

**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
SAN DIEGO REGION**

**RESOLUTION NO. R9-2005-0036**

A RESOLUTION ADOPTING AN AMENDMENT TO THE WATER QUALITY  
CONTROL PLAN FOR THE SAN DIEGO REGION (9) TO INCORPORATE  
TOTAL MAXIMUM DAILY LOADS (TMDLs) FOR  
TOTAL NITROGEN AND TOTAL PHOSPHORUS IN THE RAINBOW CREEK  
WATERSHED,  
SAN DIEGO COUNTY

**WHEREAS**, The California Regional Water Quality Control Board, San Diego Region (hereinafter, Regional Board), finds that:

1. **BASIN PLAN AMENDMENT:** The proposed amendment of the Water Quality Control Plan for the San Diego Region (Basin Plan) described in the recitals below was developed in accordance with California Water Code §13240 et seq.
2. **NECESSITY STANDARD [Government Code §11353(b)]:** This regulatory action meets the “Necessity” standard of the Administrative Procedures Act, Government Code, §11353, subdivision (b). Amendment of the Basin Plan to establish and implement total maximum daily loads (TMDLs) for Rainbow Creek is necessary because water quality in Rainbow Creek does not meet applicable water quality objectives for total nitrogen and total phosphorus (hereinafter nutrients) even with implementation of waste discharge requirements containing technology based effluent limits or water quality based effluent limits for discharges of pollutants to Rainbow Creek and its tributaries. These TMDLs for nutrients are necessary to ensure attainment of applicable water quality objectives and restoration of beneficial uses designated for Rainbow Creek.
3. **CLEAN WATER ACT SECTION 303(d):** Rainbow Creek is identified on the Clean Water Act Section 303(d) list of impaired waters due to excessive nutrient concentrations. Section 303(d) requires the Regional Board to develop and implement TMDLs under the conditions that exist in Rainbow Creek.
4. **BENEFICIAL USE IMPAIRMENTS:** Rainbow Creek supports a multitude of beneficial uses. The most sensitive beneficial uses are those designated for protection of aquatic life as described in the Basin Plan definition of the COLD and WARM beneficial uses. The municipal supply (MUN), warm freshwater habitat (WARM), cold freshwater habitat (COLD), wildlife habitat (WILD), contact water recreation (REC-1), and non-contact water recreation (REC-2) are threatened or impaired due to excessive levels of nutrients.

5. **WATER QUALITY OBJECTIVES:** The Basin Plan establishes that inland surface waters shall not contain biostimulatory substances in concentrations that promote aquatic growth to the extent that such growths cause nuisance or adversely affect beneficial uses. The Basin Plan establishes the following numerical water quality objective for biostimulatory substances for the protection of the COLD and WARM beneficial uses:

Total Nitrogen 1.0 mg/L  
Total Phosphorus 0.1 mg/L

These values are not to be exceeded more than 10% of the time unless studies of the specific water body in question clearly show that water quality objective changes are permissible and changes are approved by the Regional Board.

The Basin Plan establishes that waters designated for use as domestic or municipal supply shall not contain concentrations of nitrate in excess of the maximum contaminant levels set forth in California Code of Regulations, Title 22. The maximum contaminant level (MCL) for nitrate (as nitrogen) is 10 mg/L.

6. **WATER QUALITY OBJECTIVE VIOLATIONS:** Concentrations for nutrients in Rainbow Creek routinely exceed applicable water quality objectives for nutrients and nitrate. Sampling surveys conducted by the Regional Board in Rainbow Creek in Year 2000 documented water column concentrations as high as 21 mg/L of nitrate as nitrogen, 23 mg/L of total nitrogen and 1.7 mg/L of total phosphorus.
7. **ADVERSE EFFECTS OF NUTRIENTS:** An overload of nutrients can result in an imbalance of the natural cycling processes and can lead to problems ranging from annoyance due to an overabundance of algae and emergent vegetation to human health problems and adverse ecological effects. Nutrient concentrations in Rainbow Creek appear to be contributing to excessive algal growth. Excessive algae present a nuisance that threatens to impair aesthetic and recreational uses (REC1 and REC2). Excessive algae can create conditions that are harmful to aquatic life and degrade water quality, and threaten to impair warm water (WARM), cold water (COLD), and wildlife (WILD) beneficial uses.
8. **NUMERIC TARGETS:** TMDL Numeric Targets interpret and implement water quality standards (i.e., numeric and narrative water quality objectives and beneficial uses) and are established at levels necessary to achieve water quality standards. The Regional Board has set the total nitrogen and total phosphorus TMDL Numeric Targets for both the numeric and narrative water quality objectives equal to the numeric water quality objectives cited in Finding 5. The numeric targets for nitrate (as nitrogen) is 10 mg/L, total nitrogen is 1.0 mg/L and total phosphorus is 0.1 mg/L. Attainment of the TMDL numeric targets will result in attainment of water quality standards in Rainbow Creek.

9. **TOTAL MAXIMUM DAILY LOADS [40 CFR 130.2(i)]:** The Total Maximum Daily Loads (TMDLs) for total nitrogen and total phosphorus discharges into Rainbow Creek are calculated to be 1,658 kilograms of nitrogen per year (kg N/yr) and 165 kilograms of phosphorus per year (kg P/yr). The TMDLs are equal to the assimilative or Loading Capacity (LC) of Rainbow Creek for total nitrogen and total phosphorus and are defined as the maximum amount of total nitrogen and total phosphorus that Rainbow Creek can receive and still attain water quality objectives and protection of designated beneficial uses. The TMDLs are comprised of the sum of all individual Wasteload Allocations (WLAs) for point source discharges of nutrients, the sum of all Load Allocations (LAs) for nonpoint source discharges of nutrients, and natural background. The TMDLs include a margin of safety (MOS) that takes into account any uncertainties in the TMDL calculation. (i.e.  $TMDL = \sum WLAs + \sum LAs + MOS$ ). The TMDL calculations also account for seasonal variations and critical conditions.
10. **ALLOCATIONS AND REDUCTIONS:** A 74 percent (74%) overall reduction of total nitrogen loading and an 85 percent (85%) overall reduction of total phosphorus to Rainbow Creek are required to meet the TMDLs of 1,658 kg N/yr and 165 kg P/yr. The assigned allocations from each source translate into a percent reduction of nutrients from current loading.

<u>Percent Reduction by Source</u>	<u>Total Nitrogen</u>	<u>Total Phosphorus</u>
Point Sources		
Caltrans	68%	64%
Nonpoint Sources		
Commercial Nurseries	77%	90%
Agricultural Fields	77%	90%
Orchards	77%	90%
Park	50%	50%
Residential Areas	77%	90%
Urban Areas	50%	50%
Septic Tank Disposal Systems	77%	Not Applicable

11. **DISCHARGERS:** The Regional Board has identified Caltrans, County of San Diego, commercial nurseries, agricultural fields, orchards, parks, residential areas, urban areas, and septic tank disposal systems as causing or permitting the discharge of total nitrogen and total phosphorus to Rainbow Creek.
12. **IMPLEMENTATION ACTIONS:** Strategies that the Regional Board could take to implement the TMDL are described in the *Basin Plan Amendment and Technical Report for Total Nitrogen and Total Phosphorus Total Maximum Daily Loads For Rainbow Creek, dated February 9, 2005*.

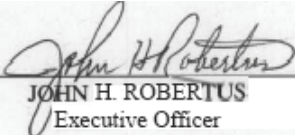
13. **IMPLEMENTATION MONITORING:** Water quality monitoring will be required to evaluate the overall TMDL implementation effectiveness and success in attaining nutrient water quality objectives in Rainbow Creek and its tributaries.
14. **COMPLIANCE SCHEDULE:** Nutrient wasteload and load reductions are required over a 16-year phased compliance schedule period. The first four-year phase consists of nutrient reductions to attain the nitrate water quality objective and reduced phosphorus concentrations in Rainbow Creek. Incremental reductions of nutrient load are required throughout the subsequent 12-year period.
15. **SCIENTIFIC PEER REVIEW:** The scientific basis of this Basin Plan amendment has undergone external peer review pursuant to Health and Safety Code Section 57004. The Regional Board has considered and responded to all comments submitted by the peer review panel.
16. **STAKEHOLDER PARTICIPATION:** Interested persons and the public have had reasonable opportunity to participate in the development of this amendment to the Basin Plan. Efforts to solicit public review and comment include four (4) public workshops held between April 1999 and December 2004; two (2) public review and comment periods of at least 45 days preceding the Regional Board public hearing; and written responses from the Regional Board to oral and written comments received from the public.
17. **ECONOMIC ANALYSIS:** The Regional Board has considered the costs of implementing this Basin Plan amendment, and finds these costs to be reasonable relative to the water quality benefits derived from implementing the amendment.
18. **CEQA REQUIREMENTS:** The Basin Planning process has been certified as functionally equivalent to the California Environmental Quality Act (CEQA) requirements for preparing environmental documents and is, therefore, exempt from those requirements (Public Resources Code Section 21000 et seq.). The required environmental documents (Basin Plan amendment, staff report, and environmental checklist) have been prepared.
19. **DE MINIMIS ENVIRONMENTAL EFFECTS:** This Basin Plan amendment results in no potential for adverse effect, either individually or cumulatively, on fish and wildlife resources or the habitat upon which they depend. Any and all effects on the environment are expected to be beneficial.
20. **PUBLIC NOTICE:** The Regional Board has notified all known interested parties and the public of its intent to consider adoption of this Basin Plan amendment in accordance with Water Code Section 13244.
21. **PUBLIC HEARING:** The Regional Board has, at public meetings on May 8, 2002 and December 8, 2004, held public hearings and heard and considered all comments

pertaining to this Basin Plan amendment.

**NOW, THEREFORE, BE IT RESOLVED** that

1. **AMENDMENT ADOPTION:** The Regional Board hereby adopts this amendment to the Basin Plan to incorporate the Rainbow Creek Total Nitrogen and Total Phosphorus TMDLs as set forth in Attachment A hereto.
2. The Regional Board hereby approves the report *Basin Plan Amendment and Technical Report for Total Nitrogen and Total Phosphorus Total Maximum Daily Loads For Rainbow Creek, dated February 9, 2005*.
3. **CERTIFICATE OF FEE EXEMPTION:** The Executive Officer is authorized to sign a Certificate of Fee Exemption.
4. **AGENCY APPROVALS:** The Executive Officer is directed to submit the Basin Plan amendment to the State Water Resources Control Board (State Board) in accordance with California Water Code Section 13245. The Regional Board requests that the State Board approve the Basin Plan amendment and forward it to Office of Administrative Law (OAL) and the United States Environmental Protection Agency for approval.
5. **NON-SUBSTANTIVE CORRECTIONS:** If, during the approval process for this amendment, the State Board or OAL determines that minor, non-substantive corrections to the language of the amendment are needed for clarity or consistency, the Executive Officer may make such changes, and shall inform the Regional Board of any such changes.

*I, John H. Robertus, Executive Officer, do hereby certify the foregoing is a full, true and correct copy of a Resolution adopted by the California Regional Water Quality Control Board, San Diego Region, on February 9, 2005.*



JOHN H. ROBERTUS  
Executive Officer