

Unfortunately, that's not always the case. Water monitoring samples from the river show widespread contamination with bacteria and indicators of human waste, which pose a threat to the health of the river ecosystem and the people who visit it.



Odd Fellows Park. Photo credit Water Board Staff

Reliance on existing regulatory actions and individual behavior is sometimes not sufficient to prevent domestic waste from being released in an uncontrolled manner into the environment. Once released, this material, which may include disease-causing microorganisms, inevitably makes its way to creeks and finally to the Russian River where it adversely impacts water quality, impairs the beneficial uses of creeks and the River, and presents a public health risk to individuals who come in contact with contaminated waters.

Often, the uncontrolled sources of waste are the result of the systemic failure to address human societal challenges like homelessness. Other times, contamination is the result of legacy practices, such as obsolete, substandard wastewater treatment systems. The simple lack of public awareness about the impacts of individual actions can also affect water quality. Regardless of the root cause of contamination, it is the obligation of public agencies responsible for the protection of water quality and public health, to take

actions to correct the condition. For these actions to be truly successfully and long-lasting, there must be participation, cooperation, and commitment from supporting state and local agencies, parties to whom corrective actions are assigned, and the general public.



Homeless encampment along a Santa Rosa Creek
Photo credit unknown

Evidence of impairment

Since 2011, staff of the North Coast Regional Water Quality Control Board has been collecting water quality samples and other measurements from the mainstem Russian River and its tributaries. Samples have been analyzed to measure fecal indicator bacteria and pathogens to determine whether the water quality objectives for bacteria have been attained. Water quality monitoring has focused on microbiological source identification that includes both dry and wet weather water samples, samples associated with water contact recreation, and samples representative of a range of land uses.

Monitoring results show that waterbodies in the Russian River Watershed are not meeting the water quality objectives for bacteria and the detection of human waste in water samples is wide-spread.

What is a TMDL?

Where waterbodies are not meeting water quality standards and not fully supporting all beneficial uses, the federal Clean Water Act (section 303(d)) requires states to identify the stressors causing the impairment and establish a schedule for developing a control plan to correct the impairment. The pollution control plan is called a Total Maximum Daily Load, and is most often referred to as a TMDL.

In its most basic sense, a TMDL is a number that represents the maximum amount of a pollutant that a water body can handle and still attain water quality standards. For some pollutants, the TMDL is expressed as a mass loading in pounds of pollutants per day. For bacteria, TMDLs are often expressed as a concentration or count of bacteria in a 100 milliliter sample.

A TMDL is also a process for assessing and understanding how a pollutant affects a water body. One component of the TMDL process is the development of a strategy, which is sometimes referred to as an Action Plan or Implementation Plan, to reduce the pollutant load or concentration so that water quality standards are met.

Water Board staff is developing the Russian River Watershed Pathogen Indicator Bacteria TMDL, which will include an Action Plan.

What are the probable sources of Bacteria?

The primary sources of bacteria in the Watershed include, in no particular order, municipal wastewater treatment facilities, sanitary sewer systems, municipal separate storm sewer systems, septic systems, homeless and itinerant farmworker encampments, dairy livestock, non-dairy livestock operations, and recreational water

users. Sources identified as probable contributors to the bacteria problem will be required under conditions of the TMDL Action Plan to meet the proposed concentration-based targets by taking specific actions to reduce bacterial contributions.



Cow in creek. Photo credit unknown

What actions will the Water Board be taking?

The TMDL will likely establish a target concentration for *E. coli* bacteria and a target threshold for *Bacteroides* bacteria or other sensitive indicators of human contamination. The target concentration for *E. coli* will be based on the U.S. EPA's 2012 Recreational Water Quality Criteria. The target threshold for indicators of human contamination will be set at a level that is expected to ensure that human waste is not present in recreational waters above natural background levels.

The TMDL Action Plan will be specific to the source, and will likely require each responsible party to develop a Bacteria Load Reduction Plan that describes how bacteria loads will be reduced to meet the *E. coli* and *Bacteroides* targets. Water Board staff doesn't want the plan to be too rigid. The Action Plan will be designed to provide flexibility for the responsible parties to meet the standards with strategies that fit the local community. The Action Plan will likely provide time for

responsible parties to consider alternatives, further investigate the extent and nature of their contribution, obtain funding assistance, and develop a compliance program.

Where does AB 885 fit into the TMDL process?

Assembly Bill 885 (AB 885) was signed into law in September 2000 by the California State Legislature and codified in the California Water Code. The objective of this law was to address the perception that regulation of individual septic systems in California was inadequate and inconsistent throughout the State.

AB 885 required the State Water Resources Control Board to adopt regulations or standards for new, replacement, and failing septic systems and septic systems adjacent to impaired waters. After a highly contentious rollout of draft regulations, which were eventually abandoned, the State Board later adopted the statewide *Water Quality Control Policy for Siting, Design, Operation, and Maintenance of Onsite Wastewater Treatment Systems*. The Policy, which became effective in May 2013, set out responsibilities of septic system owners, local regulatory agencies, regional water boards, and the State Water Board to meet the conditions of the Policy.

The statewide Policy includes requirements for septic systems near impaired waterbodies. However, where a TMDL has been adopted by a regional water board and the TMDL includes requirements for septic systems, the TMDL requirements supersede requirements in the Policy for septic systems near the impaired waterbodies.

For the Russian River Watershed, once the Russian River Pathogen Indicator Bacteria TMDL is adopted, the requirements that are developed for septic systems become the governing regulations for the watershed,

whether they are prescribed by the Water Board in the TMDL or developed by the local regulatory agency in accordance with the TMDL.

What's next?

Water Board staff is currently working on the TMDL and are soliciting ideas and recommendations for implementation actions. Public meetings will be held over the next year as the Water Board continues to work with watershed residents and stakeholders. The Water Board is expected to consider the completed TMDL in the fall of 2015, with a possible effective date of 2016.

How to stay involved

Information on the Russian River Pathogen Indicator Bacteria TMDL can be found at: http://www.waterboards.ca.gov/northcoast/water_issues/programs/tmdls/russian_river

Persons wishing to receive notices related to the Russian River Pathogen Indicator Bacteria TMDL should subscribe to the email list, under Resources, Email Subscription on the left side of the Regional Water Board's main web page at: <http://www.waterboards.ca.gov/northcoast>

Questions regarding this meeting or general questions regarding the Russian River Pathogen Indicator Bacteria TMDL should be directed to Charles Reed, by phone at 707-576-2752 or email at Charles.Reed@waterboards.ca.gov or Rebecca Fitzgerald, by phone at 707-576-2650 or email at Rebecca.Fitzgerald@waterboards.ca.gov.

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Enforcement Report for November 2014 Executive Officer's Report
Diana Henrioulle

Date Issued	Discharger	Action Type	Violation Type	Status as of October 23, 2014
9/4/14	City of Eureka	EPL	MMP	Paid

Comments: On September 4, 2014, the Executive Officer issued an Expedited Payment Letter (EPL) to the City of Eureka, Elk River Wastewater Treatment Facility for Mandatory Minimum Penalty (MMP) violations in the amount of \$9,000.

Date Issued	Discharger	Action Type	Violation Type	Status as of October 23, 2014
9/19/14	City of Ferndale	EPL	MMP	Ongoing

Comments: On September 19, 2014, the Executive Officer issued an Expedited Payment Letter (EPL) to the City of Ferndale for Mandatory Minimum Penalty (MMP) violations in the amount of \$18,000.

