

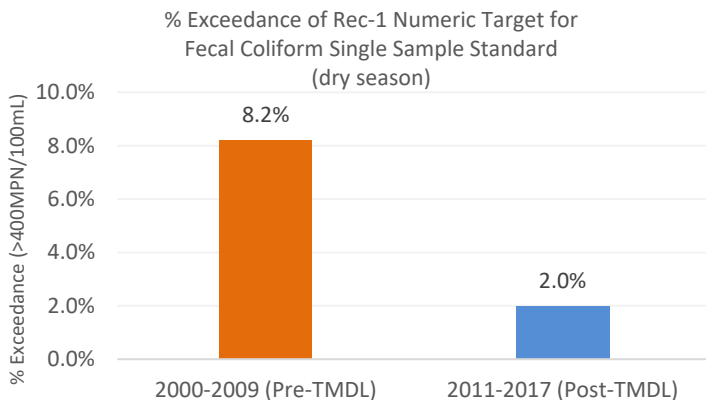
Water Quality Report Card		Pathogens in Richardson Bay	
Regional Water Board:	San Francisco Bay, Region 2	STATUS	<input checked="" type="checkbox"/> Conditions Improving
Beneficial Uses Affected:	SHELL, REC-1, REC-2		<input type="checkbox"/> Data Inconclusive
Implemented Through:	Sanitary Sewer Overflow WDR, Basin Plan Discharge Prohibitions, Stormwater Phase II permit	Pollutant Type:	<input checked="" type="checkbox"/> Point Source <input checked="" type="checkbox"/> Nonpoint Source <input type="checkbox"/> Legacy
			Pollutant Source:
Effective Date:	November 2, 2009		Vessel/Houseboat Waste
Attainment Date:	Not Specified		Storm Water Runoff

Water Quality Improvement Strategy

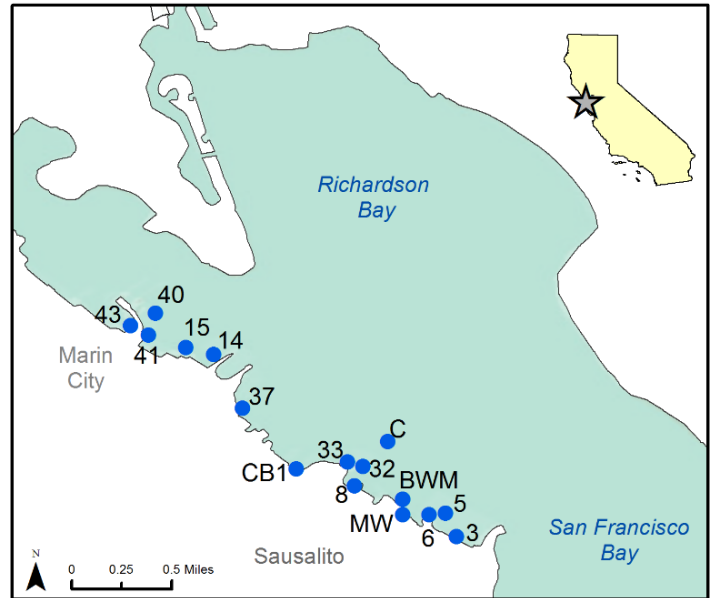
Richardson Bay is a small arm of the San Francisco Bay located just northeast of the Golden Gate Bridge. Richardson Bay is listed as impaired on the USEPA Clean Water Act 303(d) List for fecal coliform. We infer the presence of pathogens from high fecal coliform bacteria concentrations, a common indicator of fecal contamination. Pathogens pose potential health risks to recreational users and shellfish consumers. The main sources of pathogens to the Bay are sanitary sewer system failures, municipal stormwater runoff, and houseboat and vessel discharges. A [TMDL for pathogens in Richardson Bay](#) and its watershed was adopted by the San Francisco Bay Regional Water Board in November, 2009. The TMDL is implemented through prohibitions of discharge for houseboats and vessels, waste discharge requirements (WDRs) for Sanitary Sewer Systems, and the Statewide NPDES stormwater permit for small municipalities. Specific implementation actions include: renovation of dilapidated houseboat marinas, increased mobile sewage pumpout services, installation of additional stationary sewage pump-outs, and increased inspection and education and outreach for all marinas.

TMDL Fecal Coliform Numeric Targets

Beneficial Use	Numeric Target
Shellfish Harvesting (SHELL)	Median < 14 (MPN/100 mL) 90 th percentile < 43 (MPN/100 mL)
Water Contact Recreation (REC-1)	Geometric mean < 200 (MPN/100 mL) 90 th percentile < 400 (MPN/100 mL)



Richardson Bay Watershed



Water Quality Outcomes

- Water quality data show clear reductions in fecal coliform levels during the dry season (left Figure).
- Water contact recreation (REC-1) targets are being met at all sampling sites since the TMDL was adopted (right Figure).
- Shellfish harvesting (SHELL) targets are exceeded at far fewer stations than before the TMDL adoption (right Figure).
- The largest improvements are due to BMPs implemented at houseboat marinas.

