

Lewis River Projects to Reopen More Than 100 Miles of Salmon, Steelhead Habitat

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WOODLAND, Wash. — Two major fish passage projects now underway on the Lewis River will reopen about 117 miles of historic salmon and steelhead habitat while also preserving the southwest Washington river's emission-free energy resources, which have been benefitting PacifiCorp's customers since 1931.

"It is amazing to think that the Lewis River fish now in the ocean will return to their native river and have miles and miles of new habitat open to them after 2012," said Todd Olson, program manager. "To meet our regulatory requirements, construction of these projects is necessary at this time. Unfortunately it comes with an inevitable level of disruption to those who visit Swift reservoir. With awareness and safety always in mind, people can still enjoy the majority of recreation activities and we will do what we need to do for migrating fish."

Combined, the two projects will allow migrating fish to avoid the obstruction of the three dams on the Lewis River and still return to historic spawning grounds.

"Completion and operation of these new projects is expected to increase the number of salmon and steelhead naturally produced in the Lewis River Basin," noted Pat Frazier of Washington Department of Fish and Wildlife. "PacifiCorp has done a good job of working with the WDFW and the Aquatic Coordination Committee to design the new facilities; it took a lot of work. This is an important step towards the recovery of ESA-listed spring Chinook, Coho and winter steelhead in the lower Columbia River."

The Swift Reservoir Fish Facility, located on the uppermost reservoir, will create flow conditions to attract out-migrating fish, typically juvenile salmon and steelhead, and adult steelhead. Once the fish are collected, they will be sorted at the facility for transport to the lower Lewis River downstream of Merwin Dam near the city of Woodland.

At the foot of Merwin Dam, adult fish migrating upstream will be attracted to a fish ladder entrance by river water coming out at a steady stream, mimicking a natural current that leads the fish upstream and away from the powerhouse outflows. The fish will follow this current up a short fish ladder ending in a basket and hoist system that delivers the fish to a holding pen and sorting facility. The fish will be sorted and loaded onto specially designed trucks that will transport them upstream of the dams to be released where they can spawn naturally in the Lewis River and its tributaries.

The work is being completed as part of the operating licenses granted to PacifiCorp and the Public Utility District No. 1 of Cowlitz County by the Federal Energy Regulatory Commission in 2008 after a lengthy settlement process involving more than two dozen agencies, tribes and local groups.

The fish passage projects, which together will cost the utilities about \$110 million, are the most prominent work underway, but the ongoing commitment encompasses wildlife enhancement, recreation and flood management.

Wildlife funding and management

PacifiCorp is investing more than \$12 million in protecting and enhancing wildlife habitat for a broad range of big game and other species in the Lewis River watershed. In 2010, the company purchased roughly 1,000 acres of land to protect elk habitat and is looking to acquire additional land ownership or habitat management easements.

Recreation

Currently, PacifiCorp operates 14 parks and day-use facilities along the Lewis River and on the shores of the Merwin, Yale and Swift reservoirs. These facilities are used by a half million people each year and demand for these popular facilities is increasing. The company is investing more than \$20 million in capital improvements over the coming decades, which include parking, recreation equipment, construction of new shelters, replacement of docks, improvements to boat launching facilities, new restrooms and expansion of camping facilities. Improved shoreline campsites accessible only by boat will provide new experiences for campers. New trails will be developed and emphasis will be placed on making many facilities accessible for the disabled.

Flood management

PacifiCorp's three reservoirs have played a critical role in flood management since the 1930s and the settlement brings several new management features to the system. PacifiCorp is using forecasts that predict inflow to its projects to

better manage storage in high flow events, and has provided funding for Clark and Cowlitz counties to install a new automated notification system for residents along the river in high flow situations. PacifiCorp has also cooperated with the National Weather Service to install a weather radio transmitter at Davis Peak and has invested in improved instrumentation on the river to provide residents with real time data during high flow conditions, including three U.S. Geological Service reservoir gages that provide available project storage on the NOAA web page, and a phone line so that residents can access real-time data on Lewis River flows from the USGS gauge at Ariel, Washington.

About PacifiCorp

PacifiCorp is one of the lowest-cost electricity producers in the United States, serving more than 1.7 million customers in the West. PacifiCorp operates as Pacific Power in Oregon, Washington and California, and as Rocky Mountain Power in Utah, Wyoming and Idaho. With a generating capability of more than 10,620 megawatts from coal, hydro, gas-fired combustion turbines and renewable wind and geothermal power, the company works to meet growing energy demand while protecting and enhancing the environment.

Facts on Lewis River Fish Passage Projects

Merwin. This project with a price tag of approx. \$50 million is already underway. As it is located at the base of the Merwin Dam, which is a restricted area already, the work is not causing a disruption to the general public other than some increase truck traffic.

The project has five main parts:

- Attraction water system
- Fish ladder and hoist
- Collection tank
- Sorting facility
- Truck loading system

This is how the system will work:

- Adult fish return to the Lewis River and are attracted to the fish ladder entrance by river water coming out at a steady stream, which mimics a natural current and leads the fish away from the powerhouse outflow.
- The fish follow this current up a short fish ladder that ends in a trap basket on a hoist that delivers the fish to the holding tank and sorting facility. The fish are sorted based on species, origin (hatchery or wild fish), and point of origin if that can be determined (tags or fin clips). Once sorted, fish are loaded onto specially designed trucks that take them to the hatchery or upstream of the dams to be released and spawn naturally in the stream beds of the Lewis River and its tributaries.

Swift. This project with a price tag of approx. \$60 million is already underway. Located at the southwest corner of Swift Reservoir, immediately adjacent to the dam, it is in an area accessible by boat from the reservoir and near a public fishing area. Construction here will restrict and sometimes close access to these public areas.

The project has four main elements

- Floating Surface Collector
- Net system
- Mooring tower
- Access trestle

This is how the project will work:

- Juvenile fish, the offspring of salmon and steelhead that spawned upstream of the dam, will come downstream through the reservoir looking for an outflow current in their migration to the ocean.
- The net system and artificial lake outflow provided by the floating surface collector will direct and attract these fish, which are typically 3 to 6 inches long at this stage, into a collection area.
- The Floating Surface Collector will be located just off the south end of the dam, anchored by the mooring tower and connected to the dam by an access trestle. The mooring tower and access trestle are supported on piles, and the Floating Surface Collector rises and falls with the reservoir level.
- The fish are collected and gently transported from the facility onto specially designed trucks via the access trestle.
- The juvenile fish are then trucked around the dams and released downstream of Merwin to continue their journey to the sea.