Appendix O

Compliance with Section XIII.A & C

Section XIII.A of the 2010 National Pollutant Discharge Elimination System (NPDES) Municipal Separate Storm Sewer System (MS4) Permit (2010 MS4 Permit) requires an annual review of the public education and outreach efforts. Section XIII.C requires development of a program to conduct assessments of the public education and outreach program to measure the increase in awareness of the impacts of Urban Runoff on Receiving Water Quality and changes in behavior to reduce Pollutant releases to the MS4. The results of the review and assessments are to be used to direct the focus of the public education effort and cause recommendations for any changes to the public and business education program. During the 2009-2010 reporting period the Permittees advertised a Request for Proposals (RFP) to perform public education and outreach services to address these requirements. This RFP sought consultants experienced and qualified in implementing storm water public education programs to provide innovative and cost effective ways to address the public education and outreach requirements, including the requirements specified in sections XIII.A & C. The RFP required development of approaches to assist in complying with the requirements specified in section XIII, including providing recommendations on how to:

1. Make the multimedia efforts more effective;
2. Perform a reevaluation of audiences and key messages for targeted behaviors; and
3. Evaluate opportunities for participation in regional and statewide public education efforts.

The Public Education Committee evaluated the qualifications and proposals of the seven (7) public education consultants that responded to the RFP to select a consultant to perform the public education and outreach efforts for all three MS4 permit areas within Riverside County. The District is finalizing the contract scope of work, which incorporates the proposed program to conduct assessments of the public education and outreach program to measure the increase in awareness of the impacts of Urban Runoff on Receiving Water Quality and changes in behavior to reduce Pollutant releases to the MS4. Following finalization of the contract, task orders will be issued for implementation of the activities specified in sections XIII.A. & XIII.C. The proposed measurable goals for assessment of the effectiveness of the Public Education and Outreach Program are included in Attachment 1.

Compliance with Section XVII.A

Section XVII.A of the 2010 MS4 Permit requires the Permittees to evaluate the effectiveness of the Urban Runoff management program described in the DAMP to determine the need for any revisions in order to reduce Pollutants in MS4 discharges consistent with the MEP standard consistent with the reporting requirements in Appendix 3, Section IV.B of the 2010 MS4 Permit. In addition, the November 2010 Annual Report shall include the following:

1. Review of the formal training needs of Permittee employees.
2. Review of coordination meeting/training for the designated NPDES inspectors.
3. Proposal for assessment of Urban Runoff management program effectiveness on an area wide as well as jurisdiction-specific basis. Permittees shall utilize the CASQA Guidance for developing these assessment measures at the six outcome levels. The assessment measures must target both water quality outcomes and the results of municipal enforcement activities consistent with the requirements of Appendix 3, Section IV.B.

Following is the required review of formal training needs and Urban Runoff Management Program effectiveness proposal as described above:

Review of Formal Training including NPDES Inspector Training

The Permittee Employees currently receive formal training on the following items:

- **Training for Enforcement**
  Training is necessary for successfully implementing the Permittee's enforcement/ compliance programs so that staff can continue to recognize and respond to violations in an appropriate manner. Therefore, staff involved in implementing each Permittee's enforcement/compliance program are made aware of the local, state, and federal storm water regulations and the procedures developed to enforce these regulations. Permittees provide storm water training to staff that are involved in inspections of Industrial Facilities, Commercial Facilities, and Construction Sites, enforcement of Storm Water Ordinances and erosion control ordinances, administration of the enforcement/compliance program, and other staff as appropriate.

  Staff training addresses the following areas as appropriate:

  - Requirements of the federal, state, and Co-Permittee storm water and erosion control ordinances;
  - Requirements of the MS4 Permit and latest version of the DAMP, including the requirements of the Enforcement/Compliance Strategy; and
  - Requirements of the General Permit-Industrial and General Permit-Construction.

  Industrial Facility, Commercial Facility and Construction Site inspectors also receive training regarding the requirement for storm water pollution prevention plans (SWPPPs) for Construction Sites, and selection of appropriate BMPs for Industrial

Facilities, Commercial Facilities and Construction Sites. Knowledge of the applicable requirements and the overall storm water program helps inspectors and other staff to recognize potential violations, to respond with appropriate levels of enforcement, and to effectively coordinate with other agencies. (2002 SAR MS4 Permit)

- **Training for Municipal Maintenance Employees**
  Staff that are involved in implementing a Permittee's municipal maintenance program receive training on the following topics at least once every two (2) years:

  - Requirements of the MS4 Permit and DAMP;
  - Municipal BMPs as described in Section 5.3.2 of the DAMP;
  - Fertilizer and pesticide management;
  - Municipal Facilities Pollution Prevention Plan; and
  - Other applicable Pollution control measures.

  In addition, staff responsible for restricted use pesticide application are trained and certified under the Federal Insecticide Fungicide and Rodenticide Act (FIFRA) requirements and the California Food and Agriculture Code.

- **Training Programs for Municipal Development Planning Staff**
  Permittee staff that are responsible for implementing development planning requirements receive annual training regarding the following topics:

  - Federal, state and local water quality laws and regulations applicable to development projects;
  - The connection between land use decisions and short and long-term water quality impacts; and
  - How impacts to receiving water quality resulting from development can be minimized via the WQMP process.

- **Training Programs for Construction Site Inspectors**
  Permittee staff responsible for conducting Construction Site inspections receive annual training regarding the following topics:

  - A summary of federal, state and local regulations (including the General Permit-Construction, MS4 Permit, and the DAMP) that impact construction activities;
  - Proper selection and maintenance of BMPs necessary to meet requirements of Co-Permittee Storm Water Ordinances and other local ordinances, resolutions and codes related to the protection of water quality, including erosion and sediment control;
  - Enforcement and Compliance strategy for Construction Sites; and
  - How to identify Construction Sites subject to the General Permit-Construction and what actions to take if coverage has not been obtained by the Construction Site owner.

The Co-Permittees ensure that newly hired or transferred Construction Site inspection staff receive training within six (6) months of starting inspection duties. Formal or informal refresher training focused on appropriate BMP implementation is provided at least annually prior to the rainy season. Also, when planning formal classroom training related to conducting inspections of Construction Sites, the Co-Permittees notify and coordinate with Regional Board staff.

- **Training for Industrial/Commercial Facility Inspectors**
  Co-Permittee staff and contractor personnel responsible for conducting Industrial and Commercial Facility inspections or follow-up inspections receive annual training regarding the following topics:

  - Selection, implementation, and maintenance of appropriate or minimum BMPs for Industrial or Commercial Facilities;
  - The General Permit-Industrial and NOI requirements;
  - The Enforcement and compliance strategy for Industrial and Commercial Facilities; and
  - The 2010 MS4 Permit and the DAMP.

  The Co-Permittees ensure that newly hired or transferred Industrial/Construction Facility inspection staff receive training within six (6) months of starting field duties. Formal or informal refresher training focused on appropriate BMP implementation is provided at least annually prior to the rainy season. Also, when planning formal classroom training related to conducting inspections of Industrial and Commercial Facilities, the Co-Permittees notify and coordinate with Regional Board staff.

- **Training for Residential Sources Program**
  Training for responding to complaints where an inspector observes that a residence is non-compliant with the Co-Permittee's Storm Water Ordinance (including the prohibition of non-exempt non-storm water discharges) is addressed above under Training for Enforcement.

Training Needs

In negotiating the 2010 SAR MS4 Permit the Permittees and Regional Board staff identified training needs, which were included as new compliance requirements. By January 29, 2012, the DAMP and each Permittee's LIP will be updated to include a program to provide formal and where necessary, informal training to Permittee staff that implement the provisions of the 2010 MS4 Permit. Formal training will be implemented as described in section XV of the 2010 MS4 Permit and may consist of regional training provided by the Permittees or individual Co-Permittee training provided in-lieu of Principal Permittee training. Informal training (i.e. tailgate training) will be implemented by each Permittee on an as-needed basis to supplement the formal training (XV). Each Permittee will identify departments and positions requiring training in their LIPs (IV.A.12). The Permittees integrate IC/ID detection and elimination into their training of

Permittee inspection program and monitoring data collection staff (IX.F). The Permittees track, monitor, and maintain training records of all personnel involved in the implementation of the Principal Permittee's Urban Runoff management program (III.A.2.g). The training programs will be coordinated with the appropriate local Vector Control District to ensure that vector control issues related to post-construction BMPs maintenance and operation are incorporated into the training curriculum (XV.B).

Proposed Overall Urban Runoff Management Program Effectiveness Assessment Strategy

The purpose of the overall program assessment is to ensure that the Permittee's programs continue to be effective at managing the effects of Urban Runoff on Receiving Water quality as required under section IV.B.2.e of Appendix 3 of the 2010 MS4 Permit. To achieve this objective, the Permittees have developed a proposed framework for an overall program effectiveness assessment strategy for both the Regional as well as Permittee-specific assessments that will be submitted as an element of future Annual Reports. The overall program effectiveness assessment is an iterative process as depicted in Figure 1.

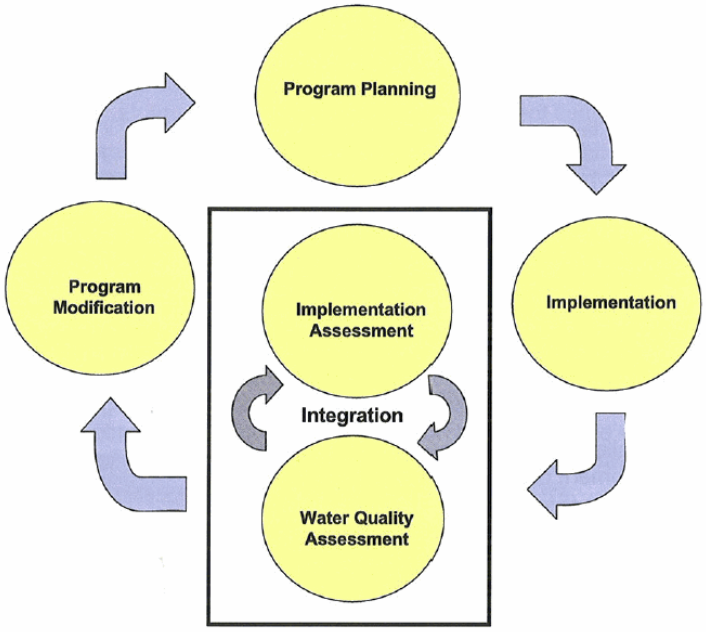


Figure 1

The overall program effectiveness assessment strategy is based on information in the "Municipal Stormwater Program Effectiveness Assessment Guidance" developed by CASQA in May 2007, and includes the establishment of:

- Measurable metrics that will be collected annually to assess the effectiveness of the programmatic BMPs that are being implemented. These metrics generally involve: Confirmation of activities, Tabulation of data, Surveys of the public, results from Inspections or site visits, Quantification, and information from the Monitoring program.

- CASQA Outcome Levels for each metric; to indicate how each metric can demonstrate the effectiveness of the Permittee's programs (as described below). Data collected through program implementation will be used to assess Level 1 – 4/5 outcomes. The results from the

monitoring program will be used to identify water quality trends to evaluate Level 5 & 6 Outcomes

- Timeframes in which the Permittees expect to be able to assess effectiveness using each metric. If a desired outcome is not attained within the specified timeframe, the Permittee(s) will re-assess the BMP to identify any improvements that may be needed to improve their ability to detect and attain the outcome.

The CASQA Effectiveness Levels are:

Level 1 – Documenting activities. Level 1 Outcomes provide the program managers with direct feedback on whether the control measures are being developed and implemented as planned and on schedule. Level 1 Outcomes are assumed to be beneficial to water quality and reflect program implementation and are not indicators of the impact of implementation on the environment.

Level 2 – Raising awareness. Level 2 Outcomes provide program managers with feedback on how effective the control measures have been in raising awareness and changing attitudes of target audiences. Level 2 Outcomes are assumed to be beneficial to the environment as increased awareness and attitudinal changes provide the basis for behavioral change.

Level 3 – Changing behavior. By building on Level 2, Level 3 Outcomes provide program managers with feedback on how effective the program elements and control measures have been in motivating target audiences to change their behaviors and implement appropriate BMPs. At Level 3, control measures focus on providing information and incentives for target audiences to take action by changing behavior and implementing recommended BMPs. Both quantitative (i.e., statistically valid) and qualitative methods are used to measure behavior changes. Methods used to measure behavior changes include those used for Level 2 Outcomes as well as direct observation via site visits. Level 3 Outcomes may take the form of a percent and/or change in the percentage of the target audience demonstrating that a behavior change has occurred such as an increase in number of BMPs implemented and maintained at construction sites.

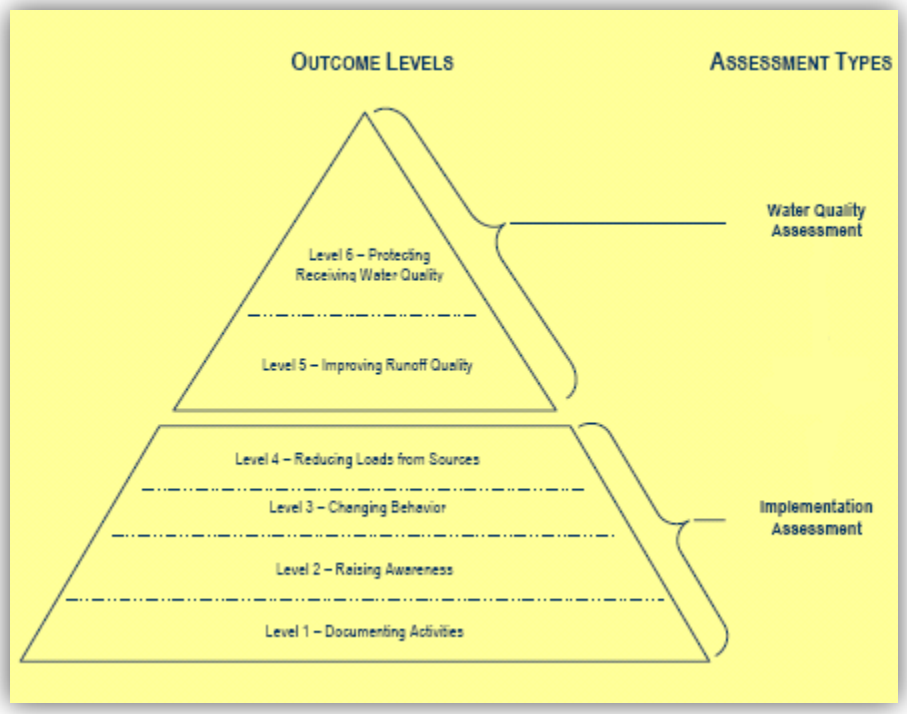
Level 4 – Reducing loads from sources. Level 4 Outcomes provide program managers with feedback regarding reductions in the amounts of pollutants associated with specific sources resulting from the implementation or enhancement of a BMP. If a large enough portion of the target audience is moved to take action (Level 3), loads into the MS4 are prevented. At Level 4, programs collect data to allow estimation of loads from pollutant sources that are prevented from being either generated or discharged into the MS4.

Level 5 – Improving runoff quality. Level 5 Outcomes may be measured as reductions in one or more specific pollutants, and may reflect effectiveness at a variety of scales ranging from site-specific to programmatic. Over time, as loads are prevented from entering the MS4, urban runoff and discharge quality are expected to improve. At Level 5, baseline measurements of runoff quality should be measured to allow comparison. Multi-year data sets are needed to have any confidence in the measured change.

Level 6 – Protecting Receiving Water quality. At Level 6, program managers will focus on Outcomes such as compliance with Water Quality Standards, protection of biological integrity, and Beneficial Use attainment. Regardless of the Outcomes targeted, Receiving Water quality usually reflects more than the quality of MS4 discharges. Other influences may have a significant impact on Receiving Water quality, including sanitary sewer overflows, rising groundwater, agricultural and other Non-Point Source discharges. Changes in Receiving Waters and the environment resulting from stormwater programs may only be seen over long periods of time that allow the cumulative impacts of multiple control measures and program elements to result in measurable change in water quality.

Categories of Assessments

The program elements addressed in the overall program effectiveness assessment can generally be broken down into two categories, implementation assessments, and water quality assessments, as shown in the figure below:



Implementation Assessments

In Attachment 1, the Permittees have identified implementation assessment metrics for each program area which can potentially demonstrate multiple outcome levels, as shown below:

Program Component	Potential Outcome Levels					
	1	2	3	4	5	6
IC/ID	X		X	X	X	
Permittee Facilities	X	X	X	X		
Development Planning	X		X			
Construction	X	X	X			
Industrial / Commercial	X	X	X			
Residential			X	X		
Public Education			X			X

*Public Education assessments will be developed as part of new Public Ed contract.

The 2010 MS4 Permit requires updates for many of the Permittees existing compliance programs, and the development of several new programs over the next few years. As the details of these additional program revisions are developed, the proposed framework for assessment can be further refined with additional or revised metrics. Upon approval and implementation of new/updated program elements, any revised metrics and effectiveness assessments will be collected and reported in the subsequent annual reports.

Water Quality Assessments

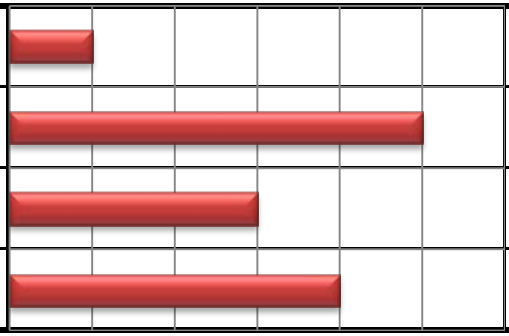
In addition to the implementation assessments identified above, data from the Monitoring program will be used to perform Water Quality Assessments addressing outcome levels 4, 5 and 6. The revised CMP, which will describe the monitoring program that will collect the necessary data, is being developed and will be submitted to the board by May 29, 2011.

Assessment Strategy

The data for each metric will be provided by each Permittee as a progress report to the Regional Board with each Annual Report. Each metric will be evaluated for attainment of the various CASQA outcome levels upon completion of the identified timeframe. Based on the findings of this evaluation, Permittee-specific (LIP) and/or regional program element (DAMP) modifications may be made to improve the effectiveness of the implemented BMP.

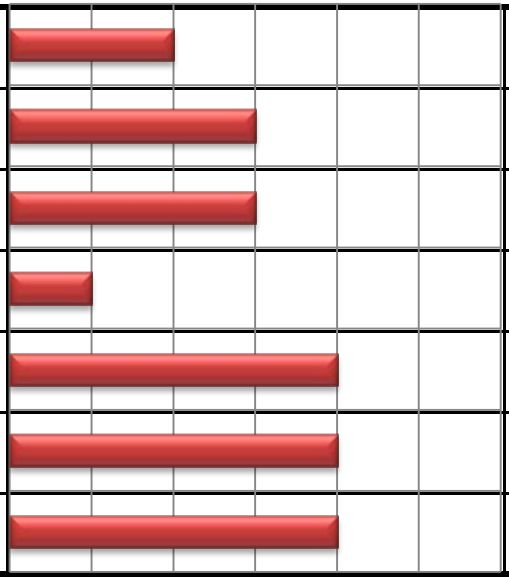
The continued implementation of the BMPs required in this Order are anticipated to result in incremental, but overall improvement in the metrics that may or may not be discernable within the term of this permit, however this assessment program is intended to be an iterative process that can transcend permit terms, to ensure that improvements are made consistent with the MEP standard.

Elimination of IC/IDs and Waste Effectiveness Assessments

Measureable Metrics Collected / Compiled Annually	Highest Potential CASQA Outcome Level 1 - Documenting Activities 2 - Raising Awareness 3 - Changing Behavior 4 - Reducing Loads 5 - Improving Runoff Quality 6 - Protecting Receiving Water Quality		Timeframe to Determine Outcome
Number of IC/ID reports received (IX.A)	1		Annual
Percentage/Number of IC/IDs that were sampled that exceeded criteria and required follow-up (IX.A)	5		Permit Term
Percent/Number of enforcement actions that reached each level of enforcement (IX.C)	3		Permit Term
Estimated volume of anthropogenic trash removed from Permittee MS4 facilities (cubic yards) (IX.J)	4		Annual

Permittee Facilities and Activities Program Effectiveness Assessments

Measureable Metrics Collected / Compiled Annually	Highest Potential CASQA Outcome Level 1 - Documenting Activities 2 - Raising Awareness 3 - Changing Behavior 4 - Reducing Loads 5 - Improving Runoff Quality 6 - Protecting Receiving Water Quality	Timeframe to Determine Outcome
Percent/Number of Permittee facilities with appropriate BMPs identified (XIV.B)	2	Permit Term
Percent/Number of annual facility inspections that require follow-up actions (XIV.C)	3	Permit Term
Average percent/number of follow-up actions identified in the previous year's Permittee facility inspections that were addressed (XIV.C)	3	Permit Term
Number of Permittee facility and MS4 operators and maintenance staff that attended Municipal training (XV)	1	Annually
Estimated tons of Waste removed by Permittee street sweeping (XIV.D & XIV.E)	4	Annually
Estimated tons of Waste removed from Permittee Open Channels (XIV.D & XIV.E)	4	Annually
Estimated tons of Waste removed from Permittee storm drain inlets (XIV.D & XIV.E)	4	Annually



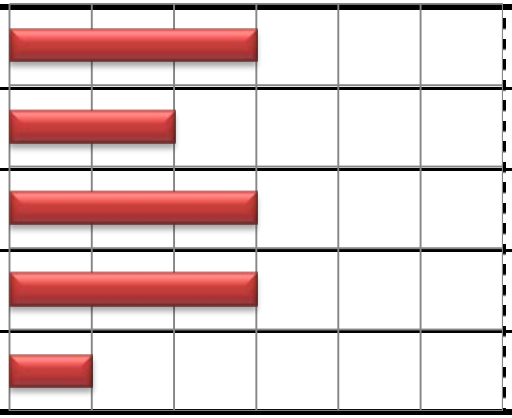
Development Planning Effectiveness Assessments

Measureable Metrics Collected / Compiled Annually	Highest Potential CASQA Outcome Level 1 - Documenting Activities 2 - Raising Awareness 3 - Changing Behavior 4 - Reducing Loads 5 - Improving Runoff Quality 6 - Protecting Receiving Water Quality		Timeframe to Determine Outcome
Number of acres of Significant **Redevelopment** projects that incorporated LID-based BMPs that are built and completed (XII.D.2.a) *	5		Permit Term
Number of applicable planning staff that attended WQMP training (XV)	1		Annually
Number of post construction BMPs properly maintained and operated (XII.K.5)	3		Permit Term

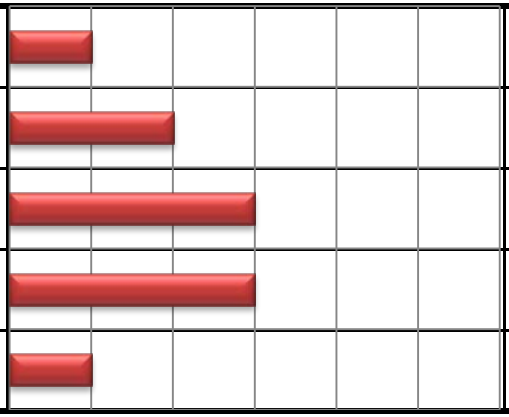
* *Redevelopment of existing sites is understood to have a Level 5 outcome, based on the implementation of updated stormwater controls such as LID on sites that otherwise may have had the potential to discharge a higher level of pollutants. However the Permittees recognize that the improvements in runnoff quality that are expected from redeveloped sites cannot be directly quantified.*

Private Development Construction Activity Effectiveness Assessments

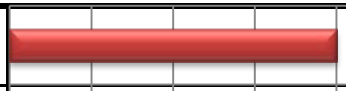
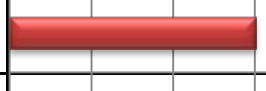
Measureable Metrics Collected / Compiled Annually	Highest Potential CASQA Outcome Level 1 - Documenting Activities 2 - Raising Awareness 3 - Changing Behavior 4 - Reducing Loads 5 - Improving Runoff Quality 6 - Protecting Receiving Water Quality	Timeframe to Determine Outcome
Number of illegal construction sites that are discovered (i.e. without building/grading permits) (XI.B.3.a)	3	Permit Term
Percent/Number of active construction sites subject to Construction General Permit that are discovered without coverage (XII.A.1)	2	Permit Term
Percent/Number of active High/Medium priority sites subjected to enforcement beyond verbal/written warnings (XI.A.10)	3	Permit Term
Percent/Number of enforcement actions that reached each level of enforcement (XI.A.10)	3	Permit Term
Number of construction inspection staff that attended Construction training (XV)	1	Annually



Industrial and Commercial Sources Effectiveness Assessments

Measureable Metrics Collected / Compiled Annually	Highest Potential CASQA Outcome Level 1 - Documenting Activities 2 - Raising Awareness 3 - Changing Behavior 4 - Reducing Loads 5 - Improving Runoff Quality 6 - Protecting Receiving Water Quality		Timeframe to Determine Outcome
Industrial & Commercial Facilities updated with new/undocumented facilities (XI.C, XI.C.4)	1		Annually
Percent/Number of active industrial sites subject to Industrial General Permit that are discovered without coverage (XI.A.4)	2		Permit Term
Percent/Number of active High/Medium priority sites subjected to enforcement beyond verbal/written warnings (XI.A.10 & XI.D.5)	3		Permit Term
Percent/Number of enforcement actions that reached each level of enforcement (XI.A.10)	3		Permit Term
Number of applicable Industrial & Commercial Facility inspection staff that attended Industrial-Commercial training (XV)	1		Annually

Residential Sources Effectiveness Assessments

Measureable Metrics Collected / Compiled Annually	Highest Potential CASQA Outcome Level 1 - Documenting Activities 2 - Raising Awareness 3 - Changing Behavior 4 - Reducing Loads 5 - Improving Runoff Quality 6 - Protecting Receiving Water Quality		Timeframe to Determine Outcome
Gallons of used oil collected at collection events (XI.E.3)	4		Permit Term
Total pounds collected at HHW/ABOP events (XI.E.3)	4		Permit Term
Total number of participants at HHW/ABOP events (XI.E.3)	3		Permit Term
Percent/Number of residences in Permittee jurisdiction subjected to enforcement beyond verbal/written warnings (XI.E.5)	3		Permit Term

Public Education Effectiveness Assessments

Measureable Metrics Collected / Compiled Annually	Highest Potential CASQA Outcome Level 1 - Documenting Activities 2 - Raising Awareness 3 - Changing Behavior 4 - Reducing Loads 5 - Improving Runoff Quality 6 - Protecting Receiving Water Quality	Timeframe to Determine Outcome
Schools: Number of Schools Visited	3	Annually
Schools: Number of Students Educated	3	Annually
Schools: Percent Positive vs. Negative Teacher Evaluations	3	Annually
Pounds of Trash Collected at Clean-Up Events	6	Annually
Businesses: Number of Partner Stores Outreached	3	Annually
Businesses: Number of Materials Distributed	3	Annually
Businesses: Commitment Letters Signed and Email Addresses Received	3	Annually
Businesses: Number of Employees Trained	3	Annually
E-Newslestter: Open and Click Rates	3	Annually