Amendment to the Water Quality Control Plan – Los Angeles Region to Incorporate an Implementation Plan for the U.S. EPA-Established Malibu Creek Nutrients TMDL and the U.S. EPA-Established Malibu Creek and Lagoon Sedimentation and Nutrients TMDL to Address Benthic Community Impairments

Adopted by the California Regional Water Quality Control Board, Los Angeles Region (Regional Water Board) on [Date]

### **Amendments:**

### **Table of Contents**

Add:

Chapter 7. Total Maximum Daily Loads (TMDLs)

7-42 Implementation Plan for the Malibu Creek Nutrients TMDL and the Malibu Creek and Lagoon Sedimentation and Nutrients TMDL to Address Benthic Community Impairments

# List of Figures, Tables, and Inserts

Add:

Chapter 7. Total Maximum Daily Loads (TMDLs) Tables

- 7-42 Implementation Plan for the Malibu Creek Nutrients TMDL and the Malibu Creek and Lagoon Sedimentation and Nutrients TMDL to Address Benthic Community Impairments
- 7-42.1 Malibu Creek Nutrients TMDL and Malibu Creek and Lagoon Sedimentation and Nutrients TMDL to Address Benthic Community Impairments Implementation
- 7-42.2 Malibu Creek Nutrients TMDL and Malibu Creek and Lagoon Sedimentation and Nutrients TMDL to Address Benthic Community Impairments Implementation Schedule

### **Chapter 7. Total Maximum Daily Loads (TMDLs) Summaries:**

Add: Implementation Plan for the Malibu Creek Nutrients TMDL and the Malibu Creek and Lagoon Sedimentation and Nutrients TMDL to Address Benthic Community Impairments

This Implementation Plan was adopted by:

The Regional Water Board on [date]

This Implementation Plan was approved by:

The State Water Resources Control Board on [date]
The Office of Administrative Law on [date]

This Implementation Plan is effective on [date]

In Chapter 7, add the following summary of the U.S. EPA-established TMDLs and tables. The TMDL Implementation Plan is presented in Table 7-42.1 and the Implementation Schedule in Table 7-42.2.

# Summary of the Malibu Creek Nutrients TMDL and the Malibu Creek and Lagoon Sedimentation and Nutrients TMDL to Address Benthic Community Impairments

The United States Environmental Protection Agency (U.S. EPA) established the "Malibu Creek Watershed Nutrients TMDL" (2003 TMDL) on March 21, 2003 to address impairments due to ammonia, nutrients, dissolved oxygen, algae, scum, and odor in Malibu Lagoon, Malibu Creek and its tributaries, and four lakes in the watershed. On July 2, 2013, U.S. EPA established the "Malibu Creek and Lagoon Sedimentation and Nutrients TMDL to Address Benthic Community Impairments" (2013 TMDL) to address impairments of Malibu Creek and Las Virgenes Creek related to impacted benthic macroinvertebrates and sedimentation/siltation and impairments of Malibu Lagoon related to adverse benthic community effects.

The sources of nutrients and/or sediment loading in the Malibu Creek Watershed include point sources, such as discharges from storm drains regulated under municipal separate storm sewer system (MS4) permits, direct discharges from the Tapia Water Reclamation Facility (WRF), and nonpoint sources, such as discharges from onsite wastewater treatment systems (OWTS), Tapia WRF irrigation and sludge disposal, and runoff from golf courses, agriculture, livestock facilities, and open space.

Both TMDLs include a problem statement, numeric targets, source analysis, loading capacity, waste load allocations (WLAs) for point sources, load allocations (LAs) for nonpoint sources, and a margin of safety, but do not include an implementation plan or schedule. The 2003 TMDL sets numeric targets for nutrients, chlorophyll a, dissolved oxygen, ammonia, and algal cover; and assigns WLAs and LAs for total nitrogen (expressed as Nitrite-N + Nitrate-N in the 2003 TMDL) and total phosphorus to sources discharging to all waterbodies within the Malibu Creek Watershed. The 2013 TMDL sets numeric targets for nutrients, chlorophyll a, dissolved oxygen, and algal cover as well as sedimentation, benthic community diversity, and benthic community bioscores, and assigns WLAs and LAs for total nitrogen (expressed as organic-N + inorganic-N) and total phosphorus to sources discharging to waterbodies in the eastern portion of the Malibu

Creek Watershed below Malibou Lake. These waterbodies include: Malibu Creek, Cold Creek, Stokes Creek, Las Virgenes Creek, and four lakes (Malibou Lake, Lindero Lake, Westlake Lake, and Sherwood Lake). In addition, the 2013 TMDL sets sediment WLAs and LAs based on a 38 percent reduction in the sediment transport capacity of the Malibu Creek Watershed. Sediment WLAs are assigned for point sources below Malibou Lake, and sediment LAs are assigned to discharges from the combined area upstream of Malibou Lake, discharges from protected land below Malibou Lake, and the Ventura County unincorporated area along Las Virgenes Creek. The following tables address implementation of the 2003 TMDL and the 2013 TMDL.

Table 7-42.1. Malibu Creek Nutrients TMDL and Malibu Creek and Lagoon Sedimentation and Nutrients TMDL to Address Benthic Community Impairments: Implementation

Nutrients 1MDL to Address Benthic Community Impairments: Implementation			
Elements	Key Findings and Regulatory Provisions		
2003 and 2013 TMDL Nutrient Implementation	I. Implementation and Determination of Compliance with Nutrient WLAs      Tapia WRF		
	The nutrient WLAs in the 2013 TMDL will be incorporated into the Tapia WRF NPDES permit and translated into effluent limitations expressed as summer and winter seasonal averages. Compliance with the seasonal averages shall be determined by calculating the sum of all nutrient concentration samples collected during the season divided by the number of samples collected during that season.		
	The 2013 TMDL <u>s</u> Summer nutrient WLAs shall be achieved five years from the effective date of this Implementation Plan. The 2013 TMDL <u>w</u> Winter nutrient WLAs shall be achieved <u>ten-thirteen and a half</u> years from the effective date of this Implementation Plan. Interim nutrient WLAs are established based on current performance equal to the maximum effluent concentration from the past three years and shall be updated during each permit renewal with the most current data <u>or based</u> on current permit limitations <sup>1</sup> , whichever are more stringent.		

<sup>&</sup>lt;sup>1</sup> The current permit limits for the Tapia WRF (Order No. R4-2010-0165) include a monthly average limit for nitrite-N + nitrate-N atof 8 mg/l and 1.1x10<sup>3</sup> lbs/day and a monthly average limit for Total Phosphorus of 3.0 mg/L and 4.0x10<sup>2</sup> lbs/day during the summer and winter season. The permit also sets a daily maximum limit for Total Phosphorus at 4.0 mg/L and 5.4x10<sup>2</sup> lbs/day during the winter season.

3

Elements	Key Findings and Regulatory Provisions				
	Implementation	Total	Total	Total	Total
	Schedule	Nitrogen	Nitrogen	Phosphorus	Phosphorus
		Summer	Winter	Summer	Winter
		WLA	WLA	WLA	WLA
	<b>Upon effective</b>				
	date of the	Current	Current	Current	Current
	Implementation	performance	performance	performance	performance
	Plan				
	5 years from				
	effective date of	1.0 mg/ <u>L</u> 1	Current	0.10 mg/ <u>L</u> 4	Current
	Implementation	1.0 mg/ <u>L</u> 1	performance	0.10 mg/ <u>L</u> i	performance
	Plan				
	<del>10</del> 13.5 years				
	from effective				
	date of	1.0 mg/ <u>L</u> 4	4.0 mg/ <u>L</u> 4	0.10 mg/ <u>L</u> l	0.20 mg/ <u>L</u> l
	Implementation				
	Plan				
	Total Nitrogen = Organic-N + Inorganic-N				
	Summer: April 15-November 15 Winter: November 16-April 14				
	,, med. Hovember 10	при 14			

# **MS4 Permits**

The 2003 TMDL encompasses the whole Malibu Creek Watershed; therefore, the 2003 TMDL MS4 <u>nutrient</u> WLAs will be implemented through NPDES permits that regulate MS4 discharges within the Malibu Creek Watershed, which include but may not be limited to the Los Angeles County MS4 Permit, Ventura County MS4 Permit, and California Department of Transportation (Caltrans) Statewide Storm Water Permit. The 2013 TMDL only addresses the portion of the watershed below Malibou Lake; therefore, the 2013 TMDL MS4 <u>nutrient</u> WLAs will be implemented through the Los Angeles County MS4 and Caltrans MS4 permits only.

Additional MS4 discharges within the Malibu Creek Watershed that may be designated in the future under Phase II of the U.S. EPA Stormwater Permitting Program will implement the MS4 WLAs through the applicable NPDES permit. Other discharges may also be required to implement the MS4 WLAs if the State or U.S. EPA exercise their residual designation authority under CWA section 402(p)(2)(E).

The 2003 TMDL nutrient LAs for "runoff from developed areas" and "dry weather urban runoff" are newly interpreted as <u>nutrient</u> WLAs for MS4 permittees in this Implementation Plan. The<u>se newly interpreted</u> nutrient <u>W</u>LAs were summed and apportioned between MS4 permittees based on their relative area above and below Malibou Lake. The newly

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Elements	· ·	Key Findings and Regulatory Provisions			
		interpreted <u>nutrient</u> WLAs for MS4 permittees below Malibou Lake are superseded by the 2013 TMDL nutrient WLAs.			
	Los Angeles County	Los Angeles County and Ventura County			
	and the 2013 TMDI achieved by December Angeles County MS4 the permit renewal for MS4 Permit, but not Implementation Plan.	The newly interpreted 2003 TMDL nutrient WLAs above Malibou Lake and the 2013 TMDL nutrient WLAs below Malibou Lake shall be achieved by December 28, 2021 for the <u>discharges covered under the Los Angeles County MS4 Permit and within five years of the effective date of the permit renewal for <u>discharges covered under the Ventura County MS4 Permit, but not to exceed 10 years from the effective date of this Implementation Plan. Interim <u>nutrient WLAs</u> are included based on existing permit requirements and current performance.</u></u>			
	Schedule	Nitrogen Summer	Nitrogen Winter	Phosphorus Summer	Phosphorus Winter
	LA County MS4s abo	ve Malibou L	ake		
	December 28, 2017	8.0 lbs/day*	8.0 mg/ <u>L</u> ]*	0.80 lbs/day	N/A
	December 28, 2021	1.6 lbs/day*	8.0 mg/ <u>L</u> 1*	0.16 lbs/day	N/A
	LA County MS4s belo	ow Malibou L	ake		
	December 28, 2017	8.0 lbs/day*	8.0 mg/ <u><b>ł</b>L</u> *	0.80 lbs/day	N/A
	December 28, 2021	1.0 mg/ <u>L</u> l**	4.0 mg/ <u>L</u> 1**	0.10 mg/ <u>L</u> 1	0.20 mg/ <u>L</u> 4
	Ventura County MS4			T ~	T
	Effective date of this Implementation Plan	Current performance permit limits***	8.0 mg/ <u>L</u> l*	Current performance permit limits***	N/A
	5 years from the effective date of the Ventura County MS4 Permit adoption, renewal, or modification but no later than 10 years from the effective date of this Implementation Plan	3.1 lbs/day*	8.0 mg/ <u>L</u> l*	0.3 <u>1</u> 0 lbs/day	N/A
	* Total Nitrogen = Nitrate-N  ** Total Nitrogen = Organic  *** Current Permit = Order  Summer: April 15 to Novem  Winter: November 16 to Ap	c-N + Inorganic-N <u>No. R4-2010-010</u> aber 15			

Elements	<b>Key Findings and R</b>	Key Findings and Regulatory Provisions				
	based effluent limitate WLAs shall be incorporated and winter nutrient	Nutrient WLAs shall be incorporated into MS4 permits as water quality-based effluent limitations (WQBELs). The 2003 TMDL summer <u>nutrient</u> WLAs shall be incorporated as daily loads and the winter <u>nutrient</u> WLA shall be incorporated as a seasonal average. The 2013 TMDL summer and winter <u>nutrient</u> WLAs shall be incorporated as seasonal averages. MS4 Permittees may be deemed in compliance with WQBELs if they demonstrate that:				
		(1) there are no violations of the WQBEL at the Permittee's applicable MS4 outfall(s);				
				umeric targets ermittee's outf		
	3 6			narge from the late time period s		
	Regional Water Boar WLAs. A Regional Program (WMP) of (EWMP) developed requirements of an addresses the applit TMDLs consistent w MS4 permittees shall Adaptive Management assumptions and regions.	The MS4 permittees shall provide an implementation plan to the Regional Water Board outlining how they intend to achieve the <u>nutrient</u> WLAs. A Regional Water Board approved Watershed Management Program (WMP) or Enhanced Watershed Management Program (EWMP) developed in accordance with a MS4 permit will satisfy the requirements of an implementation plan where the WMP or EWMP addresses the applicable waterbody-pollutant combinations of the TMDLs consistent with the implementation schedules in Table 7-42.2. MS4 permittees shall modify their WMP/EWMP no later than the next Adaptive Management Process cycle after provisions consistent with the assumptions and requirements of the TMDL <u>nutrient</u> WLAs are incorporated into the applicable MS4 permits.				
	Caltrans	Caltrans				
	The <u>nutrient</u> WLAs assigned to Caltrans will be implemented through the Caltrans statewide stormwater permit (Order No. 2012-0011-DWQ as amended by Order No. 2014-02006-EXEC, Order No. 2011-0077-DWQ, and Order No. 2015-0036-EXEC, or other successor order).					
	Implementation Schedule	Total Nitrogen Summer	Total Nitrogen Winter	Total Phosphorus Summer	Total Phosphorus Winter	
		Caltrans above Malibou Lake				
	According to the schedule in the revised TMDL Reach Prioritization, but no later than 2032	0.032 lbs/day*	8.0 mg/ <u>L</u> 1*	0.0032 lbs/day	N/A	

Element	S	Key Findings and Regulatory Provisions				
		Implementation Schedule	Total Nitrogen Summer	Total Nitrogen Winter	Total Phosphorus Summer	Total Phosphorus Winter
		Caltrans below Mali	bou Lake			
	According to the schedule in the revised TMDL Reach Prioritization, but no later than 2032	1.0 mg/ <u>L</u> l**	4.0 mg/ <u>L</u> l**	0.10 mg/ <u>L</u> l	0.20 mg/ <u>L</u> 4	
		* Total Nitrogen = Nitrate-N + Nitrite-N  ** Total Nitrogen= Organic-N + Inorganic-N  Summer: April 15 to November 15  Winter: November 16 to April 14				

Some of the 2013 TMDL nutrient WLAs are currently included Order No. 2012-0011-DWQ, but none of the 2003 TMDL nutrient WLAs are. The Caltrans statewide stormwater permit includes TMDL-specific requirements for the TMDLs incorporated into the permit. Order No. 2012-0011-DWQ requires Caltrans to prioritize impaired reaches subject to TMDLs for implementation by reach, so that all TMDLs are addressed by 2032.

In order to reflect this Implementation Plan, the reaches covered by the 2013 TMDL, which were previously not included in Order No. 2012-0011-DWQ, and all of the reaches covered by the 2003 TMDL shall be added to Attachment IV of Order No. 2012-0011-DWQ when it is reopened consistent with provision E.11.b. of the Order. Within a year of the permit reopener, Caltrans shall submit a revised TMDL Reach Prioritization to include the additional reaches.

II. Implementation and Determination of Compliance with Nutrient LAs

### Tapia WRF

The <u>nutrient</u> LAs for irrigation from the Tapia WRF to the Rancho Las Virgenes Farm (also known as the spray field), Pepperdine University, Rancho Las Virgenes Compost Facility, and other recycled water users will be implemented through the Tapia WRF Water Reclamation Requirements. The <u>nutrient</u> LAs for sludge applied to the Rancho Las Virgenes Farm will be implemented through the Rancho Las Virgenes Waste Discharge Requirements (WDRs).

The nutrient LAs shall be incorporated into these permits as requirements for the application of sludge and reclaimed water for irrigation. The permits shall require that irrigation and sludge be applied in compliance

Elements	Key Findings and Regulatory Provisions
	requirements of the APMP. If a local agency chooses to develop a LAMP, the LAMP shall include a schedule for upgrades or modifications based on the results of the study. Existing OWTS shall remain regulated by the existing MOU and LAMP until the above determination is made, the LAMP is revised, and subsequent OWTS upgrades are required.
	The Regional Water Board will evaluate existing MOUs and any future submittal of a LAMP under the OWTS Policy to determine if additional changes are needed to implement the LAs. All OWTS discharges within the APMP shall achieve compliance with LAs as soon as possible, but no later than 4510 years after the effective date of this Implementation Plan. The owners of OWTS are ultimately responsible for achieving the LAs.
	Golf Courses
	The <u>nutrient</u> LAs for nutrients for golf courses in the 2003 and 2013 TMDLs will be implemented through WDRs or conditional waivers of WDRs consistent with the State's Nonpoint Source Implementation and Enforcement Policy. WDRs or conditional waivers of WDRs may include requirements that golf courses submit fertilizer application plans and implement designated types of BMPs to comply with the TMDLs.
	Golf courses shall attain the nutrient LAs within five years of the effective date of this Implementation Plan.
	Agriculture Sources
	The nutrients LAs for agriculture in the 2003 and 2013 TMDLs will be implemented through the Conditional Waiver of Waste Discharge Requirements for Discharges from Irrigated Agricultural Lands (Order No. R4-2016-0143) (Agriculture Waiver) or other appropriate Regional Water Board order. The existing Agriculture Waiver includes the 2003 and 2013 TMDL <u>nutrient</u> LAs as benchmarks.
	Agricultural lands shall achieve the <u>nutrient</u> LAs in the 2003 and 2013 TMDLs by October 14, 2022. This compliance date shall be updated in the waiver when it is renewed or replaced with another order <u>by April</u> 2022.
	Livestock Sources
	The nutrient LAs for livestock in the 2003 and the 2013 TMDLs, including horse facilities and grazing, will be regulated by WDRs, conditional waivers of WDRs, or other regulatory mechanisms in accordance with the Nonpoint Source Implementation and Enforcement

# **Key Findings and Regulatory Provisions** Elements Policy. The Regional Water Board will determine which horse/livestock facilities and grazing operations shall be subject to the WDRs, waivers of WDRs or other regulatory mechanisms during the development of these regulatory mechanisms based on factors that may include, but are not limited to, type of operation, density of animals, and risk to water quality. As part of the regulatory mechanism, horse/livestock facilities and grazing operations shall be required to develop management plans for Executive Officer approval and implement management measures identified in management plans to attain nutrient LAs. Horse/livestock facilities and grazing operations shall achieve compliance with the nutrient LAs in the 2003 and 2013 TMDLs within 105 years of the effective date of this Implementation Plan. The estimated costs for practices to control agricultural discharges such as filter strips, mulching, improved irrigation efficiency, nutrient management, manure management, and grazing management are approximately \$1031 per acre, \$808 per acre, \$1784 per acre, \$55 per acre-year, \$4,500 (average cost of manure bunker), and \$1,356 (average cost of a typical watering facility), respectively. Potential sources of financing for these implementation alternatives, such as Clean Water Act section 319(h) grant funding, are discussed in Chapter 4. As discussed in Chapter 4, the U.S. Department of Agriculture Soil Conservation Service and the Resource Conservation Districts provide information on, and assistance in, implementing BMPs. Lakes The nutrient LAs in the 2013 TMDL for lake overflow from Malibou Lake, Lindero Lake, Westlake Lake, and Sherwood Lake will be implemented through WDRs, conditional waivers of WDRs, or other regulatory mechanisms in accordance with the Nonpoint Source Implementation and Enforcement Policy. The nutrient LAs will apply at the outlet of the lake or dam and are shared among the cities, counties, state, and federal lands in the subwatersheds draining to each lake, and the owners/operators of each lake. Cooperative parties for the lake nutrient LAs are identified, not as responsible parties or as dischargers, but as landowners and lake operators who have an interest in source identification of nutrient pollutants entering and exiting the lakes within Malibu Creek Watershed.

Elements	Key Findings and	<b>Regulatory Provisions</b>
	Lakes	Cooperative Parties
	Malibou Lake	Los Angeles County
		Los Angeles County Flood Control District
		<u>Ventura County</u>
		Ventura County Watershed Protection District
		City of Agoura Hills
		City of Westlake Village
		U.S. National Park Service
		California Department Parks and Recreation
		City of Simi Valley
		Owner/Operator:
		Malibou Lake Mountain Club, Ltd.
	Lake Lindero	Los Angeles County Flood Control District
		Ventura County
		Ventura County Watershed Protection District
		City of Thousand Oaks
		City of Agoura Hills
		City of Westlake Village
		City of Simi Valley
		Owner/Operator:
		Lake Lindero Homeowners Association
	Westlake Lake	Los Angeles County
		Los Angeles County Flood Control District
		<u>Ventura County</u>
		Ventura County Watershed Protection District
		City of Thousand Oaks
		City of Westlake Village
		Owners:
		Windward Shores Homeowners Association
		Westshore Homeowners Association
		Westlake Bay Homeowners Association
		Southshore Homeowners Association
		<u>Lakeshore Homeowners Association</u>
		Westlake Island Homeowners Association
		Northshore Homeowners Association
		The Landing
		Operator:
		The Westlake Management Association
		-

Elements	Key Findings and Regulatory Provisions			
	Sherwood Lake	Ventura County		
		Ventura County Watershed Protection District		
		U.S. National Park Service		
		Owner/Operator:		
		Sherwood Valley Homeowners Association		
	Water Board will is each lake that will Regional Water Board will Regional Water Board water Board water Board plan shall be designutrient loading downward water and wet-weath impact on nutrient larevise this Implement date. The revised methods to reduce loading within the Cooperative parties	will be implemented in stages. First, the Regional sue investigative orders to the cooperative parties for require them to submit a monitoring plan to the pard within one year of the effective date of this effective order. The monitoring need to determine the impact of lake overflows on downstream. The monitoring plan shall include to characterize overflows from the lake during both the er conditions. Then, if monitoring results show an doading downstream, the Regional Water Board will entation Plan within three—five—years of its effective Implementation Plan will include implementation the external loading to the lakes and/or internal lakes and a schedule to meet the nutrient LAs. may propose their own approaches for the revised in that the Regional Water Board may consider.		
2013 TMDL Sedimentation Implementation	eastern portion of the F-130. Compliance TMDL can be achieved	WLAs and LAs in the 2013 TMDL apply to the he watershed, below Malibou Lake and above gage with the sedimentation WLAs and LAs in the 2013 eved through an individual compliance alternative or ed-wide implementation alternative.		
	I. Individual Co	ompliance Alternative		
	Los Angeles Count	y MS4 and Caltrans MS4 Permits		
	County and Caltra determine compliant be multiplied by the MS4 permittees su compared to the recounty and 44 tons sediment transport,	WLAs shall be incorporated into the Los Angeles ans MS4 permits as receiving water limits. To ce, the annual sediment load at the F-130 gage shall allocation fractions (17.4% for Los Angeles County abject to the WLA and 0.8% for Caltrans) and espective WLAs_(1,012 tons/year for Los Angeles allocation for Caltrans). Due to the annual variability of which is linked to wet-weather events, compliance for a three-year period.		

Elements	Key Findings and Regulatory Provisions
	The Los Angeles County MS4 permittees shall provide an implementation plan to the Regional Water Board outlining how they intend to achieve the sedimentation WLAs. The plan shall include implementation methods, proposed interim milestones, and proposed receiving water monitoring to determine compliance. A Regional Water Board approved WMP or EWMP developed in accordance with a MS4 permit that explicitly addresses the sedimentation WLAs will satisfy the requirements of an implementation plan.
	Caltrans shall implement Order No. 2012-0011-DWQ as discussed in the Nutrients Implementation section in order to meet the sedimentation WLAs. In order to reflect this Implementation Plan, additional TMDL specific monitoring requirements shall be added to Attachment IV of Order No. 2012-0011-DWQ when it is reopened consistent with provision E.11.b. of the Order.
	The Los Angeles County MS4 permittees and the Caltrans MS4 below Malibou Lake and above F-130 shall attain the sedimentation WLAs by December 2025.
	Protected Land Below Malibou Lake
	The <u>sedimentation</u> LA in the 2013 TMDL for the protected land below Malibou Lake will be implemented through WDRs, conditional waivers of WDRs, or other regulatory mechanisms assigned to State Parks and National Park Service lands in accordance with the Nonpoint Source Implementation and Enforcement Policy.
	The <u>sedimentation</u> LAs may be incorporated into the regulatory mechanisms as water quality benchmarks or receiving water limits. To
	determine compliance, the annual sediment load at the F-130 gage will be multiplied by the allocation fraction of 13.7% and compared to the respective the LA of 796 tons/yearLAs. Due to the annual variability of sediment transport, which is linked to wet-weather events, compliance
	will be averaged over a three-year period. If the <u>sedimentation</u> LAs are not being achieved, the responsible entities will be required to submit a plan(s) for riparian/stream bank restoration and/or improved operation and management of impervious areas, including roads.
	The <u>sedimentation</u> LA for protected land below Malibou Lake <u>and above gage F-130</u> shall be attained by December 2025.

# Elements **Key Findings and Regulatory Provisions** Combined Area Upstream Malibou Lake The parties responsible for implementing the sedimentation LA in the 2013 TMDL for the area above Malibou Lake are the same as the cooperative parties identified for the nutrient LA in the 2013 TMDL for lake overflow. The sedimentation LA applies at a point below Malibou Lake. Within one year of the effective date of the Implementation Plan, the Regional Water Board intends to issue an investigative order to the cooperative parties to install a new gage below Malibou Lake to collect TSS and flow data to determine the annual sediment load from the area above Malibou Lake. If monitoring results show that the sediment discharged is greater than the sedimentation LA of 3,950 tons/year, the Regional Water Board will revise this Implementation Plan within threefive years of its effective date to identify applicable sedimentation WLAs and LAs for specific jurisdictions upstream of Malibou Lake. **Unincorporated Area along Las Virgenes Creek** To meet the sedimentation LA in the 2013 TMDL for the unincorporated area along Las Virgenes Creek, within one year of the effective date of this Implementation Planreceipt of an investigative order, Ventura County shall submit a monitoring plan to collect sediment data at the county line or at an appropriate downstream site in order to determine the annual sediment load for the unincorporated area along Las Virgenes Creek. If monitoring results show sediment has discharged is greater than the <u>sedimentation</u> LA of 16 tons/year, the Regional Water Board will revise this Implementation Plan within threefive years of its effective date to identify potential sedimentation WLAs and/or LAs for specific jurisdictions in the unincorporated area along Las Virgenes Creek. II. Watershed-wide approach The responsible parties entities in the Malibu Creek Watershed may work collaboratively to develop a comprehensive implementation approach to reduce sediment transport capacity watershed-wide. This compliance alternative is a hybrid of the implementation options described above and would ensure long-term compliance with the 2013 TMDL and attainment of the required 38% reduction in sediment transport capacity at gage F-130. This approach would include a combination of (1) projects to reduce work on the stream caused by elevated flows in the upper urbanized portion of the watershed above gage F-130 and (2) stream restoration projects on eroding stream channels in the upper and lower watershed

stream.

(above and below gage F-130) caused by the elevated work on the

Elements	Key Findings and Regulatory Provisions
	A watershed-based approach implemented collectively by the responsible parties should focus on reducing effective work because effective work is what controls sediment transport capacity. Effective work is based on excess shear stress and stream velocity. Compliance will be assessed by demonstrating a reduction in the 2-year and 10-year peak flows to achieve a 38 percent reduction in effective work at gage F-130. The 2013 TMDL report identifies the required peak flows at gage F-130 for the two storm sizes (1,180 cfs for the 2-year interval and 5,370 cfs for the 10-year interval) and calculation of change in effective work.
	Compliance monitoring for this alternative shall include monitoring at gage F-130 and additional monitoring throughout the impaired reaches and areas downstream of LID projects, regional BMP facilities, and channel restoration projects. These data should be collected to ensure accurate calculation of effective work and 2-year and 10-year peak flows at gage F-130.
	Compliance with the watershed-wide approach would be required within 15 years from the effective date of this Implementation Plan. If this watershed-wide compliance strategy is chosen, responsible parties entities will work collaboratively, but their responsibilities and requirements will be included in their individual regulatory mechanisms.
Monitoring	The TMDL monitoring program shall consist of two components: (1) receiving water TMDL effectiveness monitoring in the receiving water to assess implementation progress and attainment of numeric targets, and (2) discharge compliance monitoring of discharges to determine compliance with the WLAs and LAs. Monitoring requirements shall be included in subsequent permits or other orders.
	Receiving WaterTMDL Effectiveness Monitoring
	Responsible entities are responsible for developing and implementing a comprehensive receiving water TMDL Effectiveness monitoring plan within two years of the effective date of this Implementation Plan to assess numeric target attainment and to determine the effectiveness of implementation actions on receiving water quality. Monitoring shall commence within six months of approval of the TMDL effectiveness monitoring plan. Responsible entities include the Las Virgenes Triunfo JPA, the Ventura County Watershed Protection District, the County of Ventura, the County of Los Angeles, the County of Los Angeles Flood Control District, Caltrans, the City of Thousand Oaks, the City of Westlake Village, the City of Agoura Hills, the City of Calabasas, the City of Hidden Hills, the City of Malibu, and the City of Simi Valley.

# 1. Nutrient Receiving Water TMDL Effectiveness Monitoring

Responsible entities include the Las Virgenes-Triunfo JPA, the Ventura County Watershed Protection District, the County of Ventura, the County of Los Angeles, the County of Los Angeles Flood Control District, Caltrans, the City of Thousand Oaks, the City of Westlake Village, the City of Agoura Hills, the City of Calabasas, the City of Hidden Hills, the City of Malibu, the California Department of Parks and Recreation, and the National Park Service. Within the receiving water monitoring plan, responsible parties entities shall outline a nutrient monitoring program for total nitrogen (organic-N + inorganic-N), —total phosphorus, dissolved oxygen, pH, temperature, ammonia and chlorophyll a. Monitoring shall also include field observations for percent algae cover, the presence of scum/foam, the presence of odors, and whether Malibu Lagoon is open or closed to the ocean.

The sampling frequency and locations must be adequate to assess beneficial use conditions and attainment of nutrient related water objectives. Monitoring locations should downstream areas with more developed land use and collect samples be located at the upstream and downstream ends of nutrient impaired 303(d) listed streams and upstream—at downstream ends of hydrologically-connected segments directly above their confluence with listed streams. At a minimum, nutrient receiving water-monitoring shall be conducted monthly in Malibu Lagoon, the Malibu Lagoon inlet, Malibu Creek, Las Virgenes Creek, Medea Creek Reach 1 and Reach 2, and Lindero Creek Reach 1 and Reach 2. In addition, nutrient receiving water monitoring shall be conducted quarterly in Hidden Valley Creek, Potrero Valley Creek, Triunfo Creek Reach 1 and Reach 2, Palo Comado Creek, Chesebooro Canyon Creek, Stokes Creek, and Cold Creek. To account for the critical condition for dissolved oxygen, dissolved oxygen shall be monitored at pre-dawn. Nutrient receiving water sampling shall commence by December 28, 2021. Responsible entities may request a reduction in the frequency of nutrient sampling after twofour years of sampling has been conducted if justified based on a demonstration of no variability between sample events or consistent improvements in water quality.

### 2. Benthic Receiving Water TMDL Effectiveness Monitoring

Responsible entities include the Las Virgenes-Triunfo JPA, the County of Los Angeles, the County of Los Angeles Flood Control District, Caltrans, the City of Agoura Hills, the City of Calabasas, the City of Hidden Hills, the City of Malibu, the California

Department of Parks and Recreation, and the National Park Service. Within the receiving water monitoring plan, responsible parties entities shall include a benthic monitoring program to collect invertebrate and physical habitat data for benthic community evaluations and stream health assessments using the SC-IBI bioscore and the CSCI, pMMI, and CA-O/E scores.

The sampling frequency and locations must be adequate to assess the beneficial use condition and attainment of benthic-related water quality objectives. Monitoring locations should target downstream areas with more developed land use and collect samples be located at the upstream and downstream ends of benthic impaired 303(d) listed streams. At a minimum, benthic receiving water monitoring shall be conducted annually in Las Virgenes Creek, Middle Malibu Creek, the Malibu Lagoon inlet, and Malibu Lagoon. Compliance with Attainment of the benthic community diversity numeric targets will be calculated as an annual average. Attainment of the SC-IBI, CSCI, pMMI, CA-O/E compliance numeric targets will be calculated as a median of four years of data to account for year-to-year variability.

Responsible parties entities may build upon existing monitoring programs in the Malibu Creek Watershed when developing the receiving water qualityTMDL effectiveness monitoring plans. Receiving water TMDL effectiveness monitoring requirements shall be incorporated into the regulatory mechanisms for each responsible party entity upon issuance, renewal, or modification or through separate investigatory orders. Monitoring procedures, analysis, and quality assurance shall be SWAMP comparable and shall continue beyond the final implementation date of the TMDL unless the Executive Officer approves a reduction or elimination of such monitoring. Any eExceedances of the biological response numeric targets (percent algae cover, benthic community diversity, or biological scores) at the Malibu Lagoon inlet at frequencies greater than the averaging periods specified in the numeric targets section will trigger additional receiving water TMDL effectiveness monitoring and additional preventative activities to reduce nutrient pollutant loads to the watershed and nutrient and sediment loads to Malibu Lagoon through existing adaptive management processes in Regional Board orders such as the Los Angeles County MS4 permit and/or a reconsideration of this Implementation Plan.

### **Discharge** Compliance Monitoring

To assess attainment of the nutrient and sedimentation WLAs and LAs, discharge compliance monitoring shall include monitoring for total nitrogen (as defined by the 2003 TMDL or the 2013 TMDL), total

phosphorus, TSS, and flow. The monitoring frequencies to comply with the nutrient WLAs and LAs are as follows:

- o To <u>demonstrate</u> compl<u>iance</u> with the <u>nutrient</u> WLAs for the Tapia WRF, nutrient monitoring shall be conducted monthly at the Tapia WRF discharge points, <u>when discharging</u>.
- To demonstrate compliancey with the nutrient LAs for the Tapia WRF nonpoint source discharges, quarterly groundwater monitoring shall be incorporated into the WDRs for the Rancho Las Virgenes Farm spray fields to evaluate the quantity and quality of reclaimed water that re-enters the system through groundwater.
- To demonstrate compliance with the nutrient LAs for agriculture, dischargers shall monitor according to the requirements of Order No. R4-2016-0143 or other appropriate Regional Water Board order.
- O To demonstrate compliance with the nutrient LAs for horse/livestock facilities, grazing operations, and golf courses, monitoring may consist of documentation of BMP implementation, and may include water quality monitoring as needed to determine the effectiveness of the BMPs in reducing nutrient loadings.
- o To demonstrate compliance with the nutrient LAs for OWTS, monitoring will be conducted in accordance with the local agencies' LAMPs.
- o To demonstrate compliance with the nutrient LAs for lake overflow, cooperative parties shall conduct monitoring as described in the nutrient implementation section.
- To demonstrate compliancey with the nutrient WLAs for MS4 discharges, monitoring will be conducted three times within the year during stormwater events and four times during non-stormwater events, with a minimum of two non-stormwater samples within the summer season. Stormwater monitoring will target the first significant rain event of the storm year. During dry weather, sampling shall occur a minimum of 72 hours after a storm event. MS4 permittees may shall address the TMDL compliance monitoring requirements through their Monitoring Reporting Programs (MRPs). The Regional Board will modify the MRPs, or approve coordinated integrated monitoring program (CIMP) modifications proposed by permittees, to incorporate additional monitoring requirements to determine compliance with nutrient WLAs. Compliance monitoring will require MS4

permittees to include representative outfall and receiving water monitoring locations within their jurisdiction within the Malibu Creek watershed.an integrated monitoring program (IMP) or coordinated integrated monitoring program (CIMP), where available. Where approved IMPs and CIMPs are already in place, such programs shall be modified as necessary consistent with these requirements. IMPs and CIMPs, and modifications to these programs, must be approved by the Executive Officer. Upon approval, monitoring shall commence within six months.

- O To eomply demonstrate compliance with the sedimentation WLAs for Los Angeles County MS4 discharges, monitoring shall include flow and TSS during dry and wet weather to calculate the annual sediment load moving past gage F-130 if the individual compliance option is chosen. Dischargers shall modify their IMPs/CIMPs to include sufficient sampling to accurately calculate the sediment load. Additional parameters that are more cost-effective or continuous may be useful to collect, such as turbidity. With a robust dataset, these can be used to develop statistical relationships and expand the extent of data. Upon approval by the Executive Officer, alternative parameters (based on statistical analyses) could be used to document compliance with the sedimentation WLAs. In addition, existing monitoring at gage F-130 conducted under other programs can be leveraged to assist in meeting these monitoring requirements.
- To <u>comply demonstrate compliance</u> with the nutrient and sediment WLAs for Caltrans MS4 discharges, Caltrans will monitor according to the requirements of State Water Board Order No. 2012-0011-DWQ.
- To comply with the nutrient LAs for lake overflow, cooperative parties shall conduct monitoring as described above.
- To complydemonstrate compliance with the sedimentation LA for the area above Malibou Lake, if the individual compliance option is chosen, responsible parties entities shall conduct monitoring as described above in the sedimentation implementation section.
- To demonstrate compliance with the sedimentation LA for the discharges from the unincorporated area along Las Virgenes Creek, if the individual compliance option is chosen, Ventura County shall conduct monitoring as described in the sedimentation implementation section.

- O To demonstrate compliance with the sedimentation LA for the discharges from the protected land below Malibou Lake and above F-130, if the individual compliance option is chosen, State Parks, and National Parks Service shall conduct monitoring as described in the sediment implementation section.
- O To demonstrate compliance with the sedimentation LAs and WLAs if the watershed-wide compliance option is chosen, responsible entities shall conduct monitoring as described in the sedimentation implementation section.

<u>Discharge Compliance</u> monitoring shall be required through the regulatory mechanisms used to implement the <u>sedimentation and nutrient</u> WLAs and LAs. The monitoring procedures/methods, analysis, and quality assurance shall be SWAMP comparable where appropriate.

Table 7-41.2. Malibu Creek Nutrients TMDL and Malibu Creek and Lagoon Sedimentation and Nutrients TMDL to Address Benthic Community Impairments: Implementation Schedule

Task	Date*					
The Regional Water Board will reconsider this Implementation Plan within three five years of its effective date based on the results of any new information or data, including the impact of lakes on nutrient loading and sedimentation downstream	35 years from the effective date of this Implementation Plan					
Tapia WRF						
Tapia WRF shall attain nutrient LAs for indirect discharges	Upon the effective date of this Implementation Plan					
Las Virgenes-Triunfo JPA shall submit a TMDL effectiveness	Two years from the					
monitoring plan for nutrients and benthic community evaluations	effective date of this					
individually or in collaboration with other responsible entities	Implementation Plan					
Tapia WRF shall attain interim 2013 TMDL nutrient winter WLAs and final 2013 TMDL nutrient summer WLAs	Five years from the effective date of this Implementation Plan					
Tapia WRF shall attain final 2013 TMDL nutrient winter WLAs	1013.5 years from the effective date of this Implementation Plan					
Los Angeles County MS4-whole Malibu Creek Watershed						
Los Angeles County MS4 permittees within the whole Malibu Creek Watershed shall submit a nutrient implementation plan or modify existing WMP or EWMP	By the next adaptive management process cycle after WLAs are incorporated into MS4 permit					
Los Angeles County MS4 permittees within the whole MCW shall	Two years from the					
submit a TMDL effectiveness monitoring plan for nutrients and	effective date of this					
benthic community evaluations individually or in collaboration with other responsible entities	Implementation Plan					
Los Angeles County MS4-above Malibou Lake						
Los Angeles County MS4 permittees above Malibou Lake shall attain their current permit limits for nutrients (as set forth in Order No. R4-2012-0175) interim nutrient WLAs	December 28, 2017					
Los Angeles County MS4 permittees above Malibou Lake shall attain newly interpreted 2003 nutrient WLAs	December 28, 2021					

Task	Date*	
Los Angeles County MS4-below Malibou Lake		
Los Angeles County MS4 permittees below Malibou Lake shall attain their current permit limits for nutrients (as set forth in Order No. R4-2012-0175) interim nutrient WLAs	December 28, 2017	
Los Angeles County MS4 permittees below Malibou Lake shall attain 2013 nutrient WLAs	December 28, 2021	
Los Angeles County MS4 permittees below Malibou Lake shall submit a sedimentation implementation plan	By the next adaptive management process cycle after WLAs are incorporated into MS4 permit	
Los Angeles County MS4 permittees below Malibou Lake shall attain 2013 sedimentation WLAs (if watershed-wide approach is not chosen)	December 28, 2025	
Ventura County		
Ventura County shall submit a monitoring plan for the area along Los Virgenes Creek to determine the annual sediment load	One year from the effective date of this Implementation Planreceipt of an investigative order	
Ventura County MS4		
Ventura County MS4 permittees shall attain 2003 <u>TMDL</u> nutrient winter WLAs for MS4 <u>discharges</u>	Upon the effective date of this Implementation Plan	
Ventura County MS4 permittees shall submit an MS4 nutrient implementation plan or WMP or EWMP	One year from the effective date of this Implementation Plan or as per the schedule for the WMP/EWMP under the MS4 permit if appropriate	
Ventura County MS4 permittees shall submit a TMDL effectiveness monitoring plan for nutrients individually or in collaboration with other responsible entities.	Two years from the effective date of this	
collaboration with other responsible entities	Implementation Plan	

Task	Date*
Ventura County MS4 permittees shall attain newly interpreted 2003 TMDL nutrient summer WLAs for MS4	5 years from the effective date of the Ventura County MS4 Permit adoption, renewal, or modification, but no later than 10 years from the effective date of this Implementation Plan
Caltrans-entire Malibu Creek Watershed	
Additional reaches subject to the 2003 and 2013 nutrients-TMDLs shall be added to Attachment IV of Order No. 2012-0011-DWQ	Upon reopener of Order No. 2012-0011-DWQ consistent with provision E.11.b. of the Order
Caltrans shall submit a revised TMDL Reach Prioritization to include the 2013 TMDL impaired reaches that were omitted from the prioritization and to add the 2003 TMDL impaired reaches	Within a year of reopener of Order No. 2012-0011-DWQ
Caltrans shall submit a TMDL effectiveness monitoring plan for nutrients and benthic community evaluations individually or in collaboration with other responsible entities	Two years from the effective date of this Implementation Plan
Caltrans-above Malibu Creek Watershed	
Caltrans above Malibou Lake shall attain newly interpreted 2003 nutrient WLAs	According to the schedule in the revised TMDL Reach Prioritization, but no later than 2032
Caltrans-below Malibu Creek Watershed	
Caltrans below Malibou Lake shall attain final 2013 nutrient WLAs	According to the schedule in the revised TMDL Reach Prioritization, but no later than 2032
The area of the Caltrans MS4 below Malibou Lake shall attain 2013 sedimentation WLAs (if watershed-wide approach is not chosen)	December 28, 2025
Onsite Wastewater Treatment Systems	
Local agencies (city and county health departments and/or building departments) may submit a work plan for a study to determine which existing OWTS are contributing to the nutrient loading to any waterbody within the Malibu Creek Watershed for approval by the Executive Officer.	Three years from the effective date of the Implementation Plan

Task	Date*
Local agencies_(city and county health departments and/or	Five years from the
building departments) may complete the OWTS study and submit	effective date of the
a final report to the Regional Water Board.	Implementation Plan
	Fifteen Ten years from the
Owners of OWTS shall attain 2003 or 2013 nutrient LAs,	effective date of the
depending on OWTS location	Implementation Plan
Golf Courses	
	Five years from the
Owners of golf courses shall attain 2003 or 2013 nutrient LAs	effective date of the
A	Implementation Plan
Agriculture	
Owners and/or operators of irrigated agricultural land shall attain	0 1 1 2022
2003 and 2013 nutrient LAs	October 14, 2022
Horse/Livestock and Grazing	
Owners and/or operators of horse/livestock facilities and grazing	Ten-Five years from the
operations shall attain 2003 and 2013 nutrient LAs	effective date of the
	Implementation Plan
Lakes	
Converting and in (and in anting III a ( ) for each labor	One year from the effective
Cooperative parties <u>(as defined in section III.c.6.)</u> for each lake shall submit a monitoring plan to determine the impact of lake	date of the Implementation
overflows on nutrient loading downstream	Planreceipt of an
overnows on national following downstream	<u>investigative order</u>
Cooperative parties (as defined in section III.c.6.) for the	One year from the effective
combined area upstream of Malibou Lake shall submit a	date of the Implementation
monitoring plan to determine the annual sediment load from the	Planreceipt of an
area above Malibou Lake	investigative order.
Protected Land below Malibou Lake	
State Parks and National Park Service shall attain 2013	
sedimentation LAs	December 2025
(if watershed-wide approach is not chosen)	
2013 Sedimentation TMDL - All Responsible Parties	
If a watershed-wide approach is chosen all responsible parties for	Type vecus fuers the
the sedimentation TMDL shall submit an implementation plan and	Two years from the
a monitoring plan for a comprehensive approach to reduce	effective date of this
a monitoring plan for a complehensive approach to reduce	Implementation Plan

Task	Date*
If a watershed-wide approach is chosen all responsible parties for	15 years from the effective date of this Implementation Plan
the sedimentation TMDL shall attain a 38% reduction in sediment	
transport capacity at gage F-130 and implement stream restoration	
projects on eroding stream channels in the upper and lower	
watershed (above and below gage F-130) caused by the elevated	
work on the stream	