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March 2, 2015

Mr. Samuel Unger
Executive Officer
Los Angeles Regional Water Quality Control Board
320 West 4th Street, Suite 200
Los Angeles, CA 90013

Attn: Dr. Céline Gallon
Celine.Gallon@waterboards.ca.gov

Subject: Comment Letter – Triennial Review Los Angeles Basin Plan

Dear Mr. Unger:

The Los Angeles Department of Water and Power (LADWP) appreciates the opportunity to submit the following comments regarding the Triennial Review of the Los Angeles Basin Plan (Basin Plan) with respect to the listing for the San Gabriel River Estuary up to Willow Street, which includes the Lower San Gabriel River (LSGR). (See Basin Plan Figure 2-8, page 2-39.) The LSGR was built originally for flood control purposes. It is an engineered concrete lined channel that does not conform to the conventional regulatory or biological definitions of an estuary. Due to historical data and studies performed since 1972, and as will be further elaborated in this letter, LADWP believes that the LSGR estuary designation should be reevaluated and respectfully requests that the Regional Board reconsider this designation.

Historically, the San Gabriel River originally discharged to the San Pedro Bay, and has since been diverted twice. It was first diverted in the 1920's. (See Figure 1.) In 1951, the San Gabriel River silted up, jetties were constructed, and an opening to the Alamitos Bay was created and completed in 1956. (See Figure 2.) LADWP's Haynes Generating Station (HnGS) and the Alamitos Generating Station (AGS) were constructed and began operating in the late 1950s and 1960s. As a result, the power plant's discharges cleared the accumulated sediment from the LSGR flood control channel. (See Figure 3.) The discharges from these two plants continued to prevent the silting of the channel and have kept it clear.¹

¹ Notably, however, in April 2013, the Power Plants' discharges averaged only 800 million gallons per day (MGD), and silting of the channel started.

Initially, HnGS and AGS discharges were regulated as discharges to the San Gabriel Tidal Prism². In 1975, the Basin Plan identified the LSGR as the San Gabriel River Tidal Prism (SGRTP). The 1975 SGRTP regulatory definition included coastal water, and coastal waters include harbors, marinas, tidal prisms, coastal nearshore waters, and offshore ocean waters to a distance of three (3) nautical miles seaward from the mean lower low water line of mainland and island shores.

Tidal waters are all coastal ocean waters of California including bays and estuaries upstream to the inland limit of tidal action. Estuaries and coastal lagoons are waters at the mouths of streams which serve as mixing zones for fresh and ocean water during a major portion of the year. Estuarine waters are generally considered to extend from a bay or open ocean to the upstream limit of tidal action but may be considered to extend seaward if significant mixing of fresh and saltwater occurs in open coastal waters.

In 1994, the Regional Board amended the Basin Plan and characterized the San Gabriel River up to Willow Street as an estuary. A footnote "W" was included to declare the water body "functionally equivalent" to an estuary changing the beneficial use designation of "estuary" to be synonymous to "Tidal Prism". The footnote states: "These are engineered channels. All references to Tidal Prisms in Regional Board documents are functionally equivalent to estuaries."³

In 1972 comprehensive field studies were performed as part of the thermal effects studies for HnGS and AGS power plants. The power plant design discharge was 2,200 millions gallons per day (MGD) or 12 million cubic feet per hour, and the maximum discharge rate on an outgoing tide was 20 to 22 million cubic feet per hour. The minimum channel flow occurred at high tide and was four million cubic feet per hour. There was no net tidally-driven flow into the channel. The tide simply changed the water surface elevation.

In 2009, Flow Science conducted a hydrodynamic study of the LSGR on LADWP's behalf in preparation of the elimination of once through cooling (OTC) as a result of the Unit 5 and 6 repowering project. Flow Science used the Estuary Lake Computer Model (ELCOM), a three-dimensional computational fluid dynamics (CFD) model, to characterize the hydrodynamics of the receiving water. Results of this study showed that the LSGR does not behave like a typical estuary where fresh water from upstream meets ocean water carried by the tides. Instead, the LSGR is dominated by the OTC flows from both the HnGS and the AGS. The cooling water discharges from both of these power plants are the major sources of inflow to the LSGR such that the water in the channel is saline, and freshwater from upstream flows does not directly meet ocean water carried

² Reference HnGS Order 59-56.

³ Reference Basin Plan Table 2-3, page 2-14, footnote W.

Mr. Samuel Unger
March 2, 2015
Page 3

into the channel by tidal forcing. Salinity and temperature profiles in the location of the discharges are representative of oceanic conditions. Finally, the modeling and associated field studies showed that flow in this portion of the LSGR is always seaward when the plants are operating, such that the discharge would be immediately carried into the ocean, and such that flow is not bi-directional, as would be expected in a tidal estuary.

Flow Science's modeling results were confirmed by extensive field measurements conducted by the Southern California Coastal Water Research Program (SCCWRP) and by MBC Applied Environmental Sciences. Based on the results of the study, the portion of the river from the generating stations to the mouth of the river much more closely resembles an ocean environment than an estuarine environment. It should also be noted that both the HnGS and AGS power plants have been in operation for over 50 years with no adverse effects to the LSGR.

Due to the historical facts of the LSGR and the studies done since 1972, LADWP respectfully requests that the Regional Board reevaluate and remove the estuary designation from the Basin Plan at this time.

Again, LADWP appreciates the opportunity to comment and looks forward to meeting with you to provide additional information. Please contact Ms. Katherine Rubin, Manager of the Wastewater Quality and Compliance Group at 213-367-0436 or katherine.rubin@ladwp.com if you have any questions or would like more information.

Sincerely,



Mr. Mark J. Sedlacek
Director, Environmental Affairs

c: Fran Spivy Weber, State Water Resources Control Board
Deborah Smith, Los Angeles Regional Water Quality Control Board
Renee Purdy, Los Angeles Regional Water Quality Control Board
Shane Beck, MBC
John List, Flow Science
Katherine Rubin, LADWP



Figure 1. Alamos Bay in 1927, with recent diversion of the San Gabriel River from the Marine Stadium to Alamos Bay.



Figure 2. 1951 – The San Gabriel River silted up and jetties under construction at entrance to Alamitos Bay.

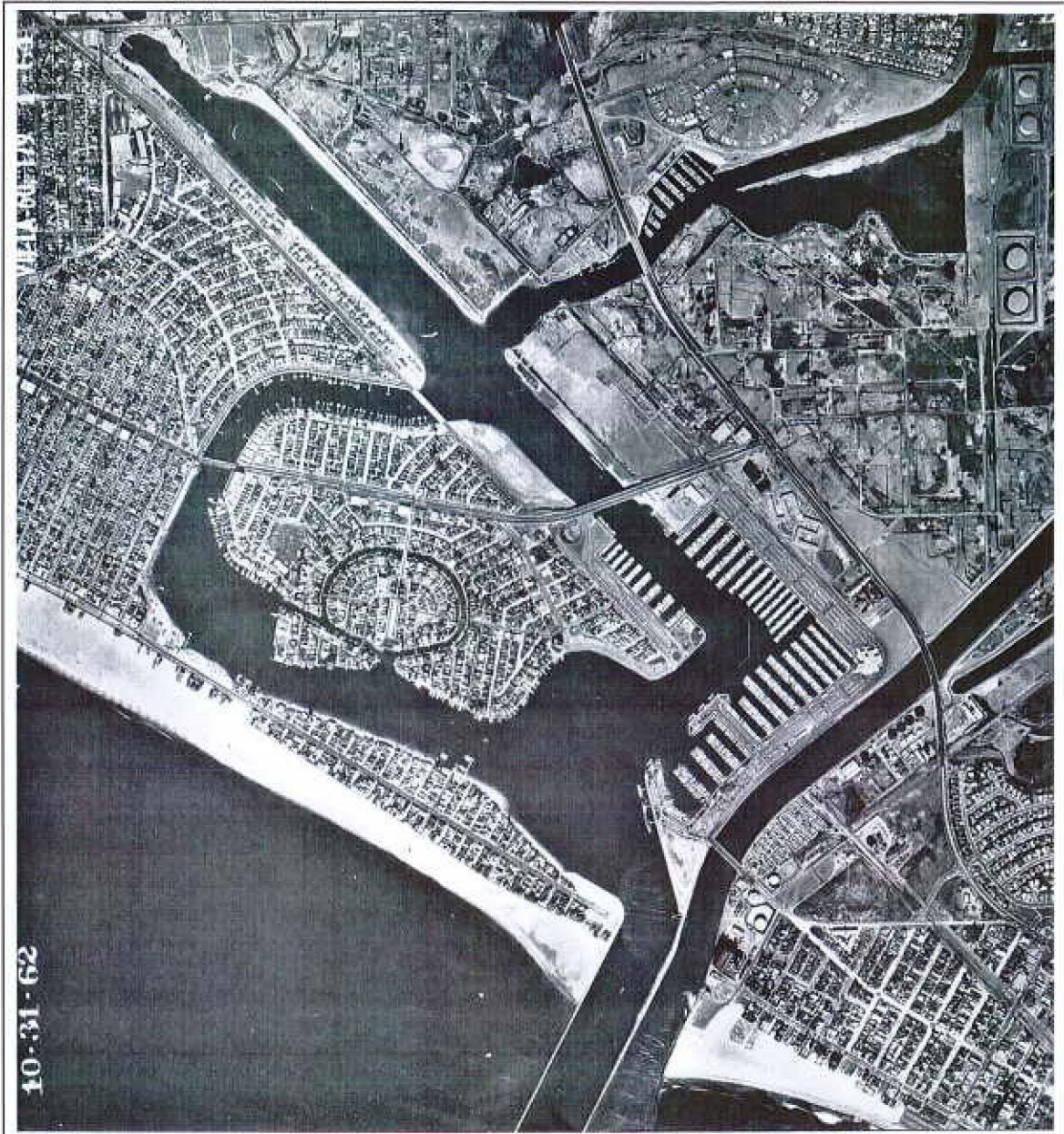


Figure 3. In 1962, the power plants were discharging, and the lower San Gabriel River flowed.