Supplemental Environmental Project (SEP) Report Card		Qualitative Microbial Risk Assessment Project
Regional Water Board	Region 4 - Los Angeles	**OUTCOMES:** ☒ Satisfactory ☐ Unsatisfactory
Total Project Cost	$480,390	
SEP Funding	$300,000	
Approval Date	6/2/2010	
Project Category	Monitoring	

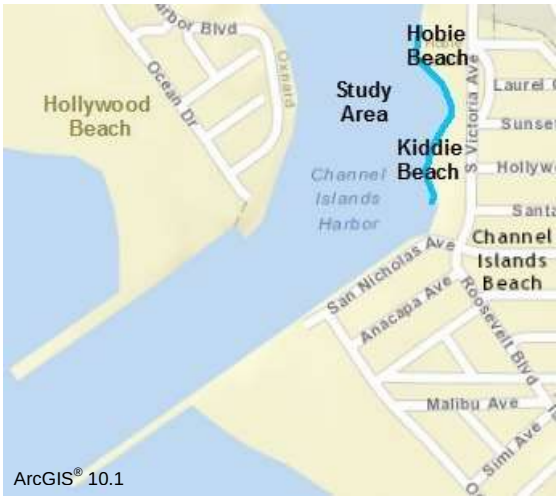
Summary

The Boeing Company funded a Qualitative Microbial Risk Assessment (QMRA) conducted by the Southern California Coastal Water Research Project (SCCWRP) in Ventura County. The goal of this study was to model a QMRA at non-human impacted marine beaches. Two beaches, Hobie and Kiddie Beach, were selected as the study area based on exceedance of state water quality objectives for fecal indicator bacteria, years of increasingly stringent and more expensive management actions to address these exceedances, and a previous study that indicated a lack of human sources and a prevalence of seabird contamination. A source tracking study was initiated to confirm the lack of human sources and identify the non-human sources contributing to the beach contamination. After collecting daily samples at eight sites for eight weeks, results indicated frequent exceedance of the *Enterococcus* water quality objective plus a consistent and widespread impact from human sources of fecal pollution. Three potential sources of pollution were identified. The first was a storm drain that contributed *Enterococcus,* but likely no human fecal pollution. The second was seabirds, which also contributed *Enterococcus*, but likely no human fecal pollution. The third was sewage infrastructure adjacent to the beach, which likely contributed human fecal pollution based on the presence of genetic human-associated bacterial markers, perhaps via groundwater. The presence of human fecal pollution halted the QMRA because where human fecal pollution is present, existing water quality objectives are considered appropriate for the protection of human health.

Water Quality Outcomes

- *This study concluded that Hobie and Kiddie beaches are creating exposure to fecal pollution from three different sources: storm drains, sea birds, and human sewage.*

Project Location Map



Water Quality Outcomes (cont.)

- *These study results contradict the 2003 study that determined there were few human associated fecal indicator bacteria at these beaches – a significant finding because there are estimated to be between 2,000 and 4,500 swimmers using these beaches on summer. Further, they indicated a constant source of enterococcus near a specific sampling site.*
- *Motivated in part by this study, the local community has begun a sewer replacement project of the trunk line adjacent to the beach and undertaken steps to remediate the Enterococus pollution from the storm drain near the site noted to have constant source of enterococcus.*
- *Once these sources are remediated, many if not most of the Enterococcus exceedances may be eliminated. If the Enterococcus exceedances continue to occur, but no human markers are detected, then this beach may once again become a candidate for a QMRA.*