

**SUMMARY OF PROGRESS
PROPOSITION 40 BEACH IMPROVEMENTS
INNER CABRILLO BEACH**

**Port of Los Angeles, Engineering Division
October 2008**

The purpose of the Inner Cabrillo Beach Water Quality improvement project is to meet water quality standards (REC-1) at CB02 on the beach consistent with the requirements of the new Los Angeles Harbor bacterial TMDL (RWQCB, 2004). A study funded by Proposition 13 of sources and causes of excessive bacterial water quality violations at Inner Cabrillo Beach recommended specific project elements for implementation (Kinnetic Laboratories/POLA Engineering Division/Kinnetic Laboratories, 2006) as follows:

- Redesign/Extend Bird Exclusion Structure
- Repair of Sanitary Sewer Systems
- Re-contour Beach/Replace Sand to Prevent Ponding & Improve Drainage
- Clean/Deepen Immediate Nearshore Beach Area
- Develop Beach Management Plan
- Provide Circulation Enhancements
- Divert Storm Water Discharges From Beach.

A Concept Implementation Plan was prepared (Kinnetic Laboratories/DMJM Harris/Port of Los Angeles 2006) that identified and defined sequential improvements to this recreational beach.

CORRECTIVE ACTIONS COMPLETED

Corrective actions have been undertaken using Port of Los Angeles and Grant Funds. The corrective actions completed at this time include the following:

- Rebuild local leaking sanitary sewer system at south end of the beach (Proposition 13).
- Divert dry weather flows from Beach (Proposition 13).
- Re-contour beach/replace sand to prevent ponding and improve drainage as a wet weather improvement. Replacement of the beach face sand still pending (City Proposition O).
- Remove old outfall with contaminated water (Proposition 40).

At the request of the Regional Water Quality Control Board, a circulation pump study was conducted September - December, 2007 (City DPW, 2007) using a small 5,000 gpm pump to study the improvement in flushing and mixing at the beach face (City Collection System Settlement Funds).

Bacterial monitoring of pump operations indicated continued exceedances, and hydrodynamic measurements indicated the pump was too small to be effective in flushing and mixing along the beach face (Kinnetic Laboratories/POLA Engineering Division, 2008).

BEACH PERFORMANCE

Bacterial exceedances of water quality criteria have continued to occur at Inner Cabrillo Beach in violation of the TMDL requirements (LARWQCB, 2004). Historical and more recent frequencies of bacterial exceedances at Inner Cabrillo Beach are plotted in Figure 1. Dry Weather exceedances occur about 4 to 7% of the time, above the criteria of zero percent exceedances set by the TMDL action, though 2008 dry weather exceedances were about 12%, possibly due to bird activity. The beach at present does not have



any bird exclusion structure in place since the sand replacement project on the upper beach. Winter Dry Weather exceedances have been considerably above the 2% criteria set by the TMDL. Data on Winter Wet Weather exceedances are now unreliably low since the City Bureau of Sanitation ceased sampling the beach on rainy days as well as eliminated all sampling on Sundays and Mondays starting in 2005. Thus wet weather violations on all rainy days or those that occur on Sundays and Mondays are eliminated from the City data set making TMDL compliance evaluations impossible for this Winter Wet Weather criteria.

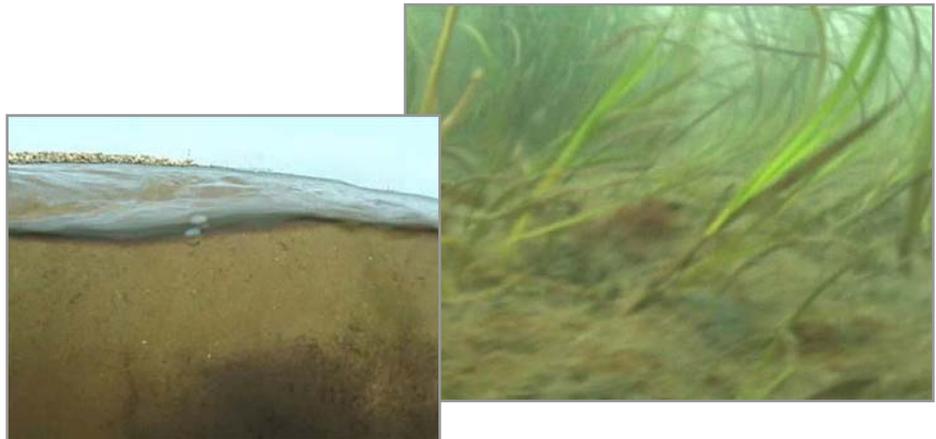
PENDING CORRECTIVE ACTIONS

Replacement of sand in the intertidal zone of Inner Cabrillo Beach is planned for construction Fall/Winter 2008 to complete the Proposition O beach sand replacement project. At the same time, the outer rock groin at the Boat Launch Ramp is to be removed with Proposition 40 funding to improve water circulation at the Beach face. A small discharge of Aquarium operational water to the storm sewer located at the Boat Launch Ramp was investigated and found not to be a bacterial source. The Port will be redirecting this discharge to the sanitary sewer system.

ADDITIONAL LOCAL SOURCES/BEACH CORRECTIVE ACTIONS

Additional actions under consideration or scheduled for implementation are the following:

- Replacement/rebuilding of a bird exclusion structure is pending under Proposition 40 funding. The old partial exclusion structure was removed in the fall/winter of 2006/2007 when the sand was replaced on the upper beach.
- Address the eelgrass bed mud and organic source located just off the beach face by cleaning and deepening the immediate nearshore beach area and mitigate eelgrass loss elsewhere. This action would also allow consideration of a larger circulation pump installation if necessary.
- Install circulation/mixing pump large enough (20,000 gpm) to significantly increase the circulation and mixing across the beach face at Inner Cabrillo Beach as tested in the source study ((Kinnetic Laboratories/POLA Engineering Division, 2006).



City of Los Angeles Department of Public Works, 2007. Pilot Study Work Plan, Inner Cabrillo Beach Water Quality Improvement Plan. Collection System Settlement Agreement Supplemental Environmental Projects. July 18, 2007 (Revised).
Kinnetic Laboratories/POLA Engineering Division/Kinnetic Laboratories, 2006. Inner Cabrillo Beach Water Quality Improvement Project, Source Identifications and Mitigation Alternaitves.
Kinnetic Laboratories/DMJM Harris/Port of Los Angeles 2006. Inner Cabrillo Beach Water Quality Improvement Project. Concept Implementation Plan.
RWQCB, 2004. Los Angeles Harbor Bacteria TMDL, Inner Cabrillo Beach and Main Ship Channel. April 30,2004.
Kinnetic Laboratories/POLA Engineering Division, 2008. Monitoring Results, Inner Cabrillo Beach Pilot Study Project, Collection System Settlement Agreement Supplemental Environmental Project.

Percent Bacterial Exceedance by TMDL Period

■ Summer Dry ■ Winter Dry ■ Winter Wet

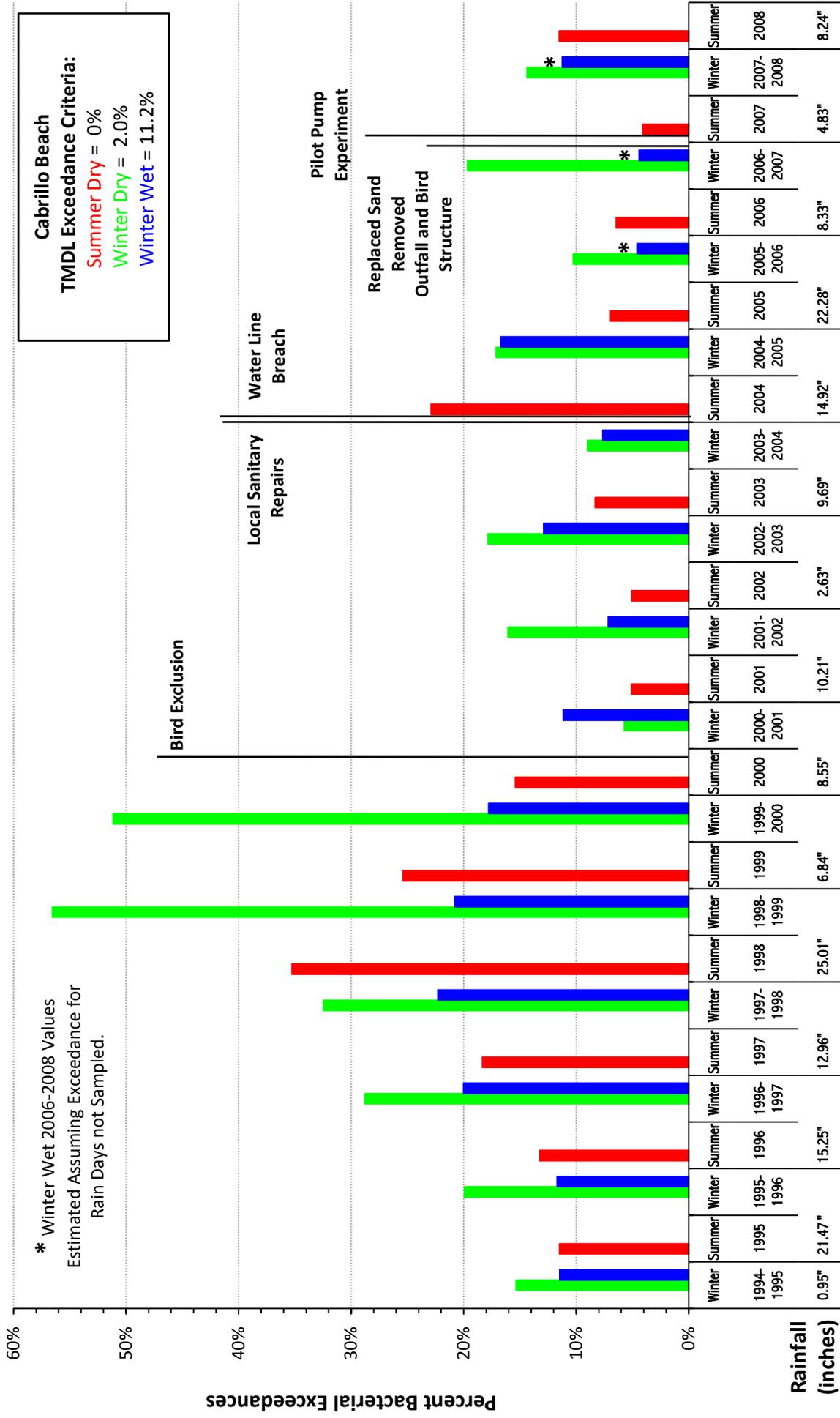


Figure 1. Inner Cabrillo Beach History of Bacterial Exceedances.