

Lake Elsinore and Canyon Lake Nutrient TMDL Allocation and Implementation Summary

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**California Regional Water Quality
Control Board**

Santa Ana Region

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Proposed Interim TMDL, Wasteload and Load Allocations for Lake Elsinore (to be achieved as soon as possible, but no later than 2009)*

| Lake Elsinore | | | | | | |
|---------------------------|--------------------|----------------|-----------|--------------------|--------------|-----------|
| | Nitrogen load | Existing TN | Reduction | Phosphorus Load | Existing TP | Reduction |
| | Allocation (kg/yr) | load (kg/yr) | (%) | Allocation (kg/yr) | Load (kg/yr) | (%) |
| TMDL | 227,386 | 395,405 | 42 | 31,209 | 74725 | 58 |
| WLA | 10,448 | 67,315 | | 4,723 | 16211 | |
| Supplemental water* | 7,442 | 59,532 | 88 | 3,721 | 14883 | 75 |
| Urban | 2,018 | 5,225 | 61 | 649 | 861 | 25 |
| CAFO | 988 | 2,558 | 61 | 353 | 468 | 25 |
| LA | 216,938 | 328,089 | | 26,486 | 58513 | |
| Internal Sediment Source | 197,370 | 197,370 | 0 | 21,554 | 33160 | 35 |
| Atmospheric Deposition | 11,702 | 11,702 | 0 | 108 | 108 | 0 |
| Agriculture | 3,760 | 9,735 | 61 | 2,813 | 3730 | 25 |
| Open/Forest | 1,468 | 3,800 | 61 | 1,627 | 2157 | 25 |
| Septics | 2,638 | 6,831 | 61 | 385 | 511 | 25 |
| Export from Canyon Lake** | 0 | 98,651 | | | 18848 | |
| MOS | 0 | | | 0 | | |

*specified as 10-year running average

Proposed Interim TMDL, Wasteload and Load Allocations for Canyon Lake (to be achieved as soon as possible, but no later than 2009)*

| Canyon Lake | | | | | | |
|--------------------------|--------------------|---------------|------------|--------------------|--------------|-----------|
| | Nitrogen load | Existing TN | Reduction | Phosphorus Load | Existing TP | Reduction |
| | Allocation (kg/yr) | load (kg/yr) | (%) | Allocation (kg/yr) | Load (kg/yr) | (%) |
| TMDL | 45,795 | 46,006 | 0.5 | 8,699 | 13560 | 36 |
| WLA | 8,764 | 8,824 | | 724 | 1638 | |
| Supplemental water+ | 248 | 248 | 0 | 0 | 0 | |
| Urban | 5,754 | 5,794 | 1 | 505 | 1143 | 56 |
| CAFO | 2,763 | 2,783 | 1 | 219 | 494 | 56 |
| LA | 37,031 | 37,181 | 0 | 7,975 | 11922 | |
| Internal Sediment Source | 13,549 | 13,549 | 0 | 4,625 | 4625 | 0 |
| Atmospheric Deposition | 1,918 | 1,918 | 0 | 221 | 221 | 0 |
| Agriculture | 10,980 | 11,057 | 1 | 1,952 | 4415 | 56 |
| Open/Forest | 3,561 | 3,586 | 1 | 948 | 2144 | 56 |
| Septics | 7,022 | 7,071 | 1 | 229 | 518 | 56 |
| MOS | 0 | | | 0 | | |

* The existing TN and TP loads for the supplemental water only considered the recycled water.

*specified as 10-year running average

Proposed Final TMDL, Wasteload and Load Allocations
for Lake Elsinore (to be achieved as soon as possible, but
no later than 2019)

| Lake Elsinore | | | | | | |
|--------------------------|--------------------|----------------|-----------|--------------------|---------------|-----------|
| | Nitrogen load | Existing TN | Reduction | Phosphorus Load | Existing TP | Reduction |
| | Allocation (kg/yr) | load (kg/yr) | (%) | Allocation (kg/yr) | Load (kg/yr) | (%) |
| TMDL | 212,378 | 395,405 | 46 | 12,700 | 74,725 | 83 |
| WLA | 3,306 | 67,315 | | 1,687 | 16,211 | |
| Supplemental water* | 3,306 | 59,532 | 94 | 1,488 | 14,883 | 90 |
| Urban | 0 | 5,225 | 100 | 129 | 861 | 85 |
| CAFO | 0 | 2,558 | 100 | 70 | 468 | 85 |
| LA | 209,072 | 328,089 | | 11,013 | 58,513 | |
| Internal Sediment Source | 197,370 | 197,370 | 0 | 9,948 | 33,160 | 70 |
| Atmospheric Deposition | 11,702 | 11,702 | 0 | 108 | 108 | 0 |
| Agriculture | 0 | 9,735 | 100 | 558 | 3,730 | 85 |
| Open/Forest | 0 | 3,800 | 100 | 323 | 2,157 | 85 |
| Septics | 0 | 6,831 | 100 | 76 | 511 | 85 |
| Export from Canyon Lake | 0 | 98,651 | 100 | 0 | 18,848 | 100 |
| MOS | 0 | | | 0 | | |

*specified as 10-year running average

Proposed Final TMDL, Wasteload and Load Allocations for Canyon Lake (to be achieved as soon as possible, but no later than 2019)

| Canyon Lake | | | | | | |
|--------------------------|--------------------|---------------|-----------|--------------------|---------------|-----------|
| | Nitrogen load | Existing TN | Reduction | Phosphorus Load | Existing TP | Reduction |
| | Allocation (kg/yr) | load (kg/yr) | (%) | Allocation (kg/yr) | Load (kg/yr) | (%) |
| TMDL | 29,672 | 46,006 | 36 | 6,689 | 13,560 | 51 |
| WLA | 4,199 | 8,824 | | 346 | 1,638 | |
| Supplemental water | 248 | 248 | 0 | 0 | 0 | |
| Urban | 2,670 | 5,794 | 54 | 242 | 1,143 | 79 |
| CAFO | 1,282 | 2,783 | 54 | 105 | 494 | 79 |
| LA | 25,473 | 37,181 | | 6,343 | 11,922 | |
| Internal Sediment Source | 13,549 | 13,549 | 0 | 4,625 | 4,625 | 0 |
| Atmospheric Deposition | 1,918 | 1,918 | 0 | 221 | 221 | 0 |
| Agriculture | 5,095 | 11,057 | 54 | 934 | 4,415 | 79 |
| Open/Forest | 1,652 | 3,586 | 54 | 453 | 2,144 | 79 |
| Septics | 3,258 | 7,071 | 54 | 109 | 518 | 79 |
| MOS | 0 | | | 0 | | |

*specified as 10-year running average

**Proposed TMDL
Implementation and
Monitoring Plan**

TMDL Implementation-Task 1: Establish New Waste Discharge Requirements

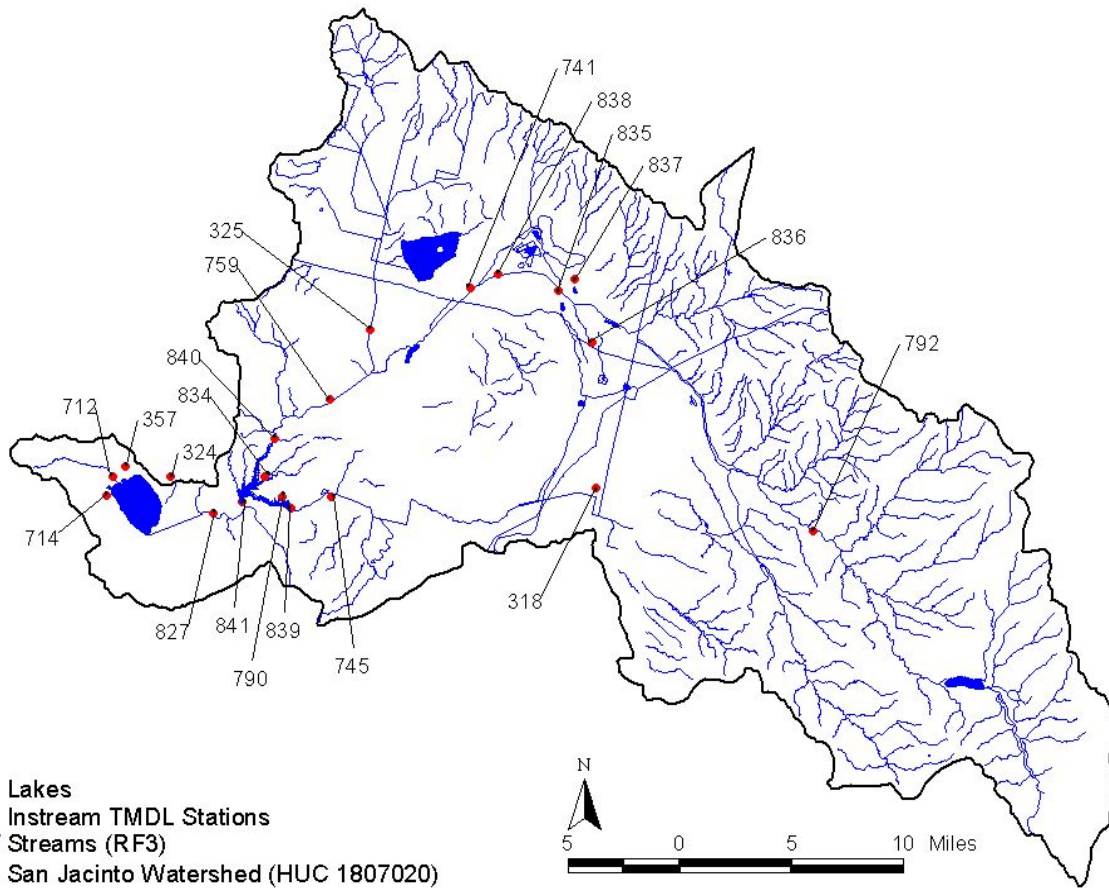
- On or before (**6 months from the effective date of this BPA*), the Regional Board shall issue new waste discharge requirements (NPDES permit) to Elsinore Valley Municipal Water District for supplemental water discharges to Canyon Lake that incorporate the appropriate interim and final wasteload allocations, compliance schedule and monitoring program requirements.

TMDL Implementation Task 2: Review and/or Revise Existing Waste Discharge Requirements

- Waste Discharge Requirements for the Riverside County Flood Control and Water Conservation District, the County of Riverside and the Incorporated Cities of Riverside County
- Watershed-Wide Waste Discharge Requirements for Discharges of Storm Water Runoff Associated with New Developments in the San Jacinto Watershed
- General Waste Discharge Requirements for Concentrated Animal Feeding Operations (Dairies and Related Facilities)
- Waste Discharge and Producer/User Reclamation Requirements for the Elsinore Valley Municipal Water District, Regional Water Reclamation Facility Riverside County
- Waste Discharge Requirements for Eastern Municipal Water District, Regional Water Reclamation System, Riverside County

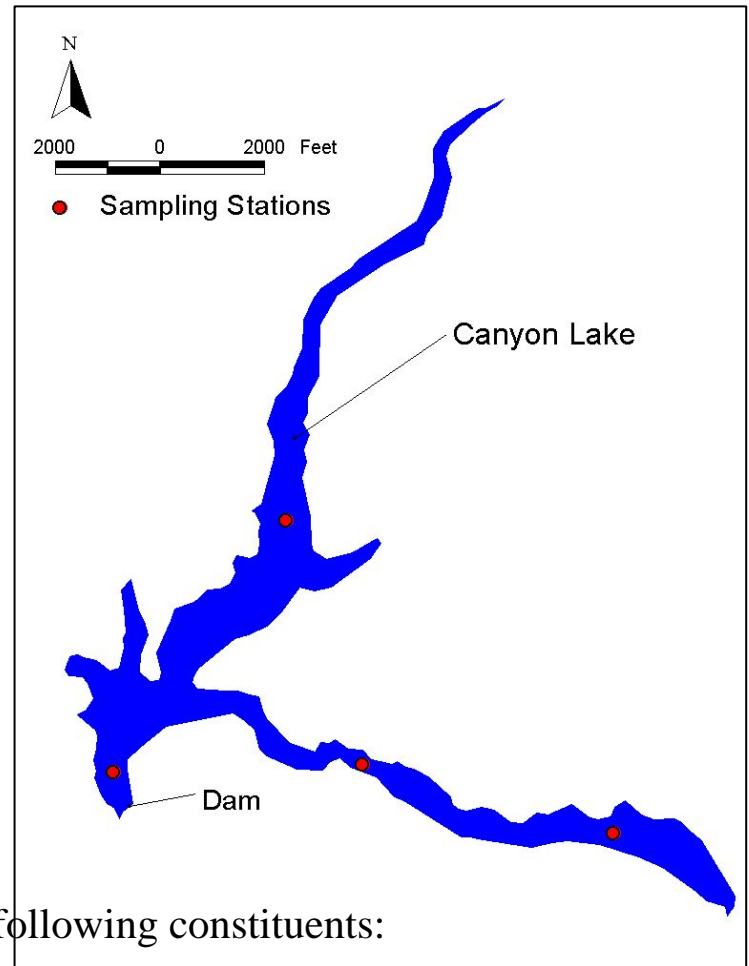
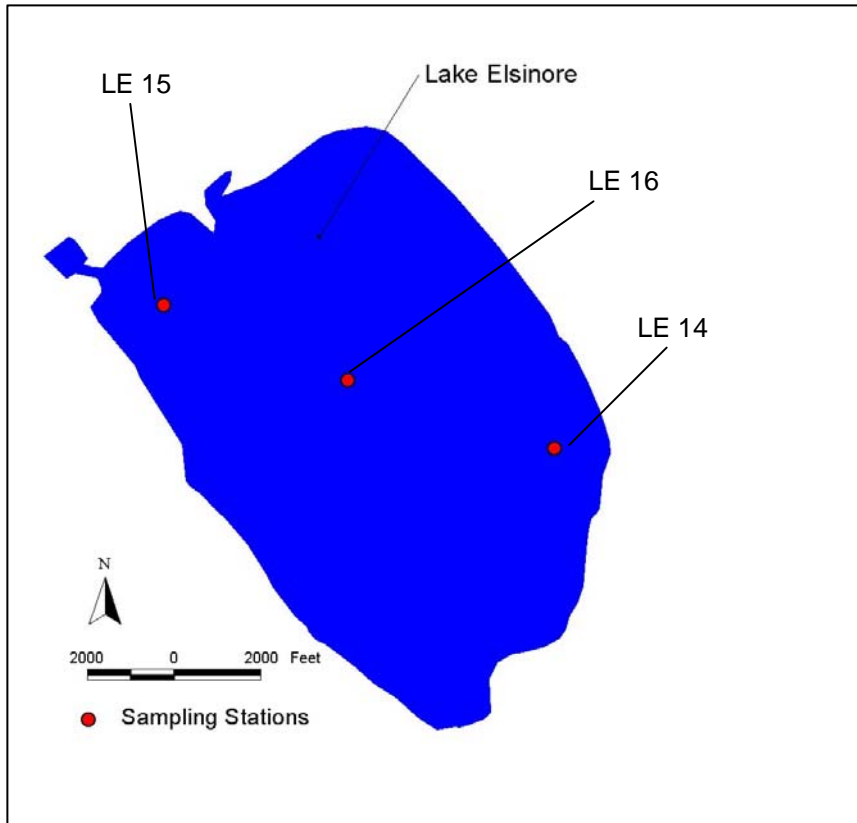
TMDL Implementation Task 3: Monitoring

- 3.1 Watershed-wide Nutrient Water Quality Monitoring Program
- 3.2 Lake Elsinore: In-Lake Nutrient Monitoring Program
- 3.3 Canyon Lake Nutrient Monitoring Program



At a minimum, samples shall be analyzed for the following constituents:

- organic nitrogen
- nitrite nitrogen
- total phosphorus
- total hardness
- total suspended solids (TSS)
- biological oxygen demand (BOD)
- ammonia nitrogen
- nitrate nitrogen
- ortho-phosphate (SRP)
- total dissolved solids (TDS)
- turbidity
- chemical oxygen demand (COD)



At a minimum, in-lake samples must be analyzed for the following constituents:

- specific conductance
- water temperature
- chlorophyll *a*
- organic nitrogen
- nitrite nitrogen
- organic phosphorus
- total hardness
- total dissolved solids (TDS)
- chemical oxygen demand (COD)
- dissolved oxygen
- water clarity (secchi depth)
- ammonia nitrogen
- nitrate nitrogen
- turbidity
- ortho-phosphate (SRP)
- total suspended solids (TSS)
- biological oxygen demand (BOD)

TMDL Implementation Task 4: Agricultural Activities

- No later than (**2 year from effective date of this Basin Plan amendment **), the Riverside County Farm Bureau, the UC Cooperative Extension and agricultural operators within the Lake Elsinore and Canyon Lake watershed shall, as a group, submit a proposed Nutrient Management Plan (NMP). The Nutrient Management Plan shall be implemented upon Regional Board approval at a duly noticed public meeting.

TMDL Implementation Task 5: On-site Disposal Systems (Septic System) Management Plan

- No later than (**6 months from effective date of this Basin Plan amendment **), the County of Riverside and the Cities of ----Perris, Moreno Valley and Murrieta shall, as a group, submit a Septic System Management Plan to identify and address nutrient discharges from septic systems within the San Jacinto watershed.

TMDL Implementation Task 6: Urban Discharges – Revision of the Drainage Area Management Plan and Development of a new Water Quality Management Plan

- **DAMP Revisions:** Provision XIII.B. of Order No. R8-2002-0011 (see 2.1, above) requires the permittees to revise their Drainage Area Management Plan (DAMP) to include TMDL requirements.
- **WQMP:** Provision VIII.B. of Order No. R8-2002-0011 (see 2.1, above) requires the permittees to develop and submit a WQMP by June 2004 for the Executive Officer's approval. The WQMP shall address the urban component of nutrient TMDL from new developments and significant redevelopments.

TMDL Implementation Task 7: Forest Area – Revision of Forest Service Management Plans

- No later than (**2 years from effective date of this Basin Plan amendment **), the US Forest Service shall submit for approval a plan and schedule for review and revision of the Cleveland National Forest Service Management Plan and the San Bernardino National Forest Service Management Plan to identify watershed-specific appropriate Best Management Practices (BMPs) that will be implemented to achieve the interim and final load allocations for forest/open space

TMDL Implementation

- Task 8: Lake Elsinore Sediment Nutrient Reduction Plan
- Task 9: Canyon Lake Sediment Nutrient Treatment Evaluation Plan

TMDL Implementation

- Task 10: Update of Watershed and In-Lake Nutrient Models
- Task 11: Review and Revision of Water Quality Objectives
- Task 12: Review/Revision of the Lake Elsinore/Canyon Lake Nutrient TMDL