

ITEM: 9

SUBJECT: Total Maximum Daily Loads of Pathogens in Stockton Urban Waterbodies, San Joaquin County - Consideration of a Resolution Approving TMDL

BOARD ACTION: Adoption of Proposed Resolution

BACKGROUND: Pursuant to the federal Clean Water Act §303(d), the State Water Resources Control Board has compiled a list (§303(d) list) of waterbodies for which water quality controls are insufficient to implement existing water quality standards. Six urban waterbodies in the City of Stockton are listed as impaired on the §303(d) list: Five-Mile Slough, Lower Calaveras River, Mormon Slough, Mosher Slough, Smith Canal and Walker Slough. These waterbodies are listed for impairment because of elevated levels of pathogens. Pathogens are assessed using indicator organisms such as *E.Coli* and fecal coliform. For the six impaired urban waterbodies in the City of Stockton, TMDLs will be implemented by the provisions and requirements included in the City of Stockton MS4 stormwater permit. (Order No. R5-2007-0173; NPDES No. CAS083470) and Water Code §13267 Order (issued 14 November 2007).

ISSUES: Staff has developed a TMDL and program of implementation that includes the following:

Water Quality Targets

Regional Board staff proposes establishing the fecal coliform water quality objectives and the U.S. Environmental Protection Agency's (US EPA) numeric criteria for *E. coli* as the numeric targets for this TMDL. These targets are considered to be protective of the contact recreation (REC-1) beneficial use, and are expressed as a concentration with units of most probable number (MPN)/100mL. The numeric targets for the TMDL are applicable year-round and are listed below.

Fecal coliform - 200/100 ml Geometric Mean, nor
400/100 ml for 10% of samples

E. coli - 126/100 ml Geometric Mean, and
235/100 ml single sample maximum

TMDL Loading Capacity and Allocations

The loading capacity for pathogens in each of the six listed waterbodies/Sloughs is the same as the numeric target, which is protective of the REC-1 beneficial use. Concentration-based loads are proposed for this TMDL. Since the loading capacity is expressed per unit volume rather than total mass load, the individual sources must not exceed the loading capacity. Therefore, the waste load allocations and load allocations are equal to the

loading capacity (see Equation 1). This formula represents the concentration of pathogen indicators fecal coliform and *E. coli* that can be in the stormwater that runs off or is discharged into any of the urban waterbodies.

$$LC=WLA=LA=Numeric\ Target \qquad (EQ\ 1)$$

Implementation

As part of its previous MS4 Stormwater Permit (*Order No. R5-2002-0181*), the City of Stockton was instructed to develop and implement a pathogen pollution prevention plan (Pathogen Plan), which was approved by the Executive Officer in 2004. The Pathogen Plan is currently evaluating the six listed waterbodies through a phased approach – two sloughs at a time. Each phase involves monitoring to characterize the waterbody and to identify sources. Once sources are identified, Best Management Practices (BMPs) are implemented and then evaluated for effectiveness. The Pathogen Plan has been initiated and is currently in phase one of the three-phased project. The current MS4 Stormwater Permit (*Order No. R5-2007-0173*, NPDES No. CAS083470), adopted in December 2007, requires Stockton to continue its efforts under the Pathogen Plan. In November 2007, the Central Valley Water Board issued a \$13267 letter to the City of Stockton to continue the monitoring required in their approved Pathogen Plan. By the end of the Pathogen Plan, pathogen sources should be identified (within the capability of methods used) and BMPs should be in place to solve the impairment.

If results from the Permittee’s Pathogen Plan indicate the implementation of BMPs to control pathogens does not resolve water quality impairments in the urban waterbodies, then additional controls or monitoring may be required of the Permittees. In addition, the Central Valley Water Board may prepare a Basin Plan Amendment or take other action to address the sources of pathogens in the Stockton urban waterbodies.

A Public Review Draft Staff Report and Resolution were circulated to the public in January 2008. One comment letter was received from the City of Stockton. In response, several changes have been made to the draft staff report and resolution. A response to comments is included in Appendix C of the Draft Final Staff Report.

Mgmt. Review _____
Legal Review _____

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