

RESOLUTION NO. R3-2006-0025

ATTACHMENT - PROPOSED BASIN PLAN AMENDMENTS

AMENDMENT NO. 1. Revise the September 8, 1994 Basin Plan, Chapter Four, as follows:

Add the following to Chapter 4 after IX. H.:

IX. I. TOTAL MAXIMUM DAILY LOAD FOR PATHOGENS FOR WATSONVILLE SLOUGH

The Regional Water Quality Control Board adopted this TMDL on March 24, 2006.

This TMDL was approved by:

The State Water Resources Control Board on September 21, 2006.

The California Office of Administrative Law on November 20, 2006. (*Effective date*)

The U.S. Environmental Protection Agency on July 19, 2007.

Problem Statement

The beneficial uses of water contact recreation (REC-1) and non-contact water recreation (REC-2) are not supported in Watsonville Slough or its tributaries, Struve, Hanson, Harkins and Gallighan Sloughs, because fecal coliform concentrations there exceed existing Basin Plan numeric water quality objectives protecting these beneficial uses.

Numeric Target

Fecal coliform concentration, based on a minimum of five samples for any 30-day period, shall not exceed a log mean of 200 MPN per 100mL, nor shall more than ten percent of total samples collected during any 30-day period exceed 400 MPN per 100mL.

Source Analysis

Controllable sources of fecal coliform bacteria in Watsonville Slough and its tributaries include humans, pets, livestock, and land-applied non-sterile manure in irrigated agriculture. Genetic data indicate that the major sources of fecal coliform causing exceedance of the REC-1 standard are natural avian populations. Genetic analysis of Watsonville Slough water samples from both winter and summer periods confirmed birds, cows, and dogs (with birds contributing the most and dogs the least); human fecal coliform bacteria was confirmed in Harkins and Struve Sloughs, but in lower amounts than cow, bird and dog fecal coliform.

TMDL and Allocations

The TMDL for pathogens in Watsonville Slough is a receiving water concentration equal to the numeric target for fecal coliform. The allocation to each responsible party is the receiving water fecal coliform concentration equal to the TMDL. These allocations focus on reducing or eliminating the controllable sources of fecal coliform. The table below shows the allocations with respect to responsible party and waterbody.

The allocation to background (including natural sources from birds) is also the receiving water fecal coliform concentration equal to the TMDL. The parties responsible for the allocation to controllable sources are not responsible for the allocation to natural sources.

ALLOCATIONS AND RESPONSIBLE PARTIES

WASTE LOAD ALLOCATIONS		Receiving Water Fecal Coliform (MPN/100mL)¹
Waterbody	Responsible Party	
Watsonville, Struve, Harkins Sloughs	Santa Cruz County (Urban Stormwater)	≤ 200
Watsonville, Struve, Harkins, Gallighan, Hanson Sloughs	City of Watsonville (Urban Stormwater)	≤ 200
Harkins Slough	Santa Cruz Co. Freedom Sanitation District (Sanitary Sewer Collection System)	≤ 200
Watsonville & Struve Sloughs	City of Watsonville (Sanitary Sewer Collection System)	≤ 200
Gallighan Slough	Santa Cruz County (Landfill Stormwater)	≤ 200
LOAD ALLOCATIONS		Receiving Water Fecal Coliform (MPN/100mL)¹
Watsonville & Harkins Sloughs	Operators or owners of irrigated lands who land-apply non-sterile manure	≤ 200
Watsonville & Harkins Sloughs	Operators or owners of livestock facilities and animals	≤ 200
¹ As log mean of five (5) samples taken in a 30-day period occurring within each season.		

The TMDL is considered achieved when the allocations assigned to the controllable and natural sources are met, or when the numeric targets are consistently met in all tributaries and Watsonville Slough.

Margin of Safety

A margin of safety is incorporated in the TMDL through conservative assumptions.

Implementation and Monitoring

Landfill Stormwater Monitoring

Within six months following adoption of this TMDL by the Office of Administrative Law, the Executive Officer will require the County of Santa Cruz to include fecal coliform monitoring in the Buena Vista Landfill Waste Discharge Requirements (Order No. 94-29), per Section 13267 of the CWC.

THE FOLLOWING ACTIONS WILL REDUCE FECAL COLIFORM BACTERIA LOADING FROM HUMANS AND PETS:

Urban Stormwater

The City of Watsonville (City) and County of Santa Cruz (County) must revise their Stormwater Management Plans to indicate how and when they will conduct public participation and outreach regarding specific actions that individuals can take to reduce pathogen loading and to indicate how and when they will develop and implement an enforceable means of reducing fecal coliform loading from pet waste (e.g., an ordinance). Within six months following adoption of this TMDL by the Office of Administrative Law, the Executive Officer will (i) issue a letter pursuant to Section 13383 of the California Water Code (CWC), requiring these changes to be described in the annual report required by the Small MS4 Permit (State Board Order No. 2003-005, NPDES General Permit No.CAS000004 for Municipal Separate Storm Sewer Systems) and (ii) require appropriate modifications to the Stormwater Management Plans pursuant to Section G of the General Permit.

The City and County public participation and outreach efforts must include the following tasks:

- a. Educating the public about sources of fecal coliform and its associated health risks in surface waters.

- b. Identifying and promoting specific actions that responsible parties can implement to reduce pathogen loading from sources such as homeless encampments, agricultural field workers, and homeowners who contribute waste from domestic pets.

The City and County must monitor receiving water and stormwater outfalls that may be contributing fecal coliform to the sloughs. Within six months following adoption of this TMDL by the Office of Administrative Law, the Executive Officer will issue a letter pursuant to Section 13267 and/or 13383 of the CWC, requiring a technical report that describes a monitoring plan and schedule that includes sampling sites in receiving water and at stormwater outfalls. The City and County may submit the monitoring results in subsequent annual reports already required by the Small MS4 Permit or submit them in a separate technical report.

Sanitary Sewer Collection System

The City and County are required to improve maintenance of their sewage collection systems, including identification, correction, and prevention of sewage leaks, in portions of the collection systems that run through, or adjacent to, tributaries to Watsonville Slough (Action 1B, Table 1). Within six months following adoption of this TMDL by the Office of Administrative Law, the Executive Officer will issue a letter pursuant to Section 13267 of the CWC, requiring a technical report that describes how and when they will conduct improved system maintenance in portions of the system most likely to affect the Sloughs. One year following adoption of this TMDL by the Office of Administrative Law, Water Board staff will evaluate proposed sewer system maintenance for the City and the County of Santa Cruz Freedom Sanitation District as described in the technical report and determine whether appropriate changes to the maintenance have been made or whether any changes to the Waste Discharge Requirements (currently, Order No. R3-2003-0041, and No. R3-2003-0040, respectively) are warranted.

THE FOLLOWING ACTIONS WILL REDUCE FECAL COLIFORM BACTERIA LOADING FROM LIVESTOCK AND LAND-APPLIED NON-STERILE MANURE:

Livestock Sources

Operators or owners of livestock facilities and animals must comply with the proposed Watsonville Slough Watershed Livestock Waste Discharge Prohibition to implement their load allocations. Within one year following approval of the TMDL by the Office of Administrative Law, the Executive Officer will notify the owners and operators of livestock facilities, and the owners of animals, of the proposed Watsonville Slough Watershed Livestock Waste Discharge Prohibition and conditions for compliance with the prohibition. The Executive Officer will review and approve, or request modification of, the Nonpoint Source Pollution Control Implementation Program (Program) or documentation submitted in compliance with the prohibition within six months of the submittal date. Should the Program or documentation require modification, or if a party fails to submit a Program or documentation, the Executive Officer may issue a civil liability complaint pursuant to section 13268 or 13350 of the CWC, or alternatively, propose individual or general waste discharge requirements to assure compliance with the prohibition. Alternatively, dischargers may comply by immediately ceasing all discharges in violation of the Prohibition.

Responsible parties must submit monitoring data or other evidence that demonstrates compliance with the Watsonville Slough Watershed Livestock Waste Discharge Prohibition. The Executive Officer will determine whether the information submitted demonstrates compliance.

Irrigated Land Sources

Operators or owners of irrigated lands where non-sterile manure is applied must comply with the Conditional Waiver of Waste Discharge Requirements for Discharges from Irrigated Lands to implement their load allocations. Staff expects management measures implemented pursuant to this waiver for irrigated lands will be adequate to reduce or eliminate pathogen discharges where farmers apply non-sterile manure to the land. However, compliance with the conditions in the waiver does not meet all of the requirements of the proposed Watsonville Slough Watershed Livestock Waste Discharge Prohibition. Since the Conditional Waiver does

not include any regulation or monitoring of pathogen discharges, operators or owners of irrigated lands where non-sterile manure is applied must also submit reports that demonstrate that they do not discharge pathogens, or explain how pathogen discharges are being addressed.

Within six months following approval of the TMDL by the Office of Administrative Law, the Executive Officer will notify responsible parties of the proposed Watsonville Slough Watershed Livestock Waste Discharge Prohibition and conditions for compliance with the prohibition. The Executive Officer will review and approve, or request modification of, the Nonpoint Source Pollution Control Implementation Program (Program), or other documentation submitted in compliance with the prohibition, within six months of the submittal date. Should the Program or documentation require modification, or if a responsible party fails to submit a Program or documentation, the Executive Officer may issue an administrative civil liability complaint pursuant to section 13268 or 13350 of the CWC, or alternatively, propose individual or general waste discharge requirements or conditional waivers to assure compliance with the prohibition. Alternatively, dischargers may comply by immediately ceasing all discharges in violation of the Prohibition.

Tracking and Evaluation

Water Board staff will conduct a review every three years beginning three years after TMDL approval by the Office of Administrative Law. Water Board staff will use Annual Reports and any other available information to determine progress toward compliance. Water Board staff may conclude that ongoing implementation efforts are insufficient to ultimately achieve the allocations and numeric target. If staff makes this determination, staff will recommend that additional reporting, monitoring, or implementation efforts be required either through authority of the Executive Officer (e.g. pursuant to CWC section 13267 or section 13383) or the Water Board (e.g. through revisions of existing permits and/or a Basin Plan Amendment). Water Board staff may also conclude that implementation efforts are likely to achieve compliance, and therefore existing implementation efforts should continue.

Responsible parties will continue monitoring according to this plan for at least three years, at which time Water Board staff will determine the need for continuing or otherwise modifying the monitoring requirements. Responsible parties may also demonstrate that controllable sources of pathogens are not contributing to exceedance of water quality objectives in receiving waters. If this is the case, staff may consider re-evaluating the targets and allocations. For example, staff may propose a site-specific objective for Watsonville Sloughs, to be approved by the Water Board. The site-specific objective would be based on evidence that natural, or "background" sources alone were the cause of exceedances of the Basin Plan water quality objective for fecal coliform.

Three-year reviews will continue until the TMDL is achieved. The target date to achieve the TMDL is ten years after implementation commences.

Table 1 IMPLEMENTATION ACTIONS OF RESPONSIBLE PARTIES

Responsible Party	Source Category	Management Measure	Action
County of Santa Cruz and City of Watsonville	1A Human	Public Participation and Outreach	Educate the public, including the homeless, regarding sources of fecal coliform and associated health risks of fecal coliform in surface waters of the Watsonville Slough Watershed. Educate the public regarding actions that individuals can take to reduce pathogen loading in the Watershed. Revise Stormwater Management Plan and submit to Water Board for approval, monitor, and report.
	1B Human	Human Source Elimination and Prevention	Maintain the sewage collection system, including identification, correction, and prevention of sewage leaks into tributaries to Watsonville Slough. Revise Sewer System Management Plan and submit to Water Board for approval, monitor, and report.
	1C Pets	Pet Waste Management	Develop and implement enforceable means (e.g., an ordinance) of reducing/eliminating fecal coliform loading from pet waste. Educate the public regarding actions that individuals can take to reduce loading in the Watershed. Revise Stormwater Management Plan and submit to Water Board for approval, monitor, and report.
Operators or owners of livestock facilities and animals	2A Livestock	Farm Animal and Livestock Facilities Management	Develop and implement strategies to reduce/eliminate fecal coliform loading from farm animal and livestock facilities (e.g., pens, corrals, barns) into surface waters of the Watsonville Slough Watershed. Submit <i>Nonpoint Source Control Implementation Program</i> to the Executive Officer of the Water Board and monitor and report, or, document and report to the Water Board that no discharge is occurring from animal facilities.
	2B Livestock	Grazing Management	Protect sensitive areas (including streambanks, sloughs, wetlands, and riparian zones) by reducing direct loadings of animal wastes from grazing areas into surface waters of the Watsonville Slough Watershed. Submit <i>Nonpoint Source Control Implementation Program</i> to the Executive Officer of the Water Board and monitor and report, or, document and report to the Water Board that no discharge is occurring from grazing activities.
Operators or owners of irrigated lands who land-apply non-sterile manure	3 Land-Applied Non-Sterile Manure on Irrigated lands	Irrigated Land Management	Develop, implement and report on measures to reduce/eliminate fecal coliform loading from land-applied non-sterile manure into surface waters of the Watsonville Slough Watershed. Document and report to the Water Board that measures are in place and monitor to demonstrate effectiveness.

AMENDMENT NO. 2. Revise the September 8, 1994 Basin Plan as follows:

Add the following at the end of Chapter 4

VIII.E.6. WATSONVILLE SLOUGH WATERSHED LIVESTOCK WASTE DISCHARGE PROHIBITION

1. The direct or indirect discharge of livestock animal waste from any grazing operations, non-sterile manure application, farm animal and livestock facilities including paddocks, pens, corrals, barns, sheds, or other activity of whatever nature into waters of the State within the Watsonville Slough Watershed is prohibited.

The above prohibition does not apply to any farm animal or livestock facility and/or any facility where non-sterile manure is applied if the owner or operator:

- i. Submits a Nonpoint Source Pollution Control Implementation Program, consistent with the *Policy for Implementation and Enforcement of the Nonpoint Source Pollution Control Program*, that is approved by the Executive Officer, or
- ii. Demonstrates to the satisfaction of the Executive Officer that its activities do not cause livestock waste to pass into waters of the state within the Watsonville Slough Watershed, or
- iii. Is regulated under Waster Discharge Requirements or an NPDES permit, or a conditional waiver of waste discharge requirements that explicitly addresses compliance with the Watsonville Slough TMDL for Pathogens.

This Livestock Waste Discharge Prohibition takes effect two years following approval of the TMDL by the U.S. Environmental Protection Agency.

Add the following at the end of Chapter 5, IV.E. Other Specific Prohibition Subjects:

Watsonville Slough Watershed Livestock Waste Discharge Prohibition

AMENDMENT NO. 3. Revise the September 8, 1994 Basin Plan, Chapter Two, as follows:

Amend portion of Table 2-1. Identified Uses of Inland Surface Waters, pertaining to Watsonville Slough and tributaries:

Waterbody Names	MUN	AGR	PRO	IND	GWR	REC1	REC2	WILD	COLD	WARM	MIGR	SPWN	BIOL	RARE	EST	FRESH	NAV	POW	COMM	AQUA	SAL	SHELL	
Watsonville Slough						X	X	X		X		X	X	X	X				X				X
Struve Slough						X	X	X		X		X	X	X	X				X				X
Hanson Slough						X	X	X		X		X	X	X	X				X				X
Harkins Slough						X	X	X		X		X	X	X	X				X				X
Gallighan Slough						X	X	X		X		X		X	X				X				X