

**STATE WATER RESOURCES CONTROL BOARD
BOARD MEETING SESSION – DIVISION OF WATER QUALITY
NOVEMBER 1, 2011**

ITEM 6

SUBJECT

CONSIDERATION OF A PROPOSED RESOLUTION APPROVING AN AMENDMENT TO THE WATER QUALITY CONTROL PLAN FOR THE LOS ANGELES REGION TO INCORPORATE A TOTAL MAXIMUM DAILY LOAD FOR INDICATOR BACTERIA IN THE LOS ANGELES RIVER WATERSHED

DISCUSSION

On July 9, 2010 the Los Angeles Water Quality Control Board (Los Angeles Water Board) adopted Resolution No. R10-007 ([Attachment](#)) amending the Water Quality Control Plan for the Los Angeles Basin (Basin Plan) to incorporate a Total Maximum Daily Load (TMDL) for Indicator Bacteria in the Los Angeles River Watershed.

IMPAIRMENT

The Los Angeles River is highly contaminated by fecal pollution. The Basin Plan contains bacteria water quality objectives to protect the REC-1 and REC-2 beneficial uses. Many reaches and tributaries exceed the bacterial water quality objectives up to 100% of the time. Even the reaches or tributaries with better water quality exceed the indicator bacteria water quality standards roughly 50% of the time. Bacterial concentrations in the Los Angeles River and tributaries exceed water quality standards during both dry and wet weather. This severely limits the potential for recreational uses of the river.

During the 1998 Water Quality Assessment, the Los Angeles River Reaches 1, 2, 4, and 6, Arroyo Seco Reaches 1 and 2, Bell Creek, Compton Creek, Rio Hondo Reaches 1 and 2, Tujunga Wash, and Verdugo Wash Reaches 1 and 2 were included on the Clean Water Act section 303(d) list of impaired water bodies [303(d) list] for high Coliform count. In 2002, Dry Canyon Creek and McCoy Canyon Creek were added to the 303(d) list. In 2006, Aliso Canyon Wash was added to the 303(d) list. In July 2009, the Los Angeles Water Board approved the Los Angeles Region's Integrated Report Clean Water Act Section 305(b) Report and Section 303(d) List of Impaired Waters, adding Bull Creek to the 303(d) list.

For this TMDL, the mainstream of the Los Angeles River was broken down into segments for allocations due to the availability of flow data.

- Segment A includes Reaches 1 and a portion of Reach 2
- Segment B includes a portion of Reach 2
- Segment C includes Reach 3 and a portion of Reach 4
- Segment D includes a portion of reach 4 and Reach 5
- Segment E includes Reach 6

SOURCES

Bacteria sources in the Los Angeles River Watershed include anthropogenic and non-anthropogenic sources and point and nonpoint sources. Each of these sources contributes to the elevated levels of bacteria indicator densities in the Los Angeles River Watershed during dry and wet weather. While there are many sources of indicator bacteria, discharges from the municipal separate storm sewer system (MS4) are the principle source of bacteria to the Los Angeles River and its tributaries in both dry weather and wet weather. During the dry weather, discharges from storm drains and tributaries contribute roughly 13% of the flow in the Los Angeles River but almost 90% of the E. coli loading.

There are currently five major National Pollutant Discharge Elimination System (NPDES) permits for discharges to the Los Angeles River Watershed. Of these, three are Water Reclamation Plants, including the Donald C. Tillman water reclamation plant, Los Angeles-Glendale water reclamation plant, and Burbank water reclamation plant. During dry weather, the three water reclamation plants contribute roughly 72% of the flow in the river during dry weather, but minimal E. Coli. During wet weather, water reclamation plant discharges may account for as little as 1% of the total flow in the river.

Discharges that are regulated under a general NPDES permit, general industrial stormwater permit, industrial waste water permit, and waste discharge requirements are not a significant source of bacteria to the river.

Nonpoint sources include wildlife, direct human discharges, onsite wastewater treatment systems, equestrian activities, and birds. Although sanitary sewer overflows are frequent within the watershed, they are estimated to account for only 2% of the total dry-weather load and a small portion of the wet-weather load. Nonpoint sources may also include in-channel sources such as re-growth or re-suspension from sediments; the relative contribution of such sources is unknown.

TARGETS AND TMDL ALLOCATIONS

The Basin Plan includes objectives for both E. coli and fecal Coliform. The Basin Plan objectives and these targets are based on an acceptable health risk for fresh recreational waters of eight illnesses per 1,000 exposed individuals as recommended by the U.S. EPA in its 1986 CWA section 304(a) Bacteria Recommended Criteria document. The TMDL has a multi-part numeric target based on the bacteriological water quality objectives for fresh water to protect the water contact recreation (REC-1) use.

The numeric targets for this TMDL are:

1. Geometric Mean Target
 - a. E. coli density shall not exceed 126/100 mL.
2. Single Sample Target
 - a. E. coli density shall not exceed 235/100 mL.

The geometric mean target may not be exceeded at any time.

For the single sample target, each river segment and tributary is assigned an allowable number of exceedance days for dry weather and wet weather. For this target, wet weather days are defined as days with 0.1 inch of rain or greater, plus the three days immediately following completion of the rain event.

The TMDL uses a “reference system/anti-degradation approach.” A reference system/anti-degradation approach ensures that bacteriological water quality is at least as good as that of a reference system, and that no degradation of existing bacteriological water quality is permitted where existing bacteriological water quality is better than that of the selected reference system. This approach recognizes that there are natural sources of bacteria that may cause or contribute to exceedances of the single sample objectives and that it is not the intention of the Los Angeles Water Board to require treatment or diversion of natural coastal creeks or to require treatment of natural sources of bacteria from undeveloped areas. Wasteload allocations (for point sources) are expressed as allowable exceedance days. For each segment and tributary, allowable exceedance days are set on an annual basis as well as for dry weather and wet weather days. The allowable number of exceedance days for dry weather and wet weather is based on the more stringent of two criteria: (1) exceedance days in the designated reference system, and (2) exceedance days based on historical bacteriological data in the subject reach. This ensures that bacteriological water quality is at least as good as that of a largely undeveloped system and that there is no degradation of existing water quality.

IMPLEMENTATION

The implementation strategy focuses principally on eliminating or reducing the fecal indicator bacteria-laden runoff entering the river through the MS4 and on reducing fecal indicator bacteria from entering the MS4. The source assessment and the bacteria source identification study support that this approach will be effective and will address human health concerns.

Nonpoint sources in the watershed include onsite wastewater treatment systems, in-channel sources, and runoff from the headwaters (the source of a river or stream).

Lands not covered by an MS4 permit, such as the U.S. Forest Service lands, California Department of Parks and Recreation lands, or National Park Service lands, are assigned load allocations equal to the number of allowable exceedances based on the reference system, as shown in the table on page 44. Discharges from the headwaters and natural land sources are covered by the exceedance-day approach, which accounts for natural sources of bacteria from undeveloped areas. Thus the discharges of *E. coli* from these natural/nonpoint sources are “allocated” as load allocations using allowable exceedance days. Responsible parties who are land owners or managers and not Permittees under an MS4 permit, such as the U.S. Forest Service, California Department of Parks and Recreation, and National Park Service, are prohibited from causing or contributing to exceedances of bacterial standards in the Los Angeles River or its tributaries beyond the allowable number of exceedance days. If necessary, these entities must deploy appropriate best management practices (BMPs) to ensure compliance.

Discharges of bacteria from onsite wastewater treatment systems are assigned a load allocation of zero days of allowable exceedances of the *e. Coli* targets. In some cases, municipalities are responsible for their own onsite wastewater treatment systems, including permitting through a waiver of waste discharge requirements from the Los Angeles Water Board. In some cases the Los Angeles Water Board is responsible for permitting through waste discharge requirements. The load allocation is reasonable because it is not legal to permit the discharge to surface

waters of untreated human sewage. Load allocations for onsite wastewater treatment systems will be implemented through waste discharge requirements or waivers of waste discharge requirements.

Load allocations for other nonpoint sources such as horses/livestock, aquaculture, and golf courses, will be implemented through the Nonpoint Source Implementation and Enforcement Policy.

Sanitary sewer collection systems are assigned a load allocation of zero allowable exceedances. Discharges of untreated wastewater to <specify> are illegal (i.e., sanitary sewer overflows). Sanitary sewer collection systems are often managed by multiple agencies and are covered under the Statewide General Waste Discharge Requirements for sanitary sewer overflows (WQO No. 2006-0003-DWA). Enrollees in this order are required to report all sanitary sewer overflows for which their agency has responsibility to the State Water Resources Control Board's sanitary sewer overflow database and must develop and implement a system-specific Sewer System Management Plan which will serve to implement this TMDL.

Dry weather waste load allocations established for the three Water Reclamation Plants within the boundaries of this TMDL (Donald C. Tillman, Los Angeles-Glendale, and Burbank) will be implemented through NPDES permits as end-of-pipe effluent limitations. Effluent limitations in the NPDES permits for the three water reclamation plants currently require: (1) the median number of total coliform organisms in effluent may not exceed 2.2 per 100 milliliters, and (2) the number of total coliform organisms may not exceed 23 per 100 milliliters in more than one sample within any 30-day period. The wasteload allocations for water reclamation plants are set equal to a 7-day median of 2.2 MPN/100mL of *E. coli* or a daily maximum of 2.2 MPN/100 mL, multiplied by the discharge rate at the time of sampling, to ensure zero (0) days of allowable exceedances for both dry and wet weather and for the single sample limits and the rolling 30-day geometric mean limits. The current coliform limits for these water reclamation plants are sufficient, and no revisions to the water reclamation plant NPDES permits are necessary based on this TMDL. No additional actions are expected to be necessary for water reclamation plants to be in compliance with the TMDL allocations.

General NPDES permits, individual NPDES permits, the Statewide Industrial Storm Water General Permit, the Statewide Construction Activity Storm Water General Permit, and waste discharge requirement permittees in the Los Angeles River Watershed are assigned wasteload allocations of zero (0) days of allowable exceedances for both dry and wet weather and for the single sample and the rolling 30-day geometric mean limits. In order to demonstrate compliance with the wasteload allocation, the TMDL allows dischargers to use compliance with an effluent limit based on the water quality objectives. Permits that include storm water effluent limitations for sites, which are measured in receiving waters, are assigned wasteload allocations for those sites in accordance with allocations assigned to specific segments and its tributaries.

Within 25 years of the effective date of the TMDL, compliance with the allowable number of exceedance days at all locations during dry weather and wet weather is required.

The longer schedule for this TMDL, as compared to that provided for in the Santa Monica Bay Beaches Bacteria TMDLs, and the Ballona Creek Bacteria TMDL, is warranted due to the number and scale of the foreseeable implementation measures. In the case of the Santa Monica Bay Beaches Bacteria TMDLs, responsible agencies had initiated dry weather implementation measures prior to TMDL adoption for many beaches, therefore a three-year schedule for summer dry weather was feasible for those beaches. The Ballona Creek

watershed compliance periods are also much shorter than this TMDL's compliance periods, but the number of stream miles and the size of the watershed to be brought into compliance is also much smaller (see Table 9-4 pages 68 and 69 of the Final Staff Report). The final compliance dates for this TMDL are based on foreseeable implementation and are reasonably consistent with the Ballona Creek Bacteria TMDL.

The implementation schedule is phased both in terms of the segment-by-segment approach, as discussed above, and also within each segment, by allowing two phases of implementation to achieve full compliance with the wasteload allocations. The interim wasteload allocations, based on bacterial loads (rather than exceedance days), have been developed to bring the Los Angeles River into compliance with the final exceedance day wasteload allocations. A second phase is included in the schedule to allow for the high variability of bacterial loads and potentially changing conditions in the Los Angeles River over time; however, it is expected that the Los Angeles River will be largely in compliance by the time the first phase of implementation is complete.

The TMDL schedule requires completion of the first Load Reduction Strategy phase and attainment of the interim wasteload allocation on all mainstem Los Angeles River segments and tributaries within 15.5 years, and a total timeline of 25 years to complete a second phase on the final segments addressed (Segments C and D and tributaries).

Responsible parties in the Los Angeles River Watershed are currently implementing the Los Angeles River Watershed Metals TMDL, which requires compliance with wet-weather metal targets by 2028 (within 22 years of the TMDL effective date). Interim goals were also established for the metals TMDL. Implementation plans developed for these TMDLs by the City of Los Angeles and County of Los Angeles include BMPs to address multiple pollutants including bacteria. The deadline for implementation of the metals TMDL is before the deadline for the bacterial TMDL, and the metals TMDL is expected to address much of the bacterial impairment. Therefore, it is expected that the segments scheduled for later implementation under this schedule will experience bacteria water quality improvements prior to the scheduled implementation phase.

This schedule for dry weather, including interim allocations, is detailed and phased due to the work conducted by the Cleaner Rivers through Effective Stakeholder-led TMDLs which provided the significant scientific work and stakeholder input to support the detailed, phased, approach. For wet weather, the schedule is based on the Los Angeles Water Board's and stakeholders' experiences in developing other bacterial TMDLs. The Ballona Creek Bacteria TMDL, Malibu Creek Bacteria TMDL and Santa Monica Bay Beaches Bacteria TMDL schedules allow approximately 15 to 18 years for wet-weather compliance when following an Integrated Water Resources Approach to address multiple pollutants. For this TMDL, the time allowed for complete dry weather compliance due to the phased approach, itself, allows sufficient time for responsible parties to pursue and succeed with an integrated approach to achieve wet-weather wasteload allocations throughout the watershed. Therefore, the wet-weather compliance schedule is set at 25 years.

EVALUATION

Over the course of TMDL implementation, the TMDL may be re-considered to incorporate new information from TMDL special studies, or address revisions to water quality standards, such as adoption of revised water quality objectives based on recommendations of U.S. EPA.

POLICY ISSUE

Should the State Water Board approve the amendment to the Basin Plan to incorporate a TMDL in the Los Angeles River Watershed?

FISCAL IMPACT

Los Angeles Water Board and State Water Board staff work associated with or resulting from this action will be addressed with existing and future budgeted resources.

REGIONAL BOARD IMPACT

Yes, approval of this resolution will amend the Los Angeles Water Board's Basin Plan.

STAFF RECOMMENDATION

That the State Water Board:

1. Approve the amendment to the Basin Plan adopted under Los Angeles Water Board Resolution No. R10-007.
2. Authorize the Executive Director or designee to submit the amendment adopted under Los Angeles Water Board Resolution No. R10-007, as approved, and the administrative record for this action to the OAL and the TMDLs to the U.S. EPA for approval.

State Water Board action on this item will assist the Water Boards in reaching Goal 1 of the Strategic Plan Update: 2008-2012 to implement strategies to fully support the beneficial uses for all 2006-listed water bodies by 2030. In particular, approval of this item will assist in fulfilling Action 1 to prepare, adopt, and take steps to carry out Total Maximum Daily Loads (TMDLs), designed to meet water quality standards, for all impaired water bodies on the 2006 list.

D R A F T

STATE WATER RESOURCES CONTROL BOARD RESOLUTION NO. 2011-

APPROVING AN AMENDMENT TO THE WATER QUALITY CONTROL PLAN FOR THE LOS ANGELES REGION (BASIN PLAN) TO INCORPORATE A TOTAL MAXIMUM DAILY LOAD (TMDL) FOR INDICATOR BACTERIA IN THE LOS ANGELES RIVER WATERSHED

WHEREAS:

1. On July 09, 2010, the Los Angeles Water Quality Control Board (Los Angeles Water Board) adopted Resolution No. R10-007 ([Attachment](#)) amending the Basin Plan to incorporate a Total Maximum Daily Load for Indicator Bacteria in the Los Angeles River Watershed.
2. The Los Angeles Water Board found that the analysis contained in the California Environmental Quality Act (CEQA) "Substitute Environmental Documentation" for the proposed Basin Plan amendment, including the CEQA Checklist, the staff report, and the response to comments complies with the requirements of the State Water Board's certified regulatory CEQA process, as set forth in the California Code of Regulations, Title 23, section 3775 et seq. The State Water Board has reviewed the Substitute Environmental Documentation and concurs with the Los Angeles Water Board's findings and Statement of Overriding Considerations.
3. The Los Angeles Water Board found the Basin Plan amendment is consistent with the Statement of Policy with Respect to Maintaining High Quality of Waters in California ([State Water Board Resolution No. 68-16](#)) and the federal Antidegradation Policy (40 CFR section 131.12).
4. The State Water Board found that the Basin Plan amendment is in conformance with Water Code section 13240, which specifies that Regional Water Quality Control Boards may revise Basin Plans, and section 13242, which requires a program of implementation of water quality objectives. The State Water Board also finds that the TMDL as reflected in the Basin Plan amendment is consistent with the requirements of federal Clean Water Act section 303(d).
5. A Basin Plan amendment does not become effective until approved by the State Water Board and until the regulatory provisions are approved by the Office of Administrative Law (OAL). The TMDL must also receive approval from the U.S. Environmental Protection Agency (U.S. EPA).
6. **Los Angeles Water Board staff determined that minor, nonsubstantive changes to the language of the Basin Plan amendment were necessary corrections or improve consistency. The Los Angeles Water Board's Executive Officer made these minor corrections in a [memorandum](#) dated October 19, 2011.**

D R A F T

THEREFORE BE IT RESOLVED THAT:

The State Water Board:

1. Approves the amendment to the Basin Plan adopted under Los Angeles Water Board Resolution No. R10-007.
2. Authorizes the Executive Director or designee to submit the amendment adopted under Los Angeles Water Board Resolution No. R10-007 to OAL for approval of the regulatory provisions and to U.S. EPA for approval of the TMDL.

CERTIFICATION

The undersigned Clerk to the Board does hereby certify that the foregoing is a full, true, and correct copy of a resolution duly and regularly adopted at a meeting of the State Water Resources Control Board held on November 1, 2011.

Jeanine Townsend
Clerk to the Board