

MINTO FISH FACILITY



PROGRAM MANAGEMENT PLAN 2024

Minto Fish Facility

INTRODUCTION

The Minto Fish facility is part of the Marion Forks/ Minto Fish Facility complex. The original facility was built in the 1950's. This new facility came on line on April 1, 2013. The construction was an action item for the USACE stemming from the 2008 BIO-OP. Minto is located upstream of Packsaddle Park on the North Santiam River. The Minto facility is a state of the art fish collection, transporting, acclimation, and spawning facility working together with the Marion Forks hatchery for juvenile life cycle rearing of Chinook salmon. Minto, located 33 miles downstream of Marion Forks Hatchery. The site is at an elevation of 960 feet above sea level, at latitude 44.7578 and longitude -122.3598. There is one water right for 60 CFS from the North Santiam River to operate this facility. The Minto Fish Facility is funded 96% by the USACE and resides on USACE property. The Facility is operated on the fish side by ODFW and the maintenance side by the USACE. ODFW has three employees assigned to Minto and their current role is for daily fish culture duties.

Rearing Facilities at Marion Forks 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>Minto</u>										
Raceways	72	10	6	4,320	8	34,560	concrete	2012	excellent	

PURPOSE

The Minto Fish Facility works in conjunction with the Marion Forks Fish hatchery to spawn, rear, acclimate, and release N. Santiam Stock spring Chinook. This facility provides year round fish collection, acclimation for Chinook salmon and steelhead, spawning facility, juvenile acclimation, short and long term holding of adult salmonids, and out planting and recycling capabilities.

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.

Marion Forks Hatchery/Minto Fish Facility programs are harvest programs, used to mitigate loss of fishing and harvest opportunities due to loss of habitat and migration blockage resulting from the construction of hydroelectric projects in the Willamette River Basin.

GOALS

Spring Chinook:

North Santiam River (21H) Stock: Produce fish to mitigate the loss of spring chinook catch in sport and commercial fisheries that was lost due to the construction and operation of Big

Cliff and Detroit dams, to meet Santiam River Subbasin Fish Management Plan harvest goals for the mainstem and North Fork Santiam River, and to maintain suitable broodstock for ongoing and future population recovery efforts throughout the subbasin.

Summer Steelhead:

South Santiam River (24H) Stock: Produce fish to mitigate for hydroelectric development in the North Santiam River and to meet Santiam River Basin Plan sports harvest goals for the mainstem and North Fork Santiam River.

OBJECTIVES

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

Spring Chinook

North Santiam River (21H) Stock:

Produce 2,000,000 green eggs for transfer to Marion Forks Hatchery.

Receive 704,000 smolts (58,667 pounds) from Marion Forks Hatchery for acclimation and release into the North Santiam River.

Transfer of 750,000 smolts (46,875 pounds) to Clatsop County Fisheries Net Pens, for release into the Columbia River.

Transfer 100,000 smolts (7,143 pounds) to the Trout Creek acclimation site for release into the Molalla River.

Summer Steelhead

South Santiam River (24H) Stock:

Acclimate 121,000 smolts (26,888lbs) at Minto Pond for release into the North Santiam River.

Native Migratory Species

Pass all native migratory species upstream of the Minto Water Barrier (cutthroat, rainbow trout, whitefish, and lamprey). Coho adults are to be euthanized, or recycled if there are sufficient numbers.

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 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

Spring Chinook:

North Santiam River (21) Stock: Adults begin arriving in the Santiam River in mid-May. Adults are collected and held for broodstock from late May to September. Spawning at the Minto Fish Facility generally starts in early September and goes to the end of September.

Steelhead:

South Santiam River (24) Stock: Broodstock only collected if a shortfall happens at South Santiam Hatchery. See South Santiam Hatchery Plan for details

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:

North Santiam River (21) Stock:

Receive 704,000 smolts at 25 fpp between November and February for acclimation at Minto Facility and released into the North Santiam River in February/March at 14 fpp. All fish are adipose clipped prior to release.

Summer Steelhead:

South Santiam River (24) Stock:

Receive 121,000 smolts at 4.5 fpp from South Santiam Hatchery in March for acclimation at Minto Facility and release into the North Santiam River in late March/early April. All fish are adipose 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 Marion Forks Hatchery:

Spring Chinook:

North Santiam River (2H1) Stock: The Minto ladder is open all year; adults are collected throughout the run, which generally runs until early October. The adults collected include both non-marked (wild) and hatchery fish (the largest portion is hatchery fish). Adults are spawned at a 1:1 male to female ratio. Only North Santiam spring Chinook are used for broodstock. Eggs are transferred to Marion Forks Hatchery.

Summer Steelhead:

South Santiam River (24H) Stock: No spawning takes place at this facility. See South Santiam Hatchery Plan for details

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 Health Services if losses are increasing. Monthly mortality records are submitted to Fish Health Services 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 Minto

Health Monitoring

- Monthly health monitoring examinations of healthy and clinically diseased fish are conducted on each fish lot at the hatchery. The sample includes a minimum of 10 dead fish (if available) and 4-6 live fish per lot.
- 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 pre-spawning loss is above normal, necropsies are conducted to identify bacteria, parasites and other causes of death.
- 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.
- Examinations for *Myxobolus cerebralis*, agent of whirling disease, are conducted annually on 60 fish held for a minimum of 180 days at the facility.
- Whenever abnormal behavior is reported or observed, or mortality exceeds 0.1% per day over five consecutive days in any rearing container, the fish health specialist 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 Treatments

- At spawning, eggs are water-hardened in iodophor for disinfection and then transported to Marion Forks Hatchery.
- Juvenile fish are administered antibiotics orally as needed for the control of bacterial infections.
- Currently Formalin has been tested for dilution but has not been dispensed into water for control of parasites and fungus on adults or 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.
 - Approved by the FDA as a veterinary feed directive.

Sanitation

- 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

The Facility has tested for Formalin. The Minto Fish Facility falls under the individual DEQ permit for Marion Forks, and the facility will comply with the primarily environmental monitoring that 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.

- Water Temperatures – recorded off USGS gauge at Niagara.
- Dissolved Oxygen (DO) – measured only when conditions warrant (e.g., periods of low flows and high temperatures).
- Total Dissolved Gases (TDG) – monitored off Minto gauge.

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.

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

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.

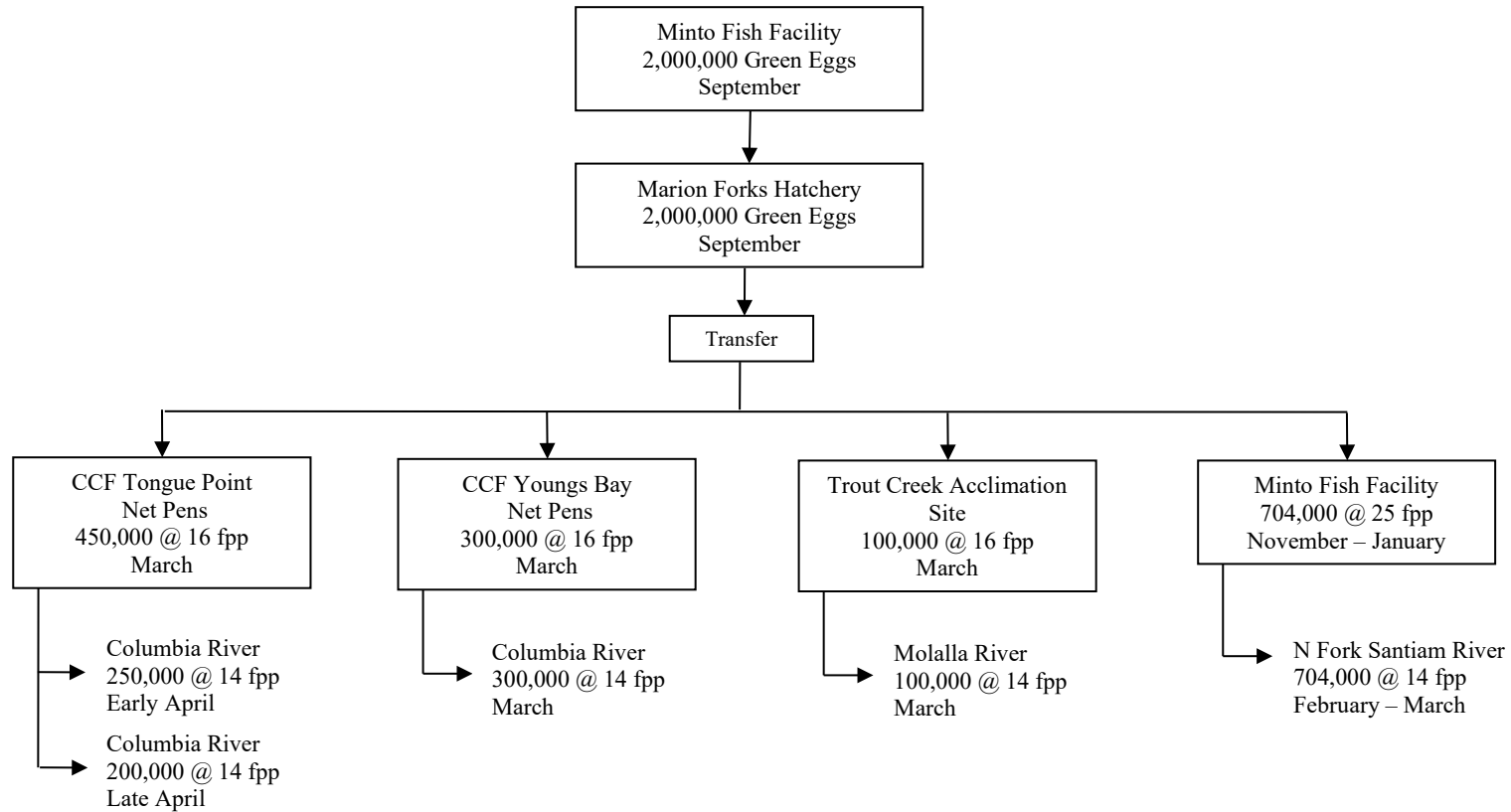
Streamnet (www/streamnet.org): Hatchery return data are input into StreamNet, a cooperative information management and data dissemination project focused on fisheries and aquatic related data and data related services in the Columbia River basin and the Pacific Northwest. StreamNet is funded through the Northwest Power and Conservation Council's Fish and Wildlife Program by the Bonneville Power Administration and are administered by the Pacific States Marine Fisheries Commission. The data are maintained and disseminated through the Pacific States Marine Fisheries Commission (PSMFC).

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.

Communication with the General Public

Minto is currently closed to the public; periodic “open Houses” will allow visitors to experience the facility.

Marion Forks Hatchery/Minto Fish Facility Spring Chinook Salmon – Stock 21H (North Santiam River)



**Minto Fish Facility
Summer Steelhead – Stock 24H (South Santiam River)**

