

TRASK HATCHERY



PROGRAM MANAGEMENT PLAN 2017

Trask Hatchery and Satellites (Tuffy Creek)

INTRODUCTION

Trask Hatchery is located on the Trask River eight miles east of Tillamook on Chance Road off State Highway 6. The site is at an elevation of approximately 100 feet above sea level, at latitude 45° 25' 53" N (45.43139) and longitude 123° 43' 58" W (123.7328). The site area is 19 acres. The Tuffy Creek facility is located approximately 22 miles east of Tillamook off Highway 6 at the South Fork Wilson River Forest Camp, and is operated in cooperation with the Oregon Department of Corrections.

The main hatchery water supply is obtained from two sources: Gold Creek, and Mary's Creek. The water right is for 9 cfs from Gold Creek and 1 cfs from Mary's Creek. There is also a water right of 9 cfs from the Trask River that is unusable when needed in the summer due to intake location. Tuffy Creek is supplied by water from the South Fork Wilson River. The water right is for 3 cfs.

The facility is staffed with 3.00 FTE's.

PURPOSE

Trask hatchery was constructed in 1916 to replace an earlier hatchery that was located three miles upstream from the present site. Many improvements have been made to the hatchery since original construction including a new alarm system, early rearing building and a 40' x 60' pole building. Tuffy Creek was constructed in 1988. Funding for hatchery operations is 100 % state general funds.

The hatchery is used for adult collection, incubation, and rearing of fall and spring chinook, coho, wild winter steelhead and hatchery winter steelhead.

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.

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

Rearing Facilities at Trask 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
Adult Holding Pond	50	30	2.6	3,900	1	3,900	concrete		Fair	Pond T-9 Trask Hatchery
Adult Holding Pond	40	20	3.7	2,960	1	2,960	concrete		Fair	Pond T-3 Trask Hatchery
Rearing Pond	120	35	3.5	14,700	1	14,700	asphalt	1988	Fair	Tuffy Creek
Raceways	100	30	3.5	10,500	2	21,000	concrete		Good	Pond 1&2 Trask Hatchery
Raceways	50	8	2.7	1,080	8	8,640	concrete		Fair	Ponds 5-12 Trask Hatchery
Raceway	142	30	2.4	10,224	1	10,224	concrete		Fair	This is our next distribution pond
Raceway	50	50	1.6	4,000	1	4,000	concrete		Poor	Pond 14 Trask Hatchery Not used at this time
Canadian Troughs	15	3	2.6	115	10		fiberglass		Good	CT-1-10 Trask Hatchery
Troughs	15	1.2	.6	10.8	4	43.2	fiberglass		Good	Trask Hatchery
Vertical Incubators					384		fiberglass		Poor	Trask Hatchery
Vertical Incubators					176		plastic	2008	New	Trask Hatchery
Vertical Incubators					112				Good	Tuffy Creek

GOALS

Fall Chinook:

Trask River (34) stock: to provide hatchery fish for sport and commercial harvest in ocean and freshwater fisheries.

Spring Chinook:

Trask River (34) stock: to provide hatchery spring Chinook adults for recreational harvest in Tillamook Bay and the Trask River, as well as commercial and recreational harvest in the ocean.

Coho:

Trask River (34) stock: to provide fish for a consumptive sport and a commercial-hatchery-fish-only fishery in the waters of Oregon in a manner that minimizes the risk of adverse effects to listed wild populations (100K fish).

Winter Steelhead:

Wilson River (121) wild stock: to release winter steelhead smolts (stock 121W) in the Wilson River basin with the goal to provide adult fish for freshwater harvest. Use of an in-basin stock derived from naturally produced adults returning to the Wilson River may reduce risks to natural populations associated with hatchery production.

Nestucca River (47) stock: to release winter steelhead smolts in the Wilson River basins with a goal to provide adult fish for freshwater harvest.

OBJECTIVES

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

Fall Chinook:

Trask River (34) stock

Provide 1,900 eggs to STEP.

Produce 26,000 fingerlings (371 pounds) for Nehalem Hatchery (Necanicum River release).

Produce 150,000 smolts (7,895 pounds) for on-station release into the Trask River.

Spring Chinook:

Trask River (34) stock

Provide 114,000 eggs to STEP.

Produce 370,000 smolts (30,833 pounds) for release into the Trask River.

Coho:

Trask River (34) stock

Provide 20,000 eggs to STEP.

Provide 140,000 fingerlings (350 pounds) to Nehalem Hatchery.

Produce 100,000 smolts (6,667 pounds) for on-station release into the Trask River.

Winter Steelhead:

Nestucca River (47) stock

Produce 40,000 smolts (4,167 pounds) for release into the Wilson River.

Wilson River (121) wild stock

Produce 110,000 smolts (13,333 pounds) for release into the Wilson River.

- 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 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

Fall Chinook:

Trask River (34) stock: Adults arrive at the hatchery from August through January. Peak spawning occurs during late November. A minimum of 127 adult pairs are collected.

Spring Chinook:

Trask River (34) stock: Adults arrive at the hatchery from late April through September. Peak spawning occurs during September. A minimum of 127 adult pairs are collected.

Coho:

Trask River (34) stock: Adults are collected in October through November. Peak spawning occurs during November.

Winter Steelhead:

Nestucca River (047) stock: Adults are collected at Cedar Creek Hatchery; see the Cedar Creek Hatchery Plan for further information.

Wilson River (121) wild stock: Adults arrive at Hughey Creek site between December and April. Adults are collected throughout the run at the Tuffy Creek trap and by hook and line angling, and transported to Trask Hatchery for spawning. A minimum of 55 females and 55 males are required for the program. Peak spawning is in March-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 or release sites, 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.

Fall Chinook:

Trask River (34) stock:

Produce 26,000 fish at a size of 70 fish/pound for transfer to Nehalem Hatchery in late June. All fish are fin-clipped prior to transfer.

Produce 150,000 smolts at a size of 19 fish/pound for on-station release into the Trask River in early August. All fish are fin-clipped and 30,000 are coded-wire tagged prior to release.

Spring Chinook:

Trask River (34) stock:

Rear 63,000 fish to a size of 95 fish/pound; transfer to Tuffy Creek Pond in mid-April to complete rearing to a size of 12 fish/pound; release 60,000 fish into the Trask River in late July. All fish are fin-clipped prior to transfer.

Transfer up to 225K eyed eggs to Cedar Creek Hatchery and rear 175,000 fish to a size of 12 fish/pound for transfer back to Trask Hatchery in July for acclimation and release. An additional 40,000 fish at 35 fish/pound are received at Cedar Creek Hatchery from

Whiskey Creek STEP in early June. Release 195,000 smolts at 12 fish/pound into Trask River at Trask Hatchery and 20,000 smolts at 12 fish/pound into the East Fork of the South Fork Trask River in late July to early August. All fish are fin-clipped prior to transfer.

Rear 95,000 smolts to a size of 12 fish/pound for on-station release into the Trask River in late July. All fish are fin-clipped and 30,000 are coded-wire tagged prior to release.

Rear 100,000 fish at Whiskey Creek STEP facility. 25,000 at 20 fish/pound are transferred to Trask Hatchery in early June for final rearing to 12 fish/pound and release into the Trask River in late July; 40,000 at 35 fish/pound are transferred to Cedar Creek Hatchery in early June for final rearing to 12 fish/pound and release into the Trask River in late July. The remaining 35,000 fish are reared to a size of 12 fish/pound and released into the Trask River in late July. All fish are fin-clipped prior to release.

Coho:

Trask River (34) stock:

Produce 140,000 fingerlings at a size of 400 fish/pound for transfer to Nehalem Hatchery in mid-March.

Rear 100,000 smolts at a size of 15 fish/pound for on-station volitional release into the Trask River beginning in mid-April. All fish are marked prior to release.

Winter Steelhead:

Nestucca River (047) stock:

Rear 15,000 smolts to a size of 6 fish/pound at Tuffy Creek for transfer to the Hughey Creek facility in early April for two-week acclimation and release into the Wilson River.

Rear 10,000 smolts to a size of 6 fish/pound at Tuffy Creek for release into the South Fork Wilson River in late March/early April.

Rear 15,000 smolts to a size of 6 fish/pound at Tuffy Creek for release into the Wilson River in late March/early April.

Wilson River (121) wild stock:

Rear 15,000 smolts to a size of 6 fish/pound for transfer to the Hughey Creek facility in mid-April for two-week acclimation; release into the Wilson River.

Rear 15,000 smolts to a size of 6 fish/pound for transfer to the Hughey Creek facility in late April for two-week acclimation; release into the Wilson River.

Rear 50,000 smolts to a size of 6 fish/pound for release (non-acclimated) into the Wilson River in April.

Rear 30,000 smolts to a size of 6 fish/pound for release into South Fork Wilson River in April.

All fish are fin-clipped 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 Trask Hatchery:

Fall Chinook:

Trask River (34) stock: Adults are collected throughout the run. Adults are spawned in 10 fish family groups, using a spawning matrix. Jacks are included in the broodstock when available. Wild adults may be used in the broodstock at a rate proportional to the number unmarked fish entering the hatchery trap. Additional wild broodstock may be utilized if necessary to meet management goals. Excess hatchery fall Chinook are used for stream enrichment program or donated to food banks.

Spring Chinook:

Trask River (34) stock: Adults are collected throughout the run; a maximum of 150 pairs are spawned for genetics. Adults are spawned in a matrix producing 10 fish family groups. Jacks will be used in the broodstock. Beginning in 2013, unmarked adults have been used for broodstock in approximately the same proportion they have entered the hatchery trap. Excess hatchery spring Chinook are generally dispatched and used in the stream enrichment program.

Coho:

Trask River (34) stock: A maximum of 115 pairs are collected at the Gold Creek trap at the hatchery. Adults are collected throughout the run. Adults are spawned in matrix 10 fish family groups. No more than 5% of the males spawned can be jacks. Excess hatchery Coho are used for stream enrichment or donated to food banks.

Winter Steelhead:

Nestucca River (047) stock: Spawning takes place at Cedar Creek Hatchery; see the Cedar Creek Hatchery Plan for details.

Wilson River (121) wild stock: Up to 80 pairs of adults are captured through a volunteer hook and line broodstock collection program. Live fish are taken to the Hughey Creek facility, then transferred and held at Trask Hatchery for spawning. The program goal is to utilize 100% natural origin steelhead as broodstock; returning hatchery adults may be collected if necessary to meet broodstock collection needs. Adults are live spawned 1 on 1 or matrix spawning if enough fish are ripe and then released back to the Wilson River.

Jacks are to make up no more than 5% of spawned males. Excess adults are released back to the Wilson River.

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 Trask 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 at the hatchery.
- 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 and steelhead 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.
- Different lots of fish/eggs are physically segregated from each other by separate ponds, incubator units and water supplies. Some of the incubators have sheet-metal splash guards to decrease cross contamination between incubator stacks.
- 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.
- 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 – are done weekly as required and as changes in water flows through the hatchery ponds are recorded whenever flows are altered for hatchery management activities (i.e., ponding of fish, splitting of fish lots, fish releases, etc.).

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.

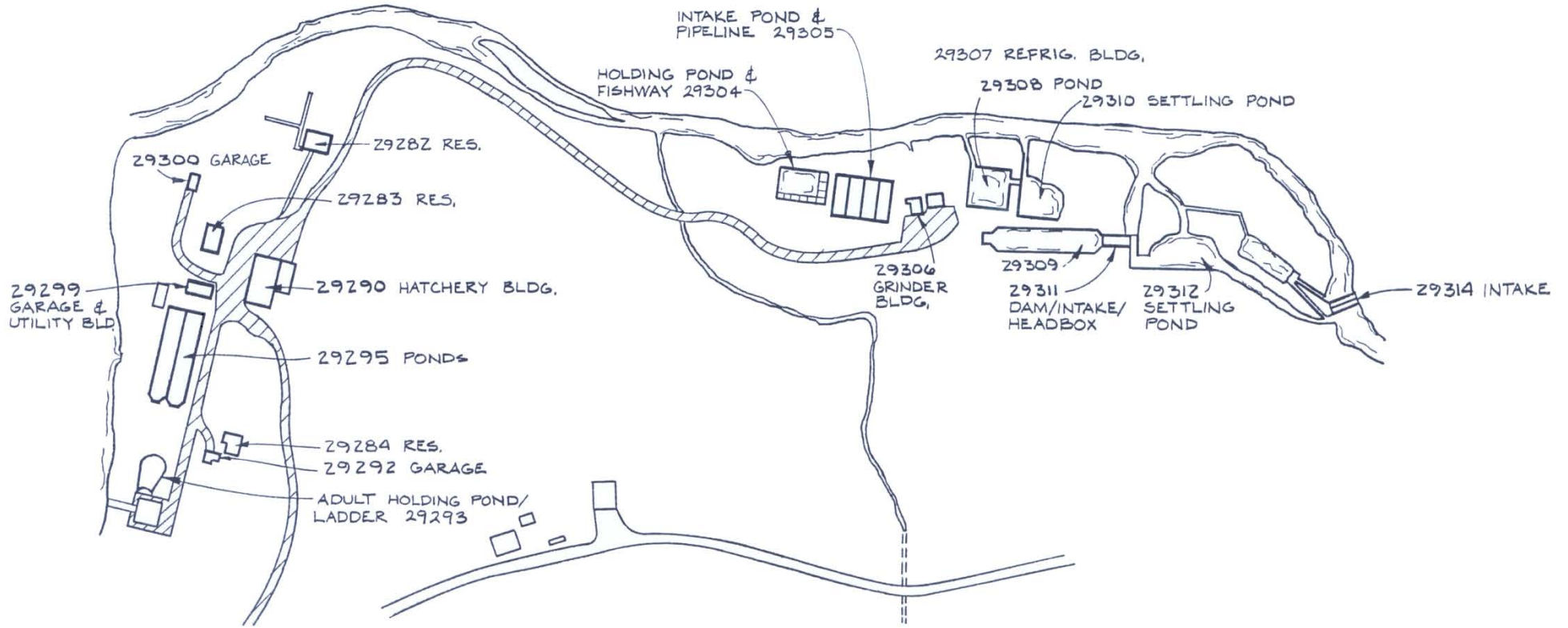
Hatchery Management System (HMS): Computerized system to collect, report, summarizes and analyzes hatchery production data. This system is a tool to be used in production control at all hatchery management levels.

Communication with the General Public

Trask Hatchery receives approximately 6,000 to 12,000 visitors each year.

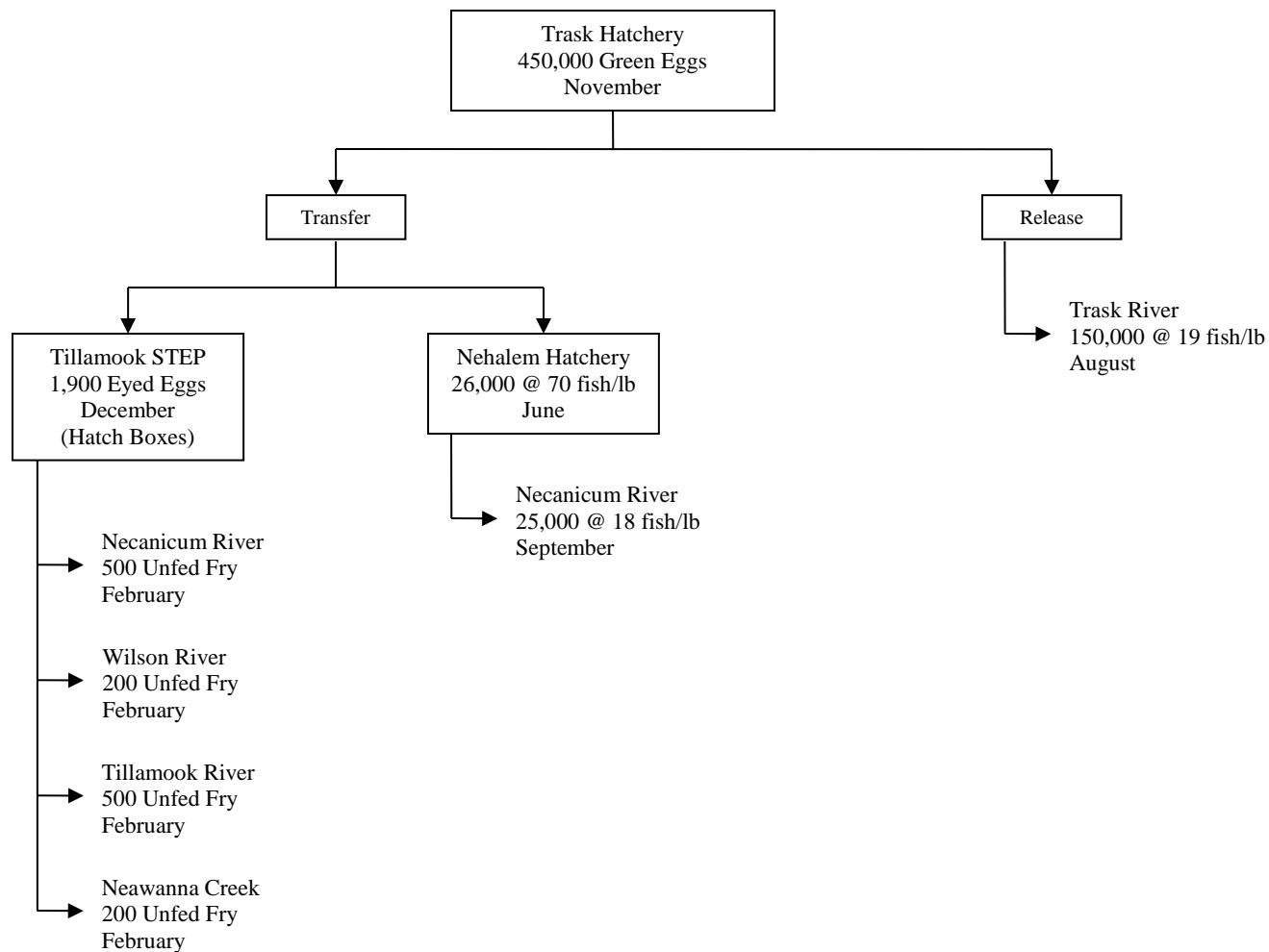


- 29294 POLLUTION ABATEMENT POND
- 29296 LOW WATER CHANNEL
- 29297 INTAKE AT RIVER
- 29298 PUMPING STATION AT RIVER INTAKE
- 29301 2000 GAL WATER TANK
- 29329 SEPTIC FOR HATCH. BLDG
- 29352 WATER RECIRC SYSTEM
- 29302 DOM WATER INTAKE @ MARY'S CRK
- 29303 DAM, PIPELINE, & FISHWAY @ GOLD CRK
- 29313 SLUICE BOX @ SETTLING POND
- 29315 DOM WATER WELL

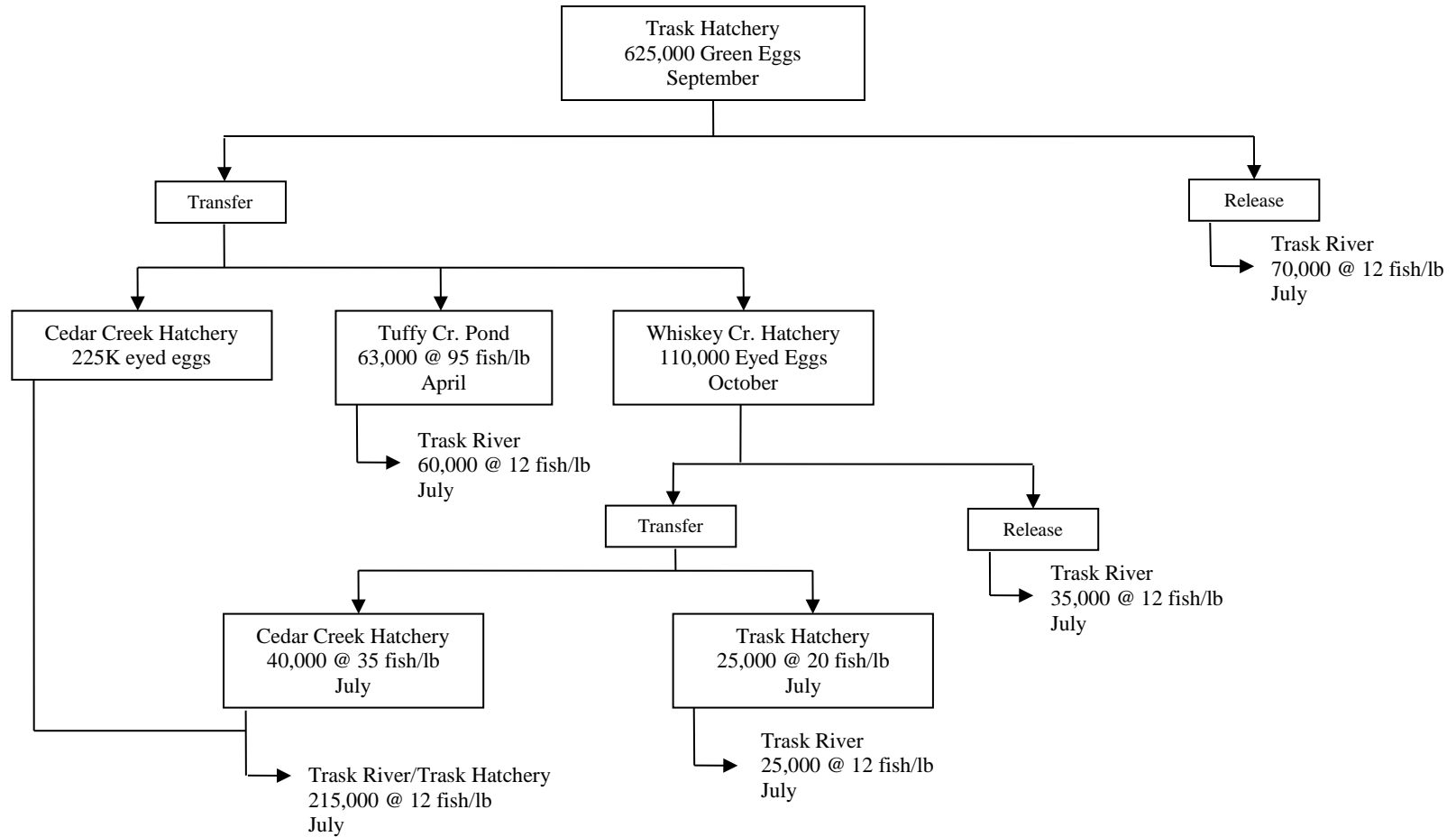


TRASK RIVER HATCHERY

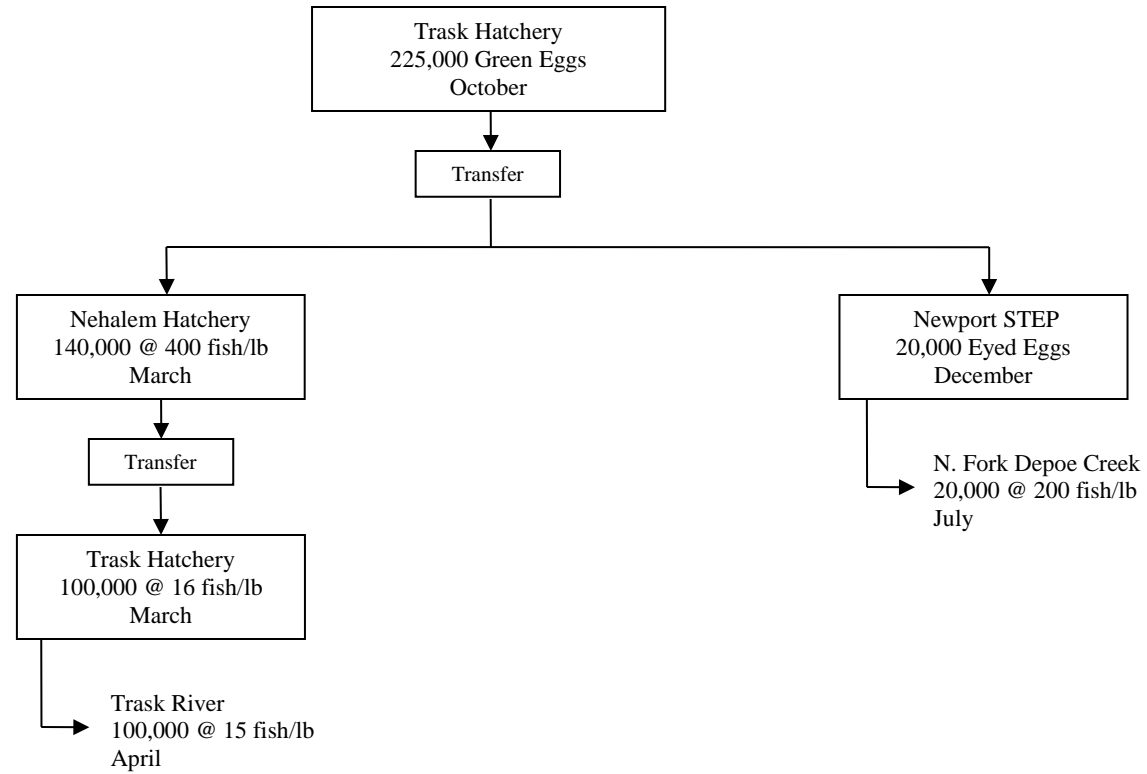
Trask Hatchery Fall Chinook Salmon – Stock 34 (Trask River)



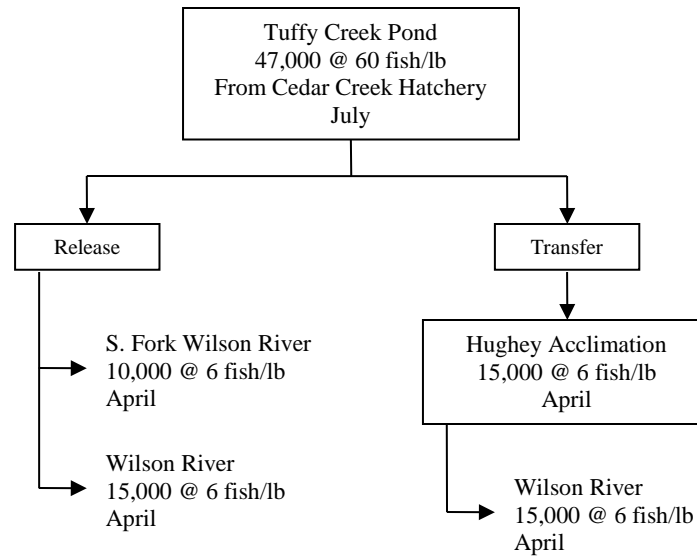
Trask Hatchery Spring Chinook Salmon – Stock 34 (Trask River)



Trask Hatchery Coho Salmon – Stock 34 (Trask River)



Trask Hatchery Winter Steelhead – Stock 47 (Nestucca River)



Trask Hatchery Winter Steelhead – Stock 121 (Wilson River Wild)

