

Regional Water Quality Control Board  
North Coast Region

Executive Officer's Summary Report  
Thursday, March 13, 2014  
Regional Water Board Office  
Santa Rosa, California

- ITEM: 6
- SUBJECT: Update on the development of the Russian River Pathogen Indicator Bacteria Total Maximum Daily Load (*Charles Reed and Steve Butkus*)
- BOARD ACTION: This is an informational item only. No action will be taken by the Regional Water Board.
- BACKGROUND: Staff is developing the Russian River Pathogen Indicator Bacteria Total Maximum Daily Load (TMDL) to address indicator bacteria impairments. In the last update to the Board in August 2013, staff provided information on the TMDL water quality monitoring program. Since the August update, the water quality monitoring phase of the TMDL development process has been completed and data analysis has progressed. In this update, staff will discuss pathogen indicator bacteria, the evidence of impairment, and next steps for TMDL development.
- DISCUSSION: For the TMDL, staff evaluated the suitability of traditional pathogen indicator bacteria as indicators of impairment and as future targets for TMDL implementation. Based on this evaluation, the use of *E. coli* bacteria, *Bacteroides* bacteria, and the microbiome community has been determined by staff to be the most appropriate indicators of pathogens in surface waters for this project. Although traditional indicators of fecal contamination, such as total coliform, fecal coliform, and *Enterococcus* bacteria have all been used as indicators historically, staff determined that *E. coli* bacteria provide more certainty of pathogen presence for this TMDL.
- Staff will discuss the evidence of impairment of the Water Contact Recreation (REC-1) beneficial use and exceedances of the Bacteria Water Quality Objective throughout the Russian River Watershed, which are based on bacteria monitoring results. *Bacteroides* bacteria were found to be present in almost every water body and land use type sampled for the monitoring phase of this project. A study to help explain the sources of bacterial contamination through a characterization of the microbiome community using PhyloChip technology was prepared for the Regional Water Board by Lawrence Berkeley National Laboratory. A draft report was submitted in January. Staff have reviewed and submitted comments on the draft report. The final report is due in May 2014.

Staff will discuss the remaining technical components of the TMDL, including the seasonal variation of pathogen indicator bacteria and the methodology for determining the loading capacity of the water body and the load allocations.

Staff anticipates commencing the formal stakeholder participation phase of the TMDL this spring, with a public workshop and other stakeholder meetings as needed. The primary focus of these discussions will be identifying options for implementation actions to attain the TMDL and pathogen indicator bacteria water quality standards in the watershed.

The Russian River Pathogen Indicator Bacteria TMDL remains on schedule. The remaining TMDL schedule is as follows:

- CEQA Scoping Meeting.....Spring 2014
- Implementation Plan Draft.....Summer 2014
- Peer Review .....Fall 2014
- Public Comment Period .....Winter 2015
- Regional Board Hearing.....Spring 2015
- State Board Hearing.....Fall 2015
- EPA Consideration.....Spring 2016

SUPPORTING MATERIALS: None