number/pound of smolts produced:	24.21
Conversion rate:	1.28

## Smolts Reared

<b>Steelhead</b>	
<b>Wallowa Stock BY05</b>	
Number of smolts produced:	864,346*
Weight of smolts produced (lbs.):	183,715.00
Percent mortality to stocking:	8.46%
Average number/pound of smolts produced:	4.70
Conversion rate:	1.03 at Irrigon Fish Hatchery

*\*Irrigon Fish Hatchery reared 883,675 smolts weighing 164,295 pounds for this program. A total of 278,538 smolts survived to release from Big Canyon Acclimation Facility. A total of 585,808 smolts survived to release from Wallowa Acclimation Facility. Pounds produced at Wallowa Fish Hatchery facilities totaled 22,395. Conversion rates at Big Canyon and Wallowa Acclimation facilities were 1.21 and 0.96, respectively.*

<b>Steelhead</b>	
<b>Imnaha Stock BY05</b>	
Number smolts produced:	289,091*
Weight of smolts produced (lbs.):	63,106.00
Percent mortality to stocking:	17.4%
Average number/pound of smolts produced:	4.58
Conversion rate:	1.13 at Irrigon Fish Hatchery

*\*Irrigon Fish Hatchery reared 289,967 smolts weighing 59,840 pounds for this program. A total of 128,044 smolts weighing 28,625 pounds were direct-stream released to Big Sheep Creek from Irrigon Fish Hatchery. A total of 161,047 smolts survived to release from Little Sheep Creek Facility, where they were acclimated prior to release. Pounds produced at Little Sheep Creek Facility totaled 3,266.00, and the conversion rate was 1.41.*

<b>Rainbow Trout</b>	
<b>Cape Cod Triploid Stock BY04</b>	
Number of legal size trout produced:	605
Weight of legal size trout produced (lbs.):	220.00
Percent mortality to stocking:	39.5%
Average number/pound of legal size trout produced:	2.75
Conversion rate:	1.41

### Food Fed and Weight Gain

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

Wallowa Hatchery	
Total pounds of food fed	10.27
Conversion rate	1.11
Total pounds weight gained - all sizes produced	8.95

**Chinook – Captive Broodstock Program  
Grande Ronde River Stock BY05**

Wallowa Hatchery	
Total pounds of food fed	0.53
Conversion rate	1.29
Total pounds weight gained - all sizes produced	0.41

**Chinook – Conventional Program  
Grande Ronde River Stock BY05**

Wallowa Hatchery	
Total pounds of food fed	9.04
Conversion rate	1.08
Total pounds weight gained - all sizes produced	8.34

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

Wallowa Hatchery	
Total pounds of food fed	10.95
Conversion rate	1.32
Total pounds weight gained - all sizes produced	7.51

**Chinook – Captive Broodstock Program  
Catherine Creek Stock BY05**

Wallowa Hatchery	
Total pounds of food fed	1.06
Conversion rate	1.07
Total pounds weight gained - all sizes produced	0.99

### Food Fed and Weight Gain

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

Wallowa Hatchery	
Total pounds of food fed	10.70
Conversion rate	1.28
Total pounds weight gained - all sizes produced	8.01

**Chinook – Captive Broodstock Program  
Lostine River Stock BY05**

Wallowa Hatchery	
Total pounds of food fed	0.98
Conversion rate	1.46
Total pounds weight gained - all sizes produced	0.67

**Steelhead  
Wallowa Stock BY05**

Big Canyon Facility	
Total pounds of food fed	5,750.00
Conversion rate	1.21
Total pounds weight gained - all sizes produced	4,747.00

**Steelhead  
Wallowa Stock BY05**

Wallowa Acclimation Pond	
Total pounds of food fed	17,000.00
Conversion rate	0.96
Total pounds weight gained - all sizes produced	17,648.00

### Food Fed and Weight Gain

**Steelhead  
Imnaha Stock BY05**

Little Sheep Creek Facility	
Total pounds of food fed	4,600.00
Conversion rate	1.41
Total pounds weight gained - all sizes produced	3,266.00

**Rainbow Trout  
Cape Cod Triploid Stock BY04**

Wallowa Hatchery	
Total pounds of food fed	151.00
Conversion rate	1.41
Total pounds weight gained - all sizes produced	85.00

**Rainbow Trout  
Cape Cod Triploid Stock BY05**

Wallowa Hatchery	
Total pounds of food fed	17.8
Conversion rate	1.53
Total pounds weight gained - all sizes produced	11.67

### On Hand at Wallowa Fish Hatchery September 30, 2006

**Fish On Hand - BY05**

Species	Stock	Number
Spring Chinook	Grande Ronde River Captive Brood	150
Spring Chinook	Lostine River Captive Brood	294
Spring Chinook	Catherine Creek Captive Brood	300
Spring Chinook	Grande Ronde Conventional	150
Spring Chinook	Lostine River Conventional	329

**FY06 Stocking**

Total number of distribution trips:	6*
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:	439,585
Weight of smolts stocked:	91,478 lbs
Date, location, number and weight at each stocking:	See Attached

\*Three trips were to transport Captive Broodstock to Manchester and Bonneville Hatchery.

**Wallowa Fish Hatchery and Associated Facility Stocking Records  
October 1, 2005 through September 30, 2006**

FACILITY	SPECIES	LOT	TYPE	DATE	FROM/TO	NO/LB	MORTS	NUMBER STOCKED	POUNDS STOCKED
BIG CANYON	SUMMER STEELHEAD	056 05	LIBERATION	4/12/06	DEER CREEK	4.70	0	94,100	20,021.00
BIG CANYON	SUMMER STEELHEAD	056 05	LIBERATION	4/13/06	DEER CREEK	4.60	0	93,657	20,360.00
BIG CANYON	SUMMER STEELHEAD	056 05	LIBERATION	5/2/06	DEER CREEK	5.39	0	86,083	15,976.00
BIG CANYON	SUMMER STEELHEAD	056 05	LIBERATION	5/16/06	WALLOWA WILDLIFE PD	7.34	0	1,028	140.00
BIG CANYON	SUMMER STEELHEAD	056 05	LIBERATION	5/16/06	KINNEY LK	7.34	0	3,670	500.00
LITTLE SHEEP	SUMMER STEELHEAD	029 05	LIBERATION	4/11/06	SHEEP CR, L	4.70	0	151,860	32,311.00
LITTLE SHEEP	SUMMER STEELHEAD	029 05	LIBERATION	5/9/06	KINNEY LK	4.23	0	9,187	2,170.00
WALLOWA ACC	SUMMER STEELHEAD	056 05	LIBERATION	4/9/06	SPRING CR	4.40	0	226,859	51,559.00
WALLOWA ACC	SUMMER STEELHEAD	056 05	LIBERATION	4/10/06	SPRING CR	4.60	0	193,686	42,106.00
WALLOWA ACC	SUMMER STEELHEAD	056 05	LIBERATION	4/29/06	SPRING CR	5.00	0	165,263	33,053.00
WALLOWA	SPRING CHINOOK	080 05	LIBERATION	8/14/06	GRANDE RONDE AT ACC PD -CTUIR	27.00	0	23	0.85
WALLOWA	SPRING CHINOOK	080Z04	TRANSFER	5/3/06	MANCHESTER	24.56	0	148	6.03
WALLOWA	SPRING CHINOOK	080Z04	TRANSFER	5/10/06	BONNEVILLE HATCHERY	24.00	0	150	6.25
WALLOWA	SPRING CHINOOK	200Z04	TRANSFER	5/3/06	MANCHESTER	24.23	0	293	12.09
WALLOWA	SPRING CHINOOK	201Z04	TRANSFER	5/10/06	BONNEVILLE HATCHERY	22.03	7	275	12.48