Incarcerated Creeks

by Sandy Guldman
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A healthy creek has active flood plains and a meandering channel with pools, riffles, and spawning gravels. It is lined by native vegetation that forms a nearly continuous riparian zone, full of wildlife. Unfortunately, a creek confined in a culvert is missing every one of those features. And to make matters worse, culverts often contribute to flooding and are barriers to the movement of fish and other species. This article describes five of the longest culverts that rob the Ross Valley of significant amounts of riparian vegetation and natural creek functions.

Fairfax Creek at 300 Olema Road

When even moderately high flows in Fairfax Creek encounter the small entrance to the box culvert at 300 Olema Road, water overflows onto the road, closing it to traffic. The water that stays in the culvert for its full 150-ft length is speeded up by the smooth surfaces and jets out of the end, eroding the natural bank downstream of the culvert. Additional large amounts of sediment are carried into the creek by water flowing down Olema Road. A design to replace the culvert with a channel that would accommodate more flow is ready for implementation.

The box culvert at 300 Olema Road in Fairfax, at left in the photo, has insufficient capacity for the flow coming from Fairfax Creek. Photo by Charles Kennard

Fairfax Creek at Confluence with San Anselmo Creek

Several decades ago, the downstream 2,000 feet of Fairfax Creek meandered through what is now downtown Fairfax and joined San Anselmo Creek behind the present location of the Fairfax Post Office. To simplify the development of Bolinas Road and Broadway, it was rerouted and placed in a concrete channel that begins upstream of Fairfax Town Hall. Just upstream of Bolinas Road, it enters a completely enclosed box culvert 458 feet long, traveling under Sherman Street, and finally emerges at San Anselmo Creek near Bridge Court. This culvert is undersized and very steep. It causes flooding in Fairfax when water overtops the culvert upstream of Town Hall and seeks to flow along its former route. This culvert is also a total barrier to migrating steelhead and coho salmon that used to spawn in Fairfax Creek. Finding a way to daylight the creek in this area could reduce flooding and allow steelhead access to large areas of suitable habitat in Fairfax Creek.

Enclosed culvert opens at downstream end of Fairfax Creek near Bridge Court. Photo by Ross Taylor

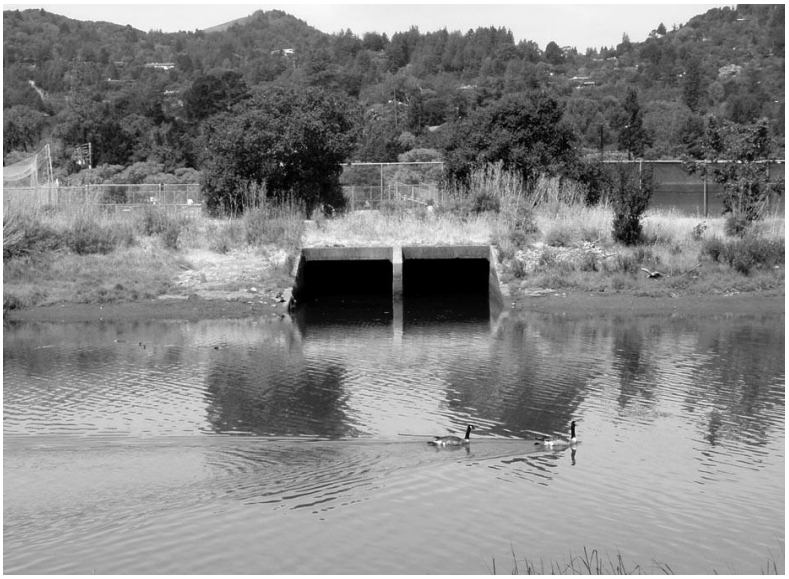
Sorich Creek at Memorial Park and Red Hill Shopping Center

Sorich Creek enters a culvert near the Log Cabin in Memorial Park, travels beneath the park and Red Hill Shopping Center, and finally emerges after it has crossed Sir Francis Drake Boulevard, about 1,200 feet later. Day-lighting the creek in Memorial Park, and mak- ing it an attractive feature, would improve habitat and could be done as part of a flood-reduction program if a detention basin for use during rare, very high flows were developed in Memorial Park.

Sorich Creek culvert. Photo by Sandy Guldman

Concrete Flood Control Channel in Kentfield and Ross

As originally conceived in the early 1960s, the Army Corps of Engineers' flood control project would have extended about 6.5 miles from the Bay, all the way to Fairfax. Public controversy led to a halt in construction around 1970 after the lower section was constructed, comprising an earthen channel from the Bay to near the College of Marin in Kentfield, and a rectangular concrete channel upstream that reaches 4,800 feet to just below the Ross Post Office. The concrete channel is an impediment for steelhead attempting to move upstream for spawning and downstream to go to the ocean. Following the flood of January 1982 it was apparent that this concrete channel could only carry about half the flow for which it was designed. Sediment entering the concrete channel from upstream and barnacles growing on the walls increased the "roughness" of the channel and slowed the flow of the water. Efforts are underway to remedy some of the inadequacies of this channel, but in the long run, it would be best if it were removed and a more natural channel reestablished. Although this is a longterm goal with many benefits for the Ross Valley, it will be very challenging to carry out.



The mouth of the culverts conveying Tamalpais and Murphy creeks into Corte Madera Creek, downstream of the concrete channel in Kentfield. Photo by Sandy Guldman

Murphy Creek and Tamalpais Creek at College of Marin

The concrete channel through Kentfield. Photo by Michael Love

A little-known creek that is almost parallel to Corte Madera Creek, Murphy Creek drains portions of the southwest sides of Ross and Kentfield. Between 93 and 121 Kent Avenue, it enters a culvert and then travels about 1,000 feet under Kent Avenue before joining culverted Tamalpais Creek. Both were culverted in the late 1960s as part of the Corte Madera Creek Flood Control Project (see above). They cross the College of Marin in twin box culverts approximately 1,300 feet long. The route passes south of the gym and enters Corte Madera Creek just downstream of the main concrete flood control channel. Friends proposes daylighting these creeks starting on the east side of College Avenue as one component of improving flood management and habitat.

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