

**Clean Beach Task Force (CBTF) Meeting
Southern California Coastal Water Research Project (SCCWRP) Office
February 26 and 27, 2007**

Attendees:

Alexandra Boehm, Stanford
John Dorsey, Loyola-Marymount Univ.
Mark Gold, Heal the Bay
Jack Gregg, CA Coastal Commission
Jenny Jay, UC Los Angeles
Michael Johnson, UC Davis
Monica Mazur, Orange Co. Health Care

Charles McGee, Orange Co. SD
Mark McPherson, San Diego Co. EH
Dean Peterson, San Mateo Co. EH (2-27 only)
John Ricker, Santa Cruz Co. EH
Mary Small, Coastal Conservancy (2-26 only)
Philip Smith, Marin Co. EH
Guangyu Wang, Los Angeles RWQCB

Leslie Laudon, SWRCB
Laura Peters, SWRCB
Ruben Mora, SWRCB
Kari Holmes, SWRCB

Kathy Bare, SWRCB
Jennifer Toney, SWRCB
Shakoora Azimi-Gaylon, SWRCB (2-26 only)
Michael Gjerde, SWRCB

Members Absent:

Kurt Berchtold, Santa Ana RWQCB
Patricia Holden, UC Santa Barbara
Richard Lichtenfels, San Luis Obispo Co.

Peter Mangarella, Geosyntec
Jim Rasmus, Black & Veatch
Steve Weisberg, SCCWRP

Changes/Additions to Agenda:

Agenda adopted as proposed.

Proposition 50 Concept Proposal and Scoring Overview:

Ms. Laudon gave a brief status report on the Proposition 50 Concept Proposal solicitation. Concept Proposals were due on January 31, 2007 through the State Water Board's Financial Assistance Application Submittal Tool (FAAST) system. A total of 40 Concept Proposals were received prior to the deadline. Only one Concept Proposal was deemed ineligible, therefore 39 proposals were assigned for review.

Ms. Laudon went over the scoring criteria in the Guidelines and the status of the reviews by the CBTF. Average scores were computed for each proposal however several proposals did not receive three reviews by task force members. Ms. Laudon suggested that the CBTF discuss the proposals in the following order: Research Proposals, Implementation Proposals in the North and Implementation Proposals in the South. Task force members were in favor of this suggestion. Ms. Laudon reviewed conflict-of-interest procedures and collected the conflict-of-interest forms from CBTF members.

PROPOSITION 50 RESEARCH PROJECTS:

University of California Davis – Humboldt Bay Microbial Source Tracking, Fate and Transport Study (PIN# 10503) - \$500,000

Project: The study will focus on taxonomic and geographic sources, and environmental conditions involved in the deposition, transport, and magnification of bacteria. Applicant will use indicator and non-indicator bacteria to understand movement from sources to beaches, and identify the conditions under which bacteria persists on beaches through regrowth or re-inoculation. Specific questions are: 1) Are rapid indicator methods developed for southern California applicable to the bacterial fauna in northern California? 2) What are the primary and secondary sources of bacteria in Humboldt Bay and what are the absolute and relative contributions of the sources to the bacterial load in shellfish and beaches? 3) What environmental conditions contribute to regrowth and magnification of bacteria in fresh water inputs (drains, natural creeks and streams) and beaches? Work products include

understanding conditions enhancing survival, transport, and regrowth of bacteria, a prerequisite for effective management.

Discussion:

1. The project has many benefits: 1) assisting in identifying sources of bacteria using new technology, 2) identifying transport and regrowth of bacteria, 3) developing and implementing the rapid methods for bacteria indicators in Northern California and, 4) training the county health departments using the rapid methods, assist in improving the water quality for contact recreation, wildlife habitat, marine habitats, fish migration and spawning, and shellfish harvesting beneficial uses. The fate and transport study and rapid methods development have statewide benefits.
2. Not a lot of problems at this area.
3. Shows merit but more information is needed. They should do project in a phased approach.
4. They are using QPCR. This beach is not a priority beach but has been posted frequently. Thinks project is useful.

CBTF Recommendation: Conditional recommendation. Work with CBTF to develop phased approach and include area adjacent to project.

Marin County - Direct Rapid Pathogen Detection Based on Microbial Census and Phylochip Analysis (PIN #10463) - \$834,000 Requested

Project: The proposed research project goal is to identify more accurate indicator bacteria for the presence of human pathogens in water bodies. With this information a lab can use Quantitative Polymerase Chain Reaction (QPCR) methods to achieve rapid quantitative test results of water quality for a low cost. The technology is an Affymetrix phylochip, which contains sequence information for approximately 9,000 taxa, including highly pathogenic bacterial.

Discussion:

1. This project should be funded because it has potentially wide-ranging impacts. It will assess a tool to directly measure pathogens, rather than the broad groups of organisms now being tested. This means we could routinely measure better indicators. In doing so, we will more precisely define water quality problems, thus spending project money more effectively.
2. Intriguing proposal. Need more details on Affymetrix phylochip to know how it works and what it measures. What are the types of bacteria? Can we determine species source based on the results?
3. Need more details on how the bacteria densities will be quantified. This is a key issue.
4. More information needed on the monitoring. How many samples collected? How will samples be collected? Sampling frequency? Sample site locations? Etc.
5. Provide detailed budget and Draft Grant Agreement.
6. Sites - Is Campbell Cove is part of the study? Campbell Cove and Aquatic Park should be added to list of sites.

CBTF Recommendation: Fund Project. Work with Clean Beaches Task Force on monitoring and site locations.

San Francisco DHS – Bacterial Characteristics of Lobos Creek and Pooled Water at Baker Beach, Crissy Field, and Ocean Beach (PIN# 10480) - \$748,099 Requested

Project: Phase I: With traditional & alternative bacterial and viral indicators of fecal contamination and enteric viruses: (1) Evaluate the nature of fecal microbe contamination in the Lobos Creek watershed. (a) Determine bacteria concentrations at different flow regimes & seasons; identify the hydrologic conditions associated with elevated concentrations of bacteria; (b) Evaluate trends in microbial data; (c) Determine the relation between microbes & land uses. (2) Evaluate formation of pools on Baker Beach, Crissy Field and Ocean Beach & the nature of fecal microbe contamination in the pools &

surrounding sediment: (a) Evaluate microbial trends; (b) Identify microbial sources or distinguish between human and animal sources. (3) Compare microbial detection techniques. (4) Document & evaluate public use of the pools.

Discussion:

The CBTF suggested that the situation where water pools on the beach would be better addressed by developing an acceptable mechanical grooming plan and posting warning signs than studying the microbial contamination. It was our understanding that the source water for these pools is not contaminated, but indicator bacteria found in the sand or shed from children and dogs grow because of the warm conditions. Current regulations would require that these pools be posted when indicator levels exceed standards regardless of the reason for elevated numbers. Obviously, the risk of swimmer illness is different than the basis for AB411 standards, but it would be unethical to allow people to swim in this water for the purposes of an epi study and because the circumstances at this beach are unique there would be little applicability of the findings to other beaches in the state (even if a human subject epi study could get approved). Using this site as a demonstration of rapid detection technologies was also considered to be inappropriate because unless the pools are sampled daily there is no point to get results quickly. Regrowth of indicator bacteria in the beach environment is an issue of concern to the committee, but again the uniqueness of these conditions at this beach makes that research better done somewhere else. Using this location to investigate whether Enterolert or EPA 1600 should be used would also be inappropriate because the laboratory should always use a method that provides the fewest false positive or false negative results. If laboratory personnel think Enterolert is not giving an accurate assessment, then it should not be used. There was a suggested made that Idexx Corporation might be able to offer some assistance with this concern.

CBTF Recommendation: Not Recommended for Funding.

Monterey Bay Sanctuary Foundation - Identification of a Human Indicator for E. coli and Addressing Unreliable Data from the Colilert Method (PIN#10497) – \$ 396,922 Requested

Project: This project has two research components. One project will study two urban drainages in Monterey and Pacific Grove to determine if the consistently high E.coli concentrations are from human sources using methods developed by the USGS to identify pollutants commonly found in wastewater streams. The goal is to identify a quick and economical indicator to determine human sources of E.coli. The second project component proposes to develop answers to the problems of unreliable analytical data using the Colilert method for beach posting.

Discussion:

1. If colilert testing method is flawed, don't use it.
2. It is not clear how the project meet the criteria in Section IV D. i. The project purpose is unclear if it focuses on method development. The second component is also unclear on how the human indicator will be identified.
3. The proposed project didn't clearly identify the problem except the beach posting information.
4. Methods developed by USGS are proposed to be used for this project. However, the product of the project or how these methods to be used in relation to the final product or benefit for this project are not explained.
5. Project benefit is unclear. The proposed project is stating that "if the USGS method identifies compounds that are commonly found in wastewater, then an attempt to locate source of bacteria will begin." The project purpose is to study two urban drainages in Monterey and if the source is from human. The technology proposed is not proven to be identifying the human indicator.

CBTF Recommendation: Not Recommended for Funding

City of Santa Barbara – Source Tracking Protocol Development (PIN# 10490) - \$477,280 Requested

Project: This proposal is a research project that will be conducted in partnership with Dr. Holden at UC Santa Barbara. It's a source tracking research project to identify sources and routes of contamination. The research will identify where, when and how human waste is transported to storm drains, creeks, and beaches in Santa Barbara. The value of the research is that it will provide protocols for coastal managers throughout California to use for conducting source investigations of storm drains that produce exceedences of AB411 indicator bacteria standards.

Discussion:

1. Clarify the 300K for UC Santa Barbara. Itemize this part of the budget.
2. CBTF members will work with them to reconfigure budget.
3. Supported because they are going bigger scale upstream and looking to mitigate.

CBTF Recommendation: Recommended for Funding.

Heal the Ocean – Shallow Ocean Wastewater Outfall Tracking (PIN# 10111) - \$333,435 Requested

Project: This study will evaluate the potential risks to human and environmental health from a shallow ocean sewer outfall (discharge > 50 feet of water) to determine the presence, potential origin and fate of microbial pollution, including human-specific Fecal Indicator Bacteria, contained in the resulting wastewater plume. This study will focus on the Montecito Sanitary District outfall, which is currently discharging into 22 to 35 feet of water off Hammonds Beach, a popular swimming/surfing spot that is 303(d) listed as impaired water body.

Discussion:

1. Is applicant working with Montecito Sanitation District?
2. Good connection made with no creek flows and dry season postings. Consider mentioning the Montecito Outfall capacity and the nature/pattern of the outfall usage to better address Q8.
3. Great connection with other shallow outfalls in CA. A clearer description of the actual plume evaluation could be provided. Maybe an example of the expected results. Also, the use of the microarray could be more detailed.
4. The number of exceedances, which are mainly Enterococcus, are not significant when you consider there is a creek draining to the beach.
5. The technology would likely be successful in taking the measurements and providing the data that they are looking for. But the question is, would it be successful in determining the source of exceedances at Hammonds, marginally at best?
6. The project most likely would be effective in determining risks from shallow near shore outfalls. But in relation to the exceedance issues at Hammond Beach, one would not learn that much.
7. The project is a good project that may shed light on risks associated with shallow near shore outfalls, although there is not a significant beach contamination issue at Hammonds. The water quality is decent except for a few occasional spikes, which most likely can be explained by looking at other sources.
8. The proposed study addresses the question of whether or not plumes from small, inshore Publicly Owned Treatment Works (POTW) outfalls can transport microorganisms to recreational beach waters. Focusing on the outfall at Hammond's Reef in Montecito is a good study location to begin addressing this question. The CBTF would like to hear opinions from oceanographers on applying results of the proposed study to other areas.
9. Research study -- source well defined (outfall, runoff from creek).
10. All plume tracking methods proposed have been used in other studies, and are proven. Bacterial work is less defined in the proposal although methods mentioned have been employed in other source tracking studies with the exception of the phylochip.

11. Overall, an interesting proposal. It is curious that the sanitation district operating the outfall isn't part of the study since Heal the Ocean is suggesting that the outfall plume is causing inshore water quality problems. It seems to be that the POTW should pay for part of this study. As mentioned above, the CBTF would like to see more information on their microbial identification part of the study, especially when trying to separate the outfall vs. creek input during the wet season. Finally, can information from this study be applied to other shallow water outfalls in California? I'd like to hear the opinion of some oceanographers.

CBTF Recommendation: Fund project. Applicant will work with CBTF to gather more information on the microbial identification aspect of the study, phylochip integration and discuss Montecito Sanitation District's involvement.

Los Angeles County - Marina (Mother's) Beach Dry-Weather Bacteria Pathway Model Study (PIN# 10481) - \$300,000 Requested

Project: The County seeks to fully investigate the effects of these landside sources to enable primary source identification and management solution development, and proposes to achieve the objective by developing a numerical surface-groundwater model to analyze bacteria transport patterns/pathways through the sand strata to the beach-front water column.

Discussion:

1. The proposed work is not a logical extension of the problem.
2. The applicants say they do not know what the source of bacteria. Not clear how modeling will lead to source identification.
3. The proposal was not clear on how the data will be validated.
4. This is a study and it is unclear how it will characterize sources. It seems to rely on computer modeling with no monitoring of groundwater quality or potential sources to help the model provide useful information.
5. The applicant may want to examine how hypothetical sources would impact coastal water quality and then these spatial temporal patterns are compared to actual data. But such an approach is not taken or described here.
6. How effectiveness will be measured is not well defined and is not tied to actual measurements or immediate improvements in water quality.
7. This is a proposed computer modeling study, with little apparent testing to ensure modeling is calibrated or reflects actual sources of contamination.

CBTF Recommendation: Not Recommended for Funding.

City of Newport Beach – Newport Bay BMP Implementation and Effectiveness Study (PIN# 10477) - \$1,541,600 Requested

Project: Buck Gully is located within the Newport Bay area, adjacent to two Areas of Biological Significance (ASBS) and is 303(d) listed for indicator bacteria. Two projects are planned for reducing pollutant loads to the ASBS: the 'SmarTimer' Irrigation Controller Installation Program and the Buck Gully Erosion Control and Wetland Treatment Project. The proposed projects will reduce irrigation runoff to the canyon and provide treatment to reduce bacterial-laden dry weather flows to the ASBS. BMP effectiveness will be assessed using novel scientific approaches including source apportionment technology and source characterization using isotope characterization, mass spectrometry, microbial regrowth and microbial source tracking. These technologies will assess BMP effectiveness, bacterial transport mechanisms and regrowth potential. The results of this approach will provide a regionally applicable effectiveness assessment template.

Discussion:

1. Not a high priority beach for CBI (Appendix C). Applicants provide statistical data for entire Newport Beach coastline, but information on this beach is not included.

2. The scientific studies would be successful, but a question remains regarding how applying these studies to this particular problem is most responsive to beach water quality downstream, i.e. at the mouth of Buck Gully or nearby.
3. They have an experimental lab there but not sure what type of tracking they will be doing. Not many human health issues. Would be a better project if they had bacteria problems. Despite research merits, this beach is not high priority beach.

CBTF Recommendation: Not Recommended for Funding.

City of Encinitas – Cottonwood Creek Source ID (PIN #10110) - \$850,000 Requested

Project: The City of Encinitas constructed a UV Treatment BMP to reduce bacteria in the creek prior to discharge at the beach. Although proven effective at reducing FIB, beach postings continue to occur at Moonlight Beach. This project includes conducting work that will help guide the implementation of other suitable BMPs that might be used to reduce FIB input to the beach, through identifying the cause of FIB regrowth in the Creek, identifying the cause for AB411 exceedences, and determining if pathogens representing public health risks are present in the Creek.

Discussion:

1. UV effectiveness should have been part of the Prop 13 project.
2. Project cost appears high. Could the aims be achieved for less money? Quite a lot of effort & thought seems to have gone into investigating Cottonwood Creek – proposal quite detailed and thought out.
3. A better project would be to vary locations of discharge from facility on the beach to see how far re-growth occurs from high-tide line.
4. Not a high priority beach for Clean Beach Initiative (CBI) (Appendix C). However, does evaluate a technology that may be considered by other beaches. Thus, it does serve as a reasonable case study.
5. Applicants state that they will use source-tracking tools including measurement of real pathogens to determine what the source of fecal pollution is at the creek/beach. CBI guidelines state that new indicators need to be tied to epidemiology study results to ensure they can be used to protect human health and it is not clear that the new indicators these applicants will use are tied to epi-study results.

CBTF Recommendation: Not Recommended for Funding.

PROPOSITION 50 IMPLEMENTATION PROJECTS – NORTHERN CALIFORNIA

Trinidad Rancheria - Trinidad Harbor and Beach (PIN# 10108) - \$1,700,000 Requested

Project: The project proposes to address critical point and non point source pollution sources that can affect the water quality in Trinidad ASBS. The pollution sources are described below. 1) Boat wash water runoff (point source). Improvements due to elimination of boat washing runoff will be quantified by measuring wash water quantity and quality that is collected in the washing facility, which will be recycled rather than allowed to wash into the ocean. 2) Installation of permanent public restrooms: Permanent restrooms for visitors to the harbor area are expected to provide direct benefits by eliminating point source pollution due to lack of permanent public restrooms for visitor use. 3) Upgrade existing leach field system for wastewater (potential non-point source): The existing leach field has been in service for many years. To prevent the leach field from contributing to pollution in the Trinidad ASBS and to accommodate the new public restrooms, the System must be upgraded.

Discussion:

1. Applicant states that existing aged septic & leach field system has the potential to contribute nonpoint source pollution via groundwater to the ASBS and on ground due to overflows. The proposal is not clear. Is there a single leach field serving the community? Where is leach field?

Where will the new restroom facilities be located? The proposed project needs to be described in more detail.

2. Applicant has not directly identified a water quality problem that needs to be solved. Bacterial exceedences are not that high.
3. Difficult to assess if proposed projects would have any measurable impact on beach water quality. Application focuses on restroom facilities, leachate field and boat washing area, but did not provide data to show that these facilities were contributing bacteria to adjacent waters.
4. Very difficult to predict if projects will improve beach water quality. Other sources of bacteria occur other than those targeted by the projects -- e.g. runoff from a storm drain. Also, how will dealing with wash water from boats reduce bacteria?

CBTF Recommendation: Conditional Approval. Fund only leach field and restroom portion of project.

City of Trinidad – Clean Beach Initiative Grant (PIN# 10479) - \$4,278,960 Requested

Project: This project will implement specific stormwater projects to redirect flow away from direct discharge points and utilize detention and infiltration as treatment to reduce bacterial levels and loading to area beaches and the ASBS. Stormwater runoff originating in the contributing watersheds provides the means of bacterial transport to the priority beaches. One likely source of bacterial contamination is dysfunctional onsite waste treatment systems (OWTS).

Discussion:

1. The feasibility and effectiveness of the proposed solution (storm water infiltration) is highly questionable based on what is known about the geological setting of the area, as described by the applicant.
2. Bacterial exceedences at the affected beaches are not that high.
3. Very difficult to predict if these projects will improve beach water quality.

CBTF Recommendation: Not Recommended For Funding.

City of Trinidad – Trinidad Westhaven Coastal Water Quality Restoration Program/OWTS Emphasis (PIN # 10494) - \$328,037 Requested

Project: The Trinidad Westhaven Coastal Water Quality Restoration Program/OWTS Emphasis (Project) will reduce bacterial contamination on adjacent beaches as a result of septic system or OWTS contributions. Three of these beaches meet the criteria of Priority Beaches under the CBI Program. This Project will correlate sources of bacterial indicators, measured on public beaches, with OWTS contributions and provide a method to improve the functioning and maintenance of OWTS, resulting in direct and prompt improvement to bacteria-related water quality problems at those beaches. Elements of the Project will include bacterial indicator sampling, source tracking using presence of optical brighteners found in contributing surface waters and improvements /replacements of poorly functioning OWTS. Effectiveness monitoring will measure the success of the project.

Discussion:

1. This source-tracking project would help focus the septic system improvements that should be undertaken and thus prioritized. It is likely that septic systems in this area are fouling coastal waters. But the degree of this problem is not clear, thus the source tracking prefacing septic system improvements. Applicant needs to work with a Clean Beaches Task Force member to revise monitoring so that the results can be tied to beach water quality.

CBTF Recommendation: Recommended for Funding. Work with Clean Beaches Task Force member(s) to revise monitoring so that the results can be tied to beach water quality.

City of Fort Bragg - Pudding Creek Sewer Force Main Relocation Project (PIN# 10470) - \$1,500,000 Requested

Project: A sewer force main serving the northern extent of the city's sewer collection system, as well as MacKerricher State Park and campground, is located under the state beach at the mouth of Pudding Creek. Severe weather in December 2005 and January 2006 caused the sewer main to become dislodged. The sewer pipe has been anchored in Pudding Creek as a temporary emergency repair measure. Relocation of the pipe out of this Special Flood Hazard Area is necessary to reduce incidence of spills into Pudding Creek that negatively impact the public beach, Pudding Creek waterway, and the Pacific Ocean. The project consists of rerouting 10-inch sanitary sewer force main for a distance of approximately 3,000 feet from the Pudding Creek Lift Station to the nearest sewer manhole (Elm Street). Reroute will include upgrade and encapsulation of piping to reduce future occurrence of leakage and spills.

Discussion:

1. Improve monitoring plan. County should begin submitting ocean water quality data more regularly on a weekly basis to protect the public health.
2. The City meets the criteria because of public health threat and a source of human sewage discharge to ocean waters. Also have demonstrated bacterial contamination problems.
3. Permanent posting of a warning sign in occurred 7 times in 2005, and 4 times in 2006 resulting in response team clean up action. Enforcement orders pending issuance from Regional Water Quality Control Board (RWQCB).
4. The CBTF supports the City of Fort Bragg's request for grant funds to relocate their force main. Pudding Creek Beach is Fort Bragg's primary beach recreation area. Beach closures due to pipe failures and periodic sewer overflows have occurred in the past.
5. There is sufficient evidence that a source of contamination is sewage given the breaks in the line adjacent to the beach. But very little work has been done here to really do source tracking.
6. Fits into a larger project to restore water quality at pudding creek. There are efforts to treat storm water and investigate how it impairs coastal water quality.
7. A straightforward sewer repair project, which can have direct, measurable benefits once completed. However, the project is not quite ready yet -- design and environmental documentation have not been completed.

CBTF Recommendation: Fund project. County should begin submitting beach water quality data on a regular basis to protect public health.

County of Sonoma – Addressing High Levels of Fecal Indicator Bacteria at Campbell Cove (PIN# 10468) - \$654,483 Requested

Project: Based on prior studies funded through CBI, it is theorized that the fresh water seep from "Hole-In-The-Head" pond (HH) into Campbell Cove (CC) is an attractant for seagulls which provide an initial dose of FIB on or near the beach that are then retained in the very shallow near shore waters & sediment due to very slow tidal flush. The proposed study will look at the feasibility/efficacy of diverting the fresh water seep from HH in order to disperse the seagulls & resultant FIB source so that overall water quality is improved and the number of beach postings is significantly reduced or eliminated. The study will be in 3 phases: 1) Baseline monitoring study to determine feasibility of diverting fresh water seep; 2) Temporary diversion of fresh water seep with monitoring; 3) If results warrant, install permanent diversion of fresh water seep and monitor efficacy of action via AB 411 sampling.

Discussion:

1. Final Interim Report For Bodega Bay-Campbell Cove Tidal Circulation Study, Water Quality Testing and Source Abatement Measures Project. A report from the Institute of Environmental Health revealed avian, primarily seagulls, and marine mammals, primarily sea lions and harbor seals, as the predominant source of fecal bacteria contamination at Campbell Cove.

2. The project is proposing to significantly lower or eliminate the number of Fecal Indicator Bacteria exceedances and resulting beach postings caused by the presence of seagulls attracted to the fresh water seep from the "Hole-In-The-Head" pond. But does not include: TMDL, Area of Biological Significance, coho recovery or disadvantaged community.
3. Non-human FIB contamination. Specified as bird and sea lion/seal.
4. The problem is well documented from previous studies and ongoing sample analysis. The population that is affected is relatively low compared to other beaches.
5. The project has a chance to reduce the FIB associated with the birds but it is unclear to me how the sea lion or seal related FIB would be mitigated. The sediment has been found to be contaminated and may be a contributing ongoing source. There is no plan to deal with the existing contaminated sediment.
6. Well designed project to address a defined source of contamination. Population affected is low so I am not sure if the project should be a priority. Project may be effective in reducing bird FIB but what about other sources??
7. Campbell Cove's water quality exceedances occur seasonally and can occasionally be predicted. This was not addressed in the proposal.

CBTF Recommendation: Recommend for funding with the development of a new proposal to do source ID. Campbell Cove is on high priority list of beaches. CBTF members will work with applicant to define a study that will address source ID and contribution from Hole in the Head.

Sonoma County Regional Parks – Doran Beach Regional Park Restroom (PIN# 10491) - \$400,000 Requested

Project: Improve water quality at Bodega Bay by replacing pit toilets at Doran Regional Park with new sewer connection, restroom /shower building, and associated utilities. Restroom serves 27 campsites at the Shell Campground and 13 campsites at the Gull Campground. CEQA complete and Coastal Permit approved. With funding, project could be completed as early as Spring 2008.

Discussion:

1. The applicant has not established that the pit toilet is a source of water quality problems at the beach. The applicant cites beach postings both at Doran Beach and at nearby Campbell Cove, but does not mention that the predominant source of bacterial contamination in Campbell Cove is avian and aquatic mammal species (per a 2004 study). It is also not clear why it will cost \$400,000 to construct a 396 square foot bathroom.
2. Water quality is not that bad and nothing shows a link to the existing restroom and water quality data.
3. Water quality benefits of project are not well documented.

CBTF Recommendation: Fund at 25% (sewer). Work with CBTF to better characterize.

Sewer Authority Mid-Coastside (SAM) – Wet Weather Flow Management Project (PIN# 10476) - \$1,181,250 Requested

Project: The SAM Wet Weather Flow Management Project is an implementation project designed to reduce the bacterial contamination at three of the four CBTF Priority Beaches listed for San Mateo County: James V. Fitzgerald Marine Reserve, Pillar Point Harbor Beach, and Venice Beach at Frenchman's Creek. These beaches have a history of demonstrated bacterial contamination problems, especially during wet seasons. The applicant, Sewer Authority Mid-Coastside (SAM), is a joint power authority that collects and treats sewage for the California Mid-Coast region. The population served is approximately 25,000 people. SAM's wastewater conveyance and treatment facilities, including its wastewater treatment plant and the outfalls, are in close proximity to the aforementioned CBTF priority beaches. The proposed Project includes system-wide lateral replacement, repairs of various critical facilities, and construction of a new 600,000-gallon stormwater storage tank.

Discussion:

1. Sewer upgrade/lateral replacement project looking for 25% funding. ASBS, Fitzgerald Marine reserve, lots of children attending programs etc. Targets 3 out of 4 listed beaches in County. 200,000 attendees/yr at the 3 beaches. Northern CA project. Seems like mostly a wet weather issue but they get a lot of visitors then also. Seems to be no doubt that there are problems with the current sewer collection system; averaging 10 SSO events/yr. Are there other bacterial sources? Seems from charts provided that beach bacteria data doesn't always track/correlate with overflows, rainfall. Proposing to use County EH monitoring for outcome measurement.
2. Understand the sizing of the 600,000-gallon storage tank.

CBTF Recommendation: Recommended for Funding.

San Mateo County Resource Conservation District – Identification of Fecal Pollution Sources Impacting Pillar Point Harbor Beaches (PIN#10472) - \$845,000 Requested

Project: The project identifies sources of fecal pollution impacting beaches within the Pillar Point Outer Harbor in El Granada, CA and recommends opportunities for remediation. The primary focus is Capistrano Beach in the Outer Harbor, which has well documented levels of fecal pollution; secondary focus is the five other Pillar Point Harbor Beaches. The geographic focus extends to any potential drainages and/or pollution sources which empty into or impact these beaches, e.g. creeks, marshes, storm drains, sewer systems, runoff, leach fields, springs, wells, boat discharge, pet and avian fecal contamination, sediment and wrack. The Pillar Point Harbor is an enclosed bay, with associated issues and risks, i.e. water circulation and characteristics, sediment, wrack, etc.

Discussion:

1. Beaches are worthy, need more detail.
2. The Resource Conservation District (RCD) is applying for funds right after the health department stopped monitoring because they said people don't swim there. There should be no funding unless Capistrano beach starts monitoring weekly again. If because of lack of visitors, then don't fund. Also, Mavericks should be part of the program as well. On the study - commitment to phase II implementation is good, but 2010 seems too long. Maybe, there should be early actions identified in 2008 with final implementation plan in 2010. Good team, but who has FIB abatement expertise to develop this plan? Budget is confusing. It is all for personnel and not for samples. Tough to tell how money will be spent. Hours aren't provided. Also, the sampling plan isn't provided. Number of sites, sample frequencies, types of analyses, how analyses will be performed, etc. Good concept, but not enough detail at this point to fund.

CBTF Recommendation: Recommended for funding. CBTF will work with applicant to address questions.

City of Pacifica – San Pedro Creek Clean Beaches Initiative Project (PIN# 10505) - \$1,418,750 Requested

Project: The San Pedro Creek Clean Beaches Initiative Project aims to reduce contaminants and improve water quality by replacing old and damaged sewer lines, addressing sewer lateral deterioration, and constructing new treatment wetlands to filter storm water runoff entering San Pedro Creek and Pacifica State Beach.

Discussion:

1. Compelling case for lateral/sewer repair. No on wetlands portion of project.
2. Wetland is restoration, not treatment. Do not recommend wetland portion unless it can be tied directly to bacteria reduction on the beach.
3. They have a major problem with lateral/sewer failure that poses significant health risks. Can we get a copy of the ribotyping study results in SP creek available this month? There is a reference to the creek and beach as classified as non-contact recreation. Is that really true? If so, why?

There are 200K to 400K visitors a year. Justification is not provided for the wetland-riparian restoration. Example - how will the habitat restorations be designed to reduce bacteria densities? What are the expected FIB density reductions? How were the wetland acreages determined? No nexus between improved water quality and habitat restoration was provided. There is even concern that a restoration to enhance steelhead habitat might not be effective in FIB reduction (lots of pool habitat that might invite increased bird populations). Based on the proposal as written, it seems as that sewer project merits funding, but not the wetlands as proposed.

CBTF Recommendation: Lateral/sewer repair recommended for funding. Wetland portion is not recommended for funding unless it can be tied directly to bacteria reduction on the beach.

Santa Cruz County Sanitation District – Noble Gulch Sewer Line Replacement (PIN# 10467) – \$1,000,000 Requested

Project: This project will replace or relocate approx. 6,300 lineal feet of sewer trunk line, slip line 639 feet of pipe and abandon one pump station in Noble Gulch to reduce bacteria in Noble Gulch, Soquel Creek and Capitola Beach. Much of the 40 year-old line is located in three inaccessible riparian areas, which impedes maintenance. Water quality in Noble Gulch and Soquel Creek Lagoon is impaired by pathogens. This sewer line is a likely source.

Discussion:

1. Solution will likely eliminate probable sewage leakage from the Noble Creek trunk sewer as a source of bacteria loading to Soquel Lagoon.
2. Applicant should provide details and rationale on the phasing breakdown.
3. Applicant needs to provide a more detailed scope of work for the Draft Grant Agreement.

CBTF Recommendation: Recommended for Funding.

Santa Cruz County Sanitation District – Valencia Creek Sewer relocation (PIN# 10483) - \$520,000 Requested

Project: Relocate sewer that has been exposed by a landslide in an area adjacent to Valencia Creek that recently spilled over 20,000 gallons into Valencia Creek. An emergency repair was completed at the time. The sewerline break spilled untreated effluent into the Creek that is a tributary of Aptos Creek which discharges onto Rio Del Mar/Seacliff Beach, an impaired beach. A permanent replacement and relocation of this pipeline is proposed.

Discussion:

1. This is a worthwhile project that is needed and that should be done to prevent future sewage spills into a coastal tributary, and to prevent the beach closures that result when these spills occur. More detail should be presented to make the case that this project will contribute to reductions in pathogen loadings at the target beaches / creek mouth, or that the project will eliminate a source of pathogen loadings.
2. Applicant needs to submit a scope of work for the Draft Grant Agreement.

CBTF Recommendation: Recommended for Funding.

Santa Cruz County Sanitation District – North Polo Drive Sewer (PIN# 10498) - \$168,750 Requested

Project: The beach affected by the project (Rio Del Mar/Seacliff Beach) is a CBTF priority beach identified in the Prop 50 Guidelines. 1. The beach has a high frequency (>4 percent) of bacterial standard exceedences during weekly monitoring. 2. It has consistently demonstrated bacterial contamination problems. The project will construct a sewer and lift station to provide sewer services to an area currently on septic. The 12 homes are on small lots with failing septic systems adjacent to

Valencia Creek, a tributary to Aptos Creek. The project also involves extending the sewer line to Polo Grounds Park and installing permanent restrooms at the park.

Discussion:

1. Present more information to support the conclusion that connecting the 12 homes to the sewer on No. Polo Drive along Valencia Creek will have an affect on water quality in Valencia Creek, Aptos Creek or at beaches a mile and half away.
2. More detail is needed on how problematic the 12 septic systems are, and why they are a priority for sewerage.
3. Applicant needs to provide scope of work for Draft Grant Agreement.

CBTF Recommendation: Recommended for Funding.

City of Pismo Beach – Ocean Water Quality Scientific Analysis (PIN# 10376) - \$450,000 Requested

Project: The City of Pismo Beach proposes to conduct a scientific analysis of the source(s) of ocean bacterial pollution and create an action plan of potential solutions. The proposed location, "Pismo Beach at the Pier" has been identified in Appendix C as a Priority Beach. The Project is proposed as two phases: Phase I is the Source ID Study; Phase II is the Corrective Implementation Phase.

Discussion:

1. The problem is not well quantified in the application. No data from Pismo creek is presented. The beach is on the list of priority beaches. The project may assess source-tracking tools, but that is not specific.
2. The problem is defined as high FIB in the surf zone, but numbers reported don't confirm that the problem is extensive. Advisories have increased over the years, but FIB is erratic and not terribly high. HTB summer report card grades are excellent.
3. It is unclear what the proposal is and what the outcome will be. The proposal is to hire a consultant who will define the project to assess the sources and potentially develop implementation measures.
4. Phased project is set up with phase 1 as source identification, but problem and potential approach to assess sources is not well documented.

CBTF Recommendation: Recommended for Funding. Work with CBTF to better define the project.

City of Santa Barbara – Las Positas Storm Water Management Project (PIN# 10489) - \$415,000 Requested

Project: This proposal is for an implementation project in which the City seeks to treat runoff from small events prior to discharge in creeks and beaches. The project will use constructed bioswales and wetlands to treat runoff from 100 acres of drainage area before discharge to Las Positas Creek, a major tributary of Arroyo Burro. The project also includes flow diversion and erosion control elements. The project is located on the City-owned and operated Santa Barbara Golf Club. Filtration through bioswales and constructed wetlands will lower indicator bacteria values and improve beach water quality downstream.

Discussion:

1. Project is far from the Beach.
2. Too many intangibles, not sure how this project will help the issues of beach water quality at the beach and to what extent at Arroyo Burro.
3. Question - project site is remote from beach - could there be problems with regrowth of FIB and consequently not much reduction of postings at Arroyo Burro Beach, which had 27% postings in 2006 and 100,000 visitors annually. Human waste has been found in surf zone, and the beach is on the 303d list. Sponsor thinks stormwater is part of the problem. Postings related to

creek flow and there are several potential sources, pet waste, compost on golf course, runoff from nearby school. Part of larger project to improve handling & quality of stormwater.

CBTF Recommendation: Not recommended for Funding.

City of Santa Barbara – Laguna Channel Watershed Assessment & Water Treatment Facility (PIN# 10486) - \$220,000 Requested

Project: This proposal is for the 1st phase of a 2-phase implementation project to eliminate bacteria from the Laguna Channel prior to discharge at East Beach. The first phase includes a watershed assessment to identify all sources and contributions of flow to Laguna Channel, microbial source tracking to confirm the presence of human waste in the channel, and a feasibility analysis and preliminary design for locating a water treatment facility at the existing pump station. Final design and construction of the facility would occur in the 2nd phase. This project was identified as a high priority in a Bacteria Reduction treatment study completed for the City with Prop 13 Clean Beaches Initiative funds.

Discussion:

1. Task Force supports the project.
2. Concept of a watershed assessment to identify sources and flow contributions to Laguna Channel is good.
3. Proposed solution appears to address Laguna channel discharges, but not adjacent Mission Creek discharges, which also contribute to contamination of East Beach. Also focus is on installation of treatment system at pump station, but is it also feasible to consider other options like diversion? Also there is no discussion of potential role of boats in marina as contributors?

CBTF Recommendation: Recommended for Funding.

PROPOSITION 50 IMPLEMENTATION PROJECTS – SOUTHERN CALIFORNIA

Carpinteria Sanitary District – South Coast Beach Septic to Sewer Project (PIN# 10102) - \$2,156,750 Requested

Project: This proposal is for removal of on-site septic systems and construction of a publicly owned and operated sanitary sewer system to serve 72 existing homes in the beachfront community of Rincon Point, 37 homes in the Sandyland Cove Community, and 26 homes and 1 undeveloped lot in the Sandy Point Road Community.

Discussion:

1. They would like to see more monitoring if possible.
2. Beaches affected have received low report card scores, have known sources of bacteria and have demonstrated bacteria problems.
3. Well presented proposal for a worthwhile project, backed by sound science and engineering studies. Significant matching funds (\$6.47 M) that are being committed to leverage CBI funds (\$2.16M requested) to complete this \$8.63 M project demonstrates strong local commitment. Proposal may underestimate regulatory permitting needed.
4. Looks like a good project that will benefit beach water quality at a priority beach and will eliminate human sources of contamination.

CBTF Recommendation: Recommended for Funding.

City of Los Angeles Department of Public Works – Multiple Low Flow Diversions Expansion (PIN# 10350) - \$4,000,000 Requested

Project: This proposal is for a Multiple Low Flow Diversion expansion project. The planned expansions will expand 7 Low Flow Diversions (LFDs). The scope of work will include: 1) Increasing the flow

currently being diverted; 2) Installing flow-sensing automatic operation sensors in the discharge sewer
3) Providing on-site emergency power (fuel tank with associated secondary containment and leak detection, telemetry & alarms, and associated instrumentation & control and electrical work) 4) Installing standby & backup pumps.

Discussion:

1. This project is the same as and should be combined with PIN 10484. (It will remain and be shown as PIN 10350).
2. Scope will have to be re-written and detailed budget shown for a max of \$5million dollars.
3. Everyone unanimously supports the project.
4. The City is Matching \$30 Million.
5. The City of LA needs to separate postings occurring during dry- vs wet-weather seasons. Previous CBI-funded projects built by the City included many LFDs in this proposal. The City should indicate the success of these during the AB411 dry-season, and indicate the number of days posted outside this period.

CBTF Recommendation: Recommended for Funding.

City of Los Angeles Department of Public Works – Santa Monica Canyon Low Flow Diversion Expansion (PIN# 10484) - \$3,680,000 Requested

Project: This proposal is for a Low Flow Diversion expansion project. The planned expansion will expand the Santa Monica Canyon LFD. The scope of work will include: (1) Increasing the flow currently being diverted from 6 cfs to 12 cfs; (2) Installing flow-sensing automatic operation sensors in the discharge sewer (instrumentation & control, and add instrumentation in case of power outage. The LFDs will automatically shut down and start based on sewer flows); (3) Provide on-site emergency power (fuel tank with secondary containment and leak detection, telemetry & alarms, and associated instrumentation & control and electrical work); (4) Installing backup pumps (construct a second pump well to accommodate added pumps and associated piping, valving, instrumentation and electrical work.)

CBTF Recommendation: See PIN 10350.

City of Hermosa Beach – Hermosa Strand Infiltration Trench (PIN# 10153) - \$1,824,000 Requested

Project: Urban runoff from nine storm drains along a 1.5 mile stretch of beach from Herondo Street to 26th Street in Hermosa Beach will be diverted into an engineered infiltration trench. Each storm drain will be equipped with a structural diversion to direct dry weather flows from the drains through a pretreatment unit and then into the trench. The trench will be constructed of prefabricated modular units with a high percentage of void space and installed below-grade against the ocean side of the 18-foot deep cutoff wall that supports 'The Strand Walkway', which is approximately 300 feet from the shoreline. Three to four feet of unsaturated native sand below the trench will provide filtration and treatment of the urban runoff before it reaches the saline water table below. Phase I will be implemented for Hermosa Pier storm drain, which drains a relatively small but intensely developed downtown commercial area. During Phase II the eight remaining diversion structures and additional infiltration trench will be constructed to complete the diversion and treatment system.

Discussion:

1. Why is the City using Hermosa Pier drain for phase I and not Herondo drain, the larger "problem drain" in the area to prove project effectiveness before moving forward with phase II.
2. Concern about the possible success of proposed technology. However, in support of applicant, the project is phased and calls for a comprehensive monitoring program that should provide proof of or refute concept. Applicant has suggested that other technologies may ultimately be incorporated into trench concept (namely batch applications of iodine). CBTF would have

preferred to see applicant evaluate and compare proposed trench concept with other technologies that might be independent of trench concept, such as pretreatment with UV disinfection.

3. Concern about applicability of sand for treatment, especially given research conducted by Boehm et al and reported in ES&T where they studied migration and attenuation of fecal indicator bacteria at Huntington Beach. Lab tests using beach sand indicated that "filtration does not prevent the subsurface transport of ENT (enterococcus - my addition) associated with SGW (saline groundwater) through the sand samples of Huntington Beach".
4. Applicant has conducted ribotyping to determine sources of bacteria, and have active program to address upstream sources, including restaurants grease management.
5. Storm drains have high levels of bacteria, although there is not analysis to indicate how much of beach bacteria comes from storm drains or other sources. Application cites Mission Bay study, but there is limited sampling, analysis or flow measurement from the project location.
6. Project concept holds promise for treating dry weather flows as an alternative to diversion. However, effectiveness is not proven. Phased approach is beneficial to determine project effectiveness and make adjustments prior to full project implementation. Manual tide gate may be problematic for removal during storms, and may not keep out tidal seepage to pump chamber. Geotextile may be subject to clogging by biofilms.
7. This technology should work; it will be important to monitor densities of bacteria in groundwater between the trenches and shoreline.
8. Who will do the subsurface sand/groundwater monitoring?
9. Very unique project that should be effective if runoff from a large acreage can be collected and infiltrated. The application was well written, complete, and the attached plans clear. Recommend funding the project.
10. The idea of near-shore treatment is one that is addressed through other means, but it is not clear that this method is one that would work. Published research has shown that FIB grown in sand, so it is not clear if this would alleviate an FIB problem at the beach, or occasionally enhance it. Also, sand filters are inherently porous, and other research shows that viral pathogens pass immediately through sandy soils. While viruses are not AB411 targets, one might imagine that sands could either remove, not remove much, or foul due to biological growth. Thus, it is hard to predict the real benefits.
11. There are serious concerns about this doing any good in terms of reducing FIB. FIB will either pass through porous media like sand, stick in unpredictable ways, slough off, etc. It is unclear if this will be beneficial and if the "technology" is untested for this purpose. As a research project, it could be useful to better understand bacterial colonization of beach sands, but that is not how this proposal is framed.

CBTF Recommendation: Fund project: Recommend Phase I include Herondo storm drain as well as the Hermosa Pier storm drain to prove project effectiveness before moving forward with Phase II.

Port of Los Angeles – Northern Inner Cabrillo Beach (NICB) (PIN# 10382) - \$ 5,000,000 Requested

Project: Extensive studies have been completed focused on the Southern Inner Cabrillo Beach area, but also include important data for the Northern Inner Cabrillo area. These basic studies identify bacterial sources and define corrective actions. These studies and their conclusions are summarized in a Concept Studies and Implementation Plan for Northern Inner Cabrillo Beach included as Attachment 5. Sources of contamination are discussed in this Concept Plan that include storm water discharges, natural sources such as bird uses, and physical processes of poor circulation and reservoirs of contamination provided by eelgrass bed organics and fine sediments as well as by fine sand beach with high clay, organic mud content. Proposed confirmatory studies at NICB will first of all set a baseline of time-series of water quality monitoring data for the beach and near shore waters as well as final confirmatory studies on sources and mechanisms causing the violations. Can apply for Prop 84 for the implementation BMPs.

Discussion:

1. How many people use the beach, not clear about what the project entails.
2. The Implementation Study does not really describe types of investigations done to determine the potential sources of human pathogen indicators (homeless, cross connections, leaking collection systems, etc.). Not much information about how the applicant has determined the most likely sources of indicators.
3. If the sources are storm drains or leaking sewers, then flow rates would be relevant.
4. How is this project related to the work at South Inner Cabrillo Beach? What have you learned from the first project that relates to this next phase?
5. The bulk of funding for this project is for dredging and beach sand replenishment and little data was provided in the proposal to show that this solution is likely to work. It seems that modeling could be used to at least to estimate project success.
6. While the ultimate desired water quality benefit is to achieve REC-1 standards (and presumably other beneficial uses found in the LA Regional Basin Plan), the proposal does not make a convincing argument that this performance measure should be expected from the work proposed. More information is needed to make a convincing argument that the proposed work is likely to be successful.
7. Although this section talks generally about the kinds of monitoring that could be done if the proposal is selected, there are no details of a monitoring program that is designed to show that the proposed work has solved the problem.
8. Did not show how this project is integral and necessary part of the earlier project or how this project will use lessons learned in the first project.
9. This project is asking for \$5 Million for projects that may or may not solve the problem at this beach. A smaller project to better document the sources of pollution, better evaluate other alternative solutions and provide more convincing evidence for the selected alternative would score better. Given that the proposed alternative will have other benefits beyond improving beach water quality (improvements to the beach sand, swimming area and general harbor circulation), this project proponent should probably provide a larger share of the matching funds. Some of the projected expenses should be better documented since they seem to be high (e.g., bird exclusion structure at over \$300k).
10. Proposal seems to indicate that further sampling and modeling will be required to help identify sources to level of confidence required before selecting corrective actions. Some sources are indicated, such as role of eel grass, but no convincing data are provided to support contention. Role of wetland does not seem to get much discussion.
11. Solutions such as re-grading beach and replacing with sand, or removing eel grass do not appear to be effective options, or if so, the proposal does not provide any evidence to conclude that these options would be effective. Similarly emphasis on hydrodynamics and mixing does not seem to lead to sustainable solutions. Some options, such as testing sanitary lines for leaks, would appear to offer more likelihood of success.
12. Proposed solutions do not seem to be focused and linked well to sources, rather appear to have other motivations for their choice.

CBTF Recommendation: Not Recommended For Funding. Wait for results of Southern Inner Cabrillo beach's projects funded in part by Proposition 40 CBI to see impact on both Southern and Northern Inner Cabrillo beach water quality.

City of Long Beach – Alamitos Bay Beaches Bacterial Water Quality Improvement (PIN# 10499) - \$2,000,000 Requested

Project: Bacterial water quality exceedences have occurred on the sheltered public beaches in Alamitos Bay. An examination of historical data indicates that such violations have occurred periodically in the past, every few years and often in late summer and fall. This project is designed to

identify bacterial contamination sources (local or regional), recommend solutions, and lastly to implement specific BMP's necessary to correct these problems.

Discussion:

1. Is there really a chronic problem at these beaches or was there something in 2006 that caused the unexplained exceedances?
2. Proposal should provide more information on the sewer infrastructure leakage.
3. DNA testing in the long run could save them a lot of time and \$\$ by focusing the survey. They mention it will be conducted if warranted, but I think that it should be an integral part of the project.
4. This is a large budget for a project that has a marginal chance in reducing the FIB contamination. It does not seem like they have any idea where the FIB is coming from and they are just going to search until they find it. The problem is that if it was a transient source, they may never find it.
5. With so many potential sources you need to have a good plan to rule some out quickly, I do not think that they will be able to do that.
6. Schedule in concept proposal and in Draft Grant Agreement did not list specific dates for project milestones.

CBTF Recommendations: Not recommended for funding.

City of Avalon – Avalon Bay Water Quality Improvement Project (PIN# 10471) - \$1,355,000 Requested

Project: This project is a combination of long term and short-term mitigation efforts to reduce the high FIB concentrations found in ankle-depth waters of Avalon Bay. Over the long term, the City will eliminate all sources of sewage to shallow groundwater, through improvements of the sewer infrastructure, specifically laterals located in residential parcels. In the short term, this project will characterize and remediate sewage contamination of the shallow groundwater underlying Avalon and focus on reducing FIB concentrations in ankle-depth waters by improving the mixing. FIB concentration reductions will help to protect the many beneficial uses identified in Avalon Bay, the most common one being water contact recreation (REC-1).

Discussion:

1. Modify the proposal to make it more of an implementation project
2. Not interested in ankle box. They need to fix the project without the mixing. The wave machine just dilutes the FIB and may decrease contamination but the time and money should be put into stopping the source.
3. They should push the sewer infrastructure a little more.
4. They should revise the project and push implementation.
5. A well documented and planned next step of a long-term project to deal with a difficult water quality problem.
6. Characterization of the sewage contamination and stopping the source are great objectives. Unfortunately they are performing lateral repairs late in the process where they should start in the beginning if they already know that they are leaking into the shallow ground water. Not sure what to think about the wave machine.

CBTF Recommendation: Recommended for Funding. Work with CBTF to better develop the project.

Orange County Coastkeeper – Huntington/Newport Bacteria Sourcing and Reduction Project (PIN# 10482) - \$640,770 Requested

Project: The project will reduce beach water quality postings by collecting and analyzing bacteria data, including using strain analysis, from storm drains that drain to the Santa Ana River and Newport Bay beaches to determine if they are the source of bacteria causing beach water quality postings. After

identifying the storm drains responsible for the postings, a subset of beaches will be selected for BMP implementation based on the data collected. Appropriate BMPs will be identified and implemented throughout the source area (including end of pipe or circulation enhancement methods if necessary) to reduce the bacterial concentrations at the selected beaches to below AB411 objectives. Project beaches are all CBTF priority beaches and include: The Santa Ana River Beaches (both sides) and Newport Dunes, Harbor Patrol, 19th, 38th, and 43rd street beaches in Newport Bay.

Discussion:

1. The proposed work is not clearly defined. Is the focus the river or the storm drains? The methods proposed are not strongly supported by the peer-reviewed literature.
2. There are technical flaws in the storm drain tracking portion of project. It is not clear that the library-based source tracking method they propose will work for identifying which storm drain is the source. What if all storm drains have the same strains?
3. Project aims to ID bacteria from storm drains and then institute BMPs. No CEQA on second phase - implementation projects yet as don't know what they will be. Hard to assess what the reductions in FIB would be at the Beaches.

CBTF Recommendation: Not recommended for Funding.

City of Laguna Beach – Heisler Park ASBS Protection and Preservation Project - Final Phase (PIN# 10373) - \$5,000,000 Requested

Project: The Heisler Park ASBS Protection and Preservation Project represents the final phase of the 50-year master plan to renovate Heisler Park in Laguna Beach. The park renovation is implemented in two phases. The first phase, funded through a consolidated grant with the County of Orange, is underway. The final phase, described herein, completes the renovation. The primary goal of the project is to reduce bacteria loads to the adjacent ASBS and beaches. The goal will be achieved by minimizing bacteria-carrying runoff from the park and reducing sewer spill risks by reconstructing park restrooms and a lift station. This project will showcase the latest site design Best Management Practices (BMPs) for a park setting. The project design, funded in part by the Coastal Conservancy, is complete. Necessary permits and matching funds are in place for implementation. Heisler Park is a premier destination for tourists and a key natural resource for California. Completion of this final phase of the renovation is crucial to enhancing and preserving water quality in the ASBS and local beaches.

Discussion:

1. This project should effectively reduce runoff and sewage spills coming from Heisler Park in Laguna Beach. A sampling station should be located within the park and sampled weekly to more closely track FIB densities as BMPs are brought online. A storm drain is shown in one of the attached photos. Does excess irrigation water flow from this drain, or does it service a wider watershed. This question should be addressed and factored into their monitoring program.
2. Will rely on Health Department monitoring. Monitoring should be conducted on the beach right at the pipe vicinity.
3. Budget needs to be broken down further. Project cost is very high. Applicant should provide a higher match.
4. Applicant should look at dry weather diversions, storm water BMPs and scale back the proposal.

CBTF Recommendation: Conditional Recommendation. Sewer and storm drain portion that had direct tie to FIB at beach is approximately \$1,000,000.

County of Orange – Aliso Creek Mouth - Dry Weather Management Model Study (PIN# 10487) - \$500,000 Requested

Project: The County seeks to identify a management solution that balances the competing needs of hazard mitigation and beach water quality protection through a dry-weather diversion pilot project. The

County proposes the project to provide a design basis for the flow diversion/SUPER project by developing a comprehensive numerical model for the Aliso Creek mouth that simulates shoaling, ponding, breach and channel migration processes as affected by creek discharges and coastal processes.

Discussion:

1. Very little substantiation about source of contamination - "urban runoff and sewage spills appear to be primary sources."
2. Model itself will not solve the problem - absent an understanding of the SUPER project, it is not clear how the model will be used in the management decisions at the mouth of the creek.
3. Not enough detail to know how it will affect beach water quality.

CBTF Recommendation: Not Recommended for Funding.

City of Oceanside – Lower San Luis Rey River Bacteria Source Tracking Study (PIN# 10485) - \$554,375 Requested

Project: The City of Oceanside proposes a study to identify sources of bacterial contamination in the Lower San Luis Rey River and river mouth, which suffers from elevated bacterial levels, and recommend appropriate actions and activities to eliminate the input of those bacterial sources. The study will utilize multi-tiered testing methods that will include (1) bacterial concentrations assessment using traditional measurements of fecal indicator bacteria to determine the flux of bacteria in the river and river mouth, as well as the hot spots of high bacterial levels and (2) genetic microbial source tracking methods involving *Bacteroides* spp. analyses using quantitative PCR (QPCR) for species-specific markers and (3) molecular sequencing of enterovirus to determine individual sources of the bacteria. Once these sources are definitively established, methods to eliminate the input of these sources will be evaluated.

Discussion:

1. A high priority beach for CBI, used by many surfers etc.
2. This is a well-described problem. There are multiple sources that need to be discerned prior to performing an implementation project.
3. Birds, storm drains, wildlife. Sampling has occurred both in the surf zone and upstream in the river. Several years of FIB data are available and reports of this data are submitted. Clearly, there are FIB sources associated with the River, but it is not clear what they are. Since the discharge directly impacts the beach, it is crucial to discern sources.
4. State of the art QPCR methods for quantifying *Enterococcus* (as an FIB) as well as for quantifying sources (human versus bird) will be employed. Specific primers for QPCR of gull sources will be developed. This is a great idea and should be valuable for this study, but also potentially for the region. The other genetic tools will be useful for discerning sources (enterovirus typing), making this a state of the art source discovery study.
5. This will greatly benefit not only the Oceanside community and water quality managers, but should be a great demonstration study for the area and for California.

CBTF Recommendation: Recommended for Funding.

City of San Diego – Mission Bay Watershed Stormwater Diversion and Low Impact Development (LID) Initiative (PIN# 10492) - \$2,296,000 Requested

Project: The project proposes to address urban runoff from areas within the Mission Bay watershed using structural diversions and LIDs. Targeted areas include Visitors Center and Cudahy Creek in Mission Bay, and La Jolla. These works will significantly improve water quality at some of San Diego's most popular bathing and surfing beaches. In the case of La Jolla, water quality will also be improved at the adjacent ASBS and marine reserve.

Project consists of:

- Construct three diversions and one infiltration/bioretention LID at La Jolla.
- Construct LID (porous pavement) at Visitors Center.
- Construct diversion and modifications at Cudahy Creek
- Construct culvert extension at Cudahy Creek

Discussion:

1. Fund diversions which deal with dry weather flows– not LIDs. LIDS are for infiltrating stormwater.
2. Why only 30% reduction of bacteria at diversion – why not greater.
3. Proposal was confusing. There needs to be greater clarity on what will actually get done. Need info on: flows in the drains. Pump capacity. Locations of diversions in the drain. Etc. Q - which La Jolla drains will be diverted? Are all the La Jolla drain diversions new diversions? Mission bay - great that they are adding a flap gate to prevent diverting seawater. They predict only a 30% reduction in FIB densities going into the bay at Cudahy. Why so low? On the source ID work, the visitors center are had few exceedance. Is it still a hot beach for FIB any more? If not, the diversion may not be worth it. With more information, partial funding for the diversions.

CBTF Recommendation: Conditional Recommendation.

City of Imperial Beach – Palm Avenue Low-Flow Urban Runoff Diversion Project (PIN# 10488) - \$1,292,000 Requested

Project: A storm water pump station will be constructed at the Palm Avenue street end in Imperial Beach. The pump station will be designed to divert low-flow urban runoff and first-flush stormwater to the sanitary sewer. Diversion capacity will be approximately 250 gallons per minute. Flows in excess of this amount will continue to be pumped to the Pacific Ocean via the Palm Avenue storm drain outfall for flood control purposes. The project will treat runoff from a drainage area of approximately 81 acres of predominately residential and light commercial uses. It will also include a one-year post-construction monitoring program to verify effectiveness.

Discussion:

1. This was a Proposition 13 project that was initially identified in the 2001/2 budget. The initial project was delayed due to litigation associated with the CEQA process, and the cost of the project has increased significantly. Nevertheless, it is still a project that worth the investment. The applicant needs to demonstrate that the primary reason for the diversion is not because of the street end improvements. Also, the design capacity of the diversion (250 gallon/ min.) seems to be excessive for the estimated flow at this drain (20,000 gallon/wk.) The applicant should justify the need for this capacity or commit to treat wet-weather first flush with the excessive capacity.
2. Diversion project; designed to only handle flows of urban runoff up to 250 gpm; project is close to beach; part of a larger effort to improve the area; disadvantaged community; large number of exceedances; will probably mostly eliminate one source; ocean is 303d listed here; 2.3 million annual visitors. They seem ready to proceed - 95% design. May see a pathogen TMDL here by 2010 -no ASBS or TMDL currently. They were challenged on CEQA during the Proposition 13 project and were not able to complete the project in time to allow for post construction monitoring. Construction costs increased significantly during the same period.

CBTF Recommendation: Recommended for Funding

City of Imperial Beach – Tijuana River Bacterial Source Identification (PIN# 10496) - \$1,029,000 Requested

Project: There are many sources of bacteria in the Tijuana River Watershed, some known and some unknown. There is no formal plan to identify and then mitigate the sources of bacteria; therefore, the

watershed stakeholders will develop and implement a bacteria source identification study to accomplish the following activities: 1) Identify all possible sources/entry points of bacteria to the river; 2) Quantify and delineate the sources; and 3) Recommend follow-up mitigation projects.

Discussion:

1. Need Source ID Study for Tijuana River – but this one is inadequate.
2. Need more sampling, 50 to 100 sampling days instead of 24 hours.
3. Need flow gauges.
4. Should focus on watershed approach instead of spatial or library approach.
5. Need to come up with non – FIB plan.
6. This project is a HIGH priority, but needs a lot of work. The study design is severely flawed, and the monitoring program is poor. Why the 24 hour approach on determining variability? Only monthly sampling. I'd take an approach of 5 times a week sampling instead. What is going on day to day over time? That's the issue on beach monitoring and risk management. Also, more sample days means more days looking for discharges. They need flow gauges to determine how flow varies over time. They need records on when sewage is released from the treatment plant. Groundwater monitoring is premature. Why the beach transect work either. Not enough sample days to determine FIB fate and transport. The non-FIB section needs work. Tijuana River is perfect for bacteroides and virus work. Unclear what will be analyzed in the watershed. No budget provided. Who is doing what work? Proposal is weak, but need is great. We need to help them come up with a better project.

CBTF Recommendation: Work with CBTF to improve project scope.

Next Meeting: No Meeting Date Set.