

RESOLUTION NO. R3-2002-0117**ATTACHMENT - PROPOSED BASIN PLAN AMENDMENTS**

1. Revise the September 8, 1994 Basin Plan, Chapter Four, as follows:

Add the following to chapter 4 after IX. D.

IX. E. TOTAL MAXIMUM DAILY LOAD FOR PATHOGENS FOR MORRO BAY AND CHORRO AND LOS OSOS CREEKS

The Regional Water Quality Control Board adopted this TMDL on insert date.
This TMDL was approved by:

The State Water Resources Control Board on insert date.

The California Office of Administrative Law on insert date. (*Effective date*)

The U.S. Environmental Protection Agency on insert date.

TMDL Elements

Element													
Problem Statement	Numeric water quality objectives for fecal coliform set by the Regional Board and standards enforced by the California Department of Health Services (DHS) pursuant to the United States Department of Health Services Food and Drug Administration's National Shellfish Sanitation Program have been exceeded for shellfish harvesting and water contact recreation in Morro Bay. Elevated levels of fecal coliform in Morro Bay and Chorro and Los Osos Creeks indicate that pathogens are impairing water contact recreation and shellfish harvesting in these water bodies. High levels of pathogens may cause disease in humans and may also adversely affect marine animals. Portions of Morro Bay have been closed by DHS for commercial shellfish harvesting since 1996, and advisories have been posted to warn the public to avoid water contact activities. Morro Bay was identified as impaired for pathogens on the 1998 Clean Water Act Section 303(d) list of impaired water bodies.												
Numeric Targets	<p>Numeric targets for Morro Bay, based on regulations¹ that DHS follows</p> <table border="1"> <thead> <tr> <th colspan="2">Fecal Coliform</th> </tr> <tr> <th>Geometric Mean</th> <th>Maximum</th> </tr> </thead> <tbody> <tr> <td></td> <td>43 MPN/100 mL^b</td> </tr> </tbody> </table> <p>a: Based on the geometric mean of monthly sampling b: No more than 10% of total samples may exceed this number</p> <p>Numeric targets for Chorro and Los Osos Creeks and fresh water seeps² to Morro Bay, based on Basin Plan objective</p> <table border="1"> <thead> <tr> <th colspan="2">Fecal Coliform</th> </tr> <tr> <th>Geometric Mean</th> <th>Maximum</th> </tr> </thead> <tbody> <tr> <td>200 MPN/100 mL^a</td> <td>400 MPN/100 mL^b</td> </tr> </tbody> </table> <p>a: Geometric mean of not less than five samples over a period of 30 days b: Not more than 10% of total samples during a period of 30 days exceed</p>	Fecal Coliform		Geometric Mean	Maximum		43 MPN/100 mL ^b	Fecal Coliform		Geometric Mean	Maximum	200 MPN/100 mL ^a	400 MPN/100 mL ^b
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¹ National Shellfish Sanitation Program, Model Ordinance, Chapter IV, 0.02, D

² Seeps are defined as any surfacing ground water flowing into Morro Bay from the east shore of the Bay, south of Los Osos Creek.

Resolution No. R3-2002-0117
Attachment A

May 16, 2003

Element	
Allocations and TMDL	<p>This TMDL is expressed as concentrations that are equal to the numeric targets. For Bay waters, a geometric mean of 14 MPN/100 mL must be achieved and no more than 10% of the samples may be over 43 MPN/100 mL for <u>fecal coliform</u>. For tributaries (Chorro and Los Osos Creeks and fresh water seeps) to the Bay, the geometric mean shall not exceed 200 MPN/100 mL over a 30-day period nor shall 10% of the samples exceed 400 MPN/100 mL over any 30-day period for <u>fecal coliform</u>. Point and nonpoint sources cannot exceed the concentrations specified above. Therefore, the wasteload allocations and load allocations, which include background levels, are also equal to the numeric targets.</p>
Margin of Safety	<p>A margin of safety has been established implicitly through the use of protective numeric targets.</p>
Linkage Analysis	<p>Allocations are equal to the numeric targets which equal the water quality objectives.</p>
Implementation	<p>The bacterial load to Morro Bay derives from nonpoint sources (NPS) and point sources. As such, implementation will rely on the State's Plan for NPS pollution control (CWC §13369) and continued implementation of existing regulatory controls as appropriate for point sources, including storm water pursuant to NPDES surface water discharge regulations and Waste Discharge Requirements (Porter Cologne).</p> <p>Implementation emphasizes the activities of the Morro Bay National Estuary Program, Coastal San Luis Resources Conservation District, Farm Bureau, University of California Cooperative Extension, Natural Resources Conservation Service, Public/Private Landowners, Morro Bay Harbor Department, California Department of Fish and Game, City of Morro Bay, United States Coast Guard, San Luis Obispo County, Division of Animal Services, all of whom are not currently identified as dischargers responsible for bacterial loading, to implement self-determined activities (see Table: Trackable Implementation Actions (self-determined)). Other actions, currently required because of another Regional Water Quality Control Board (Regional Board) regulatory program, will be evaluated to make sure progress is taking place (see Table: Trackable Implementation Actions identified under existing regulatory programs). Regional Board Staff will meet annually with the implementing parties identified in the list of Trackable Implementation Actions Tables to provide technical assistance and to evaluate and track progress (see Table: Morro Bay TMDL for Pathogens Implementation Schedule for details). If at the end of year three, implementing parties fail to initiate these self-determined activities and/or resulting management practices fail to reduce bacterial loads and/or the numeric targets are not being met, then Regional Board staff will conduct inspections and investigations to identify individual responsible dischargers (e.g., landowners or public agencies). Regional Board staff may rely on Section 13267 of the California Water Code and other appropriate authorities for investigation and identification of individual responsible dischargers. Regional Board staff will also rely on Section 13267 of the California Water Code to require reporting and/or monitoring to determine the level of implementation of identified activities to reduce bacteria. If necessary, the Regional Board may rely on enforcement authority, pursuant to California Water Code Section 13304, to require dischargers to clean-up and abate bacterial discharges and/or prevent the threat of discharges on a case-by case basis. Additionally, Implementation Actions (in the Table of Implementation Actions) may be identified as conditions of compliance with storm water permits and Waste Discharge Requirements.</p> <p>If at the end of the third year, self-determined actions have not been initiated, staff will develop a regulatory approach (rather than a self-determined approach) and present a revised implementation plan to the Regional Board as a Basin Plan Amendment.</p>
Monitoring	<p>Monitoring will be performed and evaluated by the DHS according to their regulations, the Morro Bay National Estuary Volunteer Program and the Regional Board to ensure that numeric targets are met and implementation actions are taking place. Should the Morro Bay National Estuary Volunteer Program be unable to sample, the Regional Board will sample to the extent practicable. Regional Board staff will review data on a triennial basis, at a minimum, and determine if progress towards fecal coliform reduction is adequate and whether changes to implementation actions are warranted (as described above).</p>

Trackable Implementation Actions (self-determined)

PROJECT NAME	ACTION	SCHEDULE	IMPLEMENTING PARTIES
Grazing Management	Implement grazing management measures that reduce bacterial levels	Ongoing - 2012	MBNEP, CSLRCD, Farm Bureau, UCCE, NRCS, Public/Private Landowners
Boat Management, Pump-outs	Upgrade pump-out facilities, provide new facilities, improve accessibility	2002-2005	MBHD
Remove unpermitted moorings	Remove illegal moorings and prevent future ones	Ongoing - 2007	CDFG, MBNEP
Remove derelict boats	Remove abandoned, derelict boats and vessels in back bay	Ongoing - 2007	CDFG, MBNEP
Manage live aboard boating situation	Continue issuing permits to live aboards, continue with inspections	Ongoing - 2012	City of Morro Bay, USCG, CDFG, MBHD
Educate Public about proper boat waste disposal	Educate public about proper waste disposal	Ongoing - 2012	MBNEP, MBHD
Pet waste management	Create an off leash dog park, provide supplies to pick-up pet waste, ordinance	Ongoing - 2012	MBNEP, City of Morro Bay, San Luis Obispo County
Septic System Maintenance	Inspect and maintain all septic systems throughout the watershed	2004 - continuous	San Luis Obispo County, LOCSO
Spay/neuter pets	Educate public to promote spaying and neutering pets	Ongoing - 2012	Division of animal services
Reduce the number of feral dogs/cats	Reduce the number of feral dogs/cats	Ongoing - 2012	Division of animal services, feral cat caretakers

CDFG – California Department of Fish and Game
 CSLRCD – Coastal San Luis Resources Conservation District
 MBHD – Morro Bay Harbor Department
 MBNEP – Morro Bay National Estuary Program
 NRCS – Natural Resources Conservation Service
 UCCE – University of California Cooperative Extension
 USCG – United States Coast Guard
 LOCSO – Los Osos Community Services District

Trackable Implementation Actions (under existing regulatory programs)

PROJECT NAME	ACTION	SCHEDULE	RESPONSIBLE DISCHARGERS
Phase II stormwater permit	Incorporate actions to reduce bacteria loading into Morro Bay by implementing a stormwater management plan for the City of Morro Bay and the Community of Los Osos	March 2003 - 2008	City of Morro Bay LOCSD, San Luis Obispo County
Los Osos Community Waste Water Treatment Plant	Construct and maintain a wastewater treatment plant pursuant to Waste Discharge Requirements, R3-2003-0007, Waste Discharge Identification no. 3 401078001	Ongoing - 2007	LOCSD

Implementation Schedule for Morro Bay TMDL for Pathogens

At End of Implementation Year:	IMPLEMENTATION MILESTONE	MONITORING ACTIVITY	Chorro Creek TMDL	Los Osos Creek TMDL	Morro Bay TMDL
1	<ul style="list-style-type: none"> RWQCB evaluates data collected over past year, evaluates progress on actions Meet with VMP, MBNEP, LOCSO, City of MB, County of SLO, DHS, MBHD, State Parks, CDFG, Farm Bureau to discuss progress LOCSO waste water treatment plant WDR issued Submittal of stormwater management plan and permit coverage (City of MB, LOCSO) 	Fecal coliform	↓	↓	↓
2	<ul style="list-style-type: none"> RWQCB evaluates data collected; evaluates progress on actions 				
3	<ul style="list-style-type: none"> RWQCB evaluates data collected; evaluates progress on actions Regional Board evaluates the monitoring of septic system maintenance in the watershed with the County of San Luis Obispo RWQCB, MBNEP, VMP, LOCSO, City of MB, County of SLO, DHS, MBHD, State Parks, CDFG, Farm Bureau meet to determine TMDL progress. 				
4	<ul style="list-style-type: none"> RWQCB evaluates data collected; evaluates progress on actions 				
5	<ul style="list-style-type: none"> RWQCB evaluates data collected; evaluates progress on actions 				
6	<ul style="list-style-type: none"> RWQCB evaluates data collected; evaluates progress on actions LOCSO sewer installed RWQCB, MBNEP, VMP, LOCSO, City of MB, County of SLO, DHS, MBHD, State Parks, CDFG, Farm Bureau meet to determine TMDL progress 				
7	<ul style="list-style-type: none"> RWQCB evaluates data collected; evaluates progress on actions 				
8	<ul style="list-style-type: none"> RWQCB evaluates data collected and evaluates progress on actions 				
9	<ul style="list-style-type: none"> RWQCB evaluates data collected and evaluates progress on actions RWQCB, MBNEP, VMP, LOCSO, City of MB, County of SLO, DHS, MBHD, State Parks, CDFG, Farm Bureau meet to determine TMDL progress 				
10	<ul style="list-style-type: none"> RWQCB evaluates data collected and evaluates progress on actions 				
Load Reduction Achieved; Numeric Targets Achieved			REC-1 standards achieved	REC-1 standards achieved	DHS Standards, SHELL achieved

CDFG – California Department of Fish and Game
 DHS – Department of Health Services
 LOCSO – Los Osos Community Services District
 MB – Morro Bay
 MBHD – Morro Bay Harbor Department
 MBNEP – Morro Bay National Estuary Program
 RWQCB – Regional Water Quality Control Board
 SLO – San Luis Obispo
 VMP – Volunteer Monitoring Program
 WDR – Waste Discharge Requirements