

STATE WATER RESOURCES CONTROL BOARD
DIVISION OF FINANCIAL ASSISTANCE
PRELIMINARY FUNDING COMMITMENT (PFC)
CLEAN BEACHES INITIATIVE (CBI) GRANT PROGRAM
FAAST PIN: 24730

RECIPIENT: SOUTHERN CALIFORNIA COASTAL WATER RESEARCH PROJECT (SCCWRP)

PROJECT TITLE: USE OF QUANTITATIVE MICROBIAL RISK ASSESSMENT TO INFORM SITE SPECIFIC WATER QUALITY OBJECTIVES FOR RECREATIONAL WATERS (PROJECT)

TOTAL PROJECT COST: \$1,777,224

TOTAL CBI GRANT REQUEST: \$1,557,224

GRANT MANAGER: Andrew Tsiu, Environmental Scientist (916-319-9123 or Andrew.Tsiu@Waterboards.ca.gov)

AUTHORITY

The Clean Beaches Initiative (CBI) Grant Program provides funding for projects that restore and protect the water quality and the environment of coastal waters, estuaries, bays and near shore waters. The CBI Grant Program was initiated in response to the poor water quality and significant exceedances of bacterial indicators revealed by Assembly Bill (AB) 411 (Stats. 1197, ch 765) monitoring at California's beaches. Funding is available from the *Safe Drinking Water, Water Quality and Supply, Flood Control, River and Coastal Protection Bond Act* (Proposition 84). In addition, there are unused or re-appropriated funds remaining from the *California Clean Water, Clean Air, Safe Neighborhood Parks, and Coastal Protection Act of 2002* (Proposition 40) and the *Water Security, Clean Drinking Water, Coastal and Beach Protection Act of 2002* (Proposition 50).

The State Water Board adopted Resolution No. 2012-0020 on June 5, 2012, which revised the CBI Guidelines used to solicit applications, evaluate proposals, and award grants for Proposition 84, Chapter 7 funds, and any unused or re-appropriated Proposition 40 and 50 CBI funds. The resolution authorized the Deputy Director of the Division of Financial Assistance (Division) to approve proposed projects, execute grant agreements and amendments to implement the proposed projects and utilize funds from projects which are withdrawn or completed under budget to fund additional projects recommended by the Clean Beaches Task Force (CBTF), or augment the scope and budget of projects previously awarded.

The Concept Proposal for this Project was submitted to FAAST on August 23, 2012. The CBTF met on October 22, 2012 and recommended this Project be invited to submit a detailed application. The applicant submitted a Detailed Application to FAAST on August 29, 2014, and it has been determined to be complete. A PFC was posted on the State Water Board's internet website and received public comment on October 16, 2014 from Heal the Bay, a non-profit organization. Based upon the comments and further discussion by State and Regional Water Board staff, a determination was made to remove the beach selection element from the scope of work, and to instead conduct the Project at Inner Cabrillo Beach in the Port of Los Angeles. SCCWRP submitted a revised scope of work and budget to address the changes made to the Project. This PFC shall be posted on the State Water Board's internet website, and circulated to the CBTF for review and comment prior to the Deputy Director executing a grant agreement.

Use of Quantitative Microbial Risk Assessment to Inform Site Specific Water Quality Objectives for Recreational Waters
Preliminary Funding Commitment

PROJECT OBJECTIVE

This Project will serve as a case study, testing and demonstrating the applicability of a Quantitative Microbial Risk Assessment (QMRA) at Inner Cabrillo Beach. The goal of this Project is to assess the risk of swimming related illness at a beach impacted by nonpoint, and generally nonhuman, sources of fecal indicator bacteria by testing the QMRA model to understand model sensitivity and uncertainty for determining which exposure or response variables are most important.

PROJECT DESCRIPTION

The proposed Project will conduct a Quantitative Microbial Risk Assessment (QMRA) at a marine beach. The QMRA study will be phased. The first task of the study will be the beach confirmation process to verify that Inner Cabrillo Beach does not have significant human source(s) of bacteria. The final study authorization will be reviewed and recommended by the Project Advisory Panel and approved by the Grant Manager before the Project moves to the next task.

The second task is to identify the sources of FIB and potential pathogens at Inner Cabrillo Beach. This task will use the Source Identification Protocol Project (SIPP) methods described in the California Microbial Source Identification Manual: A Tiered Approach to Identifying Fecal Pollution Sources to Beaches (http://www.swrcb.ca.gov/water_issues/programs/beaches/cbi_projects/docs/sipp_manual.pdf) to develop hypotheses regarding FIB sources and then conduct appropriate Microbial Source Tracking (MST) to identify sources of FIB. If results from the MST indicate that a significant amount of human fecal contamination is present, the remaining steps of the QMRA Project will be discontinued. The results and data will be reviewed by the Project Advisory Panel and approved by the Grant Manager before the next task. If there is not a significant human fecal source present, then the Project will continue with the next task.

The third task is to determine pathogen loading of each source to establish relationships between FIB and pathogens. Source specific fecal sampling will be required and analyzed for a variety of pathogens including norovirus, enterovirus, Campylobacter, etc. Multiple methods may be required to measure pathogens including culture based techniques and/or DNA based quantitative polymerase chain reaction.

The fourth task is to assess illness rates in swimmers through risk modeling. This task involves risk modeling and sensitivity analysis. Risk modeling predicts the illness rates in swimmers based on dose as a function of exposure, ingestion, and infectious dose. Exposure is estimated from swimming intensity and swimmer ingestion. Sensitivity analysis will be conducted to quantify uncertainty and confidence in modeling results.

The total eligible cost of the Project is \$1,777,224. SCCWRP requested a CBI grant amount of \$1,557,224 for the Project. The U.S. Environmental Protection Agency is providing \$220,000 of in-kind match for the pathogen loading task of the Project.

ENVIRONMENTAL IMPACT

For this Project, the Division has filed a Notice of Exemption (NOE) for CEQA compliance at the State Clearing House on May 22, 2013. The Project meets the following exemptions:

Use of Quantitative Microbial Risk Assessment to Inform Site Specific Water Quality Objectives for Recreational Waters
 Preliminary Funding Commitment

Section 15306: Class 6 Information Collection - Basic data collection and research with no disturbance to an environmental resource. No environmental impacts are expected a result of this Project.

FISCAL IMPACT

As of July 1, 2014, the cumulative balance available for the CBI Grant Program funded by Proposition 40, 50, and 84 is:

July 1, 2014:	\$40,334,726
Approved Projects	\$5,558,634
Draft PFCs (proposed commitments):	\$2,500,000
SCCWRP - FAAST PIN: 24730	<u>\$1,557,224</u>
Funds Remaining for Future Commitments:	\$30,718,868

REGIONAL WATER BOARD IMPACT

The Project does not directly impact a Regional Water Board. The State Water Board's Division of Water Quality supports the Project.

ROUTINE, NON-CONTROVERSIAL PROJECT

The proposed Project is routine and non-controversial based on Division staff's consideration of the documents and information provided by SCCWRP, regulatory agencies, and written responses from the general public. There has been no indication of a protest or controversy regarding the proposed Project.

PUBLIC REVIEW

The PFC will be posted on the State Water Board's internet website for public review for 10 days.

APPROVAL

Using the authority delegated by the State Water Resources Control Board on June 05, 2012, in Resolution No. 2012-0020, I hereby:

Approve a Clean Beaches Initiative Grant Program Preliminary Funding Commitment of \$1,557,224 for SCCWRP's Use of Quantitative Microbial Risk Assessment to Inform Site Specific Water Quality Objectives for Recreational Waters.

 Darrin Polhemus, Deputy Director
 State Water Resources Control Board
 Division of Financial Assistance

 Date

Reviewed by:
 Office of Chief Counsel
 Date: