

# Diversion Replacement and Fish Passage Improvements

Little Shasta River, Siskiyou County, California



The Little Shasta River is a tributary to the Shasta River—historically one of the most productive salmon streams in the Klamath Basin—with spring driven flows providing cold water that could support salmon and steelhead during the hot and arid summer months. Anecdotally, in the mid to late 1800's, community members would use pitchforks to harvest hundreds of salmon each year as the fish were making their trip upstream to spawn.

However, around this same time, agricultural users began to install flashboard dams to divert water from the Little Shasta River for the irrigation of pasture and hay production and to provide water for livestock. These dams made it impossible for fish to access the cold spring water and pristine habitat located upstream of the diversion sites.

In 2018 the Hart Ranch, in partnership with California Trout, began the planning, design, and implementation of a fish passage improvement project to restore access for salmon, specifically federally listed coho, to cold water spawning and rearing habitat and permanently improve conditions in the Little Shasta.



*Figure 1. The new diversion structure looking up the reprofiled channel with riparian plantings*



*Figure 2. The old diversion structure that was a barrier to fish passage*

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The goal of this project was to replace the ranch's existing flashboard dam with a fish passage friendly diversion structure and reprofile the existing stream channel to support improved salmonid mobility.

California Trout, along with its partners, wrote, secured, and managed multiple state and federal grants in support of this project; in doing so negotiating and executing agreements with the landowner and subcontractors; securing permits; and overseeing several years of implementation.

Installation of the new diversion structure began in late spring of 2019, and the entire project—including re-grading the stream channel and riparian planting—was completed in March of 2020.

The new diversion structure allows the ranch to continue its irrigation practices while also allowing fish passage. As a result, fish now have access to up to 7 kilometers of ideal spawning and rearing habitat that was previously unavailable.



Figure 3. Aerial view of new diversion structure and reprofiled channel



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