Midpeninsula Regional Open Space District

Memorandum

DATE: August 10, 2016

MEMO TO: Board of Directors

THROUGH: Stephen E. Abbors, General Manager

FROM: Matt Baldzikowski, Senior Resource Management Specialist

SUBJECT: Salmonid Habitat Restoration Projects, San Gregorio Creek

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This memorandum describes two in-stream fisheries habitat restoration projects that will be implemented within San Gregorio Creek, the first scheduled for September 2016, and the second in September 2017. The fish habitat restoration projects will entail strategically anchoring redwood logs in-stream to benefit Coho Salmon (an endangered species), and Steelhead rainbow trout (listed as a threatened species). Both of these species have experienced significant population declines statewide, with Coho Salmon nearly extirpated south of San Francisco.

A significant factor which is limiting habitat for both species is the historic reduction of in-stream wood (identified in the San Gregorio Creek Watershed Management Plan, 2010, and the National Marine Fisheries Service Recovery Plan for Central California Coast Coho Salmon, NMFS, 2012). The subject restoration projects are located within an area designated by the NMFS as a "Core Area" with first priority for restoration, critical for Coho Salmon survival.

Large wood in-stream creates structural complexity within the stream which is utilized by Coho Salmon and Steelhead throughout their life cycles. Wood creates high-flow refuge for fish, important for spawning adults to rest and hold while moving upstream for spawning, and also provides juvenile fish with a place to escape high flows which could otherwise prematurely flush them from the stream system. Additionally, wood creates scour of the stream bed, sorting gravels and cobbles, resulting in quality spawning gravels as well as washing away silt which is detrimental to eggs in the gravels. This same scour also creates pools, which are essential for juvenile Coho Salmon and 1-2-year-old juvenile Steelhead, prior to their migration out to sea. Finally, in-stream wood also provides critical escape cover from predators throughout the salmonids life cycle.

The recent purchase of the former Driscoll "Apple Orchard" / "Event Center" properties included critical frontage on San Gregorio Creek, where beneficial in-stream habitat restoration projects could be undertaken. The Peninsula Open Space Trust (POST) purchased the property in 2012. District staff identified the potential habitat restoration value to the San Mateo County Resource Conservation District (RCD) who had secured grant funding to investigate and develop in-stream fisheries restoration projects, with a particular focus on San Gregorio Creek, following the completion of the 2010 San Gregorio Creek Watershed Management Plan.

District staff worked with staff from the RCD and POST during the development of these projects, contributing $15,000 toward project design at the Apple Orchard project location, and $20,000 for design work at the Event Center location. The RCD utilized the design work in successful grant applications for implementation to the California Department of Fish and Wildlife Fisheries Restoration Grant Program (FRGP) in 2014 (Apple Orchard) and 2015 (Event Center).

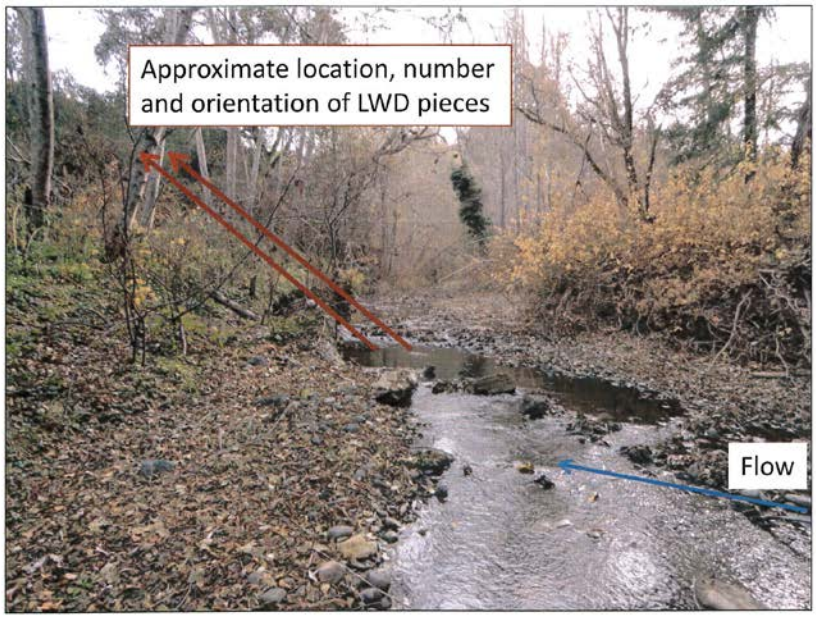
The design for the Apple Orchard project, set for implementation this September, included an understanding between the RCD and POST to provide locally sourced redwood for the project. Nine (9) redwood trees of approximately 24" diameter will be felled on the property for project use. Specific trees were carefully selected, reviewed, and approved by then landowner POST, the RCD, the forester/ contractor, and were also observed/ acknowledged by District staff at the time. The trees to be utilized are smaller trees from a substantial, relatively dense stand located away from the creek edge which are accessible to project site locations. One additional MROSD tree will be removed and used from the Event Center location for the project to be implemented next year (with additional trees donated by the neighboring project partner Optimist Volunteers for Youth Camp).

An example of the Project Engineer's site design for San Gregorio Creek at the Apple Orchard is included on the following page. Also included is an example of a fish habitat restoration structure constructed on the Clackamas River in Oregon to benefit Coho salmon, Steelhead, and Chinook salmon. Construction techniques and habitat structures at the Apple Orchard project site will be similar to the Oregon example provided.

Both San Gregorio Creek projects are identified in the Revised Adopted Measure AA 5-Year Project List, adopted March 25, 2015, under Portfolio #7. Project 7-3 Fisheries Enhancement – Apple Orchard, will be implemented this September. $17,250 is approved in the FY2016-2017 budget for the Apple Orchard project. Project 7-4 Fisheries Enhancement – Event Center, will be implemented in September 2017. The District will contribute $30,000 to help implement Project 7.4. This funding will be included in the FY2017-2018 budget.

The project will be overseen by the RCD with the help of a contracted Registered Professional Forester (Blencowe Watershed Management), who have substantial experience with similar salmonid restoration projects, working in conjunction with a Licensed Timber Operator familiar with felling, moving, and securing logs. District staff will also be present on-site during the project to provide biological monitoring and a District representative during implementation.

Site #8:



Site #8: Two or more logs will be anchored on the right bank to available riparian trees and imported boulders if necessary. LWD pieces will be sourced from a redwood stand upslope from site #3 and #4. The site can be accessed off the farm road (right bank) which crosses the stream between site #2 and #3.

Above: San Gregorio Creek site example, on “Apple Orchard” portion of parcel. Note lack of wood in stream reach, resulting in simplified habitat complexity.

Large wood placement example, to create complex salmonid habitat.