Regional Water Quality Control Board
North Coast Region
Executive Officer's Summary Report
December 2, 2021

ITEM: #5

SUBJECT: Public Hearing on Resolution No. R1-2021-0055 to consider adoption of an amendment to the Water Quality Control Plan for the North Coast Region to include the Action Plan for the Russian River Watershed Pathogen Total Maximum Daily Load (TMDL) and prohibition against the discharge of fecal waste materials (Alydda Mangelsdorf and Lisa Bernard)

BOARD ACTION: This is a public hearing for the Regional Water Board to consider adoption of amendments to the Water Quality Control Plan for the North Coast Region (Basin Plan).

BACKGROUND: Section 303(d) of the federal Clean Water Act and 40 CFR section 130.7 require states to identify water bodies that do not meet water quality standards and are not supporting their beneficial uses (also known as the list of impaired water bodies (303 (d) List)). The 303 (d) List is often used as a screening tool, which then serves as a trigger to prioritize and pursue more rigorous investigations of water quality and pollutant sources. Portions of the Russian River Watershed were first listed on the Section 303(d) List of Impaired Waters for pathogens in the 2002 reporting cycle. The Russian River Watershed pathogen listings were updated in 2006, 2010, and 2012; no changes to Russian River Watershed pathogen listings were made as part of the 2018 listing cycle. The most recent 303(d) listing for pathogens applicable to the Russian River was approved by U.S. EPA on July 30, 2015[1].. Combined with direction from the Regional Water Board received through the Triennial Review Process, these Russian River pathogen listings triggered the development of the Russian River Pathogen TMDL project.

The Russian River Pathogen TMDL project design involved four watershed studies to evaluate all potential sources of fecal waste discharge to surface waters of the Russian River Watershed: a Land Cover Study, an Onsite Wastewater Treatment System (OWTS) Study, a Recreation Study, and a PhyloChip™ Study. In summary, the TMDL studies measured multiple fecal indicator bacteria and microbial source indicators (e.g., bacteria DNA), which provided evidence of seasonal and episodic fecal waste pollution at locations throughout the watershed and associated with key land use factors. The identified key land use factors associated with exceedance of fecal indicator bacteria standards and thresholds included: a) developed sewered lands: b) developed unsewered lands: c) agricultural lands: and d) shrubland (including rural residential land uses), especially during wet weather. Further, the TMDL studies identified a positive

[1] The most recent 303(d) list for the North Coast Region was approved by U.S. EPA on June 9, 2021; however, during this most recent listing cycle no changes were made to the existing Russian River Watershed listings for pathogens.

statistical relationship between OWTS density and exceedance of fecal indicator bacteria standards and thresholds. The TMDL studies identified a positive relationship between the intensity of recreational use and exceedance of fecal indicator bacteria standards and thresholds. Finally, the TMDL studies identified human fecal waste as a significant source of waste in both the Russian River mainstem and tributaries, using both *Bacteroides* markers and bacteria DNA data.

In 2015, two separate peer reviewers reviewed the results of these studies and found them, with undertaken corrections, to be a sound basis for establishing the TMDL, including a watershed-wide fecal waste discharge prohibition. The TMDL studies and fecal waste discharge prohibition have remained the cornerstone of the TMDL since 2015 and remain unchanged in the Action Plan proposed for adoption in December 2021.The TMDL Action Plan builds upon management measures required by existing regional and statewide regulations and orders designed to reduce or eliminate fecal waste discharges from multiple sources, including wastewater treatment facilities, sanitary sewer systems, recycled water, land application of biosolids, municipal stormwater runoff, OWTS, and dairies. Where existing state-issued waste discharge requirements and actions undertaken by other local regulatory agencies have been inadequate to ensure consistent achievement of bacteria objectives, the Action Plan identifies implementing parties and sets forth specific implementation actions that shall be taken to control fecal waste pollution, achieve wasteload and load allocations, attain bacteria objectives, and protect public health in the Russian River Watershed. At the heart of the TMDL's Program of Implementation, is a watershed-wide prohibition against discharges of fecal waste material from humans or domestic animals to waters of the state within the Russian River Watershed (Fecal Waste Discharge Prohibition). Many fecal waste sources in the watershed are already subject to source control under existing permits and programs; while others including recreational users, homeless encampments, non-dairy livestock operations, and individual OWTS were identified as needing a new or increased regulatory framework to achieve compliance with the Fecal Waste Discharge Prohibition.

In 2012, the State Water Resources Control Board (State Water Board) adopted the statewide Water Quality Control Policy for Siting, Design, Operation, and Maintenance of Onsite Wastewater Treatment Systems (OWTS Policy), prompting regional water boards to incorporate the statewide OWTS Policy into their Basin Plan within a given timeframe. The North Coast Board incorporated the statewide OWTS Policy into its Basin Plan in 2012, retaining the pre-existing Regional OWTS Policy to apply to the Russian River Watershed until a TMDL Action Plan for the Russian River Watershed Pathogen TMDL could be adopted. The statewide OWTS Policy requires the establishment of an Advanced Protection Management Program (APMP) that sets forth standards and requirements for OWTS near impaired water bodies where it has been determined that OWTS are a contributing source of pathogens or nitrogen.

Based upon the Russian River TMDL studies, all OWTS within the Russian River Watershed are subject to the Fecal Waste Discharge Prohibition. However, in order to provide a framework for prioritizing OWTS compliance requirements and establish an APMP, in 2019 Staff grouped water quality data available within the 43 Russian River

HUC-12 subwatersheds to identify areas where *E. coli* or enterococci exceeded state and/or federal standards. Staff also screened the HUC-12s for moderate to high level evidence of human fecal waste in the water column based upon PhyloChip™ or *Bacteroides* results. Using this approach, in 2019 the TMDL Staff Report and TMDL Action Plan established an APMP boundary for nine of the 43 HUC-12 subwatersheds in the Russian River Watershed, thus limiting the number of OWTS subject to site specific OWTS requirements wherein deadlines are established for homeowners to identify and correct substandard, failing, and overloaded OWTS.

Following public review and a public hearing, the TMDL Action Plan as summarized above was adopted by the Regional Water Board in August 2019 by Resolution R1-2019-0038.

DISCUSSION: In 2020, before the 2019 Regional Water Board adopted TMDL Action Plan was considered for approval by the State Water Board, Staff conducted a reassessment of the Russian River Watershed HUC-12 data that was used to establish the APMP boundaries and identified several errors. To catalog and report those errors, Regional Water Board staff generated the *Reassessment of Fecal Indicator Bacteria and Microbial Source Tracking Data for the Russian River Watershed Pathogen Total Maximum Daily Load* (Technical Report, 2020). The findings from the Technical Report, 2020 confirms the identification of the original nine HUC-12s as appropriate for inclusion in the APMP boundaries. The Technical Report, 2020 also identified one additional HUC-12, the Porter Creek-Mark West Creek HUC-12, as an area which both exceeds statewide *E. coli* objectives and contains evidence of human fecal waste in the water column. These findings necessitated a proposal for changes to the TMDL Staff Report and the Action Plan previously adopted by the Regional Water Board in 2019. The key change proposed to the TMDL Action Plan is expansion of the APMP boundaries from nine HUC-12s to ten HUC-12s by now including the Porter Creek-Mark West Creek subwatershed. There are no other changes to the TMDL's Program of Implementation. All other revisions to the TMDL Staff Report and Action Plan seek to either clarify or correct findings in light of the Technical Report, 2020.

On August 5, 2021, the Regional Water Board made available for public review and comment 1) the Technical Report, 2020, 2) the Revised Staff Report for the Action Plan for the Russian River Watershed Pathogen Total Maximum Daily Load (TMDL Staff Report 2021), and 3) the Revised Action Plan for the Russian River Watershed Pathogen Total Maximum Daily Load (TMDL Action Plan). Subsequently, during the August 19, 2021 Board meeting, staff presented the proposed revisions to the adopted TMDL Action Plan to the Regional Water Board and the public. Staff also met with communities of interest on September 8th, and again on September 20, 2021 to discuss questions and concerns related to the TMDL. Staff received five written comment letters by the September 22, 2021 end of public comment period. Many comments from two of the commenters received during the 54-day comment period appear to conflate the 303(d) listing and TMDL processes as they relate to the use of data. Though the TMDL Action Plan includes measures to address the multiple sources of human and domestic animal fecal waste identified in the TMDL Action Plan, the vast majority of comments focus on the program of implementation for OWTS. For example, some comments

indicate an interest in a continuation of monitoring specific to OWTS prior to establishing an APMP and an interest in providing more time (beyond 15-20 years) for correcting failing, substandard, and overloaded OWTS in the APMP. There were no comments specifically regarding the addition of the Porter Creek-Mark West Creek HUC-12 into the APMP or the prohibition against the discharge of fecal waste materials. Staff prepared detailed written response to each of the comments received; see Response to Comments. No significant changes were made to the three public review draft documents based upon the comments received.

RECOMMENDATION: Adopt Resolution No. R1-2021-0055 amending the Water Quality Control Plan for the North Coast Region to include the Revised Action Plan for the Russian River Pathogen Total Maximum Daily Load (TMDL) and prohibition against the discharge of fecal waste materials in the Russian River Watershed.

SUPPORTING DOCUMENTS:

1. Resolution No. R1-2021-0055

2. Reassessment of Fecal Indicator Bacteria and Microbial Source Tracking Data for the Russian River Watershed Pathogen Total Maximum Daily Load (Technical Report, 2020)

3. Revised Action Plan for the Russian River Watershed Pathogen Total Maximum Daily Load (TMDL) – strikeout and underline and clean versions

4. Revised Staff Report for the Action Plan for the Russian River Watershed Pathogen Total Maximum Daily Load (2021) – clean version

5. Response to Comments (copies of comment letters available upon request)

6. Notice of Public Hearing

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