

Final 2009 Habitat Preparation Plan

North Fork Lewis River

Prepared by PacifiCorp Energy

1.0 Introduction

The Lewis River Settlement Agreement (Section 7.4) calls for the following plan development to take place within six months after the effective date:

Habitat Preparation Plan. “PacifiCorp shall develop a plan (the “Habitat Preparation Plan”) in Consultation with the ACC to release live adult hatchery anadromous salmonids into Swift Reservoir, Yale Lake, and Lake Merwin for the purpose of preparing the habitat in those locations for the reintroduction of anadromous salmonids. The objective of the Habitat Preparation Plan will be to make possible (1) nutrient enrichment in the waters through decay of the adult hatchery fish and, (2) tilling of the gravel by the released hatchery adults as they attempt to spawn. The number, sex, and species of hatchery adult salmonids shall be determined as part of the Habitat Preparation Plan. PacifiCorp’s performance obligation under the Habitat Preparation Plan shall be limited to placing live adult hatchery anadromous salmonids for a period of five years in each of Swift Reservoir, Yale Lake, and Lake Merwin, commencing in each case five years prior to expected completion of the downstream fish passage facility from that reservoir. PacifiCorp shall implement the Habitat Preparation Plan at Swift Reservoir beginning as soon as practicable after the Habitat Preparation Plan is finalized and at the other reservoirs as provided in the Habitat Preparation Plan. PacifiCorp shall implement this program only to the extent there are excess hatchery fish available beyond those required for the Hatchery and Supplementation Plan described in Section 8. PacifiCorp shall not be required to pass or collect the progeny of hatchery adult anadromous salmonids introduced under the Habitat Preparation Plan unless and until collection and transport facilities for such progeny are constructed in accordance with Section 4. For the Merwin and Yale Projects, PacifiCorp’s obligations under this Section 7.4 shall cease if the Yale Downstream Facility or Merwin Downstream Facility, respectively, will not be constructed pursuant to Section 4.1.9.”

The purpose of this plan is to provide the logistical information and methods necessary to collect, transport, and distribute excess hatchery fish to the Lewis River upstream of Merwin dam. The transportation of adult hatchery fish into the upper basin is intended to meet the following objectives: (1) to prepare the stream gravels (through redd construction) and (2) to provide nutrient enhancement to potential rearing areas prior to formal supplementation and construction of juvenile collection facilities. It is anticipated that the components of this plan may be modified from year to year based predominately on run size and stock availability.

For purposes of implementing this plan, release locations for transported fish will change based on completion of juvenile collection facilities planned at all three hydroelectric projects. According to the settlement agreement schedule (Section 7.4: Habitat Preparation Plan) and with issuance of Federal Energy Regulatory Commission licenses in 2008, excess hatchery fish will be transported to Swift reservoir from 2007 through 2011, to Yale reservoir from 2016 through 2020 and to Merwin reservoir from 2020 through 2024. This schedule will provide nutrient enhancement and spawning gravel preparation for formal reintroduction efforts as described in Section 4.0 of Settlement Agreement.

2.0 Plan Components

Stock Selection:

Coho Salmon: In 2009, PacifiCorp Energy anticipates using early (type S) coho salmon for transportation into the upper watershed. It is expected that some late (type N) coho will be selected during transportation activities; however, this stock will not be deliberately selected for transportation.

The selection of early coho has several biological advantages over other species returning to the Lewis River, which include the following:

- Early coho salmon historically used the Lewis River headwaters and tributaries in which to spawn.
- Competing uses (e.g., nutrient enhancement, tribal, in-river harvest and food banks) for returning adults are less compared to other species.
- Coho salmon are able to negotiate complex passage barriers, thus distribution of adults from their release point is maximized.
- Transportation survival of coho is high relative to other species.
- Early coho salmon returns are sufficient to achieve transportation goals of the plan.

The current hatchery broodstock collection goals for early coho are 1,277 adults. The ratio of females to males is 60:40. Table 1 provides trapping results for both early and late coho salmon.

Spring Chinook Salmon: The use of spring chinook for transportation will depend on meeting both broodstock needs at the hatchery and subsistence and ceremonial needs of the Yakima Nation. If both of these needs are met and surplus spring chinook are available, then these fish will be used to partially meet the transportation goal of 2,000 salmon for the Habitat Preparation Plan.

The addition of spring chinook is beneficial to meeting the objectives of the Habitat Preparation Plan in that spring chinook are likely to select mainstem spawning sites. This will enhance distribution of nutrients and gravel tilling in the upper basin as coho most often spawn in the tributaries. In addition, the release of spring chinook early in the season will allow biologist to record their location during their annual bull trout snorkel surveys of the upper basin. This information will be helpful in understanding summer holding habitats preferred by spring chinook prior to spawning.

If no spring chinook are available for the Habitat Preparation Plan, then all fish transported will be comprised of early coho salmon. Table 1 and Figure 1 provide the numbers of coho and chinook salmon returning to the Merwin dam and Lewis River Hatchery traps in the Lewis River between 1998 and 2007.

Table 1. Trap results for early (Type S), late (Type N) coho and spring chinook salmon captured at the Merwin dam fyke and Lewis River hatchery ladder: 1998-2007. (Source: WDFW Hatchery Escapement Reports available at <http://wdfw.wa.gov/hat/escape/escape.htm>)

Lewis River Trapping Results						
Year	Coho				Spring Chinook	
	Type S		Type N		Adults	Jacks
	Adults	Jacks	Adults	Jacks		
1998	7,142	3,528	10,817	2,089	1,188	11
1999	14,962	2,343	17,724	6,757	846	78
2000	17,031	7,281	23,106	10,910	777	50
2001	38,783	1,291	60,873	533	1,178	53
2002	17,334	8,177	6,294	6,212	1,869	58
2003	38,367	1,932	21,896	2,569	3,037	357
2004	22,134	1,438	13,944	1,713	4,172	350
2005	21,458	2,544	21,386	2,156	1,986	219
2006	19,972	2,419	22,095	2,233	2,053	217
2007	18,672	3,552	20,309	3,082	4,134	9

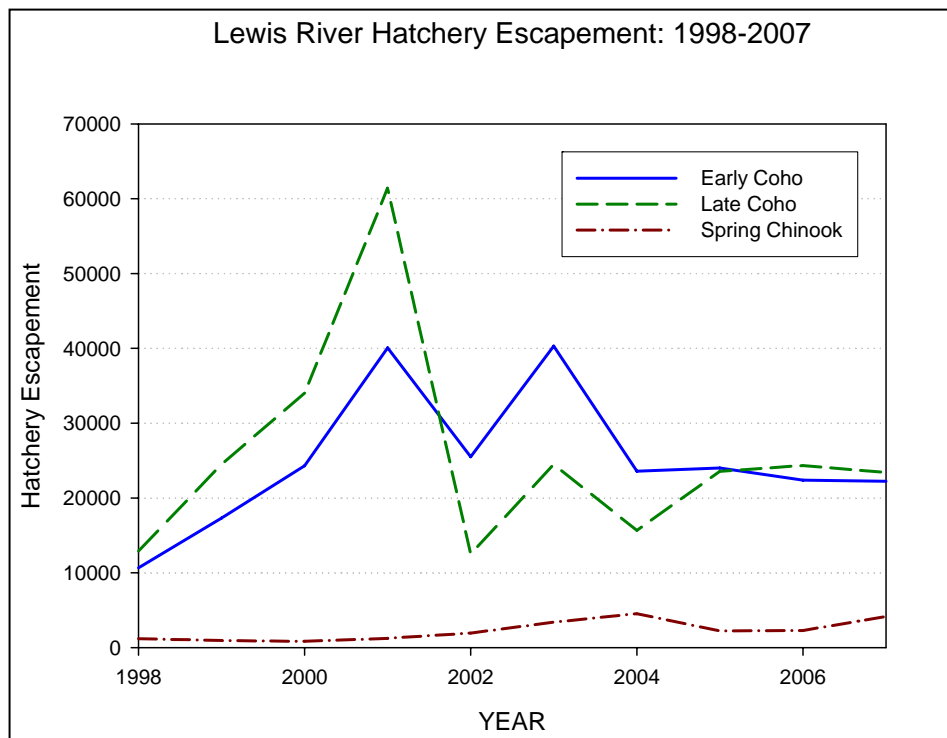


Figure 1: Graphical representation of Lewis River Hatchery Escapement by species derived from Table 1.

Collection Methods: Collection of salmon will take place at both the Lewis River and Merwin traps located at the Lewis River hatchery and base of Merwin dam, respectively. The Lewis River trap along with fish from the Merwin trap will continue to be used for broodstock collection, nutrient enhancement programs (other than included in this plan) and food bank needs. In selecting adult fish for transportation, fish shall be in good health and have no puncture wounds. Any fish with eye trauma (e.g., scrapes, lacerations or fungus) shall not be transported upstream. Fish should be bright and firm to help ensure maximum geographic distribution of fish and eventual carcasses in the upper watershed.

Transportation Number (goal): The total number of salmon to be transported from the traps (in 2009) will be least 2,000 adults. This number may comprise a combination of both coho and chinook salmon. Females shall have priority over males when selecting fish for transportation, and shall comprise at least 50 percent of the total. A high percentage of females will facilitate redd construction, and thereby, help meet the plan objective of gravel tilling.

Transportation Vehicles: Fish tanker trucks will be used for transportation activities. Hatchery or PacifiCorp Energy staff will use existing hatchery or purchased vehicles to meet the transportation goal in 2009. Each fish tanker truck may complete up to four trips per week. Each 1,500 gallon truck can transport up to 120 adult salmon per trip, or up to 480 coho salmon per week.

Schedule: The schedule for coho will begin in September and continue for a period of up to five (5) weeks. The exact start dates will vary based on run timing and size projections. For chinook salmon, transportation activities may begin as early as May and continue through July.

Release Points: Swift boat ramp will be used as the primary release point during transportation activities upstream of Swift reservoir. If reservoir levels are too low for planting of fish from the Swift boat ramp, the Eagle Cliff bridge, Swift Dam, Muddy River or bridge crossing near the Curly Creek confluence (Curly Creek bridge) shall serve as alternates to the Swift boat ramp.

Pathogen Screening: According to Washington Department of Fish and Wildlife (WDFW) disease policy, in-basin fish transfers do not require pathogen screening. Therefore, fish that are transported from either the Merwin or Lewis River trap upstream will not be tested.

Harvest Restrictions: The fishing season on Swift reservoir and upstream of Eagle Cliff Bridge closes on October 31. During the September and October period when coho are being released into the upper watershed, angling pressure is traditionally very light and no adverse effect is anticipated. For chinook salmon, no open fishing season is listed in the regulations for the Lewis River upstream of Merwin Dam, therefore, harvest of spring chinook is prohibited (pers. comm. John Weinheimer, Regional Fisheries Biologist, WDFW, 2005).

3.0 Plan Modifications

On an annual basis, this plan shall be reviewed and modified if necessary by the Aquatics Coordination Committee. PacifiCorp Energy, in consultation with the WDFW and Yakama Nation, will present the plan to the ACC for approval each year. ACC comments to this plan will be attached to the final each year (Attachment A).

Attachment A

Aquatic Coordination Committee Comments and PacifiCorp Responses

Name	Affiliation	Comment	PacifiCorp Response
Bernadette Graham Hudson	Lower Columbia Fish Recovery Board	<p>As we have commented in 2007 and 2008, and as WDFW commented in 2007, LCFRB feels that the monitoring of coho spawning locations in the upper basin is of great value. These surveys could help determine areas of potential interaction with other species, such as bull trout, as well as help determine the overall effectiveness of the Habitat Preparation program. We recommend incorporating spawning surveys into the final Habitat Preparation Plan.</p>	<p>Monitoring of coho spawning locations was completed through radio tracking surveys in 2000 (AQU 10). Also, summer snorkel and stream surveys have identified juvenile coho in nearly all perennial tributaries indicating widespread distribution of spawning adult coho in the upper basin. Spawning surveys are not obligated within the objectives of the Habitat Preparation Plan as stated in Section 7.4 of the Lewis River Settlement Agreement. Therefore, PacifiCorp does not believe the requested coho spawning monitoring is warranted at this time.</p>