C-5.0 MUNICIPAL ACTIVITIES

C-5.1 Introduction

The Permittees own and operate facilities and build and maintain much of the transportation, drainage and recreational infrastructure of the urban environment. The primary purpose of **DAMP Section 5.0** is to ensure that, through a systematic process of evaluation, BMPs are incorporated into municipal facilities and infrastructure maintenance programs. **DAMP Section 5.0** also requires implementation of Integrated Pest Management (IPM) approaches. In addition, **DAMP Appendix C** requires performance reporting related to a number of *Baseline BMPs* that have been recognized, since the inception of the Program, as significant contributors to pollutant load reduction.

C-5.2 Accomplishments

C-5.2.1 Model Municipal Activities Program

The Model Municipal Activities Program establishes a framework for conducting a systematic program of evaluation and BMP implementation targeting fixed facilities/areas, field programs/activities and drainage facilities. The Model Municipal Activities Program, updated per Fourth Term Permit requirements, requires the Permittees to:

- Compile facility/area and program inventories:

  2,005 facilities/areas were inventoried during the 2016-17 reporting period (compared to 1,991 facilities/ areas in 2015-16; 1,996 facilities/areas in 2014-15; 1,821 facilities/ areas in 2013-14; and 1,798 facilities/areas in 2012-13) and are subject to the Program (**Table C-5.1** and **Figure C-5.1**).

- Prioritize facilities/areas and programs/activities based upon water quality threat and receiving water sensitivity:

  There were 514 high priority, 207 medium priority, and 1,284 low priority facilities identified in the 2016-17 reporting period (compared to 559 high, 175, and 1,257 low priority facilities identified in the 2015-16 reporting period; 551 high, 173 medium, and 1,272 low priority facilities identified in 2014-15; 439 high, 166 medium, and 1,2166 low priority facilities in 2013-14; and 468 high, 217 medium and 1,113 low priority facilities in 2012-13) (**Table C-5.1** and **Figure C-5.1**).

- Establish model maintenance procedures:

  Sets of BMP factsheets have been produced for Fixed Facilities/areas (13 factsheets), Field Programs/activities (7 fact sheets) and Drainage Facilities (1 fact sheet). Factsheets are posted to the website

(http://www.ocwatersheds.com/documents/bmp/municipalactivities) for Permittee use.

- Conduct inspections:

  Standard general and activity-specific inspection forms have been developed for Fixed Facilities, Field Programs and Drainage Facilities. In the 2016-17 reporting period, 1,605 municipal facilities had been inspected for stormwater issues (compared to 1,632 in 2015-16, 1,674 in 2014-15; 1,717 in 2013-14; and 1,462 in 2012-13) (**Table C-5.2** and **Figure C-5.2**).

- Implement BMPs:

  As a result of inspections conducted, 1,574 municipal facilities were determined to have full BMP implementation (compared to 1,614 in 2015-16, 1,634 in 2014-15; 1,671 in 2013-14; and 1,414 in 2012-13) (**Table C-5.2** and **Figure C-5.2**).

- Undertake training:

  In 2009-10, the Permittees completed development of a training program comprising curriculum content, defined expertise and competency for each key area of jurisdictional stormwater program responsibility. A full discussion of the training program is presented in **Section C-3.0**.

- Develop an IPM Policy for Permittees:

  The Permittees collaborated with the University of California Cooperative Extension (UCCE) to develop a model policy for IPM during the 2009-10 reporting period. This policy was provided to the Permittees for inclusion in their DAMP/LIPs as **Exhibit A-5-V – Integrated Pest Management Policy**. The reporting period represents the seventh full year of implementation for this policy.

- Evaluate the effectiveness of debris booms:

  The Permittees completed an evaluation of the effectiveness of debris booms for the control of trash and debris in Orange County, the discussion of which was included in the 2009-10 Unified Annual Report. Specific efforts of the Permittees to manage trash and debris, if applicable, are discussed in jurisdictional PEAs.

- Develop an interagency agreement with the County Integrated Waste Management Department:

  OC Public Works memorialized its understanding with OC Waste and Recycling on June 23, 2010 to ensure that household solid and hazardous waste collection, transfer and disposal practices do not cause or contribute to a water quality problem.

- Examine opportunities to retrofit existing stormwater municipal facilities:

  The OCTA sales tax measure for transportation projects sets aside two percent of revenues over a 30-year period to improve overall water quality in Orange County. The Environmental Cleanup Program provides up to $300 million in competitive grants to Orange County cities and the County of Orange to address water quality problems created by existing development. Thus far, $20.1 million of Tier 1 funding was awarded to 150 projects from 33 cities and the County, and approximately $28 million of Tier 2 funding was awarded to 22 projects from 12 cities and the County. The County, as Principal Permittee, attended regularly scheduled coordination meetings with OCTA to support fund disbursement. The structure of the Environmental Cleanup Program, its management and coordination with the Permittees is discussed in **Section C-2.3.4**.

C-5.2.2 Model IPM Program

DAMP Section 5.0 recommends using an integrated system of management strategies for pest management. This system, known as IPM, relies on maintaining the health of a landscape through proper cultural practices (nutrition, irrigation, plant selection, etc.), careful monitoring of plants to identify pests, proper identification of pests, and finally the selection of a control tactic with the least impact on the environment. Control tactics include biological, mechanical, physical, cultural, and chemical. The choice to utilize chemicals or pesticides is only made after other control actions have been considered. If pesticides are applied, the one least disruptive to the environment is considered first. IPM stresses that pesticide use is only one method of controlling pest populations, and the IPM system includes details on the implementation of a scouting program to track pest populations, determination of tolerance thresholds, and methods of controlling pest populations once the threshold has been reached.

The previously developed guidelines, entitled "Management Guidelines for Integrated Pest Management, Pesticides, and Fertilizers" (**DAMP Section 5.0**) provided the Permittees with:

- A process by which they can effectively re-evaluate their approach to using fertilizers and pesticides as needed and begin to move toward reducing their dependence on them by developing a comprehensive Integrated Pest Management Program;
- A program framework for reducing the adverse impacts that the use of fertilizers and pesticides may have on water quality; and
- General guidelines that can be used in conjunction with the *Landscape Model Maintenance Procedures (Municipal Activities Program Manual)* to minimize impacts to environmental resources.

The UCCE Orange County developed an IPM Policy template to provide general guidance to Permittees as they implement pest management practices to effectively

control pests in urban environments with minimal impact on the environment, specifically water resources.

The pesticide reporting and analysis in this report focuses on pesticide classes or categories identified as potentially having the greatest risk for aquatic toxicity issues as well as two highly-used herbicides, glyphosate and 2,4-D. Permittees also track and report fertilizer usage with a focus on ensuring plant health is maintained by reducing plant stress due to under or over-fertilizing. Proper fertilization rates and application scheduling were integrated into the IPM Policy to strengthen the relationship between maintaining plant health and the ability of the landscape to resist pest infestations, reducing the need for pesticide applications.

C-5.2.2.1 Fertilizer and Pesticide Use

FERTILIZER USAGE

Fertilizer usage data has been reported as a component of this annual report for over a decade. During the 2016-17 reporting period, thirty-five (35) Permittees provided fertilizer use data[1] (**Tables C-5.3** and **C-5.4**). Trends in use have been difficult to establish as many factors contribute to overall use, such as the number of acres requiring fertilizing, landscape use, environmental conditions, and the expense. The UCCE recommends 4-6 pounds of nitrogen per 1,000 square feet for tall fescue, the most common turfgrass used in southern California. This corresponds to 174-261 pounds of nitrogen per acre to maintain healthy turf.

As in previous reporting periods, Permittees continued to apply nitrogen at levels below recommended rates, averaging 40 pounds of nitrogen per acre in 2016-17; albeit up from 26 pounds per acre in 2015-16 (**Figure C-5.3**). The increase is mainly a result of an increase in fertilizer use by two Permittees applying fertilizer at rates closer to the recommended rates from 174-261 pounds of nitrogen per acre. Four Permittees report no use of fertilizers in 2016-17. In the 2013 ROWD, a recommendation was put forth to verify proper fertilization needs in high use landscapes, such as sports facilities, utilizing soil and/or leaf tissue analysis. The objective is to ensure fertilizations are providing the necessary nutrients at the ideal time to avoid nitrogen loss through pathways other than plant uptake. UCCE provides assistance to Permittees in developing improved fertilizer programs through direct consultation if requested and through online educational materials found at UC Guide for Healthy Lawns (http://ipm.ucanr.edu/TOOLS/TURF/). Healthy turfgrass generally reduces the need for herbicide applications to control weeds, especially the broadleaf herbicide 2,4-D. Extension efforts by UCCE continued to stress the importance of fertilization management with the dual goals of protecting water quality and maintaining plant health.

[1] Please see individual PEAs for information regarding jurisdictional-specific use of fertilizers.

PESTICIDE USAGE

Thirty-five Permittees provided pesticide data for the current reporting period, with three Permittees reporting no applications of the pesticides of concern[2] (**Table C-5.5**). Generally, the pesticides of concern focus on insecticides. Insecticides pose the most significant risk to water quality because many of them are highly toxic to aquatic organisms at very low concentrations. Efforts have been made by the Permittees to reduce the overall use of broad spectrum insecticides, especially in the organophosphate (OP) class, as historically toxicity detected in urban streams was attributed to two OPs, diazinon and chlorpyrifos. Permittees have not reported the use of diazinon for over eight years; however, occasionally applications of chlorpyrifos are reported by one or two Permittees in response to an outbreak of a particular pest. For the past three reporting periods, one Permittee has been utilizing a chlorpyrifos insecticide[3] applied directly inside the walls of sewer manholes in a latex paint solution to control cockroaches. Applied according to the label, this application of chlorpyrifos should not pose a threat to surface waters where stormwater and sewer systems are separate.

As a category of pesticides of interest, pyrethroids are the most commonly used insecticides by professionals. Cumulative pyrethroids (bifenthrin, permethrin, cyfluthrin, and cypermethrin) showed a substantial decrease in use in the current reporting period compared to the previous reporting period (2015-16) where a 65.4% increase in permethrin interrupted a three-year trend in reduced pyrethroid use. The 58.8% decrease in the current reporting period returns pyrethroid use to levels similar to that three-year trend. Fipronil use remained at similar low levels observed in 2015-16. (**Table C-5.5** and **Figure C-5.4**).

Although herbicides are not monitored in most stormwater sampling programs, because of their widespread use, data has been collected on the two most commonly utilized herbicide categories. As was the case in previous reporting periods, glyphosate, the active ingredient (AI) in the herbicide Roundup, and many other brand names, remains the most widely used pesticide by Permittees (**Table C-5.5**). Glyphosate is utilized to control unwanted vegetation in parks, right-of-ways, medians, streets, water conveyances, and other areas under jurisdiction of the Permittees. Although glyphosate has not been linked to water quality issues, tracking of its usage provides an additional gauge of the level of IPM implementation by Permittees. Glyphosate use levels in 2016-17 increased 150.8% from levels in 2015-16. After several years of reduced use of glyphosate, the substantial increase is most likely a result of several years of drought conditions followed by a high rainfall year in 2016-17. Areas where weed growth would be minimal and controllable using other methods, become overgrown, especially in open spaces, right-of-ways, and flood channels. The use of 2,4-D to control broadleaf weeds decreased 56.2% under the same conditions but represents a commitment by many Permittees to reduce the use of herbicides on active turf where exposure to humans has greater likelihood. (**Figure C-5.5**).

[2] Please see individual PEAs for information regarding jurisdictional-specific use of pesticides.
[3] The number of pounds of chlorpyrifos active ingredient applied in 2013-14 was incorrectly stated as 217. The correct amount was 2.17 pounds.

C-5.2.2.2 Assistance from the University of California Cooperative Extension Program

In July 2015, the Principal Permittee entered into a renewed five-year agreement with the UCCE to conduct water quality monitoring studies and implement water quality improvement programs in areas where the University has special expertise, particularly related to fertilizer and pesticide applications, IPM, and pesticide and fertilizer issues which may impact water quality.

The tasks that were completed during the reporting period were as follows:

- Annual review and update of the fertilizer and pesticide section of the NPDES PEA;
- Conducted the 8th Annual Landscape and Garden Expo at South Coast Research and Extension Center (SCREC) with a goal of increasing the adoption of water conservation and water quality practices in residential landscapes (1,248 registered attendees);
- Provided Integrated Pest Management information for homeowner associations (HOA) at the Orange County Stormwater H20 for HOAs workshops held in Orange and Rancho Santa Margarita;
- Distributed pesticide and fertilizer-related outreach materials developed by UCCE to the general public utilizing 300 volunteer Master Gardeners at various venues throughout the County such as the Orange County Fair, South Coast Plaza Garden Show, Green Scene, the Great Park Gardening Series, several Earth Day celebrations, and at a number of presentations by the Master Gardener Speakers Bureau;
- Conducted an advanced urban landscape water quality training course for 35 new UCCE Master Gardeners;
- Continued courses and tours of the demonstration landscapes at SCREC for property management companies to extend science-based information on proper landscape design and maintenance practices to protect water quality;
- Continued partnership with Department of Pesticide Regulation (DPR) to conduct a comprehensive monitoring of pesticides in surface runoff from strictly urban environments to identify changes in use to protect water quality;
- Collaborated with the local chapter of Pest Control Operators of California to update members on the status of pesticides in Orange County water conveyances as well as recruit companies to participate in future educational workshops and field days;

- Evaluated potential software platforms that could be used in developing an online version of the 2016 6-module Water Protection Certification course developed by the UCCE.

- Participated in multiple Orange County Garden Friendly events throughout the County and sponsored by OC Watersheds, local water districts, Home Depot, Tree of Life Nursery, Green Thumb, and the Municipal Water District of Orange County (MWDOC);

- Provided technical oversight on outreach materials, related to areas where UCCE has particular expertise, such as irrigation, fertilizers and pesticides; and

- Continued collaboration with UC Riverside entomologists and pathologists tasked with working on the control of polyphagous shot-hole borer, an insect-disease complex responsible for the decline of a significant number of urban trees across Orange County and potentially a significant source of future insecticide and fungicide use.

C-5.2.3 Baseline BMPs

Performance indicators for certain Baseline BMPs have been tracked since the inception of the Model Municipal Activities Program. These BMPs are street sweeping, solid waste collection, catch basin stenciling, drainage facility maintenance, trash & debris control (formerly litter control), household hazardous waste collection, and used oil grant participation.

- Street Sweeping:

  All Permittees maintain street sweeping programs in residential, commercial and/or industrial areas. In 1993 the Permittees compiled information regarding their existing street sweeping schedules and practices and have subsequently changed elements of their programs such as the types of sweepers purchased, the frequency of sweeping, and the use of parking restrictions in order for the street sweeping program to aid in water quality improvements.

  60,144 tons of material was removed from the streets and gutters during the reporting period (compared to 55,498 tons in 2015-16, 50,225 in 2014-15; 52,003 in 2013-14; and 47,658 in 2012-13.) **(Table C-5.6 and Figure C-5.6)**.

- Solid Waste Collection:

  The Permittees have solid waste collection programs for public, residential, commercial and industrial areas.

  3,334,635 tons of solid waste was collected during the reporting period (compared to 3,051,430 in 2015-16, 3,136,223 in 2014-15; 3,099,936 in 2013-14; and

2,374,754 in 2012-13) **(Table C-5.7 and Figure C-5.7)**.

- Catch Basin Stenciling:

  41,378 stenciled storm drain inlets (compared to 40,660 in 2015-16, 41,968 in 2014-15; 42,312 in 2013-14; and 42,026 in 2012-13) were reported in 2016-17, of which 4,327 inlets were re-stenciled **(Table C-5.8 and Figure C-5.8)**.

- Drainage Facility Maintenance:

  The Permittees inspect the drainage system within their jurisdictions annually and clean out accumulated debris on an as needed basis. Removal of accumulated debris and sediment is carried out either manually or by mechanical methods using flushing (in emergency situations only) in accordance with established maintenance procedures (Model Maintenance Procedure DF-1). By removing this material from the catch basin inlets and storm drain system, the Permittees make a significant contribution in preventing the passage of these materials in downstream receiving waters. Twenty-five (25) Permittees reported inspecting (and cleaning if necessary) 100% or more of their catch basin inlet inventories **(Table C-5.9 and Figure C-5.9)**.

  33,669 catch basins were cleaned during 2016-17, compared to 33,928 in 2015-16; 29,995 in 2014-15; 30,874 in 2013-14; and 32,652 in 2012-13 **(Table C-5.9 and Figure C-5.9)**. 5,110 tons of debris was reported removed from drainage facilities, compared to 5,079 tons in 2015-16; 4,627 tons in 2014-15; 4,596 in 2013-14; and 4,636 tons in 2012-13 **(Table C-5.9 and Figure C-5.10)**.

- Trash & Debris Control:

  Trash and debris control is an important element in the diversion of litter and other solid materials from the storm drain system. While the Permittees have variously retrofitted elements of their storm drain infrastructure with structural devices such as debris screens on drain inlets, gross solids removal devices and hydrodynamic separators on drain outlets, the principal regional control is managed by the Principal Permittee as operator of the countywide flood control system and comprises 18 debris booms.

  With respect to non-structural controls, the County as Principal Permittee coordinates and extensively publicizes Inner-Coastal and Watershed Cleanup Day and Coastal Cleanup Day (collectively, "Cleanup Day"), which engages the public directly in the cleanup of trash and debris from inland waterways and beaches. On September 17, 2016, 7,288 volunteers collected 57,085 pounds of trash and debris (**Figure C-5.11**).

- Household Hazardous Waste Collection:

  Orange County has a household hazardous waste collection program administered by OC Waste and Recycling. The program comprises four sites (Anaheim, Huntington Beach, San Juan Capistrano, and Irvine).

  A total of 7,814,468 pounds of household hazardous waste was collected in 2016-17, (compared to 7,777,100 in 2015-16; 6,700,817 in 2014-15; 6,971,993 in 2013-14; and 7,451,649 in 2012-13). Use of collection facilities is encouraged in public outreach materials to divert potentially hazardous materials from impacting waterways (**Table C-5.10**).

- Used Oil Grant Participation:

  Most of the Permittees, as well as the County's Health Care Agency, currently implement used oil recycling programs. These programs involve comprehensive public outreach including television and newspaper advertising, displays at community events, and the distribution of used oil containers at no cost to residents.

  Thirty (30) Permittees reported they collected motor oil, oil products and oil filters as a result of the Used Oil Grant participation program compared to 27 in 2015-16; 30 in 2014-15; 32 in 2013-14; and 32 in 2012-13.

  A total of 337,992 gallons of used oil and 54,276 oil filters were collected in 2016-17, compared to 307,248 gallons and 61,018 filters in 2015-16, 305,690 gallons and 42,243 filters in 2014-15; 338,993 gallons and 35,095 filters in 2013-14; and 304,298 gallons and 26,553 filters in 2012-13 (**Table C-5.11 and Figure C-5.12**).

  The Orange County HCA has an active used oil grant program and outreach campaign throughout Orange County supplemental to *H_2OC*. The Permittees work with OC HCA as part of *H_2OC* and representatives of OC HCA attend the NPDES Public Education Sub-committee meetings on a regular basis.

C-5.3 Assessment

The current and potential program effectiveness assessment outcome levels for the Municipal Activities Program are presented in **Table C-5.12** (Model Municipal Activities Program) and **Table C-5.13** (Model IPM and Fertilizer Guidelines).

C-5.3.1 Model Municipal Activities Program

The fixed facility/municipal areas inventory has remained stable over the past five years, varying by no more than 30 facilities from year to year besides a 10% increase in total facilities in 2014-15 (**Table C-5.1**).

Headline Indicator – Prioritization of Facilities: For 2016-17, 2,005 municipal facilities were inventoried; of which 514 (25.6%) were high priority. This figure compares to 559 (28.1%) high priority of 1,991 facilities in 2015-16; 551 (27.6%) high priority of 1,996 facilities in 2014-15; 439 (24.1%) high priority of 1,801 facilities in 2013-14; and 468 (26.0%) high priority of 1,798 total facilities in 2012-13 **(Table C-5.1 and Figure C-5.1)**.

☒ Level 1: Documenting Stormwater Program Activities

The Permittees documented high levels of BMP implementation at municipal facilities during the reporting period. The level of full BMP implementation has been high since 2012 and has seen overall improvement , ranging from 96.7% of sites with full BMP implementation in 2012-13 to 98.1% of sites with full BMP implementation in 2016-17 (**Table C-5.2**).

Headline Indicator – Fixed Facility BMP Implementation: For 2016-17, 1,574 facilities had full BMP implementation, representing 98.1% of facilities inspected. This figure compares to 1,614 (98.9%) of facilities inspected in 2015-16; 1,634 (97.6%) facilities in 2014-15; 1,671 (97.3%) facilities in 2013-14; and 1,414 (96.7%) facilities in 2012-13 **(Table C-5.2 and Figure C-5.2)**.

☒ Level 1: Documenting Stormwater Program Activities

C-5.3.2 Model IPM Program

FERTILIZER USAGE

Accurate reporting of fertilizer applications is challenging as, unlike pesticides, there is not a legal requirement to report use other than under this annual reporting program. In collaboration with UCCE, the Permittees continue to develop more reliable records of fertilizer applications, but recording precise acreage for fertilizers continues to be a challenge. Since 2010-11, the total pounds of nitrogen fertilizer applied has trended upward, but the average pounds per acre of nitrogen has decreased steadily as a result of more fertilized acreage being reported by Permittees. Permittees in 2016-17, however, once again reported applications of fertilizer on fewer acres resulting in an increase in the pounds of nitrogen applied per acre from 26 in 2015-16 to 40 in 2016-17. Over-application of fertilizer does not appear to be occurring with only two Permittees applying within the recommended rates for maintaining healthy turfgrass.

Headline Indicator – Average Pounds of Nitrogen Per Acre: In 2016-17, thirty-five (35) Permittees reported the use of 333,884 pounds of nitrogen on 11,444 acres of public land, an average of 40 pounds per acre. These figures compare to 341,280 applied to 54,490 acres (average of 26 pounds/acre) in 2015-16; 411,738 applied to 53,803 acres (average of 23 pounds/acre) in 2014-15; 347,281 pounds applied to 51,211 acres (average of 29 pounds/acre) in 2013-14; 378,921 pounds applied to 61,619 acres (average of 24

pounds/acre) in 2012-13; 361,990 pounds applied to 19,066 acres (average of 31 pounds/acre) in 2011-12; and 246,759 pounds applied to 9,082 acres (average of 36 pounds/acre) in 2010-11 **(Table C-5.4 and Figure C-5.5)**.

Headline Indicator – Average Pounds of Phosphorus Per Acre: In 2016-17 thirty-five (35) Permittees reported the use of 103,916 pounds of phosphorus on 11,444 acres of land, an average of 13 pounds per acre. These figures compare to 128,576 pounds applied to 54,490 acres (average 8 pounds/acre) in 2015-16; 143,443 pounds applied to 53, 803 (average of 8 pounds/acre) in 2014-15; 99,093 pounds applied to 51,211 acres (average of 11 pounds/acre) in 2013-14; 102,808 pounds applied to 61,619 (average of 6 pounds/acre) in 2012-13; 92,157 pounds applied to 19,066 acres (average of 7 pounds/acre) in 2011-12; and 64,586 pounds applied to 9,082 acres (average of 11 pounds/acre) in 2010-11 **(Table C-5.4 and Figure C-5.5).**

PESTICIDE USAGE

Per the Fourth Term permit requirements, all Permittees adopted a written IPM policy during the 2013-14 reporting period. The 2016-17 reporting period was the eighth consecutive year for which only those pesticides identified to cause significant water quality issues and those commonly detected in water quality monitoring data were reported by Permittees. The majority of pesticide use continues to be herbicides for weed control and, in general, accounts for major changes in pounds of AI applied from year to year.

Headline Indicator – Pesticide Use: During the 2016-17 reporting period, pesticides of concern were applied by thirty-two (32) Permittees consisting of 5.3 pounds of organophosphates, 9.4 pounds of pyrethroids, 0.5 pounds of fipronil, and 33,693 pounds of herbicide, for a total of 33,708 pounds AI. For comparison, approximately 13,903.4 pounds AI was applied in 2015-16; 13,614.3 pounds AI in 2014-15, 12,096.4[4] pounds AI in 2013-14; 16,540 pounds in 2012-13; 42,751 pounds in 2011-12; and 14,763 pounds 2010-11 **(Table C-5.5** and **Figures C-5.4** and **5.5)**.

2017-18 Program Focus:

- Continue to coordinate with UCCE to support municipal Model IPM Policy implementation throughout the County.
- Continue to develop a more reliable and impactful fertilizer and pesticide reporting method to evaluate the success of IPM Policy implementation by

[4] Pounds of chlorpyrifos active ingredient applied in 2013-14 was incorrectly stated as 217. The correct amount was 2.17 pounds.

Permittees.

- Continue to support the UCCE in adaptation of the 6-module Water Protection Certification course into an online training version to improve ease of participation, especially among contracted landscape professionals, with the initial focus on pesticide impacts on water quality.

C-5.3.3 Baseline BMPs

An annual evaluation of the routine preventive maintenance activities is conducted and, where appropriate, improvements or new practices are implemented to further reduce the amount of pollutants discharged into the storm drain system. An important component of this evaluation process is the documentation and collection of data related to these selected activities.

Trash and Debris Controls

Currently, 18 trash and debris booms have been installed in flood control channels and harbors to recover floatable material. Additional trash and debris diversions are being constructed as part of the Santa Ana Delhi Channel Diversion Project with support of OCTA funds. The final Newport Bay Watershed Trash Management Plan Framework was completed in the 2016-17 reporting period and is further discussed in Section **C-3.2.4**.

2017-18 Program Focus:

- Continue to coordinate with OCTA on implementation of Tier I and Tier II Measure M funding to assist Permittees in controlling transportation-generated pollution.
- Conduct scoping survey on the need for an Orange County-specific Trash Generation Rate Model.

Street Sweeping

While the Program has sought to improve the efficacy of street sweeping through increasing use of drain inlet protection devices and recommendations regarding specific street sweeper technologies (e.g. regenerative air sweepers), the significance of jurisdictional initiatives is not evident on an aggregated countywide basis. During the 2016-17 reporting period the amount of material removed increased along with the number of street miles swept compared to the previous reporting period. The Permittees will continue to review the results of street sweeping studies to assess whether current street sweeping rates need to be modified.

Headline Indicator – Street Sweeping: 60,144 tons of material was removed from the streets and gutters during the 2016-17 report period. This figure compares to 55,498 in

2015-16; 50,225 in 2014-15; 52,003 in 2013-14; and 47,658 in 2012-13 **(Table C-5.6 and Figure C-5.6)**.

Solid Waste Collection

Permittees encourage the public, through education and outreach, to properly dispose of their trash. There was a 9% increase in tons of solid waste collected since the prior reporting period, but previously was relatively stable for three years.

Headline Indicator – Solid Waste Collection: 3,334,635 tons of solid waste were collected during the 2016-17 reporting period. This figure compares to 3,051,430 in 2015-16; 3,136,223 in 2014-15; 3,099,936 in 2013-14; and 2,374,754 in 2012-13 **(Table C-5.7 and Figure C-5.7)**.

In addition to education, the Permittees have considered the extent to which the cradle-to-grave management of solid waste can be improved to increase the effectiveness of collection efforts. A statewide ban on the use of plastic bags was passed in November 2016 through Proposition 67, and several jurisdictions have considered bans on the use of Styrofoam to help eliminate these products from the waste stream and, as a consequence, flood control channels and waterways.

Drainage Facility Maintenance

Drainage facilities are a focus of the Model Municipal Activities Program and, as high priority facilities, subject to annual inspection. Tonnage of material removed from drainage facilities during the 2016-17 reporting period was slightly greater than the previous reporting periods, but had a much greater number of drainage miles cleaned. The percentage of total catch basins cleaned increased over the prior reporting period, from 80% in 2015-16 to 82% in 2016-17, but remained within the same range of the past five years.

Headline Indicator – Drainage Facility Maintenance: 5,110 tons of debris was removed from drainage facilities during 2016-17. This figure compares to 5,079 in 2015-16; 4,627 in 2014-15; 4,596 in 2013-14; and 4,636 in 2012-13 (**Table C-5.9 and Figure C-5.10)**.

C-5.4 Summary

During the seventh year of municipal activities implementation under the Fourth Term permit, the Permittees have 1) incorporated an IPM policy in each jurisdiction, and 2) shown a continued high level of BMP implementation and maintenance at municipal facilities as evidenced by having over 95% of municipal facilities at full BMP implementation and consistent levels of drainage facility cleaning. Moreover, additional trash and debris controls have been set. Coordination with the UCCE has shown the

Permittees have not been over-applying fertilizers and had a recent reduction in pyrethroid application. These continued positive outcomes support the proposed program commitments.

Table C-5.1: Fixed Facility Inventory and Prioritization

Permittee	Low 2012-13	Low 2013-14	Low 2014-15	Low 2015-16	Low 2016-17	Medium 2012-13	Medium 2013-14	Medium 2014-15	Medium 2015-16	Medium 2016-17	High 2012-13	High 2013-14	High 2014-15	High 2015-16	High 2016-17	Total 2012-13	Total 2013-14	Total 2014-15	Total 2015-16	Total 2016-17
Aliso Viejo	4	4	6	6	6	0	0	0	0	0	0	0	0	0	0	4	4	6	6	6
Anaheim	0	0	0	0	0	0	0	0	0	0	66	69	76	77	76	66	69	76	77	76
Brea	33	33	33	33	34	0	0	0	0	0	1	1	1	1	1	34	34	34	34	35
Buena Park	29	29	29	29	29	0	0	0	0	0	0	0	0	0	0	29	29	29	29	29
Costa Mesa	60	60	60	60	60	0	0	0	0	0	2	2	2	2	2	62	62	62	62	62
Cypress	16	16	16	16	16	8	8	8	8	8	1	1	1	1	1	25	25	25	25	25
Dana Point	0	0	0	0	0	38	38	37	37	37	0	0	0	0	0	38	38	37	37	37
Fountain Valley	28	28	28	29	29	2	2	2	2	2	0	0	0	0	0	30	30	30	31	31
Fullerton	94	94	94	94	94	0	0	0	0	0	56	56	56	57	57	150	150	150	151	151
Garden Grove	DNR	55	59	55	42	DNR	2	6	2	0	DNR	2	22	3	3	DNR	59	87	60	45
Huntington Beach	95	100	137	140	143	8	8	9	10	10	3	4	7	7	7	106	112	153	157	160
Irvine	60	62	77	77	82	29	31	36	38	44	9	8	8	10	10	98	101	121	125	136
La Habra	38	39	39	39	39	15	15	15	15	15	2	2	2	2	2	55	56	56	56	56
La Palma	2	2	5	5	5	1	1	1	1	1	1	1	1	1	1	4	4	7	7	7
Laguna Beach	42	42	42	42	42	49	49	49	49	49	65	65	65	65	65	156	156	156	156	156
Laguna Hills	0	0	0	0	0	0	0	0	0	0	19	19	19	19	19	19	19	19	19	19
Laguna Niguel	64	65	53	34	34	2	2	0	3	3	12	11	0	17	17	78	78	53	54	54
Laguna Woods	3	3	3	3	3	0	0	0	0	0	1	1	1	1	1	4	4	4	4	4
Lake Forest	0	0	0	0	0	0	0	0	0	0	28	28	28	30	31	28	28	28	30	31
Los Alamitos	14	14	15	15	15	2	2	2	2	2	1	1	1	1	1	17	17	18	18	18
Mission Viejo	40	40	40	40	40	2	2	2	2	2	22	22	22	23	23	64	64	64	65	65
Newport Beach	22	22	22	22	21	1	1	1	1	1	5	5	5	5	7	28	28	28	28	29
Orange	21	43	43	42	42	22	0	0	0	0	16	22	22	23	23	59	65	65	65	65
Placentia	35	35	35	35	35	0	0	0	0	0	1	1	1	1	1	36	36	36	36	36
Rancho Santa Margarita	2	2	2	2	2	0	0	0	0	0	2	2	2	2	2	4	4	4	4	4
San Clemente	57	57	57	57	59	0	0	0	0	0	41	41	41	41	50	98	98	98	98	109
San Juan Capistrano	18	DNR	0	0	29	0	DNR	0	0	28	38	DNR	94	94	37	56	DNR	94	94	94
Santa Ana	81	114	120	120	120	33	0	0	0	0	4	4	3	3	4	118	118	123	123	124
Seal Beach	33	33	33	33	33	0	0	0	0	0	6	6	6	6	6	39	39	39	39	39
Stanton	26	26	26	26	26	0	0	0	0	0	1	1	1	1	1	27	27	27	27	27
Tustin	40	41	41	41	41	0	0	0	0	0	5	5	5	7	7	45	46	46	48	48
Villa Park	1	1	1	1	1	0	0	0	0	0	1	1	1	1	1	2	2	2	2	2
Westminster	40	40	40	40	40	0	0	0	0	0	1	1	1	1	1	41	41	41	41	41
Yorba Linda	37	37	37	38	38	3	3	3	3	3	2	2	2	2	2	42	42	42	43	43
County of Orange/OCFCD	78	79	79	83	84	2	2	2	2	2	56	55	55	55	55	136	136	136	140	141
TOTALS	**1,113**	**1,216**	**1,272**	**1,257**	**1,284**	**217**	**166**	**173**	**175**	**207**	**468**	**439**	**551**	**559**	**514**	**1,798**	**1,821**	**1,996**	**1,991**	**2,005**

DNR = Data Not Reported - See Individual PEA

N/A = Not Applicable

Table C-5.2: Fixed Facility BMP Implementation

PERMITTEE	FULLY Implemented 2012-13	FULLY Implemented 2013-14	FULLY Implemented 2014-15	FULLY Implemented 2015-16	FULLY Implemented 2016-17	PARTIALLY Implemented 2012-13	PARTIALLY Implemented 2013-14	PARTIALLY Implemented 2014-15	PARTIALLY Implemented 2015-16	PARTIALLY Implemented 2016-17	No BMPs Implemented 2012-13	No BMPs Implemented 2013-14	No BMPs Implemented 2014-15	No BMPs Implemented 2015-16	No BMPs Implemented 2016-17	Total BMP Implementation 2016-17
Aliso Viejo	12	12	6	6	6	0	0	0	0	0	0	0	0	0	0	6
Anaheim	79	78	72	73	71	1	5	4	4	5	0	0	0	0	0	76
Brea	39	39	20	10	11	0	0	1	0	0	0	0	0	0	0	11
Buena Park	28	28	28	28	29	1	1	1	0	0	0	0	1	0	0	29
Costa Mesa	62	65	62	62	62	0	0	0	0	0	0	DNR	0	0	0	62
Cypress	28	29	29	25	25	0	0	0	0	0	0	0	0	0	0	25
Dana Point	38	38	37	37	37	0	0	0	0	0	0	0	0	0	0	37
Fountain Valley	0	63	63	63	63	0	0	0	0	0	0	0	0	0	0	63
Fullerton	150	150	150	151	151	0	0	0	0	0	0	0	0	0	0	151
Garden Grove	50	57	80	7	45	2	2	7	0	0	0	0	0	0	0	45
Huntington Beach	9	38	35	16	2	10	10	4	1	10	0	0	0	0	0	12
Irvine	95	101	121	125	137	1	0	0	0	0	0	0	0	0	0	137
La Habra	8	62	62	62	62	0	0	0	1	0	0	0	0	0	0	62
La Palma	4	4	7	7	7	0	0	0	0	0	0	0	0	0	0	7
Laguna Beach	88	65	42	65	65	0	0	0	0	0	0	0	0	0	0	65
Laguna Hills	19	19	18	19	19	0	0	1	0	0	0	0	0	0	0	19
Laguna Niguel	76	76	76	76	76	2	2	2	2	2	0	0	0	0	0	78
Laguna Woods	4	4	4	4	4	0	0	0	1	0	4	0	0	0	0	4
Lake Forest	28	28	28	29	31	0	0	0	1	0	0	0	0	0	0	31
Los Alamitos	11	24	24	24	18	0	0	0	0	0	0	0	0	0	0	18
Mission Viejo	40	39	44	54	51	14	15	11	3	6	0	0	0	0	0	57
Newport Beach	28	28	28	28	29	1	0	0	0	0	0	0	0	0	0	29
Orange	57	44	23	23	23	0	0	0	0	0	0	0	0	0	0	23
Placentia	5	36	36	36	36	0	0	0	0	0	0	0	0	0	0	36
Rancho Santa Margarita	8	8	8	8	8	0	0	0	0	0	0	0	0	0	0	8
San Clemente	DNR	N/A	N/A	N/A	N/A	DNR	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
San Juan Capistrano	56	58	94	94	64	0	0	0	0	0	0	0	0	0	0	64
Santa Ana	114	114	120	120	120	4	4	4	3	4	0	0	0	0	0	124
Seal Beach	21	39	39	39	39	1	0	0	0	0	0	0	0	0	0	39
Stanton	38	38	38	38	38	0	0	0	0	0	0	0	0	0	0	38
Tustin	28	52	46	61	32	0	0	0	0	0	0	0	0	0	0	32
Villa Park	12	12	12	12	12	0	0	0	0	0	0	0	0	0	0	12
Westminster	41	41	41	41	41	0	0	0	0	0	0	0	0	0	0	41
Yorba Linda	13	50	8	33	23	0	3	0	0	0	0	0	0	0	0	23
County of Orange/OCFCD	125	132	133	138	137	7	4	4	2	4	0	0	0	0	0	141
TOTALS	**1,414**	**1,671**	**1,634**	**1,614**	**1,574**	**44**	**46**	**39**	**18**	**31**	**4**	**0**	**1**	**0**	**0**	1,605

DNR = Data Not Reported - See Individual PEA

N/A = Not Applicable

Table C-5.3: 2016-17 Fertilizers and Amounts applied by Permittee (raw data)

PERMITTEE	Brand Name	Fertilizer Analysis			Amount Applied (lbs)	lbs. N	lbs. P2O5	lbs. K2O	Total Acreage Fertilized in Jurisdiction During Reporting Period
		Nitrogen	Phosphorous	Potassium					
Aliso Viejo	Best Triple Pro	15	15	15	500.00	75.00	75.00	75.00	3.00
	Turf Royale	21	7	14	1850.00	388.50	129.50	259.00	7.00
Anaheim	18-3-18	18	3	18	3250.00	585.00	97.50	585.00	722.00
	28-2-10	28	2	10	25237.00	7066.36	504.74	2523.70	722.00
	Ammonium Sulfate	21	0	0	15975.00	3354.75	0.00	0.00	722.00
	Ammonium Phosphate	16	20	0	7450.00	1192.00	1490.00	0.00	722.00
	Best	9	9	9	400.00	36.00	36.00	36.00	722.00
	Best	16	6	6	10000.00	1600.00	600.00	600.00	722.00
	Best	16	6	8	1300.00	208.00	78.00	104.00	722.00
	Best Amonium Sulfate	21	2	4	52500.00	11025.00	1050.00	2100.00	722.00
	Best Evergreen	25	5	5	1500.00	375.00	75.00	75.00	722.00
	Best Triple Pro	6	24	24	1200.00	72.00	288.00	288.00	722.00
	Calcium Nitrate	15.5	0	0	1200.00	186.00	0.00	0.00	722.00
	Nitra King	19	4	4	1600.00	304.00	64.00	64.00	722.00
	Palm Plus	13	5	8	3600.00	468.00	180.00	288.00	722.00
	Polyon	0	0	50	1200.00	0.00	0.00	600.00	722.00
	Simplot	27	0	0	2200.00	594.00	0.00	0.00	722.00
	Scott's Turf Builder	32	0	4	875.00	280.00	0.00	35.00	722.00
	Scott's Turf Builder	20	20	20	30.00	6.00	6.00	6.00	722.00
	Super Iron	9	9	9	11650.00	1048.50	1048.50	1048.50	722.00
	Turf Supreme	16	6	8	17200.00	2752.00	1032.00	1376.00	722.00
	Urea	46	0	0	2793.00	1284.78	0.00	0.00	722.00
Brea	Andersons	18	0	5	640.00	115.20	0.00	32.00	3.70
	Nature Safe	27	0	2	600.00	162.00	0.00	12.00	3.60
	Yara Ammoinium Sulfate	21	0	0	2750.00	577.50	0.00	0.00	9.60
Buena Park	Best Ammonium Sulfate	21	0	0	4800.00	1008.00	0.00	0.00	1000.00
Costa Mesa	Best	21	7	14	32575.00	6840.75	2280.25	4560.50	149.00
	Best	19	4	4	16288.00	3094.72	651.52	651.52	75.00
	Best	15	15	15	8325.00	1248.75	1248.75	1248.75	12.00
	Starline	18	3	6	6400.00	1152.00	192.00	384.00	36.00
Cypress	Super Turf	25	5	5	50820.00	12705.00	2541.00	2541.00	62.00
	Barricade	12	8	16	44200.00	5304.00	3536.00	7072.00	62.00
	Best Imperial Turf	28	2	6	6000.00	1680.00	120.00	360.00	9.00
Dana Point	Nitrex	20	2	3	1575.00	315.00	31.50	47.25	23.00
	Turf Supreme	32	6	8	6250.00	2000.00	375.00	500.00	99.00
	Triple Pro	15	15	15	67.00	10.05	10.05	10.05	23.00
Fountain Valley	Best 15-15-15	15	15	15	7600.00	1140.00	1140.00	1140.00	55.00
	Liquid 18-1-9	18	1	9	124.00	22.32	1.24	11.16	55.00
Fullerton	Turf Supreme	16	6	8	600.00	96.00	36.00	48.00	2.20
	Ammonium Sulphate	21	0	0	1230.00	258.30	0.00	0.00	5.65
	Screamin Green	16	2	3	18000.00	2880.00	360.00	540.00	82.60
	Mini Phos	8	30	15	700.00	56.00	210.00	105.00	4.70

Table C-5.3: 2016-17 Fertilizers and Amounts applied by Permittee (raw data continued)

Garden Grove	Turf Supreme	16	6	8	2000.00	320.00	120.00	160.00	8.00
	Simplot Best 8-30-15 pre plant	8	30	15	500.00	40.00	150.00	75.00	2.00
	FUSN	26	0	0	1200.00	312.00	0.00	0.00	10.00
	Simplot Best 12-4-3 seed start	12	4	3	2000.00	240.00	80.00	60.00	7.00
	Eco Green	5	3	2	2520.00	126.00	75.60	50.40	2.00
	XB Plus 6-24-24	6	24	24	240.00	14.40	57.60	57.60	1.00
	21 Gram plant start	20	10	5	11.00	2.20	1.10	0.55	1.00
	Nitrex	20	2	3	1540.00	308.00	30.80	46.20	7.00
Huntington Beach	Evergreen	18	5	0	60000.00	10800.00	3000.00	0.00	700.00
	Best Nitra King	21	2	4	7500.00	1575.00	150.00	300.00	700.00
	Triple Pro	15	15	15	1530.00	229.50	229.50	229.50	74.00
	Triple Pro	9	9	9	18746.00	1687.14	1687.14	1687.14	74.00
Irvine	JTM	8	2	4	2150.00	172.00	43.00	86.00	1277.00
	Nitra King	19	4	4	73984.00	14056.96	2959.36	2959.36	1277.00
	Calcium Nitrate	15.5	5	5	172595.00	26752.23	8629.75	8629.75	1277.00
	Best	13	5	8	500.00	65.00	25.00	40.00	1277.00
	Macron	20	20	20	10.00	2.00	2.00	2.00	1277.00
	Best	22	2	22	22500.00	4950.00	450.00	4950.00	1277.00
	Best	19	6	12	35500.00	6745.00	2130.00	4260.00	1277.00
	Best	16	1	2	7250.00	1160.00	72.50	145.00	1277.00
	Best	46	0	0	50.00	23.00	0.00	0.00	1277.00
	JTM Activator	0	5.5	0	151316.00	0.00	8322.38	0.00	1277.00
	JTM w/Sea Kelp	8	2	7	522224.00	41777.92	10444.48	36555.68	1277.00
	Live Earth	8	2	4	54000.00	4320.00	1080.00	2160.00	1277.00
La Habra	Best Turf Supreme	16	6	8	18675.00	2988.00	1120.50	1494.00	123.00
La Palma	Best Super Iron	9	9	9	1500.00	135.00	135.00	135.00	15.00
	Turf Supreme	16	6	8	1500.00	240.00	90.00	120.00	15.00
	Ammonium Sulfate	21	0	0	2000.00	420.00	0.00	0.00	15.00
Laguna Beach	Best	15.5	0	0	287.00	44.49	0.00	0.00	84.00
	Best	15	15	15	126.00	18.90	18.90	18.90	84.00
Laguna Hills	Best Short Kut 22-5-10	22	5	10	750.00	165.00	37.50	75.00	73.30
	Best Short Kut 22-4-12	22	4	12	750.00	165.00	30.00	90.00	73.30
	Turf Supreme 16-6-8	16	6	8	15550.00	2488.00	933.00	1244.00	73.30
	Best Triple Pro 15-15-15	15	15	15	12000.00	1800.00	1800.00	1800.00	73.30
	Nitra King	19	4	4	10950.00	2080.50	438.00	438.00	73.30
	Barricade	12	8	16	162.00	19.44	12.96	25.92	73.30
	Turf Royal	21	7	14	250.00	52.50	17.50	35.00	73.30
Laguna Niguel	Best Turf Supreme	16	6	8	110013.00	17602.08	6600.78	8801.04	1965.00
	Tri-C	6	2	4	130050.00	7803.00	2601.00	5202.00	207.00
	Best Nitra-King	19	4	4	29300.00	5567.00	1172.00	1172.00	673.00
	Turf Gold	22	5	6	3000.00	660.00	150.00	180.00	16.00
	Turf Royale	19	4	4	7750.00	1472.50	310.00	310.00	45.00

Table C-5.3: 2016-17 Fertilizers and Amounts applied by Permittee (raw data continued)

Laguna Woods	Best Super Iron	9	9	9	1500.00	135.00	135.00	135.00	15.00
	Turf Supreme	16	6	8	2500.00	400.00	150.00	200.00	15.00
	Ammonium Sulfate	21	0	0	2000.00	420.00	0.00	0.00	15.00
Lake Forest	Best Triple Pro	15	15	15	1831.00	274.65	274.65	274.65	285.00
	Signature	31	5	19	360.00	111.60	18.00	68.40	285.00
	Best Turf Supreme	16	6	8	373.00	59.68	22.38	29.84	285.00
Los Alamitos	Best Turf Supreme	16	6	8	373.00	59.68	22.38	29.84	3.50
Mission Viejo	8-2-4-"Complete" JTM	8	2	4	339250.00	27140.00	6785.00	13570.00	888.00
	Triple Nine Best	9	9	9	3750.00	337.50	337.50	337.50	178.00
	Nitra King	22	3	9	13900.00	3058.00	417.00	1251.00	210.00
	Ammonium Sulfate	21	0	0	4250.00	892.50	0.00	0.00	110.00
	Signature Barricade	16	0	16	5000.00	800.00	0.00	800.00	26.00
Newport Beach	Best Nitra King	19	4	4	12900.00	2451.00	516.00	516.00	530.00
	JTM Complete	8	2	4	45380.00	3630.40	907.60	1815.20	530.00
	Lutz	8	10	10	3096.00	247.68	309.60	309.60	530.00
	Lesco	25	4	4	3800.00	950.00	152.00	152.00	530.00
	Best Nitra King	21	2	4	12575.00	2640.75	251.50	503.00	530.00
	Mirimichi	2	2	1	4255.00	85.10	85.10	42.55	530.00
	Scotts Water Soluble	20	20	20	32.00	6.40	6.40	6.40	530.00
	Peters (trees)	20	20	20	240.00	48.00	48.00	48.00	530.00
	Apex Palm Plus	13	5	8	6938.00	901.94	346.90	555.04	530.00
Orange	Turf Royale	21	7	14	2900.00	609.00	203.00	406.00	25.00
	Turf Supreme	16	6	8	9350.00	1496.00	561.00	748.00	25.00
	Triple Pro	15	15	15	10400.00	1560.00	1560.00	1560.00	25.00
	Dimension	16	8	8	7897.00	1263.52	631.76	631.76	110.00
	Phyta Boost Plant Food	7	1	2	124870.00	8740.90	1248.70	2497.40	110.00
	Lesco Synthetic	39	0	0	10390.00	4052.10	0.00	0.00	110.00
	Tripple 15	15	15	15	3450.00	517.50	517.50	517.50	110.00
	Achieve	5	0	0	183.48	9.17	0.00	0.00	15.00
	50% Seaweed	2	2	0	3.00	0.06	0.06	0.00	15.00
	UAN 32	32	0	0	8405.60	2689.79	0.00	0.00	15.00
Placentia	None								
Rancho Santa Margarita	None								
San Clemente	Best	22	4	10	5000.00	1100.00	200.00	500.00	321.00
	Xara	21	7	14	14500.00	3045.00	1015.00	2030.00	321.00

Table C-5.3: 2016-17 Fertilizers and Amounts applied by Permittee (raw data continued)

San Juan Capistrano	Best	16	6	8	12800.00	2048.00	768.00	1024.00	40.00
	Best	15	15	15	21750.00	3262.50	3262.50	3262.50	36.00
Santa Ana	None								
Seal Beach	BEST	16	6	8	13475.00	2156.00	808.50	1078.00	49.00
Stanton	Nitra King	16	6	6	4000.00	640.00	240.00	240.00	13.00
Tustin	Liquid Kelp	2	2	0	33.00	0.66	0.66	0.00	107.30
	Achieve	5	0	0	33.00	1.65	0.00	0.00	107.30
	LNX 10-10-5	10	10	5	222.00	22.20	22.20	11.10	107.30
	UAN-32	32	0	0	2748.00	879.36	0.00	0.00	107.30
Villa Park	None								
Westminster	None								
Yorba Linda	JTM	8	2	7	6800.00	544.00	136.00	476.00	391.00
	Turf Supreme	16	6	8	36529.00	5844.64	2191.74	2922.32	391.00
	SCU	39	0	0	7881.00	3073.59	0.00	0.00	391.00
	JTM FeMn	8	2	7	28000.00	2240.00	560.00	1960.00	391.00
	Triple 15	15	15	15	10007.00	1501.05	1501.05	1501.05	391.00
	JTM with kelp	8	2	7	19750.00	1580.00	395.00	1382.50	391.00
County of Orange/OCFCD	Turf Supreme	16	6	8	39950.00	6392.00	2397.00	3196.00	444.30
	Best Nitra King	19	4	4	150.00	28.50	6.00	6.00	0.55
	Calcium Nitrate	34	0	0	1765.00	600.10	0.00	0.00	7.00
	3 Mixtures	27	0	2	150.00	40.50	0.00	3.00	2.24
	Miracle Grow	15	30	15	1.00	0.15	0.30	0.15	0.03
	Nature Safe	8	8	8	2250.00	180.00	180.00	180.00	5.00
	Kellog's/Best	25	5	5	600.00	150.00	30.00	30.00	3.00

Table C-5.4: 2016-17 Fertilizers Applied (Amount per Acre)

Permittee	Acreage	Sum N lbs	Sum P2O5 lbs	Sum K2O lbs	lbs/N acre	lbs/P2O5 acre	lbs/K2O acre
Aliso Viejo	10.00	463.50	204.50	334.00	46.35	20.5	33.4
Anaheim	722.00	32437.39	6549.74	9729.20	44.93	9.1	13.5
Brea	16.90	854.70	0.00	44.00	50.57	0.0	2.6
Buena Park	1000.00	1008.00	0.00	0.00	1.01	0.0	0.0
Costa Mesa	272.00	12336.22	4372.52	6844.77	45.35	16.1	25.2
Cypress	71.00	19689.00	6197.00	9973.00	277.31	87.3	140.5
Dana Point	122.00	2325.05	416.55	557.30	19.06	3.4	4.6
Fountain Valley	55.00	1162.32	1141.24	1151.16	21.13	20.7	20.9
Fullerton	95.15	3290.30	606.00	693.00	34.58	6.4	7.3
Garden Grove	38.00	1362.60	515.10	449.75	35.86	13.6	11.8
Huntington Beach	774.00	14291.64	5066.64	2216.64	18.46	6.5	2.9
Irvine	1277.00	100024.11	34158.47	59787.79	78.33	26.7	46.8
La Habra	123.00	2988.00	1120.50	1494.00	24.29	9.1	12.1
La Palma	15.00	795.00	225.00	255.00	53.00	15.0	17.0
Laguna Beach	84.00	63.39	18.90	18.90	0.75	0.2	0.2
Laguna Hills	73.30	6770.44	3268.96	3707.92	92.37	44.6	50.6
Laguna Niguel	2906.00	33104.58	10833.78	15665.04	11.39	3.7	5.4
Laguna Woods	15.00	955.00	285.00	335.00	63.67	19.0	22.3
Lake Forest	285.00	445.93	315.03	372.89	1.56	1.1	1.3
Los Alamitos	3.50	59.68	22.38	29.84	17.05	6.4	8.5
Mission Viejo	1412.00	32228.00	7539.50	15958.50	22.82	5.3	11.3
Newport Beach	530.00	10961.27	2623.10	3947.79	20.68	4.9	7.4
Orange	125.00	20938.05	4722.02	6360.66	167.50	37.8	50.9
Placentia	0.00	0.00	0.00	0.00	0.00	0.0	0.0
Rancho Santa Margarita	0.00	0.00	0.00	0.00	0.00	0.0	0.0
San Clemente	321.00	4145.00	1215.00	2530.00	12.91	3.8	7.9
San Juan Capistrano	76.00	5310.50	4030.50	4286.50	69.88	53.0	56.4
Santa Ana	0.00	0.00	0.00	0.00	0.00	0.0	0.0
Seal Beach	49.00	2156.00	808.50	1078.00	44.00	16.5	22.0
Stanton	13.00	640.00	240.00	240.00	49.23	18.5	18.5
Tustin	107.30	903.87	22.86	11.10	8.42	0.2	0.1
Villa Park	0.00	0.00	0.00	0.00	0.00	0.0	0.0
Westminster	0.00	0.00	0.00	0.00	0.00	0.0	0.0
Yorba Linda	391.00	14783.28	4783.79	8241.87	37.81	12.2	21.1
County of Orange	462.12	7391.25	2613.30	3415.15	15.99	5.7	7.4
2016-2017 Total	**11,444**	**333,884**	**103,916**	**159,729**	**N/A**	**N/A**	**N/A**
2016-2017 Average per Permittee	**327**	**9,540**	**2,969**	**4,564**	**40**	**13**	**18**
2015-2016 Total	**54,490**	**341,280**	**128,576**	**161,475**	**N/A**	**N/A**	**N/A**
2015-2016 Average per Permittee	**1,557**	**9,751**	**3,674**	**4,614**	**26**	**8**	**11**
2014-2015 Total	**53,803**	**411,738**	**143,443**	**193,557**	**N/A**	**N/A**	**N/A**
2014-2015 Average per Permittee	**1,736**	**13,282**	**4,627**	**6,244**	**23**	**8**	**11**
2013-2014 Total	**51,211**	**347,281**	**99,093**	**153,277**	**N/A**	**N/A**	**N/A**
2013-2014 Average per Permittee	**1,652**	**10,852**	**3,097**	**4,190**	**29**	**11**	**14**
2012-2013 Total	**61,619**	**378,921**	**102,808**	**153,073**	**N/A**	**N/A**	**N/A**
2012-2013 Average per Permittee	**1,867**	**11,145**	**3,024**	**4,502**	**24**	**6**	**9**
2011-2012 Total	**19,066**	**361,990**	**92,157**	**145,211**	**N/A**	**N/A**	**N/A**
2011-2012 Average per Permittee	**578**	**10,969**	**2,793**	**4,400**	**31**	**7**	**9**
2010-2011 Total	**9082**	**246759**	**64586**	**93400**	**N/A**	**N/A**	**N/A**
2010-2011 Average per Permittee	**284**	**7711**	**2018**	**2919**	**36**	**11**	**13**

Table C-5.5: 2016-17 Pesticide Use by Class of Concern

Pesticide Class of Concern	Active Ingredient (Sub-class)	Total lbs. A.I. Applied
Pyrethroid	Bifenthrin	6.55
	Permethrin	2.82
	Cypermethrin	0.00
	Cyfluthrin	0.00
Organophosphate	Malathion	0.82
	Dimethoate	0.00
	Diazinon	0.00
	Chlorpyrifos	4.52
Phenylpyrazole	Fipronil	0.52
Herbicide	Glyphosate	33,460.18
	2,4-D (phenoxy)	232.71

Table C-5.6: Street Sweeping – Volume of Material Collected & Street Miles Swept

PERMITTEE	Total Weight of Material Collected (Tons)* FY 2012-13	Total Weight of Material Collected (Tons)* FY 2013-14	Total Weight of Material Collected (Tons)* FY 2014-15	Total Weight of Material Collected (Tons)* FY 2015-16	Total Weight of Material Collected (Tons)* FY 2016-17	Total Street Miles Swept FY 2012-13	Total Street Miles Swept FY 2013-14	Total Street Miles Swept FY 2014-15	Total Street Miles Swept FY 2015-16	Total Street Miles Swept FY 2016-17
Aliso Viejo	178	177	189	238	259	4,320	4,320	4,320	4,320	4,320
Anaheim	5,531	5,008	4,364	4,202	4,695	66,434	66,992	67,355	68,490	97,822
Brea	969	497	589	505	508	19,524	19,494	20,128	21,060	20,333
Buena Park	1,173	1,252	1,218	1,142	1,143	23,350	23,350	23,350	23,350	23,350
Costa Mesa	1,226	988	933	1,246	1,244	32,000	32,500	42,500	42,500	42,500
Cypress	913	1,221	1,156	582	598	14,988	14,988	14,988	14,988	16,986
Dana Point	380.12	445	441	385.22	311.9	3,640	3,764	3,765	3,765	3,765
Fountain Valley	1,383	1,653	1,548	1,372	1,454	14,399	14,399	14,399	14,399	14,399
Fullerton	3,306	3,749	3,982	3,801	3,905	32,776	38,399	40,504	39,161	37,812
Garden Grove	3,977	4,088	3,503	2,452	2,440	17,491	17,612	17,519	17,323	17,315
Huntington Beach	3,076	3,292	2,705	2,543	2,501	30,060	30,060	30,060	30,060	30,060
Irvine	1,317	1,740	3,358	10,339	15,586	39,244	38,449	39,189	39,189	39,542
La Habra	265	265	265	1,348	527	13,200	13,200	13,200	15,652	14,300
La Palma	287	408	393	371	357	3,224	3,224	3,224	3,224	3,224
Laguna Beach	217	202	170	DNR	1,182	12,746	13,284	12,794	DNR	13,479
Laguna Hills	431	431	265	228	219	7,080	7,080	7,080	7,080	7,080
Laguna Niguel	473	415	328	396	437	8,160	8,160	8,160	8,160	8,160
Laguna Woods	19.93	23.42	25.37	48.54	38.54	19.21	19.21	19.21	19.21	19.21
Lake Forest	595	604	742	799	849	20,228	20,228	21,537	21,537	19,384
Los Alamitos	298	289	287	289	246	72	72	72	72	72
Mission Viejo	901	1,231	1,145	1,106	1,186	456	456	456	456	456
Newport Beach*	4,374	5,349	5,474	5,854	4,578	35,605	36,323	35,069	35,335	36,007
Orange	3,312	3,269	2,586	1,577	1,598	32,219	37,073	40,180	38,962	38,963
Placentia	425	304	419	489	470	7,504	7,675	7,268	8,120	7,365
Rancho Santa Margarita	468	335	404	267	290	5,200	5,200	5,200	5,200	5,200
San Clemente	348	423	571	479	466	21,500	21,500	21,500	22,187	20,293
San Juan Capistrano	357	383	181	339	190	4,030	4,030	6,500	6,500	6,750
Santa Ana	7,068	8,761	7,868	8,388	8,453	51,700	50,069	49,240	49,832	49,029
Seal Beach	300	300	337	342	320	3,972	3,972	3,972	3,972	3,972
Stanton	960	807	900	900	367	5,430	5,430	5,430	5,430	5,430
Tustin	1,114	1,255	1,232	964	991	20,003	21,118	20,733	22,087	20,589
Villa Park	78	139	91	95	100	1,400	1,400	1,400	1,820	1,820
Westminster	935	921	797	748	825	11,981	11,981	11,981	11,981	11,461
Yorba Linda	700	720	630	560	510	12,433	12,433	12,448	12,488	12,448
County of Orange/OCFCD	303	1,057	1,129	1,103	1,301	11,566	11,032	11,868	14,273	14,969
TOTALS	**47,658**	**52,003**	**50,225**	**55,498**	**60,144**	**587,954**	**599,286**	**617,408**	**612,992**	**648,674**

DNR = Data Not Reported - See Individual PEA

N/A = Not Applicable

***** City of Newport Beach data since 2012-2013 has been revised from prior reports

Table C-5.7: Solid Waste Collection

PERMITTEE	Total Quantity of Solid Waste Collected 2012-13 (Tons)	Total Quantity of Solid Waste Collected 2013-14 (Tons)	Total Quantity of Solid Waste Collected 2014-15 (Tons)	Total Quantity of Solid Waste Collected 2015-16 (Tons)	Total Quantity of Solid Waste Collected 2016-17 (Tons)
Aliso Viejo	32,698	35,975	36,600	38,674	39,420
Anaheim	267,281	270,373	279,933	281,546	290,951
Brea	52,740	55,650	43,259	40,620	60,583
Buena Park	67,358	77,237	78,450	73,077	84,465
Costa Mesa	3,905	218,426	219,173	36,019	320,339
Cypress	34,802	34,081	49,761	43,684	41,677
Dana Point	43,280	45,018	46,382	46,632	49,578
Fountain Valley	36,830	49,591	55,709	62,838	37,329
Fullerton	132,478	135,976	137,870	132,418	136,733
Garden Grove	162,620	199,213	204,854	220,191	232,818
Huntington Beach	262,100.00	266,250	196,890	272,231	240,142
Irvine	224,917	242,883	238,896	251,102	302,078
La Habra	46,737	45,380	45,359	44,686	47,203
La Palma	12,297	12,748	12,655	12,339	11,917
Laguna Beach	32,992	33,836	36,417	36,068	35,851
Laguna Hills	33,939	33,939	33,434	35,347	35,023
Laguna Niguel	35,725	35,403	29,643	62,961	64,049
Laguna Woods	37,800.00	33,685	29,272	29,206	29,496.98
Lake Forest	70,648	78,776	61,122	73,012	73,172
Los Alamitos	15,479	15,013	14,250	13,956	14,385
Mission Viejo	79,443	79,406	78,630	81,144	82,157
Newport Beach	30,396	30,922	33,966	35,374	34,614
Orange	166,924	168,514	171,816	181,406	186,032
Placentia	43,775	42,993	45,016	43,781	45,378
Rancho Santa Margarita	41,788	38,461	39,760	40,146	32,052
San Clemente	36,994	79,500	88,956	84,478	83,210
San Juan Capistrano	79,546	81,151	84,813	92,279	89,469
Santa Ana	DNR	278,629	276,027	298,953	296,358
Seal Beach	18,370	21,282	24,396	23,541	19,924
Stanton	44,000	51,384	41,844	41,029	51,139
Tustin	69,657	68,082	73,364	40,925	45,883
Villa Park	6,157	5,413	5,290	5,930	3,900
Westminster	48,381	81,496	79,630	73,263	60,902
Yorba Linda	69,700	64,360	61,790	61,708	64,396
County of Orange/OCFCD	59,996	88,891	180,996	140,866	92,010
TOTALS	**2,401,754**	**3,099,936**	**3,136,223**	**3,051,430**	**3,334,635**

DNR = Data Not Reported - See Individual PEA

N/A = Not Applicable

Table C-5.8: Catch Basin Stenciling

PERMITTEE	Total Number of Catch Basins With Stencils	Total Number of Catch Basins	Percentage of Catch Basins with Stencils	Total Number of Catch Basins Re-Stenciled	Percentage Of Basins Re-Stenciled	Type of Application Used					Phrase Used	Volunteer Organizations	
						Spray Paint	Curb Markers	Heat	Adhesives	Other	* Note: Phrase used is "No Dumping Drains to Ocean" unless otherwise noted.	Present?	# of Basins Re-Stenciled
Aliso Viejo	603	603	100%	0	0%	0%	0%	0%	0%	0%	0	no	0
Anaheim	3,389	3,389	100%	18	1%	X	X				No Dumping Drains to Ocean	No	0
Brea	992	992	100%	0	0%	80%			20%		No Dumping Drains to Ocean	No	0
Buena Park	897	1,077	83%	0	0%	0%	0%	0%	0%	0%		No	0
Costa Mesa	1,104	1,165	95%	1,104	95%	X	X				No Dumping - Drains to Ocean	No	0
Cypress	592	592	100%	27	5%	x					No Dumping - Drains to Ocean	No	0
Dana Point	567	567	100%	567	100%	X					No Dumping – Drains to Ocean	NO	NA
Fountain Valley	750	750	100%	71	9%			X			No Dumping Drains to Ocean	No	NA
Fullerton	1,338	1,338	100%	0	0%	X					No Dumping - Drains to Ocean	NO	0
Garden Grove	903	903	100%	45	5%	X					No Dumping - Drains to Ocean	No	N/A
Huntington Beach	1,782	1,819	98%	611	34%	X					"No Dumping Drains to Ocean"	No	0
Irvine	4,849	4,849	100%	0	0%	X					No Dumping Drains to Ocean	n/a	n/a
La Habra	DNR	DNR	DNR	DNR	DNR	DNR						DNR	DNR
La Palma	229	229	100%	125	55%	x						no	0
Laguna Beach	909	909	100%	UNKNOWN	UNKNOWN		X				Drains to Ocean Please Don't Pollute	No	NA
Laguna Hills	570	570	100%	117	21%		100%				No Dumping Drains to Ocean	No	0
Laguna Niguel	1,389	1,462	95%	173	12%			X	X		"NO DUMPING DRAINS TO OCEAN" WITH WAVES AND FISH WHITE STENCIL / BLUE BACKGROUND	0	0
Laguna Woods	44	44	100%	0	0%	0%	0%	0%	0%	0%	n/a	no	0
Lake Forest	1,060	1,060	100%	526	50%	X					No Dumping Drains to Ocean	NO	DNA
Los Alamitos	125	125	100%	31	25%				x		No Dumping Drains to Ocean	no	0
Mission Viejo	1,426	1,426	100%	145	10%		100%				No Dumping - Drains to Ocean	Yes	145
Newport Beach	3,081	3,271	94%	91	3%		X				NO DUMPING DRAINS TO BAY AND OCEAN	N/A	N/A
Orange	1,791	1,791	100%	160	9%			Y				No	0
Placentia	536	536	100%	1	0%	100%						DNR	DNR
Rancho Santa Margarita	784	789	99%	0	0%	100%					No Dumping - Drains to Ocean	No	DNR
San Clemente	2,098	3,444	61%	5	0%	X					No Dumping Drains to "Specific Beach Name"	N/A	N/A
San Juan Capistrano	1,106	1,106	100%	0	0%	X	X	---	---	---	No Dumping Drains to Ocean	DNR	DNR
Santa Ana	1,465	1,481	99%	130	9%	X					No Dumping Drains to Ocean	N/A	N/A
Seal Beach	216	216	100%	0	0%	DNR						DNR	DNR
Stanton	176	176	100%	0	0%	DNR						DNR	DNR
Tustin	1,231	1,231	100%	320	26%	X					No Dumping Drains to Ocean	N/A	N/A
Villa Park	244	244	100%	0	0%	DNR						DNR	DNR
Westminster	591	657	90%	DNR	DNR	DNR						DNR	DNR
Yorba Linda	2,228	2,230	100%	60	3%		X				No Dumping - Drains to Ocean	N/A	N/A
County of Orange/OCFCD	2,313	2,313	100%	0	0%		100%				No dumping/Drains to Ocean	None	DNR
TOTALS	**41,378**	**43,354**	**95%**	**4,327**	**10%**								

DNR = Data Not Reported - See Individual PEA

N/A = Not Applicable

* Note: Phrase used is "No Dumping Drains to Ocean" unless otherwise noted.

Table C-5.9: Drainage Facility Maintenance

PERMITTEE	Total Length of Channel/Pipe Cleaned (in Miles)					Number of Catchbasins Within Jurisdiction					Number of Catchbasins Cleaned and/or Inspected Within Jurisdiction										Percentage of Catchbasins Cleaned and/or Inspected										Total Volume From Facilities (Tons)				
											2012-13		2013-14		2014-15		2015-16		2016-17		2012-13		2013-14		2014-15		2015-16		2016-17						
	2012-13	2013-14	2014-15	2015-16	2016-17	2012-13	2013-14	2014-15	2015-16	2016-17	Inspected	Cleaned	Inspected	Cleaned	Inspected	Cleaned	Inspected	Cleaned	Inspected	Cleaned	Inspected	Cleaned	Inspected	Cleaned	Inspected	Cleaned	Inspected	Cleaned	Inspected	Cleaned	2012-13	2013-14	2014-15	2015-16	2016-17
Aliso Viejo	0.275	0.275	0.275	0.275	0.275	624	603	603	603	603	624	624	603	603	603	603	603	603	603	603	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	78	80.79	115.1	112.68	144.91
Anaheim	36.000	DNR	33.000	29.900	30.000	3,500	3,500	3,500	3,389	3,389	3,500	3,500	3,500	3,500	3,500	3,500	3,389	3,389	3,389	3,389	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	1500	1500	1500	1500	1500
Brea	0.627	DNR	0.627	0.000	0.000	940	940	940	940	992	940	940	940	940	361	361	940	265	992	205	100%	100%	100%	100%	38%	38%	100%	28%	100%	21%	10.5	10	3.6	2.8	2
Buena Park	DNR	DNR	2.500	2.500	2.500	1,177	1,077	1,087	1,087	1,087	848	848	1,077	1,077	1,087	1,087	1,087	1,087	1,087	1,087	72%	72%	100%	100%	100%	100%	100%	100%	100%	100%	9.16	7.04	4.2	13.4	19.2
Costa Mesa	5.000	DNR	N/A	0.000	0.000	1,165	1,165	1,165	1,165	1,165	62	62	24	185	800	800	1,145	1,145	1,104	1,104	5%	5%	2%	16%	69%	69%	98%	98%	95%	95%	DNR	3.5	2.5	3.6	5
Cypress	0.360	0.360	1.898	1.898	1.898	589	589	592	592	592	589	589	589	589	592	592	592	586	592	592	100%	100%	100%	100%	100%	100%	100%	99%	100%	100%	8	72	80	74.2	1.24
Dana Point*	0.060	0.060	0.000	0.060	0.074	574	574	574	567	567	574	574	572	572	573	573	567	565	567	567	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	237	103.16	109	273	201.5
Fountain Valley	0.350	DNR	1.000	1.000	1.250	750	750	750	750	750	750	750	750	750	750	750	750	750	750	750	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	3.9	4.1	6.1	4.2	11
Fullerton	5.870	DNR	4.650	6.800	DNR	1,338	1,338	1,338	1,338	1,338	1,338	1,338	1,338	1,338	1,338	1,338	1,338	1,338	1,338	1,338	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	325.4	342.1	342.1	354.7	491.4
Garden Grove	4.640	DNR	4.268	4.600	4.600	1,014	1,017	1,017	903	903	1,014	880	1,017	900	1,010	727	750	750	903	233	100%	87%	100%	88%	99%	71%	83%	83%	100%	26%	14	12.6	17	3.8	1.6
Huntington Beach	4.530	2.010	2.007	2.608	4.300	1,721	1,812	1,847	1,812	1,819	1,400	936	1,494	1,494	2,107	1,099	1,384	879	1,171	713	81%	54%	82%	82%	114%	60%	76%	49%	64%	39%	48.5	18.5	117.596	68.78	18.86
Irvine	8.890	8.910	8.630	8.630	10.300	4,486	4,486	4,541	4,790	4,849	4,486	959	4,486	975	4,541	175	4,790	333	4,849	4,849	100%	21%	100%	22%	100%	4%	100%	7%	100%	100%	59	40	32	94	47.55
La Habra	2.500	2.500	2.500	2.500	2.500	610	610	610	617	617	610	18	610	610	610	610	617	596	617	617	100%	3%	100%	100%	100%	100%	100%	97%	100%	100%	8	8	8	8	DNR
La Palma	5.240	DNR	0.000	0.000	0.000	205	205	205	205	229	205	205	205	205	205	205	205	205	205	205	100%	100%	100%	100%	100%	100%	100%	100%	90%	90%	8.1	3.8	2.52	3.94	3.33
Laguna Beach	0.320	DNR	DNR	DNR	DNR	909	909	909	909	909	909	909	909	909	909	909	909	627	1,030	1,030	100%	100%	100%	100%	100%	100%	100%	69%	113%	113%	103	155	134	1	16
Laguna Hills	1.000	1.000	0.000	0.000	0.000	553	553	557	557	570	553	553	553	553	557	549	552	552	570	570	100%	100%	100%	100%	100%	99%	99%	99%	100%	100%	4.59	4.59	4	4.89	4.65
Laguna Niguel	DNR	DNR	2.820	2.820	2.820	1,462	1,462	1,462	1,462	1,462	1,375	1,217	DNR	DNR	1,077	1,077	1,112	1,100	1,594	1,170	94%	83%	73%	69%	74%	74%	76%	75%	109%	80%	171	147.51	73.2	67.1	138.5
Laguna Woods	0.000	0.000	0.000	0.000	0.000	38	38	41	44	44	38	38	38	38	41	41	44	44	44	44	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	2.77	42.58	63.37	62.09	46.5
Lake Forest	0.000	0.000	DNR	0.000	0.000	1,201	1,223	1,201	1,215	1,060	1,201	1,201	1,223	1,221	1,201	1,194	1,215	1,206	1,060	1,060	100%	100%	100%	100%	100%	99%	100%	99%	100%	100%	30.67	22.17	87.47	48.5	27.8
Los Alamitos	0.169	0.169	0.169	0.169	0.169	125	125	125	125	125	125	46	125	50	125	74	125	125	125	125	100%	37%	100%	40%	100%	59%	100%	100%	100%	100%	14.27	11.59	25.52	8.4	32
Mission Viejo	2.000	DNR	1.500	1.000	2.000	1,457	1,457	1,457	1,457	1,426	1,457	1,457	1,440	1,440	1,450	1,450	1,426	1,425	1,426	1,426	100%	100%	99%	99%	100%	100%	98%	98%	100%	100%	42	52.13	42	38.19	49.57
Newport Beach	3.200	3.000	3.240	3.130	2.500	3,233	3,234	3,254	3,266	3,271	3,233	3,225	3,234	3,234	3,254	3,254	3,266	3,266	3,088	3,088	100%	100%	100%	100%	100%	100%	100%	100%	94%	94%	DNR	412.5	517.5	537.5	128
Orange	9.000	10.500	10.000	8.100	8.020	1,775	1,785	1,785	1,791	1,791	1,890	205	1,970	339	1,785	252	1,983	16	1,983	210	106%	12%	110%	19%	100%	14%	111%	1%	111%	12%	1.10	4	2	0.7	1.6
Placentia	0.000	0.000	0.000	0.000	0.000	563	563	536	536	536	368	368	108	108	497	497	371	371	536	536	65%	65%	19%	19%	93%	93%	69%	69%	100%	100%	DNR	DNR	DNR	DNR	DNR
Rancho Santa Margarita	0.000	0.000	DNR	0.000	0.000	784	790	789	789	789	784	784	790	790	789	789	789	789	789	789	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	44.72	43	64.3	35	11.07
San Clemente**	1.860	2.160	1.190	3.000	6.560	2,205	2,205	2,205	2,209	3,444	2,205	2,205	2,205	315	1,557	260	2,146	1,047	1,361	1,361	100%	100%	100%	14%	71%	12%	97%	47%	40%	40%	20.42	25.64	11.41	16.68	20.32
San Juan Capistrano	4.200	4.200	1.160	1.050	DNR	1,106	1,106	1,106	1,106	1,106	1106	151	1106	200	1106	203	1106	317	1106	75	100%	14%	100%	18%	100%	18%	100%	29%	100%	7%	270	283	181	274.1	DNR
Santa Ana	4.286	8.282	6.561	8.300	12.100	1,569	1,507	1,464	1,482	1,481	1,569	1,569	1,507	1,507	1,464	241	1,482	3,661	1,481	1,481	100%	100%	100%	100%	100%	16%	100%	247%	100%	100%	183	175	28	425	315.52
Seal Beach	0.046	0.046	DNR	DNR	0.460	216	216	216	216	216	216	216	216	216	216	216	216	216	216	216	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	2.6	2.6	3.52	6.33	1.95
Stanton	0.720	0.720	0.720	0.720	0.720	183	183	183	176	176	183	183	183	183	183	183	176	176	176	176	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	1	6	DNR	6	6
Tustin	0.037	0.000	0.000	0.000	0.000	1,163	1,163	1,166	1,225	1,231	1,163	1,163	1,067	1,067	1,166	1,166	1,225	1,225	1,231	1,231	100%	100%	92%	92%	100%	100%	100%	100%	100%	100%	279.92	321.4	363	343	413.4
Villa Park	0.208	0.208	0.208	0.208	0.208	244	244	244	244	244	DNR	57	0	0	244	244	236	236	244	244	DNR	23%	0%	0%	100%	100%	97%	97%	100%	100%	DNR	N/A	18.6	2.23	2
Westminster	0.833	0.833	0.833	0.833	0.833	630	657	657	657	657	630	630	657	657	657	657	657	657	657	657	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	2.5	2	2.5	2	3
Yorba Linda	1.200	0.795	0.795	0.795	0.823	2,221	2,228	2,228	2,230	2,230	2,221	2,221	2,129	2,129	2,139	2,139	2,228	2,201	2,144	2,144	100%	100%	96%	96%	96%	96%	100%	99%	96%	96%	69	34.68	43.1	41	31
County of Orange/OCFCD	56.000	99.270	322.000	80.000	649	2,031	2,180	2,180	2,180	2,313	2,031	2,031	2,180	2,180	2,180	2,180	2,180	2,180	2,313	2,313	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	1084	645	623	642	1,414
TOTALS	159	145	413	171	744	42,361	42,494	42,534	42,634	43,981	40,197	32,652	38,845	30,874	40,674	29,995	41,601	33,928	41,341	36,198	98% average	79% average	92% average	77% average	96% average	81% average	97% average	88% average	97% average	86% average	4,636	4,596	4,627	5,079	5,110

DNR = Data Not Reported - See Individual PEA

N/A = Not Applicable

* Note Dana Point: 6.83 from County Del Obispo channel = 330 feetTrash Separation Units = 34 tonsInlet filters = 62.33 tons

Table C-5.10: Household Hazardous Waste Program

Category	Type Of Waste	Anaheim HHWCC					Huntington Beach HHWCC					Irvine HHWCC					San Juan HHWCC					2010-17 Combined Collection (lbs) (4 centers)
		2012-13	2013-14	2014-15	2015-16	2016-17	2012-13	2013-14	2014-15	2015-16	2016-17	2012-13	2013-14	2014-15	2015-16	2016-17	2012-13	2013-14	2014-15	2015-16	2016-17	
Flammable & Poison	Flammable Solid/Liquid	230,590	238,160	222,605	317,715	465,445	404,585	381,860	305,348	461,675	504,200	191,030	199,710	195,480	302,834	342,240	131,010	104,205	92,545	206,265	292,610	5,590,112
	Bulked Flammable Liquids	0	0	0	0	43	0	0	0	0	425	0	0	115	0	0	0	0	0	425	0	1,008
	Oil-Base Paint	340,900	317,100	270,200	148,600	135,669	324,800	363,200	225,900	199,900	123,657	231,700	240,100	280,998	132,033	96,496	201,600	189,000	248,500	99,600	65,930	4,235,883
	Poison (Excl aerosols)	74,610	81,145	69,755	17,250	23,250	108,490	105,420	113,515	37,390	22,800	61,800	65,980	62,600	22,762	25,264	55,980	61,240	66,915	10,800	13,200	1,100,166
	Reactive & Explosive	1,320	2,840	2,780	765	315	1,719	3,781	3,435	2,751	1,660	1,372	1,380	1,385	2,585	1,502	355	740	123	1,303	653	32,764
	Subtotal	**647,420**	**639,245**	**565,340**	**484,330**	**624,722**	**839,594**	**854,261**	**648,198**	**701,716**	**652,742**	**485,902**	**507,170**	**540,506**	**460,214**	**465,502**	**388,945**	**355,185**	**408,083**	**318,393**	**372,393**	**10,959,861**
Acids	Inorganic Acid	6,545	10,173	5,425	6,340	6,160	10,500	10,325	11,230	13,631	13,975	9,695	7,955	8,257	10,799	8,473	6,520	5,440	5,115	8,085	9,525	174,168
	Organic Acid																					
	Subtotal	**6,545**	**10,173**	**5,425**	**6,340**	**6,160**	**10,500**	**10,325**	**11,230**	**13,631**	**13,975**	**9,695**	**7,955**	**8,257**	**10,799**	**8,473**	**6,520**	**5,440**	**5,115**	**8,085**	**9,525**	**174,168**
Bases	Inorganic Base	1,890	5,765	13,545	15,125	11,645	26,705	29,690	30,775	36,173	29,295	17,150	15,700	17,806	18,437	22,138	10,285	11,405	7,520	10,720	17,750	349,519
	Organic Base																					
	Subtotal	**1,890**	**5,765**	**13,545**	**15,125**	**11,645**	**26,705**	**29,690**	**30,775**	**36,173**	**29,295**	**17,150**	**15,700**	**17,806**	**18,437**	**22,138**	**10,285**	**11,405**	**7,520**	**10,720**	**17,750**	**349,519**
Acids-Bases Combined	Acids-Bases Combined	8,435	15,938	18,970	21,465	17,805	37,205	40,015	42,005	49,804	43,270	26,845	23,655	26,063	29,236	30,611	16,805	16,845	12,635	18,805	27,275	523,687
	Subtotal	**8,435**	**15,938**	**18,970**	**21,465**	**17,805**	**37,205**	**40,015**	**42,005**	**49,804**	**43,270**	**26,845**	**23,655**	**26,063**	**29,236**	**30,611**	**16,805**	**16,845**	**12,635**	**18,805**	**27,275**	**523,687**
Oxidizer	Neutral Oxidizer	765	1,075	1,370	1,430	1,110	4,556	4,201	3,128	6,500	4,565	1,350	1,775	1,919	2,971	3,050	837	1,280	1,954	4,105	5,420	53,361
	Organic Peroxides																					
	Oxidizing Acid																					
	Oxidizing Base																					
	Subtotal	**765**	**1,075**	**1,370**	**1,430**	**1,110**	**4,556**	**4,201**	**3,128**	**6,500**	**4,565**	**1,350**	**1,775**	**1,919**	**2,971**	**3,050**	**837**	**1,280**	**1,954**	**4,105**	**5,420**	**53,361**
PCBs (Containing)	PCB Containing Paint	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Other PCB Waste	5,733	6,615	7,920	5,720	4,840	3,969	3,969	4,620	5,940	1,980	3,308	3,969	2,485	3,304	1,980	1,323	1,984	1,980	2,640	660	74,939
	Subtotal	**5,733**	**6,615**	**7,920**	**5,720**	**4,840**	**3,969**	**3,969**	**4,620**	**5,940**	**1,980**	**3,308**	**3,969**	**2,485**	**3,304**	**1,980**	**1,323**	**1,984**	**1,980**	**2,640**	**660**	**74,939**
Reclaimable	Antifreeze	65,700	15,900	16,500	20,000	17,000	57,000	15,300	12,900	21,460	10,700	17,850	23,100	17,298	18,895	17,467	5,500	5,700	6,300	6,280	4,675	375,525
	Auto Type Batteries	55,492	63,413	57,500	52,806	53,869	23,430	30,487	45,766	51,400	47,370	14,200	18,550	46,000	44,570	41,101	12,380	6,775	16,425	26,495	26,684	734,713
	Latex Paint	348,280	267,500	262,800	502,589	839,772	298,121	207,000	208,500	443,610	740,353	242,280	179,800	142,097	441,765	569,303	139,600	109,000	70,000	299,743	398,736	6,710,849
	Used Oil	162,690	126,522	120,275	118,660	63,920	68,765	76,202	81,900	76,288	47,175	66,300	58,650	60,350	50,308	38,918	30,175	31,450	37,825	26,180	13,600	1,356,153
	Used Filters	3,200	3,600	3,000	3,000	2,850	4,000	4,400	4,400	3,195	2,535	2,200	2,200	2,002	2,400	2,350	800	800	600	1,000	1,350	49,882
	Mercury (Metallic)	0	0	100	150	25	320	320	320	220	160	325	275	204	175	275	125	75	75	150	125	3,419
	Subtotal	**635,362**	**476,935**	**460,075**	**697,205**	**977,436**	**451,636**	**333,709**	**353,786**	**596,173**	**848,293**	**343,155**	**282,575**	**267,951**	**558,113**	**669,414**	**188,580**	**153,800**	**131,225**	**359,848**	**445,170**	**9,230,441**
Asbestos	Asbestos	0	0	0	100	0	0	0	0	0	0	40	0	0	120	0	0	0	0	200	90	550
	Subtotal	**0**	**0**	**0**	**100**	**0**	**0**	**0**	**0**	**0**	**0**	**40**	**0**	**0**	**120**	**0**	**0**	**0**	**0**	**200**	**90**	**550**
Universal Waste	Fluorescent Bulbs	24,200	23,600	21,328	21,580	20,040	11,844	19,615	8,221	18,930	21,790	24,700	23,850	26,440	23,113	23,206	8,200	7,800	8,650	11,100	9,520	357,727
	Household Batteries	55,615	57,800	68,640	101,545	83,840	55,010	53,125	71,205	80,410	64,780	54,200	50,150	61,478	74,583	66,978	20,230	17,000	20,875	19,455	20,280	1,097,199
	Subtotal	**79,815**	**81,400**	**89,968**	**123,125**	**103,880**	**66,854**	**72,740**	**79,426**	**99,340**	**86,570**	**78,900**	**74,000**	**87,918**	**97,696**	**90,184**	**28,430**	**24,800**	**29,525**	**30,555**	**29,800**	**1,454,926**
Electronic Waste (UW)	Consumer Elec. Devices	857,657	864,050	781,696	826,768	507,428	700,852	682,115	758,077	785,308	525,727	718,611	701,695	718,238	803,307	661,617	316,813	299,243	270,524	329,892	267,385	12,377,003
	SB 20/50 Video Display Devices																					0
	Subtotal	**857,657**	**864,050**	**781,696**	**826,768**	**507,428**	**700,852**	**682,115**	**758,077**	**785,308**	**525,727**	**718,611**	**701,695**	**718,238**	**803,307**	**661,617**	**316,813**	**299,243**	**270,524**	**329,892**	**267,385**	**12,377,003**
Aerosol	Corrosive Aerosols	34,200	33,725	32,805	34,690	40,375	55,575	55,100	56,632	70,950	51,000	28,500	29,450	30,091	37,679	39,644	20,425	19,000	19,000	20,575	22,775	732,191
	Flammable Aerosols																					0
	Poison Aerosols																					0
	Subtotal	**34,200**	**33,725**	**32,805**	**34,690**	**40,375**	**55,575**	**55,100**	**56,632**	**70,950**	**51,000**	**28,500**	**29,450**	**30,091**	**37,679**	**39,644**	**20,425**	**19,000**	**19,000**	**20,575**	**22,775**	**732,191**
Other HHW	Compressed gas cylinders	50,995	28,928	35,603	20,546	21,578	46,839	36,610	25,196	29,908	28,467	37,456	27,268	21,208	22,521	26,175	11,872	11,250	10,438	14,169	12,938	519,965
	Bulked Non-RCRA Liquids		NR		NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	0
	Empty Drums		NR		NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	0
	Non-Hazardous Water	3,400	3,825	1,275	1,700	425	7,000	2,800	7,938	8,580	21,335	425	8,500	7,225	1,715	4,250	6,375	3,695	5,550	0	30,175	126,188
	Other-sharps (10/11)	25,800	27,800	31,400	18,240	12,782	59,400	54,800	48,800	49,759	14,434	24,000	26,200	26,929	17,958	13,192	10,400	6,000	6,000	3,787	4,004	481,685
	Subtotal	**80,195**	**60,553**	**68,278**	**40,486**	**34,785**	**113,239**	**94,210**	**81,934**	**88,247**	**64,236**	**61,881**	**61,968**	**55,362**	**42,194**	**43,617**	**28,647**	**20,945**	**21,988**	**17,956**	**47,117**	**1,127,838**
Propane	Propane	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	0
	CRT	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	0
	Subtotal	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
	Collection Center Totals	**2,358,017**	**2,195,474**	**2,045,492**	**2,235,319**	**2,312,381**	**2,310,685**	**2,180,335**	**2,027,806**	**2,403,978**	**2,278,383**	**1,775,337**	**1,686,257**	**1,730,605**	**2,034,834**	**2,005,619**	**1,007,610**	**909,927**	**896,914**	**1,102,969**	**1,218,085**	**37,058,484**

NR = Not Reported

Table C-5.11: Used Oil Grant Participation

PERMITTEE	Has or Participates in a Used Oil Grant	Begins	Ends	Amount Collected As a Result of the Used Oil Grant FY 2012-13		Amount Collected As a Result of the Used Oil Grant FY 2013-14		Amount Collected As a Result of the Used Oil Grant FY 2014-15		Amount Collected As a Result of the Used Oil Grant FY 2015-16		Amount Collected As a Result of the Used Oil Grant FY 2016-17	
				Motor Oil/Oil Products (Gallons)*	Oil Filters (Units)*	Motor Oil/Oil Products (Gallons)*	Oil Filters (Units)*	Motor Oil/Oil Products (Gallons)*	Oil Filters (Units)*	Motor Oil/Oil Products (Gallons)*	Oil Filters (Units)*	Motor Oil/Oil Products (Gallons)*	Oil Filters (Units)*
Aliso Viejo	yes	6/27/15	present	720	50	460	70	450	65	350	40	300	36
Anaheim	yes	7/1/15	6/30/17	61,376	5,157	67,247	7,541	59,564	11,087	59,032	23,747	55,042	9,513
Brea	DNR	DNR	DNR	3,050	580	2,970	1,005	4,260	805	4,360	1,055	6,390	1,620
Buena Park	Yes	7/1/16	6/30/17	4,863	163	4,670	126	4,421	78	3,980	86	5,729	73
Costa Mesa	Yes	7/1/16	6/30/17	18,875	2,138	N/A	N/A	N/A	N/A	NA	NA	19,994	2,616
Cypress	Yes	7/1/16	6/30/17	6,495	25	7,685	15	6,820	10	8,116	262	6,695	516
Dana Point	yes	7/1/16	6/30/17	2,010	514	5,720	550	7,350	540	2,857	2,200	7,915	2,700
Fountain Valley	DNR	DNR	DNR	7,915	470	7,265	530	6,709	550	7,355	795	7,408	522
Fullerton	Yes	7/1/16	6/30/17	29,340	1,075	27,675	2,572	26,190	3,027	28,412	2,777	30,640	2,609
Garden Grove	yes	7/1/15	6/30/17	26,227	490	61,204	475	30,569	376	31,055	6,185	49,268	6,050
Huntington Beach	Y	7/1/16	6/30/17	22,641	5,217	7,292	244	15,896	227	16,702	7	16,507	1,392
Irvine	X	7/1/16	6/30/17	5,775	270	5,530	1,007	5,470	788	5,290	788	5,189	1,567
La Habra	yes	7/1/16	6/30/17	11,820	795	11,265	1,317	10,040	1,565	10,665	565	11,143	691
La Palma	no	n/a	n/a	0	0	10	0	0	0	0	0	20	5
Laguna Beach	YES	June	July	3,768	250	113	3	259	4	31	1	0	0
Laguna Hills	Yes	7/1/16	6/30/17	6,915	500	6,915	500	110	22	110	22	200	45
Laguna Niguel	DNR	DNR	6/30/2017	350	30	DNR	DNR	50	10	50	10	30	5
Laguna Woods	Yes	7/1/16	6/30/17	270	36	DNR	DNR	47	10	32	65	30	0
Lake Forest	yes	7/1/16	6/1/17	10,020	525	9,880	875	DNR	DNR	10,115	1,910	12,830	1,795
Los Alamitos	N/A	N/A	N/A	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Mission Viejo	DNR	DNR	DNR	12,320	1,040	12,615	1,302	13,310	1,045	13,025	1,045	12,653	1,303
Newport Beach	DNR	DNR	DNR	1,180	5	1,360	126	1,835	510	1,790	572	1,595	1,054
Orange	Y	7/1/16	6/30/16	1,224	430	1,193	328	9,692	368	841	326	749	189
Placentia	DNR	DNR	DNR	277	DNR	200	DNR	DNR	DNR	DNR	DNR	DNR	DNR
Rancho Santa Margarita	DNR	DNR	DNR	1,033	30	875	239	708	217	738	67	910	257
San Clemente	Yes	7/1/16	6/30/17	14,675	1,760	12,660	2,522	12,690	2,555	12,945	2,805	11,025	1,545
San Juan Capistrano	DNR	DNR	DNR	1,000	250	1,000	250	5,002	265	5,175	755	5,445	1,125
Santa Ana	YES	7/1/16	6/30/17	3,078	1,037	2,352	766	1,668	2,282	2,327	1,778	1,215	2,954
Seal Beach	yes	7/1/16	6/30/17	606	181	606	181	DNR	DNR	0	0	140	55
Stanton	DNR	DNR	DNR	10,645	550	10,455	1,800	11,290	1,750	12,375	1,350	12,535	603
Tustin	Yes	7/1/16	6/30/17	7,010	1,275	6,475	1,302	6,280	1,305	6,375	810	6,055	541
Villa Park	DNR	DNR	DNR	75	5	0	0	0	0	0	0	0	0
Westminster	Yes	7/1/16	6/30/17	22,005	1,455	21,620	1,665	21,615	2,305	23,650	1,130	23,760	3,262
Yorba Linda	X	7/1/16	7/30/17	6,740	250	7,320	265	7,860	275	7,565	270	7,610	548
County of Orange/OCFCD	Yes	7/1/2016	6/30/2017	DNR	DNR	34,361	7,519	35,535	10,202	31,930	9,595	18,970	9,085
	TOTALS			**304,298**	**26,553**	**338,993**	**35,095**	**305,690**	**42,243**	**307,248**	**61,018**	**337,992**	**54,276**

DNR = Data Not Reported - See Individual PEA

N/A = Not Applicable

* Note: The Integrated Waste Management Board's standard for used motor oil is 7.5 lbs per gallon and each used oil filter weighs approximately 1.5 pounds (with the assumption that it contains up to 14 oz of oil when removed from the engine)

Table C-5.12: Current and Potential Outcome Levels (Municipal Activities)

Model Municipal Activities Program	Effectiveness Assessment Outcome Levels					
	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6
	Document Stormwater Program Activities	Raise Awareness	Change Behavior	Load Reduction	Runoff Quality	Receiving Water Quality
Inventory	✓ Maintain Inventory					
Prioritization	✓ Assign Priorities		✓Change in prioritization level			
Inspection	✓Conduct and track # of inspections		✓ # BMPs implemented	P Load reduction associated with BMPs		
Training	✓ Track number/type of training sessions	P Surveys show improved knowledge				

Key:
✓ = Currently Achieved Outcome Level
P = Potentially Achievable Outcome Level

Table C-5.13: Current and Potential Outcome Levels (IPM)

Model IPM and Fertilizer Guidelines	Effectiveness Assessment Outcome Levels					
	Level 1	**Level 2**	**Level 3**	**Level 4**	**Level 5**	**Level 6**
	Document Stormwater Program Activities	**Raise Awareness**	**Change Behavior**	**Load Reduction**	**Runoff Quality**	**Receiving Water Quality**
Model IPM	✓ Formal Policy					
Fertilizer Guidelines	P Formal Policy		✓Reduction in fertilizer use			
Training	✓ Track number/type of training sessions	P Surveys show improved knowledge				

Key:
✓ = Currently Achieved Outcome Level
P = Potentially Achievable Outcome Level

Figure C-5.1: Municipal Facility Prioritization; 2012-13 to 2016-17

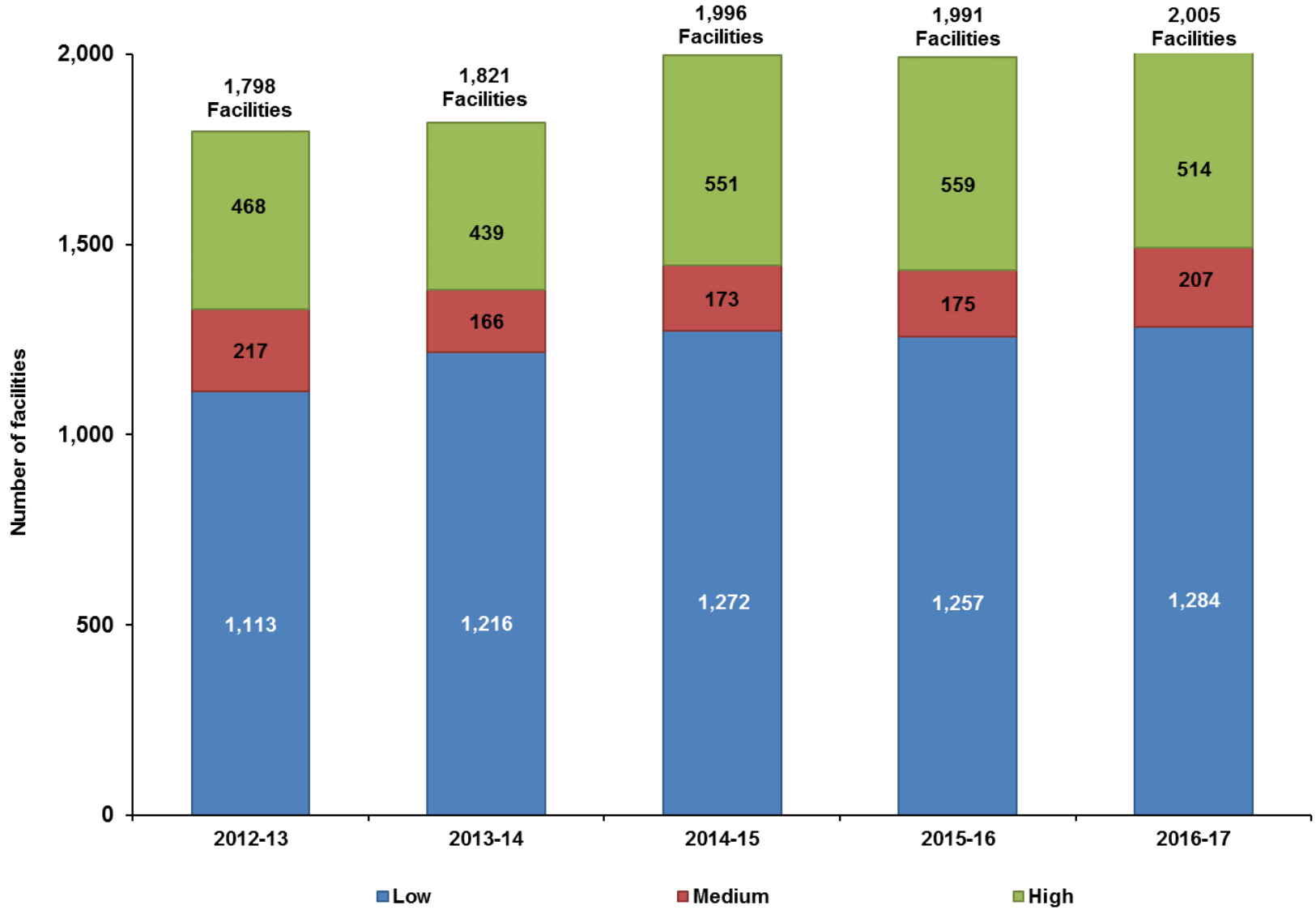


Figure C-5.2: Municipal Facility BMP Implementation; 2012-13 to 2016-17

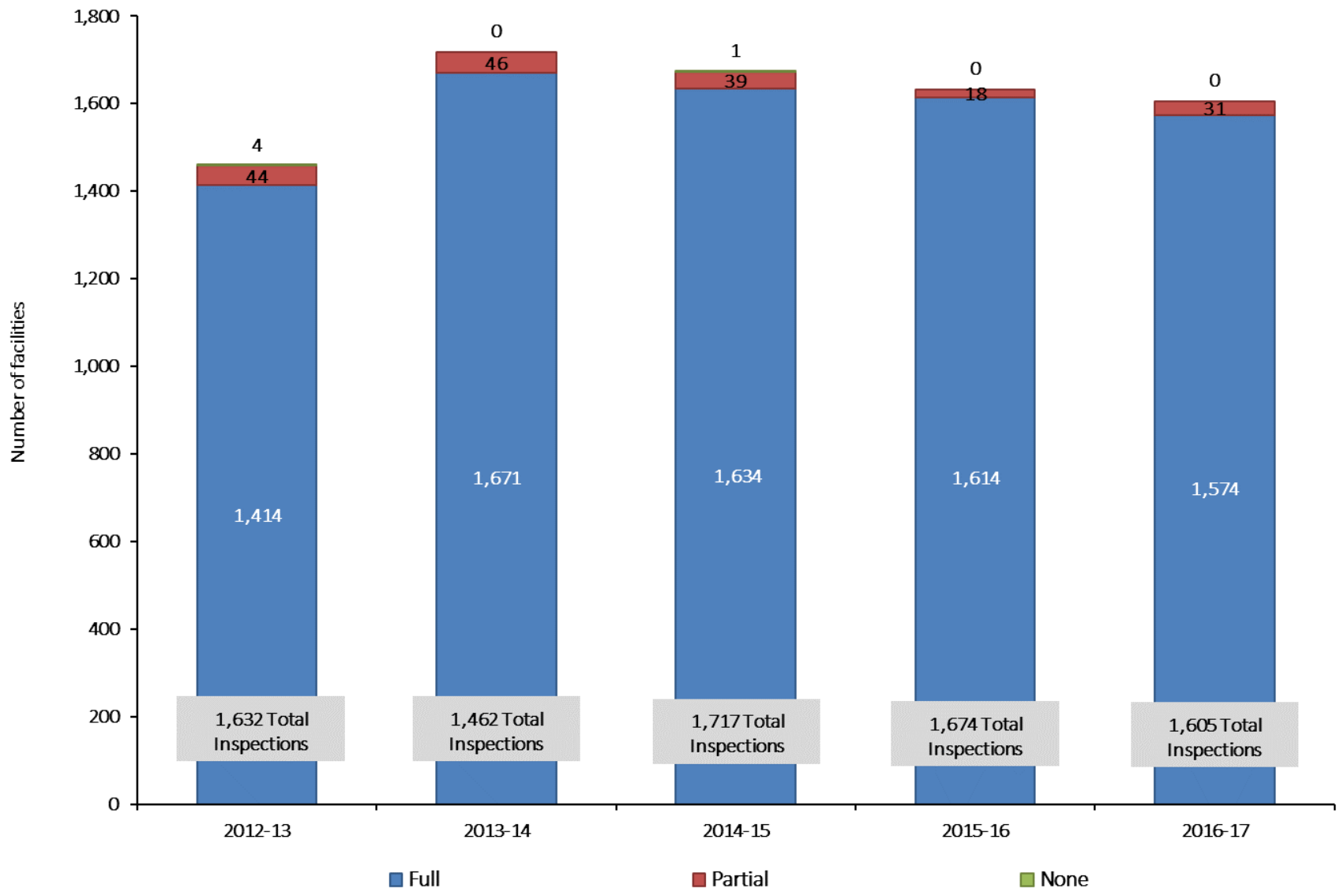
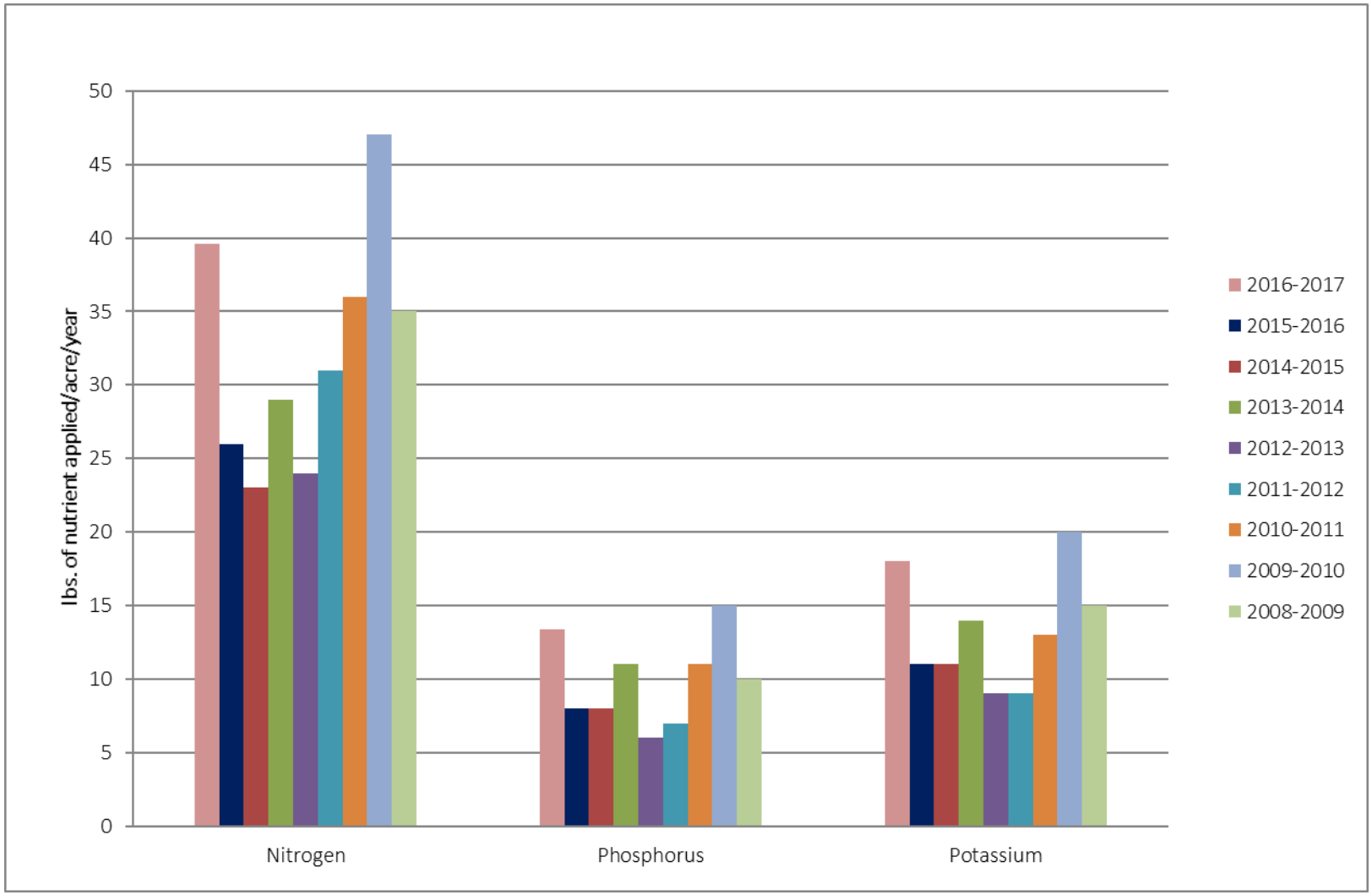


Figure C-5.3: Average N-P-K Application per Acre; 2008-09 to 2016-17



Figure

C-5.4: Use of Key Insecticides of Interest; 2008-09 to 2016-17

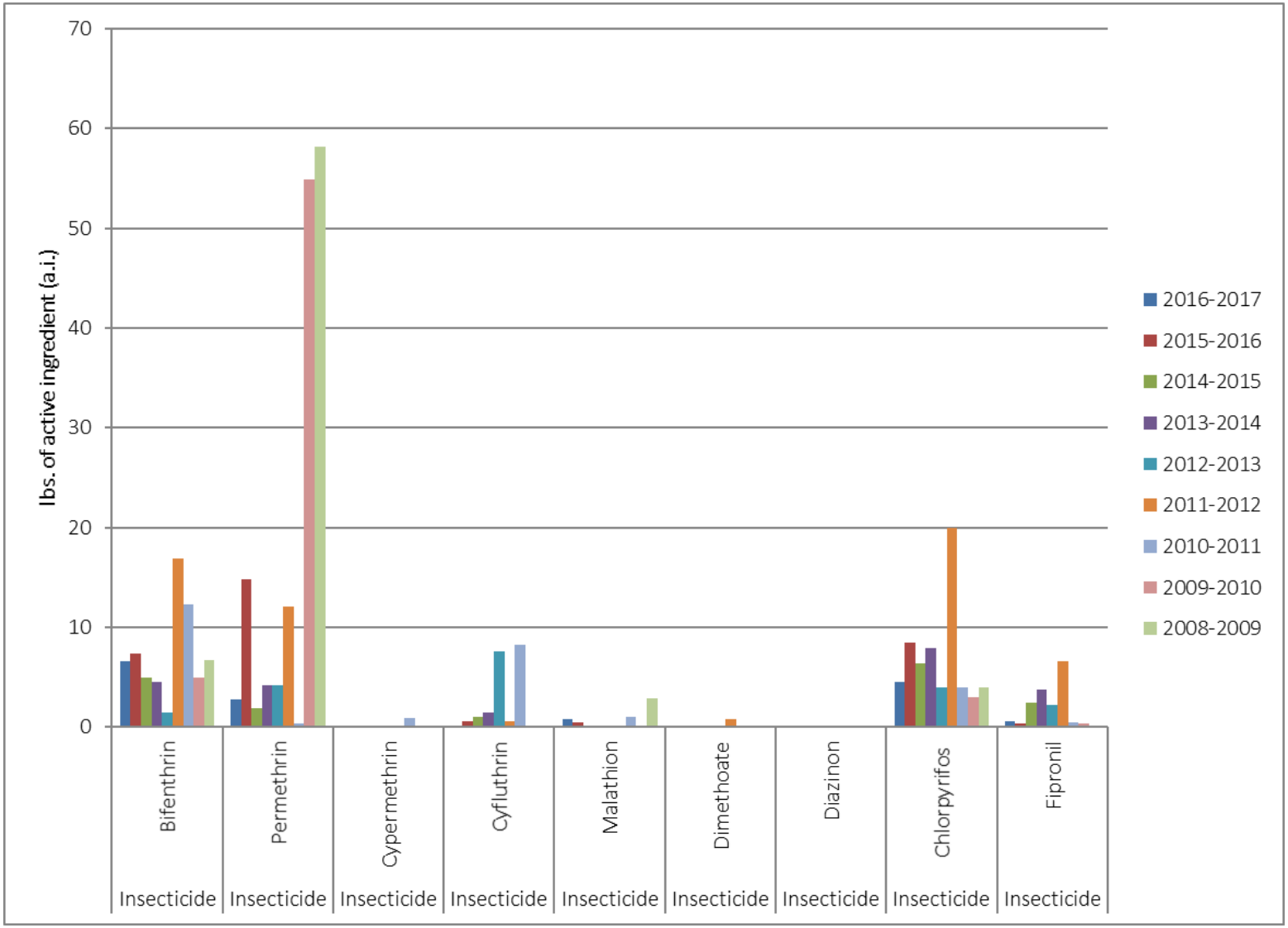
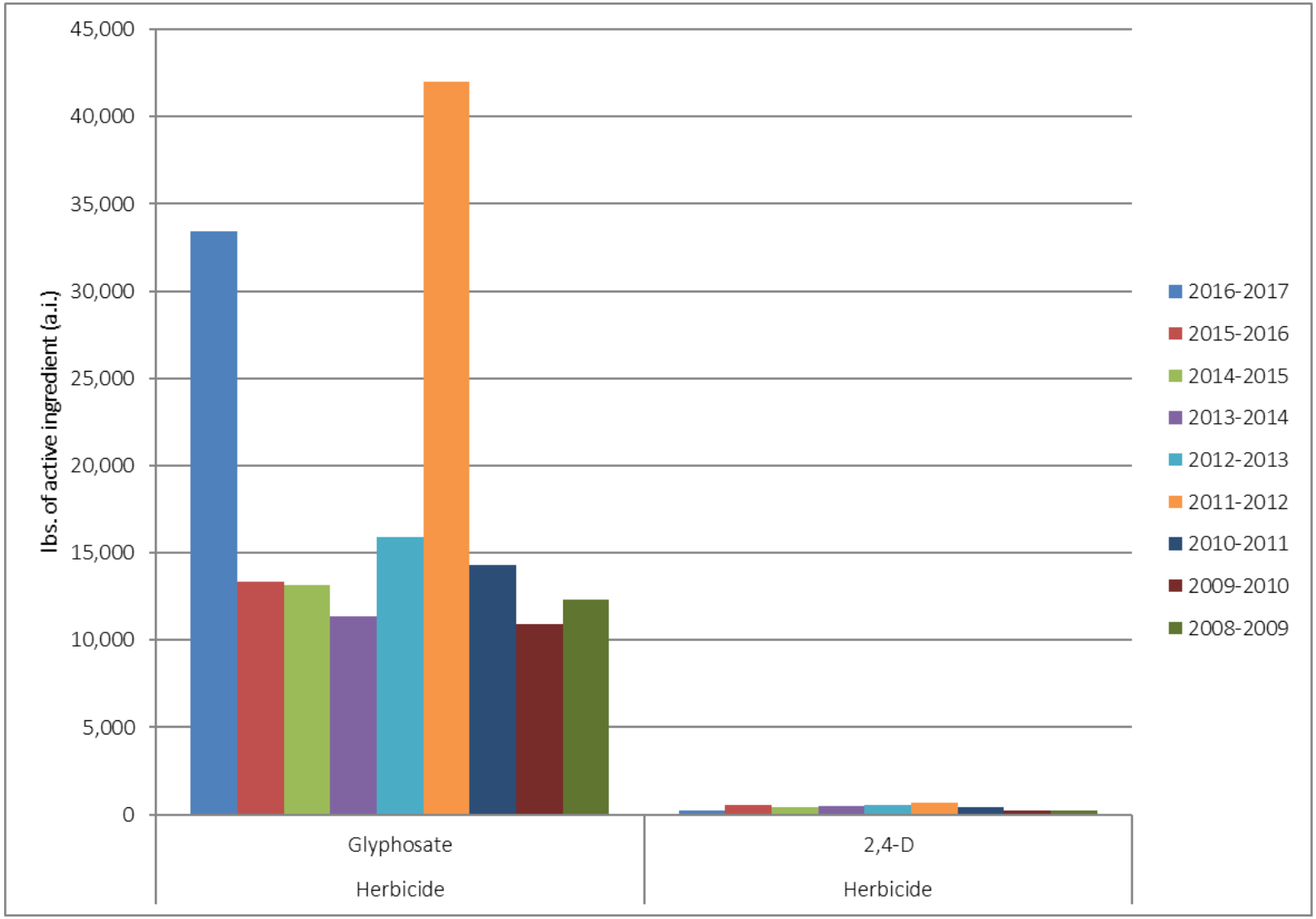


Figure C-5.5: Use of Key Herbicides of Interest; 2008-09 to 2016-17



Figure

C-5.6: Street Sweeping – Tons of Material Collected & Miles Swept; 2012-13 to 2016-17

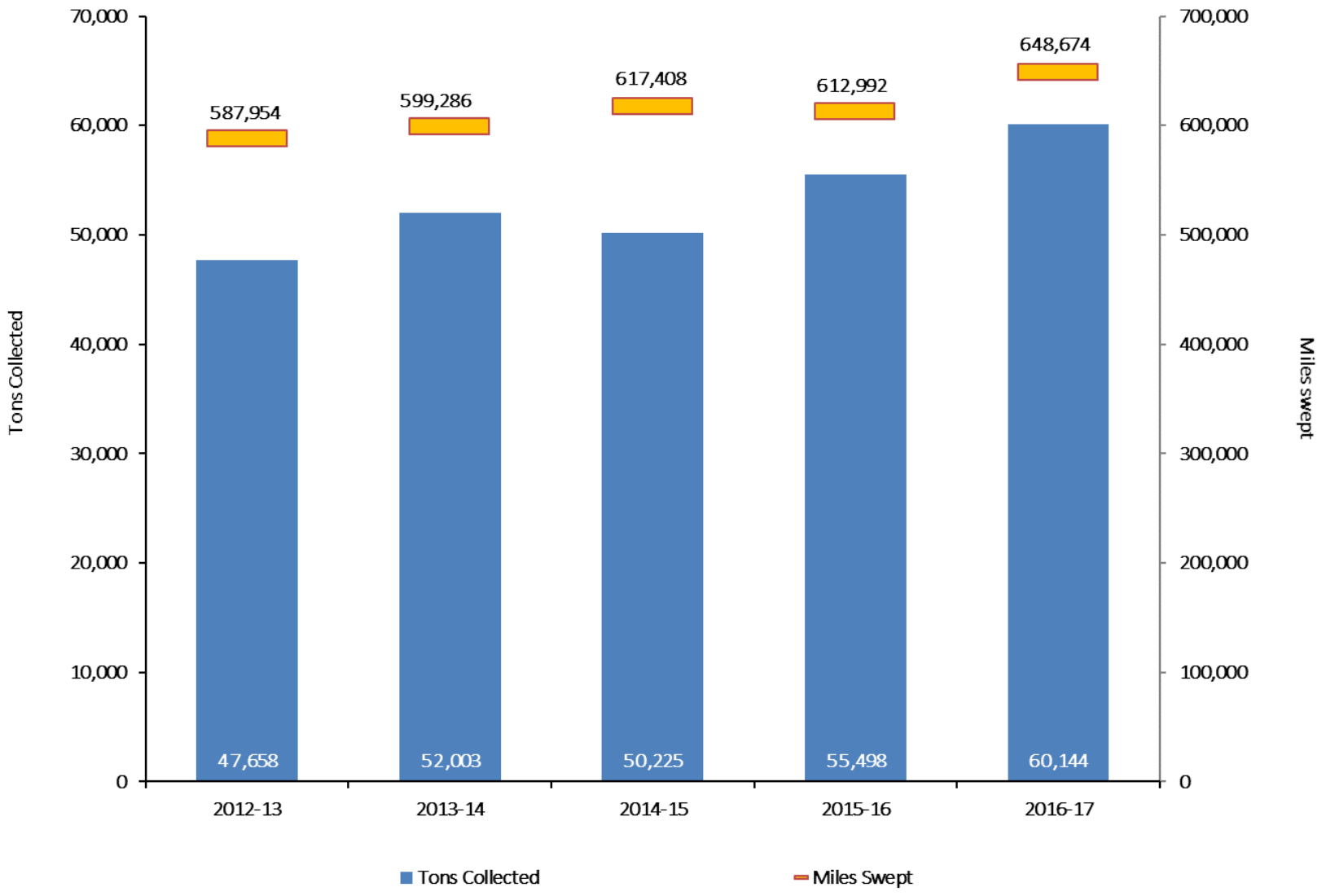


Figure C-5.7: Tons of Solid Waste Collected; 2012-13 to 2016-17

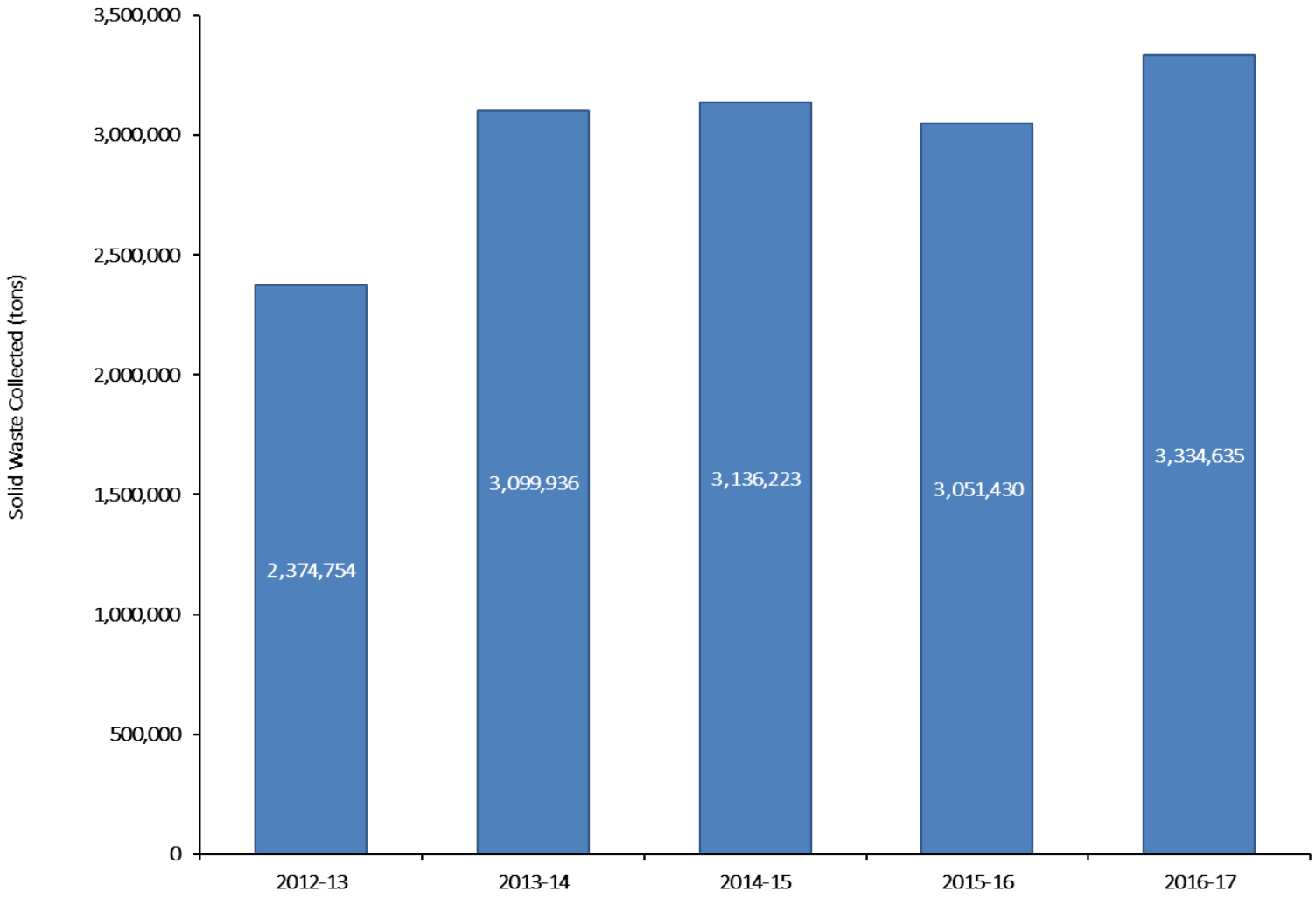


Figure C-5.8: Number of Catch Basins Re-stenciled; 2012-13 to 2016-17

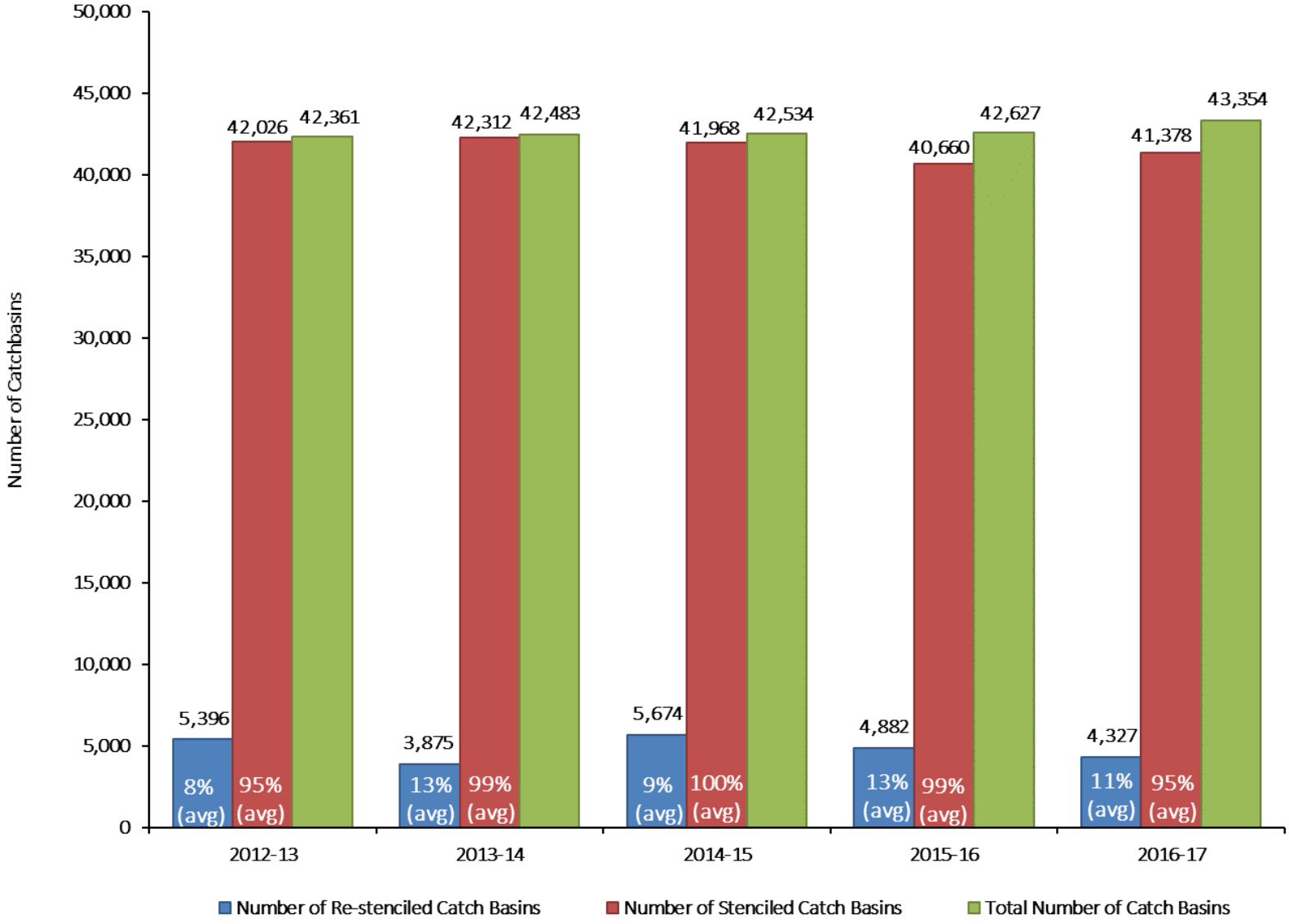


Figure C-5.9: Catch Basin Inventory – Number & Percentage of Catch Basins Inspected and/or Cleaned; 2012-13 to 2016-17

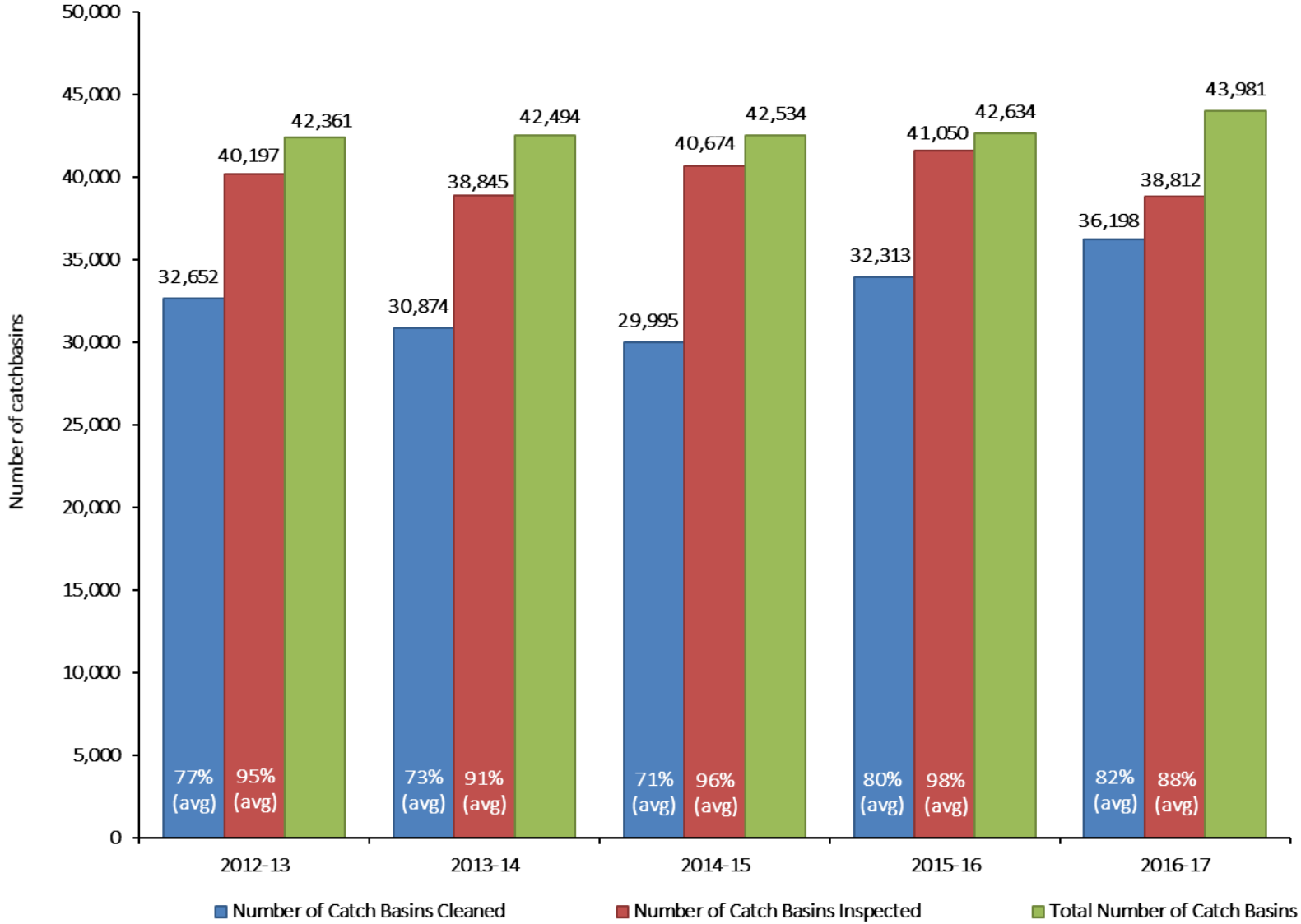


Figure C-5.10: Drainage Facility Maintenance – Tons of Debris Removed & Miles of Pipe Cleaned; 2012-13 to 2016-17

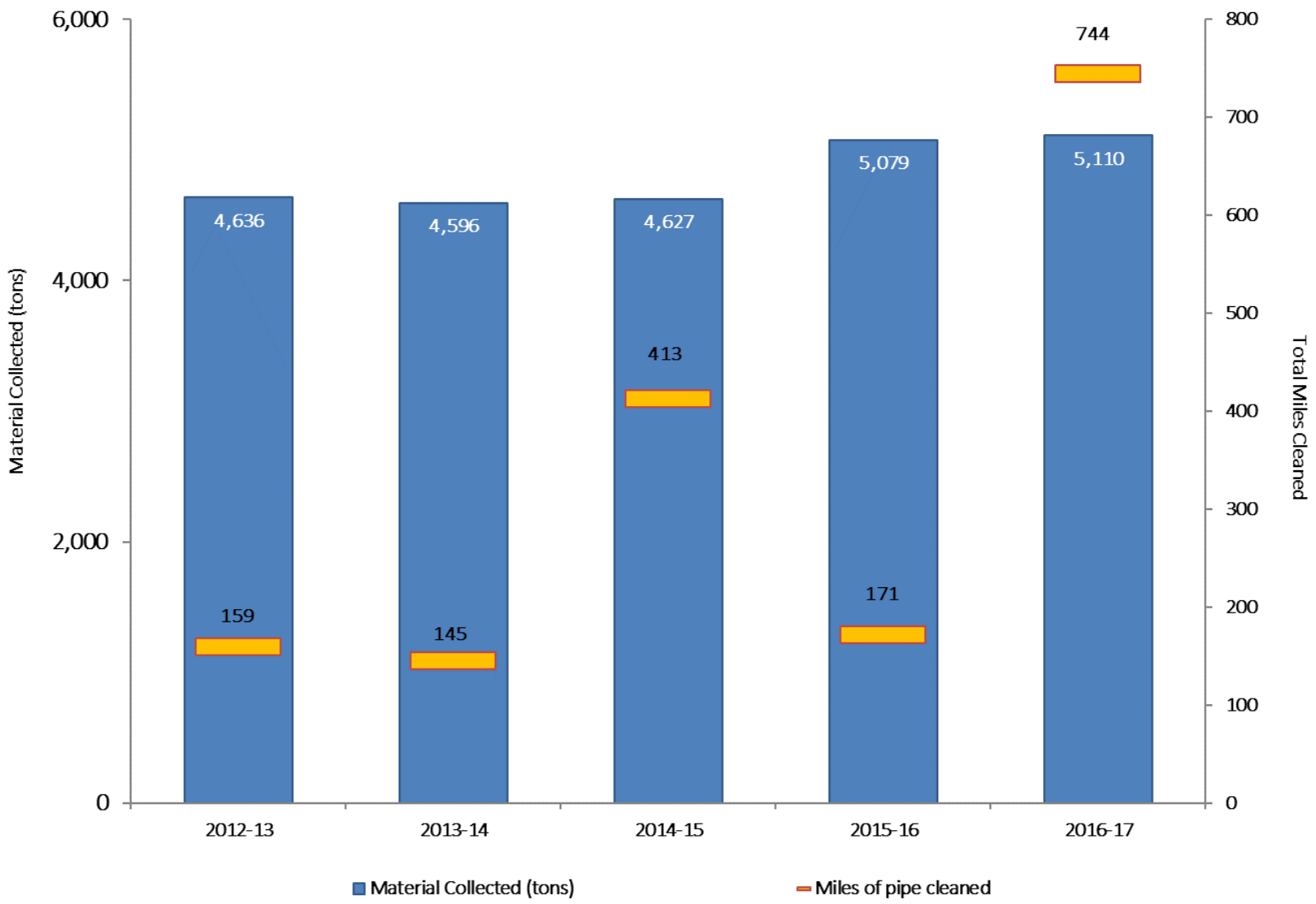


Figure C-5.11: Coastal and Inner Coastal Cleanup Day Statistics; 2012 to 2016

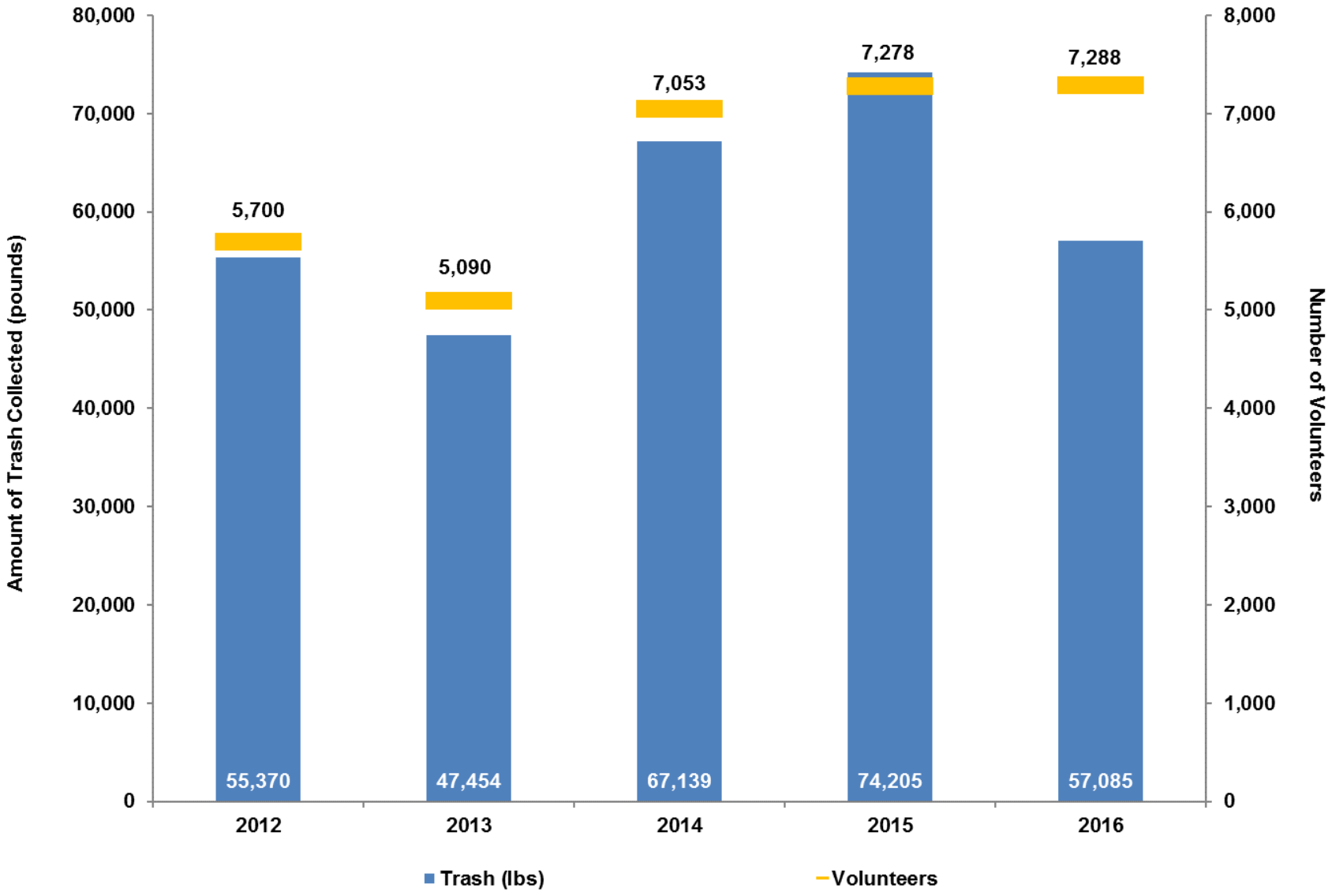
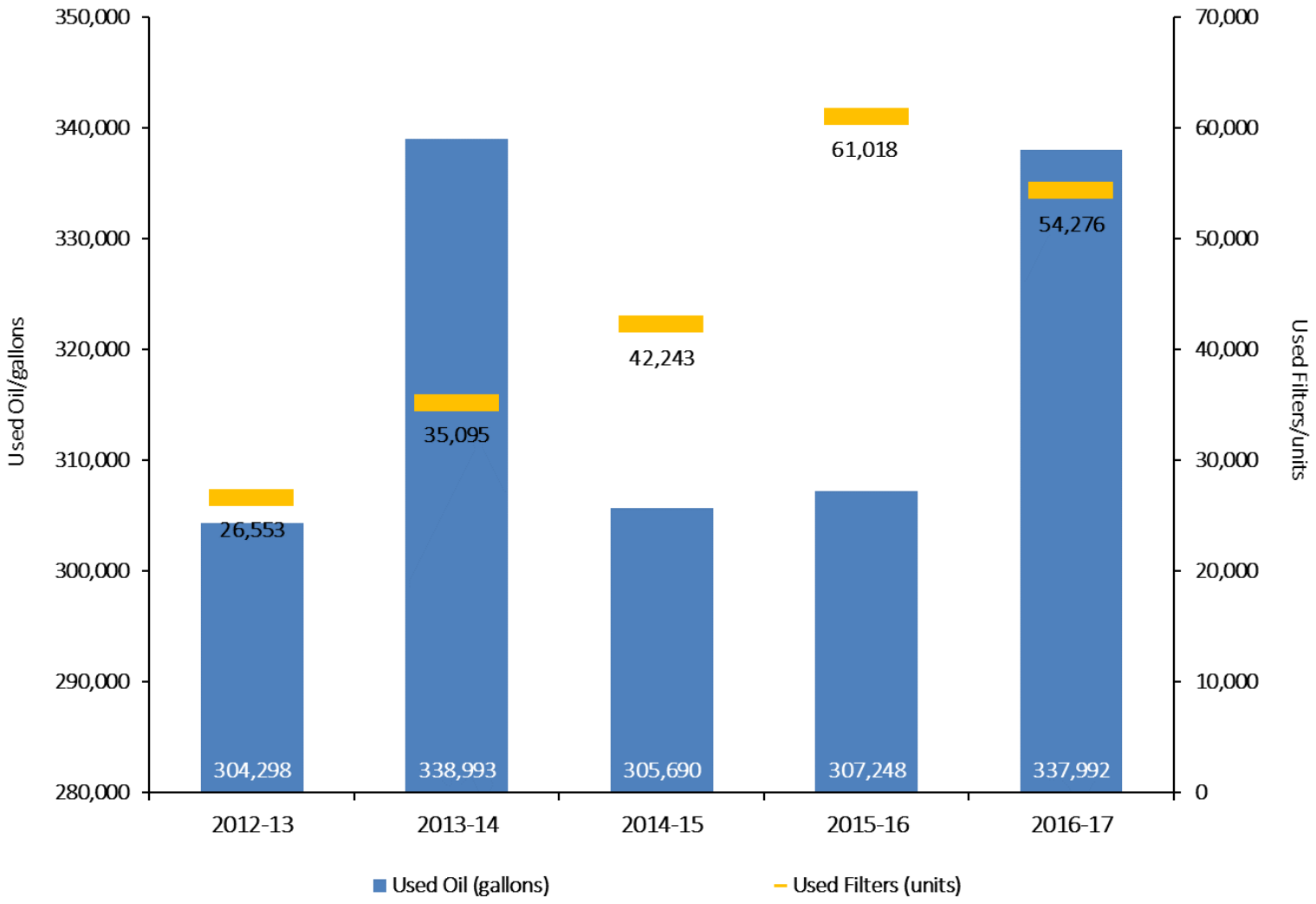



Figure C-5.12: Used Oil & Filters Collected; 2012-13 to 2016-17