

Reconsideration of the
Revolon Slough/Beardsley Wash Trash TMDL
and the Malibu Creek Watershed Trash TMDL



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I. Introduction

This staff report provides the rationale for revising two existing trash total maximum daily loads (TMDLs) that were previously adopted by the Los Angeles Regional Water Quality Control Board (Los Angeles Water Board): the Revolon Slough and Beardsley Wash Trash TMDL and the Malibu Creek Watershed Trash TMDL. The staff report discusses the effectiveness of the current implementation measures of these TMDLs and reconsiders certain aspects of the TMDLs as they compare to new statewide provisions for trash control. These TMDL reconsiderations satisfy the requirements to reconsider the TMDLs based on an evaluation of the effectiveness of Minimum Frequency of Assessment and Collection (MFAC)/BMP Programs in Task 5 of the MFAC implementation schedules in the associated TMDLs. The Revolon Slough and Beardsley Wash Trash TMDL and Malibu Creek Watershed Trash TMDL are similar in compliance approaches, but vary in geographical locations and land use types. These similarities and differences were considered when determining the need for TMDL revisions.

A. Regulatory Background

Section 303(d) of the Clean Water Act (CWA) requires that “Each State shall identify those waters within its boundaries for which the effluent limitations are not stringent enough to implement any water quality standard applicable to such waters.” The CWA also requires states to establish a priority ranking for waters on the 303(d) list of impaired waters and establish TMDLs for such waters.

The elements of a TMDL are described in 40 CFR §130.2 and §130.7 and Section 303(d) of the CWA, as well as in U.S. Environmental Protection Agency guidance (U.S. EPA, 2000). A TMDL is defined as the “sum of the individual waste load allocations for point sources and load allocations for nonpoint sources and natural background” (40 CFR §130.2) such that the capacity of the waterbody to assimilate pollutant loadings (the Loading Capacity) is not exceeded. TMDLs are also required to account for seasonal variations, and include a margin of safety to address uncertainty in the analysis.

States must develop water quality management plans to implement the TMDL (40 CFR §130.6). The U.S. EPA has oversight authority for the CWA Section 303(d) program and is required to review and either approve or disapprove the TMDLs submitted by states.

The Los Angeles Water Board has adopted several TMDLs for waters listed on the 303(d) list to attain water quality standards for trash and debris in various watersheds within its jurisdiction pursuant to state and federal requirements. The Revolon Slough and Beardsley Wash Trash TMDL and Malibu Creek Watershed Trash TMDL have been in effect since March 6, 2008 and July 7, 2009, respectively.

B. Statewide Trash Amendments

On April 7, 2015, the State Water Resources Control Board (State Water Board) adopted Resolution 2015-0019, which approved an “Amendment to the Water Quality Control Plan for Ocean Waters of California to Control Trash” and “Part 1 Trash Provisions of the Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries” (Trash Amendments) (SWRCB, 2015a, 2015b). The statewide Trash Amendments became effective on December 2, 2015. The Trash Amendments were developed to provide statewide consistency for the regional water boards’ regulatory approaches to protect aquatic life and public health beneficial uses and reduce trash in state waters, while focusing resources on high trash generating areas.

The statewide Trash Amendments require municipal separate storm sewer system (MS4) permittees to comply with a prohibition of discharge of trash via one of two tracks.

Track 1 requires MS4 permittees to install, operate, and maintain full capture systems for all storm drains that capture runoff from the priority land uses in their jurisdictions. A full capture system consists of any device or series of devices that traps all particles that are 5 mm or greater in size and has a design treatment capacity of not less than the

peak flow rate resulting from a one-year, one-hour storm in the area draining to the device(s). Priority land uses are defined by the Trash Amendments as follows:

- (1) **High-density residential:** all land uses with at least ten (10) developed dwelling units/acre.
- (2) **Industrial:** land uses where the primary activities on the developed parcels involve product manufacture, storage, or distribution (e.g., manufacturing businesses, warehouses, equipment storage lots, junkyards, wholesale businesses, distribution centers, or building material sales yards).
- (3) **Commercial:** land uses where the primary activities on the developed parcels involve the sale or transfer of goods or services to consumers (e.g., business or professional buildings, shops, restaurants, theaters, vehicle repair shops, etc.)
- (4) **Mixed urban:** land uses where high-density residential, industrial, and/or commercial land uses predominate collectively (i.e., are intermixed).
- (5) **Public transportation stations:** facilities or sites where public transit agencies' vehicles load or unload passengers or goods (e.g., bus stations and stops).

Track 2 requires MS4 permittees to install, operate, and maintain any combination of full capture systems, multi-benefit projects, other treatment controls, and/or institutional controls within either the jurisdiction of the MS4 permittee or within the jurisdiction of the MS4 permittee and contiguous MS4 permittees. The MS4 permittee determines the locations or land uses within its jurisdiction to implement any combination of controls. For Track 2, the MS4 permittee must demonstrate that such a combination of controls achieves full capture system equivalency. The State Water Board, however, does expect MS4 permittees to elect to install full capture systems where such installation is not cost-prohibitive.

Similar to Track 2 for MS4 permittees, Caltrans must install, operate, and maintain any combination of full capture systems, multi-benefit project, other treatment controls, and/or institutional controls for all storm drains that capture runoff from significant trash generating areas. Caltrans must demonstrate that this combination achieves full

capture equivalency. For Caltrans, significant trash generating areas could include areas such as: highway on- and off-ramps in high-density residential, commercial, mixed urban and industrial land uses; rest areas and park-and-ride facilities/lots; state highways in commercial and industrial land use areas; and other mainline highway segments that may be identified by Caltrans through pilot studies and/or surveys.

The statewide Trash Amendments apply to all surface waters of the State, with the exception of those waters within the jurisdiction of the Los Angeles Water Board where trash or debris TMDLs were in effect prior to the effective date of the Trash Amendments. The statewide Trash Amendments required the Los Angeles Water Board to convene a public meeting to reconsider the scope of its trash TMDLs, with the exception of those for the Los Angeles River and Ballona Creek watersheds, to particularly consider an approach that would focus MS4 permittees' trash-control efforts on high-trash generation areas within their jurisdictions. The Los Angeles Water Board held this public meeting on November 28, 2016.

C. Comparison of Statewide Trash Amendments and Los Angeles Water Board Trash TMDL Requirements

The Revolon Slough/Beardsley Wash Trash TMDL and Malibu Creek Watershed Trash TMDL require responsible entities to comply with waste load allocations by addressing **all** point sources of trash in their respective watersheds with full capture systems, or through any lawful manner. A more detailed explanation of TMDL requirements can be found below within the descriptions of each TMDL. As mentioned above, the statewide Trash Amendments require MS4 permittees to address point sources of trash **in priority land use areas only**, which the State Water Board has defined as high-density residential, industrial, commercial, mixed urban, and public transportation stations. In order to determine where the priority land use areas are in these respective watersheds, Los Angeles Water Board staff analyzed Southern California Association of Governments (SCAG) land use data to determine which SCAG land use codes correspond to the priority land uses listed in the statewide Trash Amendments (Table 1).

Table 1. Priority Land Uses and Associated SCAG Land Use Codes.

Priority Land Uses in Statewide Trash Amendments	SCAG Land Use Categories/Codes
High-density residential	Multi-Family Residential: 1120 Mobile Homes and Trailer Parks: 1131 Mixed Residential: 1140 Rural Residential: 1151 ¹
Industrial	Industrial: 1300
Commercial	Commercial and Services ² : 1200
Mixed urban	Mixed urban: 1600
Public transportation stations	Transportation, Communication, and Utilities: 1400

1- SCAG land use code 1151 is "Rural Residential High Density". The description for this land use code states that the density is >2 units/acre. The "high density" residential definition in the statewide Trash Amendments is "at least 10 developed dwelling units/acre". Due to the fact that >2 units/acre could mean >10 units/acre, the SCAG land use code 1151 is included in the definition of Priority Land Uses for the purposes of this comparison. A responsible jurisdiction may remove this particular land use from the definition of Priority Land Uses if they can demonstrate that the rural residential land use areas under its jurisdiction have less than 10 units/acre.

2- Includes schools

Los Angeles Water Board staff created maps of the Revolon Slough/Beardsley Wash and Malibu Creek watersheds, including the SCAG land use codes associated with priority land uses, to compare the areas addressed in the Los Angeles Water Board trash TMDLs to the areas that would be addressed in the statewide Trash Amendments. In order to determine whether the Los Angeles Water Board might change the requirements of the Revolon Slough/Beardsley Wash Trash TMDL and Malibu Creek Watershed Trash TMDL to align with the scope of the statewide Trash Amendments while ensuring that water quality standards are attained in these waterbodies, Los Angeles Water Board staff analyzed the maps and evaluated three criteria for these two trash TMDLs. The purpose of the criteria is to determine if the non-priority land use areas in the watersheds subject to these TMDLs are discharging trash to the impaired waterbodies and, if so, if there are effective MFAC Programs in the impaired waterbodies that would adequately address these discharges by collecting and

removing the trash before it could harm beneficial uses. If the non-priority land use areas are discharging trash to the impaired waterbodies and there are not effective MFAC Programs in the waterbodies, then excluding these areas from full capture requirements would not be protective of beneficial uses.

The first criterion evaluated for the reconsideration of the point source compliance strategy for the trash TMDLs was:

- 1. Is there a potential for non-priority land use areas to discharge significant amounts of trash to impaired waterbodies?*

Los Angeles Water Board staff analyzed the number of catch basins in non-priority land use areas and the amounts and types of trash found at monitoring sites downstream of these areas to determine whether non-priority land use areas are contributing significant amounts of trash to impaired waterbodies. Staff also examined the amounts and types of trash at all monitoring sites to determine which sites had the highest amounts of trash and if those sites corresponded to priority land use areas.

The second criterion evaluated for the reconsideration of the point source compliance strategy for the trash TMDLs was:

- 2. Are there priority land use areas upstream of and/or in near proximity to non-priority land use areas, such that trash from the priority land use areas may enter the MS4 in nearby non-priority land use areas?*

Los Angeles Water Board staff analyzed map data to see if there were priority land use areas adjacent to or interspersed with non-priority land use areas where there was a potential for trash to be carried to non-priority land use areas by wind, foot traffic, auto traffic, or other means. Staff generally considered roads and neighborhoods on a broad scale to determine how non-priority and priority land use areas may be connected within a community. This analysis was intended to reflect the possibility, for example, of a low-density residential neighborhood that was located between two busy transportation

corridors where traffic between the corridors may have an impact on trash generated in the low-density residential neighborhood. While staff did not conduct a street-level analysis of each neighborhood, we relied upon our knowledge of these watersheds to make general conclusions about how land uses were interconnected.

The third criterion evaluated for the reconsideration of the point source compliance strategy for the trash TMDLs was:

3. *Is there an effective MFAC program downstream of the non-priority land use areas that will serve as a back stop in the event that trash is discharged from non-priority land use areas?*

Los Angeles Water Board staff analyzed MFAC Programs, including the frequencies of collection events, the number and locations of monitoring sites, and the amount of trash remaining in the impaired waterbodies following each collection event to determine the effectiveness of the programs. If staff determined that MFAC Programs were effective, then staff found that potential discharges from non-priority land use areas could be adequately addressed by the MFAC Program such that beneficial uses would be protected.

II. Revolon Slough and Beardsley Wash Trash TMDL

A. Background and Compliance Approach

On June 7, 2007, the Los Angeles Water Board adopted the Revolon Slough and Beardsley Wash Trash TMDL under Resolution No. R4-2007-007. Subsequently, the State Water Board, Office of Administrative Law, and U.S. EPA approved the TMDL. The Revolon Slough and Beardsley Wash Trash TMDL became effective on March 6, 2008.

The Revolon Slough and Beardsley Wash Trash TMDL established a numeric target of zero trash based on the narrative water quality objectives for Floating Material, and Solid, Suspended, or Settleable Materials, specified in the Water Quality Control Plan for the Los Angeles Region (Basin Plan). The TMDL defined zero trash for nonpoint sources as no trash immediately following each assessment and collection event consistent with an established MFAC Program. The MFAC Program was established at an interval that prevents trash from accumulating in deleterious amounts that cause nuisance or adversely affect beneficial uses between collections. The TMDL defined zero trash for point sources as zero trash discharged into Revolon Slough and Beardsley Wash.

1. Point Sources

The TMDL assigned waste load allocations (WLAs) to Caltrans, permittees and co-permittees of the Ventura County MS4 permit (Ventura County, Ventura County Watershed Protection District (VCWPD), Camarillo, and Oxnard), and local landowners with conveyances within the Revolon Slough and Beardsley Wash subwatershed. The TMDL allowed point sources to comply with WLAs either by installing full capture devices on all stormwater conveyances discharging to Revolon Slough and Beardsley Wash or by participating in an MFAC/BMP Program.

Point sources that chose to comply via installation of full capture devices were required to demonstrate a phased implementation of these devices over an 8-year period until 100% of the stormwater conveyances were addressed by full capture systems by March 6, 2016. While all conveyances discharging to Revolon Slough and Beardsley Wash were required to be addressed by full capture systems, their installation was prioritized based on the greatest point source loadings.

Point sources that chose to comply with WLAs by implementing an MFAC/BMP program were required to demonstrate progressive reductions in trash from a Baseline WLA (to be defined by responsible jurisdictions in their Trash Monitoring and Reporting Program, or TMRP) over an 8-year period until there was a 100% reduction of trash

from their Baseline WLA by March 6, 2016. The MFAC/BMP Program was required to include the same standards as described for nonpoint sources in the following section.

Irrespective of whether point sources relied upon full capture systems or an MFAC/BMP Program, they were able to comply with the WLA in any lawful manner. The implementation schedule for point sources is presented in Table 2.

Table 2. Revolon Slough and Beardsley Wash Trash TMDL Implementation Schedule: Point Sources

Task No.	Task	Responsible Jurisdiction	Date (Effective Date: March 6, 2008)
1	Submit Trash Monitoring and Reporting Plan, including a plan for defining the trash baseline WLA and a proposed definition of "major rain event".	City of Camarillo; City of Oxnard; VCWPD; Ventura County; Caltrans; Local land owners with conveyances	September 6, 2008. If a plan is not approved by the Executive Officer within 9 months, the Executive Officer will establish an appropriate monitoring plan.
2	Implement Trash Monitoring and Reporting Plan.	City of Camarillo; City of Oxnard; VCWPD; Ventura County; Caltrans; Local land owners with conveyances	6 months from receipt of letter of approval from Regional Board Executive Officer, or the date a plan is established by the Executive Officer.

Task No.	Task	Responsible Jurisdiction	Date (Effective Date: March 6, 2008)
3	Submit results of Trash Monitoring and Reporting Plan, recommend trash baseline WLA, and propose prioritization of Full Capture System installation or implementation of other measures to attain the required trash reduction.	City of Camarillo; City of Oxnard; VCWPD; Ventura County; Caltrans; Local land owners with conveyances	2 years from receipt of letter of approval for the Trash Monitoring and Reporting Plan from Regional Board Executive Officer.
4	Installation of Full Capture Systems or other measures to achieve 20% reduction of trash from Baseline WLA*.	City of Camarillo; City of Oxnard; VCWPD; Ventura County; Caltrans; Local land owners with conveyances	March 8, 2012.
5	Installation of Full Capture Systems or other measures to achieve 40% reduction of trash from Baseline WLA*.	City of Camarillo; City of Oxnard; VCWPD; Ventura County; Caltrans; Local land owners with conveyances	March 8, 2013.
6	Evaluate the effectiveness of Full Capture Systems or other measures, and reconsider the WLA*.	Regional Board	March 8, 2013.
7	Installation of Full Capture Systems or other measures to achieve 60% reduction of trash from Baseline WLA*.	City of Camarillo; City of Oxnard; VCWPD; Ventura County; Caltrans; Local land owners with conveyances	March 8, 2014.

Task No.	Task	Responsible Jurisdiction	Date <i>(Effective Date: March 6, 2008)</i>
8	Installation of Full Capture Systems or other measures to achieve 80% reduction of trash from Baseline WLA*.	City of Camarillo; City of Oxnard; VCWPD; Ventura County; Caltrans; Local land owners with conveyances	March 8, 2015.
9	Installation of Full Capture Systems or other measures to achieve 100% reduction of trash from Baseline WLA*.	City of Camarillo; City of Oxnard; VCWPD; Ventura County; Caltrans; Local land owners with conveyances	March 8, 2016.

2. Nonpoint Sources

The TMDL assigned load allocations (LAs) to Ventura County, VCWPD, Camarillo, Oxnard, and local landowners. Pursuant to Water Code section 13269, waste discharge requirements were waived for any responsible jurisdiction that implemented an MFAC/BMP Program that, to the satisfaction of the Executive Officer, met several criteria, including:

- The MFAC/BMP Program included an initial minimum frequency of trash assessment and collection and suite of structural and/or nonstructural BMPs.
- The MFAC/BMP Program included collection and disposal of all trash found in the water and on the shoreline.

For Revolon Slough and Beardsley Wash, an initial minimum frequency of assessment and collection was prescribed; however, the TMDL allowed for revisions to the MFAC/BMP Program in the TMRP to reflect the results of trash assessment and collection and to prevent trash from accumulating in deleterious amounts.

Other than complying with nonpoint source requirements of the Revolon Slough/Beardsley Wash Trash TMDL through a conditional waiver and MFAC/BMP Program, responsible jurisdictions also had the option of proposing, or the Los Angeles

Water Board could impose, an alternative program implemented through waste discharge requirements, an individual waiver, a cleanup and abatement order, or any other appropriate order or orders consistent with the assumptions and requirements of the nonpoint source LAs and implementation schedule.

B. Implementation

The cities of Camarillo and Oxnard, Ventura County, VCWPD, Caltrans, and the Ventura County Agriculture Irrigated Lands Group (collectively, Ventura County stakeholder group) have been working cooperatively to implement a TMRP to document compliance with the Revolon Slough and Beardsley Wash Trash TMDL. The City of Oxnard initially implemented its own TMRP, but joined the other stakeholders in implementing the stakeholder group revised TMRP in 2015.

In implementing the TMRP, the Ventura County stakeholder group initially proposed to comply with their WLAs via a MFAC/BMP Program, but found high variability in nonpoint source contributions, weather conditions, and trash data that affected their assurance of compliance with WLAs. As a result, the MS4 permittees decided that the installation of full capture devices on conveyances discharging to Revolon Slough and Beardsley Wash was the best approach. Nonpoint source responsible entities in the Ventura County stakeholder group have been implementing the MFAC/BMP program as their compliance approach. The MFAC/BMP program consists of monthly assessment and collection of trash at the sites prescribed by the TMDL, an initial suite of BMPs, and additional BMPs each year such as trash cleanups along fence lines, increasing education and outreach, and special cleanups in addition to the monthly events. The TMRP documented the number of pieces and weight of the trash collected during assessment and collection events to determine if trash was accumulating in deleterious amounts between events and where additional BMPs were needed.

In 2015, the Ventura County stakeholder group requested, and the Executive Officer approved, a revision to the TMRP. Rather than counting pieces or weighing trash, the MFAC/BMP Program under the revised TMRP conducts monthly visual surveys of trash at selected sites using a scoring system based on the Surface Water Ambient

Monitoring Program (SWAMP) Rapid Trash Assessment Protocol to analyze the levels of trash observed. The three scoring categories are:

- Category 1 (represents the SWAMP category “optimal”): On first glance, no trash visible. Little or no trash (<10 pieces) evident when streambed and stream banks are closely examined for litter and debris, for instance by looking under leaves.
- Category 2 (represents the SWAMP category “suboptimal”): On first glance, low to medium levels of trash are evident (10-100 pieces). Stream, bank surfaces, and riparian zone contain some litter and debris. Possible evidence of site being used by people: scattered cans, bottles, food wrappers, blankets, and clothing.
- Category 3 (represents the SWAMP category “poor”): Trash distracts the eye on first glance. Stream, bank surfaces, and immediate riparian zone contains substantial levels of litter and debris (>100 pieces). Evidence of site being used frequently by people: many cans, bottles, and food wrappers, blankets, and clothing.

The MFAC/BMP Program in the 2015 TMRP requires responsible entities to conduct monthly assessments and regular cleanups and to employ additional BMPs as needed to achieve a Category 1 level of trash.

Although all responsible jurisdictions are implementing one stakeholder TMRP, there have been varying degrees of compliance with the Revolon Slough/Beardsley Wash Trash TMDL implementation tasks and deadlines. A summary of the implementation status for individual responsible jurisdictions is included in the discussion below.

1. Nonpoint Source Compliance

The nonpoint source responsible entities¹ are in compliance with their load allocation because the MFAC Program results in zero trash immediately following collection events. However, under the revised TMRP, seven assessment and collection sites were removed, leaving only sites 1, 3a, 5, 8, and 10 (Figure 1), and the language in the revised TMRP and annual reports implies that the trash is not collected during monthly visual assessments, but rather prioritized for later special cleanups. Under the previous TMRP, special cleanups occurred in addition to regular monthly cleanups as a BMP meant to reduce the amount of trash accumulating between collection events (County of Ventura et al., 2011-2018). Responsible entities have since clarified in follow-up conversations that they are collecting trash during the monthly visual assessments and conducting special cleanups in addition to and over larger areas than the sites that are visually assessed.

2. Point Source Compliance

As of the final compliance date of March 6, 2016, Ventura County has installed 56 full capture systems, which address 100% of the conveyances discharging to Revolon Slough/Beardsley Wash within the County's jurisdiction (County of Ventura et al., 2017).

¹ Oxnard maintains that it does not own nonpoint sources (City of Oxnard, 2010-2015). However, like the County of Ventura, there are nonpoint sources (agriculture) within Oxnard's jurisdiction that are adjacent to an impaired reach. Therefore, the TMDL names Oxnard as a responsible jurisdiction for nonpoint sources. Upon further review of the subwatershed drainage map (Figure 1), staff has determined that the four drains prescribed by the TMDL for Oxnard's nonpoint source compliance demonstration do not reflect discharges from the nonpoint source area within the City. These sites will be removed from the nonpoint source section of the TMDL and, instead, the City shall demonstrate compliance with its LAs for nonpoint source discharges using the downstream site in Revolon Slough. If Oxnard chooses the MFAC/BMP compliance approach for its point source discharges, then it must propose points in representative drains, as well as points in Revolon Slough and Beardsley Wash downstream, to demonstrate compliance with its WLAs.

The City of Camarillo has installed full capture devices on 38 catch basins in the Revolon Slough and Beardsley Wash subwatershed. On June 1, 2015, the City of Camarillo submitted a letter to the Los Angeles Water Board proposing to comply with the point source requirements of the Revolon Slough and Beardsley Wash Trash TMDL through the requirements of the statewide Trash Amendments, which had not yet been approved, rather than the requirements of the TMDL (City of Camarillo, 2015a). The City of Camarillo requested relief from the TMDL requirements to install full capture systems on 424 catch basins in its jurisdiction that they consider “Priority C,” in low-density residential areas. The Los Angeles Water Board staff reviewed documentation, data, observations, and reports submitted by the City of Camarillo (City of Camarillo, 2015b) to determine if catch basins in “Priority C” areas were meeting TMDL requirements, and if the requirements for full capture or partial capture/institutional controls could be removed without jeopardizing attainment of the TMDL. After reviewing the data and information that were provided, and considering the lack of some information, Los Angeles Water Board staff was not able to approve the request to remove point source requirements for “Priority C” areas (LARWQCB, 2015). The City of Camarillo amended their point source approach, and is currently demonstrating compliance through the 38 full capture devices already installed in addition to implementing an MFAC/BMP Program for the point source areas that have not been addressed by full capture systems (County of Ventura et al., 2018).

As mentioned above, the City of Oxnard initially implemented its own TMRP, but joined the Ventura County stakeholder group’s revised TMRP in 2015. The City of Oxnard is employing BMPs such as institutional controls, street sweeping, outreach and education, and catch basin inspections and cleaning, but has been unable to secure funding for the installation of full capture devices. The City of Oxnard has identified 106 catch basins that will require full capture devices in order to meet the TMDL.

Caltrans has installed 24 biofiltration swales, three biofiltration strips, and one Austin Vault Sand Filter along Highway 101, two biofiltration swales along Highway 34, and is currently constructing 14 biofiltration swales, seven biofiltration strips, and one Austin

sand filter along Highway 101. Caltrans plans to install more full capture devices in the future, subject to funding availability and the TMDL Reach Prioritization completed under the most recent Caltrans MS4 Permit (County of Ventura et al., 2017 and 2018).

C. Criteria for Reconsideration

Figure 1 illustrates the Revolon Slough and Beardsley Wash subwatershed, including priority land uses, city and county boundaries, MFAC sites, and catch basins within the subwatershed. Land uses shown in this map represent the SCAG land use codes that correlate to the priority land uses described in the statewide Trash Amendments (Table 1).

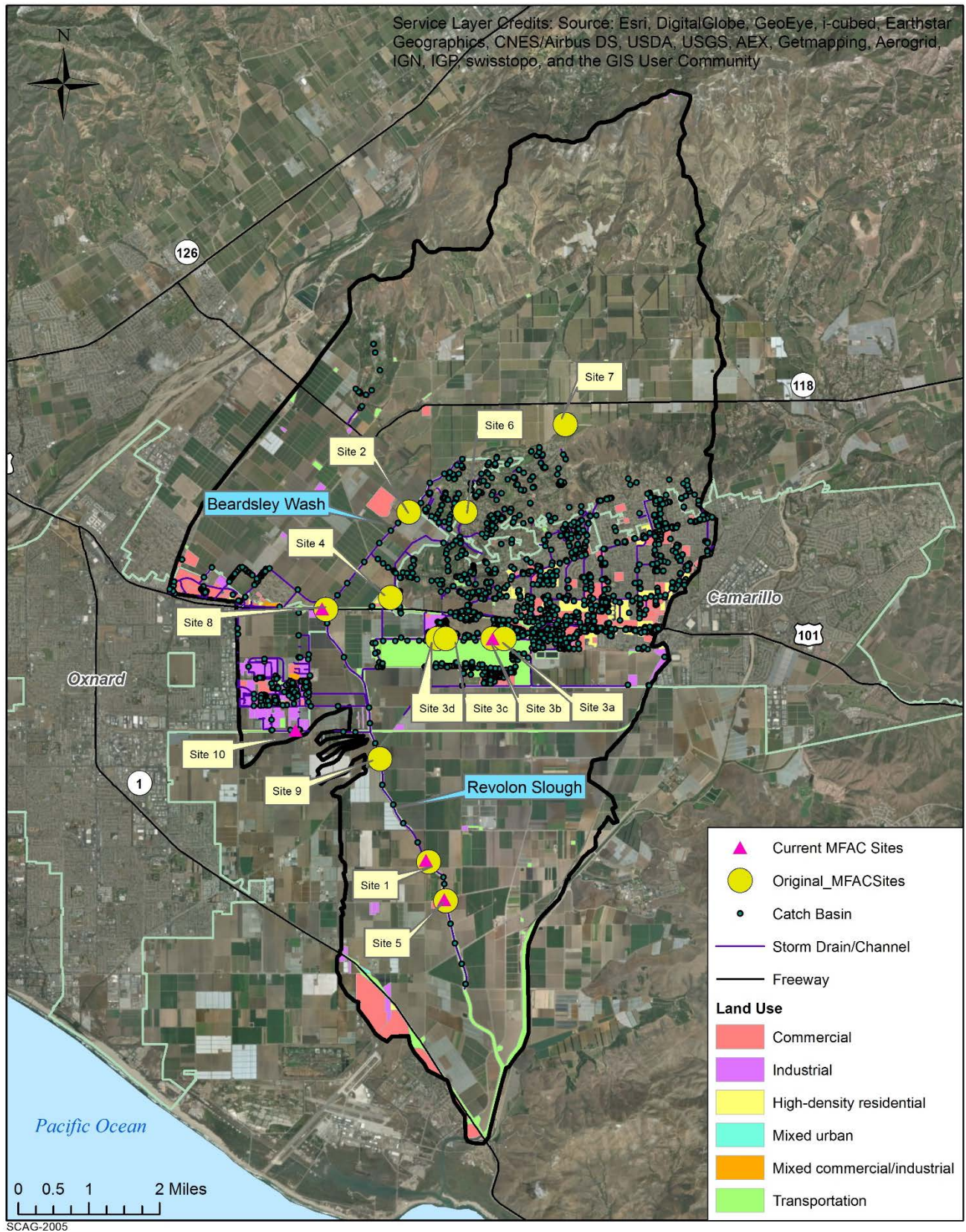


Figure 1. Priority land use areas, catch basins, and MFAC sites in the Revolon Slough/Beardsley Wash Trash TMDL.

Los Angeles Water Board staff analyzed the map in Figure 1 and evaluated the criteria described previously to determine whether to revise the TMDL to align with the scope of the statewide Trash Amendments.

1. Is there a potential for non-priority land use areas to discharge significant amounts of trash to impaired waterbodies?

There is a potential for non-priority land use areas to discharge significant amounts of trash to the impaired waterbodies subject to the TMDL. There are approximately 1,900 catch basins in the Revolon Slough and Beardsley Wash subwatershed, and approximately 1,040 of them are in non-priority land use areas. Table 3 shows an approximation of the total number of catch basins within each jurisdiction, and the number (and percentage) of those catch basins in non-priority land use areas. The number of catch basins reflected in the breakdown in Table 3 includes city owned, VCWPD owned, and privately owned catch basins within each city's jurisdiction, and therefore may differ from the number of catch basins reported within the point source compliance discussion. Caltrans was not included in this table, since transportation land use is a priority land use area per the Trash Amendments.

Table 3. Total number of catch basins per jurisdiction and number (and percentage) of catch basins in non-priority land use areas.

Permittee	Total No. Catch Basins	No. (%) Catch Basins within Non-Priority Areas
Ventura County	290	260 (90%)
Camarillo	1450	770 (53%)
Oxnard	160	10 (9%)

There are approximately 1450 catch basins in the City of Camarillo within the Revolon Slough and Beardsley Wash watershed and about 770 of those are within non-priority land use areas. Figure 1 shows that the non-priority land uses in Camarillo are generally in the northern part of the city and drain to MFAC sites 2 and 4. Previous data from sites

2 and 4 show trash ranging from 0 to 119 pieces collected per month, with the number of pieces usually less than 50 (County of Ventura et al., 2011-2016).

There are approximately 290 catch basins in Ventura County unincorporated area within the Revolon Slough and Beardsley Wash watershed and about 260 of those are within non-priority land use areas. The non-priority land use areas in Ventura County are generally north of Camarillo and drain to MFAC site 6. Previous data from site 6 show trash ranging from 0 to 16 pieces collected per month in most years -- the exception being up to 44 pieces in one month in 2013/15 -- with the number of pieces usually less than 10 (County of Ventura et al., 2011-2016). As stated previously, Ventura County has installed full capture devices addressing 100% of the conveyances within its jurisdiction, including conveyances draining to site 6 (County of Ventura et al., 2017). However, Ventura County did not install the full capture devices until 2015, so the low amounts of trash at site 6 are likely due to the fact that site 6 collects drainage from non-priority land uses and not due to the installation of full capture devices.

There are approximately 160 catch basins in Oxnard within the Revolon Slough and Beardsley Wash watershed and about 10 of those are within non-priority land use areas. Previous data from the Nyland Drain, Sturgis Drain, and 5th Street Drain show trash ranging from approximately 10 to 500 pieces collected per year (City of Oxnard, 2010-2015). The Nyland Drain, Sturgis Drain, and 5th Street Drain receive runoff from both priority and non-priority land use areas; therefore, the trash data from these sites cannot be used to determine whether non-priority land use areas are contributing significant amounts of trash.

According to the responsible entities' annual reports, the main sources and types of trash that were identified in MFAC events were from agricultural sources, such as irrigation hosing, plastic containers for shipping produce, row crop plastic covering, and plant containers; and from urban sources, such as food wrappers, plastic, Styrofoam, paper and biodegradable material, metal items, and glass materials (County of Ventura et al., 2018). The MFAC sites with the highest levels of trash are site 1 (Revolon

Slough and Wood Road), sites 3a-d (Camarillo Hills Drain), and site 8 (Highway 101 and Revolon Slough) (County of Ventura et al., 2011-2018). These sites are downstream of priority land use areas or mixed priority and non-priority land use areas. (Site 5 also had high levels of trash, but this site represents agricultural land uses, which are not part of the MS4 and are not relevant to this analysis.) Therefore, the sites with the highest amounts of trash corresponded to priority land use areas.

Data from MFAC sites 2, 4, and 6 in the TMRP generally show low amounts of trash, although trash collected at sites 2 and 4 can exceed 100 pieces per month. Therefore, there is a potential for non-priority land use areas to discharge significant amounts of trash.

2. Are there priority land use areas upstream of and/or in near proximity to non-priority land uses, such that trash from the priority land uses may enter the MS4 in nearby non-priority land use areas?

There are priority land use areas upstream of and in near proximity to non-priority land uses, such that trash from priority land uses may enter the MS4 in nearby non-priority land use areas. Much of the non-priority land use area in the City of Camarillo that is intermixed with priority land uses is in the northeast portion of the City. Los Angeles Water Board staff analyzed the Revolon Slough/Beardsley Wash subwatershed map and determined that this intermixed area includes low-density residential land use areas interspersed with commercial and high-density residential land use areas. These intermixed areas include storm drains and streets running throughout. Therefore, there is a potential for trash from priority land use areas to enter the MS4 in nearby non-priority land use areas.

The intermixed areas of priority and non-priority land use areas eventually drain to MFAC sites 3a-d in the Camarillo Hills Drain. As such, the existing MFAC Program, with a few revisions, will ensure that an effective program is in place to address trash from these interspersed priority and non-priority areas, as discussed in the next section.

3. *Is there an effective MFAC program downstream of the non-priority land use areas that will serve as a back stop in the event that trash is discharged from non-priority land use areas?*

As discussed previously, the Revolon Slough/Beardsley Wash Trash TMDL includes an MFAC/BMP program to assess and collect trash at prescribed sites. The TMDL requires monthly assessments and collections in addition to regular cleanups and BMP implementation. There are MFAC/BMP sites located downstream of all non-priority land use areas.

After eight years of implementation under the TMRP, the MFAC/BMP program has resulted in attainment of the load allocation of zero trash immediately following each assessment and collection event. However, as discussed previously, the MFAC/BMP Program in the revised TMRP no longer includes sites downstream of all non-priority land use areas. Therefore, the TMDL will be revised to require responsible jurisdictions to submit a revised TMRP that will contain additional MFAC sites. The revised TMRP will ensure that there is an effective MFAC Program in place that collects trash generated from non-priority land use areas or trash generated from priority land use areas that may enter the MS4 in nearby non-priority land use areas.

D. Amendment to the Revolon Slough and Beardsley Wash Trash TMDL

Revising the Revolon Slough and Beardsley Wash Trash TMDL to require full capture systems in only the priority land use areas will fully address 100% of the trash in the subwatershed as long as MFAC/BMP programs are in place in the impaired waters downstream. As such, the Revolon Slough and Beardsley Wash Trash TMDL requirements will be revised to align with the statewide Trash Amendments. Since full capture devices will not be required on all catch basins within the Revolon Slough and Beardsley Wash subwatershed, the revised TMDL will utilize the MFAC/BMP programs as a backstop for any trash that is discharged from non-priority land use areas. Furthermore, because there are catch basins within non-priority land use areas that

collect runoff from both priority land use areas and non-priority land use areas, those catch basins must be addressed with full capture devices or equivalent trash controls in addition to catch basins wholly within priority land use areas.

In addition to amending the Revolon Slough and Beardsley Wash Trash TMDL to align the point source requirements with the scope of the statewide Trash Amendments, the Los Angeles Water Board is also removing the nonpoint source conditional waiver from this Trash TMDL and replacing it with language referencing the statewide Policy for Implementation and Enforcement of the Nonpoint Source Pollution Control Program. The new language will state that LAs for nonpoint sources shall be implemented consistent with the statewide Policy for Implementation and Enforcement of the Nonpoint Source Pollution Control Program through a general waiver of waste discharge requirements (WDR), individual waivers, a general WDR, an individual WDR, a memorandum of understanding (MOU), a cleanup and abatement order, or any other appropriate order or orders, provided the program is consistent with the assumptions and requirements of the LAs in the MFAC implementation schedule. The waiver implementing the LAs will be considered by the Los Angeles Water Board as a separate action from this action to amend the TMDL so that the waiver may be renewed every five years separate from the basin plan amendment administrative process associated with reconsidering the TMDL. In the future, the Los Angeles Water Board may consider a WDR instead of a waiver so that the regulatory mechanism implementing the LAs will not have to be renewed every five years.

The language stating that the Executive Officer of the Los Angeles Water Board may require responsible entities to revise the frequency of assessment and collection and/or locations of assessment sites if trash is being found in deleterious amounts will remain in the TMDL.

Finally, the requirements for Caltrans will be amended in the Revolon Slough and Beardsley Wash Trash TMDL. Caltrans will not be included with the Ventura County MS4 permittees, as they will have their own requirements consistent with the statewide

Trash Amendments. Under the statewide Trash Amendments, Caltrans may comply with WLAs by installing, operating, and maintaining any combination of full capture systems, multi-benefit projects, other treatment controls, and/or institutional controls for all storm drains that capture runoff from significant trash generating areas to achieve full capture equivalency as defined by the Trash Amendments.²

III. Malibu Creek Watershed Trash TMDL

A. Background and Compliance Approach

On May 1, 2008, the Los Angeles Water Board adopted the Malibu Creek Watershed Trash TMDL under Resolution No. R4-2008-007. Subsequently, the State Water Board, Office of Administrative Law, and U.S. EPA approved the TMDL. The Malibu Creek Watershed Trash TMDL became effective on July 7, 2009.

The Malibu Creek Watershed Trash TMDL addresses the following waterbodies: Malibu Creek, Malibu Lagoon, Malibu Lake, Medea Creek (Reach 1 and Reach 2), Lake Lindero, and Las Virgenes Creek. The trash TMDL establishes a numeric target of zero trash based on the narrative water quality objectives for “Floating Material” and “Solid, Suspended, or Settleable Materials,” specified in the Basin Plan. The TMDL defines zero trash discharged for nonpoint sources as no trash immediately following each assessment and collection event consistent with an established MFAC/BMP Program. The MFAC/BMP Program is established at an interval that prevents trash from accumulating in deleterious amounts that cause nuisance or adversely affect beneficial uses between collections. The TMDL defines zero trash discharged for point

² Significant trash generating areas are all locations or facilities within the Department’s jurisdiction where trash accumulates in substantial amounts, such as: (1) highway on- and off-ramps in high density residential, commercial, and industrial land uses (as such land uses are defined under priority land uses), (2) rest areas and park-and-rides, (3) state highways in commercial and industrial land uses (as such land uses are defined under priority land uses), (4) mainline highway segments to be identified by the Department through pilot studies and/or surveys.

sources as no trash discharged into the listed waterbodies of the Malibu Creek Watershed and on the shoreline of those waterbodies.

1. Point Sources

The TMDL assigns waste load allocations to Caltrans, and the permittees of the Los Angeles County MS4 permit (County of Los Angeles, Agoura Hills, Calabasas, Hidden Hills, Malibu, and Westlake Village) and the Ventura County MS4 permit (County of Ventura, VCWPD, Thousand Oaks) within the Malibu Creek Watershed. The TMDL allows point sources to comply with WLAs either by installing full capture devices on all stormwater conveyances discharging to the listed waterbodies of the Malibu Creek Watershed, or by installing partial capture systems (PCS) in conjunction with institutional controls. Point sources choosing to comply via implementation of full capture devices are required to demonstrate a phased implementation of these devices over an 8-year period, culminating in coverage of 100% of the stormwater conveyances by July 7, 2017. Installation was prioritized based on the greatest point source loadings.

Irrespective of whether point sources chose to employ full capture devices or a program of partial capture systems and institutional controls, they were able to comply with the WLAs in any lawful manner. The implementation schedule for point sources is presented in Table 4.

Table 4. Malibu Creek Watershed Trash TMDL Implementation Schedule: Point Sources

Task No.	Task	Responsible Jurisdiction	Date (Effective Date: July 7, 2009)
1	Submit Trash Monitoring and Reporting Plan, including a plan for defining the trash baseline WLA and a proposed definition of "major rain event".	Caltrans, County of Los Angeles, County of Ventura, VCWPD, Cities of Agoura Hills, Calabasas, Hidden Hills, Malibu, Westlake Village and Thousand Oaks.	January 7, 2010. If a plan is not approved by the Executive Officer within 9 months, the Executive Officer will establish an appropriate monitoring plan.

Task No.	Task	Responsible Jurisdiction	Date (Effective Date: July 7, 2009)
2	Implement Trash Monitoring and Reporting Plan.	Caltrans, County of Los Angeles, County of Ventura, VCWPD, Cities of Agoura Hills, Calabasas, Hidden Hills, Malibu, Westlake Village and Thousand Oaks.	6 months from receipt of letter of approval from Regional Board Executive Officer, or the date a plan is established by the Executive Officer.
3	Submit results of Trash Monitoring and Reporting Plan, recommend trash baseline WLA, and propose prioritization of Full Capture System installation or implementation of other measures to attain the required trash reduction.	Caltrans, County of Los Angeles, County of Ventura, VCWPD, Cities of Agoura Hills, Calabasas, Hidden Hills, Malibu, Westlake Village and Thousand Oaks.	One year from receipt of letter of approval for the Trash Monitoring and Reporting Plan from Regional Board Executive Officer, and annually thereafter.
4	Installation of Full Capture Systems or other measures to achieve 20% reduction of trash from Baseline WLA*.	Caltrans, County of Los Angeles, County of Ventura, VCWPD, Cities of Agoura Hills, Calabasas, Hidden Hills, Malibu, Westlake Village and Thousand Oaks.	July 7, 2013.
5	Installation of Full Capture Systems or other measures to achieve 40% reduction of trash from Baseline WLA*.	Caltrans, County of Los Angeles, County of Ventura, VCWPD, Cities of Agoura Hills, Calabasas, Hidden Hills, Malibu, Westlake Village and Thousand Oaks.	July 7, 2014.
6	Evaluate the effectiveness of Full Capture Systems or other measures, and reconsider the WLA*.	Regional Board.	July 7, 2014.
7	Installation of Full Capture Systems or other measures to achieve 60% reduction of trash	Caltrans, County of Los Angeles, County of Ventura, VCWPD, Cities of Agoura Hills, Calabasas, Hidden Hills, Malibu, Westlake Village and Thousand Oaks.	July 7, 2015.

Task No.	Task	Responsible Jurisdiction	Date (Effective Date: July 7, 2009)
	from Baseline WLA*.		
8	Installation of Full Capture Systems or other measures to achieve 80% reduction of trash from Baseline WLA*.	Caltrans, County of Los Angeles, County of Ventura, VCWPD, Cities of Agoura Hills, Calabasas, Hidden Hills, Malibu, Westlake Village and Thousand Oaks.	July 7, 2016.
9	Installation of Full Capture Systems or other measures to achieve 100% reduction of trash from Baseline WLA*.	Caltrans, County of Los Angeles, County of Ventura, VCWPD, Cities of Agoura Hills, Calabasas, Hidden Hills, Malibu, Westlake Village and Thousand Oaks.	July 7, 2017.

2. Nonpoint Sources

The TMDL assigns LAs to the National Park Service, California Department of Parks and Recreation, County of Los Angeles, County of Ventura, VCWPD, Santa Monica Mountains Conservancy, Agoura Hills, Calabasas, Hidden Hills, Malibu, Westlake Village, and Thousand Oaks, and land owners in the vicinity of the listed waterbodies of the Malibu Creek Watershed. Pursuant to Water Code section 13269, waste discharge requirements were waived for any responsible jurisdiction that implemented a MFAC/BMP Program that, to the satisfaction of the Executive Officer, met several criteria, including:

- The MFAC/BMP Program included an initial minimum frequency of trash assessment and collection and suite of structural and/or nonstructural BMPs.
- The MFAC/BMP Program included collection and disposal of all trash found in the water and on the shoreline.

For the listed waterbodies of Malibu Creek, an initial minimum frequency of assessment and collection was prescribed in the Malibu Creek Watershed Trash TMDL; however, the TMDL allowed for revisions to the MFAC/BMP program in the TMRP to reflect the

results of trash assessment and collection and to prevent trash from accumulating in deleterious amounts.

Other than complying with nonpoint source requirements of the Malibu Creek Watershed Trash TMDL through a conditional waiver and MFAC/BMP Program, responsible jurisdictions also had the option of proposing, or the Los Angeles Water Board could impose, an alternative program implemented through waste discharge requirements, an individual waiver, a cleanup and abatement order, or any other appropriate order or orders consistent with the assumptions and requirements of the LAs and associated implementation schedule.

B. Implementation

There have been two stakeholder groups implementing TMRPs to document compliance with the Malibu Creek Watershed Trash TMDL. The County of Ventura, VCWPD, and the City of Thousand Oaks (Ventura County stakeholder group) have been working cooperatively to implement a TMRP, while the County of Los Angeles, and the cities of Calabasas, Malibu, Westlake Village, Agoura Hills, and Hidden Hills (Los Angeles County stakeholder group) have been implementing a separate TMRP.

In implementing the TMRP, the Ventura County stakeholder group initially proposed to comply with their WLAs via an MFAC/BMP Program. The County of Ventura and VCWPD altered their point source compliance approach in October 2016. The County of Ventura and VCWPD notified the Los Angeles Water Board that until the Board reconsidered the Malibu Creek Watershed Trash TMDL in light of the statewide Trash Amendments, they would install full capture devices in catch basins along conveyances capturing runoff from high trash generation areas in combination with an MFAC/BMP Program in areas outside of high trash generation land use areas.

Nonpoint source responsible parties in the Ventura County stakeholder group have been implementing the MFAC/BMP program as their compliance approach. The Ventura County stakeholder group MFAC/BMP program consists of monthly assessment and collection of trash at the two monitoring sites prescribed by the TMDL,

and the implementation of institutional controls and existing BMPs as well as additional BMPs each year such as community cleanup days, anti-littering signage, and cooperation with private landowners to install full capture devices.

The Los Angeles County stakeholder group proposed to comply with their WLAs via installation of full capture devices, and with their LAs via an MFAC/BMP Program. The Los Angeles County stakeholder group MFAC/BMP Program consists of assessment and collection events at varying frequencies at eight sites, an initial suite of BMPs including institutional controls, and a plan for BMP effectiveness evaluation. In addition to the initial suite of BMPs, responsible jurisdictions are implementing additional BMPs each year. The City of Agoura Hills is contracting with the California Highway Adoption Company to perform trash pick-ups along the freeway corridor and local streets, and also sponsoring Lindero Creek cleanups. The City of Calabasas hosts two annual community creek clean-up events in Las Virgenes Creek. The City of Hidden Hills has city clean-up services in which Home Owners Association maintenance and cleaning crews routinely clean the entire City area. The City of Malibu participates in a Clean Bay Restaurant Certification Program, which includes a trash and litter control component.

There have been varying degrees of compliance with the Malibu Creek Watershed Trash TMDL allocations and implementation deadlines. A summary of the implementation status for individual responsible jurisdictions is included in the discussion below.

1. Nonpoint Source Compliance

The nonpoint source responsible entities are in compliance with their LAs because the MFAC/BMP Programs are attaining the zero trash load allocation immediately following collection events. However, the MFAC events at many sites are not at the same frequencies as the initial frequencies prescribed in the TMDL and trash is accumulating in deleterious amounts at some sites between collection events. In addition, the Los

Angeles County stakeholder group has proposed a reduction in the initially proposed eight MFAC sites.³

2. Point Source Compliance

In the Ventura County stakeholder group, the County of Ventura and VCWPD have installed 35 full capture devices in catch basins capturing runoff from priority land uses in the upper Malibu Creek Watershed. The City of Thousand Oaks is in the process of installing 28 full capture devices. (County of Ventura, 2017).

In the Los Angeles County stakeholder group, the County of Los Angeles retrofitted 218 (100%) of all identified catch basins in the Malibu Creek Watershed under its jurisdiction with full capture devices. In discussions with County staff and Los Angeles Water Board staff, we determined that rural drainage inlets do not meet the definition of catch basins. Therefore, rural drainage inlets are not required to be addressed with full capture systems. The City of Agoura Hills installed full capture devices on 224 of the 344 catch basins under its jurisdiction within the watershed. Additionally, the City of Hidden Hills has received grant funding through the CalRecycle Beverage Container Recycling City/County Payment Program to install multiple catch basin inserts in high trash generating areas throughout the city. The cities of Westlake Village and Calabasas have not installed full capture devices. The City of Malibu has allocated funds in their FY 17-18 capital improvement program budget for trash capture systems.

³ When the Los Angeles County stakeholder group developed their Malibu Creek Watershed Coordinated Integrated Monitoring Program (CIMP) pursuant to the LA County MS4 Permit Monitoring and Reporting Program requirements, Section 4.2.2 of the CIMP stated that “To streamline the trash monitoring program and retain monitoring collection on each of the existing reaches included in the TMDL and TMRP, the trash monitoring data for Las Virgenes Creek will be collected in Lower Las Virgenes Creek at MCW-CIMP8. Two additional sites proposed in the TMRP along Las Virgenes Creek, CMS_LVC1 and CMS_LVC2 will not be monitored. This monitoring site will be located at the TMRP named site CMS_LVC3.” The Los Angeles County stakeholder group began monitoring on December 5, 2014, and have been monitoring CMS_LVC1 and CMS_LVC2 despite this statement. Los Angeles Water Board staff is recommending that it be a requirement for the CMS_LVC1 and CMS_LVC2 sites to be monitored to ensure that the MFAC Program is effective.

C. Criteria for Reconsideration

Figure 2 illustrates the Malibu Creek Watershed, including priority land uses, city and county boundaries, MFAC sites, and catch basins within the watershed. Land uses shown in this map represent the SCAG land use codes which correlate to the priority land uses described in the statewide Trash Amendments (Table 1).

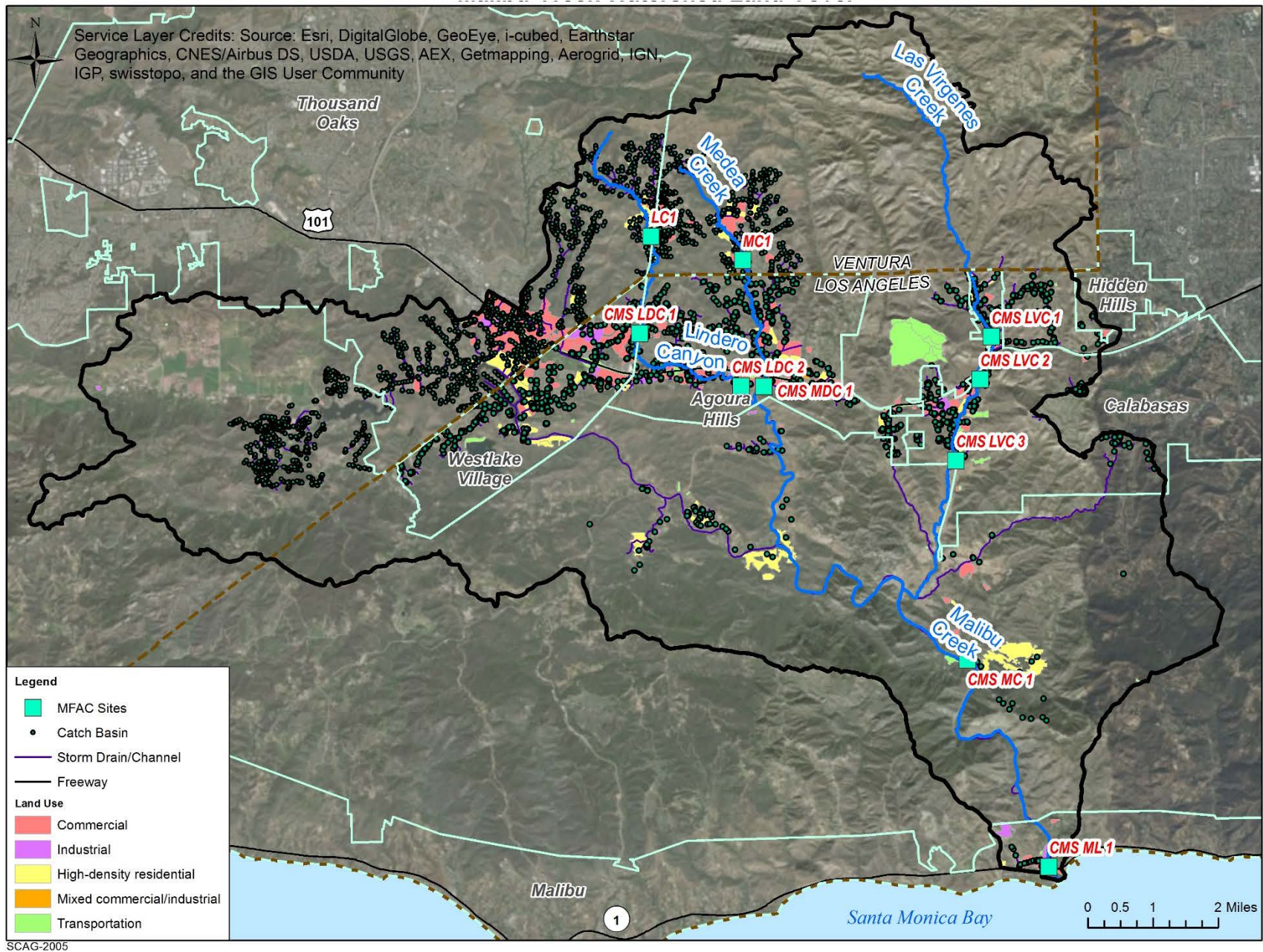


Figure 2. Priority land use areas, catch basins, and MFAC sites within the Malibu Creek Watershed.

Los Angeles Water Board staff analyzed the map in Figure 2 and evaluated the criteria described previously to determine whether to revise the TMDL to align with the scope of the statewide Trash Amendments.

1. *Is there a potential for non-priority land use areas to discharge significant amounts of trash to impaired waterbodies?*

There is a potential for non-priority land use areas to discharge significant amounts of trash to the impaired waterbodies subject to the TMDL. There are approximately 4,960 catch basins in the Malibu Creek Watershed, and approximately 3,570 of them are in non-priority land use areas. Table 5 shows an approximation of the total number of catch basins within each jurisdiction, and the number (and percentage) of those catch basins in non-priority land use areas. The number of catch basins reflected in the breakdown in Table 5 includes city owned, Flood Control District owned, and privately owned catch basins within each city's jurisdiction, and therefore may differ from the number of catch basins reported within the point source compliance discussion. Caltrans was not included in this table, since transportation land use is a priority land use area per the Trash Amendments.

Table 5. Total number of catch basins per jurisdiction and number (and percentage) of catch basins in non-priority land use areas.

Permittee	Total No. Catch Basins*	No. (%) Catch Basins within Non-Priority Areas
Agoura Hills	710	550 (77%)
Calabasas	380	250 (66%)
Hidden Hills	10	10 (100%)
Los Angeles County	300	270 (90%)
Malibu	20	10 (50%)
Thousand Oaks	1550	990 (64%)
Ventura County	1470	1150 (78%)
Westlake Village	520	340 (65%)

There are approximately 380 catch basins in the City of Calabasas within the Malibu Creek watershed and about 250 of those are within non-priority land use areas. Figure 2 shows that the non-priority land uses in Calabasas are generally in the eastern part of the city. There are no MFAC sites immediately downstream from these non-priority land use areas, but sites CMS_LVC3 and CMS_MC1 are further downstream, and collect runoff from the city.

There are approximately 710 catch basins in the City of Agoura Hills within the Malibu Creek watershed and about 550 of those are within non-priority land use areas. Figure 2 shows that the non-priority land uses in Agoura Hills are predominantly located north of the 101 freeway, and primarily drain to MFAC sites CMS_LDC1, CMS_LDC2, and CMS_MDC1.

There are approximately 520 catch basins in the City of Westlake Village within the Malibu Creek watershed and about 340 of those are within non-priority land use areas. Figure 2 shows that the non-priority land uses in Westlake Village are generally in the southwest part of the city and the nearest downstream MFAC site is CMS_MC1. It should be noted that while CMS_MC1 is the nearest downstream site to Westlake Village, it is downstream of two dams and, therefore, may not reflect trash generated in the City of Westlake.

There are approximately 10 catch basins in the City of Hidden Hills within the Malibu Creek watershed and all of those are within non-priority land use areas. Figure 2 shows that a very small portion of the City of Hidden Hills lies within the Malibu Creek Watershed, and a majority of that portion is non-priority land uses in the southwestern part of the city. Although there are no MFAC sites directly downstream of Hidden Hills, the city eventually drains to MFAC site CMS_LVC2.

There are approximately 20 catch basins in the City of Malibu within the Malibu Creek watershed, and about 5 of those are within non-priority land use areas. Figure 2 shows

that the non-priority land uses in Malibu are generally north of Malibu Lagoon, and drain to MFAC site CMS_ML1.

There are approximately 1550 catch basins in the City of Thousand Oaks within the Malibu Creek watershed and about 990 of those are within non-priority land use areas. Figure 2 shows that the non-priority land uses in Thousand Oaks are generally in the southeastern part of the city and drain to MFAC sites LC1, CMS_LDC1, and CMS_MC1.

There are approximately 1470 catch basins in the County of Ventura unincorporated area within the Malibu Creek watershed and about 1150 of those are within non-priority land use areas. Figure 2 shows that the non-priority land uses in Ventura County are generally in the northeastern and western part of the Malibu Creek watershed. The northeastern portion of the watershed drains to MFAC sites LC1 and MC1, while the western portion of the watershed drains to MFAC site MC1.

There are approximately 300 catch basins in the County of Los Angeles unincorporated area within the Malibu Creek watershed and about 270 of those are within non-priority land use areas. Figure 2 shows that the non-priority land uses in Los Angeles County are primarily in the southern half of the Malibu Creek watershed and drain to MFAC sites CMS_MC1 and CMS_ML1.

MFAC Sites

The Los Angeles County stakeholder group is implementing its MFAC Program at one site in Malibu Lagoon (CMS_ML1), one site in Malibu Creek (CMS_MC1), three sites in Las Virgenes Creek (CMS_LVC1, CMS_LVC2, CMS_LVC3), one site in Medea Creek (CMS_MDC1), and two sites in Lindero Creek (CMS_LDC1, CMS_LDC2). The Ventura County stakeholder group is implementing its MFAC Program at one site in Lindero Creek (LC1), and one site in Medea Creek (MC1). The following discussion describes

the locations of the MFAC sites in proximity to priority- and non-priority land uses, and the trash found at those sites.

Malibu Lagoon

Site CMS_ML1 is downstream of mixed priority- and non-priority land use areas. Trash is collected and assessed twice per month at this site. Data from the 2015-2016 annual report for this site show that trash collected at this site show the total trash collected for the 2015-2016 reporting year was 181 pieces of trash, with trash ranging from zero to 30 pieces per collection. Data from the 2016-2017 annual report for this site show the total trash collected for the 2016-2017 reporting year was 263 pieces of trash (North Santa Monica Bay Coastal Watersheds, 2016, 2017). The catch basins in the nonpriority land use areas that drain to CMS_ML1 are along the same storm drain and upstream of the catch basins in the priority land use areas that drain to CMS_ML1. Therefore, a full capture device addressing the storm drain would capture trash generated from both priority and nonpriority land use areas. The City of Malibu is currently seeking full capture certification from the State Water Board for the Legacy Park stormwater BMP. This BMP will address trash generated from both priority and nonpriority land use areas. Furthermore, the amount of trash collected at CMS_ML1 is generally low.

Malibu Creek

Site CMS_MC1 is immediately downstream of mostly open space and farther downstream of mixed priority- and non-priority land use areas. Trash is collected and assessed monthly at this site. Data from the 2015-2016 annual report for this site show trash ranging from zero to 53 pieces per collection, with the number of pieces usually less than 15. Data from the 2016-17 annual report for this site show trash ranging from 2 to 64 pieces per collection, with the number of pieces usually less than 25 in the dry season (Clean Lakes Inc., 2016, 2017). Since this site collects runoff from mostly open space, and to some extent a mixture of far upstream priority and non-priority land use areas, the trash data from this site cannot be used to determine whether non-priority

land use areas are contributing significant amounts of trash. It is more indicative of the trash generated from nonpoint source land use areas.

Las Virgenes Creek

Site CMS_LVC1 is downstream of mixed priority- and non-priority areas. Trash is collected and assessed twice per month at this site. Data from the 2015-2016 annual report for this site show trash ranging from zero to 17 pieces per collection, with the number of pieces usually less than 10. The 2016-17 annual report data for CMS_LVC1 show that, with the exception of one month, the amount of trash collected per collection was less than 100 pieces. The one exception was 183 pieces collected in November, 2016. (Clean Lakes Inc., 2016, 2017). Since this site collects runoff from both priority and non-priority land use areas and the amount of trash collected is generally low, it can be inferred that the amount of trash generated in both priority and nonpriority land use areas is low.

Site CMS_LVC2 is downstream of priority land use areas. Trash is collected and assessed twice per month at this site. The 2015-2016 annual report data for this site show trash ranging from 4 to 543 pieces per collection, with eight collections having over 100 pieces. The 2015-2016 data show that site CMS_LVC2 had the highest amount of trash per month for five months of the year. The data from the 2016-17 annual report show that site CMS_LVC2 had the highest amount of trash collected per collection for three months of the year, with one month having more than 500 pieces collected, and one month having more than 1000 pieces collected (Clean Lakes Inc., 2016, 2017). This data suggests that priority land use areas are contributing significant amounts of trash.

Site CMS_LVC3 is downstream of mostly priority land use areas with a small pocket of non-priority areas. Trash is collected and assessed twice per month at this site. The 2015-2016 annual report data for this site show trash ranging from zero to 96 pieces per collection, with the number of pieces usually less than 50. The 2016-17 annual report data for CMS_LVC3 show between zero and 222 pieces of trash collected, with four

collections having over 100 pieces, all during the wet weather season.(Clean Lakes Inc., 2016, 2017). Since this site collects runoff from both priority and non-priority land use areas, the trash data from this site cannot be used to determine whether non-priority land use areas are contributing significant amounts of trash.

Medea Creek

Site CMS_MDC1 is directly downstream of priority land use areas, with a mixture of priority- and nonpriority land use areas upstream. Trash is collected and assessed twice per month at this site. The 2015-2016 annual report data for this site show trash ranging from zero to 34 pieces per collection, with the number of pieces usually less than 10. The 2016-17 annual report data for CMS_MDC1 show that with the exception of one month, the amount of trash collected was less than 50 pieces per month. The exception was in April 2017, when 88 and 76 pieces were collected per collection. (Clean Lakes Inc., 2016, 2017). Since this site collects runoff from both priority and non-priority land use areas and the amount of trash collected is generally low, it can be inferred that the amount of trash generated in both priority and nonpriority land use areas is low.

Site MC1 is downstream of mixed priority- and non-priority areas. Trash is collected and assessed monthly at this site. Previous annual report data from site MC1 show that total trash collected at this site has been less than 200 pieces per year (Ventura County, 2013-2017). The 2016 annual report data shows that with the exception of one month, the amount of trash collection at MC1 was generally less than 30 pieces per month (Ventura County, 2017). Since this site collects runoff from both priority and non-priority land use areas and the amount of trash collected is generally low, it can be inferred that the amount of trash generated in both priority and nonpriority land use areas is low.

Lindero Creek

Site CMS_LDC1 is downstream of primarily non-priority land use areas. Trash is collected and assessed monthly at this site. Data from the 2015-2016 annual report for this site show trash ranging from 65 to 500 pieces of trash per collection, with 16

collections having over 100 pieces per collection. The 2015-2016 data show that site CMS_LDC1 had the highest amount of trash collected per month for four months out of the 2015-2016 reporting year. The 2016-17 annual report data show trash ranging from 67 pieces to 624 pieces per collection, with eight collections having over 100 pieces. The 2016-2017 data show that MFAC site CMS_LDC1 had the highest amount of trash collected per month for six months of the 2016-2017 reporting year (Clean Lakes Inc., 2016, 2017). Since this site is downstream from primarily non-priority land use areas, these data suggest that these non-priority land use areas are discharging significant amounts of trash to Lindero Creek.

Site CMS_LDC2 is downstream of mixed priority- and non-priority areas; however, it is collecting runoff mostly from priority land use areas. Trash is collected and assessed two times per month at this site. Data from the 2015-2016 annual report show the amount of trash collected ranged from 9 to 296 pieces per collection, with eight collection events over 100 pieces. The 2015-2016 data show that site CMS_LDC2 had the highest amount of trash collected per month for three months of the 2015-2016 reporting year. The 2016-2017 annual report data show that MFAC site CMS_LDC2 also had the highest level of trash per collection for three months of the 2016-2017 reporting year. Data from the 2016 2017 annual report show two collection events where over 1,000 pieces of trash were collected (Clean Lakes Inc., 2016, 2017). Since this site collects runoff mostly from priority land use areas, data from this site suggest that priority land uses discharge significant amounts of trash.

Site LC1 is downstream of mixed priority- and non-priority areas. Trash is collected and assessed monthly at this site. Previous annual report data from site LC1 show that total trash collected at this site has been generally less than 300 pieces per year, and less than 50 pieces per month (Ventura County, 2013-2017). Since this site collects runoff from both priority and non-priority land use areas and the amount of trash collected is generally low, it can be inferred that the amount of trash generated in both priority and nonpriority land use areas is low.

According to the responsible entities' annual reports, the main types of trash found during MFAC events are small pieces of unidentifiable scraps of paper and plastic. Other types of trash found include bottles, plastic bags, wrappers, sporting goods, cans, cups, lids, and straws (County of Ventura, VCWPD, City of Thousand Oaks, 2017; Clean Lakes Inc., 2016, 2017).

For the Los Angeles County stakeholder group, data from the 2015-2016 annual report showed that the MFAC sites with the highest levels of trash were two sites in Lindero Creek (CMS_LDC1 and CMS_LDC2) and one site in Las Virgenes Creek (CMS)_LVC2). Data from the 2016-2017 annual report showed that the MFAC sites with the highest levels of trash are two sites in Lindero Creek (CMS_LDC1 and CMS_LDC2) and one site in Las Virgenes Creek (CMS_LVC2) (Clean Lakes Inc., 2017). As previously discussed, sites CMS_LDC2 and CMS_LVC2 are both downstream of primarily priority land use areas, which shows that there are high amounts of trash corresponding to priority land uses. However, site CMS_LDC1 is downstream of primarily non-priority land use areas, which suggests that some non-priority land use areas may also be contributing significant amounts of trash.

For the Ventura County stakeholder group, with the exception of 2013-2014, the Lindero Creek MFAC site (LC1) had higher levels of trash than the Medea Creek MFAC site (MC1). Both of these sites are downstream of mixed priority- and non-priority land uses. The data submitted in annual reports showed variability in the amount of trash found within individual years and between multiple years. This variability may be due to weather, seasons, and the time of specific clean-up events. Weather events may have contributed to the transport of trash, while time of year and seasons affect outdoor activities and the presence of students at a nearby school. Volunteer cleanups that took place before weather-related events also may have affected the amount of trash that was transported (County of Ventura, VCWPD, City of Thousand Oaks, 2017).

The data from the MFAC sites for the Los Angeles stakeholder group suggests that priority land use areas and some non-priority land use areas have the potential to

contribute significant amounts of trash to the impaired waterbodies of the Malibu Creek Watershed. The data from the Ventura County stakeholder group is for sites downstream of mixed priority- and non-priority land use areas and the amount of trash collected is generally low. Therefore, it can be inferred that the amount of trash generated in both priority and nonpriority land use areas is low.

2. *Are there priority land use areas upstream of and/or in near proximity to non-priority land uses, such that trash from priority land uses may enter the MS4 in nearby non-priority land use areas?*

There are priority land use areas upstream of and in near proximity to non-priority land uses, such that trash from priority land use areas may enter the MS4 in nearby non-priority land use areas (Figure 2). In the City of Thousand Oaks, a majority of the priority land use areas occur downstream of non-priority land uses; however, there are small areas of non-priority land uses downstream of priority land uses near the Ventura County and Los Angeles County border. In the City of Agoura Hills, a majority of the non-priority land use areas occur in the northern part of the city, north of the 101 freeway, with some non-priority land uses downstream of the priority land uses along the 101 freeway, as well. In the City of Malibu, there are priority land use areas located upstream of Malibu Lagoon. Los Angeles Water Board staff analyzed the Malibu Creek Watershed and determined that the interspersed non-priority land uses are primarily low-density residential, and the priority land uses are mostly commercial and high-density residential. The intermixed areas of priority and non-priority land use areas include storm drains and streets running throughout. Therefore, there is a potential for trash from priority land use areas to enter the MS4 in nearby non-priority land use areas.

3. *Is there an effective MFAC program downstream of the non-priority land use areas that will serve as a back stop in the event that trash is discharged from non-priority land use areas?*

As discussed previously, the Malibu Creek Watershed Trash TMDL includes an MFAC program to assess and collect trash at prescribed sites. The TMDL requires assessments and collections at various locations and frequencies in addition to BMP implementation. There are MFAC sites located downstream of all non-priority land use areas.

After five years of implementation under the TMRP, the MFAC/BMP program has resulted in attainment of the load allocation of zero trash immediately following each assessment and collection event. However, as mentioned previously, the County of Los Angeles stakeholder group proposed removing two monitoring sites in their Malibu Creek Watershed CIMP. If implemented, the removal of CMS_LVC1 and CMS_LVC2 from the MFAC Program would result in an insufficient number of MFAC sites to address the trash accumulating downstream of non-priority land use areas. In addition, out of the eight Los Angeles County stakeholder MFAC sites, CMS_LVC2 had the highest amount of trash collected for three months in the 2016-2017 reporting year. Therefore, the Los Angeles County stakeholder group will need to continue implementing their MFAC Program at sites CMS_LVC1 and CMS_LVC2 along with the other six sites. In addition, the frequency of assessment and collection at some of the MFAC sites is less than the frequency prescribed by the TMDL and trash is accumulating in deleterious amounts at some of these sites. For the Ventura County stakeholder group, the amount of trash collected at the two MFAC sites appears to be increasing between collection events for some months and decreasing for other months. The frequency of assessment and collection at the two MFAC sites is less than the frequency prescribed by the TMDL. Therefore, the TMDL will be revised to require both the Los Angeles and Ventura County stakeholder groups to submit revised TMRPs that will contain an adequate number of sampling sites and frequency of assessment and collection. The revised TMRPs will ensure that there are effective MFAC Programs in place that collect any trash generated from non-priority land use areas or trash generated from priority land use areas that may enter the MS4 in nearby non-priority land use areas.

D. Amendment to the Malibu Creek Watershed Trash TMDL

Revising the Malibu Creek Watershed Trash TMDL to require full capture devices in only the priority land use areas will fully address 100% of the trash in the Malibu Creek watershed as long as MFAC/BMP programs are in place in the impaired waters downstream. As such, the Malibu Creek Watershed Trash TMDL requirements will be revised to align with the scope of the statewide Trash Amendments. Since full capture devices will not be required on all catch basins within the Malibu Creek Watershed, the revised TMDL will utilize the MFAC/BMP programs as a backstop for any trash that is discharged from non-priority land use areas. Furthermore, because there are catch basins within non-priority land use areas that collect runoff from both priority land use areas and non-priority land use areas, those catch basins must be addressed with full capture devices or equivalent measures in addition to catch basins wholly within priority land use areas.

In addition to amending the Malibu Creek Watershed Trash TMDL to align the point source with the scope of the statewide Trash Amendments, the Los Angeles Water Board is also removing the conditional waiver for nonpoint source discharges of trash from this Trash TMDL and replacing it with language referencing the Statewide Policy for Implementation and Enforcement of the Nonpoint Source Pollution Control Program. The new language will state that load allocations for nonpoint sources shall be implemented consistent with the Statewide Policy for Implementation and Enforcement of the Nonpoint Source Pollution Control Program through a general waiver of waste discharge requirements, individual waivers, a general WDR, an individual WDR, a MOU, a cleanup and abatement order, or any other appropriate order or orders, provided the program is consistent with the assumptions and requirements of the load reductions and associated schedule in the MFAC program. The waiver implementing the LAs will be issued in a separate Board action from the action to revise the TMDL so that the waiver may be renewed every five years without having to reconsider the TMDL. In the future, the Los Angeles Water Board may consider a WDR instead of a waiver so that the regulatory mechanism implementing the LAs will not have to be renewed every five years.

The language stating that the Executive Officer of the Board may require responsible entities to revise the frequency of assessment and collection and/or locations of assessment sites if trash is found in deleterious amounts will remain in the TMDL.

The language stating that responsible jurisdictions that are responsible for both point and nonpoint source compliance can demonstrate compliance with WLAs through a MFAC program will be removed. This language conflicts with the intent of the Board when it included this language in response to comments that an MFAC/BMP approach alone was not sufficient to address point sources in the Malibu Creek Watershed.

The requirements for Caltrans will be amended in the Malibu Creek Watershed Trash TMDL. Caltrans will not be included with Los Angeles and Ventura County MS4 permittees, as they will have their own requirements consistent with the statewide Trash Amendments. According to the statewide Trash Amendments Caltrans may comply with WLAs by installing, operating, and maintaining any combination of full capture systems, multi-benefit projects, other treatment controls, and/or institutional controls for all storm drains that capture runoff from significant trash generating areas to achieve full capture equivalency as defined by the Trash Amendments.²

IV. Conclusion

The Revolon Slough and Beardsley Wash Trash TMDL and Malibu Creek Watershed Trash TMDL initially required responsible entities to comply with WLAs by addressing all point sources of trash in their respective watersheds with full capture systems or through any lawful manner that would achieve equivalent trash control. After analyzing maps (including priority and non-priority land use areas, catch basins, and storm drains) and trash data from MFAC programs, submitted in responsible entities' annual reports, the three criteria discussed in section 1.C. were used to determine whether the Los Angeles Water Board could revise the implementation requirements to achieve the WLAs in these TMDLs to align with the scope of the statewide Trash Amendments.

Analysis for both the Revolon Slough and Beardsley Wash Trash TMDL and the Malibu Creek Trash TMDL suggested that although there is a potential for some non-priority land use areas to discharge significant amounts of trash, there are MFAC Programs downstream that, with some revisions, can effectively collect any trash from non-priority land use areas, thus preventing any impact to beneficial uses. The Los Angeles Water Board concludes that these revised MFAC Programs will ensure that water quality standards are still attained, as any trash that is not captured in full capture devices in priority land use areas will be collected and removed from the downstream waterbody through MFAC programs. Therefore, MS4 permittees assigned WLAs in the Revolon Slough and Beardsley Wash Trash TMDL and the Malibu Creek Trash TMDL will only be required to address point sources of trash in priority land uses. The TMDLs will be amended as described in sections II.D and III.D to reflect this change, as well as removing the conditional waivers from the TMDLs, separating Caltrans from the Los Angeles and Ventura County MS4 permittee requirements, and requiring nonpoint source dischargers to submit revised TMRPs.

V. References

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