

WALLOWA HATCHERY



OPERATIONS PLAN 2009

Wallowa Hatchery and Satellites (Big Canyon and Little Sheep Creek)

INTRODUCTION

Wallowa Hatchery is located along Spring Creek, a tributary of the Wallowa River (Grande Ronde River Subbasin), 1 mile west of Enterprise, Oregon. The site is at an elevation is 3,700 feet above sea level, at latitude 45° 27' 30" N (45.4176) and longitude 117° 17' 36" W (117.3013). The site area is 11 acres. The majority of fish production at this facility consists of summer steelhead. Water rights for the entire hatchery total 23,813 gpm from several sources. The acclimation ponds receive water from Spring Creek. The hatchery is staffed with 3 FTE's. Big Canyon and Little Sheep acclimation facilities are operated as satellites.

The Big Canyon acclimation facility is located at the junction of Deer Creek and the Wallowa River, just east of the town of Minam, Oregon. The site is at an elevation of 2,590 feet above sea level, at latitude 45° 37' 12" N (45.62000) and longitude 117° 41' 50" W (117.69722). The site area is 48 acres. This facility consists of three acclimation ponds and one adult holding pond. Water rights total 5,835 gpm from Deer Creek. The facility is staffed by Wallowa Hatchery personnel from February through May.

Little Sheep Creek acclimation facility is located along Little Sheep Creek, a tributary of the Imnaha River. The site is at an elevation of 2,768 feet above sea level, at latitude 45° 28' 57" N (45.48250) and longitude 116° 55' 38" W (116.92722). This facility consists of one acclimation pond and one adult holding pond. Water rights total 8,797 gpm from Little Sheep Creek. The facility is staffed by Wallowa Hatchery personnel from March through May.

PURPOSE

Wallowa began operation in 1920 as a resident trout hatchery. In 1985, the hatchery was renovated as part of the Lower Snake River Compensation Program (LSRCP)—a program to mitigate for spring chinook and summer steelhead losses caused by the four federal dams constructed on the lower Snake River.

Wallowa Hatchery is one of six fish production facilities under the LSRCP. It is used for adult collection, spawning, acclimation and release of summer steelhead. (Egg incubation and rearing occurs at Irrigon Hatchery.) The two satellite facilities (Big Canyon and Little Sheep Creek) are used to trap adult summer steelhead and acclimate smolts prior to release.

Wallowa Hatchery also houses the first 10 months of rearing for the Grande Ronde Basin Spring Chinook Salmon Captive Broodstock Project funded by BPA. This project is designed to rapidly increase numbers of salmon in stocks that are in imminent danger of extirpation. Parr are captured in the upper Grande Ronde River and Catherine Creek. Adult fish are collected at traps in the natal streams and taken to Lookingglass Hatchery where they are spawned. Eggs are taken from these parents and reared at Wallowa Hatchery. These fish are reared to adulthood in captivity. Upon

maturation, these fish are spawned (within stocks) and their progeny reared to smoltification before being released into the natal stream of their parents. This program is co-managed by ODFW, National Marine Fisheries Service (NMFS), Nez Perce Tribe and Confederated Tribes of the Umatilla Indian Reservation.

Rearing Facilities at Wallowa Hatchery

Unit Type	Unit Length (ft)	Unit Width (ft)	Unit Depth (ft)	Unit Volume (ft ³)	Number Units	Total Volume (ft ³)	Construction Material	Age	Condition	Comment
<u>Wallowa</u>										
Acclimation Ponds	300	42	3.50	44,100	2	88,200	concrete	1985	good	
Adult Holding Pond	80	20	4.0	7,200	1	7,200	concrete	1985	good	
Adult Trap	25	8.6	5.0	931	1	931	concrete	1985	good	
Circular Ponds		19	2.50	708	2	1,416	concrete	1980's	fair	Water used for incubation now
Oval Raceways	47.2	20	3.50	3,000	6	18,000	concrete	1950	poor	3 x 2 in series
Raceways	100	20	4.50	9,000	2	18,000	concrete	1950	fair	Rearing water not avail.
Raceways	100	20	4.50	9,000	5	45,000	concrete	1950	poor	
Starter Tanks	14	4	2.75	154	12	1,848	concrete	1950	good	Only 6 are plumbed
Circular Tanks		4	2.5	31.4	12	376.8	Fiberglass	2003	excellent	Captive Brood Program
Vertical Incubators					216		plastic	1985	good	
<u>Big Canyon</u>										
Acclimation Pond	70	30	3.50	7,350	1	7,350	concrete	1988	good	Not used
Acclimation Pond	150	30	3.50	15,750	2	31,500	concrete	1988	good	
Adult Holding Pond	30	10	4.50	1,350	1	1,350	concrete	1988	good	
<u>Little Sheep Creek</u>										
Adult Holding Pond	40	20	4.00	3200	1	3200	concrete	1988	good	
Acclimation Pond	195	50	3.50	34,125	1	34,125	concrete	1988	good	

PROGRAM TYPES

The ODFW Hatchery Management Policy defines hatchery programs as either harvest or conservation programs. Harvest programs operate to enhance or maintain fisheries without impairing naturally reproducing populations. Conservation programs operate to maintain or increase the number of naturally produced fish without reducing the productivity of naturally reproducing populations.

Wallowa Hatchery participates in both harvest and conservation programs. The Wallowa River and Imnaha River Summer Steelhead programs are harvest programs that mitigate for fishing and harvest opportunities lost due to habitat loss and migration blockage due to construction of dams on the Lower Snake River. The Grande Ronde Basin Spring Chinook Captive Broodstock program is a conservation program, in which portions of imperiled wild populations are captured as parr, reared for the rest of their life cycle in a hatchery environment, spawned and progeny reared to smolt stage and released into the natal streams of their parents, to maximize survival and the number of progeny produced.

GOALS

Spring Chinook:

Grande Ronde (80Z) Stock: Wallowa Hatchery provides a rearing facility for the initial receipt of juvenile spring chinook collected from their natal stream. After 9 months of rearing at Wallowa Hatchery the fish are transported to either Bonneville Captive Brood Facility to continue their life cycle. After spawning, offspring are returned to the natal stream of their parents.

Rainbow Trout: To produce legal-size triploid fish to provide sport fishing opportunities in northeastern Oregon lakes, reservoirs and streams.

Summer Steelhead:

Wallowa River (056) Stock: To mitigate for summer steelhead harvest opportunity lost as a result of the construction of four Lower Snake River dams while minimizing impacts to listed populations. The LSRCP adult return goal is 9,200 adults for harvest and escapement to the area above Ice Harbor Dam.

Imnaha River (029) Stock: To mitigate for fish losses occurring as a result of the construction and operation of the four Lower Snake River Dams. The program goal is to return 2,000 hatchery adults to the area above Ice Harbor Dam. Based upon this adult goal and an estimated 0.61% smolt-to-adult survival rate, the target for smolt production was set at 215,000 fish.

Program specific goals include:

- Establishing an annual supply of brood fish that can provide an egg source capable of meeting compensation goals.
- Restore and maintain the natural spawning population.
- Reestablish sport and tribal fisheries.

- Establish a total return of adult fish resulting from LSRCP activities in Oregon that meets the compensation goal.
- Minimize the impacts of the program on resident stocks of game fish.

OBJECTIVES

Objective 1: Foster and sustain opportunities for sport, commercial, and tribal fishers consistent with the conservation of naturally produced native fish.

Spring Chinook:

Grande Ronde (080Z) Stock:

Rear a maximum of 500 captured wild parr to smolt size (33 pounds) for transfer to Bonneville Captive Brood Facility for use as captive broodstock.

Rainbow Trout:

Troutlodge Triploid (103T) Stock:

Rear 57,000 legal-size trout (19,000 pounds) and 3,000 trophy trout (3,000 pounds) for release into waterbodies in the Wallowa District.

Summer Steelhead:

Imnaha River (029) Stock:

Provide 282,152 eggs for transfer to Irrigon Hatchery.

Acclimate 165,000 smolts (33,000 pounds) for release into Little Sheep Creek. Direct stream release 50,000 smolts (10,000 pounds) into Big Sheep Creek.

Wallowa River (056) Stock:

Provide 1,016,500 eyed eggs (813,000 Wallowa Stock, 203,000 Fall Collected Broodstock) for transfer to Irrigon Hatchery.

Acclimate 480,000 smolts (120,000 pounds) for release into the Wallowa River. Of these 160,000 are to be Fall Collected Broodstock with unique marks (AdRV fin clip).

Acclimate 320,000 smolts (80,000 pounds) at Big Canyon Acclimation facility for release into Deer Creek.

Objective 2: Contribute toward the sustainability of naturally produced native fish populations through the responsible use of hatcheries and hatchery-produced fish.

Objective 3: Maintain genetic resources of native fish populations spawned or reared in captivity.

Objective 4: Restrict the introduction, amplification, or dissemination of disease agents in hatchery produced fish and in natural environments by controlling egg and fish movements and by prescribing a variety of preventative, therapeutic and disinfecting strategies to control the spread of disease agents in fish populations in the state.

Objective 5: Minimize adverse ecological impacts to watersheds caused by hatchery facilities and operations.

Objective 6: Communicate effectively with other fish producers, managers and the public.

CURRENT PRACTICES TO ACHIEVE OBJECTIVES

The sections that follow describe the current hatchery practices associated with anadromous fish production at this facility. Because ODFW hatcheries are managed to maximize use of the hatchery rearing space, hatchery operations are dynamic and subject to annual change depending upon statewide program needs.

The Native Fish Conservation Policy, the Fish Hatchery Management Policy, the Fish Health Management Policy and Hatchery Genetic Management Plans to help guide the management of wild and hatchery fish in Oregon. These policies describe the brood collection, rearing, release, and health management strategies currently used at this facility.

Objective 1: Foster and sustain opportunities for sport, commercial, and tribal fishers consistent with the conservation of naturally produced native fish.

Adult Collection

Spring Chinook:

Upper Grande Ronde Captive Brood (080Z) Stock: A maximum of 500 wild juvenile salmon are captured in the Upper Grande Ronde River in August and September and taken to Wallowa Hatchery for initial rearing to smolt size. Smolts are reared to adults at Bonneville Captive Brood Facility (freshwater rearing). Adults are spawned at the Bonneville Captive Brood Facility in August and September.

Rainbow Trout: No broodstock are maintained at this facility.

Summer Steelhead:

Imnaha Stock (029): Entry of adults into the Imnaha River Subbasin occurs between September and May. Trapping at the Little Sheep Creek facility begins at the end of February and continues until there are 10 days without capturing fish, usually around the end of May. During this time period adults are collected and either outplanted to Little Sheep Creek, Big Sheep Creek, used for spawning, or used for stream enrichment. Peak spawning occurs in April.

Wallowa Stock (056): Wallowa stock is used as the broodstock for hatchery releases into the Grande Ronde River System. Entry of adults into this system occurs between August and late May. Trapping at the Big Canyon facility begins at the end of January, and trapping

at Wallowa Hatchery begins mid February. Collection continues until there are 10 days without capturing fish, usually around the end of May. Peak spawning occurs in April.

Objective 2: Contribute toward the sustainability of naturally produced native fish populations through the responsible use of hatcheries and hatchery-produced fish.

Rearing and Release Strategies

Rearing and release strategies are designed to limit the amount of ecological interactions occurring between hatchery and naturally produced fish. Fish are reared to sufficient size that smoltification occurs within nearly the entire population, which will reduce the retention time in downstream migration. Rearing on parent river water, or acclimation to parent river water for several weeks, is used to ensure strong homing to the hatchery, thus reducing the stray rate to natural populations. Various release strategies are used to ensure that fish migrate from the hatchery with least amount of interaction with native populations. The specific rearing and release strategies used at this hatchery are outlined below.

Spring Chinook:

Upper Grande Ronde Captive Brood (080Z) Stock: Rear up to a maximum of 500 smolts to a size of 15 fish/pound for transfer to the Manchester Field Station and Bonneville Captive Brood Facility in early May for use as future broodstock.

Rainbow Trout:

Troutlodge Triploid (103T) Stock:

Transfer in 61,000 fish at 20/fish pound from Irrigon Hatchery in October-November. Rear 57,000 trout at 3 fish/pound and 3,000 trout at 1 fish/ pound. Fish will be released in the Wallowa Fish District from April to August.

Summer Steelhead:

Imnaha Stock (029):

Rear 215,000 fish to 5 fish/pound at Irrigon Hatchery. Transfer 165,000 smolts at 5 fish/pound from Irrigon to the Little Sheep Creek facility for 2- 4 week acclimation and release into Little Sheep Creek no later than April 29th. All fish are adipose fin-clipped, and 25,000 are LV fin-clipped and coded-wire tagged, and 16,900 are PIT – tagged.

Transfer 50,000 smolts at 5 fish/pound from Irrigon Hatchery for direct stream release into Big Sheep Creek. This program is co-managed with the Nez Perce Tribe. All of these fish will be adipose fin clipped prior to release. 5,100 of these will be PIT – tagged.

Wallowa Stock (056):

Rear 800,000 fish to 4.5 fish/pound at Irrigon Hatchery. Transfer 480,000 smolts at 4.5 fish/pound from Irrigon Hatchery to Wallowa Hatchery for 2-4 week acclimation and release into the Wallowa River in two groups, the first release in early April (360,000) and the second

in late April (120,000). All fish are adipose fin-clipped prior to release. 200,000 fish are also coded-wire tagged and ventral fin-clipped and 12,700 are PIT-tagged.

Transfer 320,000 smolts at 4.5 fish/pound from Irrigon Hatchery to Big Canyon for 2-4 week acclimation and release into Deer Creek in two groups, the first release in mid-April (160,000) and second in mid- May (160,000). All fish are adipose fin-clipped prior to release. 25,000 fish from each release are also ventral fin-clipped and coded-wire tagged, and 10,000 are PIT-tagged.

Objective 3: Maintain genetic resources of native fish populations spawned or reared in captivity.

Broodstock Selection and Spawning

Oregon's Native Fish Conservation Policy and Hatchery Genetic Management Plans outline broodstock selection and spawning protocols for some fish stocks. The following practices are currently being used at Wallowa Hatchery:

Spring Chinook Captive Broodstock Program: Genetic resources of the native fish populations are protected by collecting parr that were spawned in the wild and that have survived one year in their natal streams. These fish are identified by individual PIT-tags, and spawned only with fish from the same stream. Females are not spawned with males from the same cohort to prevent any possible sibling crosses. Offspring are returned to the natal stream of their parents. F₁ generation smolts are not collected or used in the Captive Broodstock Program. During spawning, all ripe females and males are used, in the ratio that they are found in the population, to insure that all are spawned and contribute their genes to the population. All spawning takes place at the Bonneville Captive Brood Facility.

Rainbow Trout: No spawning takes place at this facility.

Imnaha Stock (029) Summer Steelhead: The trap at the Little Sheep Creek facility is opened from early March to late-May. To meet the production goal 63 pairs are needed for spawning. Hatchery and wild (estimated at 6 males and 6 females) fish are matrix spawned usually in 3 X 3 combinations using not more than 1 wild fish in any group to maximize the contribution of wild fish. Wild composition in hatchery brood is estimated at 10%. The gametes are taken from the fish at the Little Sheep Creek facility and transferred to Wallowa Hatchery where fertilization and initial incubation occur.

Collect 313,851 green eggs (89.9% survival from green to eyed egg) to produce 215,000 smolts. At eye-up the eggs are transferred to Irrigon Hatchery for further incubation and final rearing.

Wallowa Stock (056) Summer Steelhead: Wallowa Hatchery is currently undergoing changes to manipulate the run timing and straying issues of the Wallowa stock summer steelhead. The March, 1999, Biological Opinion on Artificial Propagation in the Columbia River Basin (BIOP), developed by National Marine Fisheries Service (NMFS), directed LSRCF action agencies to develop and implement plans for Grande Ronde basin summer steelhead programs that reduce interactions

between hatchery and wild steelhead in the Grande Ronde and other Columbia basin tributaries. One of the primary concerns expressed in the BIOP was straying of Wallowa stock steelhead adults into the Deschutes basin. To address this issue we will attempt to modify Wallowa stock hatchery steelhead adult return timing to emphasize fall entry into the Grande Ronde. We believe this action will reduce potential for straying into Columbia River tributaries and emphasize harvest augmentation within the LSRCPC compensation area. Adult hatchery origin Wallowa stock steelhead were collected via hook and line as they entered the lower Grande Ronde River from late September through November 2003-2006. Adults collected were transferred to Wallowa Hatchery and held over winter. In February they were uniquely marked to allow differentiation between Fall brood and the original Wallowa stock and finally spawned at a 1:1 male to female ratio as they ripen. Production from the "new" broodstock may be utilized to replace the original Wallowa stock over time pending final results.

Original Wallowa stock adult steelhead return to Wallowa Hatchery and are collected and held for spawning throughout the run. Nearly all adults collected at this facility are of hatchery origin since no fish are passed above the weir to spawn naturally. Only hatchery fish are used for spawning and all fish are spawned at a 1:1 male to female ratio. To meet the production goal 225 pairs are needed for spawning, of which 45 Fall brood pairs are desired. During recent years adequate numbers of adult steelhead have returned to Wallowa Hatchery to meet production goals. When or if adult returns to Wallowa hatchery are below production goals fish will be transferred from the Big Canyon facility to supplement spawning. In 2006 the first group of fall brood adults returned. As these uniquely marked fish return they are incorporated into the future Wallowa (056) stock.

Collect 1,133,000 green eggs to produce 1,016,500 eyed eggs (89.7% survival green to eyed eggs). Transfer 1,016,500 eyed eggs to Irrigon Hatchery (78.7% survival eyed egg to smolt).

Objective 4: Restrict the introduction, amplification, or dissemination of disease agents in hatchery produced fish and in natural environments by controlling egg and fish movements and by prescribing a variety of preventative, therapeutic and disinfecting strategies to control the spread of disease agents in fish populations in the state.

Fish Health Management Programs—All Stocks

ODFW has adopted a Fish Health Management Policy that describes measures that minimize the impact of fish diseases on the state's fish resources. The primary objective of fish health management programs at ODFW hatcheries is to produce healthy smolts that will contribute to the fishery and return sufficient numbers of adults to continue propagation of the stocks and provide supplementation if desired. Equally important is to prevent the introduction, amplification or spread of fish pathogens that might negatively affect the health of both hatchery and naturally reproducing stocks.

ODFW has implemented both disease control and disease prevention programs at all of its facilities to achieve these objectives. These programs include the following standard elements:

Disease Control (Reactive)

- Perform necropsies of diseased and dead fish to diagnose the cause of loss.
- Prescribe appropriate treatments and remedies to disease. This includes recommending modifications in fish culture practices, when appropriate, to alleviate disease-contributing factors.
- Apply a disease control policy as stated in the Oregon Administrative Rules which dictates how specific disease problems will be addressed and what restrictions may be placed on movements of diseased stocks.
- Conduct applied research on new and existing techniques to control disease epizootics.

Disease Prevention (Proactive)

- Routinely remove dead fish from each rearing container and notify ODFW Fish Pathology if losses are increasing. Monthly mortality records are submitted to Fish Pathology from each hatchery.
- Routinely perform examinations of live fish to assess health status and detect problems before they progress to clinical disease or mortality.
- Implement disease preventative strategies in all aspects of fish culture to produce a quality fish. This includes prescribing the optimal nutritional needs and environmental conditions in the hatchery rearing container based on historical disease events. It also involves the use of vaccines or antibiotics in order to avoid a disease problem.
- Use a disease prevention policy that restricts the introduction of stocks into a facility. This will help avoid new disease problems and fish pathogens not previously found at the site.
- Use sanitation procedures that prevent introduction of pathogens into and/or within a facility.
- Conduct applied research on new and existing disease prevention techniques.
- Utilize pond management strategies (e.g., Density Index and Flow Index guidelines) to help optimize the quality of the aquatic environment and minimize fish stress that can be conducive to infectious and noninfectious diseases. For example, a Density Index is used to estimate the maximum number of fish that can occupy a rearing unit based on the rearing unit's size. A Flow Index is used to estimate the rearing unit's carrying capacity based on water flows.

Fish Health Activities at Wallowa Hatchery and Satellites

Health Monitoring

- Monthly health monitoring examinations of healthy and clinically diseased fish are conducted on each stock of steelhead. The sample includes a minimum of 10 moribund/dead fish (if available) and 4-6 live fish per stock. Results are reported on the ODFW Fish Examination form and the Lower Snake River Compensation Plan monthly report.
- Prior to liberation from acclimation ponds, steelhead smolts are given a health exam. This is a special exam that includes aspects of the monthly monitoring exam. Results are reported on ODFW Fish Examination forms and in the Lower Snake River Compensation Plan monthly report.
- Whenever abnormal behavior is reported or observed, or mortality exceeds 0.1% per day over five consecutive days in any rearing container, the fish pathologist will examine the affected fish, make a diagnosis and recommend the appropriate remedial or preventative measures.
- At spawning, a minimum of 60 (30 from Fall Collected Brood) ovarian fluids, kidney/spleen/pyloric caeca samples are examined for viral pathogens. Necropsies on all prespawning mortality (up to 20 fish) are conducted for bacteria, parasites and other causes of death. Additional examinations are conducted if mortality exceeds normal levels. Results are reported on ODFW Viral Examination forms and in the Lower Snake River Compensation Plan monthly report.
- Examinations for *Myxobolus cerebralis*, agent of whirling disease, are conducted on each water supply that is used for rearing fish. At Wallowa Hatchery this includes the Upper Spring and Well water sources where the captive brood spring Chinook are reared.
- All Captive Brood Spring Chinook Mortality are immediately sent to the regional pathology lab for necropsy and diagnosis. Results are reported on the ODFW Fish Examination form and the Lower Snake Compensation Plan monthly report.
- Reporting and control of specific fish pathogens are conducted in accordance with the Fish Health Management Policy. Results from each examination mentioned above are reported on the ODFW Fish Health or Virus Examination forms.

Fish and Egg Movements

- Movements of fish and eggs are conducted in accordance with the Fish Health Management Policy.

Therapeutic and Prophylactic Treatments

- Eggs are spawned into colanders to remove ovarian fluid, fertilized, and then water-hardened in iodophor for disinfection.
- Upon arrival at Wallowa Hatchery, all Captive Brood Spring Chinook parr are injected with Azithromycin or another antibiotic to protect against bacterial kidney disease outbreaks. The disease is endemic to the species.
- Formalin is dispensed into water for control of parasites and fungus on eggs and juveniles. Treatment dosage and exposure time varies with species, life stage and condition being treated.
- Only approved or permitted therapeutic agents are used for treatments:
 - ❖ FDA labeled and approved for use on food fish
 - ❖ Allowed by the FDA as an Investigational New Animal Drug
 - ❖ Obtained by extra-label prescription from a veterinarian
 - ❖ Allowed by the FDA as low regulatory priority or deferred regulatory status
 - ❖ Approved by the FDA through USFWS for fish listed under the federal Endangered Species Act.

Sanitation

- All freshly fertilized eggs are water-hardened in iodophor within their incubation trays either using well or lower spring water depending on the desired rate of development.
- Different egg stocks at Wallowa Hatchery are physically isolated from each other by separate incubator rooms and water supplies. Different fish lots are segregated by separate ponds/tanks and water supplies.
- Disinfection footbaths (or other means of disinfection) are provided at the incubation facility's entrance and exit areas while embryos are incubating in the facility. Footbaths are also present in the captive brood room at entrance and exit, while fish are present.
- All equipment (nets, tanks, rain gear, boots, etc.) is disinfected with iodophor and rinsed between uses with different fish/egg lots or different rearing containers.
- Dead fish are disposed of promptly and in a manner that prevents introduction of disease agents to the waters of the state.
- Rearing units are cleaned on a regular basis.

- Fish transport trucks are disinfected between the hauling of different fish lots.
- Rearing units are sanitized after removing fish and before introducing a new fish stock either by thorough cleaning and use of a disinfectant or by cleaning and leaving dry for an extended time.

Objective 5: Minimize adverse ecological impacts to watersheds caused by hatchery facilities and operations.

Environmental Monitoring

Primarily, environmental monitoring is conducted at ODFW facilities to ensure these facilities meet the requirements of the National Pollution Discharge Elimination Permit administered by the Oregon Department of Environmental Quality. It is also used in managing fish health. On a short-term basis, monitoring helps identify when changes to hatchery practices are required. Long-term monitoring provides the ability to quantify water quality impacts resulting from changes in the watershed (e.g., logging, road building and urbanization). The following environmental parameters are currently monitored at all ODFW hatcheries:

- Total Suspended Solids (TSS) – Composite samples are collected once per week during normal operations and each time a cleaning event occurs during the month of highest production for each calendar quarter. Samples are also taken during severe disturbance of stream due to storms, run-off, etc.
- Settleable Solids (SS) – Grab samples are collected once per week during normal operations and each time a cleaning event occurs during the month of highest production for each calendar quarter.
- pH – measured once during normal operations for the month of highest production for each calendar quarter.
- Dissolved Oxygen (DO) – measured only when conditions warrant (e.g., periods of low flows and high temperatures).
- Flow Logs – Measurements are taken once per week during normal operations and during each cleaning event for the month of highest production for each calendar quarter. Flows are also recorded when using a chemical which discharges into the effluent, in order to follow prescribed dilution rates.

Objective 6: Communicate effectively with other fish producers, managers and the public.

Coordination/Communication within ODFW

Annual Fish Production Meetings: ODFW conducts meetings throughout the state to set annual fish production goals for all public hatcheries in Oregon. These meetings involve the participation of ODFW research, management and fish culture staff as well as representatives from applicable federal agencies and tribes.

Record Keeping: The following records are kept at all ODFW hatcheries:

- All Adult Transaction Reports – details the collection and disposition of all adult fish handled at the facility.
- Mark Recovery Report – details sex, fish length and tag information from all marked adult fish that are captured.
- Egg and Fry Report – records all egg and fry movements, treatments, etc.
- Monthly Poned Report – updates hatchery operations from the previous month (i.e., current number of fish, size, transfers or releases, feed conversion, mortality, medication, etc.).
- Monthly Progress Report – document summarizing operational activities for the hatchery and all satellite facilities (e.g., fish culture, fish health, fish distribution, maintenance and safety).
- Fish Loss and Treatment Report – records disease problems and daily mortality.
- Fish Loss Report/Investigation – when 1,000 or more juveniles or 10 or more adult fish are accidentally lost in a single accident.
- Predator Mortality Report – documents any fish predators that may die at the hatchery facility.
- Fish Liberation Reports – details information regarding all fish releases (e.g., fish numbers, size, location, method of release, marks, etc.).
- Coded–Wire Tag Release Reports – record of all juvenile fish released with coded-wire tags.
- Length Frequency Record – details fish lengths of all anadromous fish released (based on a sample of the releases).
- Chemical use, waste discharge monitoring, purchasing, budget, hazardous materials, safety, vehicles, equipment, maintenance and alarm logs.

- Visitor Log – some facilities record the daily visitor use of the facility; however, this is not a requirement.

Hatchery Management Information System (HMIS): Computerized system to collect, report, summarize and analyze hatchery production data. This system is a tool to be used in production control at all hatchery management levels.

Coordinated Information System (CIS): Future record keeping will be coordinated with the basin-wide Coordinated Information System (CIS) currently under development. The CIS development is being funded by Bonneville Power Administration. It will be a system to access all necessary databases in the region. It is hoped that coordinated information collection and reporting will result in consistency between the various agencies.

Interagency Coordination/Communication

Production Advisory Committee (PAC): The Columbia River PAC is comprised of representatives from the regulatory management agencies and tribes. This group meets monthly to discuss anadromous fish production issues and to provide an opportunity for communication among the anadromous fish hatchery managers.

Technical Advisory Committee (TAC): The Columbia River TAC is comprised of regulatory fish harvest technicians. This group provides management direction used in establishing hatchery fish production goals. TAC meets monthly.

Pacific Northwest Fish Health Protection Committee (PNFHPC): This group is comprised of representatives from U.S. and Canadian fish management agencies, tribes, universities, and private fish operations. The groups meets twice a year to monitor regional fish health policies and to discuss current fish health issues in the Pacific Northwest.

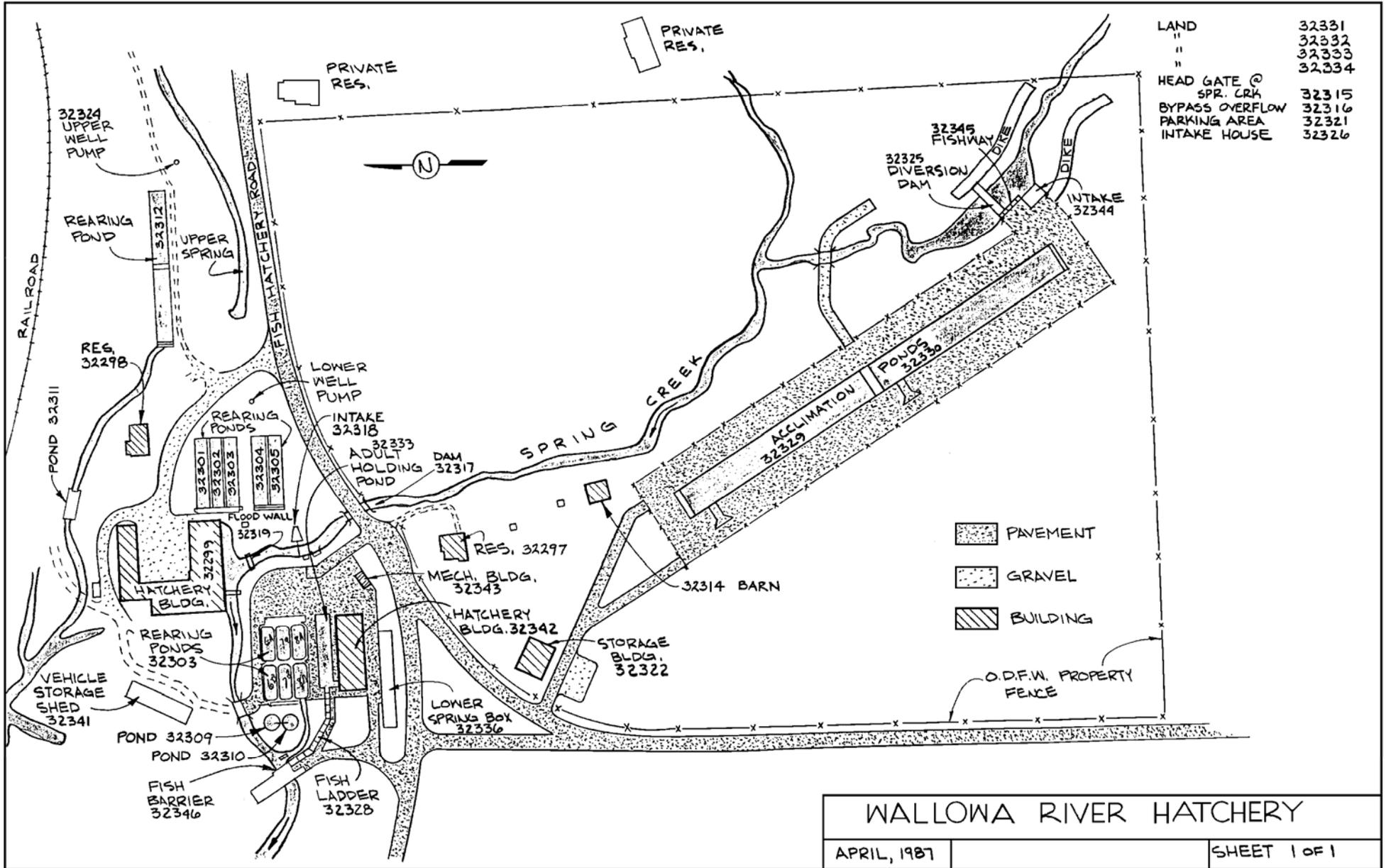
In-River Agreements: State and tribal representatives meet annually to set Columbia River harvests as part of the *U.S. v. Oregon Agreement*. Periodic meetings are also held throughout the year to assess if targets are being met.

In-Season Communications: Communication with PAC, the Columbia River Inter-Tribal Fish Commission, Washington Department of Wildlife, Washington Department of Fisheries, U.S. Fish and Wildlife Service and Idaho Department of Fish and Game takes place each year to coordinate proper fish and egg transfers in an effort to meet basin-wide goals at all facilities, where applicable.

Other: Periodic meetings are held with staff from the U.S. Fish and Wildlife Service and appropriate Indian tribes to discuss hatchery operations.

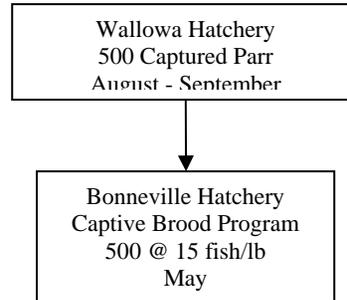
Communication with the General Public

Wallowa Hatchery and the satellite facilities receive approximately 2,000 visitors each year.

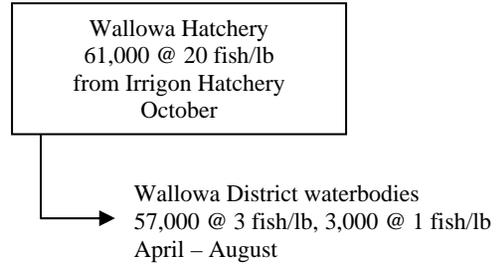


WALLOWA RIVER HATCHERY		
APRIL, 1987		SHEET 1 OF 1

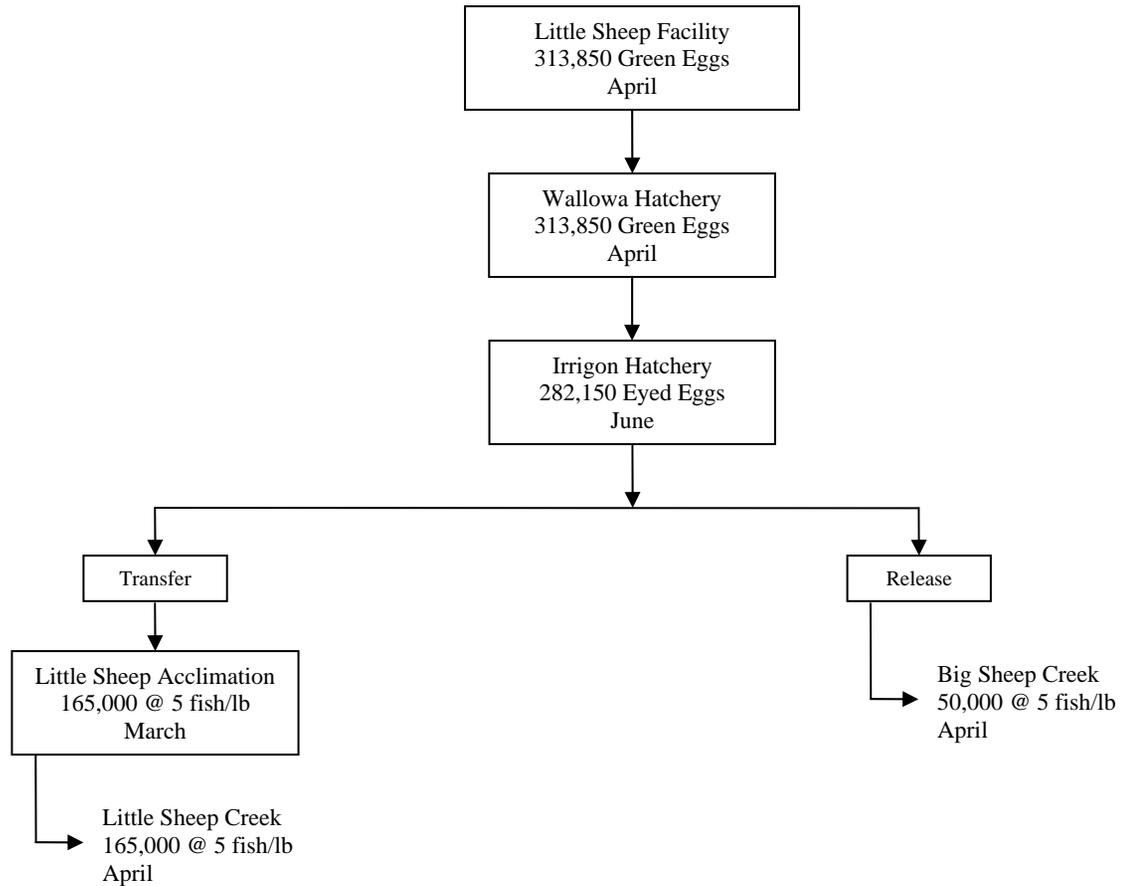
**Wallowa Hatchery
Spring Chinook Salmon – Stock 80Z (Upper Grande Ronde)
Captive Broodstock**



Wallowa Hatchery
Rainbow Trout – Stock 103T (Troutlodge Triploid)



**Wallowa Hatchery
Summer Steelhead – Stock 29 (Imnaha River and Tributaries)**



Wallowa Hatchery Summer Steelhead – Stock 56(Wallowa River)

