

# Watershed Monitoring and Assessment Program



## Urban Creeks Monitoring Report Part B: Stressor/Source Identification Projects

*Water Year 2021 (September 2020 – October 2021)*

Submitted in compliance with Provision C.8.h.iii of NPDES Permit No. CAS612008,  
Order No. R2-2015-049

**March 31, 2022**

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## LIST OF ACRONYMS

ACCWP	Alameda Countywide Clean Water Program
BASMAA	Bay Area Stormwater Management Agency Association
BMP	Best Management Practices
CCCWP	Contra Costa Clean Water Program
CCTV	Closed Circuit Television
CEDEN	California Environmental Data Exchange Network
CSCI	California Stream Condition Index
CWA	Clean Water Act
FSURMP	Fairfield-Suisun Urban Runoff Management Program
IMR	Integrated Monitoring Report
MRP	Municipal Regional Permit
MS4	Municipal separate storm sewer system
NPDES	National Pollutant Discharge Elimination System
PCBs	Polychlorinated Biphenyls
PG&E	Pacific Gas and Electric Company
POC	Pollutants of Concern
QAPP	Quality Assurance Project Plan
QAPrP	Quality Assurance Program Plan
QA/QC	Quality Assurance/Quality Control
RMC	Regional Monitoring Coalition
RMP	Regional Monitoring Program
SCVURPPP	Santa Clara Valley Urban Runoff Pollution Prevention Program
SFBRWQCB	San Francisco Bay Regional Water Quality Control Board
SMCWPPP	San Mateo Countywide Water Pollution Prevention Program
SOP	Standard Operating Procedure
SPoT	Stream Pollution Trends
SSID	Stressor/Source Identification
SWAMP	Surface Water Ambient Monitoring Program
TIE	Toxicity Identification Evaluations
TMDL	Total Maximum Daily Load
TRE	Toxicity Reduction Evaluations
UCMR	Urban Creeks Monitoring Report
WY	Water Year

## 1.0 INTRODUCTION

This *Urban Creeks Monitoring Report (UCMR) Part B: Stressor/Source Identification Projects, Water Year<sup>1</sup> (WY) 2021* 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), which are 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 first adopted by the San Francisco Bay Regional Water Quality Control Board (SFBRWQCB or Regional Water Board) on October 14, 2009 as Order R2-2009-0074 (SFBRWQCB 2009; referred to as MRP 1.0). On November 19, 2015, the Regional Water Board updated and reissued the MRP as Order R2-2015-0049 (SFBRWQCB 2015; referred to as MRP 2.0). The next iteration of the MRP (i.e., MRP 3.0) is currently under development and is anticipated to become effective July 1, 2022.

This report fulfills the requirements of provision C.8.h.iii.(2) for providing a Stressor/Source Identification (SSID) Status Report pursuant to Provision C.8.e.iii.(3). As such, this report includes a running summary of all SSID projects undertaken by the Program and its regional partners.

Monitoring data were collected in accordance with the Bay Area Stormwater Management Agency Association (BASMAA) Regional Monitoring Coalition (RMC) Quality Assurance Project Plan (QAPP; BASMAA 2020) and Standard Operating Procedures (SOPs; BASMAA 2016). Where applicable, monitoring data were derived using methods comparable with those specified by the California Surface Water Ambient Monitoring Program (SWAMP) Quality Assurance Program Plan (QAPrP)<sup>2</sup>.

### 1.1 SSID Requirements

Provision C.8 of the MRP requires that Permittees evaluate Creek Status and Pesticides and Toxicity monitoring data with respect to triggers defined in the MRP. Sites where triggers are exceeded may indicate potential impacts to Aquatic Life or other Beneficial Uses and are therefore considered as candidates for SSID projects. SSID projects are selected from the list of trigger exceedances based on criteria such as magnitude of threshold exceedance, parameter, and likelihood that stormwater management action(s) could address the exceedance. Pollutants of Concern (POC) monitoring results (provision C.8.f) may be considered as appropriate.

The MRP allows Permittees to comply with the SSID requirements of Provision C.8 through a regional collaborative effort, their Stormwater Program, and/or individually. In June 2010, Permittees notified the Water Board in writing of their agreement to participate in a regional monitoring collaborative to address requirements in provision C.8. The regional monitoring collaborative is referred to as BASMAA RMC. In a November 2, 2010 letter to the Permittees, the Regional Water Board's Assistant Executive Officer (Dr. Thomas Mumley) acknowledged that all Permittees have opted to conduct monitoring required by the MRP through a regional monitoring collaborative, the BASMAA RMC. Participants in the BASMAA RMC are listed in Table 1.1.

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<sup>1</sup> Most hydrologic monitoring occurs for a period defined as a Water Year, which begins on October 1 and ends on September 30 of the named year. For example, Water Year 2021 (WY 2021) began on October 1, 2020 and concluded on September 30, 2021.

<sup>2</sup> The current SWAMP QAPrP is available at:

[https://www.waterboards.ca.gov/water\\_issues/programs/swamp/qapp/swamp\\_QAPrP\\_2017\\_Final.pdf](https://www.waterboards.ca.gov/water_issues/programs/swamp/qapp/swamp_QAPrP_2017_Final.pdf)

**Table 1.1. Regional Monitoring Coalition (RMC) participants.**

Stormwater Programs	RMC Participants
Santa Clara Valley Urban Runoff Pollution Prevention Program (SCVURPPP)	Cities of Campbell, Cupertino, Los Altos, Milpitas, Monte Sereno, Mountain View, Palo Alto, San Jose, Santa Clara, Saratoga, Sunnyvale, Los Altos Hills, and Los Gatos; Santa Clara Valley Water District; and, Santa Clara County
Alameda Countywide Clean Water Program (ACCWP)	Cities of Alameda, Albany, Berkeley, Dublin, Emeryville, Fremont, Hayward, Livermore, Newark, Oakland, Piedmont, Pleasanton, San Leandro, and Union City; Alameda County; Alameda County Flood Control and Water Conservation District; and, Zone 7
Contra Costa Clean Water Program (CCCWP)	Cities of Antioch, Brentwood, Clayton, Concord, El Cerrito, Hercules, Lafayette, Martinez, Oakley, Orinda, Pinole, Pittsburg, Pleasant Hill, Richmond, San Pablo, San Ramon, Walnut Creek, Danville, and Moraga; Contra Costa County; and, Contra Costa County Flood Control and Water Conservation District
San Mateo Countywide Water Pollution Prevention Program (SMCWPPP)	Cities of Belmont, Brisbane, Burlingame, Daly City, East Palo Alto, Foster City, Half Moon Bay, Menlo Park, Millbrae, Pacifica, Redwood City, San Bruno, San Carlos, San Mateo, South San Francisco, Atherton, Colma, Hillsborough, Portola Valley, and Woodside; San Mateo County Flood Control District; and, San Mateo County
Fairfield-Suisun Urban Runoff Management Program (FSURMP)	Cities of Fairfield and Suisun City
Vallejo Permittees	City of Vallejo and Vallejo Sanitation and Flood Control District

The MRP requires that Permittees initiate a minimum number of SSID projects during the permit term. During MRP 2.0, SCVURPPP and its RMC partners were required to collectively initiate a region-wide minimum of eight SSID projects, with a minimum of one project assessing toxicity. The RMC partners agreed to a population-based distribution of the required number of SSID projects among the Programs, with most projects conducted by individual Programs addressing local needs and one project conducted regionally. Through these agreements, SCVURPPP initiated two Santa Clara Basin-specific projects and participated in one regional project.

Provision C.8.e.ii of the MRP requires that all SSID project reports initiated during the permit term are presented in a unified, regional-level report. As such, the BASMAA RMC Regional SSID Report is included as Attachment 1. Attachment 1 provides the start date, problem definition, schedule, and current status of all regional SSID projects.

SSID projects must identify and isolate potential sources and/or stressors associated with observed water quality impacts. They are intended to be oriented to taking action(s) to alleviate stressors and reduce sources of pollutants. Provision C.8.e.iii of the MRP describes a stepwise process for conducting SSID projects:

- Step 1: Develop a work plan for each SSID project that defines the problem to the extent known, describes the SSID project objectives, considers the problem within a watershed context, lists candidate causes of the problem, and establishes a schedule for investigating the cause(s) of the trigger. The MRP recommends study approaches for specific triggers. For example, toxicity studies should follow guidance for Toxicity

Reduction Evaluations (TRE) or Toxicity Identification Evaluations (TIE), physical habitat and conventional parameter (e.g., dissolved oxygen, temperature) studies should generally follow Step 5 (Identify Probable Causes) of the Causal Analysis/Diagnosis Decision Information System (CADDIS), and pathogen indicator studies should generally follow the California Microbial Source Identification Manual (Griffith et al. 2013).

- Step 2: Conduct SSID investigation according to the schedule in the SSID work plan and report on the status of SSID investigations annually.
- Step 3: Conduct follow-up actions based on SSID investigation findings. These may include development of an implementation schedule for new or improved best management practices (BMPs). If a Permittee determines that municipal separate storm sewer system (MS4) discharges are not contributing to an exceedance of a water quality standard, the Permittee may end the SSID project upon written concurrence of the Executive Officer. If the SSID investigation is inconclusive, the Permittee may request that the Executive Officer consider the SSID project complete.

## 2.0 SSID PROJECTS INITIATED BY SCVURPPP

This section summarizes the results of SSID projects initiated or completed by SCVURPPP during the permit term of MRP 2.0. The Program initiated one SSID project addressing toxicity in Coyote Creek and one SSID project addressing low biological condition in Lower Silver Creek. The Program also participated in a regional project addressing releases and spills of Polychlorinated Biphenyls (PCBs) from electrical utility equipment (see Section 3.0).

### 2.1 Coyote Creek Toxicity SSID Project

The Coyote Creek Toxicity SSID Project was triggered by the Water Board staff's recommended listing of Coyote Creek for sediment toxicity via the 2016 Integrated Report (303(d) List/305(b) Report for the San Francisco Bay Region. Sediment toxicity data collected by the Water Board in 2007 and 2008 at two sites in Coyote Creek were determined to exceed the 303(d) listing evaluation guidelines for acute toxicity (survival) to *Hyalella azteca*.

In WY 2017, SCVURPPP developed the Coyote Creek Toxicity SSID Work Plan. The work plan identified SCVURPPP's approach to determine whether sediment toxicity is present in an urban reach of Coyote Creek and, if so, evaluating the stressors and sources that may be causing the toxicity. The following monitoring objectives were identified:

1. Identify the magnitude and extent of toxicity in a reach of the Coyote Creek mainstem where sediment toxicity was observed in 2008; and
2. Identify potential causes of sediment toxicity (if observed).
3. Evaluate existing data for trends in toxicity.

The Coyote Toxicity SSID monitoring design includes an evaluation of sediment chemistry and toxicity testing during the dry season over a two-year period (WYs 2018 and 2019). In July 2018, sediment samples were collected at five sites within an urban reach of Coyote Creek mainstem (between Montague Exp and Story Rd) (Figure 2.1). In WY 2019, sediment sampling was conducted at three of the five sites evaluated in WY 2018. Acute (survival) toxicity testing was conducted using *Hyalella azteca* and *Chironomus dilutes* test organisms. *Hyalella azteca* is an amphipod crustacean known to be sensitive to pyrethroid pesticides. *Chironomus dilutes* is an invertebrate midge known to be sensitive to neonicotinoid pesticides and fipronil. Sediment samples were also analyzed for metals and pesticides, including neonicotinoids, fipronil and pyrethroids.

Overall, toxicity to *Hyalella azteca* and *Chironomus dilutes* was very low during the 2018 and 2019 monitoring period. In 2018, only one of five sediment samples had observed toxicity. Site 205COY080 at Oakland Avenue had toxicity levels for *Hyalella azteca* that were slightly higher than acceptable threshold (> 20% percent effect compared to control). A subsequent Toxicity Investigation Evaluation on the same sample resulted in no significant toxicity.

One of the three WY 2019 samples exhibited toxicity: site 205COY080 had toxic levels for *Chironomus dilutes* that were just above evaluation threshold (> 20% percent effect compared to control). However, these results were ambiguous due to an identified outlier for one of the test replicates. There was no significant toxicity when the outlier was excluded from the results. Due to low levels of toxicity, a TIE was not conducted on the 2019 sample.

Evaluation of sediment chemistry results at sites where toxicity was observed were inconclusive (i.e., pesticide and metal concentrations were not at levels known to cause toxic effects). The subsequent TIE conducted in 2018 did not result in toxicity and thus, treatments to evaluate potential causes of toxicity (i.e., metals or pyrethroids) were not effective.

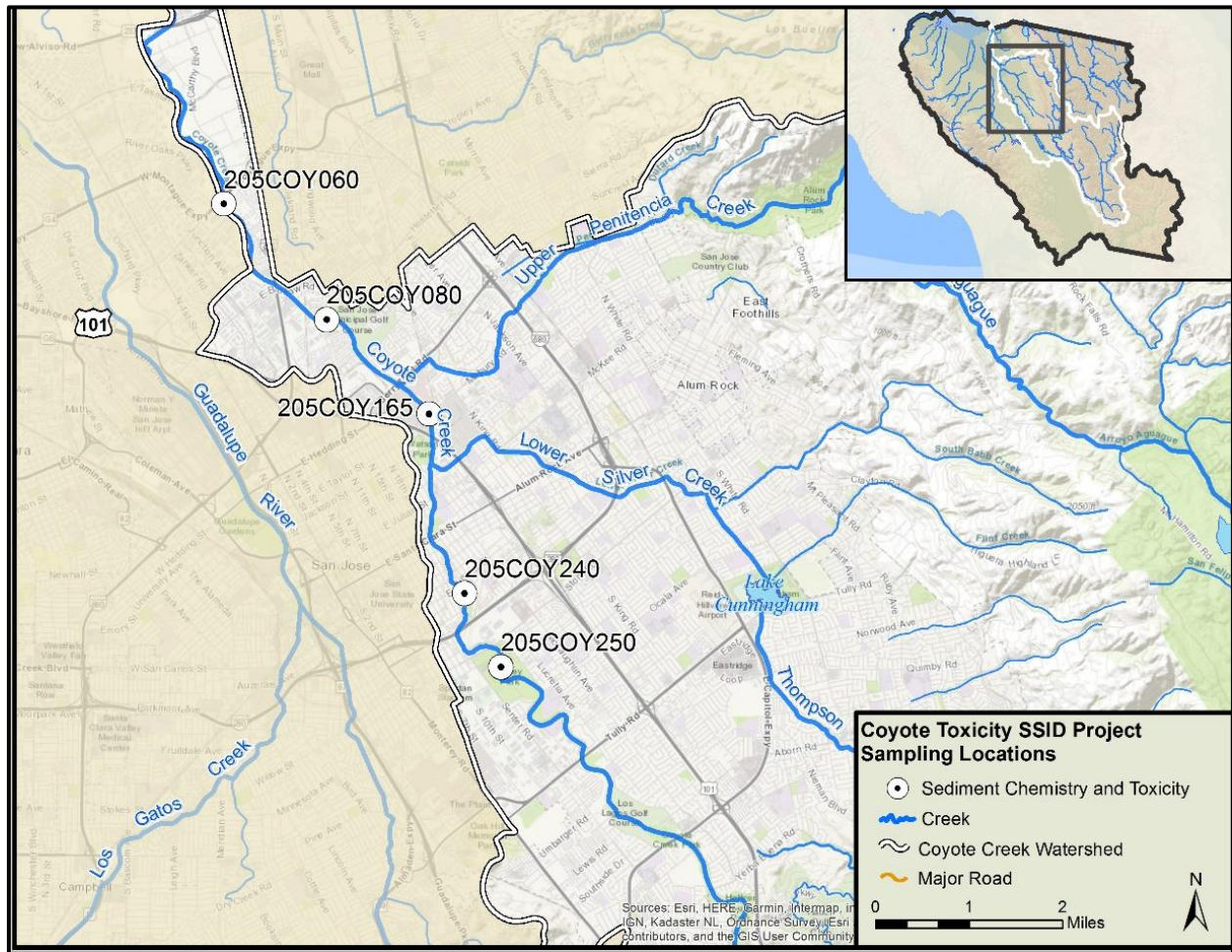


Figure 2.1. Sediment sampling locations for the Coyote Creek Toxicity SSID Project.

Long term toxicity data collected at site 205COY060 (Coyote Creek at Montague Exp) since 2008 by the SWAMP Stream Pollution Trends Monitoring Program (SPoT) were also evaluated as part of the SSID study. Over the past 12 years, there appears to be trend of decreasing *Hyalella azteca* toxicity in Coyote Creek. The decline in acute sediment toxicity at this Coyote site may reflect a decrease in pyrethroid concentrations in sediment over time since there also appears to be a general decrease in pyrethroid concentrations since 2012.

The results of this SSID Study and review of toxicity data collected over the past 14 years suggest that sediment toxicity is generally not present in Coyote Creek. Based on these results and analyses, the Coyote Creek Toxicity SSID Project is considered complete.

In Fiscal Year 2018/19, SCVURPPP conducted an evaluation of pesticide source control actions implemented by SCVURPPP and its Permittees. The results of the evaluation are described in

the Pesticide Source Control Actions Effectiveness Evaluation Report (SCVURPPP 2019a) which was included in the Fiscal Year 2018/19 SCVURPPP Annual Report. As described in the Report, SCVURPPP will continue to implement the pesticide toxicity control measures described in provision C.9 of the MRP.

The Final Coyote Creek Toxicity SSID Project Report was included with the Program's March 2020 Integrated Monitoring Report (IMR; SCVURPPP 2020). As part of that submittal, the Program requested that the Regional Water Board Executive Officer (EO) approve the completion of the SSID project. On December 31, 2021, the Water Board sent a letter to Program staff with comments on the Coyote Creek Toxicity SSID Project Final Report. The letter is included as an appendix to Attachment 2. In the letter, Water Board staff indicated that if all comments/edits were addressed, the EO would approve the completion of the SSID project. The Program staff has since addressed all Water Board comments and the Revised Coyote Creek Toxicity SSID Project Final Report is submitted as Attachment 2 to this report (UCMR Part B: SSID Projects, WY 2021).

## **2.2 Lower Silver SSID Project**

The Lower Silver SSID project was triggered by creek status/condition data suggesting that Lower Silver/Thompson Creek watershed has reduced biological integrity. Specifically, the California Stream Condition Index Scores (CSCI), based on benthic macroinvertebrate data previously collected at six bioassessment sites on Lower Silver and Thompson Creek, were below the MRP trigger threshold for CSCI scores (0.795). In addition, water chemistry data collected during Creek Status Monitoring showed that nutrient concentrations in the water column were elevated during the spring season when biological conditions were assessed. Furthermore, algal biomass measurements at selected sites indicated the potential for eutrophication in Lower Silver/Thompson Creek. Under certain conditions (e.g., sunlight exposure, high temperatures) excess nutrients may result in increased algal production. High levels of algal biomass can result in poor water quality or changes in food availability, resulting in reduced biological conditions.

In WY 2019, SCVURPPP developed the Lower Silver SSID Work Plan (SCVURPPP 2019b). The objective of the project is to focus on potential causes of reduced biological conditions in Lower Silver-Thompson Creek. Specifically, the study is designed to help answer the following questions:

1. What sources are contributing nutrients to the creek?
2. Are high nutrient concentrations contributing to the low biological quality in the creek?
3. Is eutrophication occurring, and if so, what conditions are potential contributing factors?
4. What other conditions might contribute to the low biological quality in the creek?

The project was initiated during the WY 2019 dry season to evaluate the extent and magnitude of nutrient concentrations and the importance of nutrients in reducing bio-integrity in Lower Silver/Thompson Creek watershed. Three water sampling events were conducted at several sites between August and October 2019 to evaluate potential sources of nutrients. In addition, continuous water quality monitoring was conducted at locations that appeared to have high algal production to assess potential impacts of eutrophication on water quality.

Field data collection continued in WY 2020, with the following monitoring efforts:

- Bioassessments were conducted at four locations in the Lower Silver Creek – Thompson Creek watershed (two sites in Lower Silver Creek and two sites in Thompson Creek).
- Benthic algae samples were collected at the four bioassessment sites in August and September 2020 to evaluate potential eutrophication conditions associated with increased algae production in the dry season.
- Continuous water quality monitoring data were collected during three 2-week periods in June, July, and September 2020. Monitoring stations were selected for various reasons: 1) collect water quality data synoptically with bioassessments (June); 2) evaluate potential water quality impacts from discharge at a major outfall (July); and 3) and evaluate changes in water quality at sites that were previously sampled (September).
- Field observations were conducted during fall 2019 and 2020 in selected reaches of Lower Silver and Thompson Creek to document flow and physical habitat conditions, including evidence of potential eutrophic conditions (e.g., algal blooms, fish kills).

WY 2019 and WY 2020 sampling locations are shown in Figure 2.2.

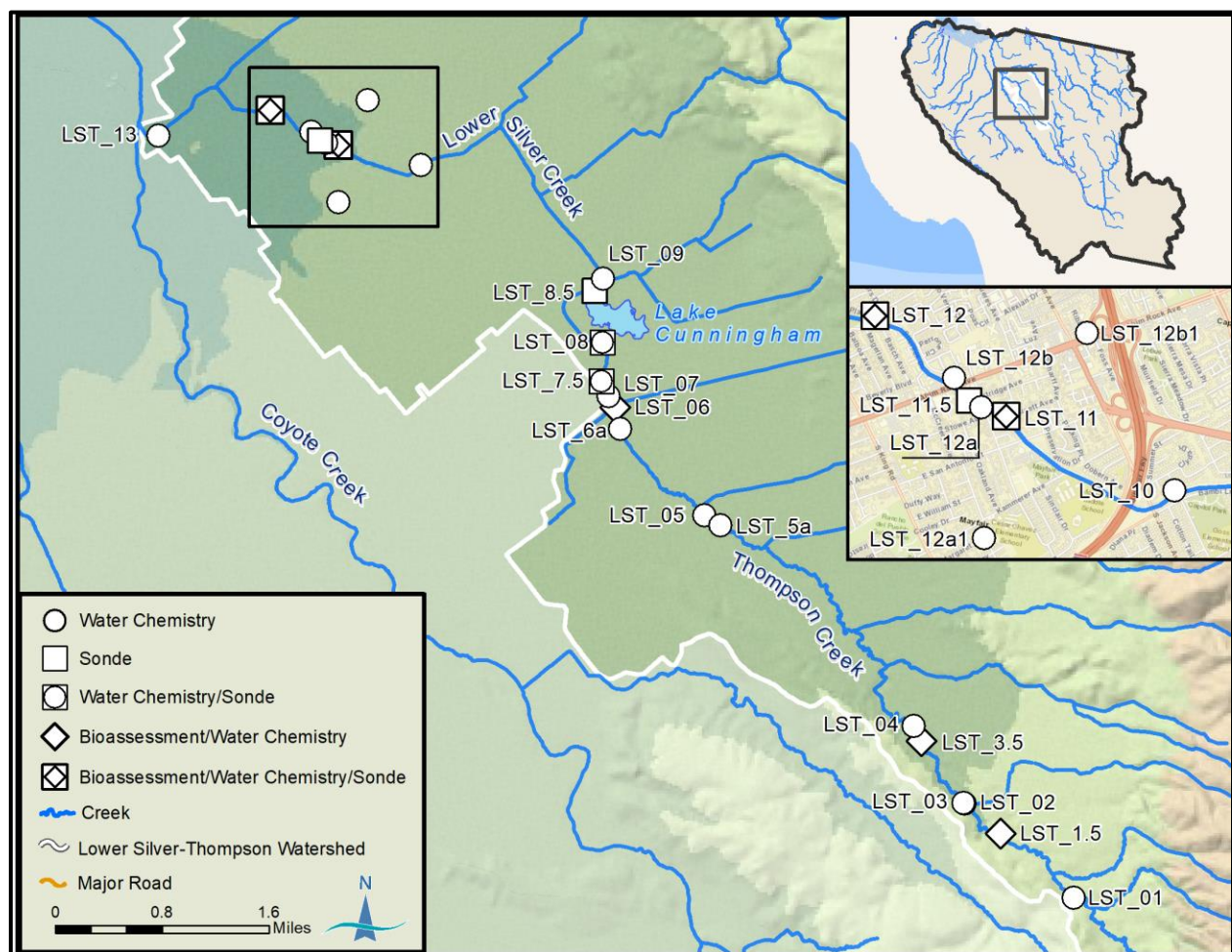


Figure 2.2. Sampling locations for water chemistry, bioassessment and continuous water quality monitoring conducted for the Lower Silver-Thompson Creek SSID Project during WYs 2019 and 2020.

Based on WY 2019 and 2020 monitoring results, the SSID study confirmed that nutrient concentrations are elevated above thresholds identified for eutrophic conditions (Dobbs and Smith 2016) throughout much of the Thompson Creek - Lower Silver Creek watershed. However, other eutrophic indicators (i.e., low dissolved oxygen, excessive algal growth) are limited to a few reaches. Furthermore, nutrient concentrations do not appear to be the cause of poor biological conditions. Instead, poor biological conditions are likely caused by several confounding stressors, such as urban development throughout the subwatershed, intermittent flow conditions in the upper subwatershed, low gradient conditions in the mid-watershed, and channel alteration in the lower watershed. Furthermore, channel morphology and physical habitat appear to be more important drivers of eutrophic conditions observed in the mid-watershed (stations LST\_06 to LST\_08) than nutrients. Low gradients, slow flows, and a lack of riparian canopy in this reach, that was once a large freshwater wetland, create conditions conducive to algal production. The algal growth results in large diurnal fluctuations in DO, including daily dips below the water quality objective for WARM Habitat, indicative of eutrophic conditions.

The SSID study identified some areas and sources within the watershed that warrant additional investigation. As a result, two catchment investigations were conducted:

- Outfall LST\_12b (nitrogen). High levels of nitrate were identified at site LST\_12b (storm drain outfall at Alum Rock Av). Further investigation showed the source of nitrate from this outfall is likely from groundwater that infiltrates into a small wetland that is pumped at regular intervals by CalTrans into the MS4 to prevent flooding into an adjacent freeway.
- Outfall LST\_12a (phosphorus). High levels of phosphorus were measured at site LST\_12a (storm drain outfall at East Sunset Av). A catchment investigation was conducted in the fall of 2021 to identify potential sources of dry weather flow and nutrients. This investigation followed a step-by-step, weight-of-evidence approach that included monitoring of manholes for presence of flowing water and analysis of samples collected along the storm drain system for a wide range of chemical constituents (e.g., nutrients, surfactants) that are associated with different types of sources (e.g., ground water infiltration, illicit discharges). The Program's catchment investigation results suggested that phosphorus is likely coming from typical residential and commercial runoff sources (i.e., lawn fertilizer, yard waste, pet waste), and that an additional phosphorus source appeared to be present. The City of San José followed up with subsequent closed-circuit television (CCTV) investigation of specific pipe segments in the storm drain and sanitary systems. The City identified several structural defects and initiated the repair process. In addition, calcium carbonate deposits were observed at several pipe joints indicating potential groundwater infiltration into the storm drain.

The SSID study recommended the following future management actions and/or investigations:

- Future investigations could focus on identifying and reducing potential sources of nitrogen between Quimby Road (LST\_06) and Tully Road (LST\_08) to minimize the potential for contributing nutrients at levels that can cause eutrophication.
- Wet weather nutrient sampling could be conducted to evaluate potential sources of Total P in the upper reaches of Thompson Creek.

- Future monitoring should utilize chlorophyll a (suspended) as one of the primary eutrophic indicators.
- Public outreach should be conducted throughout the watershed to inform residents about potential sources of nutrients in stormwater runoff and ways to reduce nutrient sources.

Following each year of data collection (2019 – 2021), data collected as part of this SSID project were submitted to the Regional Water Board pursuant to Provision C.8.h.ii of the MRP. Data from WY 2021 and from October and November 2021 are submitted with this UCMR. Data collected from receiving water stations may be obtained via the California Environmental Data Exchange Network (CEDEN). All data were assessed for data quality attributes according to the BASMAA RMC QAPP (BASMAA 2020). Results of the Quality Assurance/Quality Control (QA/QC) review suggest that the SSID data were of sufficient quality for the purposes of this investigation. No data were rejected; however, some data were flagged in accordance with the QA/QC protocols.

**Consistent with Provision C.8.e.iii.(3) of the MRP, the Program seeks approval of the completion of the Lower Silver Creek SSID Study from the Water Board Executive Officer. The Final Lower Silver – Thompson Creek SSID Project Report is included as Attachment 3 to this report (UCMR Part B: SSID Projects, WY 2021).**

### **3.0 REGIONAL PCBs FROM ELECTRICAL UTILITY EQUIPMENT**

In late-2018, BASMAA contracted with EOA, Inc. to develop a work plan for a regional SSID project addressing releases and spills of PCBs from electrical utility equipment. The Regional SSID Project - Electrical Utilities as a Potential PCBs Source to Stormwater in the San Francisco Bay Area – was triggered by fish tissue monitoring in the Bay that led to the Bay being designated as impaired on the Clean Water Act (CWA) Section 303(d) list and the adoption of a Total Maximum Daily Load (TMDL) for PCBs in 2008. Subsequent PCBs monitoring by the BASMAA RMC partners and the Regional Monitoring Program for Water Quality in San Francisco Bay (RMP) suggests that diffuse sources of PCBs are present throughout the region. One potential source of PCBs to stormwater is releases and spills from electrical utility equipment.

PCBs were historically used in several types of electrical utility equipment, some of which still contain PCBs. Although much of the PCB-containing equipment has been removed from service, some remains in use, and releases and spills from the equipment may be occurring at levels approaching the TMDL waste load allocation. However, the information currently available is not adequate to fully quantify the scope and magnitude of electrical utility applications as a source of PCBs to stormwater. The information gap is partially due to state and federal regulatory levels for reporting and clean-up of PCBs spills that are higher than the PCB levels needed to comply with the PCBs TMDL requirements. Furthermore, stormwater Programs have neither the authority to compel electrical utilities to provide information about spills, equipment replacement programs, and clean-up protocols, nor the authority to require additional controls. Therefore, BASMAA identified a need to develop and implement a regional SSID work plan to further understand the magnitude and extent of this potential PCBs source, and identify controls (if necessary) that could be put into place to reduce the water quality impacts of this source.

Prior to initiation of the SSID work plan, SCVURPPP prepared a report that summarizes Co-permittees' current state of knowledge about electrical utility applications and PCBs titled Potential Contributions of PCBs to Stormwater from Electrical Utilities in the San Francisco Bay Area. That report was submitted with the Program's Fiscal Year (FY) 2017/18 Annual Report as Appendix 11-2 (SCVURPPP 2018). The report provides an overview of electrical utility applications in the Bay Area, summarizes existing information on the release of PCBs from utility equipment, identifies the information gaps, and recommends preliminary next steps. The report also recommends that because electrical utility equipment is widespread and distributed across multiple jurisdictions, addressing PCBs from this source should be done at the regional level, rather than on a site-by-site basis.

Following up on that recommendation, BASMAA developed the work plan for the regional SSID project to further evaluate the extent and magnitude of electrical utilities as a source of PCBs to urban stormwater runoff. In compliance with MRP provision C.8.e, the work plan for conducting the SSID project included in SCVURPPP's WY 2018 UCMR (SCVURPPP 2019b). The work plan focused on Pacific Gas and Electric Company (PG&E), the largest electrical utility operating in the MRP area, and the only utility that is not owned by a municipality. As the first step in implementing the work plan, BASMAA submitted a letter to the Regional Water Board late in FY 2018/19 requesting assistance in obtaining information from PG&E. The letter specifically asked the Regional Water Board to use their regulatory authority under Section 13267 of the CWA to compel PG&E to provide the needed data. However, PG&E is currently in

bankruptcy proceedings, and the outcomes of that process have not yet been determined. As such, the Regional Water Board has delayed sending a “13267 letter” to PG&E and is currently considering other options for moving forward with PG&E on this issue. In response, BASMAA developed a revised approach to the SSID project, which would implement the work plan but with a focus on municipally-owned electrical utilities in the San Francisco Bay Area (Bay Area), rather than PG&E. The Regional Water Board staff agreed<sup>3</sup> to this revised approach at the BASMAA Monitoring and Pollutants of Concern Meeting held on March 4, 2020. BASMAA then implemented the work plan with the revised approach during the remainder of FY 2019/20. The project gathered data from municipally-owned electrical utilities on their current and past inventories of PCBs-containing electrical equipment and current spill response and reporting procedures. These data were used to develop a source control framework that identified improved management and reporting of PCBs-containing equipment removals and spill response. The data were also used to estimate the load reductions that can be achieved through implementing these measures. The final BASMAA project report PCBs from Electrical Utilities in San Francisco Bay Area Watersheds SSID Project was included as Attachment 11-1 to the Program’s FY 2019/20 Annual Report.

Consistent with MRP procedures, the Program and the RMC requested approval of the completion of the PCBs from Electrical Utilities in San Francisco Bay Area Watersheds SSID Study from the Regional Water Board EO. At the time this UCMR was submitted, the Program continues to await comments from Water Board staff and/or approval for completion of the SSID Study.

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<sup>3</sup> Per Jan O’Hara at the BASMAA Monitoring and Pollutants of Concern Committee meeting held on March 4, 2020.

## 4.0 REFERENCES

- Bay Area Stormwater Management Agency Association (BASMAA) Regional Monitoring Coalition (RMC). 2016. Creek Status and Pesticides & Toxicity Monitoring Standard Operating Procedures, Final Version 3. Prepared for BASMAA by EOA, Inc. on behalf of the Santa Clara Urban Runoff Pollution Prevention Program and the San Mateo Countywide Water Pollution Prevention Program, Applied Marine Sciences on behalf of the Alameda Countywide Clean Water Program, and Armand Ruby Consulting on behalf of the Contra Costa Clean Water Program. 190 pp.
- Bay Area Stormwater Management Agency Association (BASMAA) Regional Monitoring Coalition (RMC). 2020. Creek Status and Pesticides & Toxicity Monitoring Quality Assurance Project Plan, Final Version 4. Prepared for BASMAA by EOA, Inc. on behalf of the Santa Clara Urban Runoff Pollution Prevention Program and the San Mateo Countywide Water Pollution Prevention Program, Applied Marine Sciences on behalf of the Alameda Countywide Clean Water Program, and Armand Ruby Consulting on behalf of the Contra Costa Clean Water Program. 79 pp plus appendices.
- Dobbs, W.K. and Smith, V.H. 2016. Nitrogen, Phosphorus, and Eutrophication in Streams. *Inland Waters* 6:155-164.
- Griffith, J.F., Blythe, A.L., Boehm, A.B., Holden, P.A., Jay, J.A., Hagedorn, C., McGee, C.D., and Weisberg, S.B. 2013. The California Microbial Source Identification Manual: A Tiered Approach to Identifying Fecal Pollution Sources to Beaches. Southern California coastal Water Research Project Technical Report 804.
- San Francisco Bay Regional Water Quality Control Board (SFBRWQCB). 2009. Municipal Regional Stormwater NPDES Permit. Order R2-2009-0074, NPDES Permit No. CAS612008. 125 pp plus appendices.
- San Francisco Bay Regional Water Quality Control Board (SFBRWQCB). 2015. Municipal Regional Stormwater NPDES Permit. Order R2-2015-0049, NPDES Permit No. CAS612008. 152 pp plus appendices.
- Santa Clara Valley Urban Runoff Pollution Prevention Program (SCVURPPP). 2018. Potential Contributions of PCBs to Stormwater from Electrical Utilities in the San Francisco Bay Area. Overview and Information Needs. Prepared by EOA, Inc. September 2018.
- Santa Clara Valley Urban Runoff Pollution Prevention Program (SCVURPPP). 2019a. Pesticide Source Control Actions Effectiveness Evaluation. Submitted on behalf of all SCVURPPP Permittees in compliance with provision C.9.g of the Municipal Regional Permit (Order R2-2015-0049). September 30, 2019.
- Santa Clara Valley Urban Runoff Pollution Prevention Program (SCVURPPP). 2019b. Urban Creeks Monitoring Report. Water Quality Monitoring. Water Year 2018. March 31, 2019.
- Santa Clara Valley Urban Runoff Pollution Prevention Program (SCVURPPP). 2020. Integrated Monitoring Report. Water Year 2014 through Water Year 2019. March 31, 2020.

## **ATTACHMENTS**

**Attachment 1**

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**BASMAA RMC Regional SSID Report**

**Attachment 2**

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**Coyote Creek Toxicity SSID Revised Final Report**

**Attachment 3**

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**Lower Silver Creek-Thompson Creek SSID Final  
Report**