

Large Woody Debris Placement on Gooseneck Creek a Success!

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Usually, the articles I write are about some sort of educational topic: weed management, burning, pasture management, etc. Rather than go that route with this particular article, I figured I should highlight a recent project for the district, which we would love to do more of, as the opportunities arise! The Polk SWCD recently completed a substantial large woody debris placement project on Gooseneck Creek, in the greater Mill Creek watershed. Gooseneck Creek is known habitat for Coho and Winter Steelhead, the latter of which is listed as threatened in the Endangered Species Act. This project saw the placement of several large wood structures, composed for conifer logs meeting specific criteria for size, woven together in and on top of Gooseneck Creek. Coupled with this, the project saw roughly 100ft of severely eroded cutbank regraded and stabilized, and two log bank barbs installed in the new slope to divert flow in the opposite direction. The project was funded by a Bureau of Land Management (BLM) grant offering, and due to the close proximity of BLM and The Oregon and California Railroad Revested Lands (O&C lands), *and* the ample benefit to the public, we were able to prove a federal nexus existed. As a result, we could partner with BLM, despite the project being on private land!

The concept of large woody debris placement isn't entirely new; we aim to replicate what would otherwise be a natural process by creating "log jams" in river systems devoid of riparian area trees for natural recruitment benefiting fish habitat and water quality. And, this isn't the first time the SWCD has done these types of projects. We've done lots of work in the Rickreall watershed to benefit water quality in the City of Dallas' drinking water reservoir. But, ask anyone who has worked in the woods for a while about large woody debris placement, and you will likely get some form of the following response, "we used to fall trees right into the creek, then they told us to remove everything from the creek to help the fish, and now they're wanting us to put it back in to help the fish!". While it may seem funny, it's actually true, and shows how the science surrounding large woody debris has evolved over time.

While some may claim that they look like a mess, these structures that we create serve several purposes. First and foremost, they act to slow water down, which allows for gravels and sediments to fall out of suspension and accumulate materials needed for the creation of spawning beds and habitat. Many local creeks and rivers are lacking this spawning material for some of our more iconic fish species (Coho, Steelhead, etc.) and these structures aim to increase the quantity of this spawning bed material. While obviously not one of the biggest factors influencing salmon and steelhead numbers, lack of ample spawning habitat, and lack of access to these spawning grounds, undoubtedly has some impact on overall population numbers. Along with slowing water, and increasing the quantity of spawning gravels, these structures work to develop stream channel complexity, and strengthen floodplain connectivity. Rivers are rarely straight, and if they are, it is often the work of some outside force (Salt Creek and the Army Corps of Engineers, historical farming practices of draining "ditches", etc.) and we see that throughout the county. When these entrenched river systems experience increased flows due to lack of access to natural floodplain or side channels, there's little way for them to dissipate the overall power/flow that has culminated. The result is often flooding, as we've experienced recently. These structures help direct and deflect water to pre-existing side channels and natural floodplains, aiming to increase the sinuosity/connectivity of the system, helping it to return to a more "natural" state. This increased connectivity also increases access to refugial habitats for fish and can help mitigate flooding risk. The increased flow/power now has somewhere to dissipate across the landscape, rather than up and out of the rivers' banks, and on to nearby roads, potentially harming infrastructure.

With all their benefits, it's easy to see why we like taking on these kinds of projects. If you or someone you know might be a good fit for something like this, let us know and we will see what we can do!