Spring 2020

Portland General Electric
Clackamas River Newsletter

Our last newsletter came out just as Covid-19 was beginning to change our world and work practices. Three months later, and many of us at PGE are still working from home or suiting up in masks to perform duties in the field. We've had to adjust our operations to keep our employees healthy and safe. Our parks closed and many events were canceled. But despite these changes, our commitment to environmental stewardship has remained steadfast. Juvenile and adult fish are still completing their migrations to and from the ocean with the help of our fish passage facilities. Our acoustic telemetry study continues in North Fork Reservoir, while our annual lamprey trap-and-haul program is getting started for the summer. Nearly all of PGE parks are up and running again, with the exception of a few sites closed for reasons unrelated to the pandemic. Like many of you, we are adjusting to the "new normal" and looking forward to better times ahead.

Lampreys on the Move

Warm weather means Clackamas River Pacific lampreys are on the move. As part of our annual trap-and-haul program, our biologists are spending the summer collecting, tagging, transporting and releasing these unusual fish to jumpstart spawning and assess the effectiveness of our fish passage systems.

Why bother with these freaky fish?

Due to their strange appearance and slimy texture, lampreys are often feared or misunderstood, but they're both ecologically and culturally significant to the Pacific Northwest. These eel-like fish play an important role in marine and freshwater food webs, recycling nutrients and providing food to predators that would otherwise feast heavily on juvenile salmon. Additionally, many Native American tribes have been harvesting lampreys for centuries, using the fish for subsistence, ceremonial and medicinal purposes.

Once widely distributed throughout the West, lamprey populations have declined throughout the region. In the Clackamas River, the construction of River Mill and North Fork Dams created impediments to upstream passage for adults. Fish ladder infrastructure – designed for salmon and steelhead – caused problems for lampreys, which struggle to swim in swift currents and around sharp corners.

In 2006, we reconstructed the fish ladder at River Mill Dam to include lamprey passage features. Lampreys quickly responded to these improvements, returning to the stretch between River Mill Dam and Faraday Diversion Dam. However, passage through the North Fork fish ladder is still low, and we are trying to determine why.

What are we doing about it?

Scientists suspect that adult Pacific lampreys are attracted to areas occupied by juvenile lampreys. Since very few of these fish make it upstream of North Fork Dam to spawn, there is likely a lack of juvenile pheromones to attract adults upstream, thus perpetuating the problem. In 2017, PGE biologists began trapping hundreds of adult lampreys at River Mill Dam and releasing them above North Fork Reservoir. We've continued this work every summer since. By moving fish above North Fork Dam, we aim to increase spawning in the Upper Clackamas Basin.

Juvenile lampreys, also called macropthalmia, release pheromones that are thought to attract adults to their location.

Over time, we hope the offspring of adult lampreys transported upstream will entice adults to move above North Fork Dam on their own. In addition to these trap-and-haul efforts, we also microchip up to 200 individuals each year, allowing us to track their movements through the North Fork fish ladder and identify any areas of concern.

Despite changes in operation caused by Covid-19, these essential efforts will continue in 2020. This year, we began trapping for lampreys at the River Mill ladder in mid-May. Throughout the summer, we will trap and haul up to 400 individuals and tag another 100-200 to help evaluate passage.

Gravel Travel: Clackamas River Augmentation Update

Every year, we place large piles of gravel along the Clackamas River to help augment for the loss of sediment caused by our dams. We let this gravel flow naturally downstream, which means the results are different from year to year depending on precipitation and other climate factors. During this past winter, there was not enough discharge on the Clackamas to move our newest gravel pile located at the base of River Mill Dam. However, we do have indications that fish are using the material we placed last year. While checking on our screw trap on the Oak Grove Fork, our staff noted numerous winter steelhead redds on the gravel we placed in the winter of 2018-2019, which was spread widely by high flows last spring. At least five redds were located near Rainbow campground. We do not conduct formal winter steelhead spawning surveys, but our observations suggest that winter steelhead use has increased in this area thanks to the new gravel.

What may look like an ordinary patch of river rock to some viewers is actually a winter steelhead redd. If you look closely, you may see a small red rock. This was placed by the Oregon Department of Fish & Wildlife to flag the redd's location.

Juvenile & Adult Fish Passage Updates

- Downstream passage of juveniles this spring has been high, with all species exceeding their respective 10-year averages.
- Spring Chinook passage has been particularly strong, setting modern day records in April (8,639 at Timber Park) and May (17,752 at River Mill).

Juvenile Species	Run Year To-Date (Oct. 2019 - May 2020)	Run Relative to 10-year Average
Spring Chinook	134,137	203% (n=66,240)
Coho	144,742	135% (n=107,512)
Steelhead	47,106	124% (n=37,950)
Pacific Lamprey	66,898	273% (n=24,478)

Adult Species	Run Total (to date)	Run Relative to 10-year Average
Wild Winter Steelhead	1,121	79% (n=1,421)
Wild Spring Chinook	250	108% (n=232)

- You can find **daily adult fish counts** online, but they may be delayed slightly as a result of COVID-19 work-safety measures.

Restoration Report: Thinning Trees for Conservation

In early April, contractors starting thinning trees within an 8-acre parcel of PGE-owned timberland. While cutting trees may not be the first thing that comes to mind when you picture habitat conservation, this project was actually designed to benefit wildlife. Thinning will help us achieve two goals: to generate large woody debris for Clackamas Habitat Fund Projects and to promote late-successional forest composition – a type of forest structure most beneficial to wildlife. This small pilot project was a first for PGE in this area, taking place within designated conservation lands in the Eagle Creek Watershed. We anticipate contributing 200 trees from this project to instream habitat in the Clackamas Basin this year.

Discover PGE Parks

Thank you for being patient while our parks were temporarily closed this spring. We look forward to seeing you again this summer back on the water, playing cards at a picnic table or sleeping under the stars.

- Promontory, Pelton and Trojan parks opened May 22nd.
- PGE parks located within national forests, including Timothy Lake and our Clackamas River boat access sites opened for the season on May 29th.
- Timber Park opened on June 1st.
- We ask that visitors **prepare** for their trip and act with **care** toward others. Please avoid congregating in groups, maintain a safe distance from people outside of your own household and be mindful of your actions.

Find the latest updates and information on our **website**.

Acoustic Tag Evaluation: Early Results

Our acoustic telemetry study in North Fork Reservoir, which was featured in the last newsletter, is well underway. This study involves tagging juvenile fish and placing hydrophones throughout the reservoir to pick up on acoustic signals, generating high-quality data on the location of fish throughout the study period. The hydrophone network was placed in March, and 226 acoustic-tagged Chinook were released at the head of North Fork Reservoir between April 13 and May 12. Over the same period, we also released 500 Chinook tagged with standard microchips called PIT tags. Testing conditions have been excellent, with strong numbers of Chinook available for tagging and nearly perfect river flows (moderate and steady). The detection arrays (both acoustic and PIT) have been performing well so far, and we have already gained some interesting insights. As suspected, some acoustic-tagged fish are spending a prolonged amount of time in the mid and upper reservoir reaches before approaching North Fork Dam. Early indications suggest that collection rates at North Fork Dam are slightly lower this year (for both PIT and acoustic-tagged fish) compared to 2018 and 2019. We expect to have additional preliminary results available this summer, with final reporting in early 2021.

Announcements & News

1. **Elevated winter steelhead returns on the Willamette River have been encouraging to ODFW biologists.**
   - ➔ Statesman's Journal
2. **Poor marine survival likely the cause of historically low Columbia Basin spring Chinook returns.**
   - ➔ Columbia Basin Bulletin

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