

Project Update: Creek Photos, Before & After

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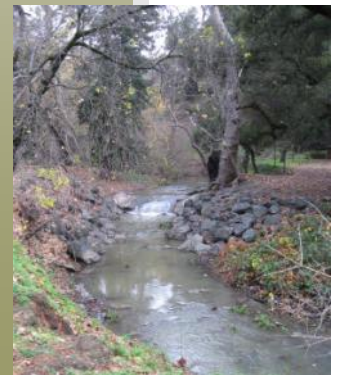
Stevens Creek has been restored within Blackberry Farm as part of the Stevens Creek Corridor Phase 1 project. This update contains photographs of the creek, before the work and after.

Stevens Creek: Before

*W*ithin Blackberry Farm the creek channel had been narrowed. Creek flows scoured the banks & tree roots. Understory vegetation was lacking & habitat value was limited.



*I*n numerous locations, "riprap" rocks were needed on creek banks to protect against scour forces. Serious barriers for wildlife existed within the channel itself.



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Stevens Creek Corridor Creek Restoration Project



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STEVENS CREEK CORRIDOR UPDATE

Diversion Dam Site: Before



The dam structure within Blackberry Farm created a major hurdle for fish passage.

Riprap (rock armoring) placed on the east bank at the dam site further degraded the habitat.

Yellow stars mark the same tree in the 'Before' photo above and 'After' photos next page.



This dam was one of the worst barriers for year-round movement of young steelhead in the entire length of Stevens Creek.

STEVENS CREEK CORRIDOR UPDATE

Diversion Dam Site: After

Looking Upstream



A new pool was created below the boulder cross vane. The cross vane will stabilize the channel bed at the proper elevation and maintain the improved fish passage conditions.

Photos above & below are views upstream, Oct. 2008 & Sept. 2009.



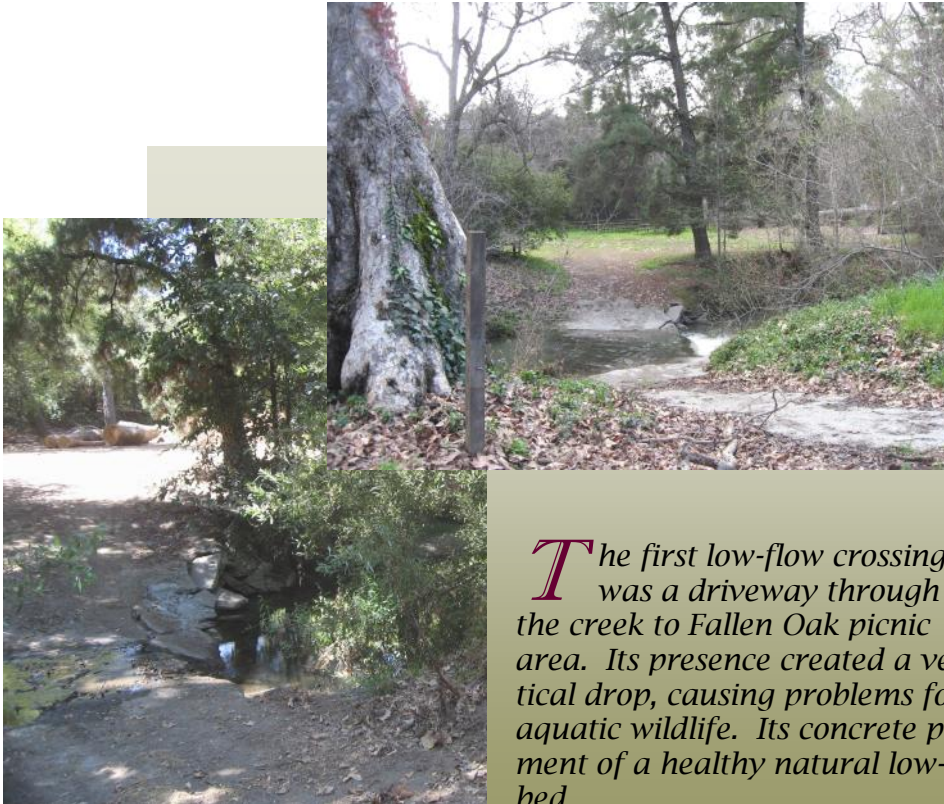
The dam structure was removed, as was the riprap. The banks were laid back to a gentler slope that will be stable without armoring. The channel was sculpted as well and a boulder "cross vane" was constructed at the former site of the dam. Photos below are views downstream, Oct. 2008 & Sept. 2009. A star marks the same tree in each view.

Looking Downstream



STEVENS CREEK CORRIDOR UPDATE

Low Flow Crossing #1: Before and After



The first low-flow crossing was a driveway through the creek to Fallen Oak picnic area. Its presence created a vertical drop, causing problems for aquatic wildlife. Its concrete paving prevented establishment of a healthy natural low-flow channel in the creek bed.



The creek restoration, photo right, removed the low flow structure and resculpted the channel, preserving the nearby trees and vegetation.

The star marks an adjacent tree as a landmark in the 'Before' and 'After' shots.



STEVENS CREEK CORRIDOR UPDATE

Low Flow Crossing #2: Before & After

The second low-flow crossing created a serious barrier to fish passage, with a channel drop of more than 4 feet. Rip-rap armoring on both sides of the crossing precluded vegetation.



Views of the low-flow crossing 'before' are left, right & above.



The creek restoration removed the low flow structure and riprap. The redwood tree marked with a star in the upper photos is the same tree marked in this post-construction photo left. A boulder cross vane helps stabilize the channel bed and create a pool-glide-riffle sequence.

STEVENS CREEK CORRIDOR UPDATE

Scoured Tree Roots: Before & After



Creek channel flows had scoured the root systems of Monterey pine trees along the creek banks.



The design team and contractor reviewed the scoured areas before beginning to construct log crib walls to protect roots.



The photo below shows the same 3 trees in the photo above, after installation of the crib walls & plantings. This portion of the former channel is now a "backwater" & provides refuge for fish during high-flow winter storms.

Log walls (above) were backfilled in lifts with selected soil material placed carefully around roots. A new slope was created providing space for healthy root systems to reestablish.



STEVENS CREEK CORRIDOR UPDATE

Lower Parking Area Before: New Creek Channel After



The lower portion of the former parking lot shown in photo left was removed. It became part of the new creek channel, allowing creation of a wider, stable and healthy channel configuration.

During construction, the new channel was excavated. Cobbles and gravels were used to create the new creek bed.



A star marks the same distant tree in each photo.



The brand new creek, shown photo left Dec. 2008, was created where parking had existed. The new channel allows for desirable in-stream floodplain "benches" and supports greater habitat complexity. The channel slope is gradual and there are no longer barriers to fish migration.

STEVENS CREEK CORRIDOR UPDATE

New Creek Channel, One Year Later



Just downstream of Horseshoe Bend, the old creek channel 'before', left, and the new relocated channel 'during', right. One

year after construction, below. This is a new stretch of creek that did not exist before.



*N*ative plantings are establishing well, as are volunteer pioneer species. Steelhead are back in the creek and native plant diversity is rising.