Santa Clara Valley
Urban Runoff
Pollution Prevention Program

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Hand Delivered to SF Bay Water Board (c/o: Janet O'Hara) and Uploaded to Water Board FTP site on October 14, 2016

October 14, 2016

Mr. Bruce H. Wolfe
Executive Officer
San Francisco Bay Region
Regional Water Quality Control Board
1515 Clay Street, Suite 1400
Oakland, CA 94612

Subject: SCVURPPP Pollutant of Concern Monitoring Report - Water Year 2016 Accomplishments & Water Year 2017 Planned Allocation of Effort

Dear Bruce:

On behalf of the Santa Clara Valley Urban Runoff Pollution Prevention Program (SCVURPPP), I am pleased to submit SCVURPPP's *Pollutant of Concern (POC) Monitoring Report – Water Year (WY) 2016*[1] *Accomplishments and WY 2017*[2] *Planned Allocation of Effort*. The POC Monitoring Report is submitted on behalf of all SCVURPPP Permittees in compliance with Provision C.8.h.iv of NPDES Permit # CAS612008 (Order No. R2-2015-0049).

The report describes the allocation of sampling effort for POC monitoring in WY 2017 and what was accomplished for POC monitoring in WY 2016. The POC monitoring locations for WY 2016 are included in the report, along with the number and types of samples, purpose of the sampling, and analytes measured in WY 2016 and anticipated monitoring in WY 2017. Exact POC monitoring locations for WY 2017 are under development based on SCVURPPP's on-going efforts to identify likely PCB and mercury source properties and high interest Watershed Management Areas (WMAs) for these pollutants.

Submitted in compliance
"I certify, under penalty of law, that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who managed the system, or those persons directly responsible for gathering the information, the information submitted, is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

[1] Water Year 2016 is from October 1, 2015 through September 30, 2016
[2] Water Year 2017 is from October 1, 2016 through September 30, 2017

Very truly yours,

Adam W. Olivieri, Dr. P.H., P.E.
Program Manager

Submitted on behalf of the Santa Clara Valley Urban Runoff Pollution Prevention Program (per Management Committee direction)

CC: SCVURPPP Management Committee Members
Tom Mumley, Janet O'Hara, and Richard Looker, SF Bay Water Board
Chris Sommers, SCVURPPP Project Manager

Attachments: SCVURPPP POC Monitoring Report - Water Year 2016 Accomplishments & Water Year 2017 Planned Allocation of Effort

Santa Clara Valley
Urban Runoff
Pollution Prevention Program

Pollutants of Concern Monitoring Report

Water Year 2016 Accomplishments & Water Year 2017 Planned Allocation of Effort

Submitted in compliance with Provision C.8.h.iv of NPDES Permit # CAS612008 (Order No. R2-2015-0049)

October 2016

This report is submitted by the agencies participating in the

Santa Clara Valley
Urban Runoff
Pollution Prevention Program

City of Campbell	City of Milpitas	City of Santa Clara
City of Cupertino	City of Monte Sereno	City of Saratoga
City of Los Altos	City of Mountain View	City of Sunnyvale
Town of Los Altos Hills	City of Palo Alto	County of Santa Clara
Town of Los Gatos	City of San Jose	Santa Clara Valley Water District

Prepared for:

Santa Clara Valley Urban Runoff Pollution Prevention Program (SCVURPPP)

Prepared by:

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LIST OF ACRONYMS

BASMAA	Bay Area Stormwater Management Agency Association
BMP	Best Management Practice
CADDIS	Causal Analysis/Diagnosis Decision Information System
CEC	Chemicals of Emerging Concern
CEDEN	California Environmental Data Exchange Network
MRP	Municipal Regional Permit
NPDES	National Pollution Discharge Elimination System
PBDEs	Polybrominated Diphenyl Ethers
PCBs	Polychlorinated Biphenyls
PFAS	Perfluoroalkyl Sulfonates
PFOS	Perfluorooctane Sulfonates
POC	Pollutant of Concern
RMP	Regional Monitoring Program
RWSM	Regional Watershed Spreadsheet Model
SAP	Sampling and Analysis Plan
SCVURPPP	Santa Clara Valley Urban Runoff Pollution Prevention Program
SFEI	San Francisco Estuary Institute
SPoT	Statewide Stream Pollutant Trend Monitoring
SSC	Suspended Sediment Concentration
SSID	Stressor/Source Identification
STLS	Small Tributary Loading Strategy
SWAMP	Surface Water Ambient Monitoring Program
TOC	Total Organic Carbon
USEPA	US Environmental Protection Agency
WY	Water Year

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

1.0 INTRODUCTION

This Pollutants of Concern (POC) Monitoring Report was prepared by the Santa Clara Valley Urban Runoff Pollution Prevention Program (SCVURPPP or Program) on behalf of its 15 member agencies (13 cities/towns, the County of Santa Clara, and the Santa Clara Valley Water District) subject to the National Pollutant Discharge Elimination System (NPDES) stormwater permit for Bay Area municipalities, referred to as the Municipal Regional Permit (MRP). The MRP was issued by the San Francisco Regional Water Quality Control Board (Regional Water Board) on November 19, 2015 as Order R2-2015-0049. This report fulfills the requirements of Provision C.8.h.iv of the MRP for reporting the allocation of sampling effort for POC monitoring planned for the forthcoming year (i.e., Water Year 2017) and what was accomplished for POC monitoring during the preceding water year (i.e., Water Year 2016). In accordance with Provision C.8.h.iv, this report includes monitoring locations, number and types of samples collected, purpose of sampling (Management Questions addressed), and analytes measured. Data and interpretations will be provided in the Water Year 2016 Urban Creeks Monitoring Report which will be submitted to the Regional Water Board by March 31, 2017. Data collected in receiving waters (e.g., creeks) will be submitted to the San Francisco Bay Area Regional Data Center by March 31, 2017 for upload to the California Environmental Data Exchange Network (CEDEN).

1.1 POC Monitoring Requirements

Provision C.8.f of the MRP requires monitoring of several POCs including polychlorinated biphenyls (PCBs), mercury, copper, emerging contaminants[1], and nutrients. POC monitoring is conducted on a Water Year (WY) basis, beginning on October 1 and concluding on September 30 of the named year. For example, WY2016 began on October 1, 2015 and will conclude on September 30, 2016. Provision C.8.f specifies yearly (i.e., WY) and total (i.e., permit term) minimum numbers of samples for each POC. In addition, POC monitoring must address the five priority management information needs (i.e., Management Questions) identified in C.8.f:

1. **Source Identification** – identifying which sources or watershed source areas provide the greatest opportunities for reductions of POCs in urban stormwater runoff;
2. **Contributions to Bay Impairment** – identifying which watershed source areas contribute most to the impairment of San Francisco Bay beneficial uses (due to source intensity and sensitivity of discharge location);
3. **Management Action Effectiveness** – providing support for planning future management actions or evaluating the effectiveness or impacts of existing management actions;
4. **Loads and Status** – providing information on POC loads, concentrations or presence in local tributaries or urban stormwater discharges; and
5. **Trends** – providing information on trends in POC loading to the Bay and POC concentrations in urban stormwater discharges or local tributaries over time.

The MRP specifies the minimum number of samples for each POC that must address each Management Question. For example, over the first five years of the permit, a minimum total of 80 PCBs samples must be collected and analyzed. At least 8 PCB samples must be collected each year. On average 16 PCBs samples should be collected per year but the Permit gives flexibility to collect more samples some years

[1] Emerging contaminant monitoring requirements will be met through participation in Regional Monitoring Program for Water Quality in the San Francisco Estuary (RMP) special studies. The special study will account for relevant constituents of emerging concern (CECs) in stormwater and will address at least PFOS, PFAS, and alternative flame retardants being used to replace PBDEs.

and less other years. By the end of Year 4[2] of the permit term, each of the five Management Questions must be addressed with at least 8 PCB samples. It is possible that a single sample can address more than one information need. POC Monitoring requirements are summarized in Table 1. In addition to the required yearly and cumulative total number of samples, Table 1 lists the yearly average number of samples that would need to be analyzed to meet the total sample goal, a good benchmark to consider when planning annual sampling goals.

Other MRP provisions require studies or have information needs that could be addressed through Provision C.8.f (POC Monitoring) and for which related samples will count towards POC monitoring requirements. These other Permit provisions and their associated timelines are listed below.

- Provisions C.11.a and C.12.a require that Permittees provide a list of watersheds (i.e., Watershed Management Areas) in which new mercury and PCBs control measures will be implemented during the permit term, as well as the monitoring data and other information used to select the watersheds. Progress toward developing the list was reported on April 1, 2016 and a more complete list with identified control measures was provided with the 2016 Annual Report on September 30, 2016. Provision C.8.f (POCs Monitoring) is intended to support C.11/12 requirements by requiring monitoring directed toward source identification (i.e., identifying which sources or watershed source areas provide the greatest opportunities for reductions of POCs in urban stormwater runoff).
- Provision C.12.e requires that Permittees collect at least 20 composite samples (region-wide) of the caulks and sealants used in storm drains or roadway infrastructure in public rights-of-way. Results of the investigation must be reported with the 2018 Annual Report, due by September 30, 2018.

1.2 Third-Party Data

SCVURPPP strives to work collaboratively with our water quality monitoring partners to find mutually beneficial monitoring approaches. Provision C.8.a.iii of the MRP allows Permittees to use data collected by third-party organizations to fulfill monitoring requirements, provided the data are demonstrated to meet the required data quality objectives. For example, samples collected in Santa Clara County through the Regional Monitoring Program for Water Quality in the San Francisco Estuary (RMP) and the State's Stream Pollution Trends (SPoT) Monitoring Program may supplement the Program's efforts towards achieving Provision C.8.f monitoring requirements. Third party monitoring conducted or planned by the RMP and SPoT are briefly summarized in this report.

[2] Note that the minimum sampling requirements addressing information needs must be completed by the end of year four of the permit; whereas, the minimum number of total samples does not need to be met until the end of year five of the permit.

Table 1. Pollutant of Concern monitoring parameters, efforts and types required by the MRP.

Pollutant of Concern	Media	Total Samples[d]	Yearly Minimum	Yearly Average	Minimum # of Samples that Must be Collected for Each Information Need by the End of Year Four				
					Source Identification	Contributions to Bay Impairment	Management Action Effectiveness	Loads and Status	Trends
PCBs	Water or sediment	80	8	16	8	8	8	8	8
Total Mercury	Water or sediment	80	8	16	8	8	8	8	8
Total & Dissolved Copper	Water	20	2	4	--	--	--	4	4
Nutrients[a]	Water	20	2	4	--	--	--	20	--
Emerging Contaminants[b]	--	--	--	--	--	--	--	--	--
Ancillary Parameters[c]	--	--	--	--	--	--	--	--	--

[a.] Ammonium[3], nitrate, nitrite, total Kjeldahl nitrogen, orthophosphate, total phosphorus (analyzed concurrently in each nutrient sample).

[b.] Must include perfluorooctane sulfonates (PFOS, in sediment), perfluoroalkyl sulfonates (PFAS, in sediment), alternative flame retardants. The Permittee shall conduct or cause to be conducted a special study that addresses relevant management information needs for emerging contaminants. The special study must account for relevant CECs in stormwater and would address at least PFOS, PFAS, and alternative flame retardants being used to replace PBDEs.

[c.] Total Organic Carbon (TOC) should be collected concurrently with PCBs data when normalization to TOC is deemed appropriate. Suspended sediment concentration (SSC) should be collected in water samples used to assess loads, loading trends, or BMP effectiveness. Hardness data are used in conjunction with copper concentrations collected in fresh water.

[d.] Total samples that must be collected over the five-year Permit term.

[3] There are several challenges to collecting samples for "ammonium" analysis. Therefore, samples will be analyzed for total ammonia which is the sum of un-ionized ammonia (NH3) and ionized ammonia (ammonium, NH4+). Ammonium concentrations will be calculated by subtracting the calculated concentration of un-ionized ammonia from the measured concentration of total ammonia. Un-ionized ammonia concentrations will be calculated using a formula provided by the American Fisheries Society that includes field pH, field temperature, and specific conductance. This approach was approved by Regional Water Board staff in an email dated June 21, 2016.

2.0 POC MONITORING ACCOMPLISHMENTS (WY 2016) AND GOALS (WY 2017)

In compliance with Provision C.8.f of the MRP, the Program conducted POC monitoring in WY 2016 for PCBs, mercury, copper, and nutrients. The MRP-required yearly minimum number of samples was met or exceeded for all POCs. The total number of samples collected for each POC, the agency conducting the monitoring, and the Management Questions addressed are listed in Table 2. Specific monitoring stations are listed in Table 3 and illustrated in Figure 1. The sections below describe details of the monitoring accomplished in WY 2016 and the planned allocation of effort for WY 2017. A summary of the planned allocation of effort for WY 2017 is presented in Table 4.

Table 2. SCVURPPP and Third-Party POC Monitoring Accomplishments in WY 2016.

Pollutant of Concern/ Agency	Number of Samples (WY 2016)	Management Question Addressed[a]					Sample Type and Comments
		1. Source Identification	2. Contributions to Bay Impairment	3. Management Action Effectiveness	4. Loads and Status	5. Trends	
PCBs & Mercury							
SCVURPPP	9	9	9	--	9	--	Stormwater runoff samples to characterize high interest catchments
RMP STLS	6	6	6	--	6	--	Stormwater runoff samples to characterize high interest catchments
Copper							
SCVURPPP	4	--	--	--	4	--	Copper analyzed on a subset of PCBs/Hg stormwater runoff samples
Nutrients							
SCVURPPP	2	--	--	--	2	--	Water samples collected from SSID study stations

[a] Individual samples can address more than one Management Question simultaneously.

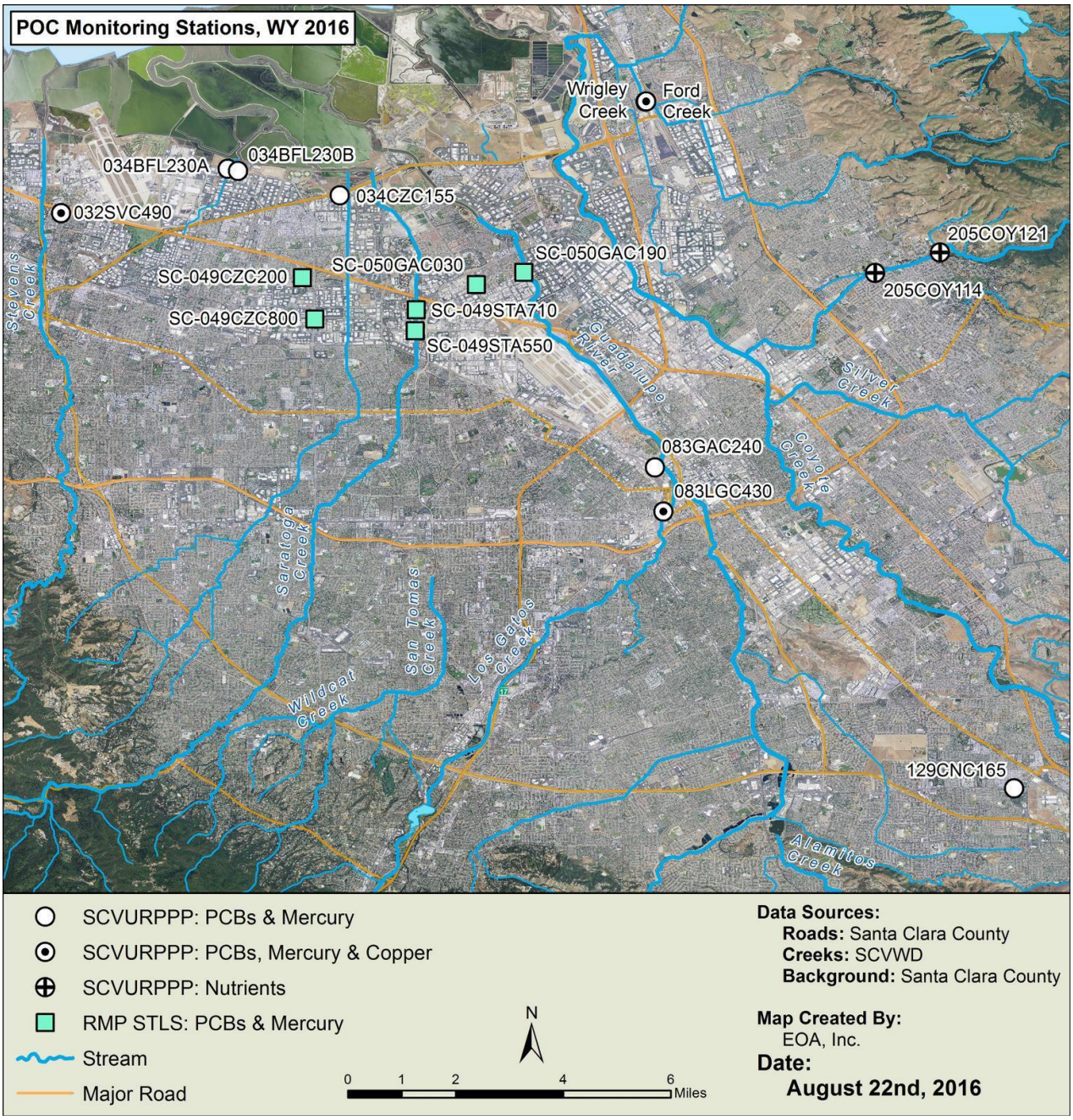

Figure 1. SCVURPPP and Third-Party POC Monitoring Stations in WY 2016.

Table 3. SCVURPPP and Third-Party POC Monitoring Stations in WY 2016.

Agency	Station Code	Sample Date	Latitude	Longitude	Matrix	PCBs	Mercury	Suspended Sediment Concentration	Total Copper	Dissolved Copper	Hardness as CaCO3	Nutrients[b]
SCVURPPP	032SVC490	1/5/2016	37.4058	-122.0639	water	x	x	x	x	x	x	
SCVURPPP	083LGC430	1/19/2016	37.3257	-121.9019	water	x	x	x	x	x	x	
SCVURPPP	Ford Creek	1/17/2016	37.4358	-121.9066	water	x	x	x	x	x	x	
SCVURPPP	Wrigley Creek	1/17/2016	37.4358	-121.9065	water	x	x	x	x	x	x	
SCVURPPP	034BFL230A	3/5/2016	37.4177	-122.0191	water	x	x	x				
SCVURPPP	034BFL230B	3/5/2016	37.4172	-122.0163	water	x	x	x				
SCVURPPP	034CZC155	1/17/2016	37.4106	-121.989	water	x	x	x				
SCVURPPP	083GAC240	3/11/2016	37.3376	-121.9042	water	x	x	x				
SCVURPPP	129CNC165	1/6/2016	37.2514	-121.8075	water	x	x	x				
RMP STLS	SC-049CZC800	(a)	37.3774	-121.9957	water	x	x	x				
RMP STLS	SC-049STA550	(a)	37.3799	-121.9684	water	x	x	x				
RMP STLS	SC-049CZC200	(a)	37.3885	-121.999	water	x	x	x				
RMP STLS	SC-050GAC030	(a)	37.3866	-121.9522	water	x	x	x				
RMP STLS	SC-049STA710	(a)	37.3742	-121.9687	water	x	x	x				
RMP STLS	SC-050GAC190	(a)	37.3899	-121.9395	water	x	x	x				
SCVURPPP	205COY114	6/9/2016	37.3898	-121.8449	water							x
SCVURPPP	205COY121	6/9/2016	37.3953	-121.8275	water							x

a. Specific sample dates have not yet been provided by the RMP STLS.
b. Ammonia (for ammonium), nitrate, nitrite, total Kjeldahl nitrogen, orthophosphate, and total phosphorus are analyzed concurrently in each nutrient sample.

2.1 PCBs and Mercury

The Program collected 9 samples for PCBs and mercury analysis in WY 2016. During the WY, an additional 6 samples were collected in Santa Clara County through the RMP's Small Tributary Loading Strategy (STLS). These combined 15 samples address POC Management Questions #1 (Source Identification) and #2 (Contributions to Bay Impairment). Data collected by the RMP STLS will also be used to improve calibration of the Regional Watershed Spreadsheet Model (RWSM) which is a land use based planning tool for estimation of overall POC loads from small tributaries to San Francisco Bay at a regional scale (i.e., Management Question #4 – Loads and Status).

2.1.1 SCVURPPP Accomplishments and Goals

PCBs and mercury monitoring by the Program in WY 2016 was conducted in accordance with the *Water Year 2016 Pollutant of Concern Monitoring - Sampling and Analysis Plan* (SCVURPPP 2015b). The primary goal of the monitoring, as described in the Sampling and Analysis Plan (SAP), is to provide information to identify Watershed Management Areas (WMAs) where control measures could be implemented to comply with MRP requirements for load reductions of PCBs and mercury. WY 2016 PCBs and mercury monitoring was focused on collection of storm composite samples from high interest WMAs that may contain PCB and/or mercury source properties. High interest WMAs were identified and prioritized for sampling by

evaluating several types of data, including: PCBs and mercury concentrations from prior sediment and water sampling efforts, land use data showing old industrial parcels, municipal storm drain data showing pipelines and access points (e.g., manholes, outfalls, pump stations), catchment areas delineated from municipal storm drain data, and logistical/safety consideration (SCVURPPP 2015b).

Composite samples consisting of 6-8 aliquots collected during the rising limb and peak of the storm hydrograph (as determined through field observations) were analyzed for the "RMP 40" PCB congeners (method EPA 1668C), total mercury (method EPA 1631E), and SSC (method ASTM D3977-97). A subset of the samples was also analyzed for total and dissolved copper (method EPA 200.8) and hardness (method SM 2340C).

As stated above, WY 2016 PCBs and mercury monitoring conducted by the Program primarily focused on addressing Management Questions #1 (Source Identification) and #2 (Contributions to Bay Impairment), while contributing to the dataset being used to address Management #3 (Loads and Status). A similar focus is planned for WY 2017:

- The Program intends to collect 10 to 20 storm composite samples from additional high interest WMAs in an effort to identify WMAs that may contain PCB or mercury source properties. The exact locations of monitoring sites within these high interest WMAs are currently being identified by SCVURPPP in preparation for sampling during storm events in WY 2017.
- An additional 40 to 60 sediment samples will be collected in WY 2017within WMAs previously identified as having source properties that may eventually be referred to the Regional Water Board for investigation and abatement. The exact locations of these sites are currently being identified by SCVURPPP based on the results of source property inspections that are nearly complete.

In subsequent years PCBs and mercury monitoring conducted by the Program will likely shift to Management Question #3 (Management Action Effectiveness). SCVURPPP is currently working with Bay Area Stormwater Management Agencies Association (BASMAA) partners (i.e., other countywide stormwater programs subject to the MRP) to develop a regional project to design a regional Monitoring Plan for POC Management Action Effectiveness. The goal is to finalize the Monitoring Plan/study design in WY 2017 and implement the plan in WY 2018. A major consideration for the regional monitoring plan and other future monitoring efforts will be the collection of data in support of conducting the Reasonable Assurance Analysis (RAA) that is required by Provision C.12.c.iii.(3) of the MRP and which must be submitted with the Program's 2020 Annual Report (September 30, 2020).

2.1.2 Third-Party Accomplishments and Goals

The RMP's STLS Team typically conducts annual monitoring for POCs region-wide. SCVURPPP is an active participant in the STLS and works with other Bay Area municipal stormwater programs to identify opportunities to direct RMP funds and monitoring activities towards supplementing monitoring required by municipal stormwater permit requirements. Recent years' POC monitoring activities by the STLS have focused on loadings monitoring at six region-wide stations and wet weather characterization monitoring in catchments containing high interest PCBs and mercury source areas. In WY 2016, the STLS Team continued wet weather characterization sampling using a similar approach to the PCBs and mercury sampling that was implemented by the Program (see SCVURPPP 2015b and SCVURPPP 2016a for details). Six catchments (i.e., six storm composite samples) were sampled for PCBs and mercury by the RMP's STLS in Santa Clara County in WY 2016.

STLS monitoring in WY 2017 will also focus on wet weather characterization. However, the number of stations in Santa Clara County that will be targeted by the STLS Team is yet to be determined. In future years, RMP STLS monitoring is expected to shift towards Management Question #5 (Trends). The STLS Trends Strategy Team, initiated in WY 2015, is currently developing a regional monitoring program to assess trends in POC loading to San Francisco Bay from small tributaries. The STLS Trends Strategy will

initially focus on PCBs and mercury, but will not be limited to those POCs. The preliminary design concept includes monitoring at one or two of the region-wide loadings stations to gain a better understanding of the variability in PCBs concentrations/loadings in the existing dataset. STLS Trends Strategy monitoring could begin as early as WY 2017 and will likely continue through the Permit term; however, the details have not yet been planned beyond WY 2017.

The SPoT Monitoring Program conducts annual dry season monitoring (subject to funding constraints) of sediments collected from a statewide network of large rivers. The goal of the SPoT Program is to investigate long-term trends in water quality (Management Question #5 – Trends). Sites are targeted in bottom-of-the-watershed locations with slow water flow and appropriate micromorphology to allow deposition and accumulation of sediments, including stations near the mouth of Coyote Creek and the Guadalupe River. In most years, sediments are analyzed for PCBs, mercury, toxicity, pesticides, and organic pollutants (Phillips et al. 2014). WY 2016 monitoring at the Santa Clara County stations did not include PCBs or mercury; however, those constituents are anticipated for WY 2017. The most recent technical report prepared by SPoT program staff was published in 2014 and describes five-year trends from the initiation of the program in 2008 through 2012 (Phillips et al. 2014). An update to the report is anticipated in late 2016.

2.2 Copper

In WY 2016, SCVURPPP collected copper samples concurrently with a subset (4) of the PCBs and mercury storm composite samples. The goal of this approach is to address Management Question #4 (Loads and Status) by characterizing copper concentrations in stormwater runoff from highly urban catchments. A similar allocation of effort (i.e., four samples) and sampling approach is planned for WY 2017.

2.3 Nutrients

Nutrient monitoring addresses Management Question #4 (Loads and Status). Nutrients were included in the POC monitoring requirements to support Regional Water Board efforts to develop nutrient numeric endpoints (NNE) for the San Francisco Bay Estuary. The "Nutrient Management Strategy for San Francisco Bay" is part of a statewide initiative to address nutrient over-enrichment in State waters (Regional Water Board 2012). The suite of nutrients required in the MRP (i.e., ammonium, nitrate, nitrite, total Kjeldahl nitrogen, orthophosphate, and total phosphorus) closely reflects the list of analytes measured by the RMP and BASMAA partners at the six regional loading stations monitored in WY 2012 and WY 2013. The prior data were used by the Nutrient Strategy Technical Team to develop and calibrate nutrient loading models.

In WY 2016, POC monitoring for nutrients in Santa Clara County was conducted synoptically with bioassessment monitoring in Upper Penitencia Creek as part of a Stressor/Source Identification (SSID) study. The SSID Work Plan was submitted to the Regional Water Board with the WY 2014 Urban Creeks Monitoring Report (SCVURPPP 2015). The Upper Penitencia Creek SSID Project is investigating low creek status condition scores (i.e., California Stream Condition Index) and high temperatures following the Causal Analysis/Diagnosis Decision Information System (CADDIS) framework developed by the USEPA. This SSID Project was initiated in WY2013 but was suspended until WY 2016 due to severe drought conditions resulting in a lack of flow in the study reach during the bioassessment index period.

2.4 Emerging Contaminants

Emerging contaminant monitoring is being addressed through the Program's participation in the RMP. Details of the emerging contaminant special study are still being developed.

Table 4. Planned Allocation of SCVURPPP and Third-Party POC Monitoring Efforts in WY 2017.

			Management Question Addressed [a]					
Pollutant of Concern/ Agency	**Planned Number of Samples (WY 2017)**	**Yearly Minimum**	**1. Source Identification**	**2. Contributions to Bay Impairment**	**3. Management Action Effectiveness**	**4. Loads and Status**	**5. Trends**	**Sample Type and Comments**
PCBs & Mercury								
SCVURPPP	10 to 20	8	X	X	--	X	--	Stormwater runoff samples to characterize high interest WMAs
SCVURPPP	40 to 60		X	--	--	--	--	Urban street/storm drain/surface sediment samples in WMAs to identify source properties
RMP STLS	5 to 10		X	X	--	X	--	Stormwater runoff samples to characterize high interest WMAs
SPoT	2		--	--	--	--	X	Long-term trends monitoring program (sediment samples from creek bed)
Copper								
SCVURPPP	4	2	--	--	--	X	--	Copper analyzed on a subset of PCBs/Hg stormwater runoff samples
Nutrients								
SCVURPPP	2	2	--	--	--	X	--	Water samples collected from SSID study stations

[a] Individual samples can address more than one Management Question simultaneously.

3.0 REFERENCES

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