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# B A S M A A

**Project:** Green Streets Pilot Projects: Assessment and Reporting

**Description:** Municipal Regional Permit (MRP) provision C.3.b.iii. required the permittees to cumulatively complete ten pilot green street projects that incorporate Low Impact Development (LID) techniques for site design and stormwater treatment. Provision C.3.b.iii.(5) required permittees to "...conduct appropriate monitoring of these projects to document the water quality benefits achieved. Appropriate monitoring may include modeling using the design specifications and specific site conditions."

The purpose of this project was to prepare a report on green streets projects to be implemented throughout the Bay Area in compliance with the MRP. The specific objectives of this reporting project were (1) to facilitate compilation of useful information and lessons learned from the experience of implementing these green streets projects, (2) to meet the specific reporting requirements of MRP provision C.3.b.v.(2)(c), and (3) to implement a simple water-quality model to meet the requirements of MRP provision C.3.b.iii.(5).

**FY:** 10/11 through 12/13

**Overseer:** Development Committee

**Contracting Agency:** BASMAA

**Contractors:** Geosyntec Consultants

**Budget:** \$39,992 (FY 10/11 = \$6,894; FY 11/12 = \$4,879; FY 12/13 = \$24,587; FY 13/14 = \$3,632)

**Status:** Done

**Deliverable(s):** *Final Green Street Pilot Projects Summary Report (August 2013)*

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# B A S M A A

**Project:** Assistance for LID Feasibility / Infeasibility Criteria Report & Status Report Projects

**Description:** In accordance with Municipal Regional Permit (MRP) provision C.3.c.iii.(1), BASMAA submitted to the Regional Water Board on May 1, 2011, a report on the feasibility / infeasibility of infiltration, harvesting and reuse, and evapotranspiration at development sites. Regional Water Board staff provided comments in a July 12, 2011, letter. BASMAA provided a formal written response on April 30, 2012. MRP provision C.3.c.iii.(2) required MRP permittees to submit to the Regional Water Board, by December 1, 2013, a Status Report on the Application of Feasibility / Infeasibility Criteria.

This project prepared the required Status Report based on a draft outline previously prepared by a work group of the Development Committee. The project included the following tasks:

- Collect Project Data
- Document Infiltration and Rainwater Harvesting Systems
- Document of Barriers to Implementation of Current Low Impact Development (LID) Requirements
- Conduct Modeling Analyses
- Refine Future LID Implementation Efforts
- Prepare Draft and Final Status Report

\* In FY 14/15, remaining budget from this project was used to conduct erosion potential modeling analyses to support development of hydromodification management standards for inclusion in the LID White Paper – a separate project.

**FY:** FY 10/11; FY 12/13 through FY 14/15

**Overseer:** Development Committee

**Contracting Agency:** BASMAA; CCCWP; SMCWPPP; SCVURPPP

**Contractors:** Geosyntec Consultants; Dan Cloak Environmental Consulting; EOA

**Budget:** \$95,872 ((FY 10/11 = \$55,994; FY 12/13 = 24,591 (\$4,713, \$9,986, and \$9,892 In-Kind from CCCWP, SMCWPPP and SCVURPPP, respectively); FY 13/14 = \$10,849 (\$5,287 In-Kind from CCCWP); \* FY 14/15 = 4,438)

**Status:** Done

**Deliverable(s):** *Status Report on the Application of Feasibility / Infeasibility Criteria for Low Impact Development (December 2013)*

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**B A S M A A**

- Project:** Soil Media Specifications Roundtable
- Description:** Provision C.3.c.i.(2)(b)(vi) of the Municipal Regional Permit (MRP 1.0) required that the soil media used in biotreatment systems must be designed to: 1) sustain healthy vigorous plant growth; 2) maximize stormwater runoff and pollutant removal; and 3) infiltrate runoff at a minimum rate of 5 inches/hour. By December 1, 2010, MRP permittees were to submit for San Francisco Bay Regional Water Quality Control Board (Regional Water Board) approval, a proposed set of model biotreatments soil media specifications and soil infiltration testing methods to meet these criteria.
- On April 14, 2010, BASMAA hosted a soil specifications roundtable meeting to provide an opportunity for information sharing among BASMAA member agencies, consultants, Regional Water Board staff, and invited guests with expertise related to biotreatment soils.
- FY:** 09/10
- Overseer:** Development Committee
- Contracting Agency:** BASMAA
- Contractors:** WRA Environmental Consultants; BKF
- Budget:** \$1,298
- Status:** Done
- Deliverable(s):** Soil Media Specifications Roundtable – Draft Agenda, Presentation, and Draft Meeting Notes (April 2010)
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## B A S M A A

**Project:** Preparation of Regional Biotreatment Soil Guidance and Related Documentation

**Description:** By December 1, 2010, Municipal Regional Permit (MRP) permittees were to submit for San Francisco Bay Regional Water Board approval, a proposed set of model biotreatments soil media specifications and soil infiltration testing methods to verify a long-term infiltration rate of 5 to 10 inches/hour. This submittal was required to contain the following information:

- proposed soil media specifications for biotreatment systems;
- proposed soil testing methods to verify a long-term infiltration rate of 5-10 inches/hour;
- relevant literature and field data showing the feasibility of the minimum design specifications;
- relevant literature, field and analytical data showing adequate pollutant removal and compliance with hydraulic sizing criteria; and
- guidance for the permittees to apply the minimum specifications in a consistent and appropriate manner.

Key points from the April 2010 Soil Media Specifications Roundtable were to be addressed in the soil guidance and related documentation.

The project's key tasks were:

- Prepare Regional Biotreatment Soil Mix Guidance
- Obtain laboratory test results for soil samples
- Prepare summary of existing literature, field, and analytical data
- Prepare Installation Guidance

**FY:** 10/11

**Overseer:** Development Committee

**Contracting Agency:** BASMAA

**Contractors:** WRA Environmental Consultants

**Budget:** \$14,637

**Status:** Done

**Deliverable(s):** *Transmittal – Model Bioretention Soil Media Specifications* (December 2010), including: *Technical Memorandum: Regional Bioretention Soil Guidance and Model Specification* (November 2010), *Technical Memorandum: Regional Bioretention Installation Guidance* (November 2010) and *Annotated Bibliography: Regional Biotreatment Soil Guidance* (November 2010)



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## B A S M A A

**Project:** Preparation of Green Roofs Submittal

**Description:** Municipal Regional Permit (MRP) provision C.3.c.iii.(4) required the permittees to submit by May 1, 2011, a report to the Regional Water Board containing the following information:

- Proposed minimum design specifications for green roofs
- Relevant literature and field data showing the feasibility of the minimum design specifications
- Relevant literature, field, and analytical data showing adequate pollutant removal and compliance with the provision C.3.d. hydraulic design criteria
- Discussion of data and lessons learned from already installed green roofs
- Discussion of barriers, including institutional and technical site-specific constraints to installation of green roofs and proposed strategies for removing these identified barriers
- Guidance for the Permittees to apply the minimum specifications in a consistent and appropriate manner

A March 30, 2010, memorandum, “Preliminary Literature Review and Recommendations,” addressed each of these requirements and was reviewed by the BASMAA Development Committee. At the committee’s request, a May 31, 2010, draft submittal to the Regional Water Boards was prepared. Between May 31, 2010, and March 1, 2011, the Development Committee obtained additional information and references regarding green roofs and requested that this material be added to the May 31, 2010, draft in preparation for submittal on May 1, 2011.

**FY:** 10/11

**Overseer:** Development Committee

**Contracting Agency:** CCCWP

**Contractors:** Dan Cloak Environmental Consulting

**Budget:** \$1,233 (In-Kind from CCCWP)

**Status:** Done

**Deliverable(s):** *Green Roof Minimum Specifications* (April 2011)

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# B A S M A A

**Project:** Special Projects Criteria and Procedures

**Description:** Municipal Regional Permit (MRP) provision C.3.e.ii required permittees to submit to the Regional Water Board, by December 1, 2010, a proposal identifying types of “special projects” proposed for Low Impact Development (LID) treatment reduction credits. The Development Committee formed a Special Project Work Group to discuss and develop the Special Projects Proposal, which included the following tasks:

- Work with permittees to finalize proposed criteria and develop a matrix of credits for various project characteristics.
- Compile data and document institutional barriers, technical constraints to LID treatment for projects meeting proposed criteria.
- Compile data and document specific water quality and environmental benefits of projects meeting proposed criteria.
- Compile data received from permittees estimating the number and cumulative area of potential projects that meet the proposed criteria.
- Prepare draft and final report for submittal to Regional Water Board.

**FY:** 10/11

**Overseer:** Development Committee

**Contracting Agency:** CCCWP

**Contractors:** Dan Cloak Environmental Consulting

**Budget:** \$13,993 (In-Kind from CCCWP)

**Status:** Done

**Deliverable(s):** *Special Projects Proposal* (December 2010)

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## B A S M A A

**Project:** Standard Specs for Single-Family Homes and Small Development Projects

**Description:** Municipal Regional Permit (MRP) provision required permittees to develop by December 1, 2012, standard specifications for lot-scale site design and treatment measures (e.g., for roof runoff and paved areas) as a resource for single-family homes and small development projects. A related requirement, provision C.3.i.i., stated that permittees shall require development projects that create and/or replace  $\geq 2,500$  ft<sup>2</sup> to  $< 10,000$  ft<sup>2</sup> of impervious surface to install one or more of the following:

- Direct roof runoff into cisterns or rain barrels for reuse.
- Direct roof runoff onto vegetated areas.
- Direct runoff from sidewalks, walkways, and/or patios onto vegetated areas.
- Direct runoff from driveways and/or uncovered parking lots onto vegetated areas.
- Construct sidewalks, walkways, and/or patios with permeable surfaces.
- Construct bike lanes, driveways, and/or uncovered parking lots with permeable surfaces.

The Development Committee recommended developing fact sheets describing the lot-scale BMPs, using the fact sheets in the City of Los Angeles stormwater manual Appendix E as a model, but tailoring the Los Angeles approach to MRP requirements and preparing appropriate design details. The Development Committee reviewed the City of Los Angeles' fact sheets, agreed on desired changes to reflect MRP and Bay Area requirements, and contracted with a graphic designer / consultant to prepare user-friendly design details.

**FY:** 11/12 and 12/13

**Overseer:** Development Committee

**Contracting Agency:** BASMAA

**Contractors:** Geosyntec Consultants

**Budget:** \$9,870

**Status:** Done

**Deliverable(s):** 8.5 x 11 Fact Sheets – Landscape Dispersion, Pervious Paving, Rain Barrel, Rain Garden (August 2012); 11 x 17 Fact Sheets – Landscape Dispersion, Pervious Paving, Rain Barrel, Rain Garden (August 2012);

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# B A S M A A

**Project:** LID White Paper

**Description:** The BASMAA Development Committee and MRP 2.0 Steering Committee had multiple discussions with Regional Water Board staff regarding issues related to provision C.3 to be addressed in the Municipal Regional Permit (MRP) reissuance (MRP 2.0). The Development Committee and Regional Water Board staff discussed: what is the vision for this effort, what is the approach to achieving that vision, and how should permit provisions be designed to follow that approach? The Committee then discussed data collection efforts that would be useful to inform and support future requirements and agreed to prepare a white paper on certain topics. Regional Water Board staff supported the concept of a white paper that could be referenced in the permit findings and fact sheet.

The white paper was further scoped, and the Development Committee discussed a draft outline and agreed on the key components of the white paper. A presentation was made to the MRP 2.0 Steering Committee and Steering Committee members, including Regional Water Board staff, provided input. Based on those discussions, a revised draft outline of the white paper was prepared, and a scope of work was developed. The project tasks included:

- Collect and Analyze Data on Bioretention Performance
- Review Other California Permits
- Conduct Modeling Analyses (as needed)
- Prepare White Paper

Remaining budget from a separate project – Assistance for LID Feasibility / Infeasibility Criteria Report & Status Report Projects – was used to conduct erosion potential modeling analyses to support development of hydromodification management standards for inclusion in this LID White Paper project.

**FY:** 13/14 and 14/15

**Overseer:** Development Committee

**Contracting Agency:** BASMAA

**Contractors:** Dan Cloak Environmental Consulting; EOA

**Budget:** \$52,913

**Status:** Done

**Deliverable(s):** *White Paper on Provision C.3 in MRP 2.0* (February 2015); *Technical Memo – Preliminary Erosion Potential Modeling Analysis* (May 2015)

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**B A S M A A**

- Project:** Enhancement of Surface Cleaner Training and Recognition Program
- Description:** To address the new requirements in MRP provisions C.5.d.(1)(a) through (c) and a long time need to address other major mobile cleaning activities beyond surface cleaning, BASMAA planned to: 1) add to the current program, training and recognition for two new professional mobile cleaning operations – automotive washing and carpet cleaning, 2) work from existing materials from BASMAA agencies as well as others, 3) develop training video(s) and self-test applications, and training materials and marketing materials, 4) create Spanish tracks of information for each new business type to the extent needed, 5) consider creating a web-based application to share enforcement information about mobile businesses, and 6) review the current program’s training video and self-test application and update, as needed.
- FY:** 10/11; 13/14 and 14/15
- Overseer:** Board of Directors
- Contracting Agency:** BASMAA
- Contractors:** Larry Walker Associates (LWA); Janet Cox
- Budget:** \$55,000 [Actual spent: \$14,305]
- Status:** Incomplete; Project put on hold due to uncertainties in the status and implications of the Governor’s Executive Orders and State Water Board’s research and consideration of proposed Emergency Urban Water Conservation Regulations (2014 – 2018)
- Deliverable(s):** Status and Plans Email (July 2014); Notice – California emergency drought regulations affect surface cleaners (August 2014); Draft BMPs – Transportation-related cleaning (September 2015); Carpet cleaning (September 2015)
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B A S M A A

**Project:** Regional Outreach Strategic Plan

**Description:** The purpose of the project was to develop a Five-Year Regional Outreach Strategic Plan focused on two primary pollutants of concern – litter / trash and pesticides. Through implementation of the plan, the Public Information / Participation Committee hoped to significantly increase in the target audience(s): 1) overall awareness of the need for stormwater pollution prevention and 2) positive behavioral changes that help protect local waterways.

In developing the Five-Year Regional Outreach Strategic Plan, the consultant was expected to consider all audiences related to the two primary pollutants of concern and ways of affecting them. Specific elements of the Regional Outreach Strategic Plan included assistance with audience identification, key messages, development of goals and measurable objectives, cost-effective public relations, and advertising tactics, community engagement methods, opportunities for free media coverage and partnerships to disseminate messages, and evaluation of outreach effectiveness. BASMAA expected both traditional and new / social media to be considered. Although the scope of the Strategic Plan was broad, the Committee suggested that different tasks or aspects of a project be implemented at various levels – regionally through BASAMA or locally through individual programs. The Strategic Plan also included an evaluation element, strategies to address implementation at different levels of funding, recommendations on using partnerships and promotions to augment available funding, and clear descriptions of the approach, methodology, and specific tasks.

**FY:** 10/11

**Overseer:** Public Information / Participation Committee

**Contracting Agency:** BASMAA

**Contractors:** S. Groner Associates (SGA)

**Budget:** \$40,000

**Status:** Done

**Deliverable(s):** *Five-Year Regional Strategic Outreach Plan: Litter* (March 2011); *Five-Year Strategic Advertising Plan: Our Water, Our World Pesticides Program* (March 2011)

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B A S M A A

**Project:** Implementation Plan – Litter

**Description:** In FY 10-11, the BASMAA PI/P Committee conducted a project to develop a multi-year Regional Outreach Strategic Plan focused on two primary pollutants of concern – litter / trash and pesticides. In April 2011, the BASMAA Board of Directors accepted the Strategic Plan as complete and approved it as a final BASMAA product. Directors directed the Committee to develop a 3-year Regional Outreach Campaign (ROC) implementation plan for litter to provide detail on the Regional Outreach Strategic Plan; that the implementation plan address division of responsibilities between regional and local, and recognize and leverage overlap with other MRP provisions. Subsequently, member agencies participating in the litter portion of the ROC (all except CCCWP, which had already conducted a campaign) worked with the consultant to develop an Implementation Plan for the litter portion of the Regional Outreach Campaign.

**FY:** 10/11

**Overseer:** Public Information / Participation Committee

**Contracting Agency:** BASMAA

**Contractors:** S. Groner Associates (SGA)

**Budget:** \$10,000

**Status:** Done

**Deliverable(s):** *Five-Year Regional Litter Implementation Plan (September 2011)*

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## B A S M A A

- Project:** Regional Outreach Campaign – Litter
- Description:** The Regional Outreach Campaign to reduce litter named “*Be the Street*” was a regional litter abatement campaign primarily targeting 14-24-year-old Bay Area youth who had been identified as a key polluting demographic. The campaign focused heavily on social media and innovative outreach strategies with the end goal of promoting peer-to-peer interactions regarding littering and raising awareness of its environmental impacts. The campaign sought to be “message up” instead of “government down” and encouraged participants to craft messaging in their own words. *Be the Street* was carefully branded to connect with its target audience. The brand was developed to be youthful, vibrant, and engaged. Under this brand, the state of the “street” was a reflection of the youth who use it. By exploring problems and solution related to community and environmental issues, street-by-street, participants were rewarded with the pride, and the fun, of having created the kind of “street” they have always wanted to live on. *Be the Street* engaged with the target population primarily through social media (e.g., Facebook and Instagram) to deliver inspirational and educational content. An innovative set of outreach strategies included a YouTube video contest with a live stream award show, a meme contest, and the development of a mobile app that gamified environmental awareness and sent users into the streets to complete challenges, win points, and get prizes. The impact of these outreach strategies are reflected through the breadth of *Be the Street*’s engagements and through a baseline and follow-up survey.
- FY:** 11/12 through 14/15
- Overseer:** Public Information / Participation Committee
- Contracting Agency:** BASMAA
- Contractors:** S. Groner Associates (SGA); ACCWP Staff
- Budget:** \$592,608
- Status:** Done
- Deliverable(s):** Branding Guide (February 2012); User Guide (August 2012); Events Implementation Protocol (August 2012); Video Contest Instructions (October 2012); Award Show Evite (March 2013); Video Contest Results (March 2013); Meme Contest Plan (December 2013); Meme Poster (March 2014); Extension (June 2014); *Final Be the Street Evaluation Report* (August 2014); Mobile App Slides (September 2014)
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## B A S M A A

- Project:** Regional Creek Status and Long-Term Trends Monitoring Design
- Description:** The objective of this project was to develop a probabilistic ambient survey design for regional creek status and long-term trends monitoring requirements included in provisions C.8.c (Status Monitoring/Rotating Watersheds) and C.8.e (Long-Term Trends) of the Municipal Regional Permit (MRP). The probabilistic design for creek status included those monitoring parameters in provision C.8.c that were determined by the BASMAA Regional Monitoring Coalition (RMC) to be of regional interest (see Table 2 of the RMC Work Plan). As part of the design for creek status, the concept of a “Master Sample” was included to allow data collected through the RMC to be comparable to the design of the State Water Resource Control Board’s Perennial Stream Assessment (PSA) that was implemented through the Surface Water Ambient Monitoring Program (SWAMP), and the Southern California Stormwater Monitoring Coalition’s (SMC) ambient monitoring program. Tasks included:
- Confirm Management Questions and Scope for Regional Creek Monitoring
  - Establish Creek Status and Long-term Trends Sampling Frames Parameters
  - Acquire Applicable Data & Information / Develop GIS-based Sample Frame
  - Develop Master Sample
  - Develop Creek Status Sample Draw and Long-term Monitoring Sites
  - Site Reconnaissance Training and Evaluation Criteria Development
  - Creek Status and Long-term Trends Monitoring Design Report
- FY:** 09/10 through 11/12
- Overseer:** Monitoring / POCs Committee
- Contracting Agency:** CCCWP; SCVURPPP
- Contractors:** Armand Ruby Consulting (ARC); EOA
- Budget:** \$85,336 (\$15,000 In-Kind from CCCWP; \$70,336 In-Kind from SCVURPPP)
- Status:** Done
- Deliverable(s):** Technical Memo: Creek Status and Long-term Trends Sampling Frames Parameters; GIS Shapefiles and Metadata; Sample Draw List and Associated Maps; Field Reconnaissance Guidance, Forms, and Site Failure Criteria; Draft and Final Reports
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## B A S M A A

- Project:** Creek Status Monitoring – SOPs and Quality Assurance Procedures
- Description:** Municipal Regional Permit (MRP) provision C.8.c required permittees to conduct Creek Status Monitoring for prescribed parameters, methods, occurrences, durations, and minimum number of sampling sites. The deliverables from this project were a set of guidance documents to enable different programs or contractors to implement standardized procedures for carrying out Creek Status Monitoring according to a regional sampling plan to be developed in a related project (Regional Creek Status and Long-Term Trends Monitoring Design). The deliverables included:
- Standard Operating Procedures (SOPs) describing all aspects of field operations including equipment maintenance, sampling and ancillary data collection based on existing guidance from the SWAMP and other related programs.
  - Quality Assurance (QA) procedures for both field activities and laboratory data quality described in a Quality Assurance Project Plan (QAPP) that conformed to the existing templates and guidance for data comparability with the Surface Water Ambient Monitoring Program (SWAMP) as prescribed in MRP provision C.8.h.
- These guidance documents addressed all MRP-required parameters or elements and were coordinated with related products from RMC projects (Creek Status and Trends Information Management System Development and Creek Status Laboratory Contract Language and Reporting Formats).
- FY:** 10/11 through 13/14
- Overseer:** Monitoring / POCs Committee
- Contracting Agency:** BASMAA; ACCWP; SMCWPPP
- Contractors:** Armand Ruby Consulting (ARC); Applied Marine Sciences (AMS); ADH Environmental; EOA
- Budget:** \$69,531 (\$37,429 In-Kind from ACCWP; \$19,200 In-Kind from SMCWPPP)
- Status:** Done
- Deliverable(s):** QAPPs (version 1 – February 2012, version 2 – January 2014, version 3 – March 2016, version 4 – January 2020); SOPs (version 1 – March 2012, version 2 – January 2014, version 3 – March 2016)
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# B A S M A A

**Project:** Creek Status Monitoring Coordination

**Description:** BASMAA formed the Regional Monitoring Coalition (RMC) – a consortium of the six Phase I municipal stormwater programs – in 2010 to coordinate and oversee water quality monitoring required by the Municipal Regional Permit (MRP). The purpose of this project was to coordinate regional monitoring activities, as described in the Regional Monitoring Coalition Information Management System Work Plan. The goal was to assist RMC participants in effective collaboration and consistent implementation of regional monitoring projects, in conformance with MRP monitoring requirements. Project tasks included:

- Assist with Implementation of SOPs/QAPP, Technical Issues
- Track Required Data Submittals
- Provide Guidance on Data/QC Issues
- Assist with Site Evaluation and Reconnaissance
- Assist with Training and Audits
- Participate in and Assist with RMC Meetings
- Provide General On-Call Assistance

**FY:** 10/11 through 19/20

**Overseer:** Monitoring / POCs Committee

**Contracting Agency:** BASMAA

**Contractors:** Armand Ruby Consulting (ARC)

**Budget:** FY 10/11 and FY 11/12 = \$24,952; FY 12/13 = \$15,018; FY 13/14 = \$15,030; FY 14/15 = \$14,000; FY 15/16 = \$15,500; FY 16/17 = \$12,500; FY 17/18 = \$13,972; FY 18/19 = \$11,100; and FY 19/20 = \$8,700

**Status:** Done

**Deliverable(s):** Monthly Summary of Issues Matrix; Data Submittal Tracking Form; RMC Work Group Meeting Agendas, Materials, Notes

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## B A S M A A

**Project:** Creek Status Monitoring Information Management System Development

**Description:** The purpose of this project was to develop an Information Management System (IMS) to manage data collected in compliance with creek status and trends monitoring required by the Municipal Regional Permit (MRP). The IMS provides management capabilities for creek data collected under the RMC's regional creek design and those data collected individually by RMC participants under more water body specific designs. The IMS serves several purposes, the primary of which is to provide a vehicle for sharing creek monitoring data among participants, generate information to conduct analyses, interpretation, and report on findings, submit data electronically to the Regional Water Board, and make available through a regional information management center, permittee, or areawide program websites.

Consistent with MRP provisions C.8.e.v., C.8.f.vi., and C.8.h.i, data stored in the database must be submitted to the Regional Water Board in a format compatible with the Surface Water Ambient Monitoring Program (SWAMP) database. These electronic reporting requirements are in addition to the requirements for monitoring data to be SWAMP comparable in terms of methods and quality (provision C.8.i.).

As part of scoping of this project, the SWAMP database was briefly reviewed to determine its potential use by RMC participants as a data management tool. Based on this initial review, the SWAMP database appeared to be too cumbersome and complex for use as an RMC data management tool for creek data. So, this project was used to collaboratively develop a less complex, more intuitive database to manage RMC participant creek data. This simpler database is based directly on the SWAMP Excel template fields, using all the appropriate look-up tables to correctly and easily format the data into an arrangement consistent with SWAMP database compatibility. To do so, project tasks included:

- Develop IMS Work Plan
- Evaluate Existing Tools
- Reconcile MRP Requirements with SWAMP Data Submittal Formats
- Develop Information Management Roles and Responsibilities
- Develop Database and Import / Export Tools
- Develop Technical User Guidance

**FY:** 10/11 through 12/13

**Overseer:** Monitoring / POCs Committee

**Contracting Agency:** SMCWPPP; SCVURPPP



## Creek Status Monitoring Information Management System Development

**Contractors:** EOA

**Budget:** \$112,994 (\$5,222 In-Kind from SMCWPPP; \$107,772 In-Kind from SCVURPPP)

**Status:** Done

**Deliverable(s):** IMS Work Plan; Technical Memo: Roles and Responsibilities; Database; Technical User Guidance

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## B A S I N A A

**Project:** Creek Status Monitoring – Lab Standard Contract Language / Reporting Formats

**Description:** Municipal Regional Permit (MRP) provision C.8.c required permittees to conduct Creek Status Monitoring for prescribed parameters, methods, occurrences, durations, and minimum number of sampling sites. A number of these parameters required laboratory analyses.

The deliverable for this project was guidance documents to standardize procedures for laboratory analysis and reporting of the relevant parameters or analytes. These were based on existing models used by the RMP, SCCWRP, and other programs that can meet the data comparability with the Surface Water Ambient Monitoring Program (SWAMP) that is prescribed in MRP provision C.8.h. The products of this project were coordinated with those of related projects – Creek Status Monitoring: Standard Operating and Quality Assurance Procedures and Creek Status and Trends Information Management System Development.

**FY:** 11/12

**Overseer:** Monitoring / POCs Committee

**Contracting Agency:** ACCWP; SCVURPPP

**Contractors:** Applied Marine Sciences (AMS); EOA

**Budget:** \$6,364 (\$3,248 In-Kind from ACCWP; \$3,116 In-Kind from SCVURPPP)

**Status:** Done

**Deliverable(s):** Contract Language; Reporting Format Specifications

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B A S M A A

**Project:** Creek Status and Trends Information Management and Quality Control

**Description:** The purpose of this project was to expand the functionality of the RMC database developed under the separate project – Creek Status Monitoring Information Management System Development – and allow for more efficient data entry, quality assurance evaluations, and interpretation. Project tasks included:

- Station Information and Site Evaluation Data Entry Module
- Physical Habitat Data Entry Module
- Data Quality Reporting Module
- Regional Data Upload and Data Management Coordination

**FY:** 12/13 and 13/14

**Overseer:** Monitoring / POCs Committee

**Contracting Agency:** BASMAA

**Contractors:** EOA (Dan Stern Data Systems); ADH Environmental

**Budget:** \$56,697

**Status:** Done

**Deliverable(s):** Station Information and Site Evaluation Data Entry Module; Physical Habitat Data Entry Module; Data Quality Reporting Module; Uploaded Data and Data Management Coordination

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## B A S M A A

**Project:** Stressor / Source Identification Guidance

**Description:** Under Municipal Regional Permit (MRP) provisions C.1 and C.8, permittees were required to conduct follow-up stressor / source identification (SSID) monitoring per provision C.8.d.i when certain triggers were exceeded. The requirement included conducting a site-specific study (or non-site specific if the problem was widespread) in a stepwise process to identify and isolate the cause(s) of the trigger stressor / source. This study was to follow guidance for Toxicity Reduction Evaluations (TRE) or Toxicity Identification Evaluations (TIE). The purpose of this project was to develop a brief guidance document for use by the Regional Monitoring Coalition (RMC) participant permittees in complying with the requirements for SSID. The goal was to assist RMC participants in conducting SSID studies in a consistent and coordinated manner. The project tasks included:

- Compile and Organize Triggers
- Prepare Guidance Document
- Prepare and Deliver Training Seminar

**FY:** 11/12 through 13/14

**Overseer:** Monitoring / POCs Committee

**Contracting Agency:** CCCWP

**Contractors:** ADH Environmental

**Budget:** \$29,864 (In-Kind from CCCWP)

**Status:** Done

**Deliverable(s):** Guidance Document; Training Seminar

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## B A S M A A

**Project:** Multi-Year Pollutants of Concern Sampling Plan

**Description:** Pollutants of Concern (POC) loads monitoring at eight stations was required by provision C.8.e of the Municipal Regional Permit (MRP). To assist permittees in effectively and efficiently conducting POC monitoring, the RMP (with the participation of stormwater program staff) developed a *Small Tributaries Loading Strategy (STLS)* in 2009. To effectively implement the STLS, two studies with direct applicability to developing the alternative approach to POC monitoring allowed by the MRP were conducted via the RMP. First, the STLS Team (including RMC participants) conducted a watershed categorization study to assist RMC participants in determining which watersheds to conduct POC monitoring, and provided a basis for improving the cost-effectiveness of developing loads information. Through the second study, the STLS Team evaluated sampling methods at POC monitoring stations and provided recommendations on whether more cost-effective methods could be employed and still meet POC Monitoring objectives. Both studies provided information to develop a Multi-Year Pollutant of Concern Sampling Plan (POC Sampling Plan).

The POC Sampling Plan documented the alternative approach, including the rationale for the choice of sampling locations and methods (number and type of samples, number of storms, and recurrence interval for sampling). The objective of this POC Sampling Plan was to provide a detailed road map for complying with MRP Provision C.8e. The final version of the POC Sampling Plan reflected the consensus obtained through discussions of the RMP's Sources Pathways and Loadings Workgroup (SPLWG) and STLS Team.

**FY:** 09/10 through 11/12

**Overseer:** Monitoring / POCs Committee

**Contracting Agency:** ACCWP

**Contractors:** ACCWP Staff; Applied Marine Sciences (AMS)

**Budget:** \$14,631 (In-Kind from ACCWP)

**Status:** Done

**Deliverable(s):** Multi-Year POC Monitoring Plan

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B A S M A A

**Project:** Standard Operating and Quality Assurance Procedures

**Description:** Municipal Regional Permit (MRP) provision C.8.e required permittees to initiate POC loads monitoring by October 2011 pursuing the alternative approach in the Multi-Year Plan (MYP) developed through the RMP-funded Small Tributaries Loading Strategy (STLS). The deliverable for this project was a set of guidance documents to enable different programs or contractors to implement standardized procedures for carrying out the POC Sampling Plan at each of the creek monitoring stations:

- A Field Manual with Standard Operating Procedures for all aspects of field station operations including equipment maintenance, sampling and ancillary data collection.
- Quality Assurance (QA) procedures for field activities and any data quality checks not covered by SFEI's data management responsibilities for BASMAA and the RMP to ensure data comparability with SWAMP data as prescribed in MRP provision C.8.h.
- Model forms for field data collection and sample handling chain of custody will be included in the above.

**FY:** 11/12 - 12/13 and 14/15

**Overseer:** Monitoring / POCs Committee

**Contracting Agency:** ACCWP

**Contractors:** Applied Marine Sciences (AMS); San Francisco Estuary Institute (SFEI)

**Budget:** \$30,854 (In-Kind from ACCWP)

**Status:** Done

**Deliverable(s):** Field Manual; Model Quality Assurance Project Plan

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# B A S M A A

- Project:** POC Monitoring Station Setup, Equipment Purchasing, Operation
- Description:** The purpose of this project was to conduct monitoring in FY 11-12 to comply with Municipal Regional Permit (MRP) provision C.8.e following the alternative approach developed through the RMP-funded Small Tributaries Loading Strategy (STLS), with two stations operated by BASMAA programs and two stations by the RMP. In FY12-13 BASMAA operated four stations and the RMP set up two additional stations. Work for the BASMAA-operated stations was divided into two parts based on funding sources for BASMAA accounting:
- A. BASMAA programs (in-kind except as noted): Setup and operation of stations in their jurisdictions, to deliver water samples to laboratories managed under Part B.
  - B. BASMAA contract work for laboratory analyses and information management.
- FY:** 09/10 through 13/14
- Overseer:** Monitoring / POCs Committee
- Contracting Agency:** ACCWP; CCCWP; SMCWPPP; SCVURPPP
- Contractors:** San Francisco Estuary Institute (SFEI); ADH Environmental; Applied Marine Sciences (AMS); EOA
- Budget:** \$851,793 (\$188,244 In-Kind from ACCWP; \$280,112 In-Kind from CCCWP; \$115,287 In-Kind from SMCWPPP; \$268,150 In-Kind from SCVURPPP)
- Status:** Done
- Deliverable(s):** Monitoring Station Setup and Operation
- FY 11/12 – Station Setup (3) and Operation (2) (June 2012)
  - FY 12/13 – Station Setup (1) and Operation (4) (June 2013)
  - FY 13/14 – Station Operation (4) (June 2014)
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B A S M A A

**Project:** POC Monitoring Lab Contracting, Data Analyses, Information and Data Management

**Description:** The purpose of this project was to provide support services and products to the pollutant of concern (POC) monitoring conducted via other projects. This project's tasks included:

- Analytical Laboratory Analyses
- Analytical Laboratory Contract Management
- Revisions to SFEI Regional Data Center (RDC) Database
- Data Review and Access Tool
- Data Quality Assurance Management
- Preliminary Data Analysis

**FY:** 11/12 through 14/15

**Overseer:** Monitoring / POCs Committee

**Contracting Agency:** BASMAA

**Contractors:** San Francisco Estuary Institute (SFEI)

**Budget:** \$936,338

**Status:** Done

**Deliverable(s):** Analytical Laboratory Analyses; Modified RDC; Modified Online Data Query Tool; Water Quality Data; Data Analyses

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## B A S M A A

**Project:** Sediment Delivery Estimate / Budget

**Description:** Municipal Regional Permit (MRP) provision C.8.e.vi required permittees to develop a design for a robust sediment delivery estimate / sediment budget in local tributaries and urban drainages, and implement the study by July 1, 2012. The purpose of the sediment delivery estimate was to improve the permittees' ability to estimate urban runoff contributions to loads of pollutants of concern (POCs), which are generally closely associated with sediment.

To determine a strategy for a robust sediment estimate / budget, this project first clarified what management needs drive the definition of "robust", and how much additional work was needed beyond a 2009 report from the RMP Sources, Pathways, & Loadings Work Group (SPLWG): "Watershed Specific and Regional Scale Suspended Sediment Load Estimates for Bay Area Small Tributaries". For FY10-11, a strategy was scoped for which potential elements included:

- Updating the 2009 report with an improved watershed boundaries dataset developed by the Prop 13 project, that will also be the basis for future spreadsheet modeling of POC loads in the Small Tributaries Loading Strategy (STLS)
- Listing potential data needs and the extent to which they will be filled through the STLS and MRP creek monitoring
- Methods and timeframe for incorporating the above to produce a robust estimate/budget

**FY:** 09/10; 11/12 through 13/14

**Overseer:** Monitoring / POCs Committee

**Contracting Agency:** BASMAA; ACCWP

**Contractors:** San Francisco Estuary Institute (SFEI); ACCWP Staff

**Budget:** \$53,409 (\$38,409 In-Kind from ACCWP)

**Status:** Done

**Deliverable(s):** Objectives and Work Plan; Strategy - Sediment Delivery Estimate / Budget; Regional Watershed Spreadsheet Model Geoprocessing Tool

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# B A S M A A

**Project:** Regional Urban Creeks Monitoring Report Format

**Description:** Municipal Regional Permit (MRP) annual reporting for creek status and trends monitoring data collected by permittees was addressed in two types of Urban Creeks Monitoring Reports (UCMR) – a Regional UCMR (this project) and assistance for Program-specific UCMRs (a separate project).

The objective of this project was to develop a format for the Regional Monitoring Coalition (RMC) regional urban creeks monitoring report due to the Regional Water Board by March 15, 2013. The regional report format included an annotated outline and template figures and tables for data collected to comply with Municipal Regional Permit (MRP) provision C.g.iii via the regional probabilistic design (Regional Creek Status and Long-Term Trends Monitoring Design project). Formats for creek status elements summarized in the regional report included biological assessments (BMI & Algae), physical habitat assessments, nutrients and chlorine. Long-term trends elements included in the regional report format include bedded sediment pollutants and sediment toxicity.

**FY:** 11/12 – 12/13

**Overseer:** Monitoring / POCs Committee

**Contracting Agency:** BASMAA; SCVURPPP

**Contractor:** Armand Ruby Consulting (ARC); EOA

**Budget:** \$65,966 (\$40,985 In-Kind from SCVURPPP)

**Status:** Done

**Deliverable(s):** Regional UCMR Outline; Regional UCMR

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# B A S M A A

**Project:** Program-specific Urban Creeks Monitoring Report

**Description:** Municipal Regional Permit (MRP) annual reporting for creek status and trends monitoring data collected by permittees was addressed in two types of Urban Creeks Monitoring Reports (UCMR) – a Regional UCMR (a separate project) and assistance for Program-specific UCMRs (this project). Regional Monitoring Coalition (RMC) creek status and trends monitoring data collected for “regional parameters” in the framework of the regional probabilistic design (Regional Creek Status and Long-Term Trends Monitoring Design project) were reported in one Regional UCMR on behalf of all permittees.

The remainder of creek status and trends monitoring data collected for “targeted parameters” was reported to the Regional Water Board by each RMC participating program via a Program-specific UCMR. These reports complemented the Regional UCMR by providing analyses of data collected via targeted designs determined at the local (Program) level as described in the RMC Creek Status and Trends Monitoring Plan. Assistance with the Program-specific UCMRs was provided in the form of a detailed outline (including descriptions of intended data illustrations, presentation, and proposed analyses) and associated guidance.

**FY:** 11/12

**Overseer:** Monitoring / POCs Committee

**Contracting Agency:** SCVURPPP

**Contractors:** EOA

**Budget:** \$6,494 (In-Kind from SCVURPPP)

**Status:** Done

**Deliverable(s):** Program-specific UCMR Outline and Guidance

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## B A S M A A

**Project:** Integrated Monitoring Report: Outline and Template

**Description:** The Municipal Regional Permit (MRP) required permittees to submit an Integrated Monitoring Report (IMR) by March 14, 2014, that summarized all monitoring conducted in compliance with provisions C.8 and portions of C.11 and C.12. The Monitoring / POCs Committee (MPC) developed the IMR as three parts:

- A – Creek Water Quality Monitoring (C.8.a, .b, .c, .d, .f, .g)
- B – Pollutants of Concern (POCs) Monitoring (C.8) and Pilot Studies (C.11 and C.12)
- C – Future POC Load Reduction Opportunities.

Part A and Part C were prepared through the separate Integrated Monitoring Report: Joint Tasks for Template and Parameters project and the Integrated Monitoring Report: Elevated Areas ID project, respectively.

The project developed a reporting outline / template and methods for comparison of the effectiveness and costs of all pilot implementation actions conducted via compliance with MRP provisions C.11 and C.12, and methods for identifying opportunities into the future. The outline assisted the scoping of the separate project for the production of the IMR Part B. Additionally, information needed to compare pilot actions was developed to inform data collection efforts conducted via each pilot project.

**FY:** 11/12

**Overseer:** Monitoring / POCs Committee

**Contracting Agency:** BASMAA; SCVURPPP

**Contractors:** Geosyntec Consultants; EOA

**Budget:** \$24,809 (\$8,545 In-Kind from SCVURPPP)

**Status:** Done

**Deliverable(s):** IMR Outline and Template

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# B A S M A A

**Project:** Integrated Monitoring Report

**Description:** The Municipal Regional Permit (MRP) required permittees to submit an Integrated Monitoring Report (IMR) by March 14, 2014, that summarized all monitoring conducted in compliance with provisions C.8 and portions of C.11 and C.12. The Monitoring / POCs Committee (MPC) developed the IMR as three parts:

- A – Creek Water Quality Monitoring (C.8.a, .b, .c, .d, .f, .g)
- B – Pollutants of Concern (POCs) Monitoring (C.8) and Pilot Studies (C.11 and C.12)
- C – Future POC Load Reduction Opportunities.

Part B of the IMR was prepared through this project. In early 2013 the BASMAA Board of Directors approved an integrated regional effort to prepare the IMR, that would integrate and interpret the products of various MRP-required provisions for mercury and PCB load reductions, and to ensure that member programs and permittees reviewed and understood the report, especially its implications for future permits. The initial Part B work in FY12-13 provided a framework for coordinating IMR presentation with Clean Watersheds for a Clean Bay pilot projects (MRP Provisions C.11/12.c,d,e and i) as well as PCBs in Caulk and other initiatives. In FY13-14, separate projects were conducted to prepare Parts A and C, and to bring together all parts of the IMR.

**FY:** 12/13 – 13/14

**Overseer:** Monitoring / POCs Committee

**Contracting Agency:** BASMAA; SMCWPPP; SCVURPPP

**Contractors:** EOA

**Budget:** \$179,472 (\$23,690 In-Kind From SMCWPPP; \$46,055 In-Kind from SCVURPPP)

**Status:** Done

**Deliverable(s):** IMR Part B

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# B A S M A A

**Project:** Integrated Monitoring Report: Elevated Areas ID

**Description:** The Municipal Regional Permit (MRP) required permittees to submit an Integrated Monitoring Report (IMR) by March 14, 2014, that summarized all monitoring conducted in compliance with provisions C.8 and portions of C.11 and C.12. The Monitoring / POCs Committee (MPC) developed the IMR as three parts:

- A – Creek Water Quality Monitoring (C.8.a, .b, .c, .d, .f, .g)
- B – Pollutants of Concern (POCs) Monitoring (C.8) and Pilot Studies (C.11 and C.12)
- C – Future POC Load Reduction Opportunities.

Part A and Part B were prepared through the separate Integrated Monitoring Report: Joint Tasks for Template and Parameters project and the Integrated Monitoring Report: Outline and Template project, respectively.

Part C of the IMR was prepared through this project. The objective of this project was to prepare a program-specific IMR Part C for the Alameda Countywide Clean Water Program (ACCWP), with a placeholder provision for additional on-call assistance to the Fairfield-Suisun Urban Runoff Management Program and City of Vallejo / Vallejo Sanitation and Flood Control District (VSFCD) to complete their own program-specific Part C documents using guidance and support materials prepared for this project.

**FY:** 13/14

**Overseer:** Monitoring / POCs Committee

**Contracting Agency:** BASMAA

**Contractors:** Geosyntec Consultants

**Budget:** \$120,000

**Status:** Done

**Deliverable(s):** IMR Part C

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## B A S M A A

**Project:** Integrated Monitoring Report: Joint Tasks for Template and Parameters

**Description:** The Municipal Regional Permit (MRP) required permittees to submit an Integrated Monitoring Report (IMR) by March 14, 2014, that summarized all monitoring conducted in compliance with provisions C.8 and portions of C.11 and C.12. The Monitoring / POCs Committee (MPC) developed the IMR as three parts:

- A – Creek Water Quality Monitoring (C.8.a, .b, .c, .d, .f, .g)
- B – Pollutants of Concern (POCs) Monitoring (C.8) and Pilot Studies (C.11 and C.12)
- C – Future POC Load Reduction Opportunities.

Part B and Part C were prepared through the separate Integrated Monitoring Report: Outline and Template project and the Integrated Monitoring Report: Elevated Areas ID project, respectively.

Part A of the IMR was prepared through this project. The objective of this project was to prepare a template and selected content for Part A to be used by participating BASMAA programs in preparing program-specific versions of Part A. The selected content included a comprehensive analysis of some “regional parameters” associated with creek status monitoring. The template included placeholder sections for other IMR content that could be adapted or modified by each participating program.

**FY:** 13/14

**Overseer:** Monitoring / POCs Committee

**Contracting Agency:** BASMAA

**Contractors:** Applied Marine Sciences (AMS)

**Budget:** \$24,956

**Status:** Done

**Deliverable(s):** IMR Part A

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**B A S M A A**

**Project:** Regulatory Efforts – Report

**Description:** The purpose of this project was to document efforts to address MRP provision C.9.e Track and Participate in Relevant Regulatory Processes in the Monitoring / POCs Committee’s Pollutant of Concern (POC) Regional Supplement for inclusion in MRP annual reports. The deliverable for each year was a report documenting the activities during the previous year of the Urban Pesticides Committee and CASQA Pesticides Subcommittee, including meetings, comment letters, presentations, and other informational communications, and examining EPA and DPR records to determine how the regulatory actions were affected. Unlike Urban Pesticides Pollution Prevention (UP3) reports, the reports were not peer reviewed by pesticide regulators and were not intended for broader distribution beyond MRP annual reports. This reporting project was a predecessor to the Regulatory Efforts – Track and Participate project and after FY 11/12, this project was merged into that latter project.

**FY:** 09/10 through 11/12

**Overseer:** Board of Directors

**Contracting**

**Agency:** FY 09/10 – ACCWP; FY 10/11 and FY 11/12 – BASMAA

**Contractors:** TDC Environmental, LLC

**Budget:** \$14,490 (FY 09/10 = \$5,050 (In-Kind from ACCWP); FY 10/11 = \$6,560; FY 11/12 = \$2,880)

**Status:** Done.

**Deliverable(s):** Regional Supplements for inclusion in MRP Annual Reports:

- *Annual BASMAA Participation Summary and Outcomes Assessment 2010 (C.9.e) (August 2010)*
  - *Annual BASMAA Participation Summary and Outcomes Assessment 2011 (C.9.e) (September 2011)*
  - *Annual Report section FY 11-12 (C.9.e) (August 2012)*
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## B A S M A A

**Project:** Regulatory Efforts – Track and Participate

**Description:** The purpose of this project was to address MRP provision C.9.e Track and Participate in Relevant Regulatory Processes. This provision of the MRP was written to codify activities in the permit that to a large degree were already occurring through the Urban Pesticides Pollution Prevention Project (UP3 Project) and CASQA Pesticides Subcommittee. This project tasks include:

- Tracking and participation in pesticides-related regulatory activities by EPA, DPR and other agencies to evaluate and register pesticides as they relate to surface water quality.
- Identify highest priority pesticides-related regulatory activities; analyze regulatory documents for these activities like environmental risk assessments, obtain pesticide/urban runoff scientific information (essential for credible input), and prepare key points for meetings and / or draft written comments.
- Participate in monthly PRSM (Pyrethroid Re-evaluation Stakeholder Meeting) or similar meetings with DPR, EPA, and the pesticide industry. Maintain open lines of communication with regulators, water board and POTW allies, and other key stakeholders.
- Participate in monthly CASQA Pesticides Subcommittee meetings.

This project was a successor to the Regulatory Efforts – Report project and after FY 11/12, that earlier project was merged into this project.

**FY:** 10/11 and 11/12; 13/14 through 19/20

**Overseer:** Board of Directors

**Contracting Agency:** CASQA

**Contractors:** TDC Environmental, LLC, Armand Ruby Consulting, Jackson Environmental Consulting, Stephanie Hughes, Jamie Hartshorn, Qualls Environmental Consulting

**Budget:** \$352,000 (FY 10/11 and FY 11/12 = \$64,000; FY 13/14 through FY 19/20 = \$32,000)

**Status:** Ongoing

## Regulatory Efforts – Track and Participate

### **Deliverable(s):** Pesticides Regulatory Action Plans:

- *Pesticides Regulatory Action Plan December 2010*
- *Pesticides Regulatory Action Plans 2011*
- *Pesticides Regulatory Action Plans 2012*
- *Pesticides Regulatory Action Plans 2013*
- *Pesticides Regulatory Action Plans 2014*
- *Pesticides Regulatory Action Plans 2015*
- *Pesticides Regulatory Action Plans 2016*
- *Pesticides Regulatory Action Plans 2017*
- *Pesticides Regulatory Action Plans 2018*
- *Pesticides Regulatory Action Plans 2019*
- *Pesticides Regulatory Action Plans / Items 2020*

Comment Letters: See list of Comment Letters and Testimonies under Pesticides Subcommittee in CASQA Annual Reports (2012 through 2020) <https://www.casqa.org/news-library/public-resources>

### Regional Supplements for inclusion in MRP Annual Reports:

- *Preventing Urban Pesticide Pollution in Stormwater: Pesticides Subcommittee Annual Report 2012-13 (May 2014)*
  - *Preventing Urban Pesticide Pollution in Stormwater: Pesticides Subcommittee Annual Report 2013-14 (August 2014)*
  - *CASQA Pesticides Subcommittee Annual Report and Effectiveness Assessment 2014-2015 (August 2015)*
  - *CASQA Pesticides Subcommittee Annual Report and Effectiveness Assessment 2015-2016 (August 2016)*
  - *CASQA Pesticides Subcommittee Annual Report and Effectiveness Assessment 2016-2017 (August 2017)*
  - *CASQA Pesticides Subcommittee Annual Report and Effectiveness Assessment 2017-2018 (September 2018)*
  - *CASQA Pesticides Subcommittee Annual Report and Effectiveness Assessment 2018-2019 (August 2019)*
  - *CASQA Pesticides Subcommittee Annual Report and Effectiveness Assessment 2019-2020 (August 2020)*
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## B A S M A A

- Project:** Short-Term Trash Load Reduction Plan Guidance
- Description:** The objective of this project was to develop guidance to assist Municipal Regional Permit (MRP) permittees in developing their short-term trash reduction plans. Each permittee was required by MRP provision C.10.a(i) to submit a Short-Term Trash Load Reduction Plan, including an implementation schedule, to the Regional Water Board by February 1, 2012. The Plan must have described control measures and best management practices that were currently being implemented and the current level of implementation, and the planned new or enhanced control measures and best management practices that would be implemented to attain a 40% trash load reduction by July 1, 2014. The guidance was provided in the form of a draft and final memorandum, and included descriptions of recommended sections, and suggestions of pertinent information to include in short-term plans. Additionally, guidance provided was consistent with the trash baseline loading and load reduction tracking methods.
- FY:** 11/12
- Overseer:** Trash Committee
- Contracting Agency:** SCVURPPP
- Contractors:** EOA
- Budget:** \$9,970 (In-Kind from SCVURPPP)
- Status:** Done
- Deliverable(s):** *Baseline Trash Load and Short-Term Trash Load Reduction Plan – Template and Guidance (December 2011)*
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## B A S M A A

- Project:** Trash Load Reduction Tracking Method (Tasks 1 and 2)
- Description:** The goal of this project was to develop a trash load reduction tracking method, including associated formulas, baseline formation, and future data needs (i.e., identification of data needed to populate these formulas) for permittees of the Municipal Regional Permit (MRP). In combination with the Baseline Trash Loading Estimate, the tracking method assisted permittees in demonstrating progress towards MRP trash load reduction goals (i.e., 40%, 70% and 100%) via quantification of the effectiveness of trash load reduction activities (i.e., BMPs and control measures). The tracking method was developed through a step-wise process consisting of 4 tasks (including optional task 3) resulting in four deliverables: 1) Technical Memorandum #1 – Literature Review Results; 2) Technical Memorandum #2 – Draft and Final Loads Reduced Methodology; 3) Technical Report #1 – Final Loads Reduced Methodology and Supporting Material; and 4) Trash Loads Reduced Calculator. The following tasks were conducted via this project:
- Task 1: Identify Applicable Trash Reduction Activities and Conduct Literature Review
  - Task 2: Preliminary Draft Trash Load Reduction Tracking Formulas and Data Requirements
- FY:** 10/11 – 11/12
- Overseer:** Trash Committee
- Contracting Agency:** SCVURPPP
- Contractors:** EOA
- Budget:** \$23,056 (In-Kind from SCVURPPP)
- Status:** Done
- Deliverable(s):** *Trash Load Reduction Tracking Method: Technical Memorandum #1 – Literature Review (May 2011)*
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## B A S M A A

**Project:** Trash Load Reduction Tracking Method (Task 4)

**Description:** The goal of this project was to develop a trash load reduction tracking method, including associated formulas, baseline formation, and future data needs (i.e., identification of data needed to populate these formulas) for permittees of the Municipal Regional Permit (MRP). In combination with the Baseline Trash Loading Estimate, the tracking method assisted permittees in demonstrating progress towards MRP trash load reduction goals (i.e., 40%, 70% and 100%) via quantification of the effectiveness of trash load reduction activities (i.e., BMPs and control measures). The tracking method was developed through a step-wise process consisting of 4 tasks (including optional task 3) resulting in four deliverables: 1) Technical Memorandum #1 – Literature Review Results; 2) Technical Memorandum #2 – Draft and Final Loads Reduced Methodology; 3) Technical Report #1 – Final Loads Reduced Methodology and Supporting Material; and 4) Trash Loads Reduced Calculator. The following tasks were conducted via this project:

- Task 4: Final Load Reduction Tracking Method and Create Loads Avoided / Reduced Templates

**FY:** 11/12

**Overseer:** Trash Committee

**Contracting Agency:** SMCWPPP

**Contractors:** EOA

**Budget:** \$17,440 (In-Kind from SMCWPPP)

**Status:** Done

**Deliverable(s):** *Trash Load Reduction Tracking Method: Assessing the Progress of San Francisco Bay Area MS4s towards Stormwater Trash Load Reduction Goals – Technical Report (Version 1.0) (February 2012)*

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## B A S M A A

- Project:** Baseline Trash Load Development Method
- Description:** The goal of this project was to develop a methodology for determining baseline loading estimates of trash discharged from municipal separate storm sewer systems in the San Francisco Bay Area (Bay Area). The project assisted Municipal Regional Permit (MRP) permittees in demonstrating progress towards MRP trash load reduction goals (i.e., 40%, 70% and 100%) by providing a scientifically-sound method for developing a (default) baseline trash loading rate that can be adjusted based on permittee / site-specific conditions, and used to compare against load reductions via control measure implementation. The project is intended to be the first of three phases towards developing baseline trash loading estimates: 1) methods development; 2) data collection; and 3) data analysis and reporting. The following tasks were conducted through this project (Phase I):
- Literature Review of Trash Generation and Load Quantification Methods
  - Conceptual Model and Proposed Loads Development Method
  - Project Sampling and Analysis Plan
- FY:** 10/11
- Overseer:** Trash Committee
- Contracting Agency:** SMCWPPP; SCVURPPP
- Contractors:** EOA
- Budget:** \$30,474 (\$11,980 In-Kind from SMCWPPP; \$18,494 In-Kind from SCVURPPP)
- Status:** Done
- Deliverable(s):** *Method to Estimate Baseline Trash Loads from Bay Area Municipal Stormwater Systems: Technical Memorandum #1 – Summary of techniques used to quantify trash in stormwater, a conceptual model of trash loading, and a recommended method for establishing baseline loads (April 2011); Baseline Trash Loading Rates from Bay Area Municipal Stormwater Systems: Sampling and Analysis Plan (April 2011)*
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# B A S M A A

- Project:** Baseline Trash Load Estimate 2010/11 Wet-Season Monitoring
- Description:** There are three phases towards development of baseline trash loading estimates: 1) methods development; 2) data collection; and 3) data analysis and reporting. This project was associated with Phase II. The goal of this project was to develop information to assist Municipal Regional Permit (MRP) permittees in determining baseline trash loads from their municipal separate storm sewer systems through monitoring of full capture devices. The following tasks were conducted through this project:
- Identification of Trash Monitoring Sites / Devices
  - Trash Characterization Monitoring
- FY:** 10/11 – 11/12
- Overseer:** Trash Committee
- Contracting Agency:** BASMAA; SMCWPPP; SCVURPPP
- Contractors:** Cascadia Consulting Group; EOA
- Budget:** \$111,495 (\$4,972 In-Kind from SMCWPPP; \$15,023 In-Kind from SCVURPPP)
- Status:** Done
- Deliverable(s):** Baseline Trash Loads Project - Monitoring Site Identification (January 2011)
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## B A S M A A

- Project:** Baseline Loading Development – Data Analysis / Load Estimate
- Description:** There are three phases towards development of baseline trash loading estimates: 1) methods development; 2) data collection; and 3) data analysis and reporting. This project was associated with Phase III. The goal of this project was to develop and document trash baseline loading and generation rates based on the results of Phases I and II, and a process for Municipal Regional Permit (MRP) permittees to apply generation rates to the land area within their own jurisdiction and calculate a baseline load, consistent with MRP provision C.10.a.ii. The following tasks were conducted through this project:
- Collation of Monitoring Data and Associated Information
  - Technical Memorandum (Planning Level Trash Generation Rates)
  - Technical Memorandum (Revised Generation Rates)
- FY:** 11/12 – 12/13
- Overseer:** Trash Committee
- Contracting Agency:** SMCWPPP; SCVURPPP
- Contractors:** EOA
- Budget:** \$49,976 (\$24,865 In-Kind from SMCWPPP; \$25,111 In-Kind from SCVURPPP)
- Status:** Done
- Deliverable(s):** *Preliminary Baseline Trash Generation Rates for San Francisco Bay Area MS4s: Technical Memorandum (February 2012); San Francisco Bay Area Stormwater Trash Generation Rates: Final Technical Report (June 2014)*
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B A S M A A

**Project:** Long-Term Trash Load Reduction Plan Facilitation / Tools / Guidance

**Description:** The objectives of this project were to provide BASMAA member agencies with tools and guidance necessary to effectively develop trash long-term reduction plans. Tasks included the development of a long-term plan outline and guidance for plan development. Long-Term plans were due to the Regional Water Board by February 1, 2014. The plans were to describe control measures and BMPs, including any trash reduction ordinances, that were being implemented and the level of implementation and additional control measures and BMPs that would be implemented, and/or the increased level of implementation designed to attain a 70% trash load reduction from its MS4 by July 1, 2017 and 100% by July 1, 2022. The goal of the project was to complete the development of the outline and guidance in time to allow adequate time for plan development. The outline and guidance provided were consistent with the agreed upon long-term plan framework. All deliverables were provided in draft form, and revised into final form based on comments provided.

**FY:** 12/13 – 13/14

**Overseer:** Trash Committee

**Contracting Agency:** SCVURPPP

**Contractors:** EOA

**Budget:** \$16,995 (In-Kind from SCVURPPP)

**Status:** Done

**Deliverable(s):** *Long-Term Trash Load Reduction Plan (LTP): Final Outline & Guidance*  
(October 2013)

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B A S M A A

**Project:** Training Materials to Identify Pollutants of Concern (POCs) in Commercial / Industrial Facilities

**Description:** Municipal Regional Permit (MRP) provisions C.12 (PCBs Controls) and C.13 (Copper Controls) included requirements (sub-provisions) related to identifying POCs during commercial / industrial facility inspections, which was required under provision C.4 (Commercial and Industrial Site Controls). Provision C.11 (Mercury Controls) did not explicitly require the identification of mercury and mercury-containing devices during inspections, but required the promotion, facilitation, and/or participation in the collection and recycling of mercury-containing devices that may be present in commercial / industrial facilities.

The purpose of this project was to develop regional training and reporting materials to assist commercial / industrial facility stormwater inspectors in identifying PCBs, copper, and mercury during existing inspections, which would assist permittees in partially complying with MRP provisions C.11a, C.12a, and C13.d.

**FY:** 09/10

**Overseer:** Municipal Operations Committee

**Contracting Agency:** SMCWPPP; SCVURPPP

**Contractors:** EOA

**Budget:** \$29,988 (\$12,139 In-Kind from SMCWPPP; \$17,849 In-Kind from SCVURPPP)

**Status:** Done

**Deliverable(s):** *Pollutants of Concern Commercial / Industrial Inspector Training Material* (January 2011)

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## B A S M A A

**Project:** Desktop Analysis to Inform Pilot Testing of Municipal O&M Enhancements

**Description:** A recommendation for a desktop analysis arose from comments by the Clean Watersheds for a Clean Bay (CW4CB) Technical Advisory Committee and also from discussions between BASMAA representatives and Regional Water Board staff regarding information previously submitted as part of BASMAA Regional Annual Reporting for FY 2010-11. This project was scoped to inform conceptual planning of municipal O&M enhancement pilot studies to address MRP Provision C.11/12.d during the current permit term and to develop tools that would assist future planning of O&M enhancements across a larger geographic scale, and provide a conceptual framework to plan implementation of O&M enhancements that will maximize mercury and PCB load reduction and cost efficiency during future permit terms.

This desktop analysis focused on the following five types of municipal O&M enhancement pilot studies:

- Street sweeping.
- Storm drain inlet cleaning.
- Street flushing.
- Stormwater conveyance pipeline flushing.
- Pump station maintenance (e.g., vacuuming accumulated materials from pump station wet wells).

**FY:** 11/12 – 12/13

**Overseer:** Monitoring / POCs Committee

**Contracting Agency:** SMCWPPP; SCVURPPP

**Contractors:** EOA

**Budget:** \$55,774 (\$23,260 In-Kind from SMCWPPP; \$32,514 In-Kind from SCVURPPP)

**Status:** Done

**Deliverable(s):** Work Plan

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# B A S M A A

- Project:** Evaluation of Stormwater Diversions to POTWs
- Description:** Municipal Regional Permit (MRP) provisions C.11.f (mercury) and C.12.f (PCBs) required an evaluation of the mercury and PCBs load reductions attainable through diversion of first flush stormwater and dry weather urban runoff. The first steps required by the MRP and conducted through previous projects were:
- Development of a Feasibility Evaluation Report (submitted in draft to the Regional Water Board on September 15, 2010, and approved as final by the BASMAA Board of Directors on December 9, 2010). The Feasibility Evaluation Report described activities led by permittees, including development of conceptual designs, advanced designs, cost estimates, and permits.
  - Identification of candidate and alternate diversion projects in a report submitted with the Regional Pollutants of Concern Report for FY 10-11.
- The purpose of this project was to facilitate regional development of pilot diversion projects by communicating with program staff to ensure they made progress with their projects, and by working with them to document progress in an annual status report.
- FY:** 10/11 – 11/12
- Overseer:** Monitoring / POCs Committee
- Contracting Agency:** BASMAA; SCVURPPP
- Contractors:** Brown & Caldwell; EOA
- Budget:** \$29,866 (\$4,726 In-Kind from SCVURPPP)
- Status:** Done
- Deliverable(s):** Screening Criteria; Diversion Feasibility Evaluation Report
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**B A S M A A**

**Project:** Stormwater Pollutant Loads and Loads Reduced

**Description:** Municipal Regional Permit (MRP) provisions C.11.g and C.12.g required permittees to develop methodologies to quantify mercury / PCBs loads and loads reduced through source control, treatment and other management measures. To comply with these provisions, this project included the following tasks:

- Review Information on Loads Avoided Methodologies
- Develop Methods and Formulas
- Contact Caltrans and Develop Annual Report Summary
- Create Loads Avoided / Reduced Templates

**FY:** 09/10 and 11/12

**Overseer:** Monitoring / POCs Committee

**Contracting Agency:** SCVURPPP

**Contractors:** EOA

**Budget:** \$26,514 (In-Kind from SCVURPPP)

**Status:** Done

**Deliverable(s):** Technical Memorandum – *Methods for Quantifying Mercury and PCB Loads Reduced from Urban Stormwater Runoff* (August 2010)

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# B A S M A A

**Project:** Mercury Allocation Sharing with Caltrans

**Description:** The Municipal Regional Permit (MRP) required permittees to develop a means of equitably sharing the Urban Stormwater Runoff wasteload allocation specified in the San Francisco Bay Mercury total maximum daily load (TMDL) with Caltrans. Caltrans manages roadways and other facilities within the urban areas that are covered under both the MRP and the TMDL. The objectives of this project were to:

- provide a framework for the Small Tributaries Loading Strategy watershed loads model to be updated to reflect discharges from Caltrans facilities
- provide information that will assist Caltrans and its contractors in the implementation of monitoring programs that provided needed information about the concentrations of mercury and PCBs in sediments discharged from Caltrans facilities
- communicate to Caltrans BASMAA assumptions about the appropriate methodology for estimating concentrations and loads of PCBs and mercury discharged from the Caltrans right of way

**FY:** 11/12 through 13/14

**Overseer:** Monitoring / POCs Committee

**Contracting Agency:** BASMAA; CCCWP

**Contractors:** AMEC

**Budget:** \$8,033 (\$3,982 In-Kind from CCCWP)

**Status:** Incomplete

**Deliverable(s):** Letter of Invitation - Mercury Allocation Sharing Scheme

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# B A S M A A

- Project:** PCBs in Caulk – Pilot Projects
- Description:** BASMAA was a partner in the regional PCBs in Caulk Project (Project), which was managed by the San Francisco Estuary Partnership (SFEP) and funded by federal stimulus funds (ARRA). The Project’s activities were designed to help BASMAA agencies comply with MRP provision C.12.b requirements including:
- Testing PCB levels in caulk sampled from at least 10 Bay Area sites to better understand which types/ages of buildings were most likely to have caulks with PCBs, so that management actions could be targeted effectively. Surveys previously conducted in Europe and other parts of North America found caulks/sealants containing PCBs, sometimes at very high concentrations, in a large proportion of older buildings, particularly those built or renovated in the 1950s, 1960s, and 1970s.
  - Developing Best Management Practices (BMPs), a Model Implementation Process (MIP), and associated model policies or ordinances to reduce or prevent the release of PCB-laden caulks to the environment during renovation, maintenance and demolition of Bay Area buildings and the subsequent conveyance of the PCB-laden caulks by urban stormwater runoff to San Francisco Bay. The Project is developing methods and procedures to identify, handle, contain, transport, and properly dispose of PCB-containing caulks.
  - Performing five Bay Area implementation trials of the proposed BMPs and/or MIP, evaluating effectiveness (including reduction of PCB loading to the Bay), and documenting lessons learned.
- FY:** 09/10 – 11/12
- Overseer:** Monitoring / POCs Committee
- Contracting Agency:** ACCWP; SMCWPPP; SCVURPPP
- Contractors:** ACCWP Staff; Northgate Environmental Management; EOA
- Budget:** \$47,295 (\$10,461 In-Kind from ACCWP; \$10,400 In-Kind from SMCWPPP; \$26,434 In-Kind from SCVURPPP)
- Status:** Done
- Deliverable(s):** Annual Report write-up, including Sampling and Analysis Plan
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B A S M A A

**Project:** Vehicle Brake Pads

**Description:** Municipal Regional Permit (MRP) provision C.13.c required permittees to engage in efforts to reduce the copper discharged from automobile brake pads to surface waters via urban runoff. To do so, via this project permittee representatives participated in the Brake Pad Partnership (BPP) process to develop California legislation phasing out almost all copper from certain automobile brake pads sold in California, and the permittee representatives reported on legislation development and implementation status for Annual Reports.

**FY:** 09/10 through 12/13

**Overseer:** Monitoring / POCs Committee

**Contracting Agency:** ACCWP

**Contractors:** ACCWP Staff

**Budget:** \$2,491 (In-Kind from ACCWP)

**Status:** Done

**Deliverable(s):** CASQA BPP Team Updates; Annual Report section

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## B A S M A A

**Project:** Studies of Copper Uncertainties

**Description:** This project was scoped on the assumption that the Municipal Regional Permit (MRP) requirement to support or ensure conduct of studies would be met through continuing participation in the RMP Exposure Effects Work Group (EEWG) and consideration in the EEWG long-term plan of two areas of technical uncertainties regarding copper effects in the Bay:

- Toxicity to Bay benthic organisms possibly caused or contributed to by high copper concentrations per some past RMP or BPTCP data. The RMP conducted a project for identifying causes of Bay sediment toxicity, with an initial objective of improving methods for TIEs.
- Possible impacts to the olfactory system of salmonids: NOAA Fisheries Neurobiology lab demonstrated short-term exposure to increased copper in freshwater can reduce response to predator odors and impair the predator-avoidance behavior of young coho salmon. The RMP conducted a Special Study in 2011 to use similar methods on young Chinook salmon in saltwater.

These uncertainties were described in the Basin Plan's implementation program for copper site-specific objectives (SSOs), and flagged as permit requirements for stormwater and wastewater permittees.

**FY:** 09/10 and 11/12

**Overseer:** Monitoring / POCs Committee

**Contracting Agency:** ACCWP

**Contractors:** ACCWP Staff

**Budget:** \$531 (In-Kind from ACCWP)

**Status:** Done

**Deliverable(s):** Annual Report Regional Supplement

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## B A S M A A

- Project:** PBDEs, Legacy Pesticides, Selenium – Characterization
- Description:** Municipal Regional Permit (MRP) provision C.14 required permittees to characterize the representative distribution of polybrominated diphenyl ethers (PBDEs), legacy (organochlorine) pesticides, and selenium, and provide information to allow a calculation of loads to the Bay from urban runoff conveyance systems. The purpose of this project was to develop characterization profiles for PBDEs, DDT, dieldrin and chlordane, similar to the “contaminant profiles” developed via the Regional Monitoring Program (RMP) for other pollutants of concern including selenium, and each including:
- A brief literature review updating recent Conceptual Model / Impairment Assessment (CMIA) reports prepared by the Clean Estuary Partnership (CEP)
  - Preliminary spatial characterization of source areas in the Bay Area with differing event mean concentrations (EMCs)
  - Identification of major uncertainties and information gaps affecting load estimates using the Regional Watershed Spreadsheet Model (RWSM)
- FY:** 09/10 through 13/14
- Overseer:** Monitoring / POCs Committee
- Contracting Agency:** ACCWP
- Contractors:** ACCWP Staff; San Francisco Estuary Institute (SFEI)
- Budget:** \$29,110 (In-Kind from ACCWWP)
- Status:** Done
- Deliverable(s):** Characterization Profiles / Memo
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# B A S M A A

- Project:** PBDEs, Legacy Pesticides, Selenium – Control Measures
- Description:** MRP provision C.14 requires Permittees to characterize the representative distribution of polybrominated diphenyl ethers (PBDEs), legacy (organochlorine) pesticides and selenium, and provide information to allow a calculation of loads to the Bay from urban runoff conveyance systems. It also requires determining if there are potential sources or source areas that may contribute to discharges in urban runoff and identifying control measures and/or management practices to eliminate or reduce these discharges. The purpose of this project was to produce a set of sub-reports describing control measures and/or management practices to eliminate or reduce urban runoff discharges for each of the POC groups as required in C.14.a.vi and vii.
- FY:** 12/13 – 13/14
- Overseer:** Monitoring / POCs Committee
- Contracting Agency:** BASMAA; ACCWP; SCVURPPP
- Contractors:** Larry Walker Associates (LWA); ACCWP Staff; EOA
- Budget:** \$41,711 (\$248 In-Kind from ACCWP; \$19,998 In-Kind from SCVURPPP)
- Status:** Done
- Deliverable(s):** Regional POC Report sections (Sub-Reports) – PBDEs, Legacy Pesticides, and Selenium
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# B A S M A A

**Project:** Development of MRP Annual Report Template

**Description:** The purpose of this project was to scope out and develop an annual report template for all Municipal Regional Permit permittees and areawide programs to use in reporting on MRP activities in accordance with MRP provision C.16.b, Order R2-2009-0074, NPDES Permit No. CAS612008 adopted October 14, 2009, which stated “The Permittees shall collaboratively develop a common annual reporting format for acceptance by the Executive Officer by April 1, 2010. The resulting Annual Report Form, once approved, shall be used by all Permittees.”

The project involved both merging what were previously six annual reporting formats into one format and adding sections to cover all the new and different MRP provisions compared with the previous six areawide permits.

**FY:** 09/10

**Overseer:** Board of Directors

**Contracting**

**Agency:** Santa Clara Valley Urban Runoff Pollution Prevention Program

**Contractors:** EOA

**Budget:** \$12,900 (In-Kind from SCVURPPP)

**Status:** Done

**Deliverable(s):** FY 09/10 Annual Report Form

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# B A S M A A

**Project:** E.12 Manual

**Description:** Provision E.12, "Post-Construction Stormwater Management Program," of the Phase II Small MS4 General Permit required municipalities to require specified features and facilities – to control pollutant sources, control runoff volumes, rates, and durations, and to treat runoff before discharge from the site – be included in development plans as conditions of issuing approvals and permits. Provision E.12 required all municipal permittees to implement these requirements by June 30, 2015, to the extent allowed by applicable law. This included projects requiring discretionary approvals that have not been deemed complete for processing and discretionary permit projects without vesting tentative maps that have not requested and received an extension of previously granted approvals. Individual municipalities sometimes require implementation on development projects not subject to the requirements to mitigate impacts identified during California Environmental Quality Act (CEQA) review, to address impacts on local drainage systems, or to preserve and enhance local environmental quality.

This manual was created to assist applicants for development approvals to prepare submittals that demonstrate their project complies with the Phase II Small MS4 General Permit requirements. Applicants who seek development approvals for applicable projects within the jurisdictions now follow the manual when preparing their submittals.

**FY:** 14/15

**Overseer:** Phase II Committee

**Contracting Agency:** North Bay Watershed Association

**Contractors:** Dan Cloak Environmental Consulting

**Budget:** \$30,000

**Status:** Done

**Deliverable(s):** *BASMAA Post-Construction Manual–Design Guidance for Stormwater Treatment and Control for Projects in Marin, Sonoma, Napa, and Solano Counties* (June 2014); **Three ½ Day Training Workshops** (October 2014)

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# B A S M A A

**Project:** Fire Sprinkler Testing BMPs

**Description:** For all new development and redevelopment projects that were subject to permittee’s planning, building, development, or other comparable review, but not regulated by Municipal Regional Permit (MRP) provision C.3, MRP provision C.3.a.i.(7) required each permittee to encourage the inclusion of adequate source control measures to limit pollutant generation, discharge, and runoff, including plumbing of fire sprinkler test water discharges, if discharge to onsite vegetated areas was not a feasible option, to the sanitary sewer, subject to the local sanitary sewer agency’s authority and standards.

Similarly, MRP provision C.3.c.i.(i) required all “Regulated Projects”, as defined in the MRP, to implement source control measures onsite that may include plumbing of fire sprinkler test water discharges, if discharge to onsite vegetated areas was not a feasible option, to the sanitary sewer, subject to the local sanitary sewer agency’s authority and standards.

The purpose of this project was to help MRP permittees address both provisions. The Municipal Operations Committee decided to create an outreach brochure for planners, builders, owners, and operators of fire sprinkler systems that referenced recent guidance issued by the California State Fire Marshal. The Committee developed and produced the brochure on a volunteer basis as a “Committee project”.

**FY:** 12/13

**Overseer:** Municipal Operations Committee

**Contracting Agency:** Not Applicable

**Contractors:** Elisa Wilfong, Chair - Municipal Operations Committee; Committee Members

**Budget:** \$0

**Status:** Done

**Deliverable(s):** *Stormwater Best Management Practices for Fire Sprinkler Testing* brochure (August 2012), including reference to California State Fire Marshal *Water-Based Fire Protection Systems Discharge Best Management Practices Manual* (September 2011)

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# B A S M A A

- Project:** Clean Watersheds for a Clean Bay (CW4CB)
- Description:** The Clean Watersheds for a Clean Bay project was a collaboration among the BASMAA member agencies and the USEPA designed to evaluate the effectiveness of stormwater controls for PCBs and mercury. Detailed project information is provided on the [CW4CB Project Background page](#) and in the [CW4CB Overall Project Report](#). The purpose of the CW4CB project was to contribute to the development of a comprehensive regional strategy for reducing PCBs and mercury loads in urban runoff to San Francisco Bay in accordance with the TMDL plans for those pollutants developed by the San Francisco Bay Regional Water Board. The CW4CB project consisted of multiple efforts such as pilot testing pollutant control measures in locations where benefits were expected to be the greatest and evaluating the load reduction effectiveness of those measures, as well as public risk communication and other outreach efforts. The project was facilitated through a partnership among Bay Area cities (Cities of Oakland, Richmond, San Carlos, San Jose, and Vallejo), Bay Area countywide municipal stormwater management programs, and the California Department of Public Health (DPH).
- FY:** 10-11 through 16-17
- Grantor:** U.S. Environmental Protection Agency (USEPA)
- Overseer:** Board of Directors
- Contracting Agency:** BASMAA
- Contractors:** Applied Marine Sciences (AMS); Aquatic Science Center (ASC); CSUS Office of Water Programs (OWP); EOA; Geosyntec Consultants; Kinnetic Laboratories (KLI); Mount Tam Media; WRECO
- Participants:** ACFCWCD; DPH; City of Oakland; City of Richmond; City of San Carlos; City of San Jose; City of Vallejo
- Budget:** Total with Match = \$7,310,432; Total Grant = \$4,992,607; (FY 10/11 = \$52,827; FY 11/12 = \$345,956; FY 12/13 = \$1,017,564; FY 13/14 = \$1,173,657; FY 14/15 = \$948,366; FY 15/16 = \$762,430; FY 16/17 = \$691,807) Match (BASMAA and member agencies) = \$2,317,825
- Status:** Done

## Clean Watersheds for a Clean Bay (CW4CB)

### **Deliverable(s):** Reports:

- *San Francisco Bay Fish Project Final Report* (October 2012)
  - *Source Property Identification and Referral Pilot Study – Leo Avenue Watershed* (September 2015)
  - *Task 3 Source Property Identification and Referral Pilot Study – Ettie Street Pump Station Watershed* (July 2016)
  - *Task 3 Source Property Identification and Referral Pilot Study – Lauritzen Channel and Parr Channel Watersheds* (July 2016)
  - *Source Property Identification Pilot Study – Pulgas Creek Pump Station Watershed* (May 2017)
  - *Task 4 Enhanced Operation and Maintenance Pilot Projects – Ettie Street Pump Station Cleanout* (July 2016)
  - *Task 4 Enhanced Operation and Maintenance Pilot Projects – Enhanced Street Sweeping* (April 2017)
  - *Task 4: Operation and Maintenance Enhancement Pilot Projects – Storm Drain System Cleaning and Video Inspection Pilot Project – Leo Avenue Watershed* (April 2017)
  - *Street Flush and Capture Pilot Study – Pulgas Creek Pump Station Watershed* (May 2017)
  - *Task 5 Individual Retrofit Pilot Project Report – Alameda and High Street HDS Project* (August 2016)
  - *Task 5 Individual Retrofit Pilot Project Report – El Cerrito Green Streets Project* (August 2016)
  - *Task 5 Individual Retrofit Pilot Project Report – Ettie Street Pump Station Media Filter Project* (August 2016)
  - *Task 5 Individual Retrofit Pilot Project Report – Nevin Avenue Improvement Project* (August 2016)
  - *Task 5 Individual Retrofit Pilot Project Report – PG&E Substation (1<sup>st</sup> & Cutting) Project* (August 2016)
  - *Task 5 Individual Retrofit Pilot Project Report – West Oakland Industrial Area Project* (August 2016)
  - *Task 5 Individual Retrofit Pilot Project Report – PG&E Substation, Solano County Project* (November 2016)
  - *Task 5 Individual Retrofit Pilot Project Report – Broadway and Redwood Project* (November 2016)
  - *Task 5 Stormwater Treatment Retrofit Pilot Projects – 7<sup>th</sup> Street Hydrodynamic Separator Unit* (April 2017)
  - *CW4CB Project Workshop* (April 2017)
  - *Stormwater Runoff Treatment Retrofit Pilot Projects: Bransten Road Bioretention Facilities – Pulgas Creek Pump Station Watershed* (May 2017)
  - *Guidance to San Francisco Bay Area Local Agencies for Reducing Polychlorinated Biphenyls (PCBs) and Mercury in Municipal Stormwater Runoff* (May 2017)
  - *CW4CB Final Report* (May 2017)
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## B A S M A A

**Project:** Tracking California's Trash

**Description:** This project was funded through the Public Resources Code (PRC) §75072 Planning and Monitoring Projects portion of the Proposition 84 Stormwater Grant Program (SWGP) from the State Water Resources Control Board (SWRCB). The overall goal of the *Tracking California's Trash* project was to improve municipal stormwater programs' collective knowledge about California's trash problems and the actions regulators and public agencies can take to help resolve those problems. The primary objectives of the project were to:

1. Develop and test scientifically sound and cost-effective stormwater and receiving water trash monitoring methods that allow agencies to measure sustained, long-term water quality improvements over time.
2. Fill critical information gaps on the effectiveness and costs/benefits of implementing specific stormwater BMPs (e.g., street sweeping) that address trash.

The desired outcomes of the *Tracking California's Trash* project were:

1. The development of rigorous and repeatable methods that are acceptable for conducting visual assessments and quantitative waste characterizations to evaluate trash from on-land sources and in receiving waters. The visual assessment methods would be appropriate for use by municipal stormwater programs as well as citizen monitoring groups to evaluate progress towards trash reduction goals (e.g., 303(d) listing for Lake Merritt in Oakland, California) because of control measure implementation.
2. Information used to select the most cost-effective management actions to reduce trash and provide a comparison between institutional BMPs and other types of controls measures (e.g., full capture devices).

Implementation of the project's two main tasks (below) resulted in three technical reports – each with significant Conclusions and Recommendations sections.

Task: Trash Trends and Flux Monitoring Methods Development

*Testing Trash "Flux" Monitoring Methods in Flowing Water Bodies*

*Evaluation of the On-land Visual Assessment Protocol as a Method to Establish Baseline Levels of Trash and Detect Improvements in Stormwater Quality*

Task: Stormwater BMP Effectiveness and Cost Evaluations

*Evaluation of Street Sweeping and Curb Inlet Screens as Measures to Control Trash in Stormwater*

**FY:** 13/14 through 16/17

## Tracking California's Trash

**Grantor:** SWRCB

**Overseer:** Board of Directors

**Contracting**

**Agency:** BASMAA

**Contractors:** EOA; 5 Gyres; Geosyntec Consultants

**Participants:** City of Fremont; City of Oakland; City of San Jose; SCVURPPP

**Budget:** Total with Match = \$735,423; Total Grant = \$654,765; (FY 13/14 = \$145,968; FY 14/15 = \$249,528; FY 15/16 = \$186,914; FY 16/17 = \$72,355) Match (BASMAA and member agencies) = \$80,658

**Status:** Done

**Deliverable(s):**

- Technical Reviews and Plans
    - *Literature Review* (October 2014)
    - *Monitoring Plan* (MP) (October 2014)
    - *Project Assessment and Evaluation Plan* (PAEP) (October 2014)
    - *Quality Assurance Project Plan* (QAPP) (October 2014)
    - *Sampling and Analysis Plan* (SAP) (December 2014)
  - Technical Reports
    - *Evaluation of the On-land Visual Assessment Protocol as a Method to Establish Baseline Levels of Trash and Detect Improvements in Stormwater Quality with Appendices* (December 2016)
    - *Evaluation of Street Sweeping and Curb Inlet Screens as Measures to Control Trash in Stormwater with Appendices* (December 2016)
    - *Testing Trash "Flux" Monitoring Methods in Flowing Water Bodies* (December 2016)
  - Annual Progress Summaries
    - *Annual Progress Summary* – September 2014
    - *Annual Progress Summary* – September 2015
    - *Annual Progress Summary* – September 2016
  - Final Reports
    - *Final Project Report with Appendices* (June 2017)
    - *Final Project Summary* (July 2017)
  - Project Closeout
    - *Final Project Inspection and Certification* (June 2017)
    - *Final Project Report and Deliverables Completion Letter* (January 2018)
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