RESOLUTION NO. R3-2004-0142

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. F.:

IX. G. TOTAL MAXIMUM DAILY LOAD FOR PATHOGENS FOR SAN LUIS OBISPO CREEK

The Regional Water Quality Control Board adopted this TMDL on December 3, 2004.
This TMDL was approved by:
The State Water Resources Control Board on May 19, 2005.
The California Office of Administrative Law on July 25, 2005. (*Effective date*)
The U.S. Environmental Protection Agency on September 23, 2005.

Problem Statement
The beneficial uses of non-contact water recreation and water contact recreation are not being supported because fecal coliform concentration in San Luis Obispo Creek exceeds existing Basin Plan numeric objectives protecting these beneficial uses.

Numeric Target
Fecal coliform concentration, based on a minimum of not less than 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
The fecal coliform sources contributing to the problems identified in the Problem Statement are, in decreasing order of contribution: urban, human, birds and bats roosting in the tunnel, livestock, and background. DNA analysis of samples drawn between sites 10.3 and 10.9 (see map in Figure-1) in San Luis Obispo Creek indicate that the following sources and corresponding frequencies are present: human (41%), avian (17%), combined sewer overflow (15%), canine (11%), rodent (5%), dog (4%), raccoon (3%), feline (3%), opossum (1%).

TMDL and Allocations
The TMDL is a receiving water concentration equal to the numeric target. The TMDL is considered achieved when the allocations assigned to individual reaches are consistently met or numeric targets are consistently met in all reaches.

Allocations are expressed as receiving water fecal coliform concentration. Table-1 shows the allocations with respect to location and responsible party. The reaches referred to in Table-1 are illustrated in Figure-1.

Locations of the sites illustrated in Figure-1 are described as follows:
- Site 10.0: located along the main stem of San Luis Obispo Creek (Creek) at the bridge crossing the Creek on Marsh Street. This location is downstream of the confluence of the main stem of the Creek with Stenner Creek.
- Site 10.3: located along the main stem of the Creek at Mission Plaza, immediately downstream of the downstream end of the tunnel.
- Site 10.9: located along the main stem of the Creek at the upstream end of the tunnel.
- STEN0.0: located at the mouth of Stenner Creek before its confluence with San Luis Obispo Creek.
- STEN1.5: located in Stenner Creek at its crossing with Highland Drive on the campus of Cal Poly.
- BRIZ1.0: located in Brizziolari Creek at its crossing with Via Carte Drive on Cal Poly campus; this site is located downstream of the bull-test animal unit.

- Site 12.5: located along the main stem of the Creek at Cuesta Park near the Highway 101 bridge.

Waste Load Allocations: Allocations to the City of San Luis Obispo are waste load allocations (WLAs). The WLAs will be implemented by the City's NPDES permit for the Water Reclamation Facility for control of sewer sources. The WLAs will also be implemented by the City's General Municipal Stormwater permit for the control of urban sources as well as animal sources from the tunnelized area of the Creek.

Allocations to the County of San Luis Obispo are WLAs. The WLAs will be implemented by the County's General Municipal Stormwater permit for the control of urban sources.

A portion of the total allocation to California Polytechnic State University, San Luis Obispo (Cal Poly) is a WLA. The allocation at site STEN1.5 shown in Table-1 is a WLA. The WLA will be implemented by Cal Poly's General Municipal Stormwater permit for the control of urban sources.

Load Allocations: Cal Poly is allocated a load allocation (LA) for the livestock sources along Brizziolari Creek. The LA will be implemented by Cal Poly's WDR permit for the control of animal sources (see site BRIZ1.0 in Table-1).

Allocation for Background: The allocation to Background is included in the WLAs and LA. The background allocation is a receiving water concentration of 81 MPN/100 mL. Therefore, the allocations in Table-1 include the allocation to background.

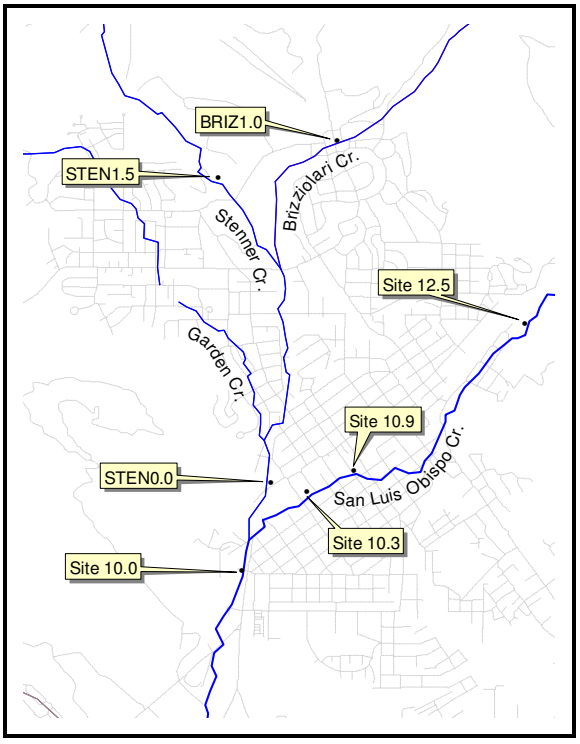

Figure-1: Allocation Sites

Table-1 ALLOCATIONS AND RESPONSIBLE PARTIES				
Allocations in San Luis Obispo Creek				Receiving Water Fecal Coliform Concentration (MPN/100mL)[1]
From Site:	To Upstream Site:	Responsible Party [2, 3, 4]	Allocation Type[5]	
12.5	All upstream sites	County	WLA	≤ 200
10.9	12.0	City	WLA	≤ 200
10.0	10.9	City	WLA	≤ 200
Allocations in Stenner and Brizziolari Creeks				Receiving Water Fecal Coliform Concentration (MPN/100mL)[1]
From Site:	To Upstream Site:	Responsible Party [2, 3, 4]	Allocation Type[5]	
STEN1.5	All upstream sites	Cal Poly	WLA	≤ 200
STEN0.0	STEN1.5	City	WLA	≤ 200
BRIZ1.0	All upstream sites	Cal Poly	LA	≤ 200

Allocations for reaches not specifically noted above:

For stream reaches not specifically noted above, the allocation for any discharge loading fecal coliform into San Luis Obispo Creek or any of its tributaries is as follows:

- Fecal coliform concentration, based on a minimum of not less than five samples for any 30-day period, shall not exceed a log mean of 200 MPN per 100mL, nor shall more than 10% of the total samples during any 30-day period exceed 400 MPN per 100mL.

[1] As log mean of 5 samples taken in a 30-day period occurring within each season.
[2] County implies County of San Luis Obispo
[3] City implies City of San Luis Obispo
[4] Cal Poly implies California Polytechnic State University, San Luis Obispo Campus
[5] WLA implies Waste Load Allocation, LA implies Load Allocation

Margin of Safety

A margin of safety is incorporated in the TMDL through conservative assumptions. The conservative assumptions include: 1) assumption of zero bacterial die-off, 2) TMDL and allocation calculations are predominantly based on data collected during low-flow conditions, which, in the case of San Luis Obispo Creek, skews towards a worst-case scenario.

IMPLEMENTATION

The following actions will occur within one year of TMDL approval by the Office of Administrative Law.

HUMAN SOURCES

The City will implement actions described in Table 3, item 1F, to control human sources as currently required by the NPDES permit for the Water Reclamation Facility (WRF).

The Executive Officer (EO) or the Regional Board will amend the Monitoring and Reporting Program (M&RP) of the City's NPDES permit for the WRF to incorporate stream monitoring for fecal coliform. The EO or Regional Board will also amend the M&RP to incorporate reporting of such stream monitoring activities.

URBAN SOURCES

The City will amend its Storm Water Management Plan (SWMP) to include actions described in Table-3, items 1A, 1B, 1C, 1D, and 1E, pursuant to Section D of State Board Order No. 2003-005, NPDES General Permit No. CAS000004 for Storm Water Discharges from Small Municipal Separate Storm Sewer Systems (Small MS4 Permit). The City will then describe the actions taken in Table-3 as part of its annual report

required by the Small MS4 Permit. If the City does not make these changes by submittal of the next annual report, the Executive Officer will require such changes.

The Executive Officer or the Regional Board will amend the Monitoring and Reporting Program of the City's small MS4 Permit to incorporate stream monitoring of fecal coliform and reporting of such monitoring, if additional monitoring-beyond that amended to the Monitoring and Reporting Program for the City's NPDES Permit for the WRF-is necessary.

Cal Poly will amend their SWMP to include specific actions described in Table-3, items 3A, 3B, and 3D. Cal Poly will then describe actions taken in Table-3 as part of their annual report required by the Small MS4 Permit. If Cal Poly does not make these changes by submittal of next annual report for this permit, the Executive Officer will require such changes.

The County of San Luis Obispo (County) will amend its SWMP to include specific actions described in Table-3, items 2A, 2B, 2C, and 2D, pursuant to Section D of the Small MS4 Permit. The County will then describe actions taken in Table-3 as part of its annual report required by the Small MS4 Permit. If the County does not make these changes by submittal of next annual report for this permit, the Executive Officer will require such changes.

LIVESTOCK SOURCES

Cal Poly will eliminate discharges of animal waste from seepage to surface waters from irrigated wastewater and flow to surface waters from confined animal operations, as currently required by Cal Poly's Waste Discharge Requirements.

Cal Poly has agreed to use management practices described in Table-3, item 3C, as described in its Water Quality Management Plan.

Cal Poly will conduct stream monitoring and report results as currently required by the M&RP of Cal Poly's Waste Discharge Requirements.

Additionally, the EO will amend the M&RP associated with Cal Poly's Waste Discharge Requirements to require annual reporting of specific measures that have been identified in the Water Quality Management Plan and have been and/or will be taken to reduce fecal coliform loading from livestock and urban sources.

THREE-YEAR REVIEWS

Regional Board staff will conduct a review every three years beginning three years after TMDL approval by the Office of Administrative Law. Regional Board staff will utilize Annual Reports, as well as other available information, to review water quality data and implementation efforts of responsible parties and progress being made towards achieving the allocations and the numeric target. Regional Board staff may conclude and articulate that ongoing implementation efforts may be 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 approval by the Executive Officer (e.g. pursuant to CWC section 13267 or section 13383) or by the Regional Board (e.g. through revisions of existing permits and/or a Basin Plan Amendment). Regional Board staff may conclude and articulate that to date, implementation efforts and results are likely to result in achieving the allocations and numeric target, in which case existing and anticipated implementation efforts should continue.

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

Table-3 IMPLEMENTATION ACTIONS OF RESPONSIBLE PARTIES			
Responsible Party	**Item**	**Best Management Practice**	**Discussion**
City of San Luis Obispo	1A	Public Participation and Outreach	Educate the public regarding sources of fecal coliform and associated health risks of fecal coliform in surface waters. Educate the public regarding actions that individuals can take to reduce loading.
	1B	Pet Waste Management	Develop and implement enforceable means (e.g. an ordinance) of reducing/eliminating fecal coliform loading from pet waste.
	1C	Wild Animal Waste Management	Develop and implement strategies to reduce/eliminate fecal coliform loading from wild animals inhabiting the tunnelized area of the Creek.
	1D	Illicit Discharge Detection and Elimination	Develop and implement strategies to detect and eliminate illicit discharges (whether mistaken or deliberate) of sewage to the Creek.
	1E	Pollution Prevention and Good Housekeeping	Develop and implement strategies to reduce/eliminate fecal coliform loading from streets, parking lots, sidewalks, and other urban areas potentially collecting and discharging fecal coliform to the Creek.
	1F	Human Source Elimination and Prevention	Maintain the sewage collection system, including identification of sewage leaks, the correction of sewage leaks, and prevention of sewage leaks.
County of San Luis Obispo	2A	Public Participation and Outreach	Educate the public regarding sources of fecal coliform and associated health risks of fecal coliform in surface waters. Educate the public regarding actions that individuals can take to reduce loading.
	2B	Pet Waste Management	Develop and implement enforceable means (e.g. an ordinance) of reducing/eliminating fecal coliform loading from pet waste.
	2C	Illicit Discharge Detection and Elimination	Develop and implement strategies to detect and eliminate illicit discharges (whether mistaken or deliberate) of sewage to the Creek.
	2D	Pollution Prevention and Good Housekeeping	Develop and implement strategies to reduce/eliminate fecal coliform loading from streets, parking lots, sidewalks, and other urban areas potentially collecting and discharging fecal coliform to the Creek.
Cal Poly State University	3A	Public Participation and Outreach	Educate the public regarding sources of fecal coliform and associated health risks of fecal coliform in surface waters. Educate the public regarding actions that individuals can take to reduce loading.
	3B	Pet Waste Management	Develop and implement enforceable means of reducing/eliminating fecal coliform loading from pet waste.
	3C	Grazing Management	Develop and implement strategies to reduce/eliminate fecal coliform loading from livestock grazing.
	3D	Pollution Prevention and Good Housekeeping	Develop and implement strategies to reduce/eliminate fecal coliform loading from streets, parking lots, sidewalks, and other urban areas potentially collecting and discharging fecal coliform to the Creek.