

IRRIGON FISH HATCHERY

INTRODUCTION

Location

Irrigon Fish Hatchery is located on the Columbia River in Morrow County, Oregon, approximately 279.4 miles upstream from the river mouth. There are no satellite facilities associated with this hatchery.

OBJECTIVES

Mitigation Goals

Irrigon Fish Hatchery is part of the Lower Snake River Compensation Program (LSRCP) and has been in operation since 1985. The annual production goal is to rear 1.2 million steelhead smolts for release into the Grande Ronde and Imnaha River systems. To meet LSRCP goals, Irrigon Fish Hatchery receives eyed steelhead eggs from Wallowa Fish Hatchery and rears them to release or acclimation. Non-LSRCP fish reared include legal sized rainbow trout and 240,000 wild winter steelhead.

SUMMER STEELHEAD

Imnaha Stock

Brood Year 2000: Production was completed on 20 April, 2001 with the transfer of 243,146 Imnaha stock (2900) steelhead smolts to Little Sheep Creek acclimation pond and the liberation of 100,166 smolts into Big Sheep Creek. Of the smolts in Little Sheep Creek acclimation pond, 22.4% were tagged with blank wire tags and no other mark, 22.4% were coded-wire tagged and identified with an AdLV clip, and 55.2% were Ad-only clipped. Of the smolts released into Big Sheep Creek, 49,811 received a red, left eye visual implant elastomer (VIE) tag and no other mark, and 50,405 were Ad-only clipped.

Brood Year 2001: In May and June of 2001, the hatchery received 358,630 Imnaha stock (2901) eyed eggs from Wallowa Fish Hatchery. The 305,562 resulting fingerlings were on hand 30 September 2001.

Wallowa Stock

Brood Year 2000: Rearing was completed on 4 May, 2001 with the transfers of 869,054 Wallowa stock (5600) steelhead smolts to Wallowa and Big Canyon acclimation ponds. All fish had adipose fins removed. In addition, 156,556 smolts were coded-wire tagged and left ventral clipped. The 44,070 grade-outs were excess to production goals and were liberated into Phillips Reservoir 16 October 2000.

Brood Year 2001: Production began with the transfer of 999,700 eyed Wallowa stock (5601) steelhead eggs from Wallowa Hatchery in the spring of 2001. A total of 874,747 Wallowa stock steelhead was on hand 30 September 2001.

CHINOOK

Imnaha Stock

Brood Year 2000: We transferred 29,330-eyed eggs from low BKD females to Oxbow Fish Hatchery. The incubation and initial rearing of the eggs from the one moderate BKD female was completed. We transferred 3,984 fingerlings to Lookingglass Hatchery on March 16,2001.

Brood Year 2001: This year the first three and the last egg takes of the Imnaha (2901) spring Chinook eggs came to Irrigon Fish Hatchery. Gametes from these egg takes were harvested at Lookingglass Fish Hatchery and transported to Irrigon Fish Hatchery, where mixing of eggs and sperm took place. An estimated egg take of 184,500 were on hand 30 September 2001. Only the eggs from the moderate- or high-titer BKD females will be held at Irrigon Fish Hatchery to complete incubation and early rearing. The rest will be transferred to Oxbow Fish Hatchery as eyed eggs.

CONVENTIONAL BROODSTOCK

Lostine Stock

Brood Year 2000: As the earlier egg takes of Lostine River (200W00) spring Chinook incubating at Oxbow Fish Hatchery eyed up they were transferred to Irrigon Fish Hatchery. The resulting 33,125 fingerlings were transferred to Lookingglass Fish Hatchery on 23 March 2001.

Brood Year 2001: This year the first three and final egg takes of Lostine River (200W01) spring Chinook came to Irrigon Fish Hatchery. Gametes from these egg takes were harvested at Lookingglass Fish Hatchery and transported to Irrigon Fish Hatchery, where mixing of eggs and sperm took place. An estimated 80,000 eggs were on hand 30 September 2001. These will be eyed up and transferred to Oxbow Fish Hatchery.

Catherine Creek Stock

Brood Year 2001: This was the first year the Catherine Creek (201W01) conventional broodstock program produced eggs. The first two egg takes of Catherine Creek spring Chinook came to Irrigon Fish Hatchery. Gametes were harvested at Lookingglass Fish Hatchery and transported to Irrigon Fish Hatchery, where mixing of eggs and sperm took place. An estimated 35,800 eggs were on hand 30 September 2001.

Grande Ronde Stock

Brood Year 2001: This was the first year the upper Grande Ronde River (80W01) conventional broodstock program produced eggs. The first egg take of upper Grand Ronde River spring Chinook came to Irrigon Fish Hatchery. Gametes were harvested at Lookingglass Fish Hatchery and transported to Irrigon Fish Hatchery, where mixing of eggs and sperm took place. An estimated 4,500 eggs were on hand 30 September 2001.

CAPTIVE BROOD F1

Brood Year 2000: Irrigon Fish Hatchery received eyed eggs from Oxbow Fish Hatchery for hatching and initial rearing. The resulting 62,833 fingerlings (Lostine River stock), 194,196 fingerlings (Catherine Creek stock) and 220,485 (upper Grande Ronde River stock) were transferred to Lookingglass Fish Hatchery by 23 March 2001.

WINTER STEELHEAD

Clackamas River Stock

Brood Year 2000: On 17 October, 2000, we transferred 16,428 fingerlings to Clackamas Fish Hatchery to complete the rearing cycle. We reared 94,201 Clackamas River stock (12200) wild winter steelhead to smolts and transferred them back to Clackamas Hatchery for acclimation by 21 March, 2001.

Brood Year 2001: We received 144,833 eyed eggs from Clackamas Fish Hatchery by June 4, 2001. A total of 135,847 fingerlings were on hand as of 30 September, 2001.

Sandy River Stock

Brood Year 2000: We transferred 119,178 Sandy River stock (11W00) wild winter steelhead smolts to Sandy Hatchery for acclimation.

Brood Year 2001: We received 132,521 eyed eggs from Sandy Fish Hatchery in June 2001. A total of 130,131 fingerlings was on hand as of 30 September, 2001.

RAINBOW TROUT

Roaring River Stock

During the reporting period, Irrigon hatchery received 92,922 legal rainbow trout (7299) from Fall River and Wizard Falls Hatcheries. This provided 92,323 legal rainbow that were stocked late spring and summer of 2001.

CONSTRUCTION AND MAINTENANCE

A 200 hp and 100-hp pump were pulled and repaired by a contractor in the Raniey collectors.

Replaced a pump motor on the domestic water system.

Replaced freezer unit for cold storage.

Installed under ground sprinklers in area north of hatchery building.

Identified and placed signs on confined spaces.

Installed eyewash stations in the shop, mechanical building and pump stations.

Contractor installed smoke alarm system in residences.

The maintenance staff repaired several breaks in the domestic water line.

Installed illuminated exit signs in the hatchery building and shop.

Replaced incandescent bulbs with compact florescent bulbs.

Crew built replacement pond screen frames.

The maintenance staff built a new incinerator for disposing of feed bags.

Hatchery hosts helped out from March – September.

MAJOR PURCHASES

Passenger Van	21,400.00
Freezer unit	18,850.00
Aluminum Pond Screens	15,950.00
Lawn Tractor	14,550.00
Repair 200 hp pump	7,300.00
Repair 100 hp pump	6,300.00
Pressure Washer	2,500.00
Smoke Alarm Installation	2,500.00
Repair domestic pump	<u>2,350.00</u>

Total \$ 91,700.00

The Chinook Captive Broodstock Program is funded by the Lower Snake River Compensation Plan from egg incubation through release of progeny. Although the adults below were spawned at Bonneville Fish Hatchery, the eyed eggs and fry produced were reared at Irrigon Fish Hatchery until transfer to Lookingglass Fish Hatchery in April 2001.

SPAWNING RECORD

**Chinook Captive Broodstock Program
Upper Grande Ronde River Stock BY00**

Bonneville Fish Hatchery

Date Spawned	Number of Eggs Taken	Females Spawned	Males Spawned
9/12/00	11,279	6	8
9/13/00	31,381	17	17
9/20/00	85,149	47	47
9/27/00	37,970	28	28
9/28/00	65,860	45	45
10/03/00	58,330	41	40
10/12/00	8,909	4	2

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

Total number of females spawned: 188
 Total number of males spawned: 187
 Total number of cryopreserved sperm samples used: 12
 Total number of green eggs: 298,878
 Total number of eyed eggs: 256,004
 Number of eggs retained for rearing: 0
 Number of eggs shipped: 298,878*
 Date of last spawning: 10/12/00

**All upper Grande Ronde River stock green eggs were shipped to Oxbow Fish Hatchery for eye-up. Once eyed, the eggs were shipped to Irrigon Fish Hatchery for incubation and rearing.*

SPAWNING RECORD

**Chinook Captive Broodstock Program
Catherine Creek Stock BY00**

Bonneville Fish Hatchery

Date Spawned	Number of Eggs Taken	Females Spawned	Males Spawned
9/07/00	6,585	3	5
9/12/00	22,344	12	18
9/21/00	37,211	21	21
9/22/00	84,291	47	62
9/26/00	57,002	40	47
10/04/00	71,354	45	21
10/11/00	17,977	11	4

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

Total number of females spawned:	179
Total number of males spawned:	178
Total number of cryopreserved sperm samples used:	38
Total number of green eggs:	296,764
Total number of eyed eggs:	219,095
Number of eggs retained for rearing:	0
Number of eggs shipped:	296,764*
Date of last spawning:	10/11/00

**Catherine Creek stock green eggs were shipped to Oxbow Fish Hatchery for eye-up. Once eyed, the eggs were shipped to Irrigon Fish Hatchery for incubation and rearing.*

SPAWNING RECORD

**Chinook Captive Broodstock Program
Lostine River Stock BY00**

Bonneville Fish Hatchery

Date Spawned	Number of Eggs Taken	Females Spawned	Males Spawned
9/07/00	5,876	3	7
9/13/00	16,643	10	21
9/21/00	59,531	32	77
9/26/00	16,288	13	26
9/27/00	25,667	17	42
10/03/00	23,994	17	38
10/12/00	4,271	2	4

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

Total number of females spawned:	94
Total number of males spawned:	215
Total number of cryopreserved sperm samples used:	7
Total number of green eggs:	152,270
Total number of eyed eggs:	91,540
Number of eggs retained for rearing:	0
Number of eggs shipped:	152,270*
Date of last spawning:	10/12/00

**Lostine River stock green eggs were shipped to Oxbow Fish Hatchery for eye-up. Once eyed, the eggs were shipped to Irrigon Fish Hatchery for incubation and rearing.*

Legal Trout Reared

Rainbow Trout Cape Cod Stock BY99	
Number legals produced:	92,323
Weight of legals produced (lbs.):	32,269.68
Percent mortality to stocking:	0.64%
Average number/pound of legals produced:	2.86
Conversion rate:	1.26

Rainbow Trout Wild <i>O. mykiss</i> Stock BY00	
Number of trout produced:	295
Weight of trout produced (lbs.):	50.90
Percent mortality to stocking:	18.28%
Average number/pound of trout produced:	5.80
Conversion rate:	1.66

*These progeny of wild rainbow females were reared as part of the *O. mykiss* breeding experiment. . . A combination of Deer and Sumac creek resident wild stocks were used. Females were crossed with wild rainbow males or Wallowa stock steelhead. They were released into Deer Creek on 5/04/2001.*

Rainbow Trout Wild Prairie Creek Stock BY01	
Number of trout produced:	2,243
Weight of trout produced (lbs.):	33.78
Percent mortality to stocking:	3.11%
Average number/pound of trout produced:	66.40
Conversion rate:	1.18

*These progeny of wild Prairie Creek rainbow females are being reared as part of the *O. mykiss* breeding experiment. Females were crossed with wild Prairie Creek rainbow males or Wallowa stock steelhead. Target release date is May 2002.*

Presmolts Reared

Steelhead

Wallowa Stock BY01

Number of presmolts produced:	44,070
Weight of presmolts produced (lbs.):	650.00
Percent mortality to stocking:	4.83%
Average number/pound of presmolts produced:	67.80
Conversion rate:	1.05

These steelhead were released into Phillips Reservoir 10/16/2000. They were excess to program needs.

Smolts Reared

Steelhead

Wallowa Stock BY00

Number of smolts produced:	869,889
Weight of smolts produced (lbs.):	169,905.70
Percent mortality to stocking/transfer:	4.82%
Average number/pound of smolts produced:	4.53
Conversion rate:	1.04

Smolts produced include 869,054 smolts weighing 169,728 pounds reared for acclimation and release from Big Canyon and Wallowa acclimation ponds. Also included are 835 progeny from Wallowa stock females reared as part of the O. mykiss breeding experiment and released into Deer Creek on 5/04/2001.

Steelhead

Imnaha Stock BY00

Number of smolts produced:	343,312
Weight of smolts produced (lbs.):	67,428.53
Percent mortality to transfer or release:	3.00%
Average number/pound of smolts produced:	5.09
Conversion rate:	1.12

A total of 243,146 smolts weighing 48,235 pounds were transported to Little Sheep Creek Facility for acclimation and release. An additional 100,166 smolts were released directly into Big Sheep Creek 4/17 - 4/20/2001.

Food Fed and Weight Gain

**Rainbow Trout
Cape Cod Stock BY99**

Irrigon Fish Hatchery	
Total pounds of food fed	7,375.00
Conversion rate	1.26
Total weight gain (lbs.) - all sizes produced	5,838.00

**Rainbow Trout
Wild O. mykiss Stock BY00**

Irrigon Fish Hatchery	
Total pounds of food fed	84.59
Conversion rate	1.66
Total weight gain (lbs.) - all sizes produced	50.90

Progeny of wild resident females; a combination of Deer and Sumac creek stocks.

**Rainbow Trout
Wild O. mykiss Stock BY01**

Irrigon Fish Hatchery	
Total pounds of food fed	40.00
Conversion rate	1.18
Total weight gain (lbs.) - all sizes produced	33.78

Progeny of wild resident females; Prairie Creek stock only.

**Steelhead
Wallowa Stock BY00**

Irrigon Fish Hatchery	
Total pounds of food fed	178,072.30
Conversion rate	1.04
Total weight gain (lbs.) - all sizes produced	170,617.70

Food Fed and Weight Gain

**Steelhead
Wallowa Stock BY01**

Irrigon Fish Hatchery	
Total pounds of food fed	12,958.00
Conversion rate	1.07
Total weight gain (lbs.) - all sizes produced	12,149.32

**Steelhead
Imnaha Stock BY00**

Irrigon Fish Hatchery	
Total pounds of food fed	76,559.00
Conversion rate	1.12
Total weight gain (lbs.) - all sizes produced	68,190.00

**Steelhead
Imnaha Stock BY01**

Irrigon Fish Hatchery	
Total pounds of food fed	4,664.00
Conversion rate	1.20
Total weight gain (lbs.) - all sizes produced	3,876.06

**Chinook
Imnaha Stock BY00**

Irrigon Fish Hatchery	
Total pounds of food fed	11.00
Conversion rate	1.22
Total weight gain (lbs.) - all sizes produced	9.00

Food Fed and Weight Gain

**Chinook
Upper Grande Ronde Stock (F₁'s) BY00**

Irrigon Fish Hatchery	
Total pounds of food fed	547.00
Conversion rate	1.11
Total weight gain (lbs.) - all sizes produced	492.00

These are progeny of captive broodstock parents spawned in 2000.

**Chinook
Catherine Creek Stock (F₁'s) BY00**

Irrigon Fish Hatchery	
Total pounds of food fed	483.00
Conversion rate	1.16
Total weight gain (lbs.) - all sizes produced	418.00

These are progeny of captive broodstock parents spawned in 2000.

**Chinook
Lostine River Stock (F₁'s) BY00**

Irrigon Fish Hatchery	
Total pounds of food fed	159.00
Conversion rate	1.16
Total weight gain (lbs.) - all sizes produced	137.00

These are progeny of captive broodstock parents spawned in 2000.

**Chinook - Conventional Broodstock
Lostine River Stock BY00**

Irrigon Fish Hatchery	
Total pounds of food fed	82.00
Conversion rate	0.83
Total weight gain (lbs.) - all sizes produced	99.00

These are progeny of adults removed from the Lostine River and spawned in 2000.

FY01 Stocking

Total number of distribution trips:	85*
Number of fry stocked	0
Weight of fry stocked:	0 lbs.
Number of fingerlings stocked:	0
Weight of fingerlings stocked:	0 lbs.
Number of pre-smolts stocked:	44,070
Weight of pre-smolts stocked:	650.00 lbs
Number of smolts stocked:	145,906
Weight of smolts stocked:	20,198.93 lbs.
Number of legal trout stocked:	92,323
Weight of legal trout stocked:	32,269.68 lbs.
Date, location, number and weight at each stocking:	See Attached

**Approximately 46 trips were used for hauling steelhead to Big Canyon, Little Sheep Creek, or Wallowa acclimation pond facilities prior to release.*

LOOKINGGLASS FISH HATCHERY

INTRODUCTION

Location

Lookingglass Fish Hatchery is located on the left bank of Lookingglass Creek at river mile 2.2, approximately 85 miles upstream from the mouth of the Grande Ronde River and 324 miles upstream from the mouth of the Columbia River.

Imnaha Satellite Facility is located at river mile 46 on the Imnaha River. This facility is used for adult collection and smolt acclimation. During the summer months, Imnaha Weir is installed across the Imnaha River at this site.

OBJECTIVES

Mitigation Goals

Lookingglass Fish Hatchery is part of the Lower Snake River Compensation Program (LSRCP) and has been in operation since 1982. A satellite facility on the Imnaha River is used for smolt acclimation and adult collection. Mitigation goals are variable according to adult returns and interagency agreements. The anticipated 2001 release of Imnaha stock (2999) smolts from Imnaha Satellite Facility was 119,900 fish. The actual release was 123,014 Imnaha (2999) smolts. The Lookingglass Fish Hatchery allocation of Rapid River (8599) stock smolts was 30,000; a total of 24,201 Rapid River (8599) smolts were actually released in 2001.

CHINOOK

Adult Returns

The Imnaha Weir was installed on May 24, 2001, and Chinook collection continued through September 19, 2001. A total of 3,501 Imnaha (2901) Chinook, 1,297 males, 1,526 females and 678 jacks, returned to Imnaha Satellite Facility in 2001. Of the 678 jacks collected, 480 were released to spawn naturally by special agreement with the National Marine Fisheries Service, and 54 were given to the Nez Perce Tribe. A total of 342 Chinook, consisting of 92 males, 109 females and 141 jacks, was collected for broodstock and transported to Lookingglass Fish Hatchery. All surviving fish were spawned and sperm was collected from wild males and jacks for cryopreservation. Fish collected but not kept for broodstock were opercle punched and released to spawn naturally. In 2001, 1,112 males, 1,273 females and 254 jacks were passed above the weir into the Imnaha River. Forty-six males, 72 females and 136 jacks were outplanted to Lick Creek; and 44 males, 68 females and 90 jacks were outplanted to Big Sheep Creek. A total of 632 Rapid River (8501) Chinook, consisting of 309 males, 318

females, two jacks and three subjacks, returned to Lookingglass Fish Hatchery in 2001. Five hundred twenty-eight Rapid River (8501) Chinook collected at Lookingglass Fish Hatchery were returned to Lookingglass Creek. The remaining 55 males and 46 females were sacrificed for potential use in a nutrient enrichment study, and 3 subjacks were sacrificed for research.

Egg Production

Lack of chilled well water at Lookingglass Fish Hatchery during FY 2001 prevented egg incubation on site. Green eggs and sperm were shipped to either Irrigon or Oxbow fish hatcheries. All actual fertilization (mixing of eggs and sperm) took place at these facilities.

During the report period a total of 98 Imnaha stock (2901) females were spawned for an estimated yield of 459,276 green eggs. Irrigon Fish Hatchery received an estimated 189,542 green eggs and Oxbow Fish Hatchery received an estimated 269,734 green eggs.

The following are conventional Chinook broodstock spawned in 2001:

Eight upper Grande Ronde stock (80W01) females were spawned for an estimated yield of 35,360 green eggs. Irrigon Fish Hatchery received an estimated 4,420 green eggs and Oxbow Fish Hatchery received an estimated 30,940 green eggs.

A total of 36 Lostine stock (200W01) females were spawned for an estimated yield of 160,680 green eggs. Irrigon Fish Hatchery received an estimated 95,954 green eggs and Oxbow Fish Hatchery received an estimated 65,726 green eggs.

Twelve Catherine Creek stock (201W01) females were spawned for an estimated yield of 43,813 green eggs. Irrigon Fish Hatchery received an estimated 30,313 green eggs and Oxbow Fish Hatchery received an estimated 13,500 green eggs.

Conventional Chinook Program

Upper Grande Ronde collection facility: ten female and eight male upper Grande Ronde River (80W00) adults were transported to Lookingglass Fish Hatchery for use as broodstock.

Catherine Creek collection facility: 15 females, 10 males and one jack of Catherine Creek origin were transported to Lookingglass Fish Hatchery for use as broodstock.

Lostine River collection facility: 42 females, 38 males, and one jack of Lostine River origin were transported to Lookingglass Fish Hatchery for use as broodstock.

Captive Brood Program

A separate annual report covers the operation of this program.

Miscellaneous

PIT-tagging was completed on the BY 1999 Imnaha, Lostine, Catherine Creek and upper Grande Ronde River stocks of Chinook during October 2000.

CONSTRUCTION AND MAINTENANCEMaintenance projects accomplished by the hatchery crew

- Built three new storage lockers.
- Repaired the air release valve in tempering well #2 building.
- Updated the safety equipment in all vehicles.
- Repaired holes in dip nets.
- Fixed snow chains for trucks.
- Cleaned rocks out of intake.
- Repaired handle on electric jack.
- Repaired the Imnaha jump panels.
- Constructed a slide gate for the smolt release channel by the fish ladder entrance.
- Inventoried, organized, and color-coded the intake building tools.
- Painted the crew room.
- Stripped and waxed hatchery floors.
- Checked and serviced all pressure washers.
- Serviced and inspected the JD 310B backhoe.
- Completed maintenance on the Cushman feed cart.
- Replaced a hydraulic hose on the backhoe.
- Pressure washed and fire-hosed hatchery grounds to remove gravel and debris.
- Inspected and serviced all power washers.
- Serviced snow chains.
- Performed annual maintenance on the automatic feeders.
- Replaced screen door on Imnaha Facility residence.
- Repaired roof leak and repaired trailer tailgate on the Imnaha van.
- Installed shorter standpipes in the endemic circulars to regulate and stabilize flows.
- Repaired fish weir barrier
- Installed boards on three endemic circulars to prevent jump-outs.
- Designed and mounted a permanent sprinkler system for the adult channel.
- Repainted the porch, metal doors and weir hoist support at Imnaha Facility.
- Repainted the Kohler generator.
- Built and mounted a permanent box for the electric fencer.
- Repaired and replaced electrical wires for the fencer.
- Installed metal ladders in both sides of the intake vault at Imnaha.
- Cleaned and UV protected the visitors' signs.
- Conducted fire plan activities to minimize wild fires in areas adjacent to buildings.
- Repaired and rebuilt pond screens at Imnaha Facility.
- Repaired spawn building doors at Imnaha Facility.
- Spot painted the buildings at Imnaha Facility.
- Fabricated two new picnic tables.
- Replaced the dryer vent in Imnaha Facility residence.

Maintenance projects accomplished by contractors

Rogers Asphalt - Layed asphalt around valves that were installed last summer.

Barnes Diesel - Serviced backup generators. Serviced an electrical problem on the backhoe and repaired the blade gearbox on the road grader.

Ray Dusenberry's Satellite - Replaced older C-band satellite systems at the hatchery with digital mini dishes (parts for the old systems were costly and scarce, and necessitated replacement).

The Door Guy - Replaced damaged garage doors on three hatchery houses.

GCT Construction - Replaced damaged concrete steps leading from the hatchery to the raceways.

S and G MACHINERY - Repaired and serviced the backhoe.

Becker Construction - Cleaned out intake.

Elkhorn Electric, Inc. - Repaired fluorescent light over chillers. Installed motion lights in hatchery residences and repaired grizzly hoist motor in the intake. Elkhorn also troubleshot breaker tripping problem in hatchery residences.

Lin-Tec Machine - Replaced bearings in bench grinder. Wired in the tank on the liberation truck. Repaired automatic raceway feeders (were not throwing feed properly). Repaired rear seal and leaking valve gate on the adult transportation tank. Repaired an air compressor in the spawning room.

Elkhorn Electric, Inc. - Repaired switches on #1 and #2 grizzlies at the intake. Repaired two infra-red heaters for the traveling water screens, as well as the fish attraction lights at the intake. Replaced the clock motor for the outside facility lights, troubleshot the battery charger on the electric pallet jack. Replaced electrical cords on both the drill press and belt sander and a ballast in a light in the equipment building. Elkhorn finished installing the RV outlet for the Imnaha Van Trailer.

Joey Vanleuven - Installed shelves in the hatchery and cabinets in the residences.

J. B. Bane Electric - Repaired the Onan generator. Repaired and serviced the Kohler and serviced the Onan generators at the Imnaha Facility.

Miller Plumbing & Supply - Repaired leaking valves at the Imnaha Facility.

MITrac Construction, Inc. – Cleared debris buildup in front of the return channels and intake. Completed fill and removal work (cleared rock and gravel from the mouth of the Lookingglass Creek intake building).

McGowan Construction, Richland, WA - Serviced, repaired and balanced chillers, and sorted out electrical problems and compliance issues addressed with ancillary equipment.

Racom - Installed radiophone at Imnaha Facility.

Wilde Electric - Performed service on the RTU unit for tempering well #2.

Crane Pro Services - Completed crane and hoist inspections at both Lookingglass Fish Hatchery and Imnaha Facility.

Harlan Menton, Locksmith - Replaced the locks on three doors at Imnaha Facility.

MAJOR EXPENSES

Repair & maintenance of buildings and grounds	\$ 46,902.00
Fish food	46,552.00
Repairs and maintenance to equipment	34,360.00
Temporary services	27,054.00
Supplies	20,400.00
Communication services	16,651.00
Utilities	14,800.00
Chemicals	4,206.00
Office supplies	<u>2,495.17</u>
Total:	\$ 213,420.00

Adult Returns to Hatchery

**Chinook
Rapid River Stock BY01**

Lookingglass Fish Hatchery	
Date of first return:	May 9,2001
Date of last return:	September 10, 2001
Number of females returning:	318
Number of males returning:	314
Date of peak returns:	May 23, 2001
Number of females released to spawn naturally:	271*
Number of males released to spawn naturally:	253*
Mortality of all adult returns:	1 female; 3 males

**Fifty-five males and 46 females were sacrificed for potential use in a nutrient enrichment study and 3 subjacks were sacrificed for research. After receiving disease clearance, nutrient enrichment carcasses will be placed along streams, flagged, and examined for utilization several weeks after placement.*

A sport fishery was held on Lookingglass Creek May 26 - July 1, 2001. Observed angler harvest was 428 AdLV clipped chinook (unexpanded). These fish were taken within 2 1/2 miles of the hatchery trap. A tribal fishery was also held in Lookingglass Creek above the hatchery; angler harvest figures are not available.

Adults Trapped Off Hatchery and Transported to Hatchery

**Chinook
Imnaha Stock BY01**

Lookingglass Fish Hatchery	
Where trapped:	Imnaha Satellite Facility
Date weir installed:	May 24, 2000
Dates trapped:	June 5 - Sept 19, 2001
Number of females returning:	1,526
Number of males returning:	1,975
Date of peak returns:	July 6, 2001
Number of females released to spawn naturally:	1,413
Number of males released to spawn naturally:	1,682
Mortality of all adult returns:	24 females, 64 males

A total of 678 males were jacks. Of these, 480 jacks were released to spawn naturally by special agreement with National Marine Fisheries Service. In addition, 54 jacks were given to the Nez Perce Tribe. Disposition of fish released to spawn naturally: 1,112 males, 1,273 females and 254 jacks were released in the Imnaha River; 46 males, 72 females and 136 jacks went to Lick Creek; 44 males, 68 females and 90 jacks went to Big Sheep Creek.

**Conventional Chinook Program
Grande Ronde River Stock BY01**

Lookingglass Fish Hatchery	
Where trapped:	Upper Grande Ronde Weir
Dates trapped:	March 31 - July 30, 2001*
Number of adults trapped:	17 females, 33 males
Date of peak returns:	June 1, 2001
Number of adults released to spawn naturally:	7 females, 22 males
Number of adults transported to hatchery:	10 females, 11 males
Mortality of all adults trapped:	2 females, 3 males

**The weir was removed on 7/13/2001. The last six fish were seined from the upper Grande Ronde River on 7/30/2001 in the vicinity of the weir.*

**Conventional Chinook Program
Catherine Creek Stock BY01**

Lookingglass Fish Hatchery

Where trapped:	Catherine Creek Weir
Dates trapped:	March 20 - Sept 4, 2001
Number of adults trapped:	42 females, 69 males
Number of adults released to spawn naturally:	27 females, 31 males
Number of adults transported to hatchery:	15 females, 9 males
Mortality of all adults trapped:	0 females, 1 male

Thirty-seven of the 69 males collected were jacks. Of these, 28 hatchery jacks were dispatched at the trap site and donated to the Union County Salvation Army food share program.

**Conventional Chinook Program
Lostine River Stock BY01**

Lookingglass Fish Hatchery

Where trapped:	Lostine River Weir
Dates trapped:	April 27 - October 1, 2001
Number of adults trapped:	177 females, 267 males
Number of adults released to spawn naturally:	141 females, 215 males
Number of adults transported to hatchery:	42 females, 39 males
Mortality of all adults trapped:	0 females, 1 male

Of the chinook transported to Lookingglass Fish Hatchery, four adipose, right ventral-clipped strays (two females and two males) were killed and sampled for coded-wire tag recovery. Five adipose-clipped jacks, progeny of captive brood, were killed and sampled for coded-wire tags.

Spawning Record

**Chinook
Imnaha Stock BY01**

Lookingglass Fish Hatchery

Date Spawned	Number of Eggs Taken	Females Spawned	Males Spawned
8/14/01	4,341	1	1
8/21/01	27,600	6	7
8/28/01	153,345	33	52
9/07/01	255,343	54	92
9/11/01	14,391	3	17
9/18/01	4,256	1	2

Imnaha stock chinook eggs and sperm were combined according to matrices. Hatchery jacks were pooled; wild jacks and all other adults were spawned one to a matrix cell.

Total number of females spawned: 98
 Total number of males spawned: 165 (six were used twice)
 Total number of green eggs: 459,276
 Total number of eyed eggs: 278,849
 Number of eggs retained for rearing: 0
 Number of eggs shipped: 275,257*
 Date of last spawning: 9/18/01

**Due to lack of chilled well water at Lookingglass Fish Hatchery, Imnaha stock gametes were shipped to either Irrigon or Oxbow fish hatchery. Mixing of eggs and sperm took place at these facilities. Eggs are incubating as follows:*

Green eggs shipped to Oxbow Fish Hatchery: 269,734

Green eggs shipped to Irrigon Fish Hatchery: 189,542

All eyed eggs will be incubated and reared at Oxbow Fish Hatchery.

Spawning Record

**Conventional Chinook Program
Upper Grande Ronde Stock BY01**

Lookingglass Fish Hatchery

Date Spawned	Number of Eggs Taken	Females Spawned	Males Spawned
8/30/01	4,420	1	2
9/05/01	13,260	3	3
9/11/01	17,680	4	4

Upper Grande Ronde stock chinook were spawned by matrices, depending on available mature broodstock.

Total number of females spawned: 8
 Total number of males spawned: 8 (one was used twice)
 Total number of green eggs: 35,360
 Total number of eyed eggs: 25,339
 Number of eggs retained for rearing: 0
 Number of eggs shipped: 35,360
 Date of last spawning: 9/11/01

*Due to lack of chilled well water at Lookingglass Fish Hatchery, upper Grande Ronde stock gametes were shipped to either Irrigon or Oxbow fish hatchery. Mixing of eggs and sperm took place at these facilities. Eggs are incubating as follows:
 Green eggs shipped to Oxbow Fish Hatchery: 30,940
 Green eggs shipped to Irrigon Fish Hatchery: 4,420
 All eyed eggs will be incubated and reared at Irrigon Fish Hatchery.*

**Conventional Chinook Program
Lostine Stock BY01**

Lookingglass Fish Hatchery

Date Spawned	Number of Eggs Taken	Females Spawned	Males Spawned
8/16/01	3,816	1	2
8/23/01	14,904	4	4
8/30/01	66,320	13	12
9/05/01	52,411	13	12
9/11/01	13,315	3	2
9/18/01	9,914	2	3

Lostine stock chinook were spawned by matrices, depending on available mature broodstock. Female #7 was partially spawned out.

Total number of females spawned: 36
 Total number of males spawned: 33 (two were used twice)
 Total number of green eggs: 160,680
 Total number of eyed eggs: 97,493
 Number of eggs retained for rearing: 0
 Number of eggs shipped: 160,680*
 Date of last spawning: 9/18/01

Due to lack of chilled well water at Lookingglass Fish Hatchery, Lostine stock gametes were shipped to either Irrigon or Oxbow fish hatchery. Mixing of eggs and sperm took place at these facilities. Eggs are incubating as follows:

*Green eggs shipped to Oxbow Fish Hatchery: 65,726
 Green eggs shipped to Irrigon Fish Hatchery: 94,954*

All eyed eggs will be incubated and reared at Oxbow Fish Hatchery.

**Conventional Chinook Program
Catherine Creek Stock BY01**

Lookingglass Fish Hatchery

Date Spawned	Number of Eggs Taken	Females Spawned	Males Spawned
8/23/01	10,112	3	3
8/30/01	20,201	6	3
9/05/01	13,500	3	7

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

Total number of females spawned: 12
 Total number of males spawned: 7 *(six were used more than once)*
 Total number of green eggs: 43,813
 Total number of eyed eggs: 26,426
 Number of eggs retained for rearing: 0
 Number of eggs shipped: 43,813
 Date of last spawning: 9/05/01

*Due to lack of chilled well water at Lookingglass Fish Hatchery, Catherine Creek stock gametes were shipped to either Irrigon or Oxbow fish hatchery. Mixing of eggs and sperm took place at these facilities. Eggs are incubating as follows:
 Green eggs shipped to Oxbow Fish Hatchery: 13,500
 Green eggs shipped to Irrigon Fish Hatchery: 30,313
 All eyed eggs will be incubated and reared at Irrigon Fish Hatchery.*

Rearing to Parr Stage Only

**Chinook
Catherine Creek Stock BY00**

Number of parr produced:	51,864
Weight of parr produced (lbs):	2,116.90
Percent mortality to stocking:	3.65%
Average number/pound of parr produced:	24.50
Conversion rate:	1.05

These captive broodstock parr were released early to reduce densities at Lookingglass Fish Hatchery. Adults were spawned at Bonneville Fish Hatchery. Eyed eggs were incubated at Irrigon Fish Hatchery and parr were transferred to Lookingglass Fish Hatchery March, 2001. Parr were released into Lookingglass Creek on 9/24/2001.

**Chinook
Imnaha Stock BY99**

Number of smolts produced:	123,014
Weight of smolts produced (lbs.):	7,994.20
Percent mortality to stocking:	1.31%
Average number/pound of smolts produced:	16.04
Conversion rate:	1.24

Smolts were transferred from Lookingglass Fish Hatchery to Imnaha Satellite Facility for acclimation 2/27-2/28/2001. Fish were released from Imnaha Satellite Facility on 4/16/2001.

**Captive Broodstock Chinook (F₁'s)
Upper Grande Ronde River Stock BY99**

Number of smolts produced:	2,560
Weight of smolts produced (lbs.):	184.66
Percent mortality to stocking:	5.19%
Average number/pound of smolts produced:	13.88
Conversion rate:	1.16

These captive broodstock progeny were reared at Lookingglass Fish Hatchery and transferred to Upper Grande Ronde River Acclimation Pond on 2/27/2001. They were released from the acclimation pond on 3/26/2001. Upper Grande Ronde River Acclimation Pond is operated by the CTUIR. Facility operations are BPA funded. Fish feed is provided by the LSRCP.

Rearing to Smolt Stage Only

**Captive Broodstock Chinook (F₁'s)
Catherine Creek Stock BY99**

Number of smolts produced:	136,833
Weight of smolts produced (lbs.):	6,956.43
Percent mortality to stocking:	10.86%
Average number/pound of smolts produced:	19.67
Conversion rate:	1.34

These captive broodstock progeny were reared at Lookingglass Fish Hatchery and transferred to Catherine Creek Acclimation Pond 3/8-3/9/2001. They were released from the acclimation pond on 4/16/2001. Catherine Creek Acclimation Pond is operated by the CTUIR. Facility operations are BPA funded. Fish feed is provided by the LSRCP.

**Captive Broodstock Chinook (F₁'s)
Lostine River Stock BY98**

Number of smolts produced:	133,883
Weight of smolts produced (lbs.):	6,830.77
Percent mortality to stocking:	9.25%
Average number/pound of smolts produced:	19.60
Conversion rate:	1.19

These captive broodstock progeny were reared at Lookingglass Fish Hatchery and transferred to Lostine River Acclimation Pond on 2/26/2001. They were released from the acclimation site on 3/29/2001. Lostine River Acclimation Pond 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 BY99**

Lookingglass Fish Hatchery

Total pounds of food fed	7,702.24
Conversion rate	1.24
Total weight gain (lbs.) - all sizes produced	6,266.31

Food Fed and Weight Gain

**Chinook
Imnaha Stock BY00**

Lookingglass Fish Hatchery	
Total pounds of food fed	17,943.75
Conversion rate	1.06
Total weight gain (lbs.) - all sizes produced	16,859.54

**Captive Broodstock Chinook (F₁'s)
Upper Grande Ronde River Stock BY99**

Lookingglass Fish Hatchery	
Total pounds of food fed	201.36
Conversion rate	1.16
Total weight gain (lbs.) - all sizes produced	173.89

**Captive Broodstock Chinook (F₁'s)
Upper Grande Ronde River Stock BY00**

Lookingglass Fish Hatchery	
Total pounds of food fed	13,055.80
Conversion rate	1.08
Total weight gain (lbs.) - all sizes produced	12,047.61

**Captive Broodstock Chinook (F₁'s)
Upper Grande Ronde River Stock BY00**

Lookingglass Fish Hatchery	
Total pounds of food fed	13,055.80
Conversion rate	1.08
Total weight gain (lbs.) - all sizes produced	12,047.61

Food Fed and Weight Gain

**Captive Broodstock Chinook (F₁'s)
Catherine Creek River Stock BY99**

Lookingglass Fish Hatchery	
Total pounds of food fed	8,703.55
Conversion rate	1.34
Total weight gain (lbs.) - all sizes produced	6,495.92

**Captive Broodstock Chinook (F₁'s)
Catherine Creek Stock BY00**

Lookingglass Fish Hatchery	
Total pounds of food fed	10,141.50
Conversion rate	1.05
Total weight gain (lbs.) - all sizes produced	9,641.04

**Captive Broodstock Chinook (F₁'s)
Lostine River Stock BY99**

Lookingglass Fish Hatchery	
Total pounds of food fed	7,611.26
Conversion rate	0.59
Total weight gain (lbs.) - all sizes produced	12,980.32

**Captive Broodstock Chinook (F₁'s)
Lostine River Stock BY00**

Lookingglass Fish Hatchery	
Total pounds of food fed	4,150.65
Conversion rate	1.26
Total weight gain (lbs.) - all sizes produced	3,289.32

Food Fed and Weight Gain

**Conventional Broodstock Chinook
Lostine River Stock BY00**

Lookingglass Fish Hatchery	
Total pounds of food fed	1,611.65
Conversion rate	1.09
Total weight gain (lbs.) - all sizes produced	1,484.64

FY01 Stocking

Total number of distribution trips:		7
Number of fry stocked:		0
Weight of fry stocked:	0 lbs	
Number of parr stocked:		51,864
Weight of parr stocked:		2,116.90 lbs
Number of smolts stocked:		395,490
Weight of smolts stocked:		21,640.86 lbs
Number of legal trout stocked:		0
Weight of legal trout stocked:	0 lbs	
Date, location, number and weight at each stocking:		See Attached

WALLOWA FISH HATCHERY

INTRODUCTION

Location

Wallowa Fish Hatchery is located in northeast Oregon, one mile west of Enterprise. The hatchery is situated along Spring Creek one mile from the confluence with the Wallowa River and 613 river miles from the Pacific Ocean, along a route that encompasses Spring Creek and the Wallowa, Grande Ronde, Snake and Columbia rivers. Two satellite stations, Big Canyon Facility (Wallowa River system) and Little Sheep Creek Facility (Imnaha River system) are used for adult trapping, spawning and smolt acclimation. Big Canyon Facility is located approximately 30 miles west of Wallowa Fish Hatchery, and Little Sheep Creek Facility is located approximately 30 miles east of the hatchery.

OBJECTIVES

Mitigation Goals

Wallowa Fish Hatchery is operated as part of the Lower Snake River Compensation Program. Mitigation goals include collecting 1,101,000 (green) Wallowa stock (56) summer steelhead eggs and 441,000 (green) Imnaha stock (29) summer steelhead eggs. The current production goal for the Wallowa stock is 870,000 smolts. The Imnaha stock goal is 330,000 smolts, with 230,000 smolts targeted for acclimated releases to Little Sheep Creek and 100,000 smolts targeted for direct-stream releases to Big Sheep Creek.

SUMMER STEELHEAD

Adult Returns

Wallowa stock (5601) steelhead returning to Wallowa Fish Hatchery numbered 678 males and 584 females, totaling 1,262 adults, compared to 975 adults in 2000. Adult (5601) hatchery steelhead returns to Big Canyon Facility totaled 862 fish, 353 males and 509 females, quite a change from total returns of only 333 steelhead in 2000. A total of 71 natural adult steelhead, 34 males and 37 females, returned to Big Canyon Facility, up from 50 in 2000. Imnaha stock (2901) adult hatchery steelhead returns to Little Sheep Creek Facility numbered 604 males and 623 females, for a total of 1,227 fish. During the previous year only 443 hatchery adults returned to Little Sheep Creek Facility. Natural adults returning to Little Sheep Creek Facility numbered 37 males and 90 females for a total of 127 fish. The 2001 natural adult female component was substantially higher than the previous year's return of 38 females.

Egg Production, Wallowa Stock (5601) Summer Steelhead

A total of 1,155,905 Wallowa stock eggs was taken during the 2001 spawning season and 999,700 eyed eggs were shipped to Irrigon Fish Hatchery. Egg loss for the Wallowa stock was 13.5 % for the season, up slightly from last year's 11.0 % loss.

Egg Production, Imnaha Stock (2901) Summer Steelhead

During the 2001 spawning season, 479,970 green eggs were taken at Little Sheep Creek Facility. Egg loss was 18.8%, little changed from last year's 18.3%. A total of 358,630 eyed eggs was transferred to Irrigon Fish Hatchery.

Smolt Acclimation, Summer Steelhead

Wallowa Acclimation Facility acclimated and released 551,519 Wallowa stock (5600) smolts. Big Canyon Facility acclimated and released a total of 290,835 (5600) smolts. An additional 4,959 smolts from Wallowa Acclimation Facility and 1,634 smolts from Big Canyon Facility were transported and released into Kinney Lake due to their high potential for residualization. Little Sheep Creek Facility acclimated and released a total of 242,456 Imnaha stock (2900) smolts into Little Sheep Creek. Summer steelhead acclimated and released from the above facilities was reared at Irrigon Fish Hatchery.

KELT PROJECT

The last Little Sheep Creek female was euthanized in March of 2001. The project was informally continued past the official project termination date to check on the efficacy of alternate copepod treatments.

CONSTRUCTION AND MAINTENANCE

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

PROJECTS ACCOMPLISHED BY ODFW PERSONNEL

Wallowa Fish Hatchery Complex

Spent approximately 200 staff hours retrieving, correcting and collating 12 years of data needed for the development of the Hatchery Genetic Management Plan (HGMP) for Wallowa stock steelhead. We also compiled all similar data for the Little Sheep Creek stock to produce a complete and easily retrievable database for the past 12 years.

Responded to requests for information from: LSRCP (Fire Management Plan) and ODFW Fish Division and Pathology (DEQ Formalin use and MSDS usage forms).

Prepared new DEQ Waste Discharge Permit applications for Wallowa Fish Hatchery, Big Canyon and Little Sheep Creek facilities.

Staff finished re-plumbing the Wallowa and Little Sheep Creek egg rooms. We installed new PVC pipe and ball valves to all the incubators. The new plumbing system reduces the time needed to set flows, eliminates the need to reset flows prior to each Formalin treatment, and clearly identifies which water source is in use.

Repaired hatchery's main water line (Wallowa River) supplying the adult steelhead holding pond, including excavating the area, identifying the leak and installing a special order pipe repair saddle.

Replaced one incubation booster pump housing after finding the original pump and housing combination didn't prime properly.

Modified Wallowa Acclimation Facility's intake grates to facilitate cleaning and help prevent obstructions during high water events.

Fabricated dam board supports for the five spillways at the Wallowa Acclimation Facility dam/intake.

Prepped and painted the exterior of both hatchery residences.

Applied blow-in insulation to the shop attic to improve heating efficiency, which was the number one cost savings suggestion from our energy audit this past winter.

Developed Wallowa Fish Hatchery-specific modifications to the liberation tank specifications developed by Bob Becker.

Replaced a leaking section of the upper spring line with 12 " PVC pipe and joined the sections with special order couplers.

Cleaned out the fish tank room in the old hatchery building in preparation for painting.

Worked on minor corrections identified by our first professional hoist safety inspection of Wallowa Fish Hatchery and its two satellite facilities. Crane Pro Services identified a number of problems at all three locations.

Big Canyon Facility

Modified the adult trap access ladder and fabricated and installed a fish escapement screen to eliminate residual steelhead escapement when working the trap.

Little Sheep Creek Facility

Installed 115 feet of 12" PVC pipe (above ground) for use as an adult release line from the Little Sheep Creek trap to the river. This saved considerable time and reduced

stress associated with passing adult fish upstream. The pipeline solved several problems and has already paid for its installation. The installation of the pipeline had an additional benefit by allowing us to decommission the old hoist and trolley adult release system, saving the \$4000.00 needed to bring the hoist system into compliance.

Staff installed a new pump to aid in filling liberation trucks and supplying water to the new adult release line.

MAINTENANCE PROJECTS ACCOMPLISHED BY CONTRACTORS

Wallowa Fish Hatchery Complex

All cranes and the hoist were inspected for deficiencies by Crane Pro Services and the contractor will correct all serious deficiencies in early October.

Potential hazard tree limbs were removed around the hatchery.

The heating system was serviced as part of our annual maintenance program.

The generator system was serviced as part of our annual maintenance program.

All fire extinguishers were inspected as part of our annual maintenance program.

The bunkhouse carpets were professionally cleaned.

An electrician corrected various electrical deficiencies.

MAINTENANCE PROJECTS ACCOMPLISHED BY CONTRACTORS

Big Canyon Facility

All cranes and the hoist were inspected for deficiencies by Crane Pro Services and the contractor will correct all serious deficiencies in early October.

The heating system was serviced as part of our annual maintenance program.

The generator system was serviced as part of our annual maintenance program.

All fire extinguishers were inspected as part of our annual maintenance program.

The bunkhouse carpets were professionally cleaned.

Little Sheep Creek Facility

Aluminum jump screens were fabricated and installed in the adult holding pond by a local fabrication company, as well as pipe supports for the new adult release line.

All cranes and the hoist were inspected for deficiencies by Crane Pro Services and the contractor will correct all serious deficiencies in early October.

The heating system was serviced as part of our annual maintenance program.

The generator system was serviced as part of our annual maintenance program.

All fire extinguishers were inspected as part of our annual maintenance program. An electrician corrected various electrical deficiencies.

MAJOR PURCHASES

Dam board stock	\$ 727
Office 2000 (2 copies)	\$ 569
Dell computer	\$1,286
Replacement pressure washer pump and unloader	\$1,139
Replacement windows	\$3,178
Truck fill pump	<u>\$ 653</u>
Total	\$7,552

MAJOR REPAIRS

Incubation room modification parts	\$ 2,278
Wallowa waterline repair parts	\$ 2,300
Upper Spring waterline repair parts	\$ 1,529
HVAC maintenance	\$ 745
Mower/tractor repairs	\$ 1,375
Tree trimming at Wallowa Hatchery (hazard)	\$ 1,000
Electrical maintenance	\$ 1,004
Adult release line - Little Sheep	\$ 1,992
Adult jump screens – Little Sheep	\$ 1,986
Crane inspection	<u>\$ 880</u>
Total	\$15,089

Adult Returns to Hatchery

**Steelhead
Wallowa Stock BY01**

Big Canyon Facility	
Date of first return:	March 12, 2001
Date of last return:	May 29,2001
Number of females returning:	546
Number of males returning:	387
Date of peak returns:	April 30, 2001
Number of females released to spawn naturally:	37
Number of males released to spawn naturally:	34
Mortality of all adult returns:	0 females; 0 males

Wallowa Fish Hatchery	
Date of first return:	March 15, 2001
Date of last return:	May 16, 2001
Number of females returning:	584
Number of males returning:	678
Date of peak returns:	April 4, 2001
Number of females released to spawn naturally:	0
Number of males released to spawn naturally:	0
Mortality of all adult returns:	0 females; 0 males

**Steelhead
Imnaha Stock BY01**

Little Sheep Creek Facility	
Date of first return:	March 12, 2001
Date of last return:	June 11, 2001
Number of females returning:	713
Number of males returning:	641
Date of peak returns:	April 23, 2001
Number of females released to spawn naturally:	602*
Number of males released to spawn naturally:	537**
Mortality of all adult returns:	0 females; 1 male

**418 females were released into Little Sheep Creek and 184 were released into Big Sheep Creek to spawn naturally.*

***367 males were released into Little Sheep Creek and 170 males were released into Big Sheep Creek to spawn naturally. Eight of the males released into Little Sheep Creek contributed sperm to the Imnaha steelhead program before being passed upstream.*

Spawning Record

Steelhead Wallowa Stock BY01

Wallowa Fish Hatchery

Date Spawned	Number of Eggs Taken	Females Spawned	Males Spawned
3/28/01	118,005	21	24
4/04/01	278,300	53	51
4/11/01	202,200	40	40
4/18/01	140,300	27	27
4/25/01	179,600	38	39
5/02/01	176,800	36	36
5/09/01	48,300	11	12
5/16/01	12,400	3	3

Total number of females spawned:	229
Total number of males spawned:	232
Total number of green eggs:	1,155,905
Total number of eyed eggs:	999,700
Number of eggs retained for rearing:	0*
Number of eggs shipped:	999,700
Date of last spawning:	5/16/01

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

Spawning Record

Steelhead Imnaha Stock BY01

Little Sheep Creek Facility

Date Spawned	Number of Eggs Taken	Females Spawned	Males Spawned
4/03/01	95,570	20	21
4/10/01	43,450	12	12
4/17/01	20,670	6	6
4/24/01	147,120	33	34
5/01/01	64,700	12	12
5/08/01	73,890	15	15
5/15/01	27,490	9	8
5/23/01	7,080	2	3

Total number of females spawned: 109
 Total number of males spawned: 108* (*three males used twice*)
 Total number of green eggs: 479,970
 Total number of eyed eggs: 358,630
 Number of eggs retained for rearing: 0**
 Number of eggs shipped: 358,630
 Date of last spawning: 5/23/01

**Eight males were live spawned and immediately passed above the weir.*

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

Spawning Record

O. mykiss Breeding Experiment

Wallowa Stock Steelhead, Prairie Creek Stock Wild Rainbow, BY01

Wallowa Fish Hatchery

Date Spawned	Number of Eggs Taken	Females Spawned	Males Spawned
3/21/01	472	1 Rb	2 StS, 2 Rb
4/04/01	3279	2 StS, 2 Rb	2 StS, 4 Rb

Total number of females spawned: 2 Steelhead, 3 Rainbow Trout
 Total number of males spawned: 4 Steelhead, 6 Rainbow Trout
 Total number of green eggs: 3,751
 Total number of eyed eggs: 3,510
 Number of eggs retained for rearing: 0*
 Number of eggs shipped: 3,510
 Date of last spawning: 4/04/01

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

Smolts Reared

Steelhead	
Wallowa Stock BY00	
Number of smolts produced:	848,947*
Weight of smolts produced (lbs.):	187,516
Percent mortality to stocking:	7.03%
Average number/pound of smolts produced:	4.53
Conversion rate:	1.04 at Irrigon Fish Hatchery

**Irrigon Fish Hatchery reared 869,054 smolts weighing 169,728 pounds for this program. All smolts were transferred to Wallowa satellite facilities for acclimation and release. A total of 290,835 smolts survived to release from Big Canyon Acclimation Facility. A total of 551,519 smolts survived to release from Wallowa Acclimation Facility. In addition, 1,634 steelhead were released into Kinney Lake from Big Canyon Facility and 4,959 steelhead were released into Kinney Lake from Wallowa Acclimation Facility. These fish remained in the acclimation ponds after the volitional release period, were over 70% male, and were believed to be at high risk for residualization. Both releases took place on 5/24/2001.*

Pounds produced at Wallowa facilities totaled 17,788.00. Conversion rates at Big Canyon and Wallowa Acclimation facilities are listed on the following page.

Steelhead	
Imnaha Stock BY00	
Number smolts produced:	242,456*
Weight of smolts produced (lbs.):	56,769.00
Percent mortality to stocking:	4.46%
Average number/pound of smolts produced:	4.27
Conversion rate:	0.97 at Irrigon Fish Hatchery

**Irrigon Fish Hatchery reared 243,146 smolts weighing 48,235 pounds for this program. These fish were transferred to Little Sheep Creek Facility for acclimation, with 242,456 smolts surviving to release. Pounds produced at Wallowa facilities totaled 8,534.00. The conversion rate at Little Sheep Creek Facility is listed on the following page.*

Food Fed and Weight Gain

**Steelhead
Wallowa Stock BY00**

Big Canyon Facility	
Total pounds of food fed	5,500
Conversion rate	1.16
Total pounds weight gained - all sizes produced	3,417

**Steelhead
Wallowa Stock BY00**

Wallowa Acclimation Pond	
Total pounds of food fed	19,600
Conversion rate	1.36
Total pounds weight gained - all sizes produced	14,371

**Steelhead
Imnaha Stock BY00**

Little Sheep Creek Facility	
Total pounds of food fed	8,400
Conversion rate	0.98
Total pounds weight gained - all sizes produced	8,534

FY 2000 was the last year of the Wallowa Fish Hatchery trout program.

**FY01
Stocking**

Total number of distribution trips:	2
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:	1,091,403
Weight of smolts stocked:	244,285 lbs
Date, location, number and weight at each stocking:	See Attached