

From: [Ferguson, Donna x4636](#)
To: [commentletters](#)
Subject: Water Quality Objectives
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Hello,

I'd like to comment on the Water Quality Objectives for Estuarine and Marine Water Bacteria Indicator. I agree that it's time to eliminate total coliform testing; however, I don't recommend dropping fecal coliform testing. First, based on years of monitoring estuarine and marine waters, labs have observed that enterococci can also cause false positives. In fact, the high false positive rates using IDEXX Enterolert in estuarine water were one of several reasons why Orange County Public Health and OC Sanitation District decided to use EPA Method 1600 (membrane filtration).

Second, you gain more information using two indicators and comparing the relative levels. If BOTH fecal and enterococci levels are high, this indicates a greater possibility of fecal contamination than if enterococci levels alone. If enterococci levels are consistently high but fecal coliform levels are relatively lower, this could indicate natural source input or enterococci regrowth. Although certain fecal coliforms can also grow in estuarine and marine waters, most do not survive as well as enterococci because unlike enterococci, they do not salt tolerant.

I'm unaware of any long term studies comparing the two indicator counts at chronically elevated beach sampling sites; however, I can tell you based on my experience comparing historical monitoring data and working on multiple microbial source tracking studies that comparing fecal coliform and enterococci counts can be far more informative than relying on enterococci data alone. I might be in favor of using enterococci alone if it was paired with an alternate indicator sometime in the future.

Also, it's been my experience, along with other lab and microbial source tracking folks that E. coli is more specific than fecal coliforms for fecal waste at many beaches, fresh water bodies and urban runoff streams in California. I realize that the EPA recommends enterococci for marine because they survive longer than E. coli; however, there are far more genera and species of fecal coliforms that occur naturally in the environment as compared to E. coli.

Thanks,

Donna

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