

TRENCH WARFARE

The battle against trail erosion

Eroded trails are damaging to the environment in several ways. If you've ever walked along these rutted trails during a rainstorm, you know that they become rushing channels of muddy water. The technical term for this is "entrenchment" - think Verdun. A rutted trail system is essentially a water and soil removal system, which can severely damage the local ecosystems.

China Camp's salt marshes are among the very few remaining undisturbed wetlands bordering the San Francisco / San Pablo Bay ecosystem. Along with Elkhorn Slough near Monterey, China Camp State Park is part of ongoing studies by the San Francisco Bay National Estuarine Research Reserve. Endangered species, including the clapper rail and the salt marsh harvest mouse, are found here. A load of mud from eroded trails, going into the bay year after year, causes degradation and eventual destruction of the wetland ecosystem. And it's not just a winter problem: during the summer, dust from the eroded trails also settles over this fragile environment.

Before the trail system was built, rainwater generally soaked into the soil where it fell on the hillside, percolating through the ground. When trails become rutted and turn into water channels, they rapidly draw rainfall away from the hillside, reducing the amount of water available to the local plants and animals. Over a few years, water loss from rutted trails can irreparably damage local ecosystems that took millenia to evolve.

The design of the new trail bed reflects research that has been done over the past few decades. Gone are trails dug into the hillside, with water channels running along the uphill side of the trail. The new trails are flat and tilted slightly downhill, so rain that hits the trail will flow off to the side of the trail in a sheet, and soak into the ground at the trailside, rather than being channeled away. Ideally, these trails will never require the later addition of "water bars", those shallow ditches and bumps that angle across the trail to carry water away.

It is no small task to repair trails that have become severely entrenched. The rutted trails have to be dug up, and crushed rock packed with hard dirt to create a thick, durable surface that can withstand foot, bicycle, and equestrian traffic. Even after this project is completed, there will be sections of the trail requiring repair that we have left untouched. These are generally areas where there are stream crossings that will require additional environmental assessment, additional construction materials, and specialized techniques to create an ecologically sound water crossing. So there's lots left to do.

China Camp State Park is a relatively small park, with heavily used trails. Community support has saved the park from closure, and has allowed Friends of China Camp to begin the process of making our trails less of a burden to the park's fragile environment. Continued community support will be needed to assure that the park's natural treasures remain healthy and vigorous.