

Jurisdictional Runoff Management Program

11	EFFECTIVENESS ASSESSMENT COMPONENT.....	1
11.1	Introduction.....	1
11.2	Effectiveness Assessment Approach.....	1

Attachment 11.1 – Water Quality Improvement Plan Goals (April 2015)

11 EFFECTIVENESS ASSESSMENT COMPONENT

11.1 INTRODUCTION

The overall goal of the Effectiveness Assessment Component is to describe a strategy for assessing the County's urban runoff management activities. This strategy will address particular areas of activity for the Jurisdictional Runoff Management Program (JRMP) with an objective of supporting evaluation and periodic adaptation of Water Quality Improvement Plans (WQIPs).

11.2 EFFECTIVENESS ASSESSMENT APPROACH

JRMP components will be coordinated with WQIP targets and strategies during reporting and assessment to ensure that the objectives of each are mutually supportive. This will include the following general components:

- Receiving Water Monitoring and Assessment,
- MS4 Monitoring and Assessment,
- Development Planning Component (Section 3),
- Construction Component (Section 4),
- Existing Development Component (Section 5), and
- Illicit Discharge Detection and Elimination Component (Section 6).

Assessments of individual program components will include a variety of outcome types as applicable to the specific objectives of each, and as described in *A Strategic Approach to Planning for and Assessing the Effectiveness of Stormwater Programs* published by the California Stormwater Quality Association (CASQA) in February 2015. "Outcomes" are measurable endpoints associated with programs, people, and physical systems. They are the building blocks of the management approach described by CASQA. Outcomes establish the measurability and structure needed to successfully complete the various tasks conducted during the planning, implementation, and assessment of stormwater management programs. Because multiple outcomes must typically be considered when planning and assessing programs, it's helpful to place them within a logical and understandable context as described by CASQA. Figure 11.1 illustrates this framework, and provides general examples of the types of outcomes associated with each level.

As shown, outcomes are grouped according to six categories. Starting with Level 1 and moving sequentially toward Level 6, they represent a general progression of conditions that are assumed to be related in a sequence of causal relationships. That is, conditions at any one level may influence conditions at the next highest level. For example, knowledge and awareness (Level 2) in target audiences will likely influence their behaviors (Level 3). The County will use the general CASQA framework to guide the planning and assessment of its programs.

Jurisdictional Runoff Management Program

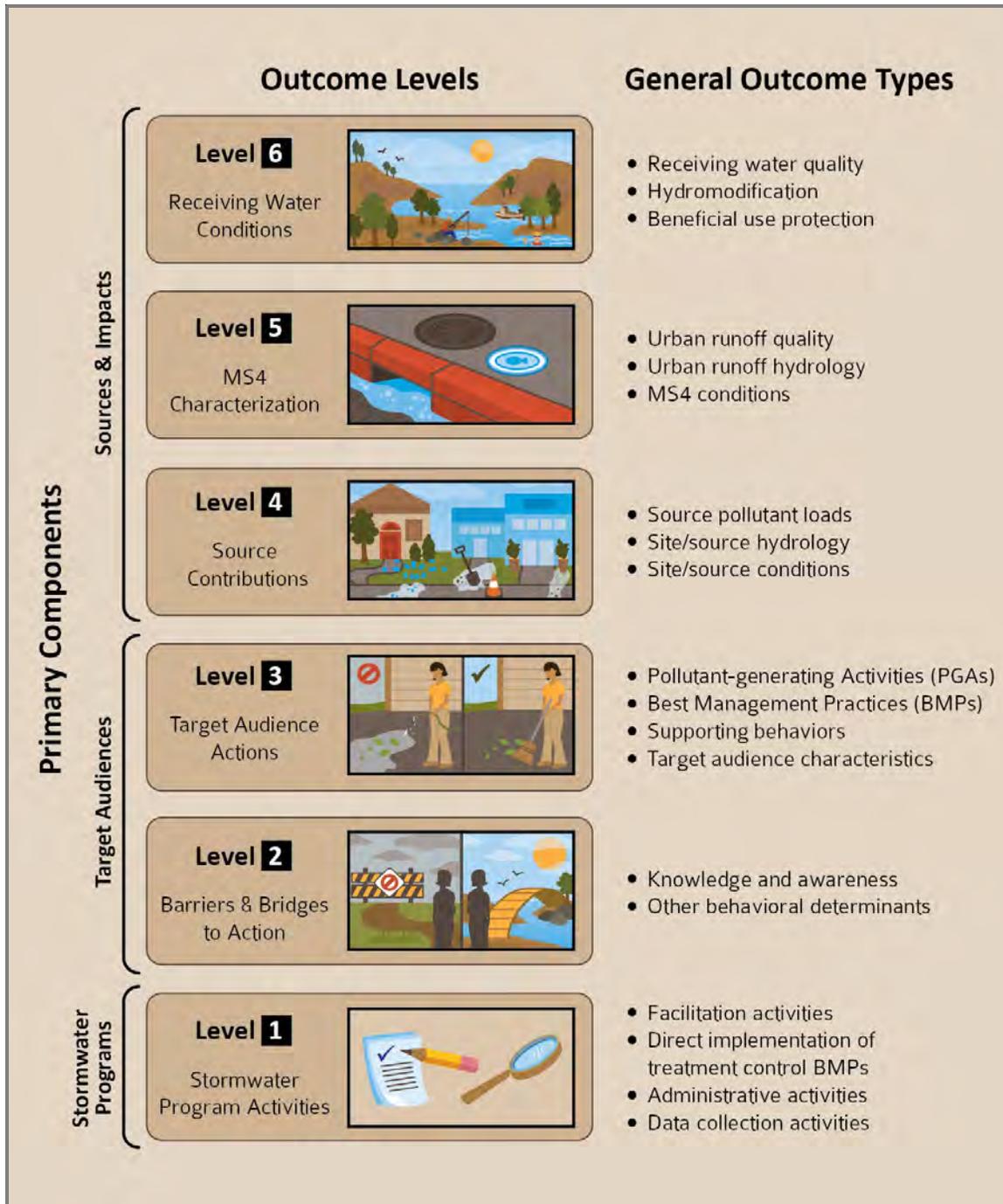


Figure 11.1: CASQA Outcome Levels and Examples (Source: A Strategic Approach to Planning for and Assessing the Effectiveness of Stormwater Programs, CASQA February 2015)

Monitoring programs typically apply to outcome levels 5 (MS4s) and 6 (receiving waters). Changes to the level 5 and 6 monitoring and assessment program will be described as applicable in WQIP Annual Reports. Changes in assessment requirements for JRMP elements will be identified as applicable to the Assessment Component of the JRMP or other implementing plans and reports.

Jurisdictional Runoff Management Program

Each WQIP identifies specific long-term goals for its respective Watershed Management Area (WMA). Interim WMA targets for the current MS4 Permit cycle (i.e., through FY 2017-18) are also identified. WQIP goals are typically established for receiving waters (level 6) and MS4s (level 5). These conditions are periodically assessed through the County's monitoring programs. Changes to monitoring programs will be described as applicable in WQIP Annual Reports. Assessment of identified source components occurs as part of the ongoing implementation and review of JRMP elements. As applicable, results of JRMP assessments will also be used to describe progress in meeting WQIP goals. Changes in assessment requirements for JRMP elements will be identified as applicable to the Assessment Component of the JRMP or other implementing plans. Collectively, each of these assessment elements will inform an iterative approach to adapt the WQIPs, monitoring and assessment programs, and JRMP to become more effective toward achieving compliance with the provisions of the MS4 Permit.

Attachment 11.1 identifies WQIP goals for each WMA. The term "dry weather flows" excludes groundwater, other exempt or permitted non-stormwater flows, and sanitary sewer overflows. The Carlsbad WMA's expressed numeric goal is only for the Escondido Creek Hydrologic Subarea (HSA). Other targeted outcomes have been identified in the San Marcos HSA. Refer to the current WQIPs for specific goal-related criteria.

Attachment 11.1 – Water Quality Improvement Plan Goals (April 2015)

Table 11-1. County of San Diego - WQIP Goals for all Watersheds (April 2015)

Watershed	Condition & Title	Metric	Baseline	Outcome	1st Permit Term Goal
San Luis Rey	Dry - Eliminate anthropogenic dry weather flows from storm drain outfalls	% reduction of flow volume or number of outfalls with persistent flows	To be established FY 15-16 using dry weather flow measurements	Effectively eliminate anthropogenic dry weather flow from storm drain outfalls to receiving water	Reduce by 20% the aggregate flow volume or the number of persistently flowing outfalls during dry weather
	Wet - Implement WQIP with focus on programmatic BMPs and use adaptive management to increase effectiveness	% bacterial load reduction	3,835 x 1012 MPN during Water Year 1993	Reduce baseline bacteria loads by 10% from storm drain outfalls to meet TMDL required load reductions	Implement programmatic (non-structural) BMPs to achieve reduction of bacteria loads from the storm drain outfalls
	Wet - Structural BMPs (as needed and as funding is available)	% bacterial load reduction for structural BMP implementation based on quantitative model	3,835 x 1012 MPN during Water Year 1993	Reduce baseline bacteria loads by 1.7% from storm drain outfalls to receiving water to meet TMDL required load reduction	Reduce bacteria load by 0.3% from distributed BMPs constructed between 2003 and 2009 during redevelopment
Carlsbad¹	Dry - Effectively eliminate anthropogenic dry weather flows from storm drain outfalls	Effectively eliminate one outfall with persistent flow each permit term	Seven major storm drain outfalls with persistent flows in 2014	Effectively eliminate anthropogenic dry weather flow from major storm drain outfalls to receiving water	Effectively eliminate anthropogenic flows from one persistently flowing outfall
San Dieguito	Dry - Eliminate anthropogenic dry weather flows from storm drain outfalls	% reduction of flow volume or number of outfalls with flows mitigated from persistently flowing storm drain outfalls	To be established FY15-16 using dry weather flow measurements	Effectively eliminate anthropogenic dry weather flow from storm drain outfalls to receiving water	Reduce by 20% the aggregate flow volume or the number of persistently flowing outfalls during dry weather
	Wet - Implement WQIP with focus on programmatic BMPs and use adaptive management to increase effectiveness	% bacterial load reduction	TBD in FY 15-16 in MPN/yr from TMDL model	Reduce baseline bacteria loads by 7.7% from storm drain outfalls to meet TMDL required load reductions	Implement programmatic (non-structural) BMPs to achieve source reduction of bacteria loads from the storm drain outfalls
	Wet - Structural BMPs (Optional: as needed and as funding is available)	% bacterial load reduction	TBD in FY 15-16 in MPN/yr from TMDL model	Reduce baseline bacteria loads from storm drain outfalls to receiving water if needed to meet TMDL required load reduction	Reduce by TBD in FY 15-16 % bacteria load from distributed BMPs constructed between 2003 and 2009 during redevelopment

¹ Goal applicable only for the Escondido Creek HSA. See the Carlsbad WMA WQIP for additional goals.

Watershed	Condition & Title	Metric	Baseline	Outcome	1st Permit Term Goal
Los Penasquitos	Dry - Effectively eliminate anthropogenic dry weather flows from storm drain outfalls	Routine observations of storm drain outfalls to verify the absence of discharge to receiving water	Verify the absence of flow from storm drain outfalls in 2014 & 2015	Effectively eliminate anthropogenic dry weather flow from storm drain outfalls to receiving water.	Verify the effective elimination of anthropogenic dry weather flow from storm drain outfalls and use programmatic approaches to maintain compliance
	Wet - Implement WQIP with focus on programmatic BMPs and use adaptive management to increase effectiveness	% bacterial load reduction.	TBD in FY15-16 using TMDL model	Reduce baseline bacteria loads by 2% from storm drain outfalls to meet TMDL required load reductions.	Implement programmatic (non-structural) BMPs to achieve source reduction of bacteria loads from the storm drain outfalls
		% Sediment load reduction or verify allowable tons of sediment per year is met for the County's jurisdiction in Los Penasquitos WMA	83.6 tons/yr using 2003 water year	43.9 tons/yr 47.6% reduction of baseline loads or verify allowed loads of 39.7 tons/yr is met in 2034	Implement programmatic (non-structural) BMPs to achieve reduction of sediment loads from the storm drain outfalls.
	Restoration of Lagoon (as needed and as funding is available)	Restoration of 346 acres of Saltmarsh	262 acres of tidal/non-tidal salt marsh	Restoration of 346 acres of tidal/non-tidal saltmarsh	Coordinate with watershed partners to determine restoration goals and establish monitoring protocols, as applicable.
San Diego River	Dry - Eliminate anthropogenic dry weather flows (1) from storm drain outfalls	% reduction of flow volume or number of outfalls with persistent flows	To be established FY 15-16 using dry weather flow measurements.	Effectively eliminate anthropogenic dry weather flow from storm drain outfalls to receiving water.	Reduce by 20 % the aggregate flow volume or the number of persistently flowing outfalls.
	Wet - Implement WQIP with focus on programmatic BMPs and use adaptive management to increase effectiveness	% bacterial load reduction	1,727 x 1012 MPN during Water Year 2003	Reduce baseline bacteria loads by 10 % from storm drain outfalls to meet TMDL required load reductions.	Implement programmatic (non-structural) BMPs to achieve source reduction of bacteria loads from the storm drain outfalls.
	Wet - Structural BMPs (as needed and as funding is available)	% bacterial load reduction based on quantitative model	1,727 x 1012 MPN during Water Year 2003	Reduce baseline bacteria loads by 24.7% from storm drain outfalls to receiving water to meet TMDL required load reductions.	Reduce by 1% the baseline bacteria loads from distributed BMPs constructed between 2003 and 2009 during redevelopment.

Watershed	Condition & Title	Metric	Baseline	Outcome	1st Permit Term Goal
San Diego Bay	Wet - County Facility Retrofits for Reduction in Bacteria and Metals			Retain and treat parking lot runoff to a biofiltration basin and redirect roof downspouts to pervious area (Central Regional Public Health Center retrofitted)	Treat 20,000 square feet of parking lot runoff through Installation of Pervious Pavement Over Infiltration Basin (Southeast Family Resource Center retrofitted)
	Dry - Effectively eliminate anthropogenic dry weather flows from storm drain outfalls.	Measured by % reduction of flow volume or number of outfalls with persistent flows	To be established FY 15-16 using dry weather flow measurements		Reduce by 20% the aggregate flow volume or the number of persistently flowing outfalls during dry weather.
Tijuana	Wet - Implement WQIP with focus on programmatic BMPs and use adaptive management to update strategies to increase effectiveness	% Reduction of Total Suspended Solids (TSS) reduction. TSS is being used as a surrogate for sediment.	294 mg/L of TSS	Reduce baseline TSS loads by 20% (235 mg/L)	(up to 5% FY18) Implement programmatic (non-structural) BMPs to achieve source reduction of TSS loads from major storm drain outfalls.