Oregon Gulch Rehabilitation Site, Junction City, CA

From Dunes of Stone to Flora and Fauna

Trinity River Restoration Program

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"Dredging Scene." Near Weaverville, Calif. J.H. Eastman

Drone footage captures an aerial view of the 2022 augmentation site, Oregon Gulch. (Aaron Martin, YTFD)

Situated between Weaverville and Junction City, Oregon Gulch lies two miles upstream from the Dutch Creek Bridge. A truly Herculine effort is underway here to restore much needed salmonoid habitat on the scenic Trinity River. As seen in the photographs above, this site was impacted by the historic gold mining era when large-scale hydraulic and dredge operations left mining waste in the form of 25-35ft high rock tailing piles. These piles occupy up to 75% of the valley's width and through time eliminated the water's ability to access most of the low-lying topography, causing the river to incise and its banks to harden with riparian vegetation.

In effort to create floodplain habitat for wildlife, The Trinity River Restoration Program (TRRP) has engineered a design to remove leftover piles of rocky debris that, through mechanical rehabilitation, will allow the river to access floodplain habitat in this reach of river once again. The design calls for nearly 500,000 cubic yards of excavation which is enough material to fill 208 Olympic size swimming pools! With previous projects, excavated materials were typically placed in local upland areas that still impede river function, however with this site unused stone are transported to Eagle Rock, Inc. Where they will be processed into useable road products.

Why all the fuss though? Why not let sleeping tailing piles lie? The answer is in the opportunity of what the valley could provide. The Junction City valley has the river's widest historic floodplain above the Hoopa Valley (not counting the floodplains now submerged below Trinity and Lewiston Lakes), and the Oregon Gulch site is the portion of the valley with the least infrastructure constraints, giving it potential to provide extensive floodplain habitat for juvenile salmonids. When the standing piles of rock tailings are removed and the floodplain is restored, juvenile salmon will find newly accessible nursery habitat to rest, hold and feed in.

Since early August 2022, crews from Yurok Tribe, Hoopa Valley Tribe and several sub-contractors have been steadily working to bring Phase 1 of the design to completion. Upwards of 130 semi-truck loads per day of tailings are leaving the site, 5 days a week! Not only is stone being removed, but it's also being screened and sorted to create building materials and rock that will be used in other reaches of the Trinity River for fish gravel placement. The removal crews have been working hard during favorable weather conditions and are expected to complete Phase 1 in late spring of 2023. TRRP is continually appreciative of residents who continue to support the Oregon Gulch project while tolerating increased traffic on local roads and other construction impacts. We strive for complete transparency and our door is open to those who would like to learn more, ask questions, or voice a concern.
The Oregon Gulch design team used fish capacity models to inform the design of the restoration project, so the final design optimizes the site for variables including flow velocity, water depth and the availability of cover for fish. Modeling predicts a 114% increase in the project's ability to hold fry at a 350 cubic foot per second (CFS) flow, and a 1,040% increase at 800cfs! The process-based approach taken with this design encourages the river to take over and meander as it pleases. As a result, the fish capacity will change as the site evolves, and with such a massive new floodplain habitat being created the long-term benefits are expected to persist.

Cover is an important variable when talking about potential fish habitat. Current cover and planned revegetation efforts are extensively studied by TRRP's riparian ecologists. When planning for the desired future condition of vegetation at a site, TRRP asks extensive questions such as as how often will a low-lying area be inundated with water, at what elevations are targeted species of plants most successful in relation to the water surface, what type of plants already exist within the site, and what can be planted to enhance the species and structural diversity of the site? Revegetation of the newly formed floodplain and surrounding area will be critical to providing the cover that salmonid fry and smolts will need to protect themselves from predation and create a lush environment for all sorts of terrestrial and aquatic creatures to thrive.

Phase 2 of the Oregon Gulch project will commence in-river work that will create a new river meander and lower targeted areas to floodplain levels. Overall, the project proposes to create up to 1,000 times the amount of juvenile rearing habitat for small salmon at the site than presently exist. This large-scale addition of nursery habitat will help increase the size and number of young salmon and steelhead that leave Trinity River on their way to the ocean, which in turn will help promote an increase in retuning adult salmon. These are just the most visible portions of the work being done, numerous engineers, project partners and workers are busy measuring, designing, problem solving, and studying the site all in effort to bring this area back to its potential.