

To: Greg Brown, Tori White USACE
Cc: Amanda Morrison, Gary Stern, NMFS

February 3, 2016

The following information is provided in response to NMFS questions concerning the letter from the San Francisquito Creek JPA dated January 28, regarding Essential Fish Habitat Conservation recommendations presented in the Endangered Species Act Section 7(a)(2) Biological Opinion (BiOp) for the San Francisquito Creek Flood Project. Specifically, NMFS asks how the newly created tidal marsh area considered useable habitat for groundfish and pelagic species was calculated, and requests a map depicting the created habitat areas.

The 8.0 acres (5.66 acres tidal marsh and 2.34 acres channel bottom substrate) of Essential Fish Habitat (EFH) defined in the JPA letter was based on a calculation of habitat being created or restored below mean higher high water (MHHW, 7.1 ft elevation NAVD88) within the Project area (see Figure 1). According to the Pacific Coast Groundfish Fishery Management Plan (2014), EFH is defined as “depths less than or equal to 3,500 m (1,914 fm) to MHHW or the upriver extent of salt water intrusion, defined as upstream and landward to where ocean derived salts measure less than 0.5 ppt during the period of average annual flow.” On San Francisquito Creek, salinities below 0.5 ppt occur upstream of the Project reach (Bayshore Road and California Highway 101). The 8.0 acres of created/restored habitat reported is based on the Management Plan and exceeds the 6.9 acres of Project impacts defined in the BiOp.

The GroundFish Fishery Management Plan further defines habitat considered EFH. The 8.0 acres of restored channel and wetland includes portions of San Francisquito Creek where it meets the tidal areas of San Francisco Bay giving it the designation as an estuary. Estuaries are EFH and a Habitat Area of Particular concern (HAPC) and according to the Management Plan, “[t]he inland extent of the estuary HAPC is defined as MHHW, or the upriver extent of saltwater intrusion, defined as upstream and landward to where ocean-derived salts measure less than 0.5 ppt during the period of average annual low flow...This definition is based on Cowardin, *et al.* (Cowardin, *et al.* 1979)” (PFMC 2014). The 8.0 acres of restored/created habitat is tidal estuarine below MHHW with salinities greater than 15 ppt (Porcella 2005). The restored tidal marsh will provide shallow, protected, nutrient-rich, and productive habitat that will contribute to a healthy ecosystem. The restored channel, bank, mudflat, and tidal marsh with deeper inundation will potentially provide areas for spawning, breeding, feeding, and promote growth to maturity for groundfish and pelagic fishes. Estuaries, including tidal wetlands provide numerous functions and values for groundfish, including nursery or rearing habitat. The restoration will include establishment of native vegetation and create a natural, less confined tidal system, promoting production and success of native forage species and organic material supporting the food chain.

As mentioned in the JPA letter, the Project includes the installation of large woody debris/boulder structures. These features will create suitable habitat by providing areas for cover, feeding and growth of groundfish and pelagic species, as well as prey species. The Project is not only restoring/creating habitat that meets EFH designation, but it is adding complexities to enhance habitat that will further support the success of these species.

Based on the actions above, the Project as planned will mitigate for the temporary loss of 6.9 acres of soft bottom substrate. The Project proposes to create 5.66 acres of new tidal marsh habitat below MHHW and restore 2.34 acres of channel totaling 8.0 acres of soft bottom EFH. The Project will also enhance 1.92 acres of existing tidal marsh below MHHW, which increases the total habitat improvements to 9.92 acres. This acreage of created/restored tidal aquatic and wetland habitat exceeds the recommended 1:1 mitigation to impact ratio described in the BiOp for on-site mitigation,

without including habitat enhancements. The JPA believes that mitigation requirements are adequately met and the Project is improving current habitat conditions.

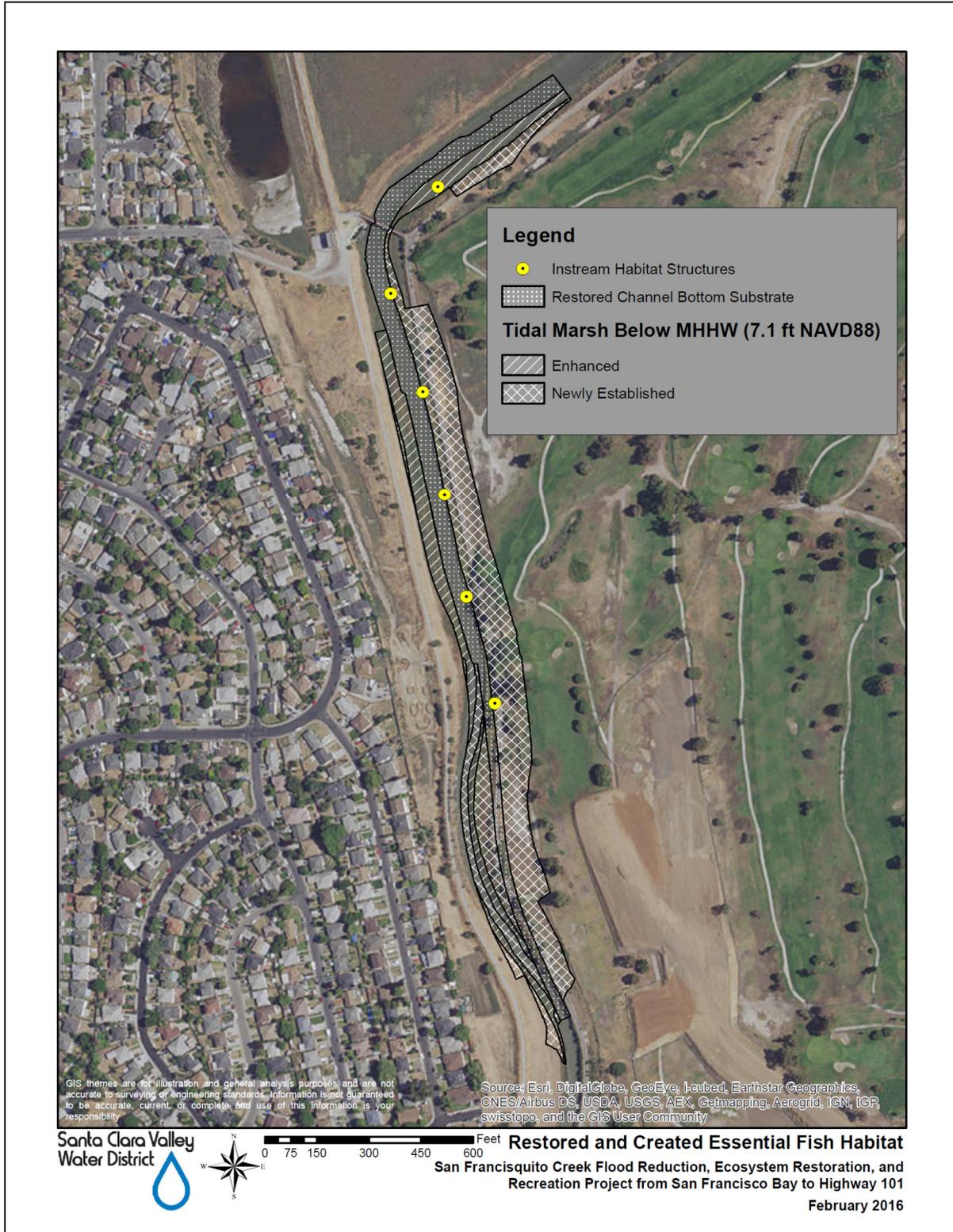


Figure 1: Restored and Created Essential Fish Habitat within the project area.

Work Cited

Cowardin, L. M., Carter, V., Golet, F., and LaRoe, E. 1979. Classification of wetlands and deepwater habitats of the United States: U. S. Dept. of the Interior, Fish and Wildlife Service. FWS/OBS-79/31. Washington DC.

Pacific Fishery Management Council (PFMC). 2014. Pacific Coast Groundfish Fishery Management Plan for the California, Oregon, and Washington Groundfish Fishery. National Oceanic and Atmospheric Administration Award Number NA05NMF441008, Portland OR.

Porcella, L. 2005. Four year comparison of salinity in tidal streams in Santa Clara County (1998-2001). Santa Clara Valley Water District, San Jose, CA.