

# UNWC Culvert Project Will Improve Fish Habitat *continued from front page*

immediate benefits for Northern Coho Salmon in Oak Ranch Creek. The stream also supports populations of Summer Chinook Salmon, Winter Steelhead, Sea-Run Cutthroat and Rainbow Trout, and Pacific and Brook Lamprey.

The Oregon Fish Passage Law requires that native migratory fish be allowed to move freely up and down streams to find food and shelter, and to spawn and reproduce. Most fish found in forested streams, like those along Apiary Road, prefer cold, clean and connected water systems. There are many barriers to these basic needs, including restrictions at road-stream crossings on public and private roads. These culverts can be a barrier to fish movement if there is more than a 6" drop on the downstream side when juvenile fish cannot jump into the culvert, or when an adult fish cannot swim upstream due to high water velocities. This condition completely inhibits lamprey migration.

This summer's culvert replacement project is the third on Apiary Road and Oak Ranch Creek in the last several years. Columbia County restored passage at river mile 0.63 in the summer of 2009. UNWC, Columbia County, ODFW, and OWEB formed a partnership to restore passage at river mile 1.82 in summer 2015. The Oregon Department of Forestry recently restored passage at river mile 6.53 and 8.18 into the headwater reaches

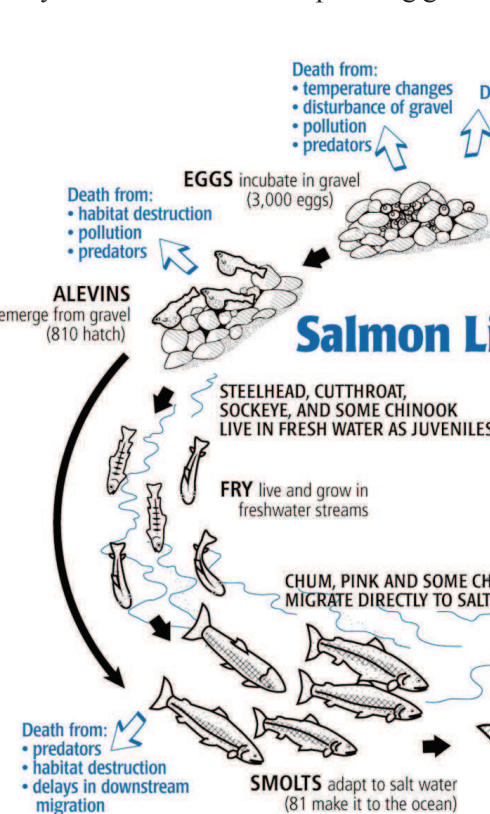
In addition to the previous culvert replacement projects, Peyton says the UNWC also placed 12 large wood structures in Oak Ranch Creek above and below the new open bottom culvert installed in 2015 to help slow the stream flow during high water events and create fish habitat.

Peyton says other stream work already completed in this basin include large wood placement by the Oregon Department of Forestry, and a project by the UNWC to place wood structures

in Archibald Creek, a main tributary of Oak Ranch Creek. "We've laid down the foundation to develop more salmon habitat in those areas," said Peyton.

"Once we replace this upper culvert this summer, where it's been constrained for a long time, it will release the natural stream flow dynamics," says Peyton. "There is a lot of spawning grav-

el that is stuck up behind this culvert, so that will start flowing downstream and start rebuilding the aquatic habitat down below."



washer, stripping out any habitat material, and creating a plunge pool at the downstream side of the culvert. With a more naturally designed stream crossing, material will flow more evenly. The added large wood structures will help sort, disperse, and hold spawning gravel, and create pools and riffles all along the stream system, enriching salmon habitat for over two miles downstream. The design of the project calls for the installation of the open bottomed culvert to create a "stream simulation" which will grade the stream bed within the project's reach to help the project remain stable.

With this new culvert being

installed this summer Peyton says about a seven mile reach of Oak Ranch Creek, plus other tributaries, will have unrestricted access from the Nehalem River. "It's a significant amount of habitat, and it's all high quality habitat," says Peyton. "There are huge beaver dam complexes up in the headwaters of Oak Ranch Creek on ODF land. Camp Wilkerson is also up there, blanketed by a mature conifer forest stand, which provides nice habitat."

Peyton says a previous biologic assessment that surveyed juvenile fish in Oak Ranch Creek showed significant fish presence below the lower crossing, and then less between that crossing and the middle crossing, and significantly less juvenile fish above the upper crossing. "From that assessment we know the occasional adult does make it through the upper culvert, but this replacement should significantly increase the number of migrating adult and juvenile salmon seeking refuge, and rearing and spawning habitat above the new crossing," says Peyton.

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