

I R R I G O N H A T C H E R Y



OPERATIONS PLAN 2009

Irrigon Hatchery

INTRODUCTION

Irrigon Hatchery is located along the Columbia River above John Day Dam 3 miles west of Irrigon, Oregon. The facility is at an elevation of 277 feet above sea level, at latitude 45° 54' 33" N (45.9090) and longitude 119° 32' 39" W (119.5453). The area of the site is 33 acres, owned by the USFWS.

The hatchery water supply is provided from two wells that can deliver a total of approximately 21,000 gpm. Water rights and design capacity is about 25,000 gpm. The 21,000 gpm is available year round with actual low water use occurring in June when only 2,400 gpm is needed. Water flows from an upper series of raceways and is re-used in the lower series prior to discharge.

The facility is staffed with 9 FTE's.

Rearing Facilities at Irrigon 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
Circular Tanks		6	2.42	68	68	4,624	fiberglass	1986	good	
Raceways	100	20	3.75	7,500	32	240,000	concrete	1986	good	
Vertical Incubators					288		fiberglass	1986	good	24 stacks of 12 trays

PURPOSE

Irrigon Hatchery began operation in 1984 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. This facility serves as an egg incubation and rearing facility for summer steelhead destined for the Grande Ronde and Imnaha river systems. In addition, Irrigon is also used as a rearing site for legal-sized rainbow trout destined for northeast Oregon waters.

PROGRAM TYPE

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.

All Irrigon Hatchery programs are harvest programs used for mitigation of fishing and harvest opportunities lost due to habitat loss and migration blockage resulting from the Lower Snake River hydropower system.

GOALS

Summer Steelhead:

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 330,000 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.

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 9,184 adults for harvest and escapement to the area above Ice Harbor Dam.

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

OBJECTIVES

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

Summer Steelhead:

Imnaha River (029) Stock:

Produce 215,000 smolts (43,000 pounds) for release into the Imnaha River System.

Wallowa River (056) Stock:

Produce 800,000 smolts (177,778 pounds) for release into the Wallowa River System.

Rainbow Trout:

Cape Cod Triploid (072T) Stock :

Hold 130,550 legal-sized trout (43,517 pounds) produced in central Oregon hatcheries for final distribution to northeast Oregon waters.

Troutlodge Triploid (103T) Stock:

Produce 61,000 fingerlings (3,050 pounds) for transfer to Wallowa Hatchery.

Produce 42,000 legal-size trout (14,000 pounds) for release into standing waterbodies in northeast Oregon.

Produce 65,000 legal-size trout (21,667 pounds) for release into various waterbodies in southwest Oregon.

- 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 used 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 provide guidelines for 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

There are no adult fish collected at Irrigon Hatchery. Eggs, fry or fingerlings are transferred in from other facilities as described below.

Summer Steelhead:

Imnaha (029) Stock: Entry of adults into the Imnaha River Subbasin occurs between early March and late May. Adults are collected and spawned at Little Sheep acclimation facility. Eggs are transferred to Wallowa Hatchery for eye-up and then transferred to Irrigon Hatchery for incubation and rearing.

Wallowa (056) Stock: Wallowa stock is used as the broodstock for hatchery releases into the Grande Ronde River System. Entry of adults into the subbasin occurs between early March and late May. Peak spawning occurs in April. Fish are collected and spawned at both the Wallowa Hatchery and the Big Canyon Acclimation Pond. Eggs are transferred to Wallowa Hatchery for eye-up and then transferred to Irrigon Hatchery for incubation and rearing.

Rainbow Trout:

Cape Cod Triploid (072T) Stock: No broodstock are maintained at this facility (see plans for Fall River, Oak Springs and Wizard Falls hatcheries for additional information).

Troutlodge Triploid (103T) Stock: No broodstock are maintained at this facility. Eggs are purchased from Troutlodge, Inc. located in Sumner, Washington.

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

The Oregon Fish and Wildlife Commission recently adopted a Native Fish Conservation Policy and Hatchery Genetic Management Plans (HGMPs) to help guide the management of wild and hatchery fish in Oregon. These policies are currently being implemented and will likely change future rearing and release strategies for some fish stocks. The following practices are being used at Irrigon Hatchery:

Summer Steelhead:

Imnaha (029) Stock:

Rear 215,000 fish to size of 5 fish/pound at Irrigon Hatchery. Transfer 165,000 to the Little Sheep Creek acclimation facility; acclimate for a minimum of three weeks; release in April. All fish are adipose fin-clipped prior to release, and a portion (25,000) of the release is also coded-wire tagged and ventral fin-clipped. The remaining 50,000 smolts are directly released into Big Sheep Creek in mid-April; all fish are adipose fin-clipped prior to release.

Wallowa (056) Stock:

Rear 800,000 fish to size of 4.5 fish/pound at Irrigon Hatchery. Transfer 480,000 smolts to the Wallowa Hatchery acclimation ponds and 320,000 smolts to the Big Canyon acclimation facility. Acclimate smolts at these facilities for approximately four weeks and release during April and May. All fish are marked prior to release. 200,000 of the Wallowa releases and 50,000 of the Big Canyon release are also coded-wire tagged and ventral fin-clipped.

Rainbow Trout:

Cape Cod Triploid (072T) Stock:

Receive 59,600 fish from Oak Springs Hatchery and 20,550 fish from Wizard Falls Hatchery in March and 51,500 fish from Fall River in April and May. Release 129,850 fish at 3 fish/pound into various northeast Oregon standing water bodies from April to July.

Troutlodge Triploid (103T) Stock:

Rear 61,000 fingerlings to a size of 20 fish/pound for transfer to Wallowa Hatchery in October.

Rear 42,000 fish to a size of 3 fish/pound for release into various northeast Oregon standing water bodies from April through August.

Rear 65,000 fish to a size of 3 fish/pound for release into various southwest Oregon waterbodies in May and June.

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 Irrigon Hatchery:

Summer Steelhead:

Imnaha (029) Stock: No spawning takes place at this facility. Broodstock selection and spawning occurs at Wallowa Hatchery and its satellite facilities (see Wallowa Hatchery Plan for additional information).

Wallowa (056) Stock: No spawning is conducted at Irrigon Hatchery. Broodstock selection and spawning occurs at Wallowa Hatchery and its satellite facilities (see Wallowa Hatchery Plan for additional information).

Rainbow Trout: No broodstock selection or spawning takes place at this hatchery.

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 Irrigon Hatchery

Health Monitoring

- Monthly fish health examinations are conducted on each lot of juvenile steelhead. A minimum of five healthy-appearing fish and a combination of ten moribund, fresh-dead or frozen fish (if available) are sampled per fish lot.
- Pretransfer and preliberation health examinations are conducted on all steelhead lots according to transfer or liberation strategies. These examinations are far more extensive than monthly monitoring, however, monthly monitoring protocols are included.
- 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.
- Clinical findings and results of monthly monitoring, pretransfer/preliminary examinations and loss investigation are reported on ODFW Fish Health Examination forms and in the Lower Snake River Compensation Plan monthly reports.
- Examinations for *Myxobolus cerebralis*, agent of whirling disease, are conducted annually on 60 fish held for a minimum of 180 days at the facility.
- 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 Transfers

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

Therapeutic and Prophylactic Treatments

- Juvenile fish are administered antibiotics orally as needed for the control of bacterial infections and for prevention of diseases.
- 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 eggs brought to the facility are surface-disinfected or water-hardened in buffered iodophor.
- 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.
- All equipment (e.g., nets, tanks, rain gear, boots) is disinfected with iodophor 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) – measured quarterly. Two composite samples are collected, one during normal operations and one during cleaning. Some facilities may take more samples because of multiple outfalls.
- Settleable Solids (SS) – measured quarterly. Two composite samples are collected, one during normal operations and one during cleaning. Some facilities may take more samples because of multiple outfalls.
- pH – measured quarterly when settleable solids are measured.
- Total Ammonia and Total Phosphorus – measured quarterly during the first 12 months of the permit when settleable solids are measured.
- Water Temperatures – daily maximum and minimum water temperatures are measured within the hatchery. Temperature units are recorded for egg development in some hatcheries.
- Dissolved Oxygen (DO) – measured only when conditions warrant (e.g., periods of low flows and high temperatures).
- Air Temperatures – maximum and minimum temperatures are recorded daily at some stations, but there are no special monitoring requirements.
- Flow Logs – changes in water flows through the hatchery ponds are recorded weekly.

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:

- Anadromous Adult Transaction Report – 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.

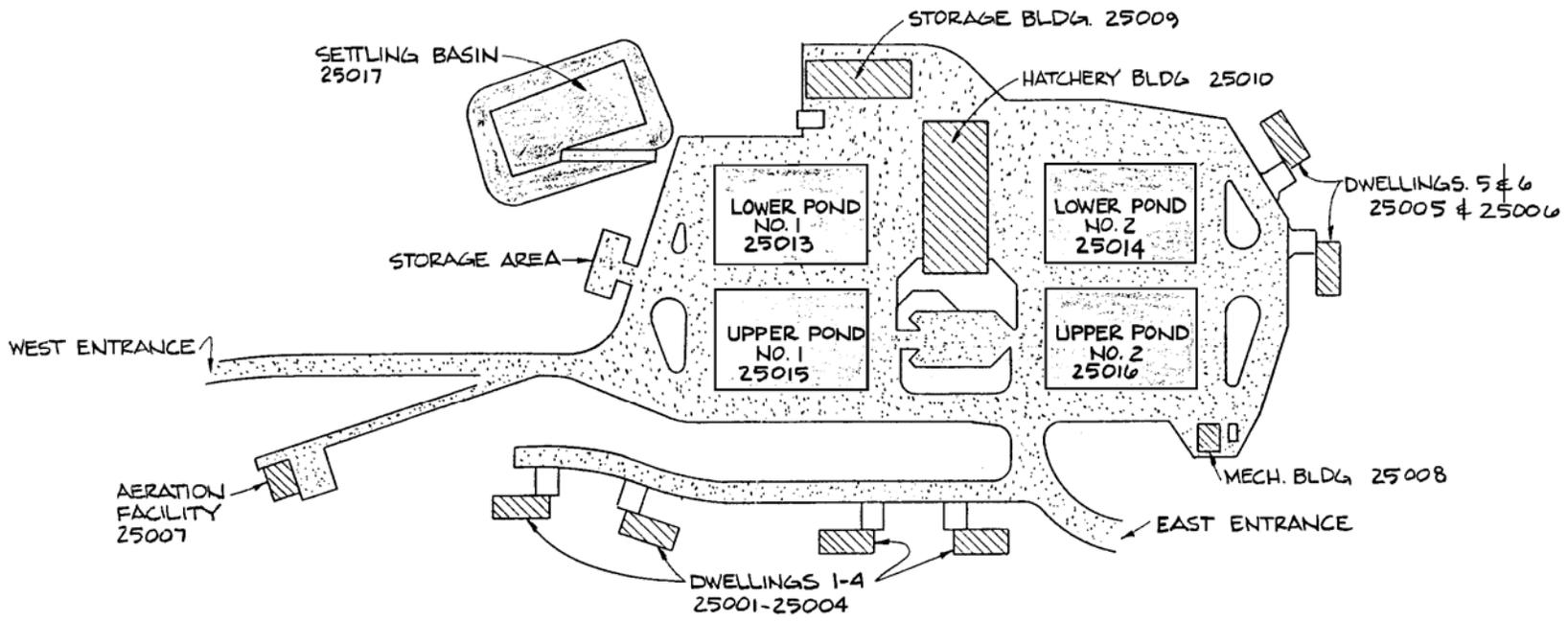
In-River Agreements: State and tribal representatives meet annually to set Columbia River harvests as part of the *U.S. v. Oregon Agreement*. Periodic meetings are also held throughout the year to assess if targets are being met.

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: ODFW holds periodic meetings with the U.S. Fish and Wildlife Service and appropriate Indian tribes to discuss hatchery operations.

Communication with the General Public

Irrigon Hatchery receives approximately 4,000 annual visitors.

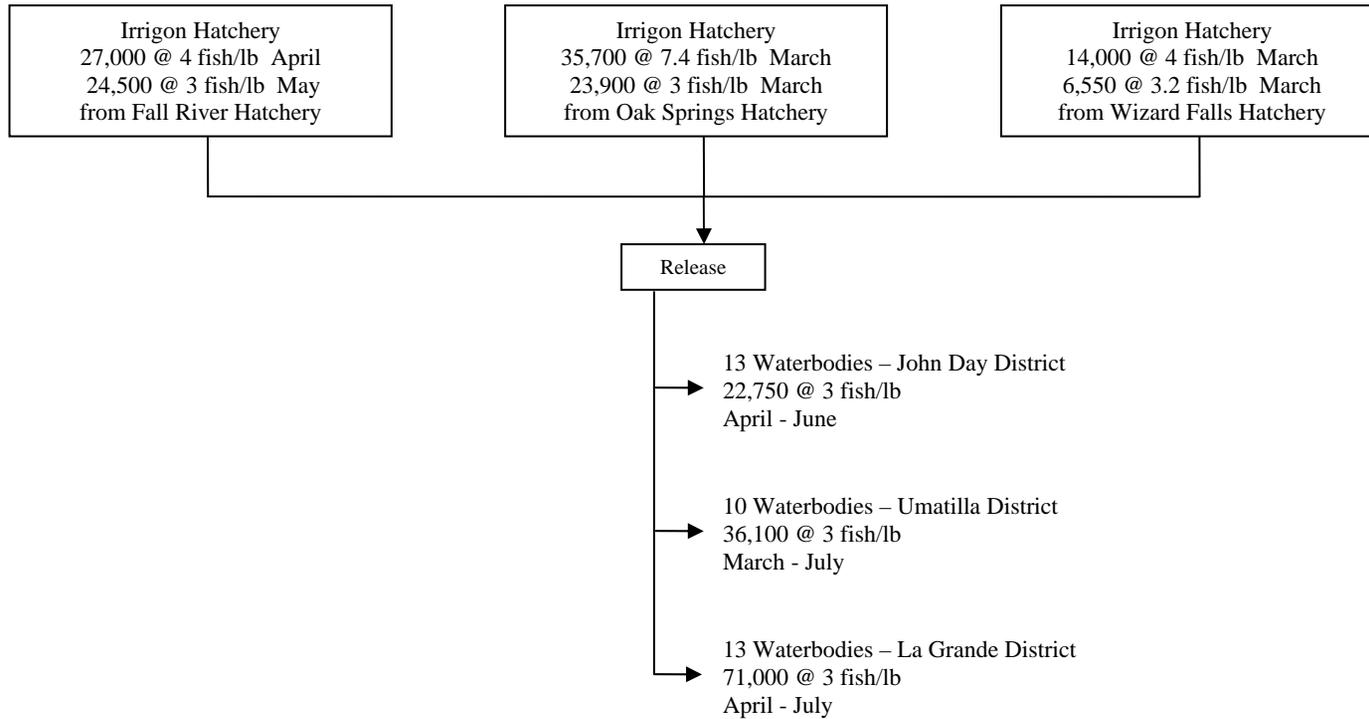


SITE, POLES, CURBS, ETC.- 25018

LAND, PAVING, ROADS- 25018

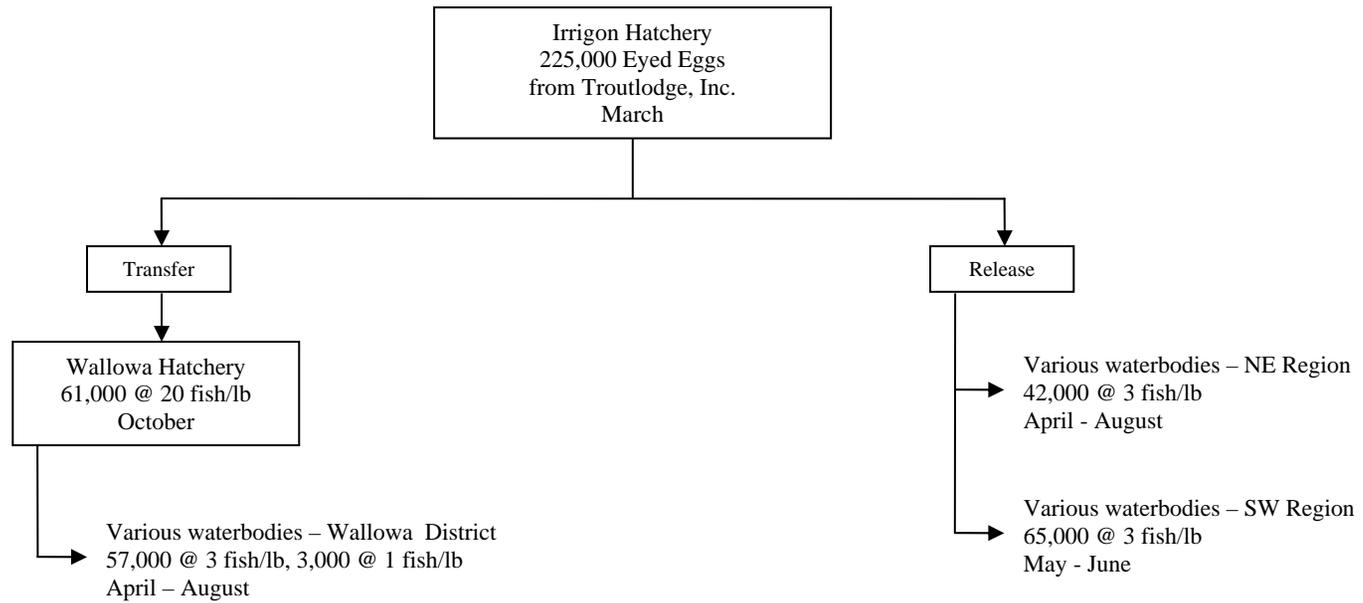
IRRIGON HATCHERY

Irrigon Hatchery Rainbow Trout – Stock 72T (Cape Cod Triploid)

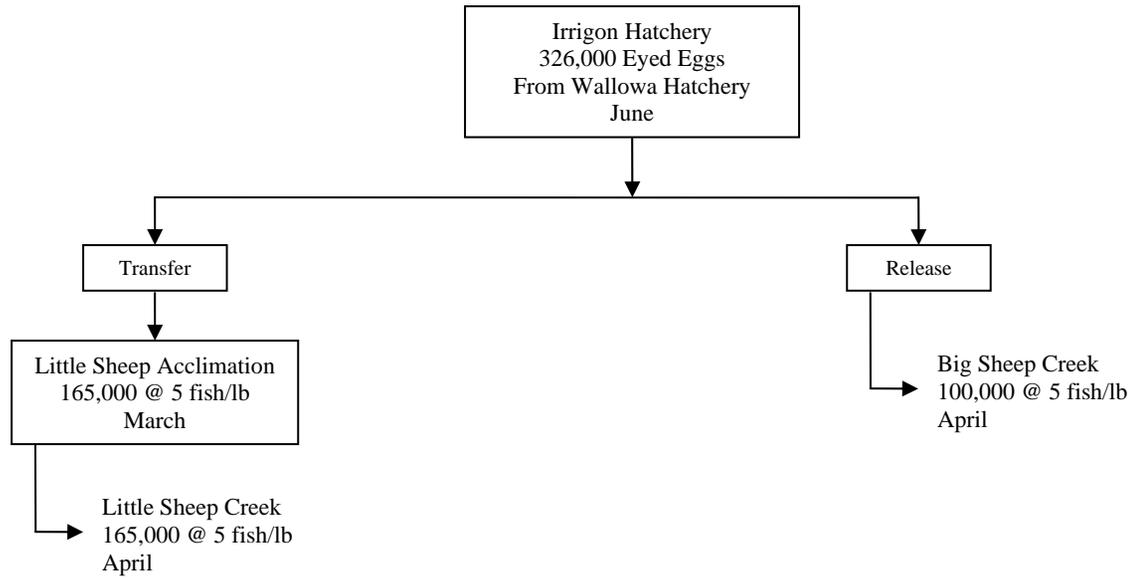


Irrigon Hatchery

Rainbow Trout – Stock 103T (Troutlodge Triploid)



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



**Irrigon Hatchery
Summer Steelhead – Stock 56(Wallowa River)**

