ITEM: INFORMATIONAL ITEMS/STAFF REPORTS

19. CARMEL RIVER FISHERY REPORT FOR SEPTEMBER 2013

Meeting Date: October 21, 2013 Budgeted: N/A

From: David J. Stoldt, Program/ N/A

General Manager Line Item No.:

Prepared By: Beverly Chaney Cost Estimate: N/A

General Counsel Review: N/A Committee Recommendation: N/A

CEQA Compliance: N/A

AQUATIC HABITAT AND FLOW CONDITIONS: During September 2013, Carmel River streamflow at the MPWMD Highway 1 gage (HW 1) was 0 cubic-feet per second (cfs). Lower river flows during September were not adequate for migration or rearing for any life stage of steelhead. The river has now dried back nearly to Robinson Canyon Bridge (RM 8.46) as well as an additional mile of stream between Boronda Bridge and DeDampierre Park (RM 14.1).

During September 2013, the mean daily streamflow recorded at the District's Carmel River at Sleepy Hollow Weir gaging station ranged from 3.3 to 4.6 cfs, with a monthly mean of 3.9 cfs. Unimpaired runoff at San Clemente Dam (SCD) for the month was 0 AF. Unimpaired runoff at SCD for Water Year (WY) 2013, which started on October 1, 2012, totaled 27,303 AF or about 40% of the long-term average.

During September 2013, 0.13 inches of rainfall were recorded at California American Water's (CAW) SCD. The rainfall total for WY 2013 is 14.60 inches, which is 68.3% of the long-term annual average of 21.37 inches. WY 2013 is the seventh hydrologic drought since 1902, with two consecutive "dry" or "critically dry" years. The January to September 2013 flow conditions categorize well within "CRITICALLY DRY" and are similar to conditions in 1994 and 2007.

CARMEL RIVER LAGOON: In late September 2013, the lagoon's water-surface elevation (WSE) rose from 2.7 feet to 3.9 feet above mean sea level as waves overtopped the sand berm (see graph below). Surface inflow to the lagoon ceased on May 24, 2013.

Water quality profiles were completed at five lagoon sites on September 19, 2013. During sampling the lagoon's WSE was approximately 3.1 feet above mean-sea-level, the mouth was closed and the aerator in the south arm was running. The water had an olive-green tint with visibility to 1.0 meters (m) with significant wind chop.

Again, only Site S2 (CAWD pipe) had significant water depth (2.0 m). Salinity levels remained low, with concentrations of less than 1.0 part-per-thousand (ppt) at all sites, and dissolved oxygen (DO) levels had improved since August, ranging from 6.2 to 10.8 milligrams per liter

(mg/L). Water temperatures were slightly cooler at S2 than last month, at 18 to 20 degrees Celsius. Overall, water-quality conditions in the lagoon remain generally poor for rearing steelhead.

LOWER RIVER STEELHEAD RESCUES: District staff began fish rescues on April 19, 2013 as flow at the HW 1 gage declined to 10 cfs. Through the end of September, 42,805 steelhead had been captured and released upstream in permanent habitat or taken to the Sleepy Hollow Steelhead Rearing Facility (SHSRF) including: 41,893 young-of-the-year (YOY), 650 age 1+ juveniles, 13 adults (released in ocean), and 249 mortalities (0.58%).

SLEEPY HOLLOW STEELHEAD REARING FACILITY: The SHSRF began accepting rescued fish on May 28, 2013. Through the end of September, a total of 23,678 fish had been stocked in the rearing channel and troughs. Due to critically low-flow conditions in the river and projected cut backs on releases from Los Padres Reservoir to conserve storage, staff consulted with NOAA Fisheries and CDFW on releasing fish from the Facility. The projected releases from the LPD in October and November would not provide enough flow to reliably operate the pumps at the Facility, coupled with the two to three weeks required to release all the fish. Therefore, it was agreed upon by Staff, NOAA Fisheries and CDFW to start releases in September.

Fish releases started on September 19 and were completed October 5, 2013. A total of 9,996 fish were released including: 9,847 YOY and 149 age 1+ juveniles. There were a total of 13,682 mortalities at the facility during the season: 10,912 due to disease, stress, or general poor health; resulting in an overall survival rate of 42%. Approximately 75% of these mortalities occurred in July when the facility's rearing troughs (holding small 1-2 inch fish) suffered an acute disease outbreak of ICH (*Ichthyophthirius*) and Columnaris (*Flexibacter columnaris*). This outbreak lasted about three weeks and was likely the result of high water temperatures and poor water quality being released from the San Clemente Reservoir. In addition, there were 2,770 unaccounted-for-mortalities which are fish that likely fall victim to intraspecific competition (cannibalism).

Fish were released in three general locations: 1) 7,901 in a three-mile reach from Stonepine Bridge (RM 15.8) to SCD (RM 18.6); 2) 1,044 at several sites along the Cachagua Community Park (RM ~24) to Princes Camp; and 3) 1,051 to NOAA Fisheries Lab in Santa Cruz for use in a Carmel River PIT tagging study to be released back into the Carmel River later this year.

Carmel River Lagoon September 2013

