# Clackamas River
# Lamprey Passage Infrastructure

Although Pacific lamprey are not as popular as salmon and steelhead, these eel-like fish are ecologically and culturally significant to the Pacific Northwest. Lamprey provide a source of food for birds, other fish and mammals, and they bring vital nutrients from the ocean to freshwater ecosystems. Additionally, many Native American tribes harvest lampreys for subsistence, ceremonial and medicinal purposes – a tradition spanning centuries.

Historically, fish passage infrastructure has not been designed to account for lamprey. At PGE's West Side Hydropower project, we set out to change that. In 2006, we reconstructed our fish ladder at River Mill Dam to include lamprey passage features. Our efforts have helped the species return to the seven-mile stretch between River Mill and Faraday Diversion Dam.

*Juvenile lamprey at the River Mill collection facility*

## Rounded Corners

Throughout the Pacific Northwest, fish passage infrastructure is typically designed to benefit salmon and steelhead. Lamprey, which can't swim against swift currents or around sharp corners, have struggled with these traditional features. That's why we rebuilt our fish ladder at River Mill Dam in 2006 to include rounded corners and gentle flows. These changes allow lamprey to swim upstream safely, latching onto the rounded surfaces between short bursts of swimming.

## Continuous Smooth Wall

One side of our River Mill fish ladder has a continuous, smooth wall. Lamprey swim upstream in short bursts, attaching to surfaces between those bursts to avoid getting swept back downstream. The wall provides lamprey with an unimpeded surface to comfortably suction onto when climbing the ladder at River Mill Dam.

## Trap & Haul Program

Scientists believe adult lamprey are attracted to the pheromones released by juvenile lamprey. Since few adults have historically made it to the upper basin to spawn, there could be a lack of juveniles to encourage continued migration. Our trap and haul program, which involves transporting adult lamprey from River Mill Dam past North Fork Reservoir, aims to jump-start this cycle. We hope with time, more spawning adults will lead to higher numbers of juveniles, which in turn will attract adults upstream.