

Slough Restoration

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Last winter's drought impacted many things, including the 3 salmonid species in the Mattole. A significant portion of the returning adult Chinook this past fall and winter were limited to the lower river downstream of Honeydew due to low flows. The result was a concentration of spawning in the lower river that may lead to carrying capacity issues in the estuary/lagoon this summer. So what can we do about this situation? What will the young fish do? And what did they used to do when there was a healthy estuary/lagoon with deep pools and extensive riparian and slough habitat?

These are questions that local residents and watershed groups are asking. To get the answers, we have been engaged in extensive monitoring for over three decades. Learning about the fish and their preferred habitats has helped us develop plans and execute actions to help the fish. Using a triage approach, some actions are immediate to help save the "patient," but then there are farsighted actions that are more like long-term health care. We describe here some recent actions to restore off-channel slough habitat in the estuary/lagoon of the Mattole. We hope that this project may have near-term benefits for fish in the lagoon this summer, as well as longer-term benefits spanning future decades, such as increased refuge from winter high flows and an overall expansion of off-channel habitat in the estuary/lagoon.

In 2012, the Bureau of Land Management (BLM), working with local landowners, watershed groups, and numerous other state and federal agencies, developed a 5-Year Restoration Plan for the estuary/lower river on BLM lands. Last year's helicopter wood placement was one of the actions identified in the Plan; this year's slough restoration project is also described in the Plan.

There is a complex of elevated slough channels along the south bank of the Mattole River estuary that were disconnected from the river after the 1992 Triple Junction earthquakes uplifted the area by 3-5 feet, and subsequent deposition from over-bank flows filled in the old river channels. The current slough restoration project is excavating 250 feet of one of these historic channels to create off-channel habitat for juvenile salmonids. This slack-water habitat will have cooler water temperatures than the main river and an abundance of insects (food for juvenile salmonids) from the extensive over-hanging riparian vegetation. It will serve as a refuge from high water velocities in the winter and be a veritable paradise



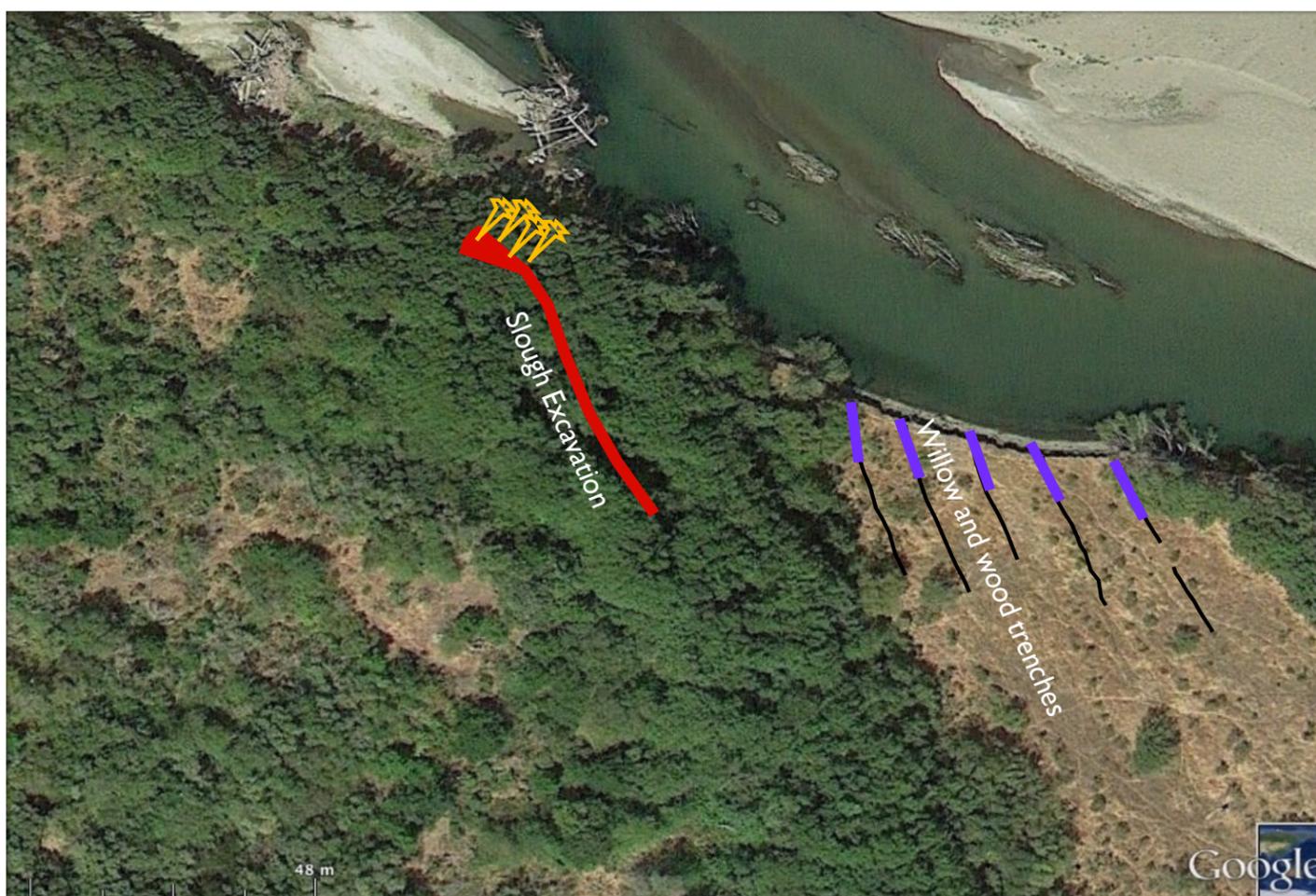
*View of the slough excavation site during project work.
Photograph by Nathan Queener*

of cool water temperatures and abundant food in the summer. Hoping it may be an alluring refuge for coho, we like to think of it as a "Cohotel."

This project is being coordinated by staff of the Mattole Salmon Group, in cooperation with Mattole Restoration Council staff who are completing all of the associated willow planting work, and Patrick Queen, a local heavy equipment operator and problem solver. Funding comes from the California Department of Fish and Wildlife, The Nature Conservancy, and the National Oceanic Atmospheric Administration, with funding and staff support from the Bureau of Land Management, and tree donations from Ellen Taylor and Michael Evenson.

The work dredging the old, filled-in and uplifted slough channel was finished in early July. We have also completed extensive terrace margin treatments with willows, whole trees, wooden posts and logs, and thousands of willow cuttings. Fish presence will be monitored after the slough is opened to the river. When we deployed minnow traps in this area in May prior to the start of work, there were no salmonids present. Monitoring results from this project will help inform a soon-to-be-funded study to determine if additional slough channel areas should be reopened.

The Cohotel opens soon. 🐟



Work plan for slough excavation project. Yellow marks represent whole trees positioned at the mouth of the slough. Upstream (right) of the main slough excavation site, blue lines represent the first 50 feet of the trenches where whole trees with root wads were placed. Black lines represent the remainder of the trenches, where logs and willow cuttings were placed. The willow and wood trenches are designed to lengthen the life of the slough excavation area by providing hardness (vegetation and logs) upstream. When the terrace gets inundated with water, the willow will also help to settle fine sediment upstream of the slough channel. Map by Mattole Salmon Group