



PRUNUSKE CHATHAM, INC.

## WILLOW CREEK WATERSHED RESTORATION PLANNING AND IMPLEMENTATION

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Willow Creek, a tributary to the Russian River's estuary in Sonoma County, is identified as a high priority for the California Department of Fish and Game's (CDFG) coho restocking program (*Coho Salmon: Recovery Strategy for California* [DFG 2004]). Viability of the watershed for the program is presently limited due to fish passage restrictions related to the County road at the 2<sup>nd</sup> bridge crossing, as well as high rates of sediment delivery from historic land use practices.

PCI's work in the watershed began in the mid 1990s and involved assessing and prioritizing road, upland, and channel erosion sites, followed by design and construction of appropriate repairs. At that time, the upper part of the 8.7-square mile watershed was owned by Mendocino Redwood Company (MRC), and the lower area was primarily the Willow Creek Unit of Sonoma Coast State Beach.



In response to resource agency and public concern, State Parks and Stewards of the Coast and Redwoods (Stewards) undertook a watershed planning process in 2001. In 2003, PCI was retained to develop a comprehensive watershed management plan with the project partners and a Technical Advisory Committee (TAC) comprised of staff from NOAA Fisheries Service, CDFG, Sonoma County Department of Transportation and Public Works, North Coast Regional Water Quality Control Board, MRC, Trout Unlimited, and LandPaths. The plan was developed through an iterative process involving analyses of existing conditions, geomorphic assessment, bimonthly TAC meetings, and multiple public meetings. Specific, prioritized recommendations for ecosystem restoration were developed, along with strategies for implementation. The *Willow Creek Watershed Management Plan* and the *Sustainable Channel Development* report were completed in 2005 as ownership of the majority of the upper watershed transitioned to State Parks. The Plan identified modification of the 2<sup>nd</sup> bridge to provide for channel-forming processes and fish passage as the first priority.

Since completion of the Plan, PCI has assisted Stewards and State Parks in obtaining funding and developing an engineered solution for the 2<sup>nd</sup> bridge. Final products will include a technically-detailed characterization of current hydrology, hydraulics, and fish passage requirements; 80% technical designs; and an Initial Study and permit application materials for a culvert or bridge solution that will pass adequate flows and reestablish channel formation processes at the location of the 2<sup>nd</sup> crossing. PCI has also worked with the County to upgrade 4 miles of road with rolling dips, culvert replacements, landslide repairs, and planting, thus reducing sediment delivery to the stream by approximately 15,000 cubic yards.