Water Quality Report Card

Bacteria Impairment Assessment in San Gregorio

Regional Water Board:	**San Francisco Bay, Region 2**
Beneficial Uses Affected:	**AGR, COLD, MIGR, RARE, REC-1, REC-2, SPWN, WARM, WILD**
Implemented Through:	Not applicable
Effective Date:	Not applicable
Attainment Date:	Not applicable
STATUS	Impaired, Improvement Needed
Pollutant Type:	Nonpoint Source
Pollutant Source:	Grazing, Confined Animal Facilities, Onsite Wastewater Treatment Systems, Recreation, and Tourism

Water Quality Improvement Strategy

The San Gregorio Creek Watershed is on the San Mateo Coast, about 30 miles south of San Francisco. In 2002, the San Francisco Bay Regional Water Quality Control Board (Water Board) analyzed data from the San Gregorio lagoon, and found it was impaired for bacteria at levels that limited safe water contact recreation. At the time, the entire creek was listed on the federal Clean Water Act 303(d) list as impaired for bacteria based solely on lagoon data. Land use in the watershed consists primarily of forests, grasslands, and agriculture with likely sources of pathogens including grazing, row crops, and onsite wastewater treatment systems from four small unincorporated communities along the mainstem and tributaries. In 2017 the Water Board developed a study throughout the watershed to determine if 1) the creek is impaired for bacteria, 2) if a TMDL is needed, and 3) what the sources of bacteria are. Eleven creek sites and two lagoon sites were monitored for five consecutive weeks during two wet and two dry seasons from 2017-2020. Microbial source tracking (MST) data was used to determine potential sources of bacteria in the creek and lagoon.

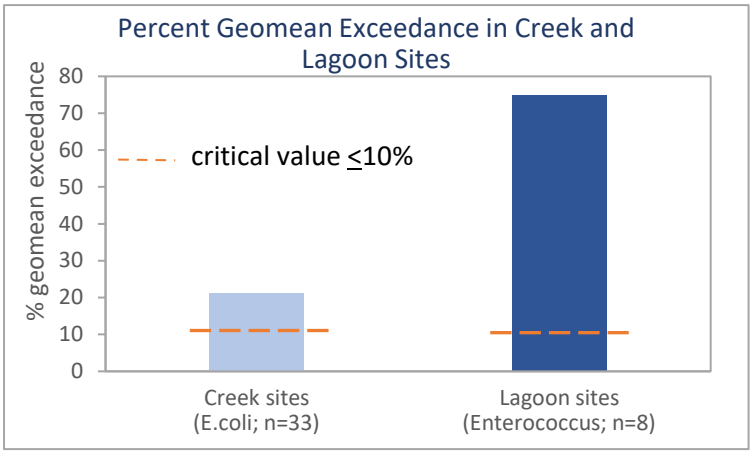
Water Quality Objectives

Water Body	Indicator	Water Quality Objective* (4-6 week geomean)
Creek (freshwater)	*E.coli*	100 MPN/100ml
Lagoon (brackish)	*Enterococcus*	30 MPN/100ml

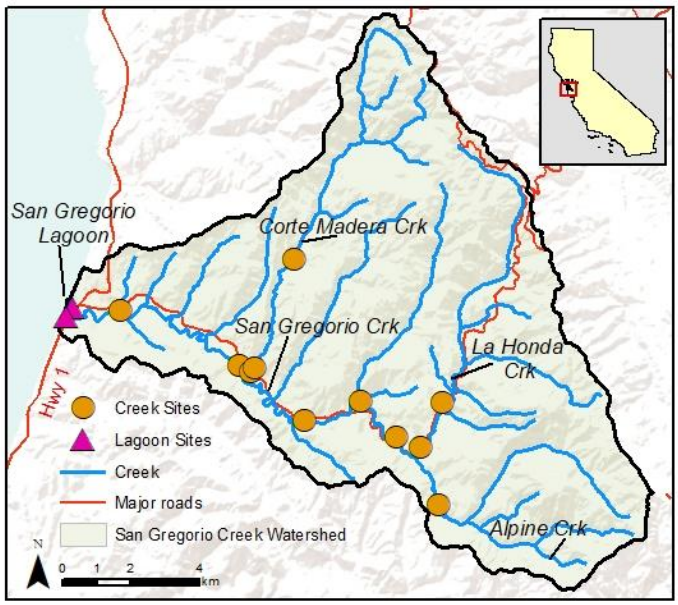
*2019 State Water Board Bacteria Provisions and Water Quality Standards Variance Policy, SFBRWQCB Basin Plan, Table 3-1

Water Quality

WQOs not to be exceeded by more than 10% of samples.



San Gregorio Creek Watershed Map



Water Quality Outcomes

- Both the creek and lagoon portions of San Gregorio Creek Watershed are impaired for bacteria.
- At creek sites, 21% (7 of 33) of the 5-week geomeans across both seasons were above the *E.coli* water quality objectives.
- At lagoon sites, 75% (6 of 8) of the 5-week geomeans across both seasons were above the *Enterococcus* water quality objectives.
- *E.coli* values at creek sites (max=1,287 MPN/100ml; average = 122 MPN/100ml) were significantly lower compared to other impaired watersheds in the region (e.g., Petaluma River bacteria TMDL, max= 24,196 MPN/100ml; average = 1,693 MPN/100ml).
- MST data indicate that cows are the most common source of pathogens, followed by horses, dogs, and humans. Human MST markers were not present in most samples despite the high density of septic systems adjacent to the creek.

Microbial Source Tracking

Percentage of samples by water body and indicator type

Water Body	Human	Dog	Horse	Cow
Creek	26%	34%	74%	74%
Lagoon	29%	43%	71%	100%

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