



# Merwin Upstream Fish Passage Facility Design and Fish Behavior Studies

## Ariel, Washington

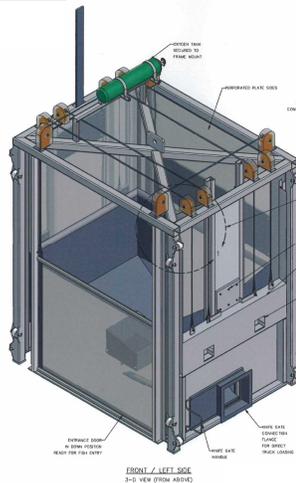


*Selected Fish Facility Site*

PacifiCorp utilized FERC's collaborative relicensing process to relicense their three hydroelectric projects on the Lewis River (Merwin, Yale, and Swift Dams). In accordance with the Lewis River Settlement Agreement reached through the relicensing process, restoration of anadromous fish runs will be established around the Lewis River hydroelectric project dams, and fish will spawn and rear naturally in the habitat available upstream of Swift Dam. The settlement agreement calls for fish collection, sorting, and transport facilities to be

phased in at each dam over the next 17 years. Target species for reintroduction include spring and fall Chinook, steelhead, coho, and bull trout.

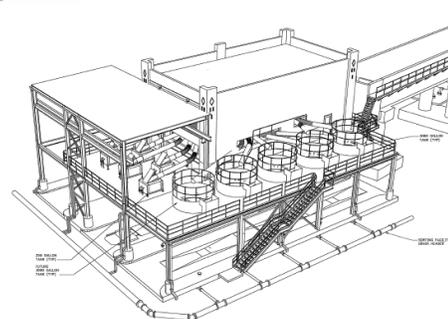
The upstream fish passage facilities at the base of the 314-foot-high Merwin Dam are the first scheduled for construction per the Settlement Agreement. Facilities designed at the 136-MW hydroplant include new fish trap entrances with increased attraction flow, a new fish lift, short-term holding, fish sorting facilities, fish marking and sampling facilities, and tanker truck loading facilities utilizing water-to-water transfer protocols.



R2 was retained by PacifiCorp as a subcontractor to Black & Veatch Corporation to lead the fish passage design effort at Merwin. R2 was responsible for criteria development, agency consultation, conceptual design layout, and assistance with cost estimating. Black & Veatch led the final design and construction

### Project Elements:

- Fish Passage Criteria Development, including Assessment of Historic and Future Run Numbers
- Resource Agency Interaction
- Fish Behavior Study
- Conceptual Design and Alternatives Analysis
- New Fishway Entrance Design
- Trap and Haul Facilities and Fish Trucking
- Fish Sorting and Sampling Facilities
- Cost Estimating
- Report Preparation and Budgeting



services, with R2 providing design support for fish facilities and hydraulic engineering for the project duration. The final design was recently completed, and construction is planned to begin in 2011.