



THE STATE
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Subject: Management Feasibility
Analysis for Little Port
Walter Hatchery

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Per your request, and as specified by **5 AAC 40.130. Management Feasibility Analysis**, the following management feasibility analysis (MFA) has been prepared for the Northern Southeast Regional Aquaculture Association (NSRAA) concerning the Little Port Walter Hatchery (LPW). Regulation identifies the following six items to be addressed by this analysis:

- 1) potential contributions to common property fisheries,
- 2) potential size and location of special harvest area,
- 3) special management considerations or need for additional studies,
- 4) potential broodstock sources,
- 5) assessment of production potential for each species, and
- 6) additional relevant factors considered.

Background Information

NSRAA has requested an MFA for rearing the Keta River stock of Chinook salmon at the Little Port Walter Research station. A completed MFA must be included when submitting a private nonprofit hatchery (PNP) permit application to ADF&G.

LPW, established in 1934, was the primary research facility of the NOAA Fisheries Auke Bay Laboratory. The research station is a remote facility, accessible only by boat or floatplane, located 110 miles south of Juneau, Alaska, near the southeastern tip of Baranof Island. The research facility includes a hatchery building, an array of fresh and saltwater floating raceways, and net pens. LPW holds a water rights permit

for 2.2 cubic feet per second of water (987 gallons per minute). LPW has been releasing Chinook salmon since the 1970s. The primary stocks released at LPW were the Chickamin River and Unuk River stocks of Chinook salmon. In 2013, LPW collected wild stock gametes, eggs, and milt from the Keta River stock of Chinook salmon. LPW fertilized the eggs and reared the progeny at their facility with the first releases at LPW occurring during the spring of 2015. The last egg take by NOAA at LPW was in 2020 and was of Unuk stock and Keta stock Chinook salmon. The last NOAA Chinook salmon release at LPW was in 2022, which was Keta stock.

Under the Hidden Falls Hatchery (HFH) PNP permit, NSRAA took Keta stock Chinook salmon eggs at LPW in 2021 and in 2022. In 2023, NSRAA released Keta stock Chinook salmon at LPW as permitted under the HFH permit. NSRAA plans to continue to develop the Keta River Chinook salmon broodstock at LPW, proposing to take up to 1.0 million eggs to be reared at LPW instead of HFH. The resultant progeny from the 1.0 million eggs reared at LPW would be released at LPW and utilized in research projects aimed at developing a sub-yearling program (i.e., zero check smolt). Research would also be aimed at evaluating young of the year saltwater entry timing, size, and optimal release timing to increase marine survival.

1. Potential Contributions to Common Property Fisheries

Potential Contributions to the Sport Fisheries

Relatively little sport harvest occurs in the immediate vicinity of LPW because of the small population base and distance from population centers. Statewide Harvest Survey estimates of sport fishing harvest and effort in the vicinity of LPW are not available due to an insufficient number of respondents.

Coded wire tag data suggests that the Keta River stock of Chinook salmon released at LPW rear in the marine waters of SEAK. Therefore, Chinook salmon originating from the potential hatchery would likely contribute to the marine boat fisheries in the vicinity of LPW and throughout SEAK. Based on recoveries of LPW coded wire tags over the most recent 10-year period, from 2013–2022, LPW has contributed an estimated 800 Chinook salmon to regional sport fisheries, over half of which were caught in D111 and D113. The increase in availability of Chinook salmon may attract sport fishing effort from neighboring southeast communities along with increased guided sport fishing effort. The anticipated contribution to sport fisheries is expected to be small due to low angler effort, and the distance from population centers.

Management of the Sport Fishery

Currently, sport fisheries in the vicinity of LPW are managed under regional bag and possession limits. Regional regulations would likely remain in effect in marine waters outside of the immediate vicinity of LPW (currently six chum, six pink, and six coho salmon daily with 12 of each species allowed in possession per angler). Chinook salmon limits are set annually based on a pre-season index of abundance. Liberalized regulations for Chinook salmon could potentially be implemented in a limited area to encourage the harvest of hatchery-produced salmon if excess fish returned to the hatchery. Alternatively, sport fishing may be closed in a small area to facilitate broodstock collection.

Potential Contributions to the Commercial Fisheries

LPW hatchery-produced Chinook salmon have been recovered primarily in commercial troll fisheries. Over the most recent 10-year period, from 2013–2022, LPW has contributed an estimated 7,200 Chinook salmon to regional troll fisheries. Nearly half of these contributions occurred in the District 9 and District

12 spring troll fisheries, which are designed to target hatchery fish as they migrate back to terminal areas. However, in 2018, the Alaska Board of Fisheries adopted several Chinook salmon action plans to reduce encounters of wild Southeast Alaska Chinook salmon *stocks of concern*, closing spring troll areas located in inside waters. Accordingly, LPW Chinook salmon contributions to spring troll fisheries have declined. Most contributions following implementation of the action plans have been taken during summer troll Chinook salmon retention periods in Districts 9, 10, and 13, and in the winter troll fishery in District 10, where contributions to the 5-year summer and winter harvests ranged from 100 to 900 LPW Chinook salmon. LPW on average has released 174,000 Chinook salmon smolt and the recent 10-year average annual harvest of LPW Chinook salmon is 860 fish. Assuming similar results it would be expected that the release of 632,000 additional Chinook salmon smolt would contribute approximately 3,100 Chinook salmon to common property commercial fisheries annually.

Management of the Commercial Fisheries

The proposed releases are not expected to change management of the spring troll fisheries in southern Chatham Strait. Purse seine fisheries occur on the shoreline outside of Little Port Walter based on the strength of local pink salmon returns. Purse seine openings along this shoreline generally do not begin until the second week of August, after most Chinook salmon have returned to LPW.

Potential contributions and Management of Personal Use Fisheries

If broodstock and cost recovery needs are met, and surplus hatchery-produced Chinook salmon are available in the LPW Special Harvest Area (SHA) a personal use fishery can be opened. A personal use fishery would allow the use of gillnets and hand operated seine gear within the marine waters of LPW. Providing for a personal use fishery is not normally encouraged in hatchery terminal areas since this activity may interfere with hatchery operations; however, a personal use fishery for surplus Chinook salmon in this location could provide additional opportunity for Alaska residents to harvest these fish.

2. Potential Size and Location of Special Harvest Area

A small SHA could be established in LPW to harvest Chinook salmon in excess to broodstock needs with a purse seine or gillnet gear. Cost recovery harvest would likely occur at the rack. If it becomes desirable by the hatchery operator to conduct cost recovery harvest in the bay, a suggested SHA will include the waters of LPW south of the latitude of Hutchinson Point at 56° 23.25' N Lat.

3. Special Management Considerations or Need for Additional Studies

Wild Salmon Stocks

Protection of wild stocks is a primary consideration in the assessment of proposed salmon enhancement projects. There are no wild stock Chinook salmon streams in the vicinity of LPW. The only known island Chinook salmon stock in Southeast Alaska is the King Salmon River on Admiralty Island located 115 miles from LPW. The closest mainland system is Farragut River which is approximately 75 miles distant. Run timing of the wild Keta River stock of Chinook salmon is the latest in the region, with peak spawn timing in early September. Given the location of the hatchery facilities and the run timing of the Keta River stock of Chinook salmon, concerns of negative impacts to wild stock Chinook salmon are minimal.

Sashin Creek pink and coho salmon do not begin to show in LPW until after the first week of August. If the run timing of hatchery produced Keta stock Chinook salmon at LPW mirrors that of the wild Keta River Chinook salmon, it is possible that the run of Keta stock Chinook salmon would coincide with wild pink and coho salmon in Sashin Creek. If this happens, it is possible that Sashin Creek pink and coho salmon could be intercepted in hatchery cost recovery or common property fisheries intended to harvest surplus Keta River stock Chinook salmon in LPW. Especially in times of low abundance, unanticipated harvest of Sashin Creek pink salmon could negatively impact that stock's ability to achieve the management target for inriver abundance.

Potential Straying and Interactions with Other Species

Since 1988, the Unuk River stock of Chinook salmon has been released from LPW. Since Chinook salmon releases began in 1977 with the Chickamin River stock of Chinook salmon occurring through 2014, 71 coded wire tags have been recovered from these releases in rivers where ADF&G conducts escapement surveys. It is expected that some of the proposed releases will stray into nearby rivers, none of which have any natural Chinook salmon production. In Sitka Sound, department staff have occasionally observed large numbers of adult hatchery-produced Chinook salmon in streams near Medveje Hatchery including in 2012 when approximately 2,000 Chinook salmon were observed in Salmon Lake. Impacts of hatchery-produced Chinook salmon strays on other species are not known.

4. Potential Broodstock Sources

Currently, only LPW has returns of the Keta River stock of Chinook salmon.

5. Assessment of Production Potential

LPW is currently operated as a NOAA Fisheries research facility. The proposed take of 1.0 million eggs from returns of the Keta River stock of Chinook salmon sampled at LPW is expected to produce, on average, approximately 631,750 smolt using available current infrastructure.

6. Additional Relevant Factors Considered

Given the long history of Chinook salmon releases and available coded wire tag data on LPW fish, there are no additional relevant factors the department wishes to consider.