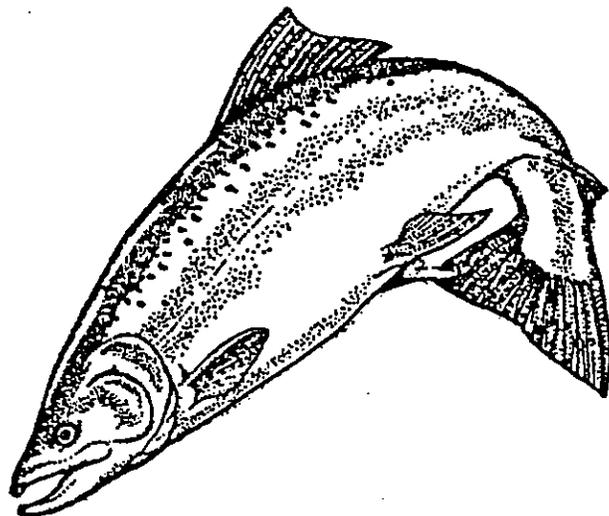
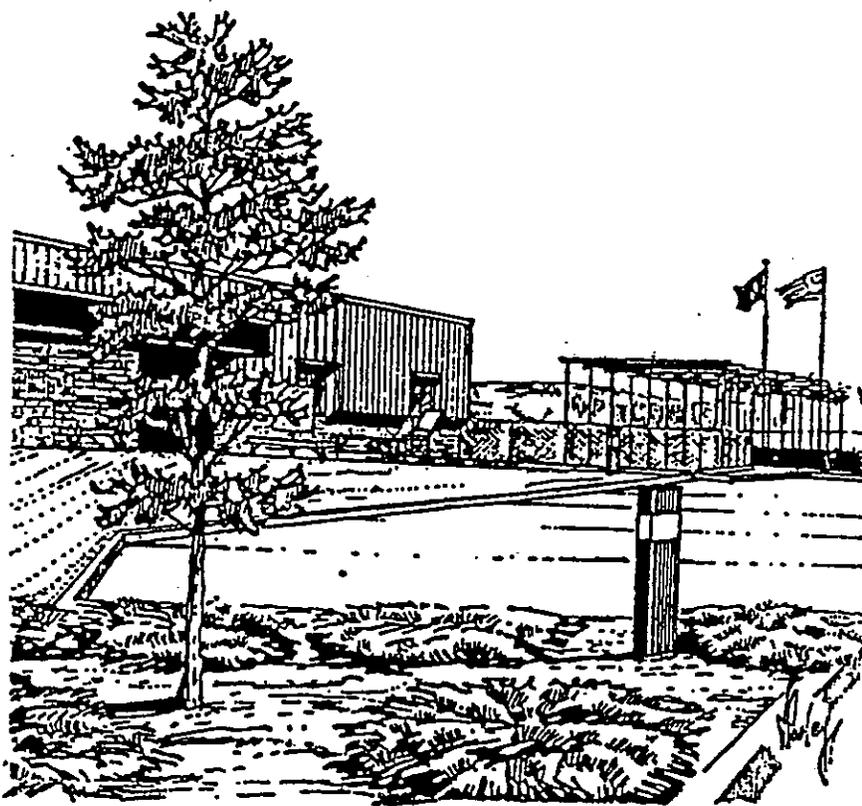


IRRIGON FISH HATCHERY



Operation and Maintenance Annual Report



INTRODUCTION

LOCATION

Irrigon Fish Hatchery is located in Morrow County, Oregon, approximately 279.4 miles upstream from the mouth of the Columbia River. 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 Hatchery receives eyed steelhead eggs from Wallowa Hatchery and rears them to release or acclimation. Non LSRCP fish reared include legal sized rainbow trout, and 200,000 wild winter steelhead.

SUMMER STEELHEAD

Imnaha Stock

Brood Year 1999: Production was completed on 21 April 2000, with the transfer of 229,369 Imnaha stock (2999) steelhead smolts to Little Sheep acclimation pond and 100,007 smolts liberated into Big Sheep Creek. All smolts were adipose fin clipped, and 80,486 had been coded wire tagged and identified with a left ventral clip.

Brood Year 2000: During May and June 2000, the hatchery received 464,730 Imnaha stock (2900) eyed eggs from Wallowa Hatchery. The 93,730 Imnaha steelhead surplus to production goals were adipose-clipped and released as pre-smolts into Big Sheep Creek on 6 September 2000. Irrigon Fish Hatchery had 356,648 Imnaha stock fingerlings were on hand as of 30 September 2000.

Wallowa Stock

Brood Year 1999: Rearing was completed on 3 May 2000, with the transfer of 895,290 Wallowa stock (5699) steelhead smolts to Wallowa and Big Canyon acclimation ponds. All fish had adipose fins removed. In addition, 213,297 smolts had been coded wire tagged and left ventral clipped. The 28,606 grade-outs were excess to production goals and 28,590 were liberated into Phillips Reservoir on 3 November 1999.

Brood Year 2000: Production began with the transfer of 1,479,800 eyed Wallowa stock (5600) steelhead eggs from Wallowa Hatchery during spring 2000. Of these, 390,000 fry were destroyed due to program excess. Irrigon Fish Hatchery had 1,034,485 Wallowa stock steelhead on hand as of 30 September 2000.

CHINOOK

Rapid River Stock

Brood Year 1999: Rapid River stock (8599) spring chinook were hatched and early reared at Irrigon Hatchery. On 5 April 2000, all 24,272 fingerlings were transferred to Lookingglass Fish Hatchery.

Imnaha Stock

Brood Year 2000: This year the first, second, and final egg takes of the Imnaha stock (2900) spring chinook were shipped to Irrigon Fish Hatchery unfertilized along with the appropriate sperm. The actual mixing of eggs and sperm took place on site. All other Imnaha stock eggs were fertilized at Oxbow Fish Hatchery. An estimated 36,000 eyed eggs were on hand at Irrigon Fish Hatchery as of 30 September 2000. Only the eggs from the one moderate BKD female will be held to complete incubation and early rearing.

Lostine Stock

Brood Year 2000: The eggs from the last (200W00) female were brought to Irrigon Fish Hatchery green. Eggs from the initial spawning were taken to Oxbow Fish Hatchery and will be transferred to Irrigon Fish Hatchery at eye-up to complete hatching and early rearing.

CAPTIVE BROODSTOCK CHINOOK F₁'S

Brood Year 1999: Captive broodstock eggs from the 1999 spawn were eyed-up at Oxbow Fish Hatchery; hatching and initial rearing took place at Irrigon Fish Hatchery. All 296,394 fingerlings from the upper Grande Ronde River, Catherine Creek, and Lostine River stocks were transferred to Lookingglass Fish Hatchery by 5 April 2000.

RAINBOW TROUT

Cape Cod Stock

Irrigon Fish Hatchery received 67,434 Cape Cod stock legal rainbow trout from Fall River Hatchery during the reporting period. This provided 65,569 legal rainbow that were stocked during late spring and summer, 2000.

Desert Springs Stock

Due to a BKD problem at Wallowa Fish Hatchery, 11,968 legal rainbow were purchased from Desert Springs Trout Farm in May 2000. Of these, 10,328 legal rainbow were stocked in Wallowa Lake by the end of June.

***O. Mykiss* BREEDING EXPERIMENT**

This is the third year of the *O. mykiss* breeding experiment. In FY2000, La Grande Fish Research staff collected wild rainbow trout (resident *O. mykiss*) males and females from Deer and Sumac creeks, and crossed their gametes with eggs and sperm from Wallowa stock adult steelhead. Spawning and green egg incubation took place at Wallowa Fish Hatchery. Eyed eggs were picked and counted by research staff and shipped to Irrigon Fish Hatchery for incubation and rearing. All progeny will be PIT-tagged and finclipped, and will be released into Deer Creek in April 2001. It is interesting to note that the resident *O. mykiss* males are ripe at the same time as the adult steelhead females; however, the resident *O. mykiss* females ripen weeks later.

CONSTRUCTION AND MAINTENANCE

- A contractor pulled and repaired a 7 1/2-hp pump in the Rainey.
- Repaired several breaks in the domestic water line.
- Received a Ford flatbed from the LSRCP shop and installed a tank to be used for grading steelhead on station.
- Constructed new screen frames for all the raceways.
- Replaced a ruptured heat pump in a residence. The pump was still under warranty.
- Replaced the control panel monitor in pump station #2.
- Sealed the cracks in the roadway to prevent them from getting larger.
- Hatchery hosts helped out from March – September.

MAJOR PURCHASES

Crack Seal Roadway	\$4,400.00
Chiller Compressor	4,100.00
Control Panel Monitor	4,000.00
Cable Concentrator	3,300.00
Pressure Washer	2,700.00
7 ½ hp Pump Repair	2,300.00
Luminescent Exit Signs	2,200.00
Tractor Repair	1,900.00
Tuition "Advanced Troubleshooting PC's"	1,800.00
Storm Doors	1,600.00
Surface Cleaner	<u>1,200.00</u>
Total	<u>\$29,500.00</u>

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 2000.

SPAWNING RECORD

Chinook Captive Broodstock Program Upper Grande Ronde River Stock BY99

Bonneville Fish Hatchery

Date Spawned	Number of Eggs Taken	Females Spawned	Males Spawned
9/15/99	2,173	1	3
9/22/99	825	1	4
9/30/99	1,677	1	4
10/11/99	65	1	1
10/13/99	1,448	1	4

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

Total number of females spawned:	5
Total number of males spawned:	16
Total number of green eggs:	6,188
Total number of eyed eggs:	3,630
Number of eggs retained for rearing:	0
Number of eggs shipped:	6,188*
Date of last spawning:	10/13/99

**Upper Grande Ronde River stock viable 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 BY99

Bonneville Fish Hatchery

Date Spawned	Number of Eggs Taken	Females Spawned	Males Spawned
9/09/00	6,656	5	4
9/10/99	3,467	2	4
9/14/99	23,304	13	24
9/21/99	67,304	37	40
9/22/99	8,693	6	13
9/28/99	47,159	28	32
9/29/99	45,803	27	19
10/07/99	37,741	26	32
10/13/99	21,637	18	8

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

Total number of females spawned:	162	
Total number of males spawned:	176	*8 were cryopreserved samples
Total number of green eggs:	261,764	
Total number of eyed eggs:	194,187	
Number of eggs retained for rearing:	0	
Number of eggs shipped:	261,764*	
Date of last spawning:	10/13/99	

**Catherine Creek stock viable 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 BY99

Bonneville Fish Hatchery

Date Spawned	Number of Eggs Taken	Females Spawned	Males Spawned
9/09/99	15,082	8	16
9/15/99	29,912	14	28
9/21/99	1,625	1	2
9/22/99	26,492	13	28
9/29/99	16,558	9	14
9/30/99	72,716	40	41
10/06/99	61,858	41	46
10/13/99	17,043	14	13
10/19/99	2,566	2	3

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

Total number of females spawned:	142	
Total number of males spawned:	191	*14 were cryopreserved samples
Total number of green eggs:	243,852	
Total number of eyed eggs:	183,084	
Number of eggs retained for rearing:	0	
Number of eggs shipped:	243,853*	
Date of last spawning:	10/19/99	

**Lostine River stock viable 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 BY98

Number legals produced:	65,496
Weight of legals produced (lbs.):	23,453.30
Percent mortality to stocking:	1.75%
Average number/pound of legals produced:	2.79
Conversion rate:	1.46

Rainbow Trout Desert Springs Stock BY98

Number legals produced:	10,328
Weight of legals produced (lbs.):	5,257.90
Percent mortality to stocking:	13.7%
Average number/pound of legals produced:	1.96
Conversion rate:	1.55

These privately reared trout were purchased to replace Wallowa Fish Hatchery produced trout infected with BKD. The Desert Springs trout were received at Irrigon Fish Hatchery in May 2000 and were released into Wallowa Lake on 5/24, 6/16 and 6/29/2000.

Rainbow Trout Wallowa Stock BY99

Number legals produced:	1,632
Weight of legals produced (lbs.):	296.64
Percent mortality to stocking:	17.49.%
Average number/pound of legals produced:	5.50
Conversion rate:	1.59

These progeny of wild Wallowa stock (Deer Creek) females were reared as part of the O. mykiss breeding experiment. They were released into Deer Creek on 5/03/2000.

Pre-Smolts Reared

**Steelhead
Wallowa Stock BY99**

Number of pre-smolts produced:	28,590
Weight of pre-smolts produced (lbs.):	560.59
Percent mortality to stocking:	6.75%
Average number/pound of pre-smolts produced:	51.0
Conversion rate:	0.98

Irrigon Fish Hatchery reared all pre-smolts until release into Phillips Reservoir on 11/03/99. These steelhead would normally have been culled. All were in excellent condition.

**Steelhead
Imnaha Stock BY00**

Number of pre-smolts produced:	93,680
Weight of pre-smolts produced (lbs.):	909.51
Percent mortality to stocking:	2.37%
Average number/pound of pre-smolts produced:	103.0
Conversion rate:	1.46

All Imnaha stock pre-smolts were released into Big Sheep Creek on 9/06/2000.

Fingerlings Reared

**Chinook
Rapid River Stock BY99**

Number of fingerlings produced:	24,272
Weight of fingerlings produced (lbs.):	118.00
Percent mortality to transfer:	2.6%
Average number/pound of smolts produced:	205.69
Conversion rate:	0.71

Fingerlings were transferred to Lookingglass Fish Hatchery on 4/05/2000.

Smolts Reared

Steelhead
Wallowa Stock BY99

Number of smolts produced:	924,419
Weight of smolts produced (lbs.):	198,642.59
Percent mortality to stocking/transfer:	6.42%
Average number/pound of smolts produced:	4.65
Conversion rate:	1.07

Smolts produced include 894,969 smolts weighing 197,916.58 pounds reared for acclimation and release from Big Canyon Facility and Wallowa Acclimation Pond combined. Also included are 860 progeny from Wallowa stock females reared as part of the O. mykiss breeding experiment and released into Deer Creek on 5/03/2000.

Steelhead
Imnaha Stock BY99

Number of smolts produced:	329,301
Weight of smolts produced (lbs.):	64,089.76
Percent mortality to transfer:	5.44%
Average number/pound of smolts produced:	5.14
Conversion rate:	0.97

A total of 229,369 smolts weighing 44,849.76 pounds were transported to Little Sheep Creek Facility for acclimation and release. An additional 100,007 smolts were released directly into Big Sheep Creek 4/18 - 4/20/2000.

Food Fed and Weight Gain

Rainbow Trout
Cape Cod Stock BY98
Irrigon Fish Hatchery

Total pounds of food fed	6,664.00
Conversion rate	1.46
Total weight gain (lbs.) - all sizes produced	4,557.00

Food Fed and Weight Gain

Rainbow Trout Desert Springs Stock BY98

Irrigon Fish Hatchery	
Total pounds of food fed	1,351.00
Conversion rate	1.55
Total weight gain (lbs.) - all sizes produced	872.00

Rainbow Trout Wallowa Stock BY99

Irrigon Fish Hatchery	
Total pounds of food fed	469.70
Conversion rate	1.59
Total weight gain (lbs.) - all sizes produced	296.00

Rainbow Trout Wild *O. mykiss* Stock BY00*

Irrigon Fish Hatchery	
Total pounds of food fed	10.00
Conversion rate	3.15
Total weight gain (lbs.) - all sizes produced	3.17

*A combination of resident *O. mykiss* wild stocks; in 2000 we used Deer and Sumac creek fish.

Steelhead Wallowa Stock BY99

Irrigon Fish Hatchery	
Total pounds of food fed	212,449.80
Conversion rate	1.07
Total weight gain (lbs.) - all sizes produced	198,396.90

Food Fed and Weight Gain

**Steelhead
Wallowa Stock BY00**

Irrigon Fish Hatchery	
Total pounds of food fed	22,514.00
Conversion rate	1.18
Total weight gain (lbs.) - all sizes produced	19,140.70

**Steelhead
Imnaha Stock BY99**

Irrigon Fish Hatchery	
Total pounds of food fed	62,976.00
Conversion rate	0.97
Total weight gain (lbs.) - all sizes produced	65,168.00

**Steelhead
Imnaha Stock BY00**

Irrigon Fish Hatchery	
Total pounds of food fed	9,834.00
Conversion rate	1.46
Total weight gain (lbs.) - all sizes produced	6,729.82

**Chinook
Rapid River Stock BY99**

Irrigon Fish Hatchery	
Total pounds of food fed	69.70
Conversion rate - total for all stages	0.71
Total weight gain (lbs.) - all sizes produced	98.00

These are progeny of chinook spawned at South Fork Walla Walla Hatchery by the CTUIR.

Food Fed and Weight Gain

**Chinook
Imnaha Stock BY99**

Irrigon Fish Hatchery	
Total pounds of food fed	724.00
Conversion rate	1.09
Total weight gain (lbs.) - all sizes produced	663.00

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

Irrigon Fish Hatchery	
Total pounds of food fed	7.80
Conversion rate	0.87
Total weight gain (lbs.) - all sizes produced	9.00

These are progeny of captive brood parents spawned in 1999.

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

Irrigon Fish Hatchery	
Total pounds of food fed	390.00
Conversion rate	1.05
Total weight gain (lbs.) - all sizes produced	373.00

These are progeny of captive brood parents spawned in 1999.

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

Irrigon Fish Hatchery	
Total pounds of food fed	380.50
Conversion rate	1.07
Total weight gain (lbs.) - all sizes produced	356.00

These are progeny of captive brood parents spawned in 1999.

FY00 Stocking

Total number of distribution trips:	104*
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:	122,270
Weight of pre-smolts stocked:	1,470.10 lbs
Number of smolts stocked:	100,867
Weight of smolts stocked:	19,405.42 lbs.
Number of legal trout stocked:	77,456
Weight of legal trout stocked:	29,007.84 lbs.
Date, location, number and weight at each stocking:	See Attached

**Approximately 59 trips were used for hauling steelhead to Big Canyon, Little Sheep Creek, or Wallowa Acclimation Pond facilities prior to release.*

Stocking Records for Irrigon Fish Hatchery, October 1, 1999
through September 30, 2000

SPECIES	LOT	DATE	WATERBODY	NO/ LB	POUNDS LOADED	NUMBER LOADED	MORTS	POUNDS STOCKED	NUMBER STOCKED
RAINBOW TROUT	056 99	05/03/2000	DEER CREEK	5.5	297.00	1,634	2	296.64	1,632
RAINBOW TROUT	072 98	05/02/2000	CAVENDAR RES	2.7	926.00	2,500	1	925.63	2,499
RAINBOW TROUT	072 98	05/03/2000	HAT ROCK PD	2.7	371.00	1,002	3	369.89	999
RAINBOW TROUT	072 98	05/03/2000	MCNARY CHANNEL PDS	2.7	1112.00	3,002	3	1110.89	2,999
RAINBOW TROUT	072 98	05/17/2000	WESTON HIGHWAY PD	2.1	286.00	601	1	285.52	600
RAINBOW TROUT	072 98	05/17/2000	UMATILLA FOREST PDS	3.1	485.00	1,504	5	483.39	1,499
RAINBOW TROUT	072 98	05/24/2000	CUTSFORTH PD	3.2	188.00	602	1	187.69	601
RAINBOW TROUT	072 98	05/24/2000	WILLOW CREEK RES	3.2	625.00	2,000	5	623.44	1,995
RAINBOW TROUT	072 98	06/02/2000	HAT ROCK PD	2.8	179.00	502	0	179.00	502
RAINBOW TROUT	072 98	06/06/2000	WESTON HIGHWAY PD	3.0	301.00	903	0	301.00	903
RAINBOW TROUT	072 98	06/07/2000	UMATILLA FOREST PDS	3.0	834.00	2,502	10	830.67	2,492
RAINBOW TROUT	072 98	06/07/2000	HIGHWAY 203 PD	3.0	500.00	1,500	0	500.00	1,500
RAINBOW TROUT	072 98	06/07/2000	BURNT R, S FK	3.0	333.00	999	0	333.00	999
RAINBOW TROUT	072 98	06/09/2000	UMATILLA FOREST PONDS	3.0	168.00	504	0	168.00	504
RAINBOW TROUT	072 98	06/09/2000	MCNARY CHANNEL PDS	3.0	1000.00	3,000	0	1000.00	3,000
RAINBOW TROUT	072 98	06/13/2000	JUBILEE LK	3.2	940.00	3,008	8	937.50	3,000
RAINBOW TROUT	072 98	06/15/2000	UMATILLA FOREST PONDS	3.3	304.00	1,003	0	304.00	1,003
RAINBOW TROUT	072 98	06/20/2000	PHILLIPS RES	2.7	370.00	999	0	370.00	999
RAINBOW TROUT	072 98	06/20/2000	POWDER R-2	2.7	380.00	1,026	0	380.00	1,026
RAINBOW TROUT	072 98	06/21/2000	LOST LK	3.3	303.00	1,000	5	301.48	995
RAINBOW TROUT	072 98	06/22/2000	MCNARY CHANNEL PDS	2.8	1072.00	3,002	0	1072.00	3,002
RAINBOW TROUT	072 98	06/27/2000	PINE CR, N FK	3.1	162.00	502	2	161.35	500
RAINBOW TROUT	072 98	06/27/2000	PINE CR	3.1	324.00	1,004	0	324.00	1,004
RAINBOW TROUT	072 98	06/28/2000	EAGLE CR, W FK	3.1	162.00	502	0	162.00	502
RAINBOW TROUT	072 98	06/28/2000	EAGLE CR	3.1	484.00	1,500	2	483.35	1,498
RAINBOW TROUT	072 98	06/28/2000	ANTHONY LK	3.1	646.00	2,002	4	644.71	1,998
RAINBOW TROUT	072 98	06/28/2000	GRANDE RONDE LK	3.1	646.00	2,002	4	644.71	1,998
RAINBOW TROUT	072 98	07/06/2000	PHILLIPS PARK PONDS	3.0	33.00	99	0	33.00	99
RAINBOW TROUT	072 98	07/06/2000	POWDER R-2	3.0	501.00	1,503	2	500.33	1,501
RAINBOW TROUT	072 98	07/13/2000	EAGLE CR, W FK	2.8	179.00	501	0	179.00	501
RAINBOW TROUT	072 98	07/13/2000	EAGLE CR	2.8	536.00	1,500	0	536.00	1,500
RAINBOW TROUT	072 98	07/17/2000	GRANDE RONDE LK	2.7	370.00	1,000	0	370.00	1,000
RAINBOW TROUT	072 98	07/17/2000	ANTHONY LK	2.7	556.00	1,500	0	556.00	1,500
RAINBOW TROUT	072 98	07/18/2000	PINE CR	2.7	741.00	2,001	1	740.63	2,000
RAINBOW TROUT	072 98	07/18/2000	JUBILEE LK	2.7	1667.00	4,500	0	1667.00	4,500
RAINBOW TROUT	072 98	07/25/2000	MCNARY CHANNEL PDS	1.4	500.00	700	2	498.57	698

Stocking Records for Irrigon Fish Hatchery, October 1, 1999
through September 30, 2000

SPECIES	LOT	DATE	WATERBODY	NO/ LB	POUNDS LOADED	NUMBER LOADED	MORTS	POUNDS STOCKED	NUMBER STOCKED
RAINBOW TROUT	072 98	07/25/2000	POWDER R-2	1.6	625.00	1,002	8	620.00	994
RAINBOW TROUT	072 98	07/26/2000	EAGLE CR, W FK	2.9	173.00	502	0	173.00	502
RAINBOW TROUT	072 98	07/26/2000	EAGLE CR	2.9	518.00	1,502	0	518.00	1,502
RAINBOW TROUT	072 98	08/01/2000	ANTHONY LK	2.9	518.00	1,502	2	517.31	1,500
RAINBOW TROUT	072 98	08/01/2000	GRANDE RONDE LK	2.9	690.00	2,001	1	689.66	2,000
RAINBOW TROUT	072 98	08/02/2000	PHILLIPS RES	2.9	518.00	1,502	0	518.00	1,502
RAINBOW TROUT	072 98	08/02/2000	POWDER R-2	2.9	345.00	1,001	0	345.00	1,001
RAINBOW TROUT	072 98	08/09/2000	ANTHONY LK	2.4	625.00	1,500	1	624.58	1,499
RAINBOW TROUT	072 98	08/09/2000	GRANDE RONDE LK	2.4	417.00	1,000	0	417.00	1,000
RAINBOW TROUT	072 98	08/10/2000	EAGLE CR, W FK	2.4	167.00	400	0	167.00	400
RAINBOW TROUT	072 98	08/10/2000	EAGLE CR	2.4	700.00	1,680	0	700.00	1,680
RAINBOW TROUT	103 98	05/24/2000	WALLOWA LK	2.3	1740.00	4,002	5	1737.83	3,997
RAINBOW TROUT	103 98	06/16/2000	WALLOWA LK	1.9	2632.00	5,001	10	2626.74	4,991
RAINBOW TROUT	103 98	06/29/2000	WALLOWA LK	1.5	900.00	1,350	10	893.33	1,340
SUMMER STEELHEAD	029 00	09/06/2000	BIG SHEEP CR	103.0	910.00	93,730	50	909.51	93,680
SUMMER STEELHEAD	029 99	04/18/2000	BIG SHEEP CR	5.1	1800.00	9,180	0	1800.00	9,180
SUMMER STEELHEAD	029 99	04/19/2000	BIG SHEEP CR	5.1	2280.00	11,628	0	2280.00	11,628
SUMMER STEELHEAD	029 99	04/19/2000	BIG SHEEP CR	5.3	1615.00	8,560	0	1615.00	8,560
SUMMER STEELHEAD	029 99	04/19/2000	BIG SHEEP CR	5.1	5750.00	29,325	0	5750.00	29,325
SUMMER STEELHEAD	029 99	04/19/2000	BIG SHEEP CR	5.3	2550.00	13,515	0	2550.00	13,515
SUMMER STEELHEAD	029 99	04/20/2000	BIG SHEEP CR	5.3	3705.00	19,637	0	3705.00	19,637
SUMMER STEELHEAD	029 99	04/20/2000	BIG SHEEP CR	5.3	1540.00	8,162	0	1540.00	8,162
SUMMER STEELHEAD	056 99	05/03/2000	DEER CREEK	5.2	166.00	863	3	165.42	860
SUMMER STEELHEAD	056 99	11/03/1999	PHILLIPS RES	51.0	560.90	28,606	16	560.59	28,590