

# ALSEA RIVER HATCHERY



## PROGRAM MANAGEMENT PLAN 2018

## Alsea River Hatchery (Palmer Creek Acclimation Site)

### INTRODUCTION

Alsea Hatchery is located at river mile 48.5 on the North Fork Alsea River off Highway 34, 15 miles west of Philomath, Oregon. The site is at an elevation of 380 feet, at latitude 44.4228 and longitude -123.5658. The hatchery land area is 25 acres.

The hatchery water supply is from the North Fork Alsea River, located 2,300 feet upstream from the hatchery. The Alsea facility water right is 47 cfs. Water quality is good; however, low water flows are experienced during severe winter and summer conditions.

The facility is staffed with 4.0 FTE's.

#### Rearing Facilities at Alsea River Hatchery

Unit Type	Unit Length (ft)	Unit Width (ft)	Unit Depth (ft)	Unit Volume (ft <sup>3</sup> )	Number Units	Total Volume (ft <sup>3</sup> )	Construction Material	Age	Condition	Comment
Adult Holding Pond	200	16	2.5	8,000	1	8,000	concrete	1938	fair	
Adult Holding Pond	75	16	6	7,200	1	7,200	concrete	1974	fair	Divided into 10 pens and one main holding area
Raceways	100	9	2.25	2,025	10	20,250	concrete	1938	poor	not used - insufficient water
Raceways	100	20	4	8,000	20	160,000	concrete	1974	fair	Pond 20 has reduced flow.
Circular Ponds		29	3	430	3	1,290	concrete	1938	poor	Pond 33 used for truck fill spout
Canadian Troughs	16.5	3	2	99	2	396	fiberglass	1994	good	
Deep Troughs	17.25	2	3	104	25	2,588	concrete	1938	fair	20 used for production, 5 used for egg/fry processing.
Vertical Incubators					168			1984	fair/poor	24 stacks of 8 trays; top trays used for silt settling.
Abatement Pond	310	110	5	170,500	1	170,500	asphalt	1974	fair	

## **PURPOSE**

Alsea Hatchery was constructed in 1936, and is operated with state funds. Many improvements have been made to the hatchery since original construction.

The hatchery produces both winter steelhead and rainbow trout. The facility is used for adult collection, spawning, egg incubation and rearing of winter steelhead, and egg incubation and rearing of rainbow trout.

## **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.

Alsea Hatchery programs are harvest programs, used for the augmentation of fishing and harvest opportunities.

## **GOALS**

Rainbow Trout: to produce legal-size and trophy triploid rainbow trout to augment the trout fishery in coastal lakes by providing catchable hatchery trout in the spring.

Winter Steelhead:

Siletz (33W) Stock: to release 50,000 smolts from wild winter steelhead broodstock in the Siletz basin for harvest while minimizing interactions with listed natural fish, as outlined in the Coastal Multispecies Conservation and Management Plan.

Siuslaw River (38H) Winter Steelhead: to release up to 100,000 hatchery winter steelhead while minimizing interactions with wild fish, as outlined in the Coastal Multispecies Conservation and Management Plan.

Alsea (43H) Stock and Alsea Wild (43W) Stock: to release up to 140,000 winter steelhead to provide harvest opportunities, while minimizing risk to wild fish, as outlined in the Coastal Multispecies Conservation Plan.

## **OBJECTIVES**

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

Rainbow Trout:

Cape Cod Triploid (72T) Stock:

Produce 113,275 legal and trophy trout (64,789 pounds) for stocking in 22 waterbodies in the Mid-Coast District.

Produce 43,275 legal and trophy trout (15,967 pounds) for stocking in 8 waterbodies in the Coast Range District.

Produce 10,300 legal and trophy trout (4,667 pounds) for stocking in 6 waterbodies in the Cascade District.

Winter Steelhead:

Siletz (33F) Stock:

Produce 50,000 smolts (8,333 pounds) for release into the Siletz River system.

Siuslaw River (038F) Stock:

Produce 160,000 eyed eggs for transfer to Willamette Hatchery.

Alsea (43H) Stock:

Produce 60,000 smolts (10,000 pounds) for release into the Alsea River system.

Provide 3,000 eggs for Newport STEP programs.

Alsea Wild (43F) Stock:

Produce 80,000 smolts (13,333 pounds) for release into the Alsea River system.

- 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 fish production at this facility. Because ODFW hatcheries are managed to optimize 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, Hatchery Genetic and Management Plans, and the Coastal Multispecies Conservation and Management Plan 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***

##### Rainbow Trout

Cape Cod Triploid (72T) Stock: Broodstock are maintained at Roaring River Hatchery.

##### Winter Steelhead

Siletz (33W) Stock: Adults are collected by anglers in the Siletz River during December and at the Siletz River trap from January to May, and transported to the hatchery for spawning. Peak spawning occurs in mid-March to mid-April. The current goal is to collect 40 pairs of wild adults, including jacks in the proportion documented in the population each year.

Siuslaw River (38H) Stock: No adults are collected at this hatchery. Adults are collected at the Whittaker, Green, and Letz Creek traps by STEP. Broodstock collections occur from January through March. Fish are selected at weekly intervals based on proportion of historic wild fish return. An effort is made to incorporate a minimum of 30% wild adult winter steelhead into the broodstock. The goal for broodstock collection will be 140 hatchery winter steelhead adults and 60 wild winter steelhead. In those periodic years when only wild winter steelhead will be collected for broodstock, the goal will be 120 wild adults.

Alesea (43H) Stock: Adults return to the hatchery from December through April. Spawning occurs from December through January. This stock will be used to back up the wild (43W) stock to meet the program goal of 120,000 smolts.

Alesea Wild (43W) Stock: Adults are collected by anglers, the hatchery lower trap, the Fall Creek trap and the Drift Creek trap from December through April. Peak spawning occurs from mid-January to mid-April. This program is a transition from the hatchery stock (43H) to wild broodstock.

**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.

Rainbow Trout:

Cape Cod (72T) Stock: Rear 166,850 to 3 fpp or larger and release throughout the year into various standing water bodies.

Winter Steelhead:

Siletz (33F) Stock: Rear 50,000 to a size of 6 fpp, acclimate at Palmer Creek Acclimation site, and release into the Siletz River during April. All fish receive an adipose fin clip prior to release.

Siuslaw River (38F) Stock: Egg program only.

Alsea (43H) Stock: Rear 60,000 to a size of 6 fpp and volitionally release (non-acclimated) during late March – early April into the Alsea River. All fish receive an AD-LM clip prior to release.

Alsea Wild (43F) Stock: Rear 80,000 to a size of 6 fpp, direct release 20,000 into the Alsea River at Rivers Edge Park and volitionally release 60,000 on-site into the Alsea River during April. All fish receive an AD-RM clip prior to release.

**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 Alsea Hatchery:

### Rainbow Trout:

Cape Cod (72) Stock: Broodstock are maintained at Roaring River Hatchery. Spawning takes place in December, and eyed eggs are shipped to Alsea Hatchery in January to complete incubation and rearing.

### Winter Steelhead:

Siletz (33W) Stock: No adults are collected at the hatchery. A maximum of 40 pairs are captured at the Siletz River Trap or angler caught and held at the hatchery until ready for spawning. Fish are spawned at a 1:1 male to female ratio using a matrix system. Individual family groups are kept separate. Broodstock are 100% wild fish.

Siuslaw River (38) Stock: No spawning occurs at this facility. Adults are collected and spawned at the Siuslaw River Trap by STEP. Adults are live-spawned in this program. Winter steelhead are spawned using a 1:1 male to female ratio in a 3x3 matrix. The individual family groups are kept separate.

Alsea (43H) Stock: A minimum of 350 pairs of adults are collected at the hatchery throughout the run and matrix spawned at a 1:1 male to female ratio. The stock is comprised of 100% hatchery progeny.

Alsea Wild (43W) Stock: A maximum of 45 pairs are captured in the lower Alsea trap, Fall Creek trap, Drift Creek trap or angling. Fish are matrix spawned at a 1:1 male to female ratio. All wild fish are live-spawned and returned to the Alsea River. If hatchery fish are used in the 43W broodstock, at least 30 percent of the broodstock will be of wild fish origin.

**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 Alsea Hatchery***

## Health Monitoring

- All fish are given a health inspection no longer than 6 weeks before fish are released or transferred. This exam may be in conjunction with the routine monthly visit.
- Monthly health monitoring examinations of healthy and clinically diseased fish are conducted on each fish lot. The sample includes a minimum of 10 moribund/dead fish (if available) and 4-6 live fish per lot.
- Examinations for *Myxobolus cerebralis*, agent of whirling disease, are conducted annually on 60 fish held for a minimum of 180 days at the facility.
- At spawning, a minimum of 60 ovarian fluids and 60 kidney/spleen/pyloric caeca (based on a minimum sampling at the 5% incidence level) are examined for viral pathogens from each salmon lot. If prespawning mortality is above normal, necropsies are conducted on dead adult fish for bacteria, parasites and other causes of death.
- 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.
- 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

- 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. Effluent and receiving stream temperatures are measured weekly from April to October.
- 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.

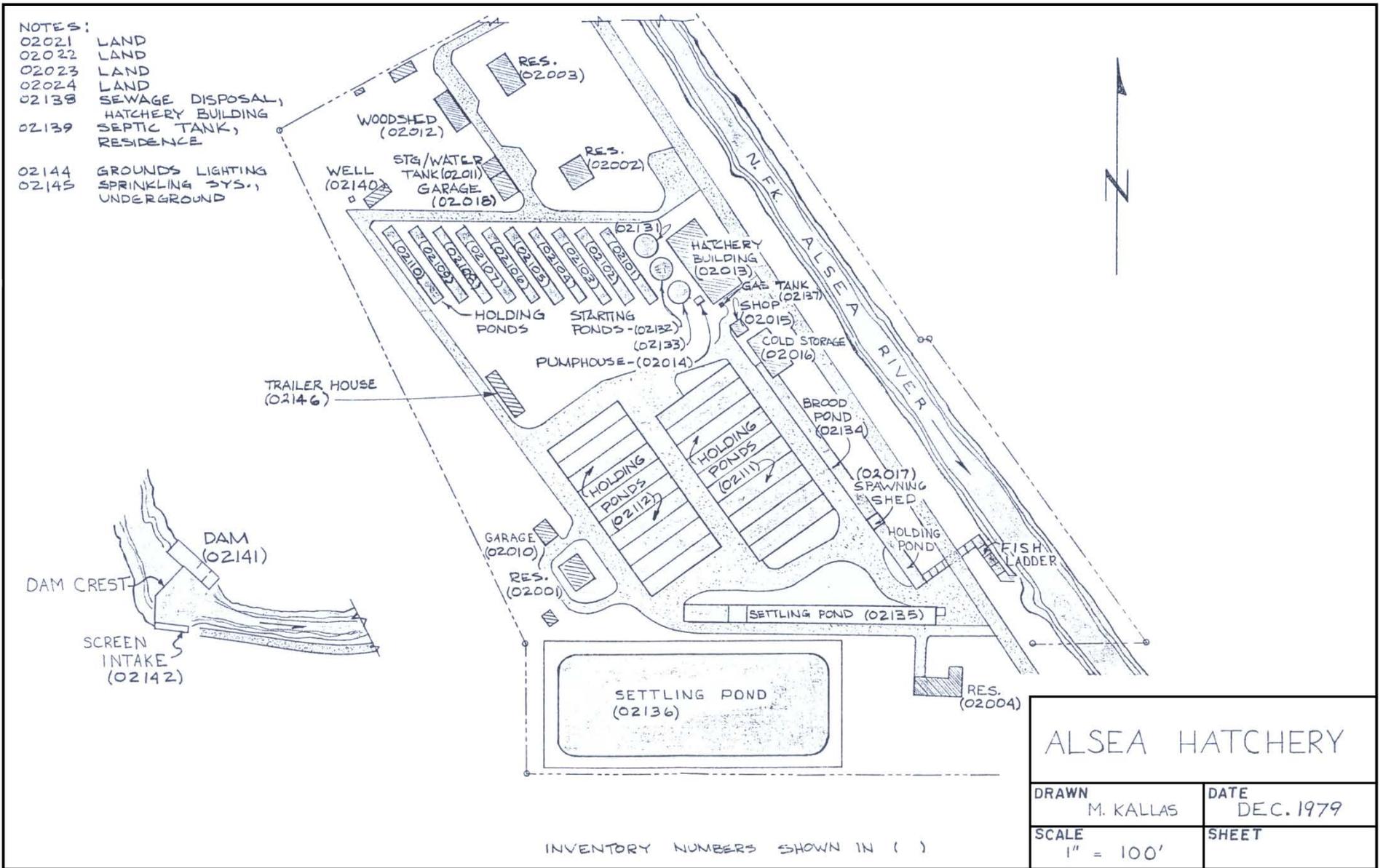
Hatchery Management System (HMS): Computerized system to collect, report, summarize and analyze hatchery production data. This system is a tool to be used in production control at all hatchery management levels.

### ***Interagency Coordination/Communication***

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 group meets twice a year to monitor regional fish health policies and to discuss current fish health issues in the Pacific Northwest.

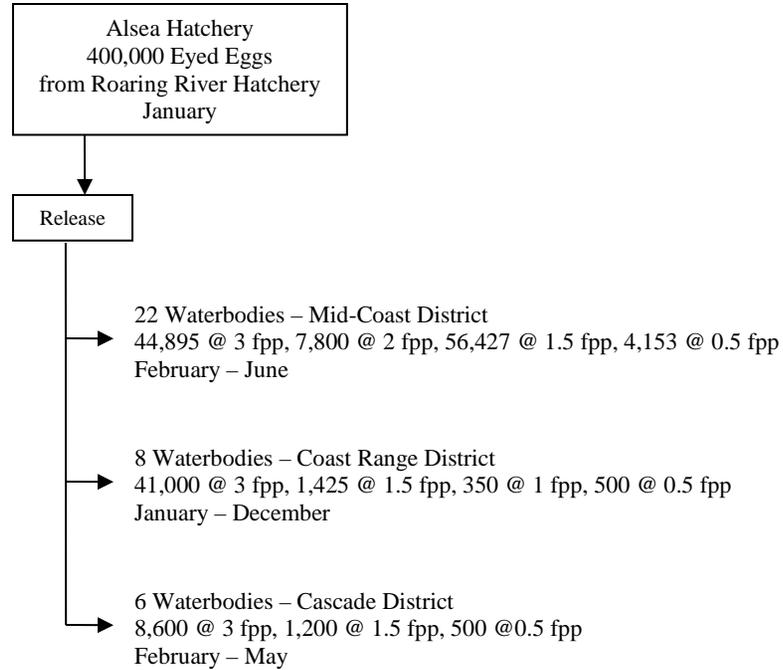
### ***Communication with the General Public***

Alsea Hatchery receives approximately 5,000 visitors each year.

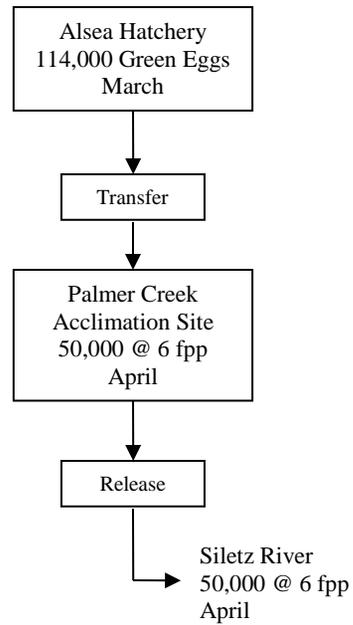


ALSEA HATCHERY	
DRAWN M. KALLAS	DATE DEC. 1979
SCALE 1" = 100'	SHEET

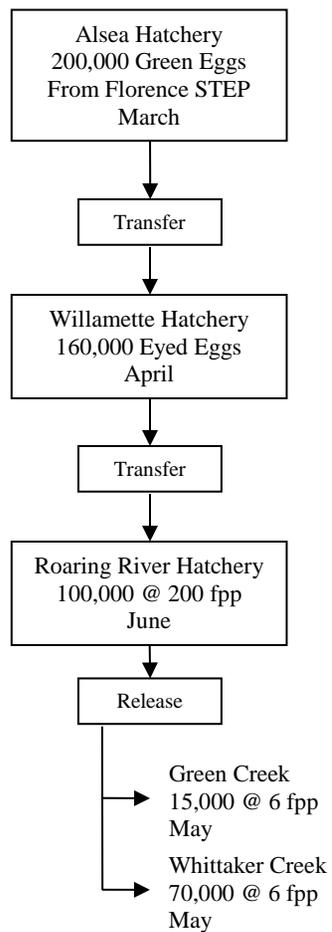
## Alsea Hatchery Rainbow Trout – Stock 72T (Cape Cod Triploid)



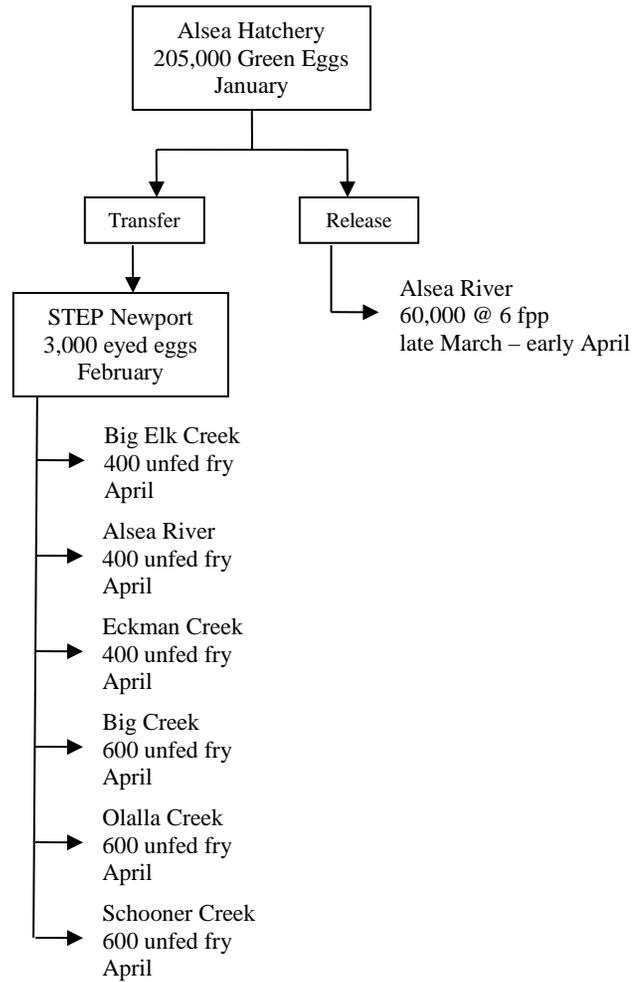
**Alsea Hatchery  
Winter Steelhead – Stock 33F (Siletz River)**



## Alsea Hatchery Winter Steelhead – Stock 38F (Siuslaw River)



## Alose Hatchery Winter Steelhead – Stock 43H (Alose River)



**Alsea Hatchery  
Winter Steelhead – Stock 43F (Wild Alsea River)**

