Contra Costa Clean Water Program

East County Annual Mercury Monitoring Plan: Water Year 2027

Submitted to the San Francisco Bay and Central Valley Regional Water Quality Control Boards

In Compliance with NPDES Permit Provision C.19.d.iii.(1) Municipal Regional Stormwater Permit (Order No. R2-2022-0018)

March 31, 2026

Prepared for

CONTRA COSTA CLEAN WATER PROGRAM

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Contra Costa Clean Water Program Participants

- Cities of: Antioch, Brentwood, Clayton, Concord, Danville (Town), El Cerrito, Hercules, Lafayette, Martinez, Moraga (Town), Oakley, Orinda, Pinole, Pittsburg, Pleasant Hill, Richmond, San Pablo, San Ramon, and Walnut Creek
- Contra Costa County
- Contra Costa County Flood Control & Water Conservation District

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Acronyms and Abbreviations

CCCWP	Contra Costa Clean Water Program
CCCDD	Contra Costa County Community Development Department
CVRWQCB	Central Valley Regional Water Quality Control Board
Delta	Sacramento-San Joaquin River Delta
FY	fiscal year
MRP	Municipal Regional Stormwater Permit
MS4	Municipal Separate Storm Sewer System
ng/L	nanograms per liter
NPDES	National Pollutant Discharge Elimination System
QA/QC	quality assurance/quality control
SFBRWQCB	San Francisco Bay Regional Water Quality Control Board
SWAMP	Surface Water Ambient Monitoring Program
TMDL	Total Maximum Daily Load
WWTP	wastewater treatment plant
WY	water year

1 Introduction

The Municipal Regional Stormwater National Pollutant Discharge Elimination System (NPDES) Permit (MRP) (SFBRWQCB 2022) requires the East County Permittees of the Contra Costa Clean Water Program (CCCWP) to prepare an annual mercury monitoring plan to propose sampling locations, strategies, and methodologies for methylmercury monitoring required under Provision C.19.d.ii.(2) in Contra Costa County. Sampling locations can include, but are not limited to, Marsh Creek (downstream of the Reservoir), Central Delta, and West Delta Subarea tributaries within the Municipal Separate Storm Sewer System (MS4) permit boundary.

1.1 MRP Provision

Contra Costa County lies within the jurisdictions of both the San Francisco Bay (Region 2) and Central Valley (Region 5) Regional Water Quality Control Boards (SFBRWQCB and CVRWQCB, respectively). Municipal stormwater discharges in Contra Costa County are regulated by the requirements of MRP 3.0 for urban stormwater in Region 2 (Order No. R2-2022-0018), which incorporates the eastern portion of Contra Costa County within the requirements of the Region 2 MRP. The East County Annual Mercury Monitoring Plan is submitted in compliance with reporting requirements specified in Provision C.19.d.iii.(1) of MRP 3.0, as issued by SFBRWQCB Order No. R2-2022-0018.

East County Permittees are preparing an annual monitoring plan as a component of the integrated monitoring report. This plan is designed to address monitoring questions outlined in Provision C.19.d.ii.(2).

Monitoring questions presented in Provision C.19.d.ii.(2) include:

a) *What are the annual methylmercury loads from the MS4 discharge to the Central Delta, Marsh Creek, and West Delta subareas?*

b) *Do methylmercury loads to each subarea meet the assigned methylmercury wasteload allocations?*

c) *Are there any MS4 design features that increase mercury methylation in the discharge?*

d) *What MS4 water quality controls have been implemented or are planned to be implemented to reduce methylmercury production and transport in the MS4 discharge?*

e) *By January 1, 2024, address whether eutrophication and low dissolved oxygen concentrations increase methylmercury in ponded areas of Marsh Creek during low flow periods (depending on the year, low flow periods can range between mid-March and mid-November), and, if so:*

    i) *Under what hydrologic or seasonal circumstances do increased methylmercury concentrations reach the Delta?*

ii) Are there reasonable and foreseeable management actions to ameliorate increased methylmercury concentrations?

In water year (WY) 2027, CCCWP plans to continue monitoring to actively address questions in MRP 3.0 Provision C.19.d.ii.(2)(a)–(c). Monitoring to answer the question in Provision C.19.d.ii.(2)(d) is not necessary and is addressed in CCCWP's Annual Report under Provision C.19.e. Monitoring to answer the question in Provision C.19.d.ii.(2)(e) is scheduled for WY 2027, but is condition dependent and may be deferred to future years if conditions to address the monitoring question are not present. Section 2 provides additional detail on the WY 2027 monitoring strategy and objectives.

1.2 Delta Methylmercury TMDL

The CVRWQCB established methylmercury wasteload allocations for all dischargers to the Sacramento-San Joaquin River Delta (Delta) through the Delta Methylmercury Total Maximum Daily Load (Delta Methylmercury TMDL). The goal of the Delta Methylmercury TMDL is to bring methylmercury concentrations in fish down to levels considered to be protective of people and wildlife who consume fish from the Delta. The Delta Methylmercury TMDL translates desired levels of mercury in fish to a water column target concentration of 0.06 ng unfiltered methylmercury per liter of water (0.06 ng/L). The concept behind this TMDL policy is that if all waters of the Delta were to attain a concentration of 0.06 ng/L or less, fish within the Delta would then not exceed a level of methylmercury harmful to people and wildlife who consume fish in the Delta (CVRWQCB 2010).

The motivation for monitoring is driven by the determination from the CVRWQCB that mercury concentrations in fish species found in the Delta exceed acceptable levels for the protection of human health and wildlife that depend on fish for food (CVRWQCB 2010). Causes of elevated levels of mercury include legacy mining and old industrial sources, along with global atmospheric sources and smaller contributions from urban stormwater sources (CCCWP 2013). Methylmercury is a form of mercury of heightened environmental concern because it binds to proteins and, therefore, bioaccumulates in organisms and biomagnifies at successively higher levels of the food chain.

The Delta Methylmercury TMDL identifies eight geographic subareas for monitoring (Figure 1). Of these eight geographic subareas, the West Delta, Central Delta, and Marsh Creek subareas are in Contra Costa County (Figure 2). MRP 3.0 Provision C. 19.d regulates discharges into these subareas in accordance with the Delta Methylmercury TMDL. The three geographic subareas located within the CCCWP jurisdiction are discussed in Section 2.

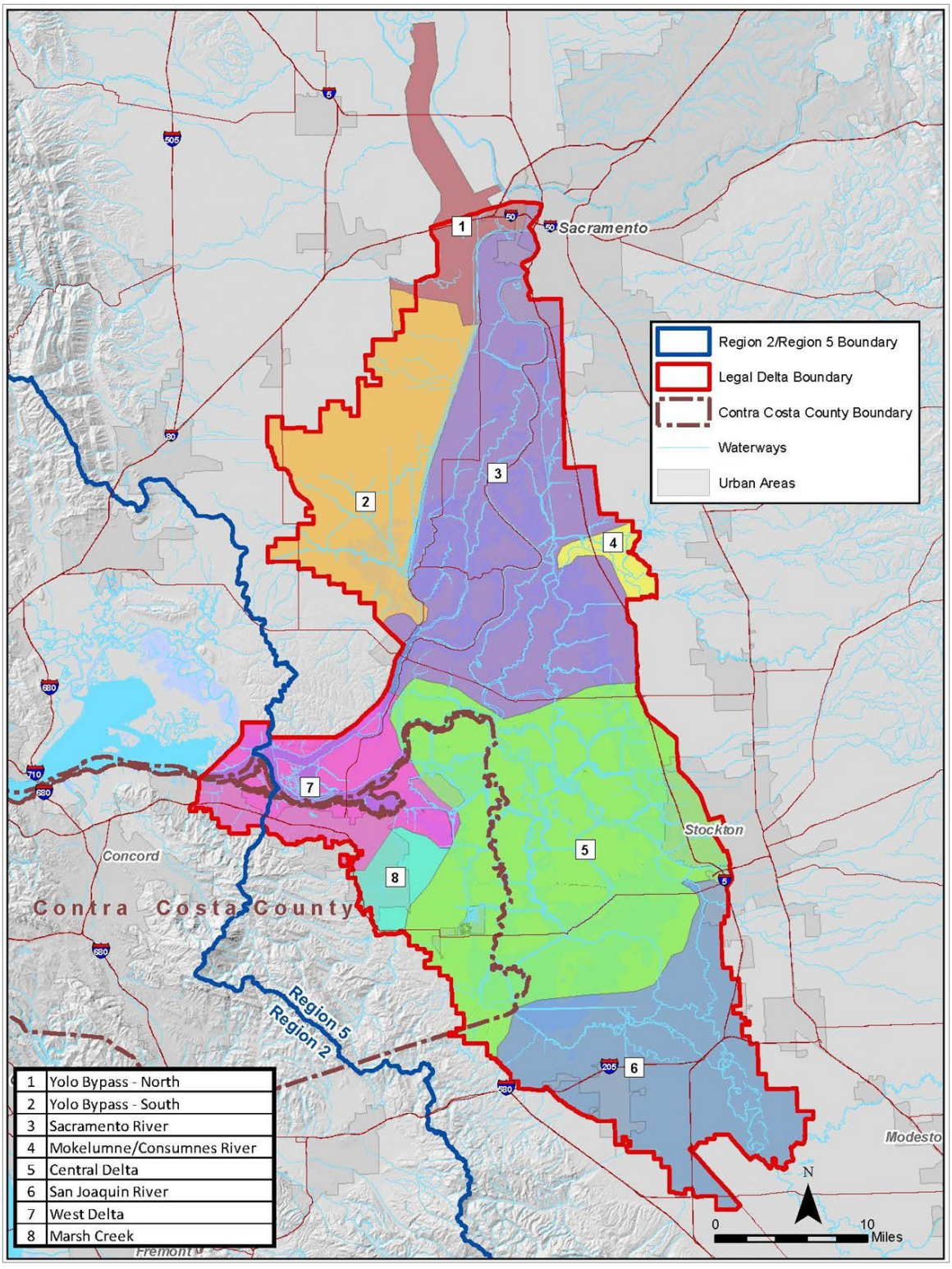

Figure 1 Delta Subareas Defined in the Methylmercury TMDL

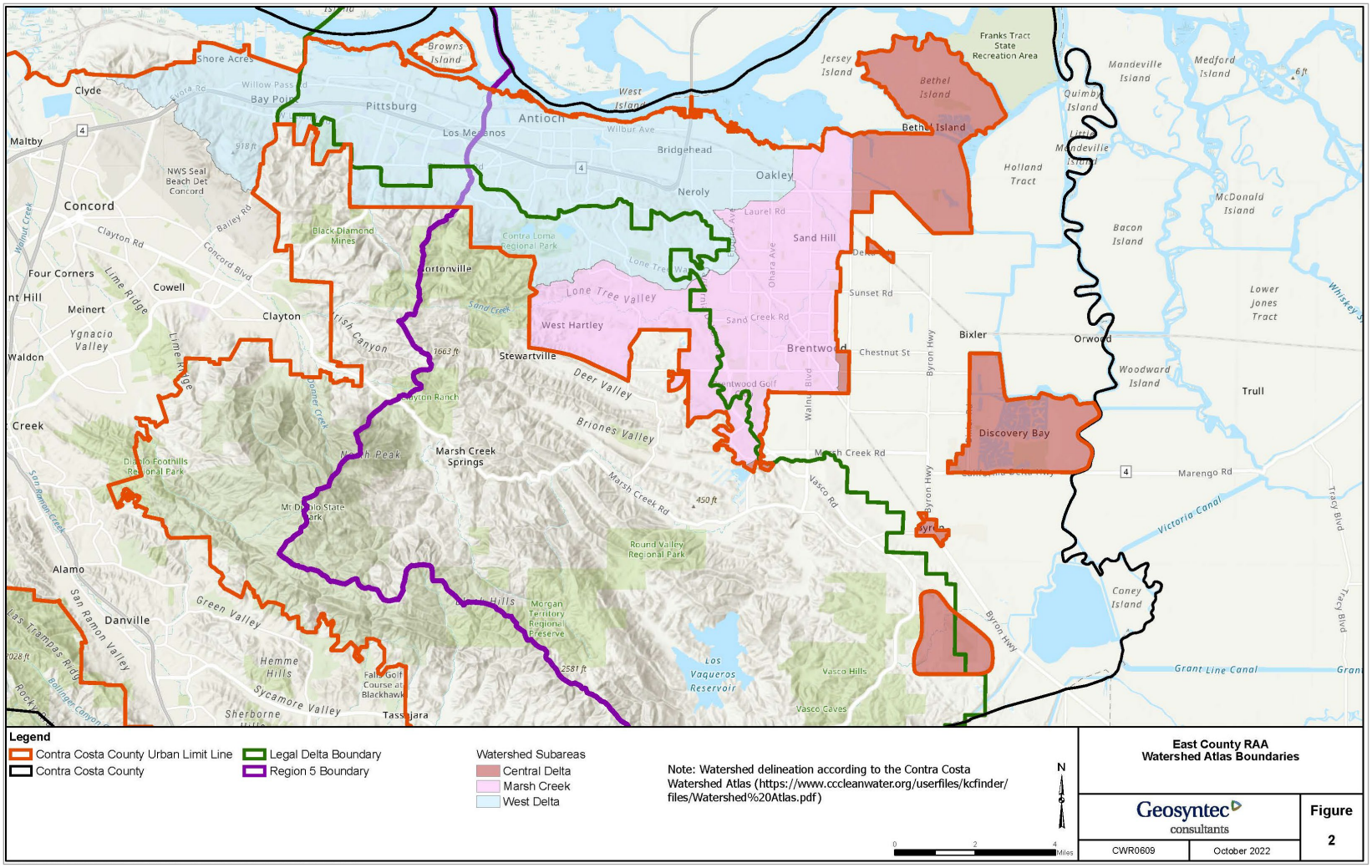

Figure 2 Watershed Delineations of East Contra Costa County Delta Subareas: Central Delta, Marsh Creek, and West Delta Subarea

2 Monitoring Strategy and Study Area

As discussed in the Annual Mercury Monitoring Plan for WY 2026 (CCCWP 2025a), sampling efforts to address monitoring questions presented in Provision C.19.d.ii.(2)(a)–(c) are currently underway. In WY 2027, CCCWP plans to continue data collection to expand on existing datasets in the Marsh Creek, West Delta, and Central Delta subareas. As presented in the Annual Mercury Monitoring Report for fiscal year 2024–2025 (CCCWP 2025b), sampling conditions to address the monitoring question in Provision C.19.d.ii.(2)(e) by January 1, 2024, were not present in WY 2025, so the Marsh Creek subarea will be targeted for sampling again in WYs 2026 and 2027 (CCCWP 2025a). CCCWP is currently sampling at locations above and below Lake Alhambra (manmade impoundment on East Antioch Creek) to gather data to address the monitoring question in Provision C.19.d.ii.(2)(c), but further discussion on this sub-provision has been requested as part of MRP 4.0 discussions. Monitoring to address Provision C.19.d.ii.(2)(d) is not necessary, and this question is discussed in CCCWP's Fiscal Year 2024/2025 Annual Report under Section C.19.e.

Results from monitoring data collected from WYs 2020–2025 to address the questions in Provision C.19.d.ii.(2)(a)–(c) are presented in Section 4 of Appendix 4: WY 2020-2025 Pollutants of Concern Integrated Monitoring Report. These results helped develop a WY 2027 sampling strategy and locations for ongoing monitoring in East Contra Costa County Delta subareas. A brief overview of the East County Delta subareas is provided below, followed by the monitoring schedule and site locations in Section 3.

2.1 West Delta Subarea

The West Delta subarea includes the watersheds of West Antioch Creek and East Antioch Creek (Figure 3). Both watersheds are in the northeastern part of Contra Costa County and are part of a creek system that drains from the hills south of Antioch to the Delta. The main stem of West Antioch Creek flows from its headwaters on East Bay Regional Parks District land toward its confluence with Markley Canyon Creek just north of Highway 4. While channelized in much of its lower half, West Antioch Creek remains natural for most of its length. Many tributaries comprising the watershed are routed underground to provide flood protection and drainage through the more developed areas. Flowing for 6.24 miles, West Antioch Creek joins these tributaries in a channelized section of stream surrounded by urban development in the City of Antioch before passing through the Dow Wetlands Preserve and discharging into the Delta (CCCDD 2003).

The East Antioch Creek watershed begins at low-elevation headwaters near Lone Tree Way in the City of Antioch by the border with the City of Brentwood. The watershed contains one primary stream branch (East Antioch Creek) and no tributaries. Trending in a northwest direction, East Antioch Creek flows 7.87 miles prior to joining the Delta. Except for a 1-mile underground stretch south of Highway 4, much of the creek is an above-ground earthen channel. Several detention basins and levees have been constructed along East Antioch Creek to contain storm flows. Prior to discharging to the Delta, water from East Antioch Creek flows into Lake Alhambra, a manmade impoundment constructed to contain storm flows (CCCDD 2003).

The West Delta subarea sampling locations proposed for WY 2027 are in the West Antioch Creek and East Antioch Creek watersheds. In the East Antioch Creek watershed, sampling site A3 is located upstream of Lake Alhambra on the main branch of East Antioch Creek and sampling site A2

is located downstream of Lake Alhambra at the Lake's discharge point just above a tidally influenced section of East Antioch Creek. Monitoring in this section of East Antioch Creek is selected to investigate if methylating conditions are present in Lake Alhambra. The methylation process from total mercury to methylmercury occurs primarily and most efficiently, in slow-moving or stagnant waterbodies, where metabolic activity by methylating bacteria is relatively high, either in the waterbody itself or in bottom sediments.

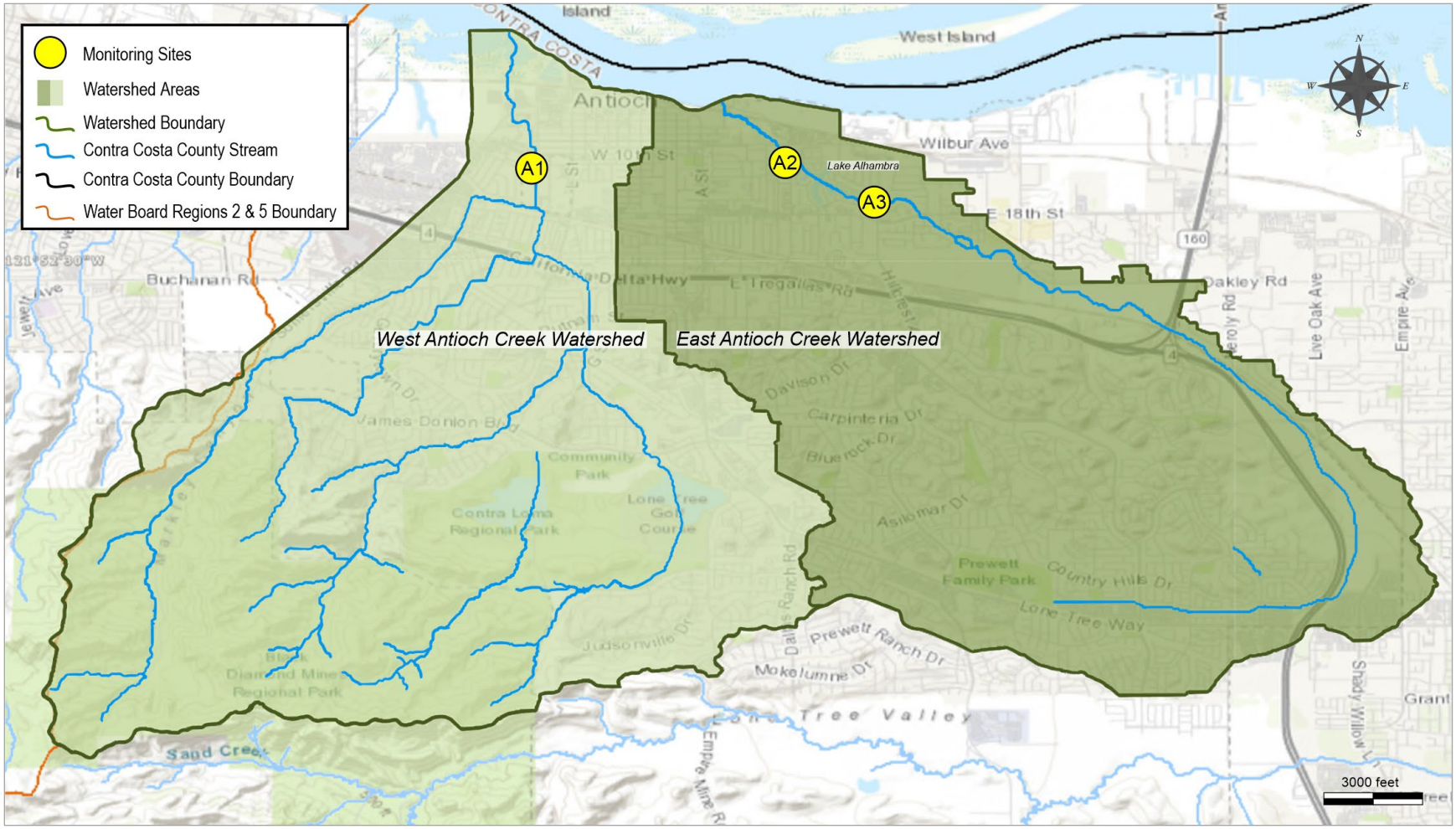

Figure 3 Overview of West Antioch Creek and East Antioch Creek Watersheds–West Delta Subarea Monitoring Sites A1, A2, and A3

2.2 Marsh Creek Subarea

The Marsh Creek subarea is comprised entirely of the Marsh Creek watershed (Figure 4). Located in the northeastern part of Contra Costa County, the Marsh Creek watershed is the second-largest in the county, encompassing over 60,000 acres and flowing for 34.57 miles before exiting into the Delta at Big Break Regional Shoreline (CCCDD 2003).

The headwaters of Marsh Creek flow from the eastern side of Mount Diablo, across the Mount Diablo foothills and Morgan Territory preserve, into the Marsh Creek Reservoir. Historically, downstream of the Reservoir, this area of Marsh Creek meandered through an alluvial plain north of the Reservoir before joining the Delta. However, at the turn of the twentieth century, flood control authorities and agricultural workers began altering the channel and surrounding landscape to protect agricultural resources that had served the area since the mid-1800s. This intended alteration of flow, including the construction of levees, detention ponds, and a dam, introduced a modified hydrological state from the creek's natural system in the lower watershed.

In WY 2027, sampling locations in the Marsh Creek subarea will be located at the bottom of the watershed and at a location upstream of the fish ladder to address monitoring questions presented in Provision C.19.d.ii.(2)(a-b) and (e). All three sampling sites within Marsh Creek are located in the lower watershed below 1) the site of the former Mount Diablo Mercury Mine, 2) the Marsh Creek Reservoir, 3) irrigation impoundments on tributaries, and 4) below several rip rap check dams that tend to impound water during low-flow conditions. These factors individually or together may have an impact on the presence of mercury and methylmercury in the lower watershed. The processes that can lead to formation of methylmercury are described in Section 2.1 above. A discussion of site characteristics for locations in the Marsh Creek subarea is provided in CCCWP's Annual Mercury Monitoring Plan for WY 2023 (CCCWP 2022a).

2.3 Central Delta Subarea

The Central Delta subarea includes the Kellogg Creek and Brushy Creek watersheds (Figure 5) and the East County Delta drainages (Figure 6). The Kellogg Creek and Brushy Creek watersheds are in the southeastern portion of Contra Costa County, bordering Alameda and San Joaquin Counties. Due to the rain shadow effect of Mt. Diablo, average rainfall in the upper watersheds is approximately 20 inches per year, falling to 10 inches or less in the lower watershed. Developed areas remain at a minimum in the Kellogg Creek and Brushy Creek watersheds, with all land in unincorporated Contra Costa County. The 32.6 square mile Kellogg Creek watershed includes the Los Vaqueros Reservoir, a reservoir that can store up to 100,000 acre-feet of water, pumped to the facility from an intake near Old River Road by Discovery Bay (CCCDD 2003). The Brushy Creek watershed is approximately 37.1 square miles, predominantly characterized by agriculture and undeveloped open space, with the longest stream branch, Brushy Creek, at 12.5 miles. Brushy Creek flows into Old River and the Clifton Court Forebay, eventually draining into the Delta (CCCDD 2003).

The East County Delta drainages of Contra Costa County are a series of bays and meandering, tidally influenced waterways. Many of the islands that constitute the land area of the East County Delta drainages are below sea level, as soils reclaimed from surrounding marshes have oxidized, causing land masses to subside and remain dry by peripheral levees. Major levee breaks in the area have created new water bodies, such as Franks Tract and the aptly named Big Break (CCCDD

2003). The highest elevation in the watershed is 100 feet, and the lowest is 20 feet below sea level. Crisscrossing irrigation canals characterize the area's surface water.

Characterized by low gradient, predominantly tidally influenced waterways with limited public access, sampling locations in the East County Delta drainages are not abundant but are scheduled for sampling in WY 2027 to expand the existing dataset for the area.

Sampling sites with the Central Delta Subarea are located in areas that may be impacted by upstream irrigation impoundments. These impoundments and subsequent releases may have an impact on the formation of methylmercury. The processes that can lead to formation of methylmercury are described in Section 2.1 above. Proposed monitoring locations within Kellogg Creek, Brushy Creek, and the East County Delta drainages scheduled for sampling in WY 2027 are discussed in Section 3.

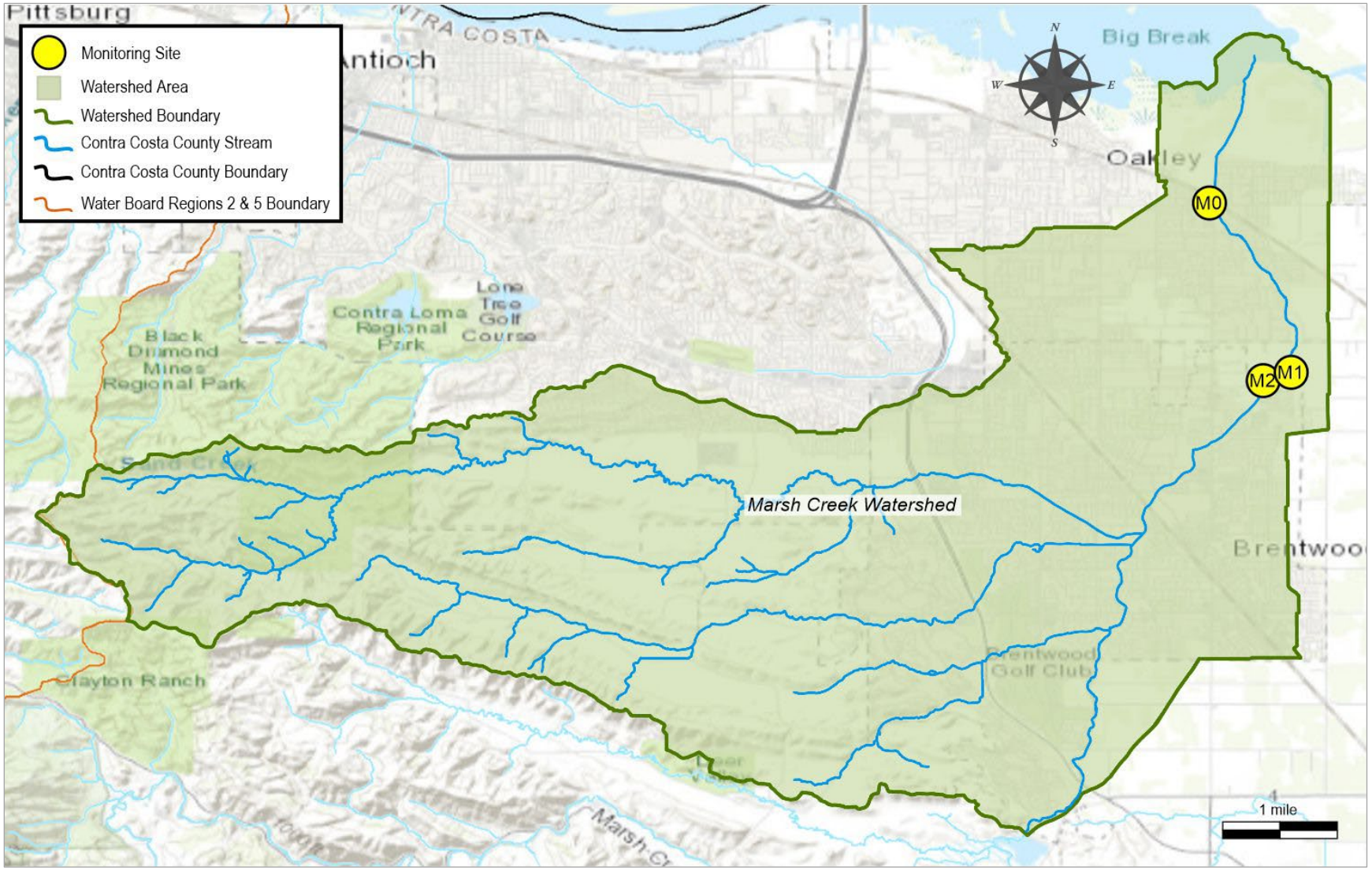

Figure 4 Overview of Marsh Creek Watershed–Marsh Creek Subarea Monitoring Sites M0, M1, and M2

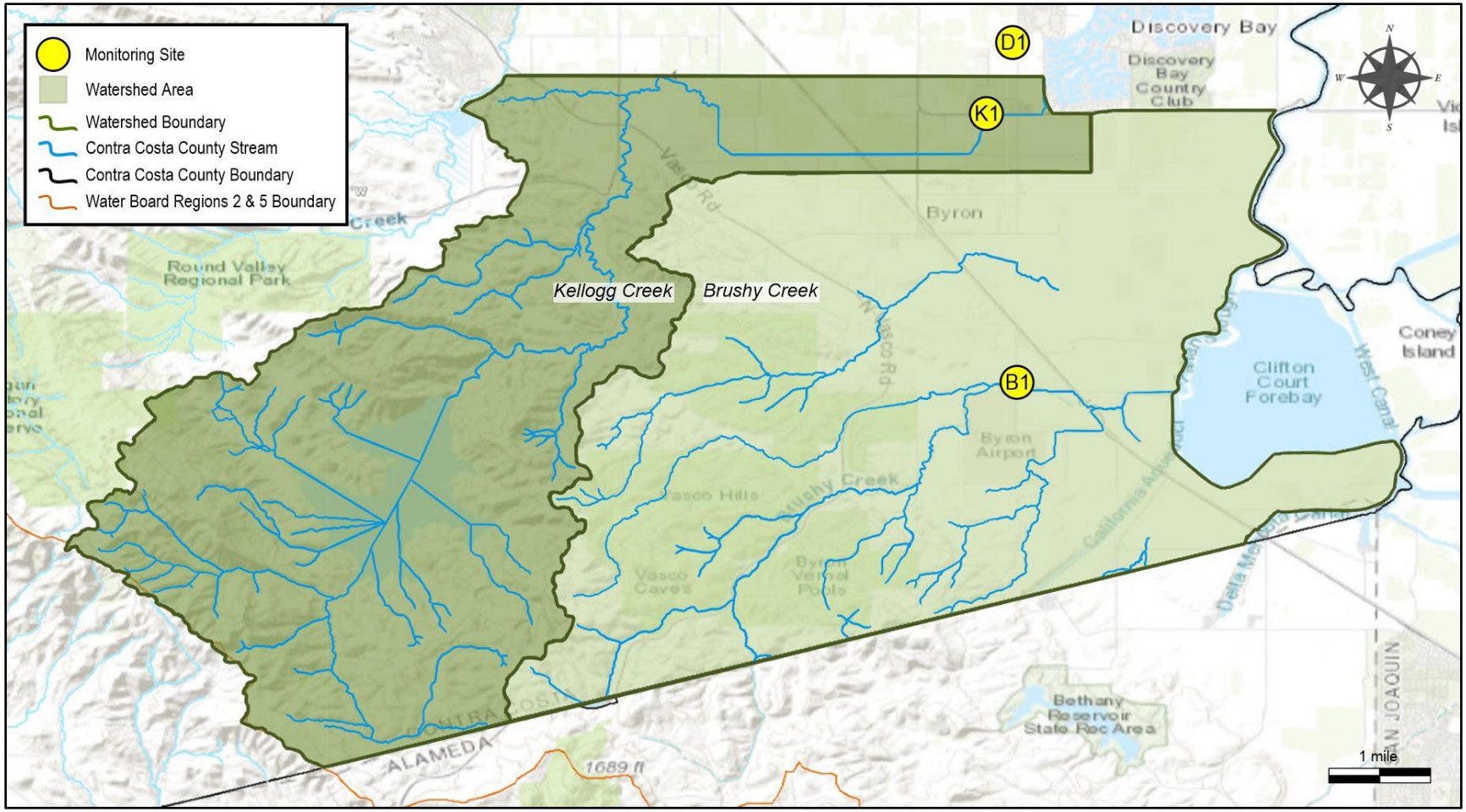

Figure 5 Overview of Brushy Creek and Kellogg Creek Watersheds–Central Delta Subarea Monitoring Sites B1, D1, and K1

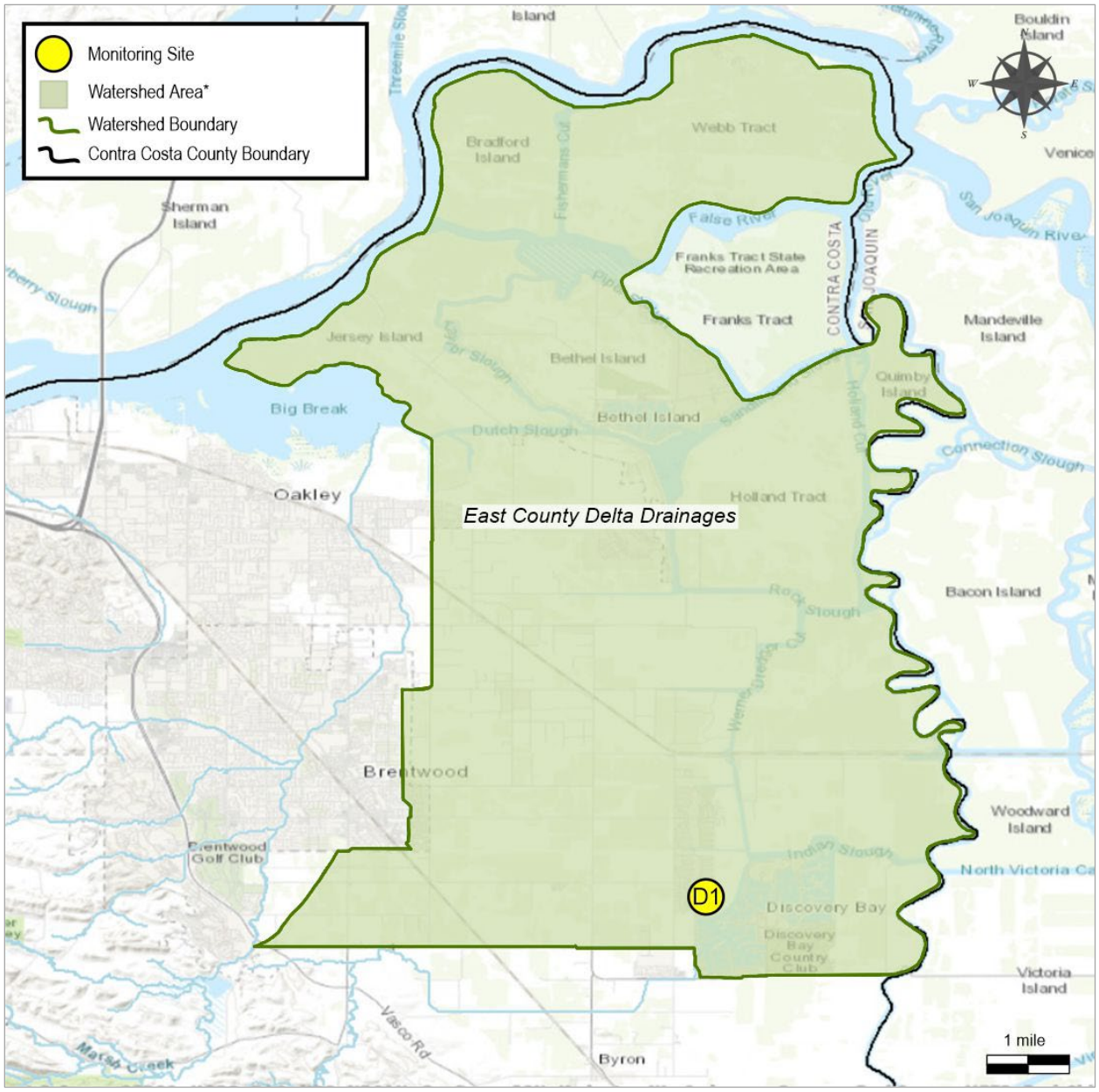

Figure 6 Overview of East County Delta Drainages–Central Delta Subarea Monitoring Site D1

**Watershed Area: Delta drainages and canals in this area of East County are predominantly low-elevation seasonal systems and are not presented as a creeks layer in the GIS database.*

3 Sampling Locations and Schedule

A schedule for methylmercury monitoring for the Delta subarea is presented in Table 1. The monitoring schedule provides a sample frequency sufficient to collect a minimum of eight samples annually in compliance with MRP 3.0 Provision C.19.d.ii.(2). The targeted sample frequency and schedule suggest CCCWP is on track to collect 50 samples throughout the MRP 3.0 permit term.

In WY 2027, the Marsh Creek, West Delta, and Central Delta subareas are scheduled for sampling. Sampling at the most upstream location in the Marsh Creek subarea will be targeted in the dry season if sampling conditions to address the monitoring question in Provision C.19.d.ii.(2)(e) are not present in WY 2026.

Monitoring Schedule and Annual Sample Count for Delta Subareas in Contra Costa County, WY 2023-2027

Water Year	West Delta	Marsh Creek	Central Delta	Total
2023	0	9	0	9
2024	5	0[2]	3	8
2025	5	0[2]	5	10
2026	6	3[3]	6	15
2027	6	2[3]	6	14
Total	22	14[2, 3]	20	56

1 Sample count in WYs 2023–2025 are complete. Sample count in WYs 2026-2027 is targeted.

2 Location not sampled in WY 2024 or WY 2025, as stream conditions to address monitoring question in Provision C.19.d.ii.(2)(e) were not present (CCCWP 2025b).

3 Sampling the most upstream location (M2) in the Marsh Creek Subarea is contingent upon stream conditions (i.e., whether conditions are present to address questions in Provision C.19.d.ii.(2)(e)).

Details of the proposed sampling locations in WY 2027, including site location ID, site coordinates, and site descriptions for targeted locations, are presented in Table 2. The site distribution and locations are selected to inform monitoring questions and analyses in compliance with MRP 3.0 Provision C.19.d.ii.(2). Additional detail and rationale behind site locations is provided in Sections 3.1–3.6.

Proposed Water Year 2027 Sample Location Details

Delta Subarea	Creek Name	Site ID	Latitude	Longitude	Site Description
West Delta	West Antioch	A1	38.00994	-121.82362	Bottom of watershed, above tidal influence
West Delta	East Antioch	A2	38.01054	-121.79682	Discharge from Lake Alhambra flap gate valve
West Delta	East Antioch	A3	38.00644	-121.78748	East Antioch Creek, upstream of Lake Alhambra
Marsh Creek	Marsh Creek	M2	37.96264	-121.68786	Marsh Creek, above Brentwood WWTP discharge
Marsh Creek	Marsh Creek	M1	37.96393	-121.68375	Marsh Creek, below Brentwood WWTP discharge
Marsh Creek	Marsh Creek	M0	37.99036	-121.69591	Marsh Creek, at the bottom of the watershed
Central Delta	Kellogg Creek	K1	37.88193	-121.64138	Bottom of watershed, above tidal influence
Central Delta	Brushy Creek	B1	37.84003	-121.62312	Bottom of watershed, above tidal influence
Central Delta	Tributary to Kellogg Creek	D1	37.90188	-121.62306	Tributary to Kellogg Creek/Discovery Bay

WWTP wastewater treatment plant

Sampling in the Delta subareas of Contra Costa County will be conducted during both the dry and wet seasons, with a minimum of eight samples collected over the course of WY 2027. Dry-weather samples will be collected during baseflow conditions in late spring or early summer, depending on hydrologic conditions. One dry-season event will be targeted, with one sample collected at each sampling location, no sooner than 30 days after the last significant rainfall. Wet-season samples will be collected during elevated stream stages, when stream conditions are influenced by stormwater runoff. One wet-season event will be targeted, with one sample collected at each sampling location, except sites M2 and M1 on Marsh Creek. A total of 14 samples is scheduled for collection over the course of WY 2027.

Monitoring data collected will be used to build upon an existing dataset to compare average methylmercury concentrations for samples collected to concentrations used in CCCWP's reasonable assurance analysis (RAA) model. Average concentrations will be calculated as either wet weather or dry weather data for each station. The average concentration and standard deviation of field collected samples will be compared to RAA model assumptions with results and conclusions presented in the WY 2027 Pollutants of Concern Monitoring Report Appendix to the UCMR.

3.1 West Antioch Creek

Monitoring site A1 is on the main stem of West Antioch Creek. The site is located downstream of the confluence with the Markley Canyon Creek tributary near the bottom of the watershed. Located above tidal influence and below all major tributaries, this section of West Antioch Creek was selected to build upon baseline monitoring results collected by CCCWP in WYs 2015, 2024, and 2025. Monitoring at site A1 will also determine methylmercury concentrations in West Antioch Creek prior to discharging into the Delta.

3.2 East Antioch Creek

Monitoring site A2 is located downstream of Lake Alhambra at the Lake's discharge point just above a tidally influenced section of East Antioch Creek. Samples will be collected near or directly from the discharge point flap gate prior to any tidal influence on the sample. Monitoring in this

section of East Antioch Creek is selected to investigate if methylating conditions are present in Lake Alhambra and to build upon baseline monitoring data collected by CCCWP in WYs 2015 and 2024. Monitoring at site A2 will also determine methylmercury concentrations in East Antioch Creek prior to discharging into the Delta.

Monitoring site A3 is located upstream of Lake Alhambra on the main branch of East Antioch Creek. Monitoring at this East Antioch Creek site is selected to provide methylmercury ratio comparisons with data collected from samples at site A2 below Lake Alhambra. Sampling at this location will also build upon baseline monitoring data collected by CCCWP in WYs 2015, 2024, and 2025.

3.3 Marsh Creek

Conditions to obtain data to satisfy the monitoring question in Provision C.19.d.ii.(2)(e) are anticipated to be present in WY 2026 if annual precipitation does not greatly exceed annual averages for the area (see CCCWP 2024a). Conditional triggers for sampling and how monitoring decisions will be documented are presented in CCCWP's 2023 Annual Mercury Monitoring Report (CCCWP 2023). If data collected in WY 2026 in the Marsh Creek subarea do not address monitoring requirements in Provision C.19.d.ii(2)(e), CCCWP will target monitoring site M2 again in WY 2027. As conditions to address this monitoring question have been uncommon during the MRP 3.0 permit term, it is anticipated that CCCWP will likely sample this location again in WY 2027 if conditions are present.

The sampling point at station M1 will determine methylmercury concentrations during dry weather in a perennial section of Marsh Creek. If elevated concentrations of methylmercury are detected, then wastewater treatment plant discharges may act as a conduit to push methylmercury to the Delta. This occurrence can be confirmed or negated by the concentration measured at the downstream sampling point M0.

Monitoring site M0 is the downstream-most monitoring location in Marsh Creek. Located approximately 0.4 miles upstream from the tidal boundary with the Delta, M0 is the gateway location for determining the hydrologic or seasonal circumstances during which increased methylmercury concentrations reach the Delta.

3.4 Kellogg Creek

As with the Brushy Creek watershed sampling site, the sampling location at Kellogg Creek is located at the bottom of the Kellogg Creek watershed, below major tributary confluences and above tidal influence from the Delta. CCCWP began methylmercury monitoring at this location in WY 2024. This monitoring site was selected to investigate hydrologic and seasonal conditions during which methylmercury may be discharged into the Delta.

3.5 Brushy Creek

The monitoring site at Brushy Creek is located at the bottom of the Brushy Creek watershed, below major tributary confluences and above tidal influence from the Delta. CCCWP began methylmercury monitoring at this location in WY 2024. This monitoring site was selected to investigate hydrologic and seasonal conditions during which methylmercury may be discharged into the Delta.

3.6 East County Delta Drainages

East County Delta drainages are characterized primarily by agricultural irrigation canals and low-elevation drainages. To establish a dataset on East County Delta drainage runoff, CCCWP will target a location near Discovery Bay to investigate under which hydrologic and seasonal conditions methylmercury may reach the Delta from East County Delta drainages. CCCWP began methylmercury monitoring of East County Delta drainages in WY 2025 and will continue again in WY 2027.

4 Methods and Quality Assurance / Quality Control Overview

Sampling events and monitoring sites targeted in WY 2027 are intended to collect data to continue addressing MRP monitoring questions posed in Provision C.19.d.ii.(2)(a)-(c):

a) *What are the annual methylmercury loads from the MS4 discharge to the Central Delta, Marsh Creek, and West Delta subareas?*

b) *Do the methylmercury loads to each subarea meet the assigned methylmercury wasteload allocations?*

c) *Are there any MS4 design features that increase mercury methylation in the discharge?*

Field and laboratory methods to be used in the implementation of methylmercury monitoring are presented in Section 4.1.

4.1 Field Sampling and Laboratory Methods

Sample collection will be performed following clean hands/dirty hands grab sampling protocols (EPA Method 1669) for low-level mercury (EPA Method 1631E) and low-level methylmercury analysis (EPA Method 1630) following analytical methods specified in MRP 3.0 Provision C.8 (Table 8.3). During grab sample collection, the field crew will make field measurements and observations in designated field logs, including dissolved oxygen, pH, and water temperature. Photos and/or video will be taken to document field conditions at the time of sampling.

Analytes, methods, reporting limits, and holding times for analytes to be collected as part of this monitoring plan are presented in Table 3. Samples will be analyzed by Caltest Analytical Laboratory in Napa, California. Total mercury and total methylmercury are analyzed together (from the same sample). This is done so that methylation ratios can be calculated to indicate whether samples were collected from an environment with enhanced methylation. Samples for suspended sediment concentration are collected and analyzed concurrently with mercury samples. This is done so that suspended sediment concentrations can be used to normalize mercury results and provide an estimate of particle ratios (i.e., mercury-to-sediment, expressed in parts per billion).

Analytes, Methods, Reporting Limits, and Holding Times

Analyte	Method	Reporting Limit	Holding Time
Total (Unfiltered) Mercury	EPA 1631E	0.5 ng/L	90 days
Total (Unfiltered) Methylmercury	EPA 1630	0.05 ng/L	90 days
Suspended Sediment Concentration	ASTM D3977-97B	3 mg/L	7 days

4.2 Quality Assurance/Quality Control

In each water year, CCCWP collects samples in accordance with the project's Sampling and Analysis Plan (CCCWP 2024b) and Quality Assurance Project Plan (QAPP) (CCCWP 2024c). Data collected is intended to meet project specific data quality objectives (see QAPP) and to be

consistent with California's Surface Water Ambient Monitoring Program (SWAMP) measurement quality objectives. SWAMP provides timely and high-quality data to evaluate the condition of surface waters throughout the state. This is accomplished through carefully designed, externally reviewed monitoring programs and assistance to other entities statewide in generating comparable data through integrated assessments. This project will use SWAMP-specified methods for sample handling, data review, verification, and validation, and measurement quality objectives as the basis for evaluating project data to ensure comparability with the standard of known, documented quality set by SWAMP (SWAMP 2022).

Following SWAMP guidelines, proper sample collection, handling, and analytical methods will ensure that water samples are collected and analyzed without inadvertent contamination from an external source and that they are representative of their sampling locations. These methods and procedures include clean sample collection and handling protocols for field and quality assurance/quality control (QA/QC) samples, use of appropriate sample containers and preservation, accurate and complete field logs and chain-of-custody forms, oversight by a qualified quality assurance officer, and the internal QA/QC procedures performed by the laboratories.

5 Summary

Data collected in WY 2027 will be used to build on previous years' monitoring data, will establish trends, and will be discussed in the Pollutants of Concern Monitoring Report, submitted annually with the Urban Creeks Monitoring Report on March 31 and the East County Annual Mercury Monitoring Report, submitted annually on September 30.

Methylmercury concentration data collected in WYs 2020–2025 are compared to the concentration data used for the reasonable assurance analysis modeling in CCCWP's East Contra Costa Methylmercury TMDL Control Measure Plan and Reasonable Assurance Analysis for Total Mercury and Methylmercury Report submitted in October 2022 (CCCWP 2022b). These data are presented in the WY 2020–2025 Pollutants of Concern Integrated Monitoring Report (Appendix 4, Section 5) to address monitoring questions presented in Provision C.19.d.

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