



CONTRA COSTA  
**CLEAN WATER**  
PROGRAM

# ***MERCURY AND PCBS CONTROL MEASURES IMPLEMENTATION STATUS REPORT***

***Submitted in Compliance with Provision C.11.a.iii.(1) and C.12.a.iii.(1)***

***Municipal Regional Stormwater Permit***

***NPDES Permit No. CAS612008***

***Order No. R2-2015-0049***

***March 31, 2016***

***The Contra Costa Clean Water Program – A Municipal Stormwater Program consisting of  
Contra Costa County, its 19 Incorporated Cities/Towns, and the Contra Costa County Flood &  
Water Conservation District***

This report is submitted by the agencies of the



**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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Contra Costa Clean Water Program

## List of Acronyms

BASMAA	Bay Area Stormwater Management Agencies Association
CCCWP	Contra Costa Clean Water Program
GI	Green Infrastructure
GIS	Geographic Information System
mg/kg	milligram per kilogram
MPC	Monitoring and Pollutants of Concern Committee
MRP	Municipal Regional Permit
MS4	Municipal Separate Storm Sewer System
NPDES	National Pollutant Discharge Elimination System
PCBs	Polychlorinated Biphenyls
POC	Pollutants of Concern
RWQCB	Regional Water Quality Control Board
SFEI	San Francisco Estuary Institute
TMDL	Total Maximum Daily Load
WY	Water Year

## Table of Contents

List of Acronyms .....	i
1 Introduction .....	1
2 Background .....	2
2.1 Mercury and PCBs Total Maximum Daily Loads .....	2
2.2 Municipal Regional Permit.....	2
3 PCBs Source Area Identification Process .....	4
3.1 Approach.....	4
3.2 Results.....	7
4 Watersheds/Management Areas.....	9
5 Control Measures.....	11
5.1 Source Property Identification and Abatement .....	11
5.1.1 Program Description .....	11
5.1.2 Control Measure Implementation .....	11
5.1.3 2016 Implementation .....	12
5.2 Green Infrastructure / Treatment Measures.....	12
5.2.1 Program Description .....	12
5.2.2 Control Measure Implementation .....	13
5.2.3 2016 Implementation .....	13
5.3 Manage PCBs In Building Materials During Demolition .....	14
5.3.1 Program Description .....	14
5.3.2 Control Measure Implementation .....	14
5.3.3 2016 Implementation .....	14
5.4 Enhanced Operation and Maintenance.....	14
5.4.1 Program Description .....	14
5.4.2 Control Measure Implementation .....	15
6 Program-wide Implementation .....	16
6.1 GIS Pilot Project .....	16



## List of Tables

Table 1: Contaminated Sites Referred to the Water Board ..... 3

Table 2: PCB Source Property Screening by Contra Costa Permittees in FYs 2014-15 & 2015-16 8

Table 3: PCB Source Property Screening Results Maps ..... 9

## List of Figures

*(figures follow text)*

Figure 1      Contra Costa Preliminary Source Area Land Use Map

Figure 2      Western Contra Costa County Management Areas

Figure 3      Western Contra Costa County Management Areas Richmond and San Pablo

Figure 4      Central Contra Costa County Management Areas

Figure 5      Eastern Contra Costa County Management Areas

Figure 6      Southeastern Contra Costa County Management Areas

Figure 7      Contra Costa County Non-Jurisdictional Areas

# 1 Introduction

This *Mercury and PCBs Control Measures Implementation Status Report* was prepared by the Contra Costa Clean Water Program (CCCWP) per the Municipal Regional Permit (MRP) for urban stormwater issued by the San Francisco Bay Regional Water Quality Control Board (RWQCB; Order No. R2-2015-0049). This report fulfills the requirements of MRP Provisions C.11.a.iii.(1) and C.12.a.iii.(1) for reporting progress toward developing a list of the watershed and management areas where mercury and polychlorinated biphenyls (PCBs) control measures are currently being implemented.

The following MRP reporting requirements are addressed within this report:

- Preliminary list of PCBs and mercury management areas.
- The monitoring data and other information used to select these management areas.

This report is organized into the following sections:

1. Introduction
2. Background
3. PCBs Source Area Identification Process
4. Watersheds/Management Areas
5. Control Measures
6. Program-wide Implementation

## 2 Background

### 2.1 Mercury and PCBs Total Maximum Daily Loads

Fish tissue monitoring in San Francisco Bay (Bay) has revealed bioaccumulation of PCBs, mercury, and other pollutants. The levels found are thought to pose a health risk to people consuming fish caught in the Bay. As a result of these findings, California has issued an interim advisory on the consumption of fish from the Bay. The advisory led to the Bay being designated as an impaired water body on the Clean Water Act "Section 303(d) list" due to PCBs, mercury, and other pollutants. In response, the San Francisco Bay RWQCB has developed Total Maximum Daily Load (TMDL) water quality restoration programs targeting PCBs and mercury in the Bay. The general goals of the TMDLs are to identify sources of PCBs and mercury to the Bay and implement actions to control the sources and restore water quality.

Municipal separate storm sewer systems (MS4s) are one of the PCBs and mercury source/pathways identified in the TMDL plans. Local public agencies (i.e., Permittees) subject to requirements via National Pollutant Discharge Elimination System (NPDES) permits are required to implement control measures in an attempt to reduce PCBs and mercury from entering stormwater runoff and the Bay. These control measures, also referred to as best management practices (BMPs), are the tools that Permittees can use to assist in restoring water quality in the Bay.

### 2.2 Municipal Regional Permit

NPDES permit requirements associated with Phase I municipal stormwater programs and Permittees in the Bay area are included in the Municipal Regional Permit (MRP), which was issued to 76 cities, counties and flood control districts in 2009 and revised in 2015. Consistent with the TMDL plans, Provisions C.11.a. and C.12.a. of the MRP require the implementation of source and treatment control measures and pollution prevention strategies to reduce mercury and PCBs in urban stormwater runoff to achieve specified load reductions throughout the permit area. Specifically, the MRP requires the Permittees to:

1. Identify the watersheds or portions of watersheds (management areas) in which PCBs control measures are currently being implemented and those in which new control measures will be implemented during the term of this permit;
2. Identify the control measures that are currently being implemented and those that will be implemented in each watershed and management area;
3. Submit a schedule of control measure implementation; and

4. Implement sufficient control measures to achieve the mercury and PCBs load reductions stated in the permit.

This report has been prepared in response to MRP Provisions C.11.a.iii.(1) and C.12.a.iii.(1), which require the Permittees to report progress toward developing a list of the watersheds and management areas where mercury and PCBs control measures are currently being implemented and those in which control measures will be implemented during the term of the permit, as well as the monitoring data and other information used to select these watersheds and management areas. This list should include watersheds containing contaminated sites referred to the RWQCBs as well.

The sites that have been referred to the RWQCBs are listed in Table 1 below.

**Table 1: Contaminated Sites Referred to the Water Board**

SITE NAME	LOCATION
Rickert International Trading Co., Inc.	135 Cutting Blvd, Richmond, CA 94804
Sims Metal Inc.	600 S 4th St, Richmond, CA 94804

### 3 PCBs Source Area Identification Process

#### 3.1 Approach

In July 2014, the CCCWP submitted a proposed Alternative Approach to Pollutants of Concern and Long Term Trends Monitoring to the Central Valley and San Francisco Bay RWQCBs. This Alternative Approach included, among other things, that Permittees conduct PCBs source identification studies, following the approach outlined in the 2014 Integrated Monitoring Report<sup>1</sup>, Section A.5, by redirecting remaining monitoring resources to this task.

CCCWP and Permittee staff has been conducting the PCBs Source Area Identification Screening Program in order to identify areas where PCBs control measures would be the most beneficial for consideration in focused implementation planning for PCBs and mercury load reductions. This program consists of screening potential PCBs source areas and properties (identified as “Old Industrial” land use and other relevant historical land uses) using multiple lines of evidence (e.g., institutional knowledge, records review, windshield surveys, facility inspections, and sediment sampling results). Areas and properties are being systematically categorized as High, Moderate, or Low/No Likelihood to be a source of PCBs into the storm drain system for the purposes of identifying and prioritizing control measure implementation.

The CCCWP prepared a preliminary source property database/Excel workbook, guidance document, and map files based on the 2014 IMR Part C<sup>2</sup> maps to assist the Permittees in identifying potential PCBs source areas and properties. The CCCWP conducted field training with the Permittees to demonstrate the windshield survey process and how to assess sites for the opportunity to sample sediment. The database was derived from the Old Industrial layer in the IMR Part C maps. Each row represented a single parcel in the Old Industrial area with columns for existing ownership information and space for Permittees to fill in historical use, previous violations, desktop and field observations and a recommendation for the likelihood as a source of PCBs after the desktop and field evaluations were completed. Parcels that were redeveloped or did not meet criteria outlined in the screening guidance document were characterized as moderate or low/no likelihood and saved in the master database for tracking.

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<sup>1</sup> Contra Costa Clean Water Program Integrated Monitoring Report, Water Years 2012 and 2013: Part A. March 2014.

<sup>2</sup> Contra Costa Clean Water Program Integrated Monitoring Report Part C: Pollutants of Concern Implementation Plan. March 2014.

At the beginning of the PCBs Source Area Identification Screening Program, CCCWP and Permittee staff, in coordination with BASMAA's Monitoring and Pollutant of Concern Committee (MPC), developed the following general approach for identifying potential source properties:

Starting Place:

- Assume that all Old Industrial parcels are Moderate Likelihood Sources unless there is a reason to change this assumption (see lists below).
- If a parcel is borderline between Moderate Likelihood and Low Likelihood, it is preferred to keep the Moderate designation.
- If a parcel is borderline between Moderate Likelihood and High Likelihood, it is preferred to keep the High designation.
- The High Likelihood Source parcels will be revisited and may be reassigned with future efforts, but parcels with Moderate and Low Likelihood designations are unlikely to be revisited.

Change to High Likelihood Source if:

- The parcel has significant unpaved areas.
- The parcel has rail lines that have not been paved over.
- Site is dirty, poorly maintained, or the pavement is deteriorating.
- Parcel has sediment erosion or track out.
- The parcel has a history of PCBs-related activities. These include Metals Manufacturing, Transportation/Shipping, Cement, Recycling (metals, auto, waste, and drums), Cremation, Electrical, or Remediation Site (Envirostor, GeoTracker, EPA, or other database).

The following factors may not be sufficient on their own, but combinations of these observations can lead to a High Likelihood Source designation:

- Presence of containers/trucks/debris/stockpiling/machinery/equipment (especially hydraulic equipment).
- Adjacent monitoring that indicates a PCB concentration  $\geq 0.5$  mg/kg.
- Proximity to remediation site (Envirostor, GeoTracker, EPA).

Change to Low Likelihood Source if:

- Site has been redeveloped or is currently undergoing redevelopment.
- Land use designation is incorrect.

The following factors may not be sufficient on their own, but when all or most of the following conditions are met, the site may be designated as Low Likelihood Source:

- Site including pavement and rooftop are exceptionally well maintained.
- No outdoor storage or operations are occurring on the site.
- No unpaved areas besides well-tended landscaping occur on the site.
- No indication of industrial activity on the site (e.g., clearly a commercial or office building).

As a first step, the Permittees carefully reviewed the parcel database through a desktop screening process. The Permittees then conducted windshield surveys of those properties that were considered High Likelihood after the desktop screening. Areas outside of the Old Industrial mapped areas and adjacent parcels that were suspect were also considered and added to the database if found to be High Likelihood areas. If a parcel met the High Likelihood criteria, it was put on a list to sample. Sample locations were aimed at track-out or erosion of sediment from an individual property and where there was enough sediment present to sample. If these conditions did not exist at the site, the site remained on the list to be tracked for a future opportunity to sample. In some cases, composite samples were analyzed to screen a larger area, which could later be potentially narrowed down to pinpoint an individual source parcel(s). Ongoing screening will consider sites that may not have been included in the preliminary database or have other evidence pointing to potential high concentration of PCBs in sediment that may migrate off the parcel into the municipal storm drain system. Ongoing screening may also include site inspection where possible.

Each sediment sample was analyzed for PCBs (EPA Method 8082), Mercury, Total Organic Carbon (TOC) and Grain Size. CCCWP reanalyzed all samples with a concentration above 0.1 ppm PCBs with Method 1668 for confirmation. Sediment that had confirmed concentrations above 1 mg/kg, along with other lines of evidence that sediment had very likely originated from a given parcel are considered source properties.

These source properties will be documented and considered for future referral to the RWQCBs. Prior to referral, the Permittee will attempt to engage the source property owner to address

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the onsite contamination and sediment that is migrating into the storm drain system and will assess the need for interim enhanced operation and maintenance (O&M) measures (e.g., street sweeping, drain inlet cleaning, and/or storm drain cleanout) in the right-of-way and/or storm drain infrastructure adjacent to the source property during the source property pollutant abatement process.

### 3.2 Results

Out of a total of 4,515 parcels considered (including non-jurisdictional properties such as railroad, military, and Caltrans parcels), 600 passed the first level of desktop screening per the guidance, to be considered as High Likelihood Source parcels (Table 1). These sites were then assessed for sampling suitability using windshield surveys (i.e., was visible sediment in sufficient quantities present outside of the parcel to collect a sample). Out of the 68 sites sampled through October 2015, seven had concentrations of PCBs greater than 0.5 ppm and were reanalyzed using a more precise laboratory method (Method 1668) to confirm concentrations. Of those, four samples were greater than 1 ppm, which is the threshold for further action by Permittees. These parcels have potential for referral to the RWQCBs.

Table 2 lists the numbers of parcels in Contra Costa County that have been screened to date. The preliminary source property database was based on land use (i.e., parcels located in Old Industrial land use and adjacent parcels). Each municipality (Column 1) screened the parcels within its jurisdiction (Column 2) according to the screening guidance criteria. Through the screening process, Permittees ranked the parcels and placed them into a moderate or low opportunity-level if they do not meet the criteria for High Likelihood Source. The third column lists the number of parcels that were deemed to be High Likelihood Source parcels after desktop and windshield screening. The fourth column lists the number of sites that were sampled based on the site's ability to meet the criteria for sampling.

**Table 2: PCB Source Property Screening by Contra Costa Permittees in FYs 2014-15 & 2015-16**

AGENCY	# OF PARCELS SCREENED	REVISED # OF HIGH LIKELIHOOD PARCELS	# OF SAMPLES COLLECTED
Richmond	1,465	222	19
Unincorporated County and Flood Control District *	684	193	15
Concord	435	49	1
Pittsburg	578	46	18
Antioch *	67	31	8
Hercules	542	16	0
Martinez	201	11	0
San Pablo	132	11	6
El Cerrito	20	7	0
Pinole	105	6	1
Oakley *	21	5	0
Brentwood *	140	2	0
San Ramon	1	1	0
Walnut Creek	61	0	0
Clayton	0	0	0
Danville	11	0	0
Lafayette	4	0	0
Moraga	18	0	0
Orinda	3	0	0
Pleasant Hill	27	0	0
<b>Total</b>	<b>4,515</b>	<b>600</b>	<b>68</b>

\* East County Permittees (Central Valley RWQCB, Region 5)

## 4 Watersheds/Management Areas

The screening results have been added to the revised source area maps to identify and display the PCBs and mercury management areas. Figures 1 – 6 illustrate the results of the screening in a series of maps. The screened areas are shown in light blue and parcels that remain as a High Likelihood Source after the initial screening are shown in dark blue. Sampled points are indicated by color and size relating to the measured PCBs concentration; both historic monitoring and 2015 monitoring results are provided. A list and description of the maps is provided in Table 3 below.

**Table 3: PCB Source Property Screening Results Maps**

FIGURE #	MAP TITLE	Description
1	Contra Costa Preliminary Source Area Land Use Map	This is the IMR Part C map for Contra Costa County, which was used to start the screening process. Land uses (Old Industrial, Old Urban, New Urban, Open Space, and Other) are shown within Region 2. Within Region 5, only the Old Industrial land use areas are currently mapped. Watersheds above reservoirs have limited land use data available. Note that Old Industrial areas are arranged predominantly along the Bay Margin. Areas outside city boundaries are Unincorporated County (not labeled).
2	Western Contra Costa County Management Areas	This is the first in a series of maps listing screening results at a regional scale. Blue areas were screened via virtual survey (i.e., using Google Earth aerial photographs and Google Maps Street View), parcel data, EPA datasets (e.g., Envirostor, Geotracker, and EPA records), existing monitoring data, site practices (e.g., metals recycling), and visible exposed sediment that could migrate offsite via track-out or natural mobilization (wind, rain). Dark blue areas are parcels that were identified as High Likelihood areas/parcels. Dark blue cross-hatched areas are non-jurisdictional High Likelihood areas. Both historic sediment sampling data (2001 – 2013) and data collected in FY 2015-16 are shown. Data collected in 2012 led to the referral of two sites shown here: Simms Metal, a metal shredder/recycler, and Rickert International Trading Co., a forklift repair facility.
3	Western Contra Costa County Management Areas Richmond and San Pablo	This map zooms into the Richmond, San Pablo and a portion of the Unincorporated Contra Costa County areas. The Santa Fe pilot watershed (Parr and Lauritzen Channel watersheds) are shown as red and yellow outlined areas and the two source properties that have been referred to the San Francisco Bay RWQCB are called out. Note two new locations in Unincorporated County/North Richmond and San Pablo with sediment concentrations greater than 1 mg/kg. These locations are adjacent to previously remediated sites and are under investigation as potential referral sites.

FIGURE #	MAP TITLE	Description
4	Central Contra Costa County Management Areas	This is the second in the series of regional maps that list the High Likelihood areas in the central portion of Contra Costa County. Note the large amount of non-jurisdictional areas (refineries, military, and railroad). One monitoring location in Pittsburg resulted in a sediment concentration greater than 1 mg/kg. This location is under investigation as a potential referral site.
5	Eastern Contra Costa County Management Areas	This is the third regional map that lists the High Likelihood areas covering the eastern portions of Contra Costa County, including a portion of County within Region 5. One monitoring location in Antioch resulted in a sediment concentration greater than 1 mg/kg. This site is currently being remediated and is under investigation as a potential referral site.
6	Southeastern Contra Costa County Management Areas	This is the fourth regional map that lists the High Likelihood areas in the southeastern portion of Contra Costa County within Region 5. While there are High Likelihood parcels based on historical land use shown in this area, they are a low priority in the county-wide investigation. Much of this area is open grassland.
7	Contra Costa County Non-Jurisdictional Areas	This map shows the extent of non-jurisdictional High Likelihood areas throughout the County (military, railroads, PG&E/utilities, individual discharge permit holders) and known PCBs-contaminated sites. These areas fall outside the jurisdiction of the Program, even though some of them may be potential sources of PCBs into the MS4 right-of-way. CCCWP will work with the RWQCBs to address these properties.

## 5 Control Measures

### 5.1 Source Property Identification and Abatement

#### 5.1.1 Program Description

As part of PCBs source property identification and abatement program, the Permittees will perform investigations to identify PCBs sources in and/or to their storm drain systems and refer those sources to the Central Valley or San Francisco Bay RWQCBs or other appropriate regulatory agencies with investigation, cleanup and abatement authorities. Source property identification and abatement involves investigations of properties located in historically industrial land use or other land use areas where PCBs were used, released, and/or disposed of and/or where sediment concentrations are significantly elevated above urban background levels in order to identify potential source properties for referral for clean-up and abatement. The Permittees will also quantify and report the amount of PCBs loads reduced through implementation of this program per MRP C.11.b/C.12.b.

#### 5.1.2 Control Measure Implementation

The Permittees will conduct reconnaissance surveys of old industrial and similar areas to determine whether runoff from potential source properties is likely to convey soils/sediments with significantly elevated PCBs concentrations to the municipal storm drain system. Permittees will also develop, in cooperation with the RWQCBs, an approach to addressing properties that fall into the following special source categories: electrical utilities, railroads, federal facilities, and NPDES-permitted properties (e.g., Caltrans, Phase 2 Permittees, and individually-permitted industrial facilities).

The Permittees will validate the existence of significantly elevated PCBs concentrations through surface soil/sediment sampling and analysis where visual inspections and/or other information suggest that a specific property is a potential source of significantly elevated PCBs concentrations into the storm drain. Where data confirm significantly elevated PCBs concentrations (e.g., greater than or equal to 1.0 mg/kg) are present in soil/sediment/water from a potential source property, the Permittees will refer that property to the RWQCBs to facilitate their issuance of orders for further investigation and remediation of the subject property.

For each identified source property, the applicable Permittee will then conduct an investigation to determine if significant quantities of soils/ sediment are present in the street and/or storm drain adjacent to the identified source property and if those soils/sediment have significantly elevated PCBs concentrations. If such soils/sediment are found to be present in significant

quantities, the Permittee will take actions to cause erosion and sediment controls to be applied to the source property and will implement or cause to be implemented, where appropriate, one or a combination of interim enhanced operation and maintenance measures (e.g., street sweeping, drain inlet cleaning, pump station cleaning, street flushing, and/or storm drain cleanout) in the streets and/or storm drain infrastructure adjacent to the source property during the source property abatement process.

The Permittees will quantify and report the amount of PCBs loads reduced as a result of implementation of this program using the methods adopted in the MRP (i.e., the PCB Load Reduction Interim Accounting Methodology).

### **5.1.3 2016 Implementation**

- Continued reconnaissance surveys of old industrial and adjacent areas with sampling and chemical analyses to confirm elevated sources as needed. Review all data results to look for false negatives.
- Quantify (map) special source categories: electrical utilities, railroads, federal facilities, and NPDES-permitted properties (e.g., Caltrans, Phase 2 Permittees, and individually-permitted industrial facilities).
- Participate in the BASMAA Regional Project to develop detail and guidance for Interim Accounting System and load reduction reporting.
- 2016 Annual Report: identify the potential high source property areas where this program is currently being implemented and the monitoring data and other information used to select these areas. Identify control measures that will be implemented and a schedule.
- Refer confirmed source properties to the Central Valley or San Francisco Bay RWQCB after confirmation of the source property by multiple lines of evidence.

## **5.2 Green Infrastructure / Treatment Measures**

### **5.2.1 Program Description**

The Permittees will complete and implement a Green Infrastructure Plan for the inclusion of low impact development drainage design into storm drain infrastructure on public and private lands, including streets, roads, storm drains, parking lots, building roofs, and other storm drain infrastructure elements (per MRP Provision C.3.j). Permittees will implement green infrastructure and treatment measure projects to achieve some portion of the PCBs load

reductions shown in MRP Table 12.1 over the final three years of the permit term. These include projects implemented during new development and redevelopment, generally on private properties, and retrofit of existing infrastructure in public right-of-way areas and on public properties if possible.

### **5.2.2 Control Measure Implementation**

The Permittees will implement the following control measures as part of this program:

1. Prepare a framework (i.e., a plan containing specific tasks and timeframes) for development of a Green Infrastructure Plan and have the framework approved by the Permittee's governing body, mayor, city manager, or county by June 30, 2017.
2. Prepare a list of green infrastructure projects that are already planned for implementation during the permit term and infrastructure projects planned for implementation during the permit term that have potential for green infrastructure measures.
3. Develop, individually or collectively, regionally-consistent methods to track and report implementation of green infrastructure measures including treated area, green acres, and/or connected and disconnected impervious surface area on both public and private parcels. The methods should also address tracking needed to provide reasonable assurance that wasteload allocations for TMDLs, including the San Francisco Bay PCBs and mercury TMDLs, and reductions for trash, are being met.

### **5.2.3 2016 Implementation**

1. Develop Green Infrastructure Plan framework.
2. Submit the list and a summary of planning or implementation status of early implementation of green infrastructure projects with the 2016 Annual Report.
3. Identify C.3 projects in old industrial and old urban areas that were constructed since 2002, but were not reported in the 2014 IMR.
4. Develop, individually or collectively, regionally-consistent methods to track and report implementation of green infrastructure measures.

## **5.3 Manage PCBs In Building Materials During Demolition**

### **5.3.1 Program Description**

This program involves managing PCB-containing materials in applicable structures at the time such structures undergo demolition. The PCBs management framework should be managed so that PCBs are not likely to be released off the site during or after demolition through vehicle track-out, airborne releases, soil erosion, or stormwater runoff. Applicable projects include, at a minimum, commercial and industrial structures constructed or remodeled between the years 1950 and 1980. Wood frame structures are exempt.

### **5.3.2 Control Measure Implementation**

During the first three years of the permit term, the Permittees will develop a framework, to include establishing any necessary authority, for managing PCBs-containing materials in applicable structures at the time such structures undergo demolition. The PCB management framework will be implemented at the start of the fourth year of the permit term.

### **5.3.3 2016 Implementation**

The CCCWP and Permittees will participate in two BASMAA regional projects that will assist Permittees in complying with MRP Provision C.12.f by developing a framework for managing PCBs in building materials during demolition. The first BASMAA regional project is underway. This project is preparing a scope of work and budget for a larger, multi-year BASMAA regional project that will develop an implementation framework, guidance materials, and tools for local agencies to use to manage PCBs-containing materials and wastes during building demolition. For the first project, the CCCWP and select Permittees will participate in a workgroup that will review and provide input on the scope of work and budget for the larger regional project.

## **5.4 Enhanced Operation and Maintenance**

### **5.4.1 Program Description**

Routine MS4 operation and maintenance (O&M) activities include street sweeping, drain inlet cleaning, and pump station maintenance. In addition, culverts and channels are also routinely maintained (i.e., desilted). Enhancements to routine operations and new actions such as storm drain line and street flushing may enhance the Permittees' ability to reduce PCBs and mercury in stormwater.

#### 5.4.2 Control Measure Implementation

PCBs load reductions achieved through implementation of enhanced O&M control measures may be counted as part of the overall load reductions expected during this permit term. Each Permittee will account for load reductions achieved through enhanced O&M measures, if implemented, using the accounting methods established in the Interim Accounting Methodology for TMDL Loads Reduced Report. Load reductions from enhanced control measures implemented prior to the effective date of the MRP may be counted toward the required load reductions if the control measures were established or implemented during the last permit term, but load reductions from the activity were not realized or credited in the 2014 IMR.

## 6 Program-wide Implementation

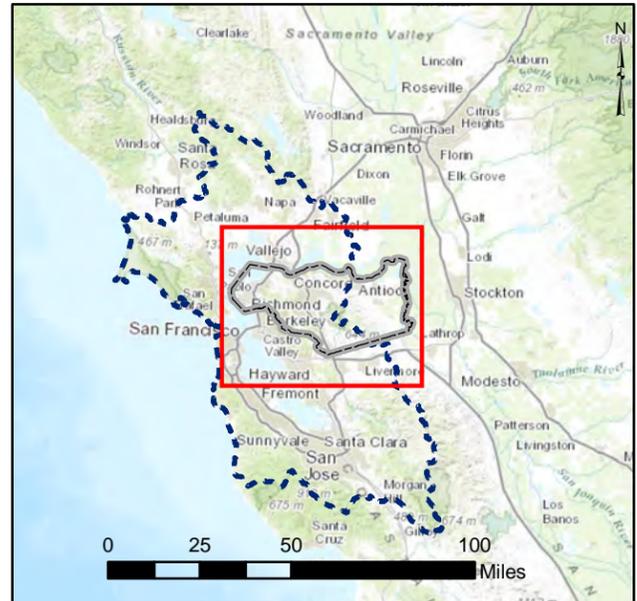
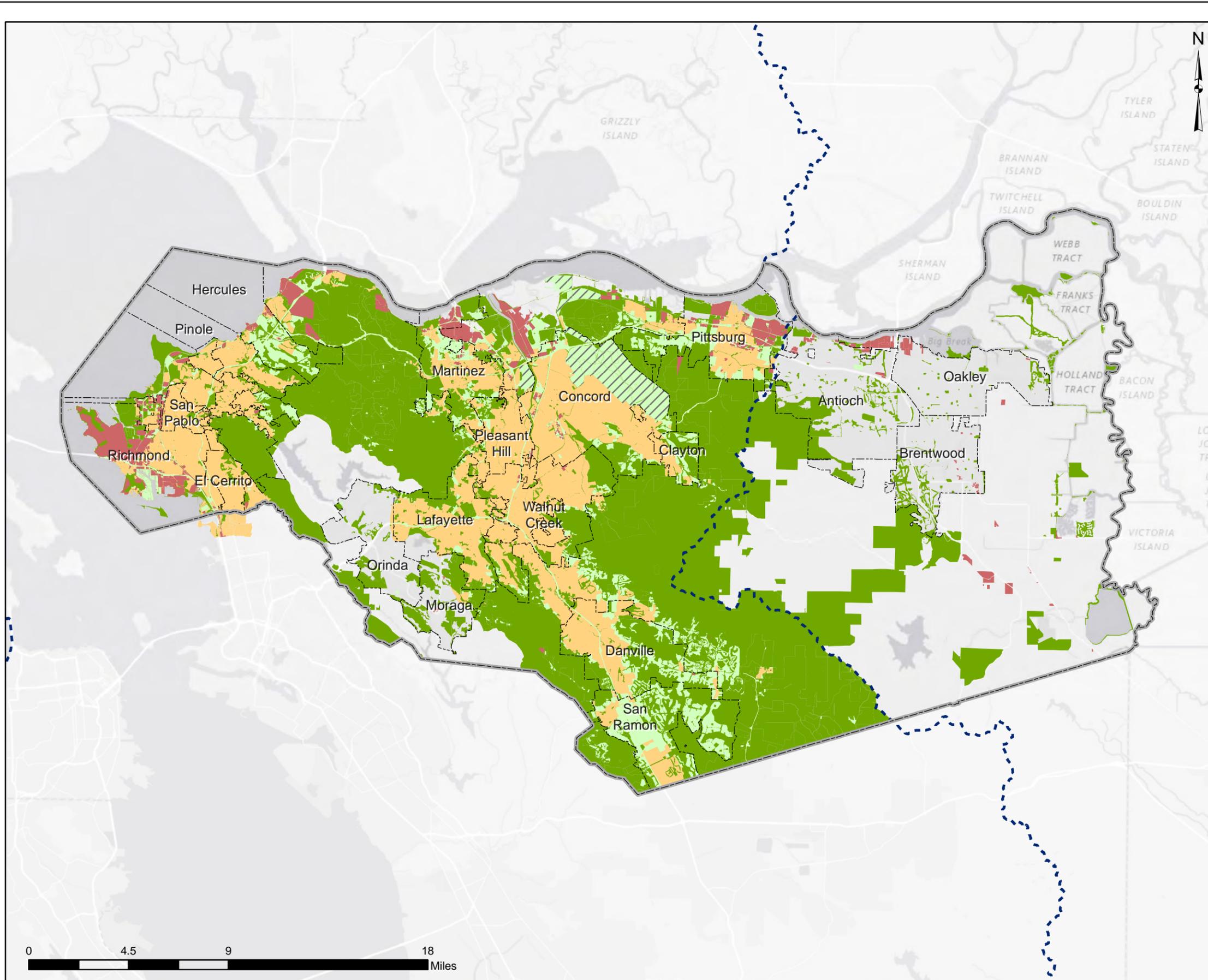
### 6.1 GIS Pilot Project

In FY 2015/16, the CCCWP began development of a countywide Geographic Information System (GIS) pilot project focused on maintaining, analyzing, interpreting, displaying, and reporting relevant municipal stormwater program data and information related to Provisions C.10 (i.e., trash load reduction activities) and C.11/C.12 (i.e., PCBs source property identification and abatement screening activities).

With the adoption of MRP 2.0, the CCCWP is now in the process of expanding the countywide GIS pilot project to support additional compliance activities related to: 1) the C.3.j Green Infrastructure Planning and Implementation provisions; 2) the C.11 Mercury Controls and C.12 PCBs Controls provisions; and possibly, 3) the C.8 Water Quality Monitoring provisions. This expansion of the CCCWP's countywide GIS pilot project is critical to Permittees' ongoing work to identify watersheds and management areas where multiple-benefit control measure implementation opportunities will be identified and prioritized for implementation during this permit term and over the coming decades.

The CCCWP's stormwater GIS platform features web maps and applications created using Esri's ArcGIS Online for Organizations environment, which access GIS data, custom web services and reports that will be hosted within an Amazon cloud service running Esri's ArcGIS Server technology. The CCCWP anticipates its expanded stormwater GIS platform will be an important tool for maintaining relevant stormwater data; reviewing, analyzing and displaying data geography; accounting for and assessing compliance with load reduction performance goals; and reporting.

## **FIGURES**



- Legend**
- Contra Costa County Boundary
  - City Boundaries
  - MRP Region 2 Boundary
  - Old Industrial
  - Old Urban
  - Open Space
  - New Urban and Other
  - Airport, Military

Note: Spatial information for land uses outside of the MRP Region 2 boundary other than Old Industrial were not available at time of printing.  
 Land Use Layer Source: EOA, 2013

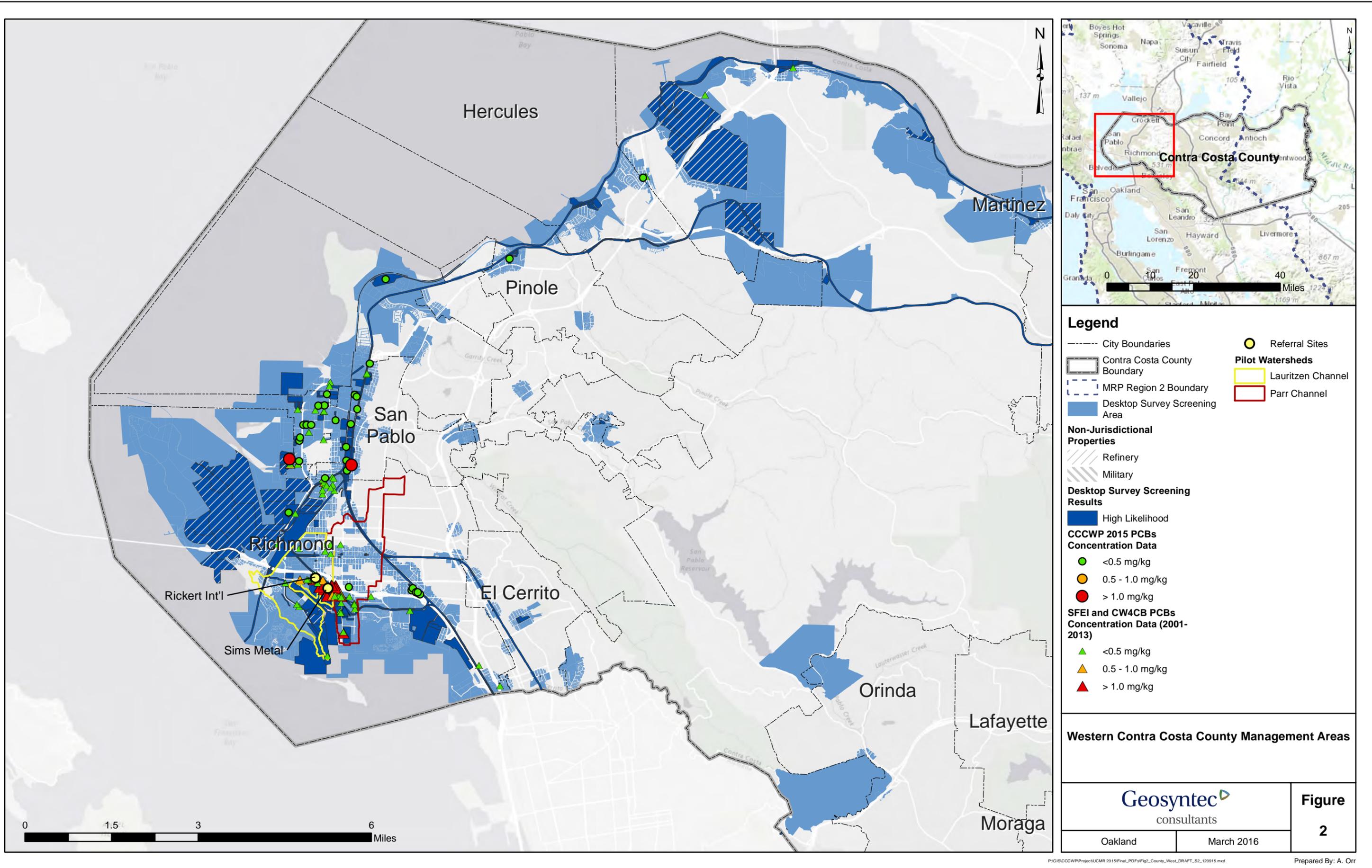
**Contra Costa County  
 Preliminary Source Area Land Use Map**

**Geosyntec**  
 consultants

**Figure  
 1**

Oakland

March 2016



**Legend**

- City Boundaries
- Contra Costa County Boundary
- - - MRP Region 2 Boundary
- Desktop Survey Screening Area
- Referral Sites
- **Pilot Watersheds**
- Lauritzen Channel
- Parr Channel

**Non-Jurisdictional Properties**

- ▨ Refinery
- ▨ Military

**Desktop Survey Screening Results**

- High Likelihood

**CCCWP 2015 PCBs Concentration Data**

- <math><0.5\text{ mg/kg}</math>
- <math>0.5 - 1.0\text{ mg/kg}</math>
- <math>> 1.0\text{ mg/kg}</math>

**SFEI and CW4CB PCBs Concentration Data (2001-2013)**

- ▲ <math><0.5\text{ mg/kg}</math>
- ▲ <math>0.5 - 1.0\text{ mg/kg}</math>
- ▲ <math>> 1.0\text{ mg/kg}</math>

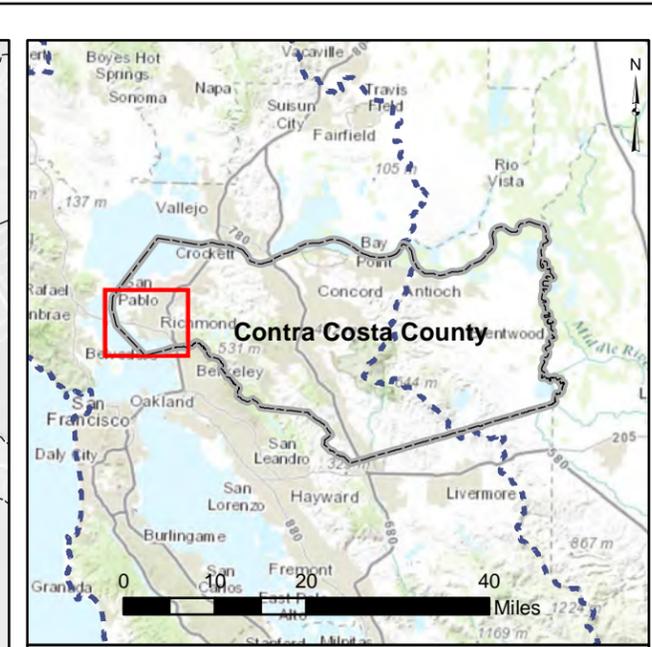
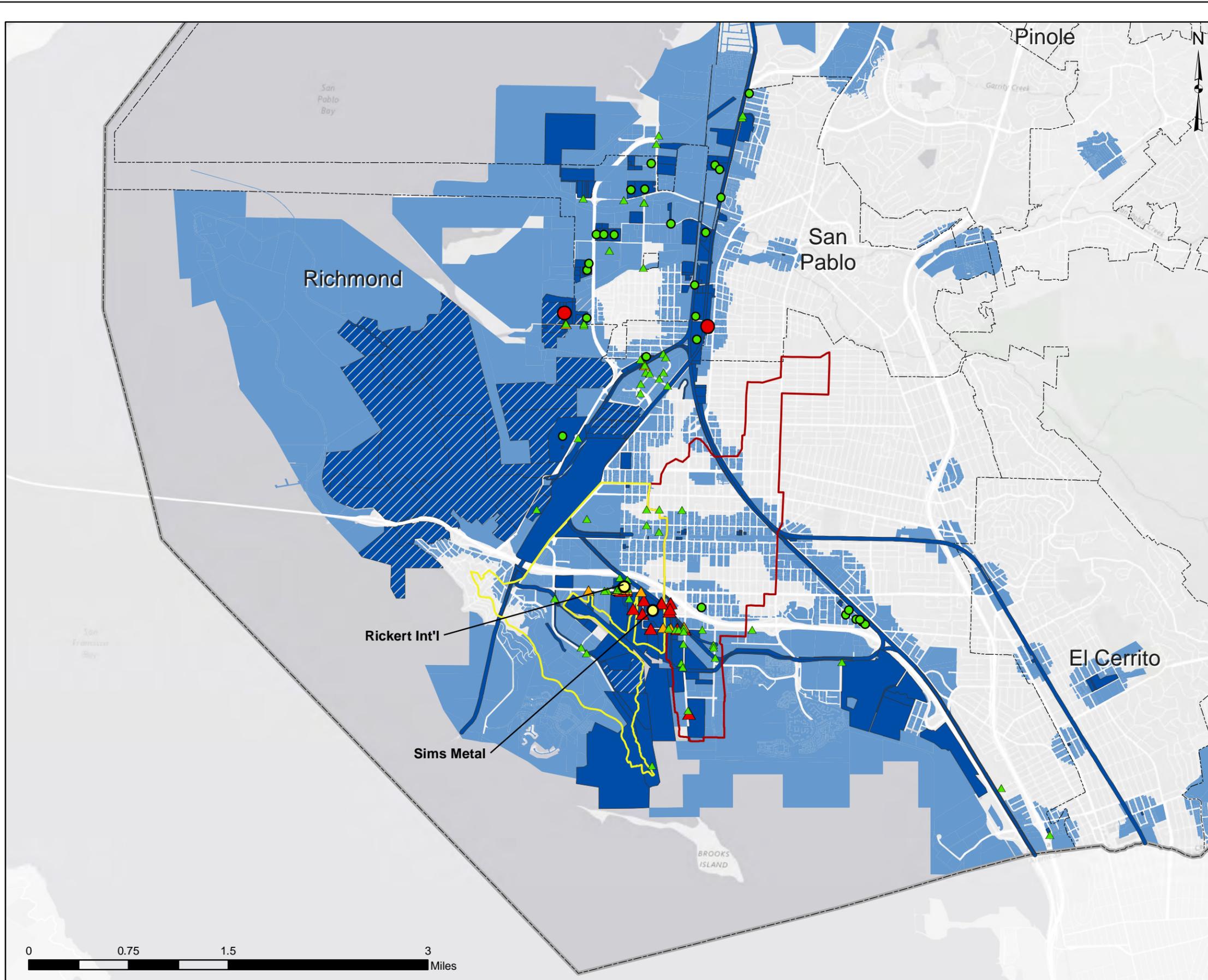
Western Contra Costa County Management Areas

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Figure  
2

Oakland

March 2016

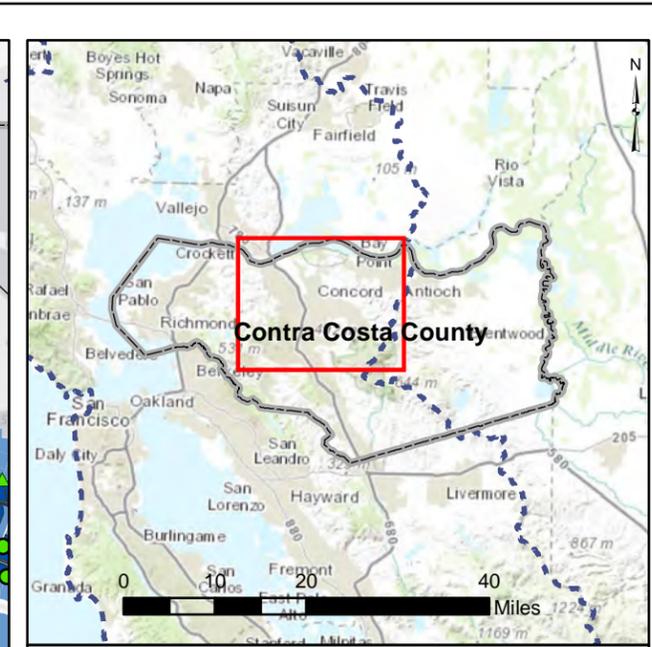
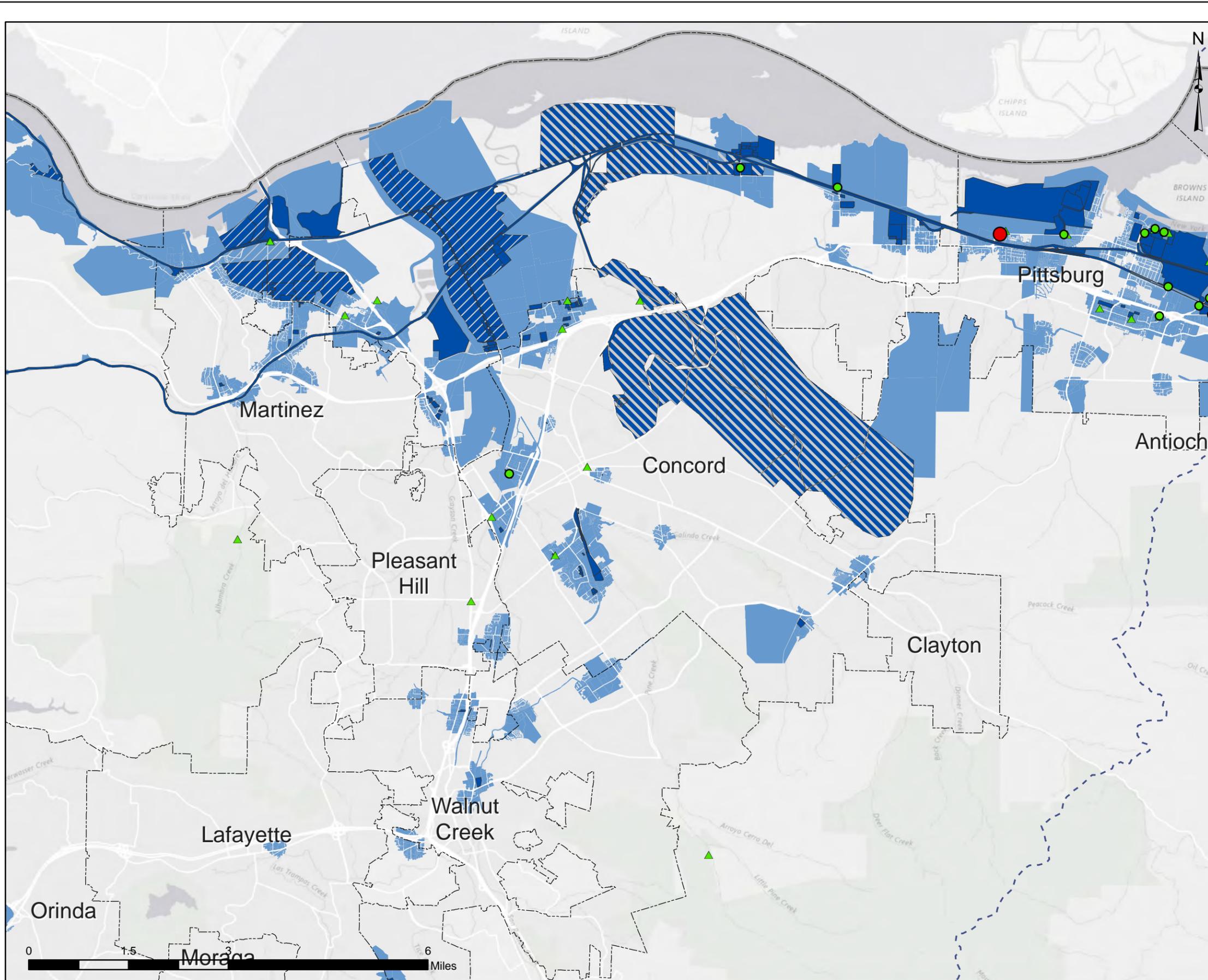


**Legend**

- City Boundaries
- ▭ Contra Costa County Boundary
- - - MRP Region 2 Boundary
- Desktop Survey Screening Area
- ▨ Non-Jurisdictional Properties
  - ▨ Refinery
  - ▨ Military
- Desktop Survey Screening Results
  - High Likelihood
- CCCWP 2015 PCBs Concentration Data
  - <0.5 mg/kg
  - 0.5 - 1.0 mg/kg
  - > 1.0 mg/kg
- ▲ SFEI and CW4CB PCBs Concentration Data (2001-2013)
  - ▲ <0.5 mg/kg
  - ▲ 0.5 - 1.0 mg/kg
  - ▲ > 1.0 mg/kg
- Referral Sites
- ▭ Pilot Watersheds
  - ▭ Lauritzen Channel
  - ▭ Parr Channel

**Western Contra Costa County Management Areas  
Richmond and San Pablo**

P:\GIS\CCCWP\Project\UCMR 2015\Final\_PDFs\Fig3\_Rich\_SP\_DRAFT\_S3\_120915.mxd Prepared By: A. Orr



**Legend**

- City Boundaries
- ▭ Contra Costa County Boundary
- - - MRP Region 2 Boundary
- Desktop Survey Screening

**Non-Jurisdictional Properties**

- ▨ Refinery
- ▨ Military

**Desktop Survey Screening Results**

- High Likelihood

**CCCWP 2015 PCBs Concentration Data**

- <0.5 mg/kg
- 0.5 - 1.0 mg/kg
- > 1.0 mg/kg

**SFEI and CW4CB PCBs Concentration Data (2001-2013)**

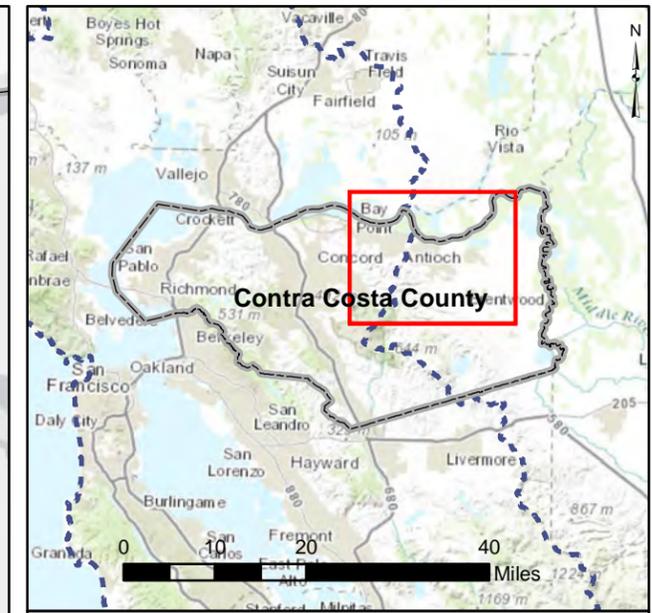
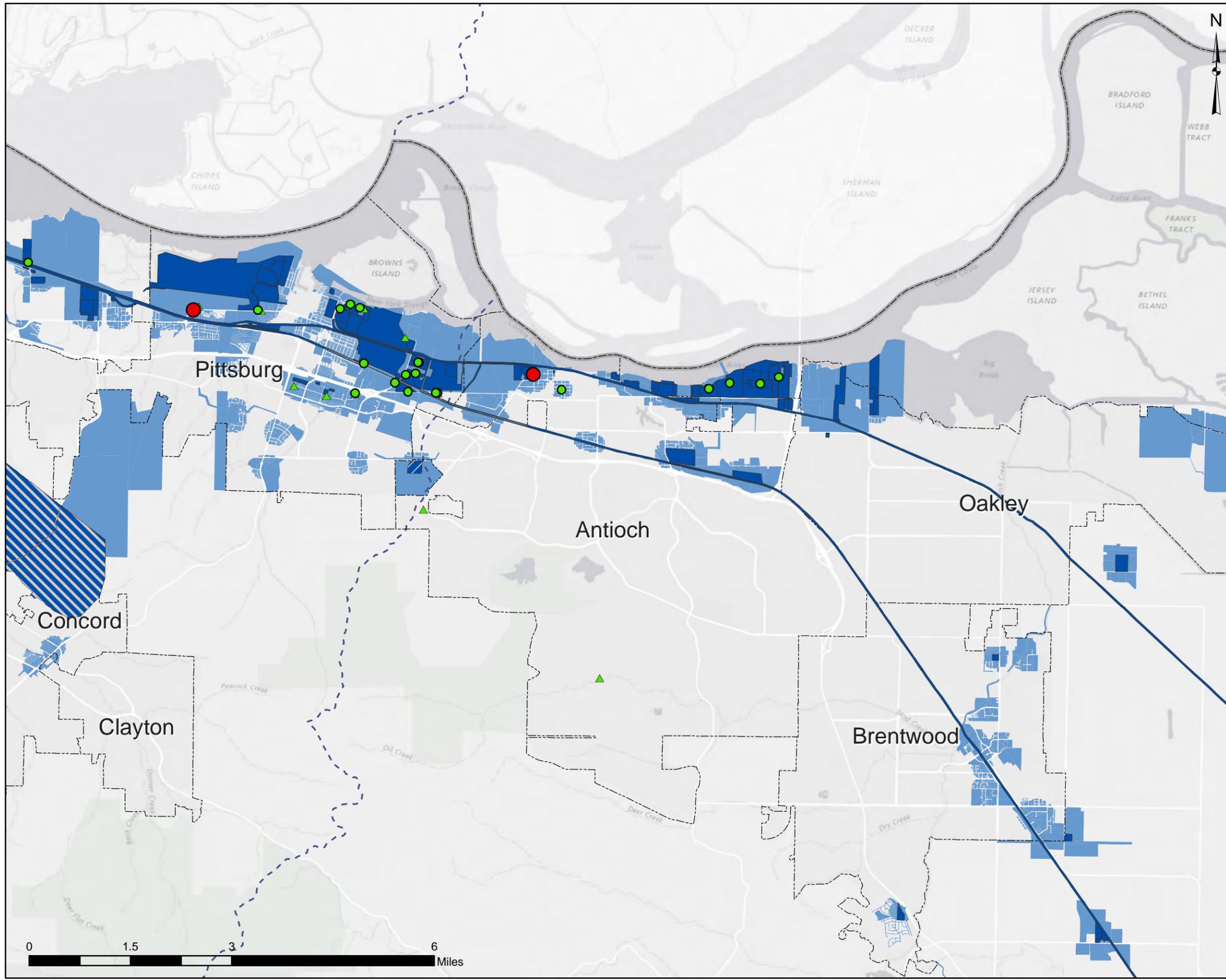
- ▲ <0.5 mg/kg
- ▲ 0.5 - 1.0 mg/kg
- ▲ > 1.0 mg/kg

**Central Contra Costa County Management Areas**

Geosyntec consultants

Figure 4

Oakland March 2016



**Legend**

- City Boundaries
- ▭ Contra Costa County Boundary
- - - MRP Region 2 Boundary
- Desktop Survey Screening

**Non-Jurisdictional Properties**

- ▨ Refinery
- ▨ Military

**Desktop Survey Screening Results**

- High Likelihood

**CCCWP 2015 PCBs Concentration Data**

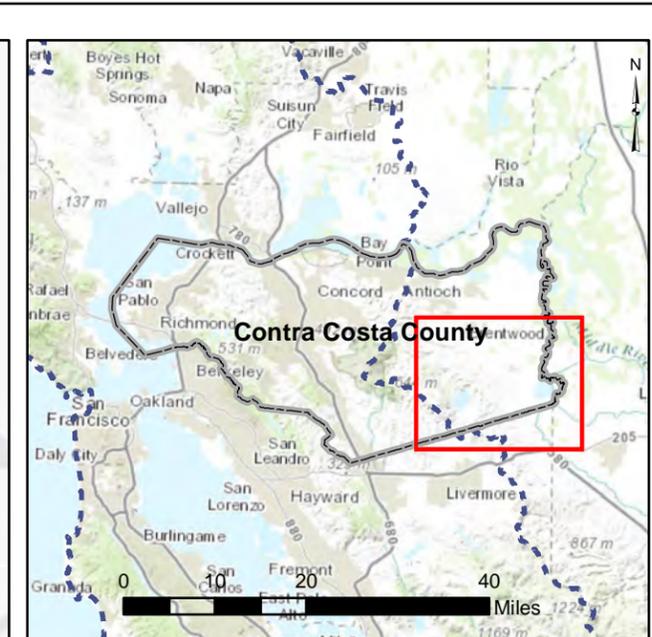
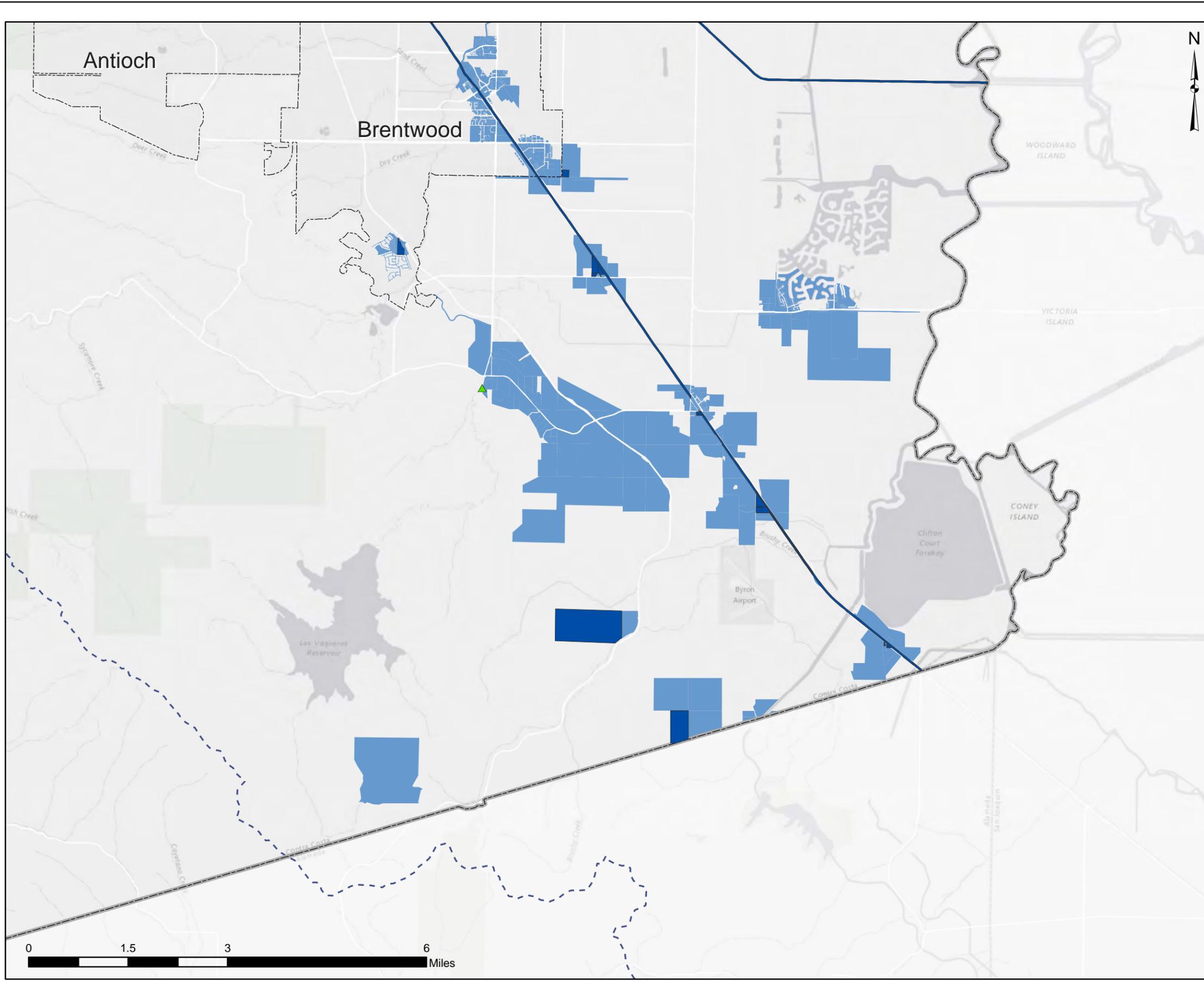
- <0.5 mg/kg
- 0.5 - 1.0 mg/kg
- > 1.0 mg/kg

**SFEI and CW4CB PCBs Concentration Data (2001-2013)**

- ▲ <0.5 mg/kg
- ▲ 0.5 - 1.0 mg/kg
- ▲ > 1.0 mg/kg

**Eastern Contra Costa County Management Areas**

		<b>Figure</b> <b>5</b>
Oakland	March 2016	



**Legend**

- City Boundaries
- ▭ Contra Costa County Boundary
- - - MRP Region 2 Boundary
- Desktop Survey Screening

**Non-Jurisdictional Properties**

- ▨ Refinery
- ▨ Military

**Desktop Survey Screening Results**

- High Likelihood

**CCCWP 2015 PCBs Concentration Data**

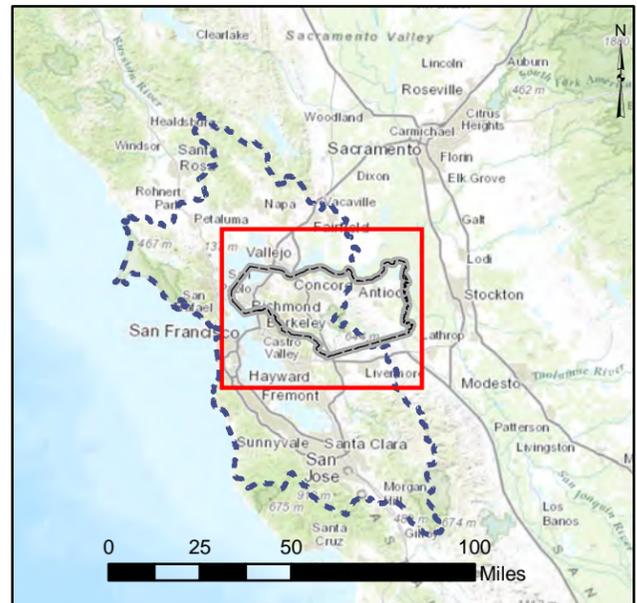
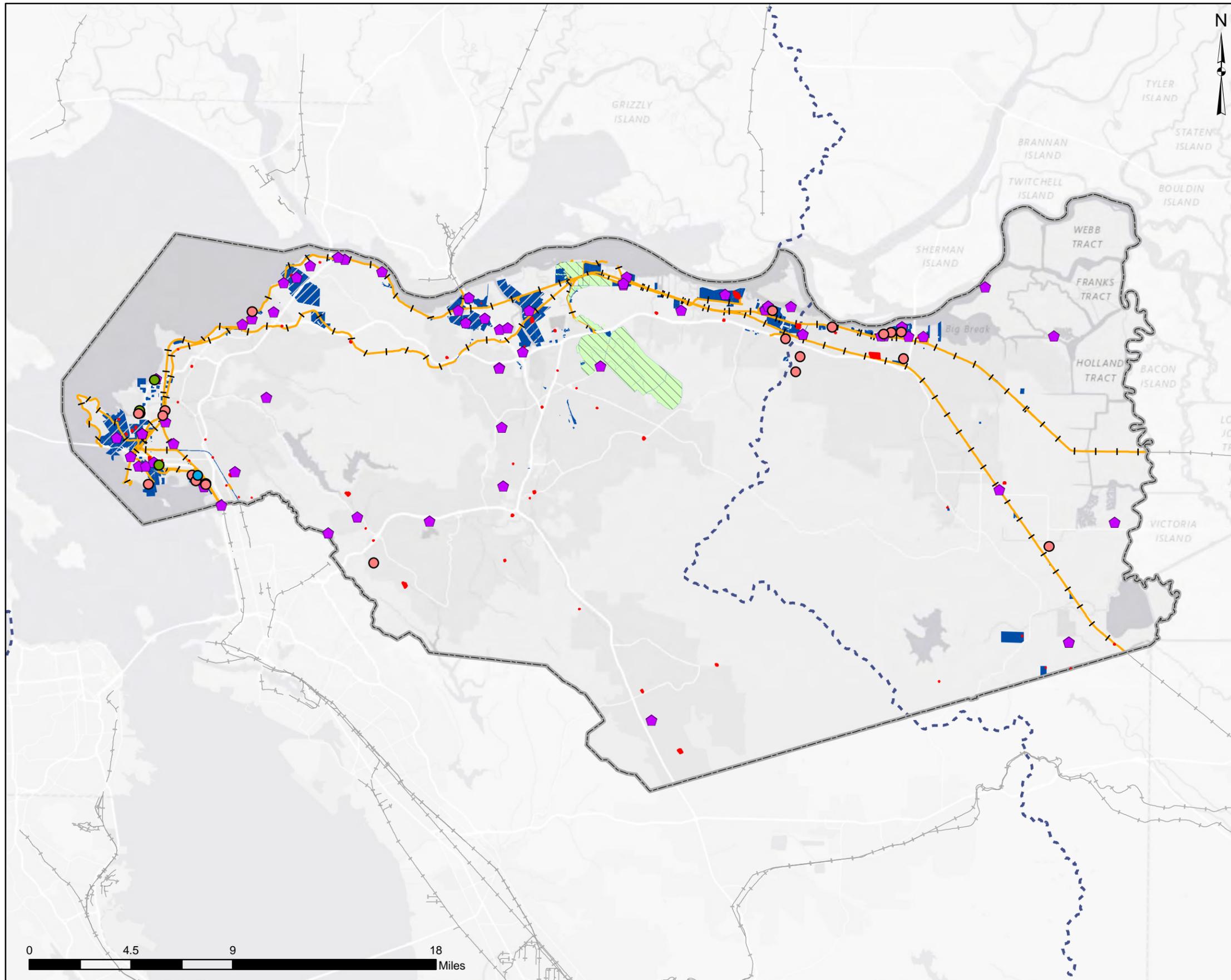
- <0.5 mg/kg
- 0.5 - 1.0 mg/kg
- > 1.0 mg/kg

**SFEI and CW4CB PCBs Concentration Data (2001-2013)**

- ▲ <0.5 mg/kg
- ▲ 0.5 - 1.0 mg/kg
- ▲ > 1.0 mg/kg

**Southeastern Contra Costa County  
Management Areas**

		<b>Figure</b>  6
Oakland	March 2016	



- Legend**
- Contra Costa County Boundary
  - MRP Region 2 Boundary
  - Electrical Properties
  - Military
  - Railroads
  - NPDES Individually Permitted Facility
  - Refinery
- Desktop Survey Screening Results**
- High Likelihood
- PCBs Sites**
- EPA
  - EnviroStor
  - GeoTracker

**Contra Costa County Non-Jurisdictional Areas**

**Geosyntec**  
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**Figure**  
**7**

Oakland March 2016