# 3B. Marine Water Quality — Fecal Coliform — Quartermaster Harbor

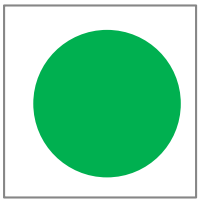
## Target: Marine water meets water quality criteria

**About this indicator:** Measures marine water quality at King County's monitoring locations within Quartermaster Harbor (Figure 1). Quartermaster Harbor has been designated by Washington State as an extraordinary water body.

**Influencing factors:** Water carrying nutrients from septic systems, chemicals from motor vehicles and nitrogen from fertilizers degrade marine water quality and reduce oxygen levels for the animals that live and depend on Puget Sound habitats.

**2010 Target:** Quartermaster Harbor water quality meets marine water quality criteria for the bacteria relating to shellfish harvesting and primary contract recreation.

**2010 Finding:**
**All 3 sites meet state water quality criteria**



**2010 Status:** All three Quartermaster Harbor stations met the state water quality criteria for fecal coliform bacteria (low bacteria counts), Figure 1 & 2.

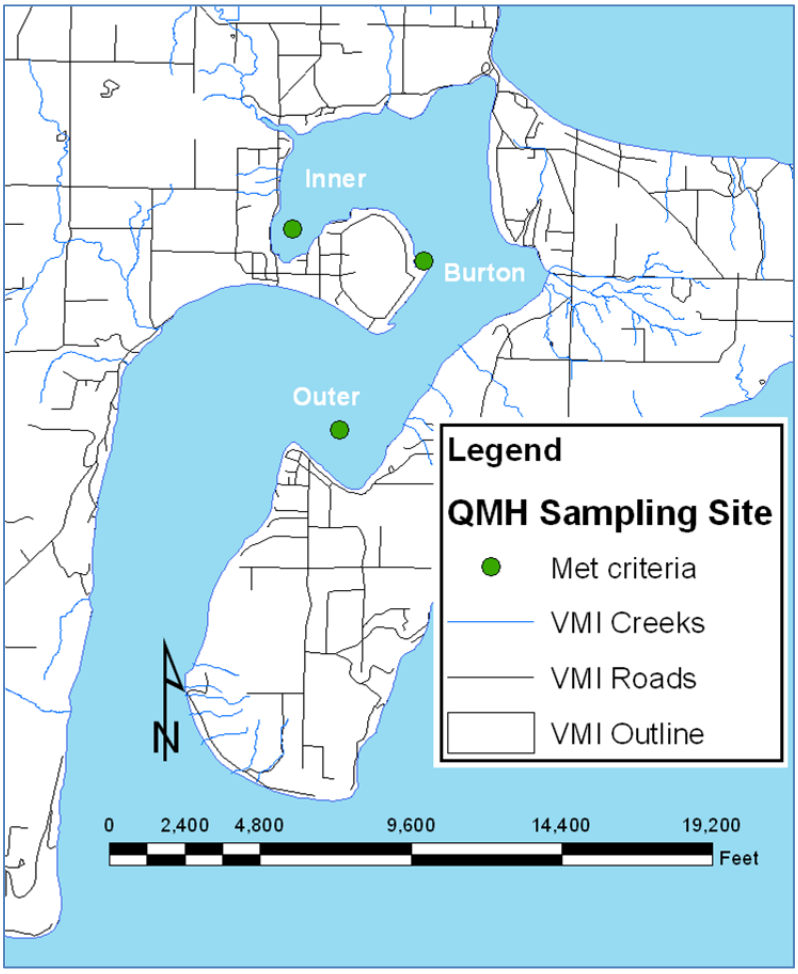
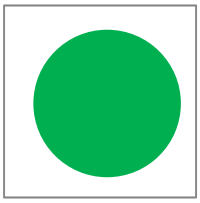



Figure 1. Sampling locations within Quartermaster Harbor for fecal coliform bacteria. All three stations (Inner Harbor, Burton, and Outer Harbor) met (below) the state water quality criteria for fecal coliform bacteria in 2010.

**2001-2010 Target:** All marine monitoring sites meet the state water quality standard (low bacteria counts).



## 2001-2010 Assessment:

**3 sites; 100% meeting Water Quality standards since 2006**

**2001-2010 Status:** All three sites had annual data that meet state water quality criteria for fecal coliform bacteria, Figure 2. The data has been collected since 2006. The 2006-2010 average is 100% for sites meeting the state water quality criteria.

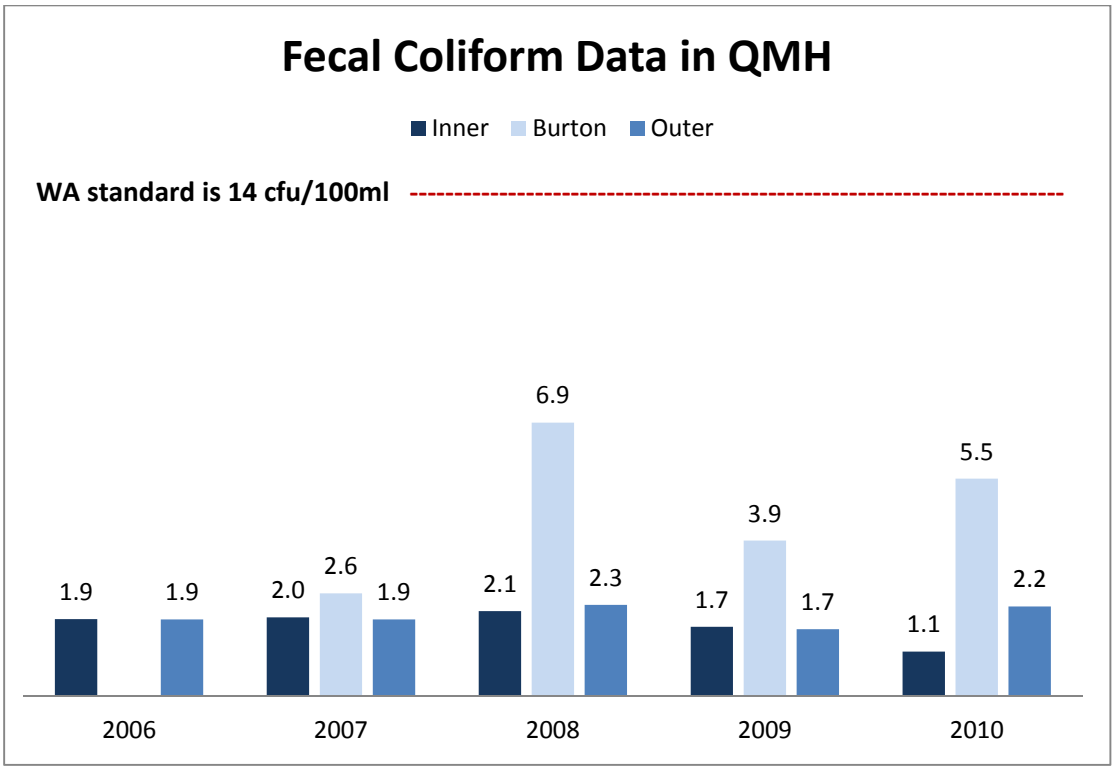



Figure 2. Fecal Coliform bacteria data shown as geometric mean (cfu/100ml) for each station within Quartermaster Harbor (QMH). Inner and outer harbor stations started in 2006 and the Burton station started in 2007. Washington State (WA) standard for fecal coliform bacteria in marine waters is shown at 14 cfu/100ml.

## Technical Notes: Marine Water Quality – Fecal Coliform – Quartermaster Harbor

**Data source:** The data for this indicator comes from King County DNRP/WLRD Marine Monitoring Group.

**Collection frequency:** The King County DNRP/WLRD Marine Monitoring Group conducts monthly sampling at the inner and outer harbor since 2006. A third station in Quartermaster Harbor, Burton Acres County Park, started in 2007 and is used in the assessment of fecal coliform bacteria.

**Methods for analysis:** Fecal coliform results are compared to the current marine water fecal coliform criteria, a geometric mean of 14 colony forming units /100ml. Samples either meet or do not meet the marine water fecal coliform criteria. This fecal coliform criteria is calculated over a 12-month sampling period.

**Data Reliability and Quality:** The data quality of this indicator is high based on the KC SAP/SOP of sampling collection. The reliability is good based on the consistent and regular collection of the data.

**Data Reference:** King County, Water and Land Resources Division, Science, Monitoring and Data Management Section

Dissolved Oxygen (3A) is another marine water quality indicator for overall health of Quartermaster Harbor.

# Legend

## 2010 Finding

**Poor Conditions**: Reported data are above Maximum Contaminant Level (MCL) and/or fails to meet the state standard or criteria for a given indicator; needs improvement.

**Fair Conditions**: On average, data fell between the standard or criteria for "poor" and "good" and may be variable.

**Good Conditions**: Reported data are below MCL and/or meet the state standard or criteria for a given indicator.

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**No Annual Assessment**

## 2001-2010 Status

**Downward Trajectory**: 2001-2010 data shows decreasing or worsening conditions

**No Change**: 2001-2010 data shows no change with time.

**Upward Trajectory:** 2001-2010 data indicate increasing or improving conditions

**Insufficient Data**: reported data has too few data points and/or too short a period