Lewis River Merwin In-Lieu Program
Strategic Plan
Monitoring Plan

Presented To:

Lewis River ACC

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Cramer Fish Sciences
An Employee Owned Consulting Company

Background

- June 26, 2008: PacifiCorp and Cowlitz PUD issued new license orders by the Federal Energy Regulatory Commission (FERC) providing for an alternative (In Lieu Fund), should the Services determine that fish passage into Merwin and/or Yale reservoirs is not required.
- April 12, 2019, Services notified PacifiCorp, Cowlitz PUD, and the Lewis River ACC of their preliminary determinations under Article 401 of the FERC licenses:
  - Remove Section 4.6 (Completion of a Merwin Downstream Facility by 2025), and Section 4.7 (Completion of a Yale Upstream Facility by 2025), of the Lewis River SA in lieu of habitat restoration funding, and
  - Defer a decision on Yale Downstream and Swift Upstream Facilities until 2031 and 2035, respectively.

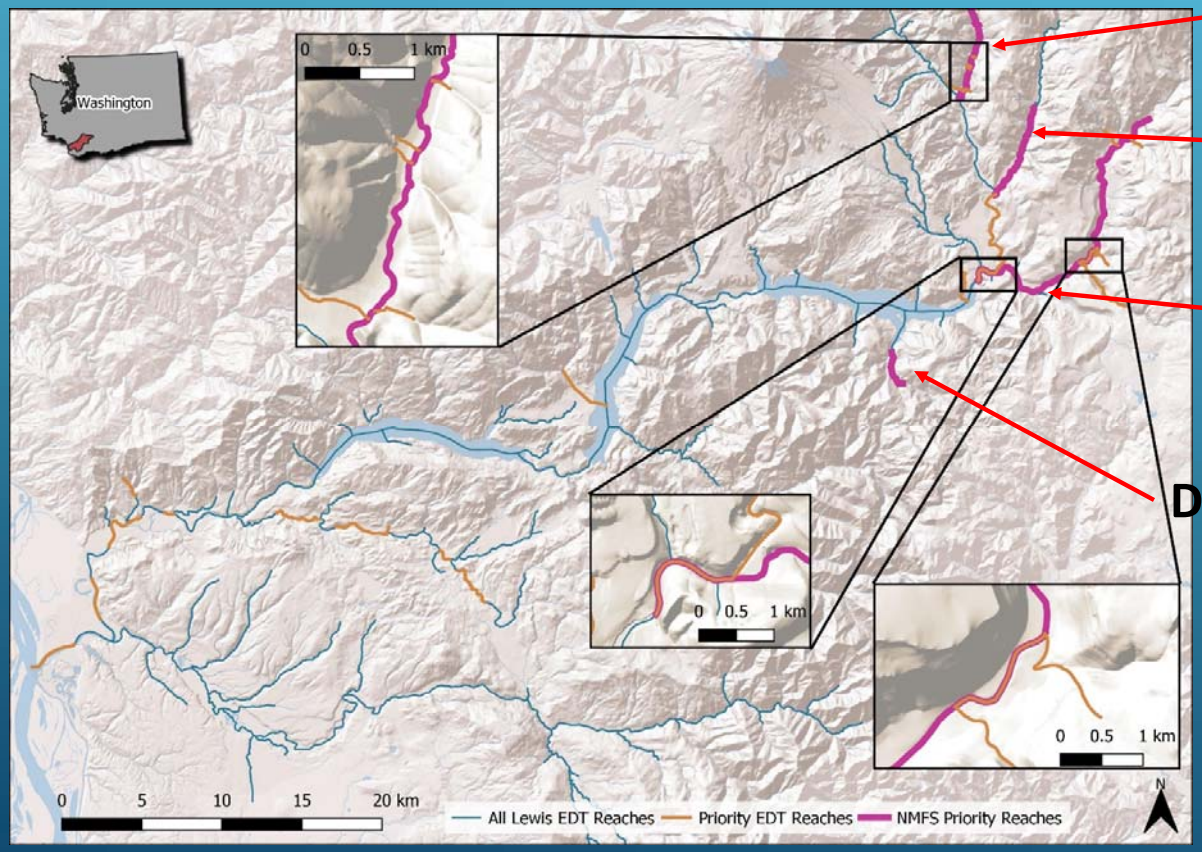
In Lieu Program Goals

- Increase adult Chinook salmon, coho salmon, and winter steelhead abundance in the North Fork of the Lewis River
- Achieve genetically viable, self-sustaining, naturally reproducing, harvestable populations above Merwin Dam greater than minimum viable populations.

Services Direction – In Lieu

- Focus Merwin in-lieu habitat restoration monies on stream reaches upstream of Swift Reservoir known to support all three listed species (coho, winter steelhead, and spring Chinook) since reintroduction efforts began in 2012. Reaches include:
  - Clearwater River (8.37 km)
  - Clear Creek (22.96 km)
  - North Fork of the Lewis River (22.69 km)
  - Drift Creek (1.52 km)

NMFS Priority Reaches



Clearwater Creek

Clear Creek

North Fork Lewis

Drift Creek

Services Direction – Bull Trout

- USFWS directed the Utilities to proceed immediately with development of fish passage measures for bull trout (*Salvelinus confluentus*), per Section 4.10 of the Lewis River Settlement Agreement:

- Yale Downstream Bull Trout Passage Facility
- Swift Upstream Passage Facility
- Yale Upstream Passage Facility

- Merwin Downstream Bull Trout Passage Facility may also be constructed, depending on whether bull trout have increased sufficiently to warrant construction. USFWS to assess after 2025.

Merwin ILP Strategic Plan - Organization

- Outlines roles and responsibilities
- Reviews progress to date and steps to complete a Habitat Restoration Plan
- Implementation/Program Administration
  - Oversight, permitting, methods to identify, prioritize, approve, and implement aquatic habitat improvement projects based on biological benefits, cost, and certainty of success.

Roles and Responsibilities - Utilities

- Responsible and accountable to FERC to ensure restoration actions comply with project licenses (including the Lewis River Settlement Agreement, Biological Opinions, Clean Water Act Certificate, etc.).
- Provide funding into the program per the Lewis River Settlement Agreement.

Roles and Responsibilities
Program Administrator

- Implement the Merwin ILP, including HRP and Monitoring in consultation with the Services and ACC.
- Announce requests for proposals (RFPs) to perform selected habitat improvement projects.
- Develop a Community Outreach plan
- Serve as contact for all RFPs regarding status of application, forward technical questions to and posting of responses from the Technical Advisory Committee (TAC).
- Review and select submitted project bids; seek approvals from the
- Summarize responding bids for consideration by the TAC.
- Lead ranking and selection of project bids
- Provide day to day oversight and management of financial and technical elements of the ILP.

Roles and Responsibilities - TAC

- Facilitated/administered by the PA
- Comprised of experienced technical experts with knowledge of fish species and habitat requirements in the region, preferably the Lewis River Basin.
- Establish annual program priorities consistent with the HRP
- Respond (via the PA) to questions from prospective project contractors, and review project bids
- Provide recommendations to ACC.

Roles and Responsibilities - ACC

- Provide technical oversight and peer review prior to and during implementation of this Plan and subsequent HRP.

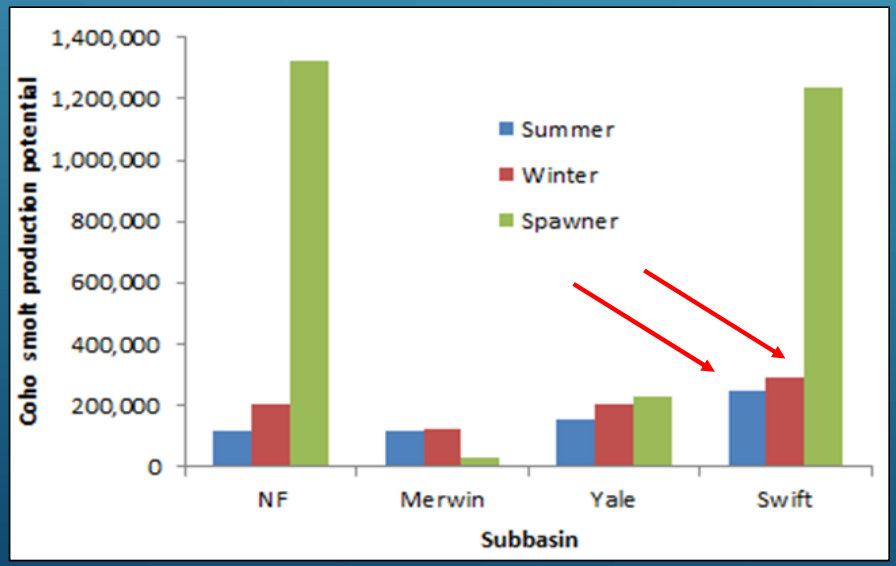
- The ACC will have various levels of engagement with the PA:
  - Providing a sub-group of habitat experts to review and support completion of a draft HRP;
  - Reviewing and approving a final HRP;
  - Supporting HRP actions within respective ACC representative's organization.

Habitat Restoration Plan

- To be developed following a final decision by the Services on the Merwin ILP, anticipated in 2020
- Plan provides goals, objectives, and a framework for the HRP
- Builds on New Information studies completed by the Utilities and ACC

Limiting Factors

- Identified bottlenecks for production in Lewis River subbasins and priority reaches.
- Guides habitat restoration strategies
  - Focus on increasing the amount and quality of summer and/or winter rearing habitat.

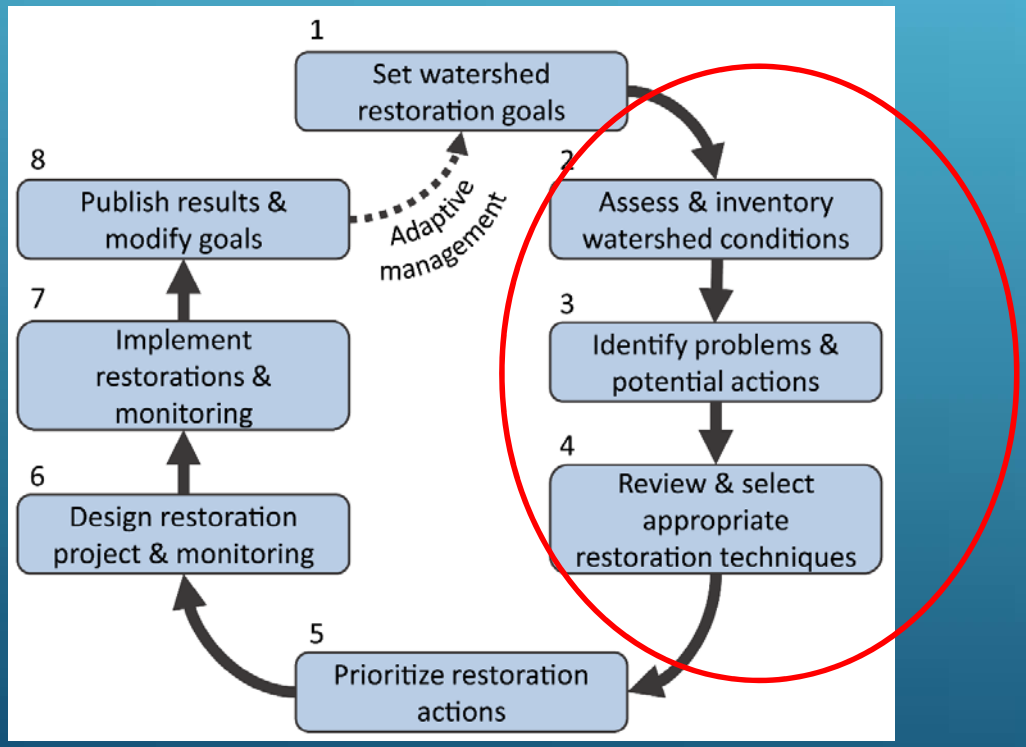


Reach Selection

- EDT model outputs identified the 25 highest priority reaches throughout the basin (16 upstream of Swift) that would produce the largest increase in spring Chinook, coho, and steelhead.
- Watershed assessment identified degraded habitat (e.g., lack of wood or pools, high fine sediment), disrupted watershed processes (e.g., high road density, disconnected floodplain, loss of side channels)
- Watershed assessment coupled with limiting factors analyses to determine limiting life-stage and habitat for spring Chinook, coho, and steelhead, leading to initial restoration opportunities.

Steps in Watershed Restoration

Steps 2-4 to be revisited as part of the process to develop, finalize, and implement the HRP per the Services recommendation



Priority Reaches Upstream of Swift

Reach	Restoration Measure Recommended	Rational for Selecting Restoration Measure
Lewis 18 (NMFS)	LWD	Low LWD and percent pool
Lewis 19 (NMFS)	LWD, side channels	Low LWD, percent pool and channel type
Lewis 20 (NMFS)	To be determined	
Lewis 21 (NMFS)	LWD, road restoration	Low percent pool, LWD, high sediment yield
Lewis 22 (NMFS)	To be determined	
Lewis 23 (NMFS)	To be determined	
Drift Creek (NMFS)	To be determined	
Swift Campground Creek	Roads	High percent fines, campground area
Muddy R 1	Side channels, LWD	Low LWD scores, and island braided channel type
Clear Creek Lower (NMFS)	To be determined	
Clearwater Creek (NMFS)	To be determined	
Clearwater Tribs	NA (high levels of fines appears to be due to headwaters in blast zone of Mt. St. Helens.	Mt. St. Helens blast zone appears to be source of sediment
Rush Creek	Protection (steep channel)	Steep channel
Little Creek	LWD	Poor LWD and pool area
Spencer Creek	LWD	Poor LWD and pool area
Crab Creek	LWD	Poor LWD and pool area

Implementation - Ranking

- Project Prioritization/Ranking will draw on similar approaches elsewhere in the region:
  - Colville Tribe Upper Columbia and Sanpoil Habitat Restoration Plan
  - Tacoma Power Cowlitz Restoration and Recovery Program.
    - Fit to Salmon Recovery Strategy
    - Certainty of Success
    - Benefit to Fish
    - Cost/Benefit

Implementation – RFP Process

- PA to develop RFPs for projects identified in the Final Habitat Restoration Plan.
- PA will promote individual projects and the program as a whole through press releases and other media and community outreach.
- Following issuance of the RFPs, the PA will coordinate follow-up activities:
  - Pre-proposal meetings with PA staff
  - Site visits with potential contractors
  - Proposal presentations by short-listed applicants
  - Development of comment matrices by TAC members and PA staff
  - Evaluation of proposals

Implementation - Permitting

- State/Shoreline Permit (County)
- Critical Areas Permit (County)
- SEPA Checklist (County)
- Corps 404 Permit/401 Water Quality Certification (Ecology)
- Aquatic Resources Use Authorization Notification (WDNR)
- General Construction Stormwater Permit (Ecology)
- Section 7 Endangered Species Act Consultation (NMFS/USFWS)
- Hydraulic Project Approval (WDFW)
- NEPA (USFS)

Implementation - Permitting

- Streamlined Permits if possible
  - RGP#8
    - U.S. Forest Service Region 6 Aquatic Restoration Program Within the State of WA
    - Authorizes 11 restoration activities in waters of the U.S. designed to maintain, enhance, and restore watershed functions that affect aquatic species.
  - NEPA CatEx

Implementation - Reporting

- Contractors to provide progress reports during construction
  - Dewatering and fish relocation
  - Encounters w/federally listed salmon
  - Fuel spills during construction

Implementation – Adaptive Management

- Review pace/cost of restoration, revisit priorities annually.
- Review implementation monitoring to incorporate lessons learned/maximize project physical and biological effectiveness.
- Monitor other regional efforts and effectiveness monitoring programs elsewhere in the region, Columbia River Basin and Salmon Recovery Funding Board effectiveness monitoring)