Summer 2020

Portland General Electric

Clackamas River Newsletter



The Restoration Issue



We were about to send out our summer newsletter, chock full of information about our busy season of restoration activity on the Clackamas, when the Riverside Fire swept through our community and changed everything. These last few weeks have been challenging. Several Westside Hydro employees had to evacuate their homes and all of us evacuated our Estacada office. Like many of you, we watched fire sweep through our favorite parks and stretches of stream, and we stayed up late worrying about friends and neighbors.

We are fortunate that our fish passage facilities were not damaged by the fire and Promontory Park escaped any significant structural impact. There is work to do in the coming weeks and months to evaluate the damage and document the changes so we can monitor the long-term effects, and we'll be sure to keep you updated along the way. This newsletter will focus on the restoration work completed this summer, but we'll send out a special issue in October or November with additional information about the fire and its effects on fish, wildlife, and river habitat.

We are so grateful for the teams working hard to protect the people and places we love, and for all of you for staying strong through these tough times.

Constructing Habitat through Collaboration

Fire certainly makes life difficult for fish in the short term. Stream temperatures can rise, excessive debris can fall into the aquatic habitat, and bank erosion can increase the turbidity of once-clear water. But luckily for any adult salmon or steelhead seeking refuge in the North Fork Reservoir in the last few weeks, they had a new shady place to hide and rest: over a dozen log structures installed in the transition zone between the river and the North Fork Reservoir. These creations are tough to spot from the road, but to a paddler, angler or salmon swimming past, they're impossible to overlook.

The woody structures were placed earlier this summer by the Oregon Wildlife Foundation, with design from McBain Associates, construction by Aquatic Contracting and funding from PGE's Clackamas Habitat Fund. These groups worked closely together throughout the project, from the concept phase through design and construction, all the way up until the last log was placed. Mike Herrick from Aquatic Contracting attributes the project's smooth-sailing success to this tight collaboration. "I don't understand why all restoration projects aren't done this way," he says. In fact, clear communication and shared







problem-solving allowed the project to be completed both under budget and ahead of schedule – a fact that likely spared it from serious fire damage. Had construction still been in progress during the fire, we might have lost equipment or logs on the river banks awaiting placement.

Unlike other habitat structures in the area primarily designed to enhance cover for young fish, these new features were built with both adult and juvenile salmon in mind. The log jams help create complex dynamics in the reservoir, providing shallow areas with slow-moving water as well as deep pools and rocky riffles. "We're really trying to build off of this transition zone," says Garth Wyatt, a fish biologist for PGE. "Normally, without these structures here, they wouldn't stop. But since they are here, we're able to provide cover and hopefully give them a place to rear and/or spawn (if they're an adult)."

Over 6,500 wild adult salmonids migrate through our hydropower project on the Clackamas each year, with many electing to spawn in this region. Recent use of the area has increased as well, thanks in part to the installation of other woody debris structures built by the Forest Service between 2015 and 2017. Our biologists are hopeful that all of these improvements will compound the benefits for fish and wildlife in the North Fork Reservoir, leading to an increase in spawning and juvenile numbers.

"Building habitat is probably the number one way that we're going to increase abundance of naturally-produced fish in the Clackamas," says Wyatt.

Discover PGE Parks

Although Promontory Park and Marina and the North Fork Lower Boat Launch were surrounded by fire, PGE crews have confirmed that the area did not sustain any serious structural damage, and only spare park amenities in storage were burned.

Many of our parks remain closed, including Timothy Lake and Lake Harriet, Promontory and Timber Park, Clackamas River Access Sites, Perry South and Monty Campgrounds, and Pelton Park. Our crews have important work ahead of them to make sure our parks are safe for visitors again.

Thank you for your patience and continued support of PGE's recreation sites.



Smoke begins to plume over North Fork Boat Launch on September 8.

Heavy smoke at North Fork Boat Launch on September 15.

Stage Four Transformation at Suter Creek



The fourth and final phase of the Suter Creek restoration project was recently completed, representing the culmination of a 6-year journey to transform this Eagle Creek tributary into a haven for coho and winter steelhead.

In this <u>video</u>, project manager Dave Bugni describes the ambitious restoration effort begun in 2014, which has included the placement of logs and boulders, creation of side-channel habitat, culvert removal, invasive species management and more.

2020 project work involved the installation of 95 large Douglas fir logs and 22 log structures within the creek, creating and enhancing habitat for fish and other aquatic wildlife. Recent work in the area has also included invasive weed management. The creek and surrounding area were spared from any wildfire effects.

Timothy Lake Tailrace gets a Makeover

Construction of the Timothy Lake Powerhouse in 2019 inadvertently raised the elevation of the water in the tailrace – the area just downstream of the powerhouse – when the generators are running. The high water-level can cause problems, backing up into the powerhouse and reducing the efficiency of our generators. This summer, we're giving the tailrace a makeover to remedy this issue and improve water quality at the same time.

In addition to removing construction materials from the water to lower the elevation, we're also recontouring the tailrace to enhance dissolved oxygen. Fish and other aquatic wildlife need dissolved oxygen to breathe, but water discharged from deeper in the water column is typically oxygen-poor. By restructuring the tailrace, we're able to mix water from the depths of Timothy Lake with water from the powerhouse's plunger valve. When combined, these two output sources should result in water with optimal dissolved oxygen levels.



Enhancing and Monitoring Habitat in the Oak Grove Fork

Our dams at Timothy Lake, Stone Creek and Lake Harriet block gravel from flowing downstream. This has consequences for fish and wildlife, particularly coastal cutthroat trout, which rely on small gravel to create spawning beds and lay their eggs. In early August, we placed new gravel and sediment just downstream of these obstacles to help replenish the natural environment. This is the only gravel augmentation program our biologists are aware of that specifically targets cutthroat trout conservation.



Further downstream in the Oak Grove Fork, we're also working on evaluating the quantity and quality of habitat available for juvenile coho. Over the past few years, PGE has enhanced side-channel habitat for fish in this area by increasing flow from Lake Harriet and completing several restoration projects. In order to ensure that high-quality habitat remains available, we perform annual evaluations at the entrance to each side channel. Our estimates help us determine whether or not additional modifications are needed to reach our habitat goals.



Logjams are a Grand Slam in Eagle Creek



The Clackamas River Basin Council spent this summer installing over 150 logs in a side channel of Eagle Creek at Bonnie Lure State Park. Constructed log jams span the river in several spots, redirecting the river flow, creating pools, collecting sediments and providing cover for juvenile salmon. In total, the project enhanced 3,500 linear feet of stream, creating dramatic changes for coho, Chinook and pacific lamprey.

The project managers will return in the fall to plant willows along the bank, which will one day keep the stream shady and cool. "There'll still be a trail system and fishing opportunities, but just a little more wooded habitat in the system – and hopefully more fish!" says Liz Gilliam, the Restoration Program Manager.

The project was funded by grants from PGE and the Oregon Watershed Enhancement Board, and Gilliam reports that **all of the instream features survived the Riverside Fire**. About an acre of the vegetation burned (out of over 70 acres that were treated or planted). Learn more from <u>CRBC</u>.

Juvenile & Adult Fish Passage Updates

Juvenile Species	Run Year To-Date (Oct. 2019 - Aug. 2020)	Run Relative to 10-year Average
Spring Chinook	176,179	220% (n = 80,000)
Coho	190,958	134% (n = 142,500)
Steelhead	49,066	121% (n = 40,526)
Pacific Lamprev	72,160	236% (n = 30,527)

Adult Species	Run Total (to date)	Run Relative to 10-year Average
Summer Steelhead	1,127	144% (n = 785)
Wild Spring Chinook	3,813	185% (n = 1,999)
Wild Coho	5,847	333% (n = 1,755)

<u>Daily adult fish counts</u> can be found online, but they may be delayed slightly.

- The wild spring Chinook return is 90.7% complete, with a projected total of 4,054 fish. The wild early run coho return is 64% complete, with a projected total of 8,964 fish.
 If these forecasts are achieved, these will be the highest returns for each species since we began collecting data in 1958.
- Our adult fish facilities remained operational during the fires in *volitional passage mode*, meaning adult fish could migrate upstream without being counted or sorted. We estimate 136 wild Chinook and 1,749 wild early-run coho passed through from Sep. 9-18. Data from before and after this period suggest that few hatchery fish migrated upstream during this time.
- The River Mill surface collector has been in flow-through mode (no attraction flow) since Aug. 3 to allow for annual maintenance. The North Fork surface collector was taken offline from Sep. 9-21, but has operated somewhat consistently since then. Due to heavy debris caused by the fire, there will likely be ongoing impacts to the reliability of this facility.

Announcements & News

1. PGE recently placed gravel at multiple sites along the Clackamas River to enhance habitat for salmon, steelhead and cutthroat trout.

➔ Estacada News

- 2. PGE helped design and implement a new water intake system at the Clackamas Hatchery.

 <u>OregonLive</u>
- 3. NOAA Fisheries is taking public comment on a proposal to change the Clackamas Hatchery to an integrated broodstock program.

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➔ Columbia Basin Bulletin

- 4. ODFW is working to repair their fishway system at Willamette Falls to aid the passage of steelhead and spring Chinook.
 - → Columbia Basin Bulletin

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