

## Attachment 3: Work Plan

The following attachment outlines the proposed scope of work as described in Attachment 3, Work Plan. This Work Plan has been prepared to document all necessary details to show the process by which the East Contra Costa IRWM Region will move forward with updating and adopting a revised Integrated Regional Water Management Plan (IRWMP), compliant with the plan standards as outlined in the California Department of Water Resource *Proposition 84 & Proposition 1E Integrated Regional Water Management Guidelines* (August 2010).



# **East Contra Costa County Region**

## **Proposition 84 Round 1 Planning Grant Application Work Plan**

September 2010

Prepared by  
**RMC**  
*Water and Environment*

## Contents

<b>1. BACKGROUND</b> .....	<b>4</b>
1.1. Regional Water Management Group (RWMG) .....	4
Introduction to ECWMA .....	4
ECWMA Member Agencies .....	7
Other Entities with Statutory Authority over Water Management .....	11
Working Relationships .....	12
1.2. East County IRWM Region .....	13
Political/Jurisdictional Boundaries .....	15
Water, Conservation, Irrigation and Flood District Boundaries.....	15
Wastewater Agency Boundaries.....	15
Watershed Management Areas .....	21
Groundwater Basins .....	21
Regional Water Quality Control Board Boundaries .....	21
Flood Plains, Physical and Topographical Features.....	25
Surface Water Bodies .....	25
Major Water-Related Infrastructure.....	25
Population .....	25
Land Cover/Habitat Areas.....	25
Disadvantaged Communities .....	25
1.3. IRWM Plan .....	32
History of IRWM Planning.....	32
Existing Functionally Equivalent IRWM Plan .....	33
1.4. Public Process .....	35
ECWMA Meetings.....	36
Local Forums .....	37
Project-Specific Outreach .....	37
Stakeholder Participation .....	38
Other Stakeholder Involvement Mechanisms .....	38
1.5. Disadvantaged Communities .....	39
1.6. Objectives & Conflicts .....	40
1.7. Regional Priorities.....	43
Criteria.....	44
Criteria Weighting .....	44
1.8. Technical Analysis and Data Management.....	46
Technical Analysis .....	46
Data Management .....	46
1.9. Resource Management Strategies.....	48
Water Management Strategies in FEIRWMP .....	48
Resource Management Strategies .....	49

1.10.	Implementation and Impacts and Benefits .....	51
	Implementation of the FEIRWMP .....	51
	Impacts and Benefits .....	51
1.11.	Current IRWM Plan Standards .....	53
<b>2.</b>	<b>PROPOSAL SCOPE OF WORK .....</b>	<b>58</b>
	Task 1 - Update and Integrate East County IRWMP .....	59
	Task 2 - Develop Pittsburg Plain Groundwater Management Program .....	65
	Task 3 - Data Gap Analysis for East County Portion of Tracy Subbasin .....	67
	Task 4 - Develop Salinity & Nutrient Management Program .....	68
	Task 5 - Public Outreach.....	73
	Task 6 - Funding Administration .....	75

**List of Figures**

Figure 1-1 - ECWMA Water and Environmental Agency Member Service Areas.....	9
Figure 1-2 - ECWMA Wastewater Agency Member Service Areas .....	10
Figure 1-3 - East County Regional Boundary.....	17
Figure 1-4 - East County Municipal Boundaries.....	18
Figure 1-5 - East County Water, Conservation, Irrigation and Flood Boundaries.....	19
Figure 1-6 - East County Wastewater Agencies .....	20
Figure 1-7 - East County Watersheds .....	22
Figure 1-8 - East County Groundwater Basins.....	23
Figure 1-9 - RWQCB Boundaries.....	24
Figure 1-10 - Flood, Physical, and Topographic Boundaries.....	26
Figure 1-11 - Surface Water Boundaries.....	27
Figure 1-12 - Major Water-Related Infrastructure .....	28
Figure 1-13 - Population Density.....	29
Figure 1-14 - Land Cover of East County.....	30
Figure 1-15 - Disadvantaged Communities.....	31

**List of Tables**

Table 1-1 - Water Management Responsibilities for ECWMA Member Agencies .....	8
Table 1-2 - Other Entities with statutory authority over water management .....	11
Table 1-3 - FEIRWMP Participation .....	35

Table 1-4 - Primary Points of Contact .....	38
Table 1-5 - DACs in East County .....	39
Table 1-6 - Regional Planning Objectives.....	42
Table 1-7 - 2005 FEIRWMP Criteria, Subcriteria, and Weightings .....	45
Table 1-7 - Objectives and Water Management Strategies .....	49
Table 1-8 - Resource Management Strategies .....	50
Table 1-9 - Existing Plan and Current IRWM Plan Standards .....	54

---

## **1. BACKGROUND**

East Contra Costa County has a long history of collaborative regional water management planning, starting with the preparation and implementation of an East County Water Management Plan in 1996 and, more recently, with the development and adoption of a Functionally Equivalent Integrated Regional Water Management Plan (FEIRWMP) in 2005. The Region is submitting this Proposition (Prop) 84 Planning Grant proposal in order to receive planning grant funds to continue their practice of regional water management and planning by updating their existing FEIRWMP to a fully-integrated regional water management plan that addresses the Region's water management goals and objectives, meets current Prop 84 Plan Standards, and that provides appropriate solutions under present-day conditions.

The scope of work presented herein is comprised of six tasks that, when completed together, will both provide the region with a better understanding of its regional water resources and an implementable plan to manage those water resources to ensure its long-term sustainability. The six tasks discussed below include: Task 1 - Update and Integrate East County IRWMP; Task 2 - Develop Pittsburg Plain Groundwater Management Program; Task 3 - Data Gap Analysis for East County Portion of Tracy Subbasin; Task 4 - Develop Salinity & Nutrient Management Program; Task 5 - Public Outreach; and Task 6 - Funding Administration. These are described in Section 2 - Proposal Scope of Work. This Background section consists of a description of the history of the Integrated Regional Water Management (IRWM) planning process in East Contra Costa County and provides a summary of IRWM planning work that has been completed to date, providing a basis for the need to update the FEIRWMP.

---

### **1.1. REGIONAL WATER MANAGEMENT GROUP (RWMG)**

#### **Introduction to ECWMA**

The official “Regional Water Management Group” for the East Contra Costa County Region (also referred to as the East County Region) is the East County Water Management Association (ECWMA), a consortium of 11 member agencies with a broad range of water management-related responsibilities within the region. The ECWMA was originally formed in 1995 to undertake the development of the East County Water Supply Management Study (Study), a long-term water management plan that outlined specific implementation actions required to ensure cost-effective reliable water supplies for the Region through 2040. Although the original agreement forming the ECWMA terminated in November 1996 upon acceptance of the recommended actions in the Study, the ECWMA was re-established by a subsequent agreement in August 1997 because of the desire to facilitate continued communication, cooperation and education between the member agencies as water supply reliability projects were implemented. The ECWMA is still in existence and member agencies coordinate on a regular basis. Some of the key goals and water resources strategies that ECWMA has focused on in the past, and continue to collaborate on, are:

- ❑ Improving the overall reliability of the Region's water systems;
- ❑ Diversifying the water supply portfolio within the Region through implementation of recycled water projects;

- Habitat conservation and protection; and
- Increasing water conservation.

The level of regional cooperation and coordination facilitated by the ECWMA has helped to avoid/resolve potential water supply conflicts in the region and has resulted in several successful regional planning and implementation projects within the East Contra Costa County Region over the past decade. The success of these multi-benefit regional initiatives has established a foundation of trust between ECWMA member agencies and other regional stakeholders that will enable successful implementation of future water management activities. The ECWMA wishes to continue successful IRWM planning within the Region by updating their existing 2005 Functionally Equivalent IRWM Plan (FEIRWMP) to create a fully-integrated regional water management plan that meets current Prop 84 Plan Standards, fully addresses the Region's needs, goals and objectives, and provides appropriate solutions to achieve those goals. Creating such an integrated plan will require filling data gaps, updating existing sections of the FEIRWMP to meet Plan Standards as outlined in the August 2010 *Proposition 84 & 1E Integrated Regional Water Management Guidelines* (California Department of Water Resources or DWR), incorporating relevant documentation from the Regional Acceptance Process (RAP) application into the revised IRWM Plan, and continuing to provide outreach to regional stakeholders and disadvantaged communities. (Note: there are no Native American tribes in the East County Region.)

Part of what makes the ECWMA such a successful regional water management group is that member agencies all share common water management challenges that stem from the following:

- *Shared Location within and/or Hydrological Connection to the Statutory Delta* - an environmentally sensitive ecosystem that supports over 750 plant and animal species and provides drinking water to over two-thirds of Californians and irrigation supplies for more than 7 million acres of the most productive agricultural land in the world.
- *Reliance on the Delta as a Primary Source of Supply* - although the regional water portfolio includes groundwater, recycled water and conservation, the region's primary source of water supply is the Delta, making East County particularly vulnerable to varying hydrologic conditions and regulatory restrictions placed on Delta pumping;
- *Shared and/or Interdependent Facilities* - the ECWMA member agencies have several shared and/or interdependent facilities such as the many shared interties between member agencies (e.g. Antioch-DWD), and the Randall-Bold Water Treatment Plant, which is co-owned by Contra Costa Water District (CCWD) and Diablo Water District (DWD) and also has some capacity allocated to Antioch and Brentwood. Since CCWD is the primary surface water supply wholesaler to the Region, many of the ECWMA agencies are dependent upon CCWD's Delta Infrastructure, including the Delta intakes at Rock Slough and Old River, the Contra Costa Canal and Los Vaqueros Reservoir and related conveyance. The same is true on the wastewater side where Delta Diablo Sanitation District's (DDSD's) Regional Wastewater Treatment Plant and conveyance system serves the collection system of Antioch and Pittsburg.

- *Geographic Isolation* - the East Contra Costa County Region is physically isolated from neighboring areas, with the ridgelines of Mt. Diablo separating it from the greater Bay Area and a maze of waterways separating it from the Central Valley Region;
- *Significant Growth Projections* - although temporarily curtailed by the recent downturn in the economy, the East Contra Costa County Region projects rapid increases in population over the long-term as the demand for affordable housing continues to push Bay Area residents towards the eastern edges of Contra Costa and Alameda Counties.

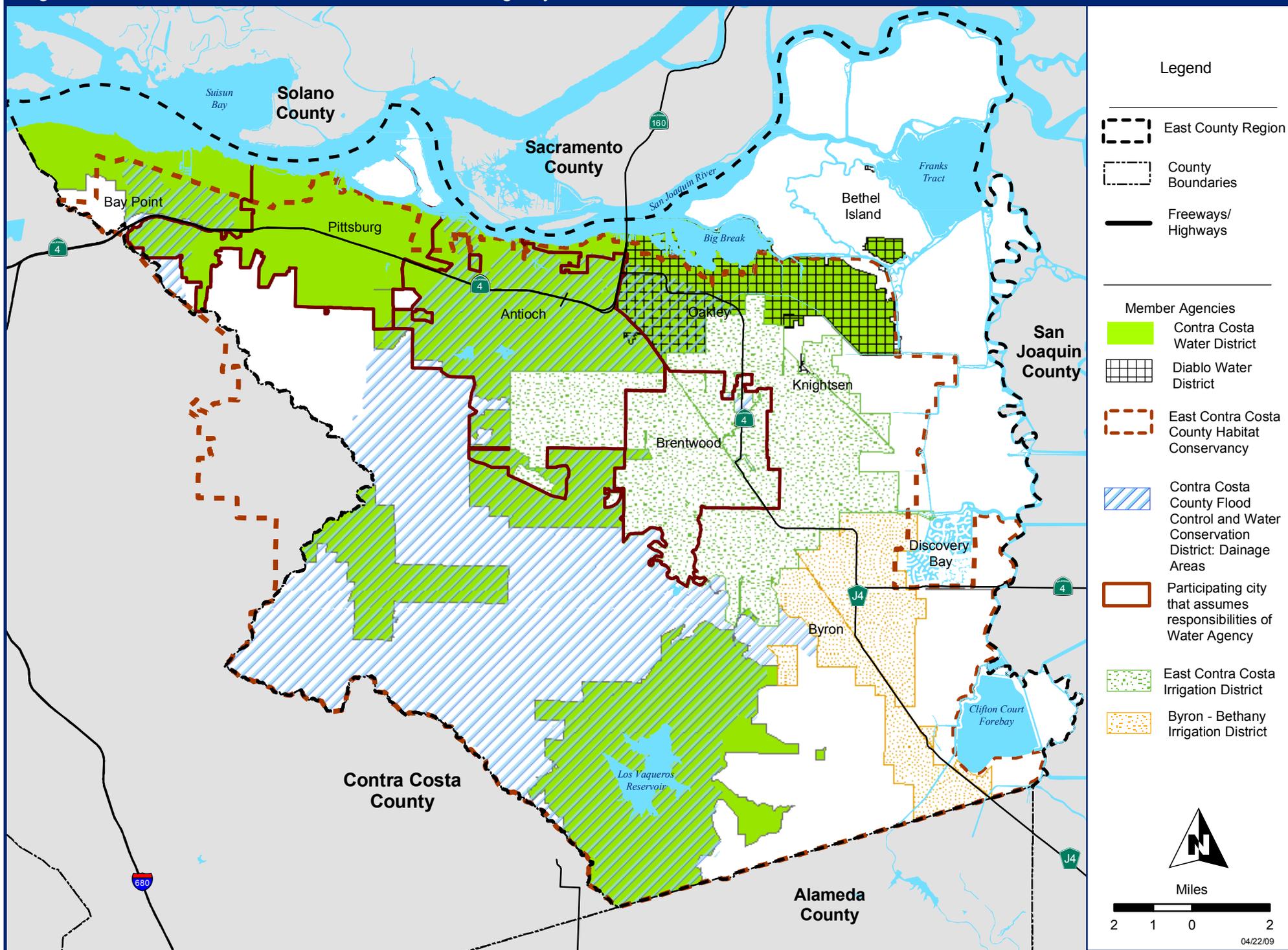
## **ECWMA Member Agencies**

The 11 member agencies of the ECWMA, shown in Figure 1-1 and Figure 1-2, represent the majority of the water management authorities and stakeholders within the region and cover a broad range of water management areas including water supply and quality, wastewater and recycled water, flood control and stormwater, and watershed and habitat management. Table 1-1 lists the 11 member agencies and summarizes the water management responsibilities of each member agency (RMC, 2009).

TABLE 1-1 - WATER MANAGEMENT RESPONSIBILITIES FOR ECWMA MEMBER AGENCIES

Member Agency	Water Management Responsibility				
	Water Supply & Quality	Wastewater	Recycled Water	Stormwater/ Flood	Watershed/ Habitat
City of Antioch	✓	✓	✓	✓	✓
City of Brentwood	✓	✓	✓	✓	✓
Byron-Bethany Irrigation District (BBID)	✓	✓			
Contra Costa County (CCC)	✓			✓	✓
Contra Costa Water District (CCWD)	✓			✓	✓
Delta Diablo Sanitation District (DDSD)		✓	✓		
Diablo Water District (DWD)	✓				
Discovery Bay Community Services District (CSD)	✓	✓		✓	
East Contra Costa Irrigation District (ECCID)	✓				
Ironhouse Sanitary District (ISD)		✓	✓		
City of Pittsburg	✓	✓	✓	✓	✓

Figure 1-1: ECWMA Water and Environmental Member Agency Service Areas





### Other Entities with Statutory Authority over Water Management

In addition to the ECWMA member agencies, the agencies shown in Table 1-2 also have statutory authority over water management activities in the East Contra Costa County Region. Most of these entities had direct or indirect representation in the IRWM Plan through their working relationships with ECWMA member agencies. As ECWMA member agencies move forward with updates and revisions to the IRWMP and implementation of priority projects, targeted outreach will be made to these other entities to ensure their interests continue to be represented in the process.

**TABLE 1-2 - OTHER ENTITIES WITH STATUTORY AUTHORITY OVER WATER MANAGEMENT**

Agency	Description
Bethel Island Municipal Improvement District	Created in 1960, Bethel Island Municipal Improvement District (BIMID) maintains the levee that protects Bethel Island and provides storm water, seepage, and drainage control services.
Golden State Water Company	The Golden State Water Company (GSWC) provides retail water service for the unincorporated Bay Point community. GSWC is an investor-owned utility that operates under the oversight of the California Public Utilities Commission (CPUC). GSWC purchases all of its water supply from CCWD, a member of the ECWMA.
Town of Knightsen Community Services District	This District was formed in 2005 to provide flood control and water quality (drainage services) for the community of Knightsen. During development of the FEIRWMP ECWMA member agencies reached out to the Knightsen CSD. Through this process, the Town Knightsen CSD was able to have projects included within the FEIRWMP. Representatives of the CSD continue to communicate periodically with members of the ECWMA to discuss regional planning issues.
City of Oakley	Incorporated in 1999, the City of Oakley is responsible for providing flood control, drainage and stormwater management. Diablo Water District, an ECWMA member agency, currently provides all drinking water supplies within the City; and Ironhouse Sanitary District (ISD), another ECWMA member agency, current provides all wastewater services for the City. In addition, the City is a member of the East Contra Costa County Habitat Conservancy, which had several Habitat Conservation Plan projects included within the FEIRWMP.
Reclamation Districts	There are several Reclamation Districts (RDs) within East Contra Costa County that provide flood protection services including: RD 799 (Hotchkiss Tract); RD 800 (Byron Tract); RD 2024 (Orwood and Palm Tracts); RD 2025 (Holland Tract); RD 2026 (Webb Tract); RD 2059 (Bradford Island); RD 2065 (Veale Tract); RD 2090 (Quimby Island); RD 2117 (Coney Island); RD 2121; RD 2122 (Winter Island); RD 2137. During development of the FEIRWMP, ECWMA member agencies reached out to RD 800 (Byron Tract). Through this process, RD 800 was able to have projects included within the FEIRWMP.

## Working Relationships

### WORKING RELATIONSHIPS OF MEMBER AGENCIES

The ECWMA member agencies have a proven history of working together to resolve water management-related issues within the Region. The level of regional cooperation and coordination facilitated by the ECWMA has helped to avoid/resolve potential conflicts in the region and has resulted in several successful regional planning and implementation projects within the East Contra Costa County Region over the past decade.

In addition to the efforts noted above, the ECWMA member agencies came together to develop a FEIRWMP for the Region and through a collaborative decision making approach, were able to reach consensus on priorities for funding of regional projects through the Proposition 50, Chapter 8 implementation grant. Member agencies coordinate on a regular basis and will continue this collaboration into the future as new emerging water management challenges arise and additional planning efforts are undertaken. The FEIRWMP is discussed in greater detail in Section 1.3 (RMC, 2009).

#### *The East County Region has a Proven Track Record of Successful Regional Planning and Implementation*

- ✓ East County Water Supply Management Study (1996)
- ✓ DDSD/Pittsburg Recycled Water Project (2008)
- ✓ ECCID -Brentwood Transfers (1999)
- ✓ ECCID-CCWD Transfer (2000)
- ✓ East County Groundwater Study (1999)
- ✓ DWD AB 3030 Groundwater Management Plan (2007)
- ✓ Brentwood/CCWD Joint Treatment Plant Project (2008)
- ✓ East County Habitat Conservation Plan (2006)
- ✓ Future Water Supply Study (1996/2002)
- ✓ DWD-Antioch Intertie (2003)

### WORKING RELATIONSHIPS WITH STAKEHOLDERS

ECWMA member agencies have also established good working relationships with other stakeholders within the region. As discussed in detail in Section 1.4 - Public Process, these stakeholders are typically engaged through various forums and on-going projects. A wide range of stakeholder types are regularly engaged by ECWMA member agencies with the exception of:

- *Watermaster for adjudicated surface water or groundwater basin.* This is not applicable to the East Contra Costa Region.
- *Native American Tribes that have lands within the region.* There are no current tribal or ceremonial lands within the East Contra Costa County Region. However, protection of historic cultural resources is provided through the environmental compliance process for any implementation projects undertaken by East County agencies.

---

## **1.2. EAST COUNTY IRWM REGION**

The East Contra Costa County IRWM Region boundary is shown in Figure 1-3. The Region is bounded to the north by the San Joaquin River, to the east by Old River, to the south by the county line separating Contra Costa County from Alameda County, and to the west by the ridgelines of the Mount Diablo hydrologic divide. The Region became an approved IRWM region during the 2009 Region Acceptance Process (RAP) through the Department of Water Resources (DWR). Much of the information included in this section was developed for the Region's RAP submittal and therefore is not included in the 2005 FEIRWMP. This information will need to be updated and added to the revised Plan, as described in Task 1 of the proposed scope of work.

The East Contra Costa County IRWM Region has distinct water management circumstances that unify it as a region:

**The ECCC IRWM region is a cohesive geographic area.** East Contra Costa County (ECCC) is a discrete geographic region that is isolated from neighboring regions by clear and natural physical boundaries. It is isolated from the remainder of Contra Costa County and the greater Bay Area by ridgelines of Mt. Diablo which define its southern and western boundaries. The region is bounded on the north and east by the San Joaquin River and Old River, and the associated maze of waterways effectively isolates East Contra Costa County from the Central Valley region. The entire region drains to the Delta primarily through the Marsh Creek, Kirker Creek, and the Kellogg Creek watersheds. These watersheds encompass the jurisdictional boundaries of the entire ECCC IRWM region participating agencies except for Contra Costa County and the Contra Costa Water District, which serve a broader area than East Contra Costa County.

**All or a portion of the cities and unincorporated communities within the ECCC IRWM region are located within the statutory Sacramento-San Joaquin Delta (Delta).** The San Francisco Bay/Sacramento-San Joaquin Delta system is the largest estuary on the west coast of North and South America. An environmentally sensitive ecosystem, the Delta supports over 750 plant and animal species. The Delta provides drinking water to over two-thirds (22 million) of Californians, and irrigation water for more than 7 million acres of the most productive agricultural land in the world. Located within the Delta boundaries, and with Delta water as a primary source of drinking water for ECCC IRWM region, the agencies in East Contra Costa County share a common commitment to protect and restore the Delta water quality and environment.

**The water agencies in the ECCC IRWM region all fall within the jurisdiction of the Central Valley Regional Water Quality Control Board (Region 5).** There are some agencies (CCWD, DDSD, and the City of Pittsburg) that fall in both the San Francisco Bay Regional Water Quality Control Board

(Region 2) and the Central Valley Regional Water Quality Control Board (Region 5). Remaining regional entities lie within the Central Valley Regional Water Quality Control Board.

**The water management entities in East Contra Costa County have long recognized the value of regional cooperation in integrating water management activities related to natural and man-made water systems.** Ongoing regional planning initiatives, such as the Habitat Conservation Plan, the FEIRWMP and others, are in place for the East Contra Costa County communities, urban water suppliers, agricultural water suppliers, habitat preservation and enhancement entities, watershed managers, and wastewater agencies to work on common issues. Successful resolution to past water resource conflicts has given these entities proven practices and tools to manage potential conflicts in the future.

Key water management boundaries are shown in subsequent maps, including:

- ❑ Political/jurisdictional boundaries (See Figure 1-4)
- ❑ Water, conservation, irrigation, and flood district boundaries (see Figure 1-5)
- ❑ Wastewater Agency Boundaries (see Figure 1-6)
- ❑ Watershed management areas (see Figure 1-7)
- ❑ Groundwater basins (see Figure 1-8)
- ❑ Regional Water Quality Control Board boundaries (see Figure 1-9)
- ❑ Floodplains and Topography (see Figure 1-10)
- ❑ Surface water bodies and 303(d) list (See Figure 1-11)
- ❑ Major water-related infrastructure (see Figure 1-12)
- ❑ Population Density (see Figure 1-13)
- ❑ Habitats (see Figure 1-14)
- ❑ Disadvantaged communities (DACs) with median household income demographics (see Figure 1-15)

Many of these maps will require revisions since the existing FEP was completed in 2005 and the Region Acceptance Process occurred in 2009. For example, Figure 1-15 was created using 2000 U.S. Census data so this figure will be updated by identifying DACs using up-to-date information,

including the 2010 U.S. Census. This process will also help the East Contra Costa County Region create a more robust outreach program and ensure all DACs are able to participate and reap benefits from projects included in the Plan revision. This outreach process is described in greater detail in both Task 1 - Update and Integrate East County IRWMP, and Task 5 - Public Outreach in Section 2 of the proposed scope of work.

### **Political/Jurisdictional Boundaries**

The East Contra Costa County Region is defined in part by political/jurisdictional boundaries as the southern border is the dividing line between Contra Costa County and Alameda County and the eastern border is defined by Old River, a surface water feature dividing Contra Costa County and San Joaquin County. The East County Region includes several municipalities within the rapidly growing and biologically rich area on the southwestern shore of the Sacramento-San Joaquin Delta. As shown in Figure 1-4, these municipalities include the cities of Antioch, Brentwood, Oakley and Pittsburg. The Region also includes several unincorporated areas including Bay Point, Byron, Knightsen, Discovery Bay, and Bethel Island.

All of the ECWMA entities are within Contra Costa County, and three of the municipalities are members of the ECWMA: the City of Antioch, the City of Brentwood and the City of Pittsburg. The City of Oakley was not incorporated until 1999 - after the formation of the ECWMA in 1997 - but it currently receives its water services from DWD, an ECWMA member, and it receives wastewater services from ISD, another ECWMA member.

Jurisdictional boundaries of water, wastewater and flood agencies are shown in Figure 1-5 and Figure 1-6 (RMC, 2009).

### **Water, Conservation, Irrigation and Flood District Boundaries**

Figure 1-5 displays the major boundaries of water, conservation, irrigation and flood districts within East Contra Costa County Region. These include the boundaries of Antioch, Brentwood, CCWD, DWD, ECCID, BBID, and Contra Costa County.

### **Wastewater Agency Boundaries**

Figure 1-6 displays the boundaries of the wastewater agencies serving the East County region, including DDSD, ISD, Brentwood and the Byron Sanitary District (which is operated by BBID).

As shown in Figure 1-4, Figure 1-5, and Figure 1-6, the Region encompasses multiple local agencies with a wide range of water management responsibilities. The ECWMA member agencies represent the majority of entities with water management authority in the East County

region and have a long-track record of successful regional water management planning and implementation (RMC, 2009).

Figure 1-3: East County Regional Boundary

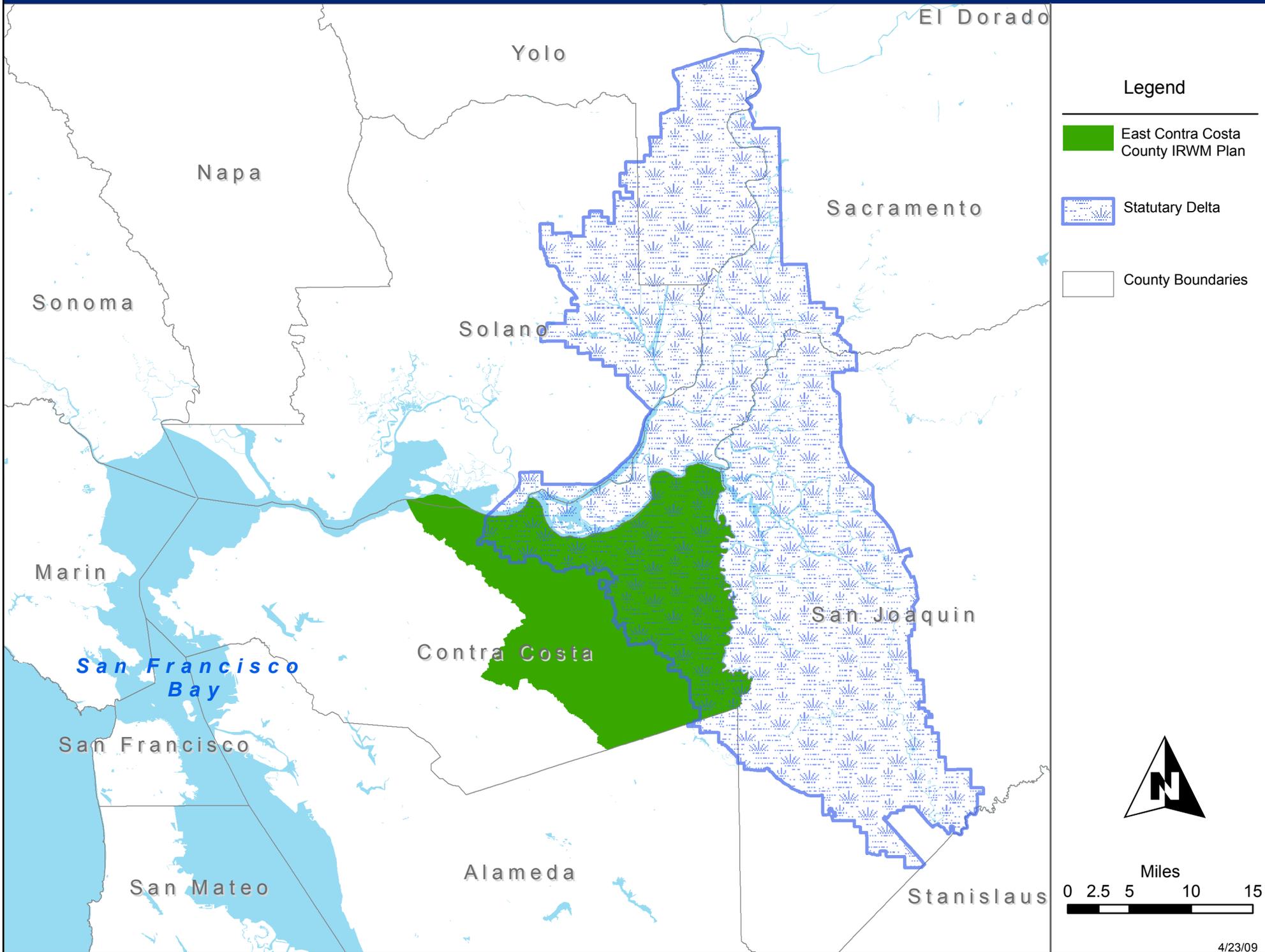


Figure 1-4: Municipal Boundaries within the East County Region

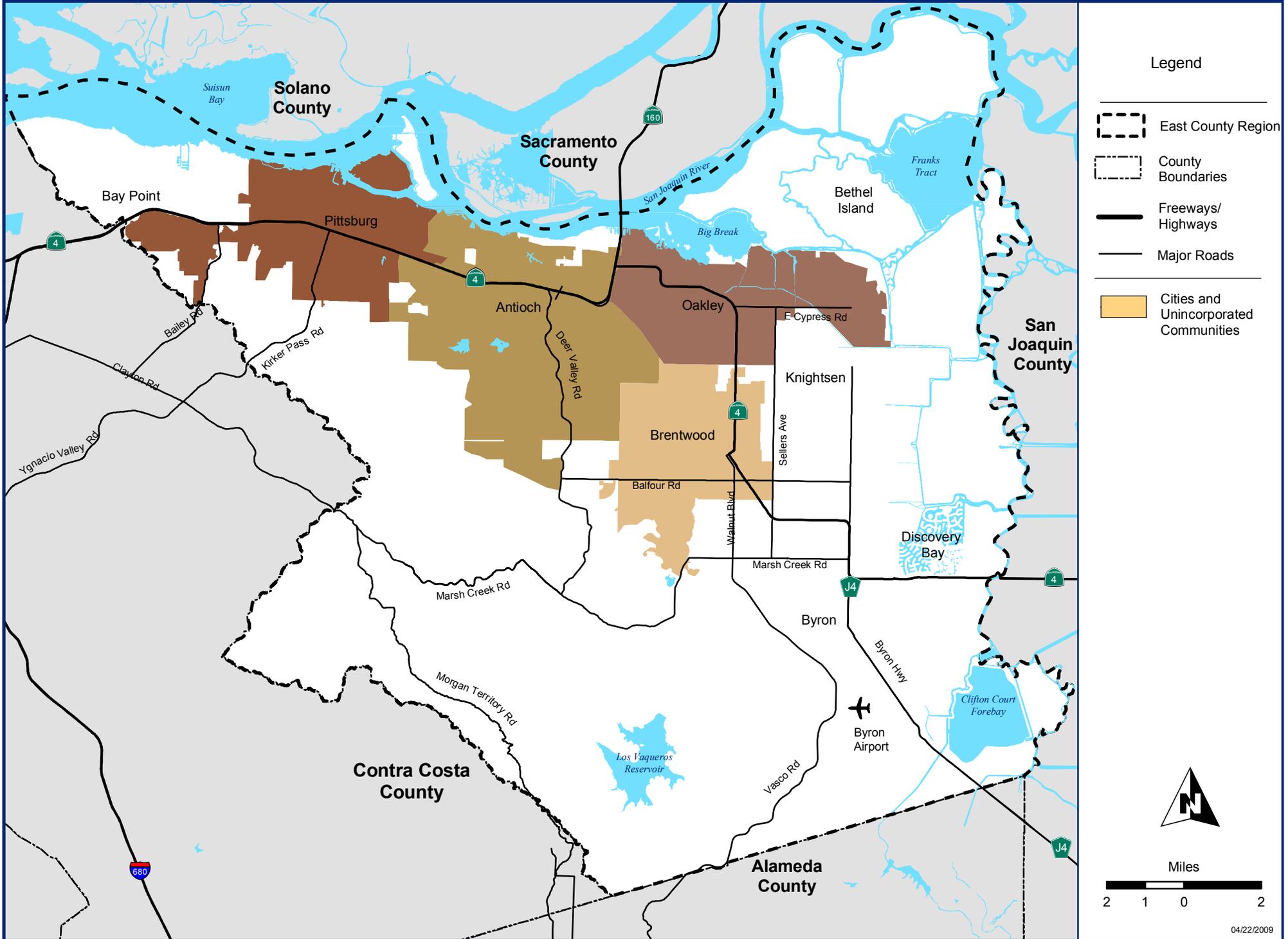


Figure 1-5: Water, Conservation, Irrigation and Flood Control Boundaries

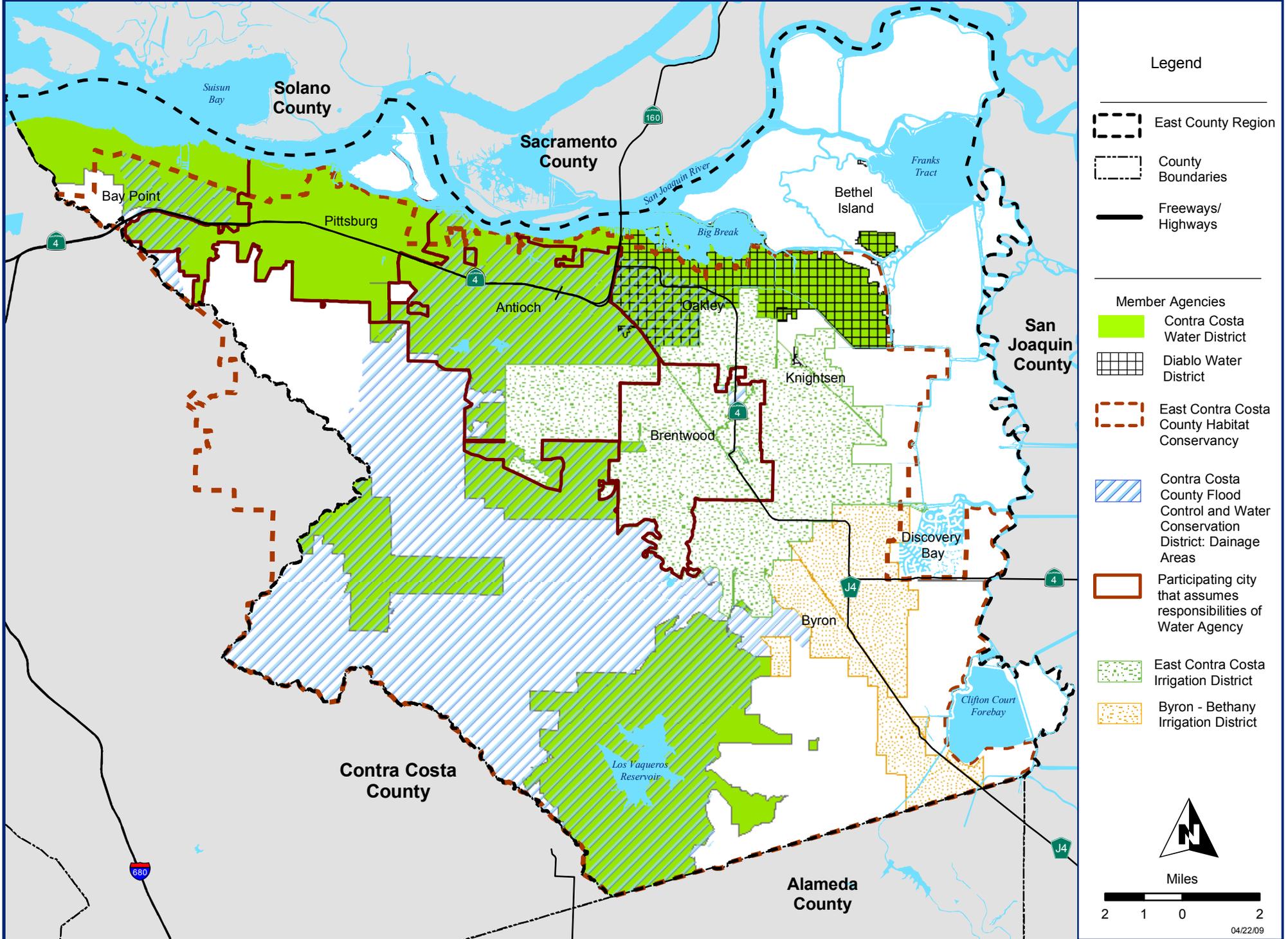
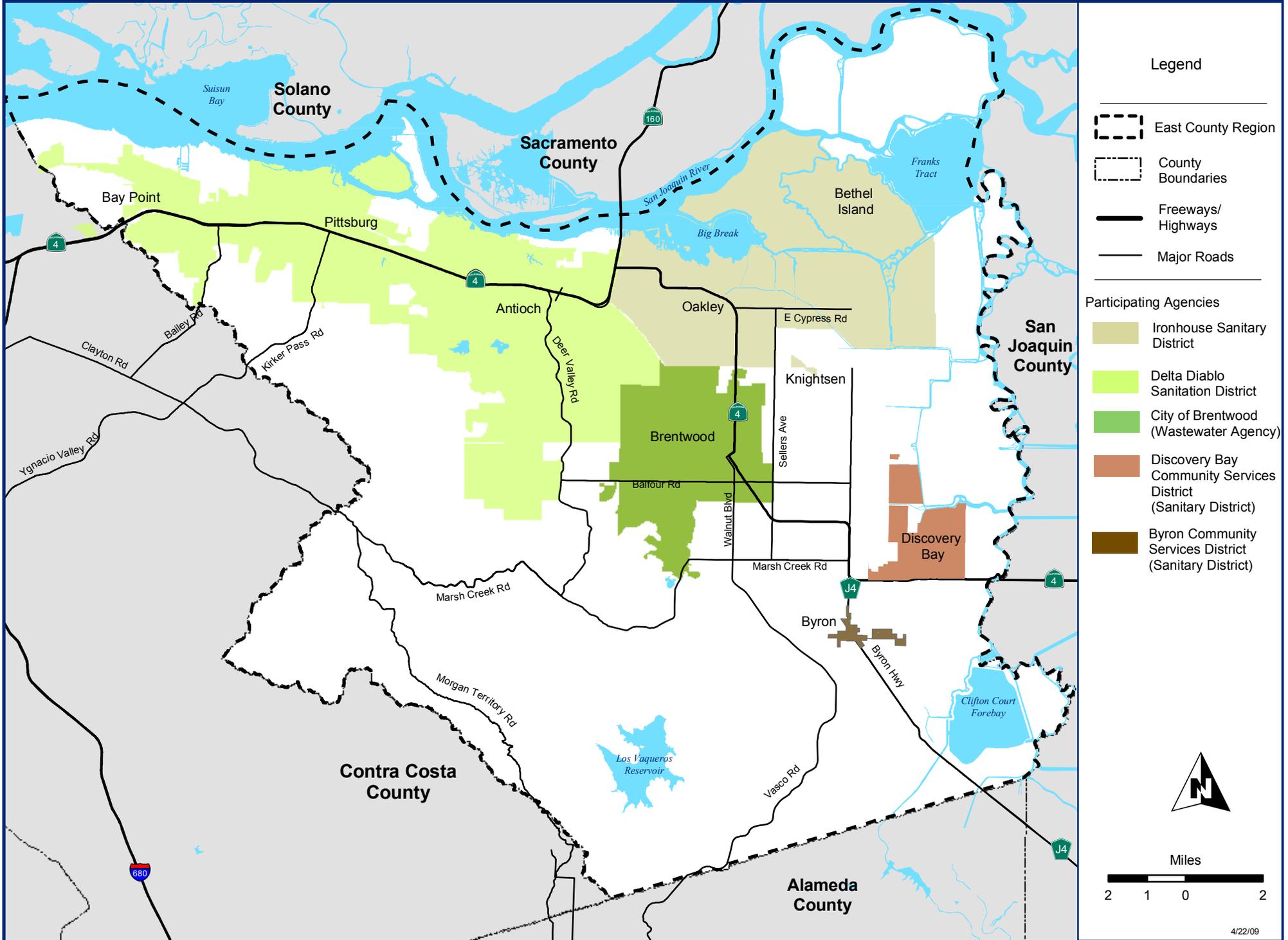


Figure 1-6: Wastewater Agency Boundaries



Legend

-  East County Region
-  County Boundaries
-  Freeways/Highways
-  Major Roads

Participating Agencies

-  Ironhouse Sanitary District
-  Delta Diablo Sanitation District
-  City of Brentwood (Wastewater Agency)
-  Discovery Bay Community Services District (Sanitary District)
-  Byron Community Services District (Sanitary District)



## **Watershed Management Areas**

The East County Region is defined in part by watershed boundaries in that the western boundary - the ridgelines of Mount Diablo - represents the hydrologic divide between Bay Area drainage areas and East Contra Costa County drainage areas. The East County Region spans two hydrologic regions - the San Francisco Bay Hydrologic Region and the San Joaquin River Hydrologic Region - although the majority of the region lies within the San Joaquin River Hydrologic Region.

Figure 1-7 displays the major watershed management areas within the East Contra Costa County Region:

- ❑ Brushy Creek Watershed
- ❑ East Antioch Creek Watershed
- ❑ East County Delta Drainages
- ❑ Kellogg Creek Watershed
- ❑ Kirker Creek Watershed
- ❑ Lower Marsh Creek Watershed
- ❑ Upper Marsh Creek Watershed
- ❑ West Antioch Creek Watersheds
- ❑ Willow Creek Watershed

Additional detail regarding these watersheds is provided in Section 1.3 - IRWM Plan.

## **Groundwater Basins**

Although the East Contra Costa County Region includes groundwater basins, it is not defined by those boundaries. As shown in Figure 1-8, the three major groundwater basins underlying the region are the Pittsburg Plain Groundwater Basin, Clayton Valley Groundwater Basin, and Tracy Subbasin of the San Joaquin Valley Groundwater Basin. Additional detail regarding these basins is provided in Section 1.3 - IRWM Plan.

## **Regional Water Quality Control Board Boundaries**

Contra Costa County spans two Regional Water Quality Control Board (RWQCB) Regions - the San Francisco Bay RWQCB (Region 2), and the Central Valley RWQCB (Region 5).

As shown in Figure 1-9, the western portion of the East Contra Costa County Region lies within the San Francisco Bay RWQCB (Region 2), including CCWD, DDSD and City of Pittsburg service areas); and the eastern portion of the Region lies within the jurisdiction of the Central Valley RWQCB (Region 5) (RMC, 2009).

Figure 1-7: East Contra Costa County Watershed Boundaries

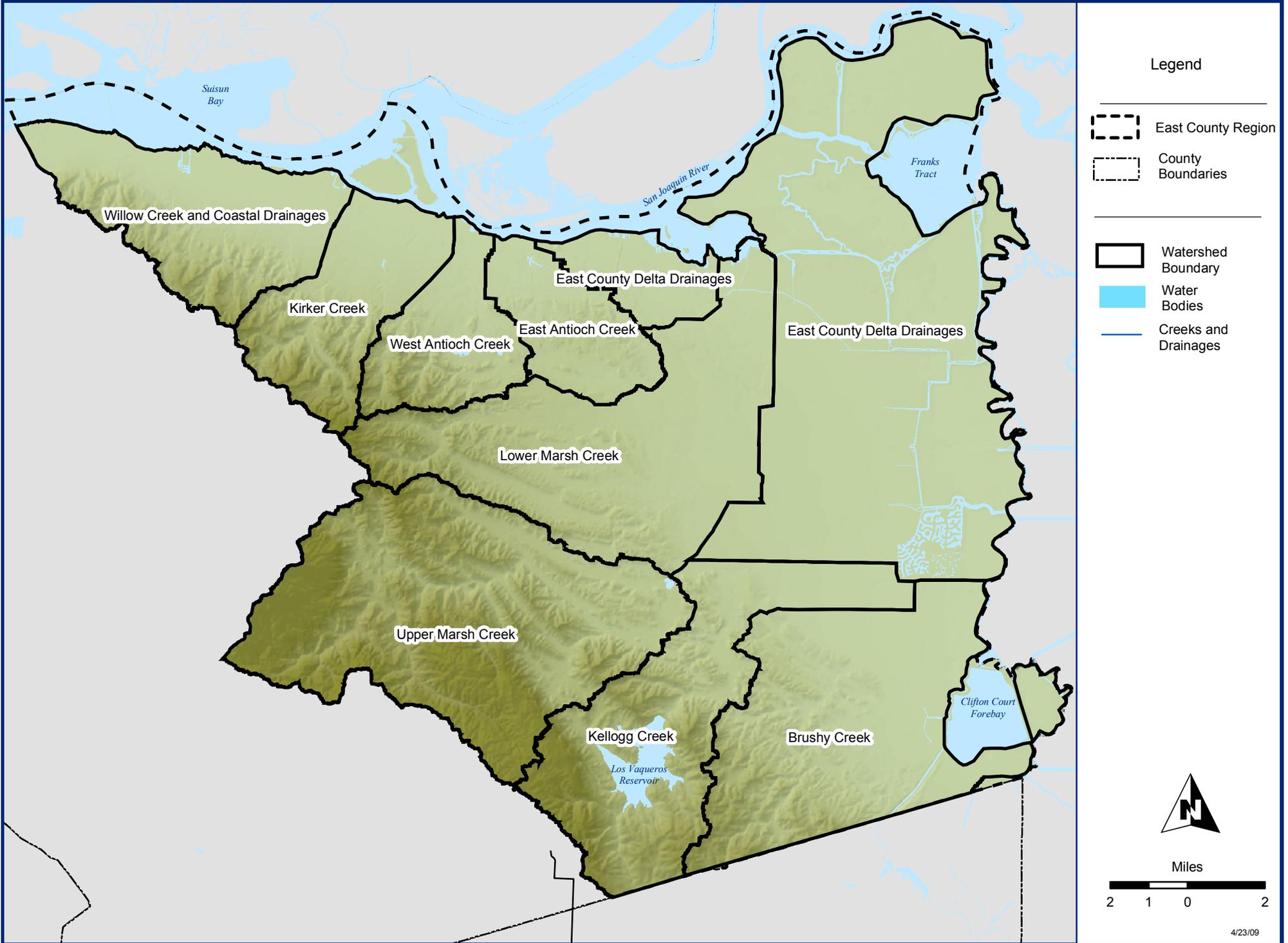


Figure 1-8: East Contra Costa County Goundwater Basins

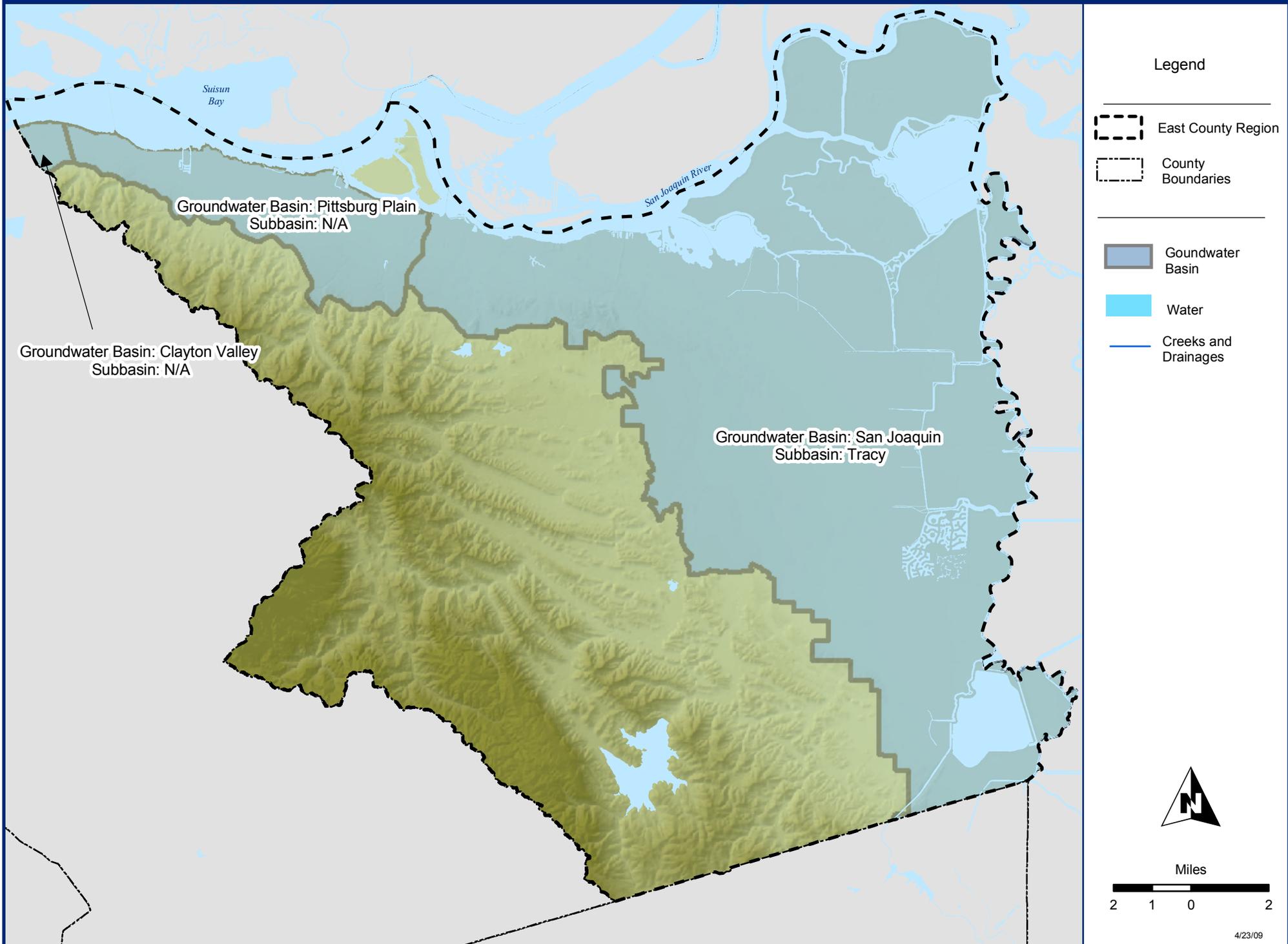
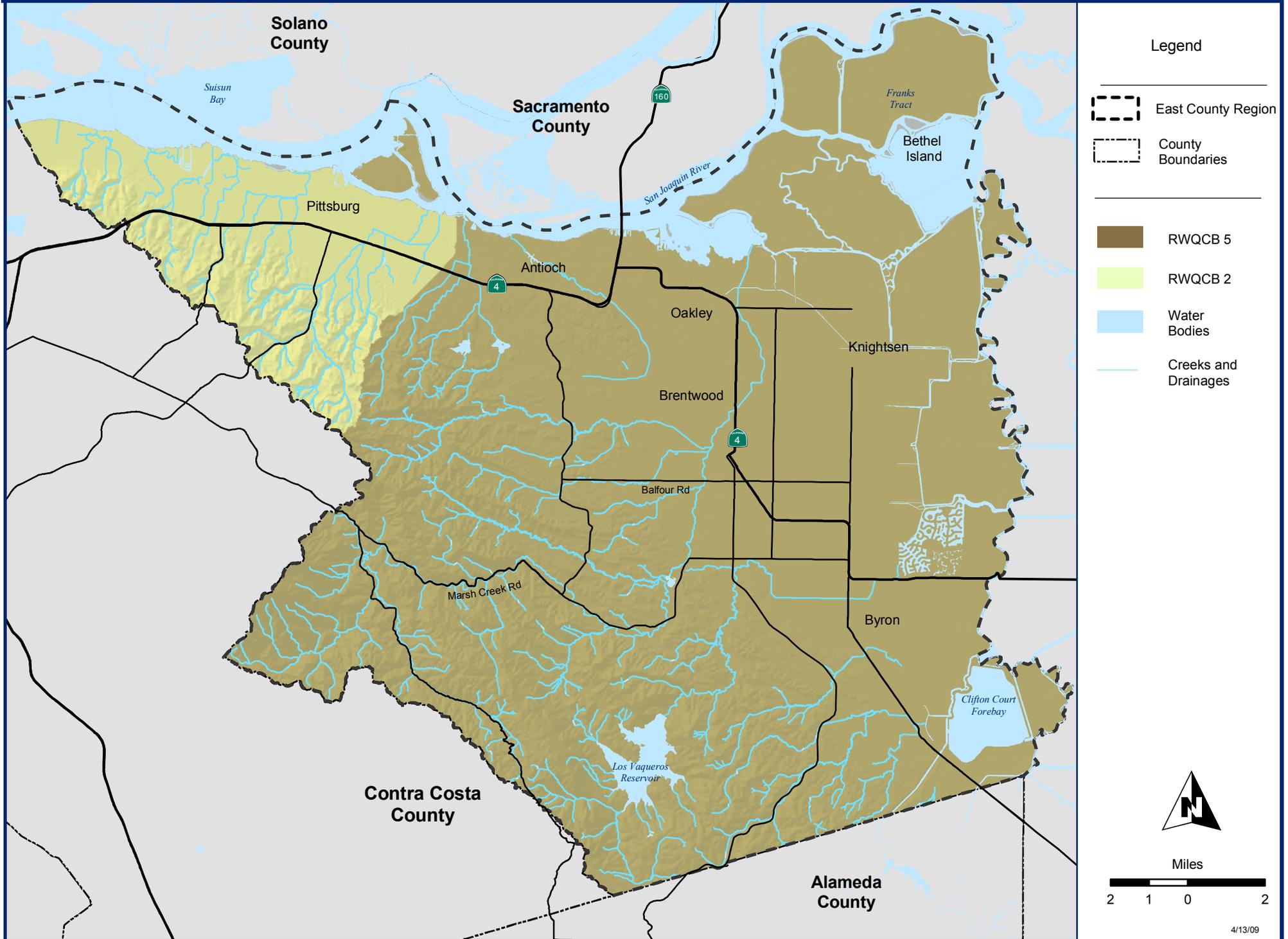


Figure 1-9: Regional Water Quality Control Board Jurisdictions



Legend

-  East County Region
-  County Boundaries
-  RWQCB 5
-  RWQCB 2
-  Water Bodies
-  Creeks and Drainages



## **Flood Plains, Physical and Topographical Features**

The East Contra Costa County Region is defined in large part by physical and topographical boundaries, from the ridgelines of the Mt. Diablo range to the west, the San Joaquin River to the north and the maze of waterways, including Old River to the east. These features are shown on Figure 1-10, along with the flood plain zones.

## **Surface Water Bodies**

Figure 1-11 displays the surface water bodies within the East County Region and denotes impaired surface water bodies as well. As shown on this figure, the San Joaquin River, Marsh Creek and other Delta waterways and estuaries are listed as impaired water bodies.

## **Major Water-Related Infrastructure**

A variety of water infrastructure is located within East County, including water bodies, reservoirs, conveyance facilities, pumping plants, and water and wastewater treatment plants. Major water infrastructure within East County is shown on Figure 1-12. Among the major water infrastructure in East County are the Clifton Court Forebay, Contra Costa Canal, Los Vaqueros Reservoir, Marsh Creek Reservoir and Flood Control Channel and ECCID Main Canal. These facilities are discussed in more detail in Section 1.3 - IRWM Plan.

## **Population**

Figure 1-13 shows the population density of the Region by census block (as denoted in the 2000 U.S. Census). As shown in this map, the most densely populated areas are towards the western part of the region near the cities of Pittsburg and Antioch. This map would be updated in the revised Plan using 2010 U.S. Census data to develop a more accurate representation of the Region.

## **Land Cover/Habitat Areas**

Figure 1-14 shows the different land cover/habitat areas within the East Contra Costa County Region. The bulk of the East County Region is covered under the East Contra Costa Habitat Conservation Plan, which was developed to provide a framework for protecting natural resources and contributes to the recovery of endangered species through comprehensive species, wetlands and ecosystem conservation efforts.

## **Disadvantaged Communities**

Using 2000 Census data, disadvantaged communities were identified in the unincorporated communities of Bay Point, Discovery Bay, and Byron as well as parts of the cities of Pittsburg and Antioch. Figure 1-15 highlights the census block groups with a median household income that is less than 80% of the statewide annual median household income. Though the areas to the north of Highway 4 are in urban areas, the highlighted block group in the southeast portion of the region surrounded predominantly by agricultural land is in the unincorporated community of Byron (RMC, 2009). As previously mentioned, this map in particular will require updating. DACs will be reevaluated as part of Task 5 - Public Outreach using 2010 U.S. Census data and other up-to-date and accurate data sources, as they become available.

Figure 1-10: East Contra Costa County Topography and 100 Year Flood Zone Areas

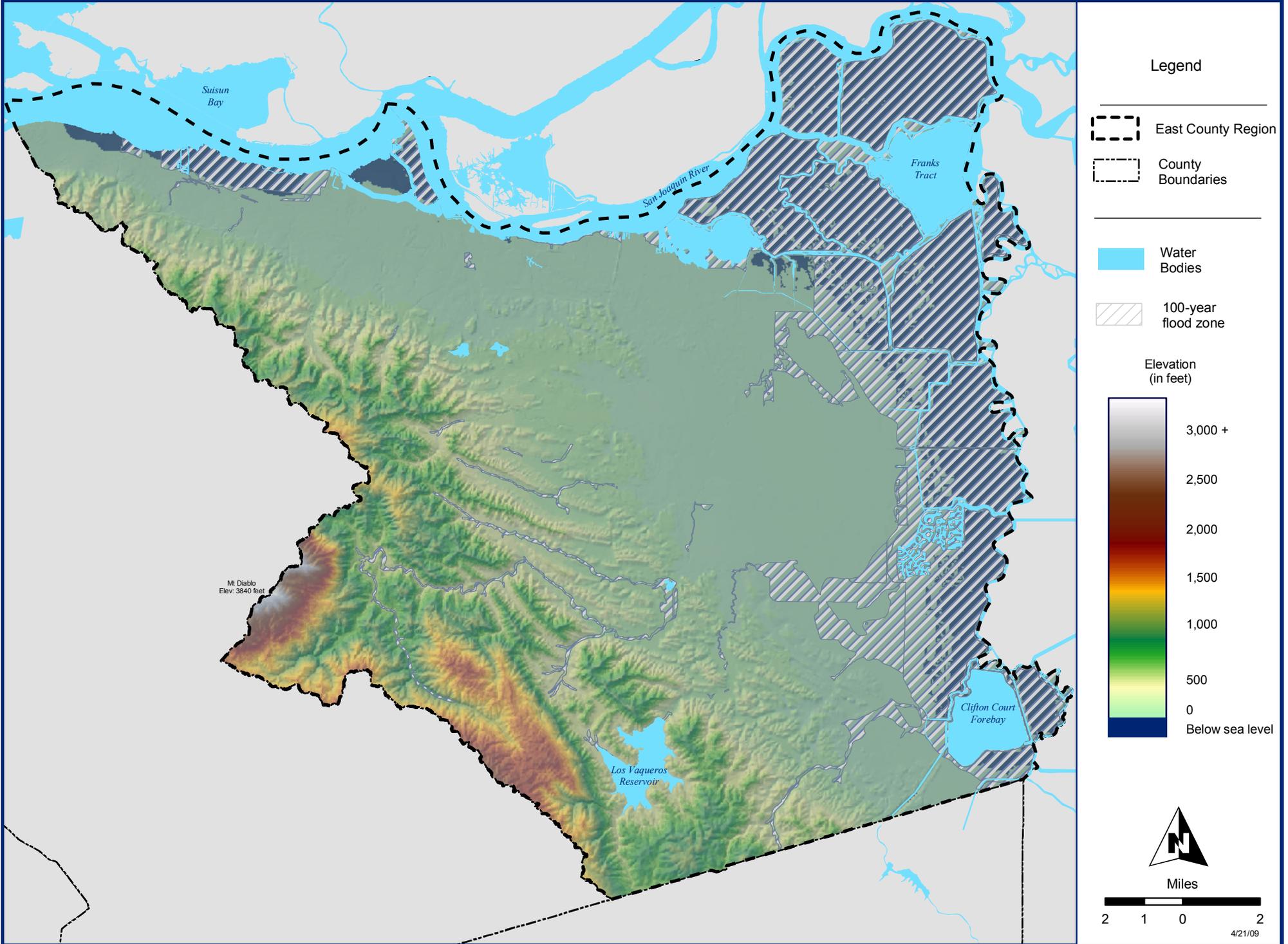


Figure 1-11 :Impaired Water Bodies: 303d Listed Waterbodies

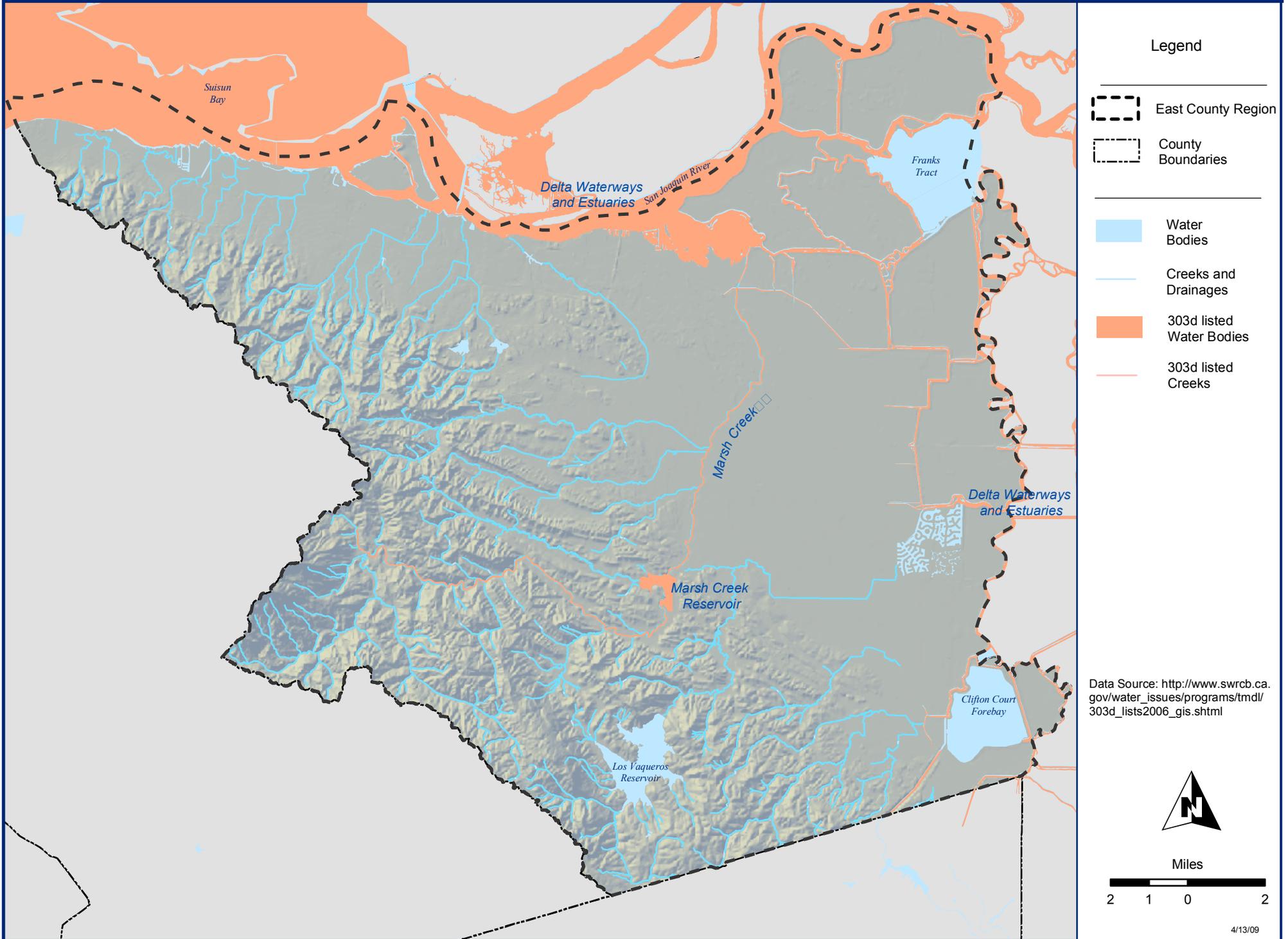


Figure 1-12: Major Water Infrastructure in East Contra Costa County

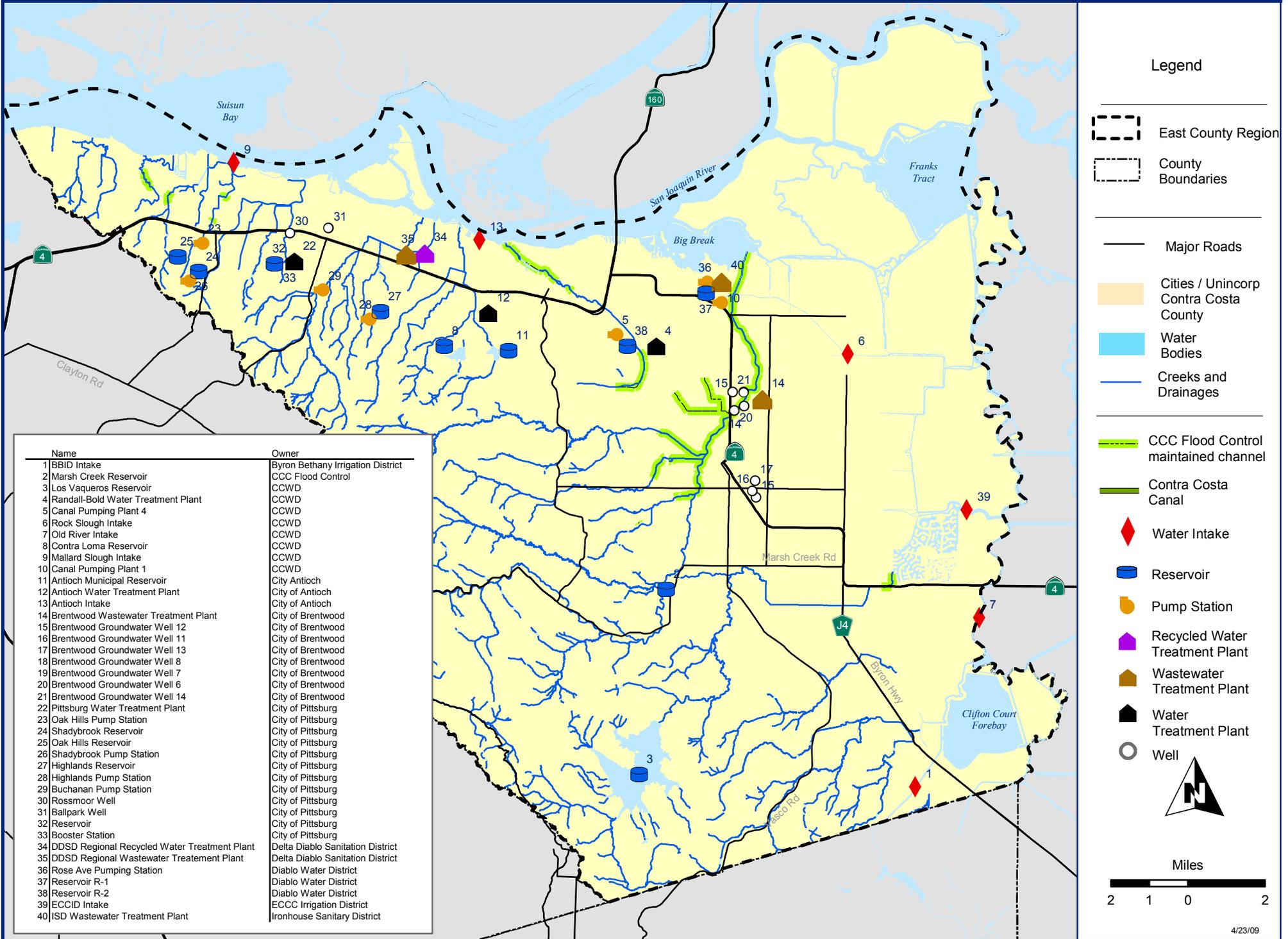


Figure 1-13: Population Density (persons per acre) by Census Block Group in East Contra Costa County

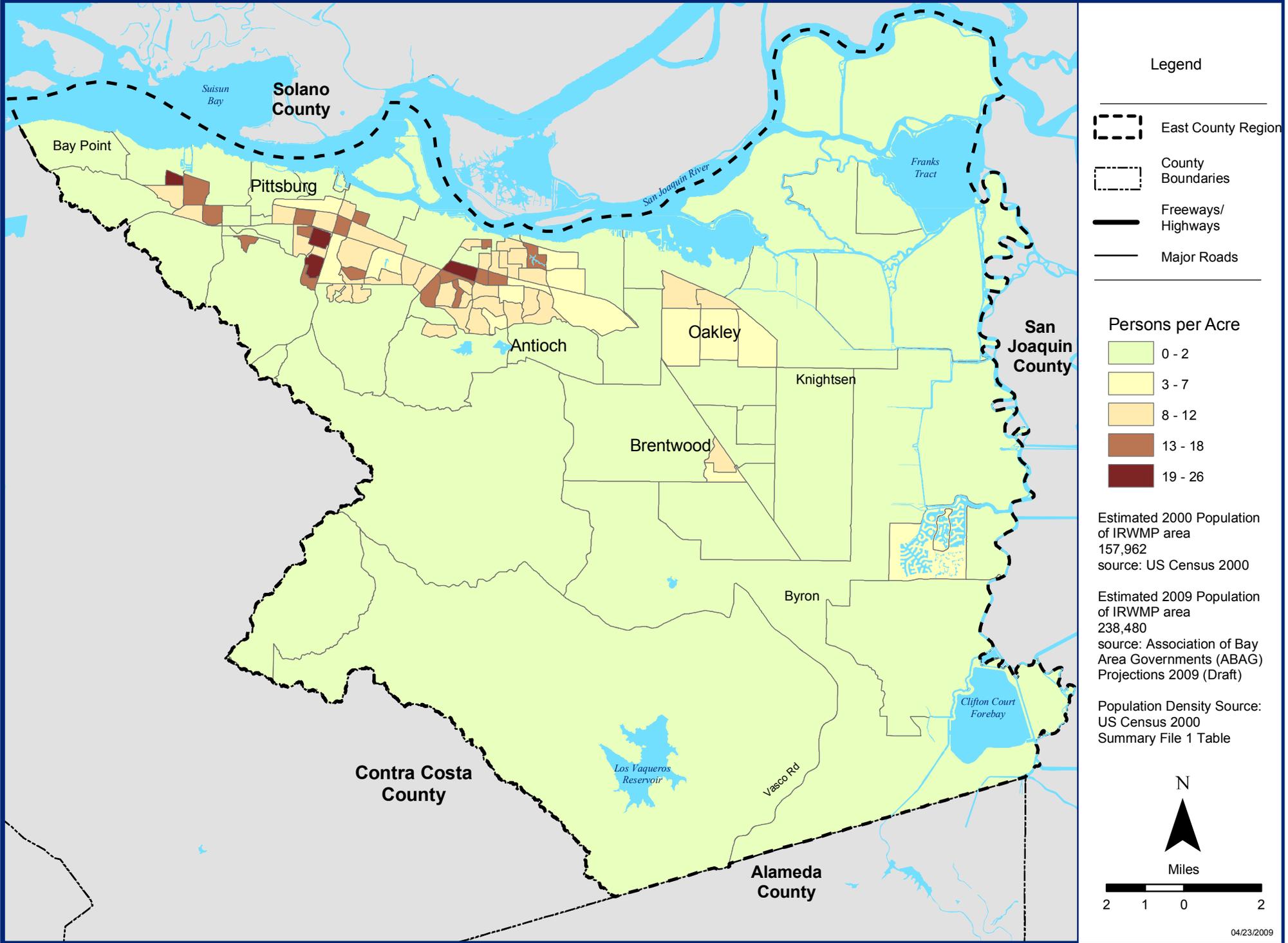


Figure 1-14: Landcover of East Contra Costa

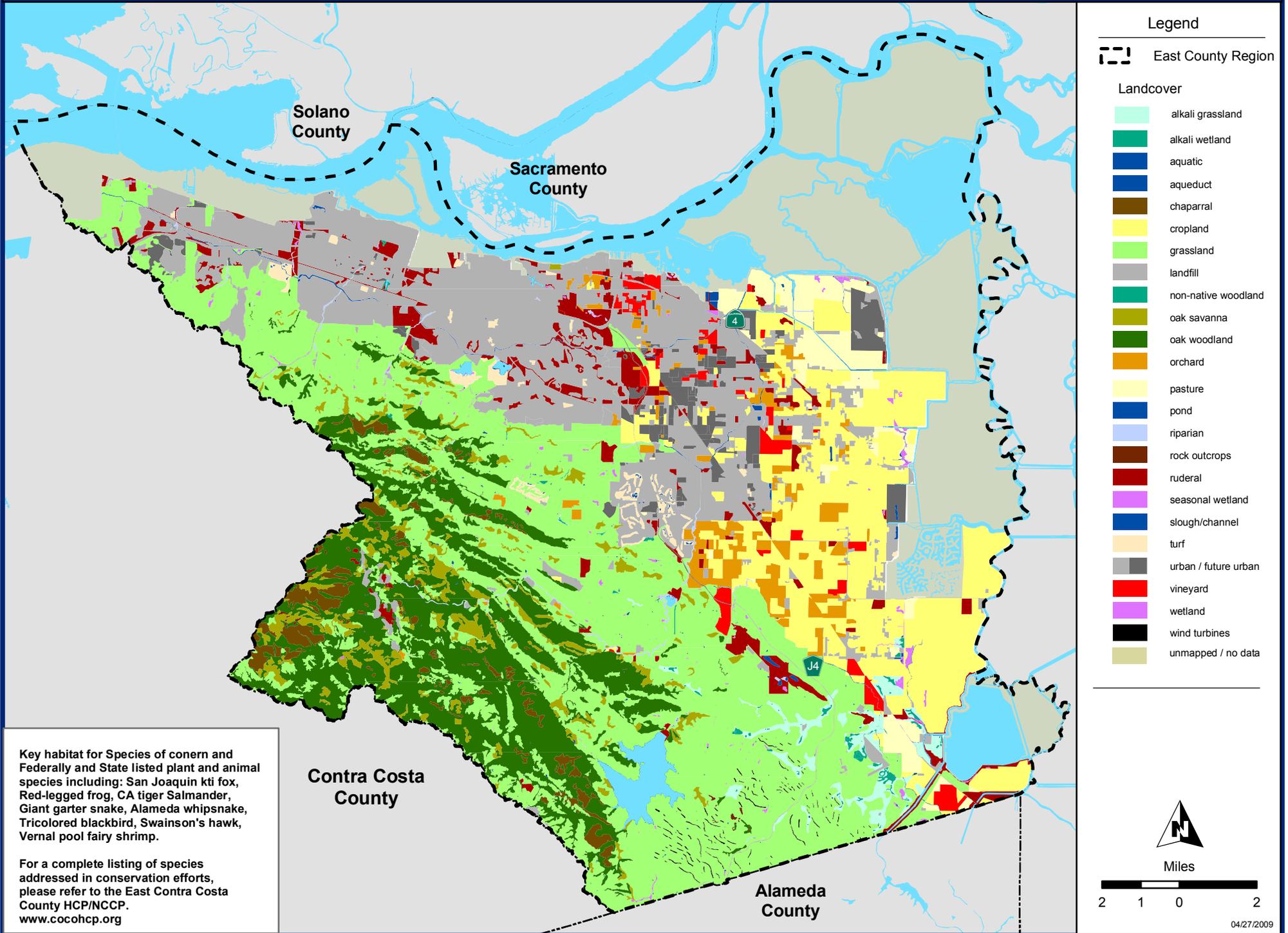
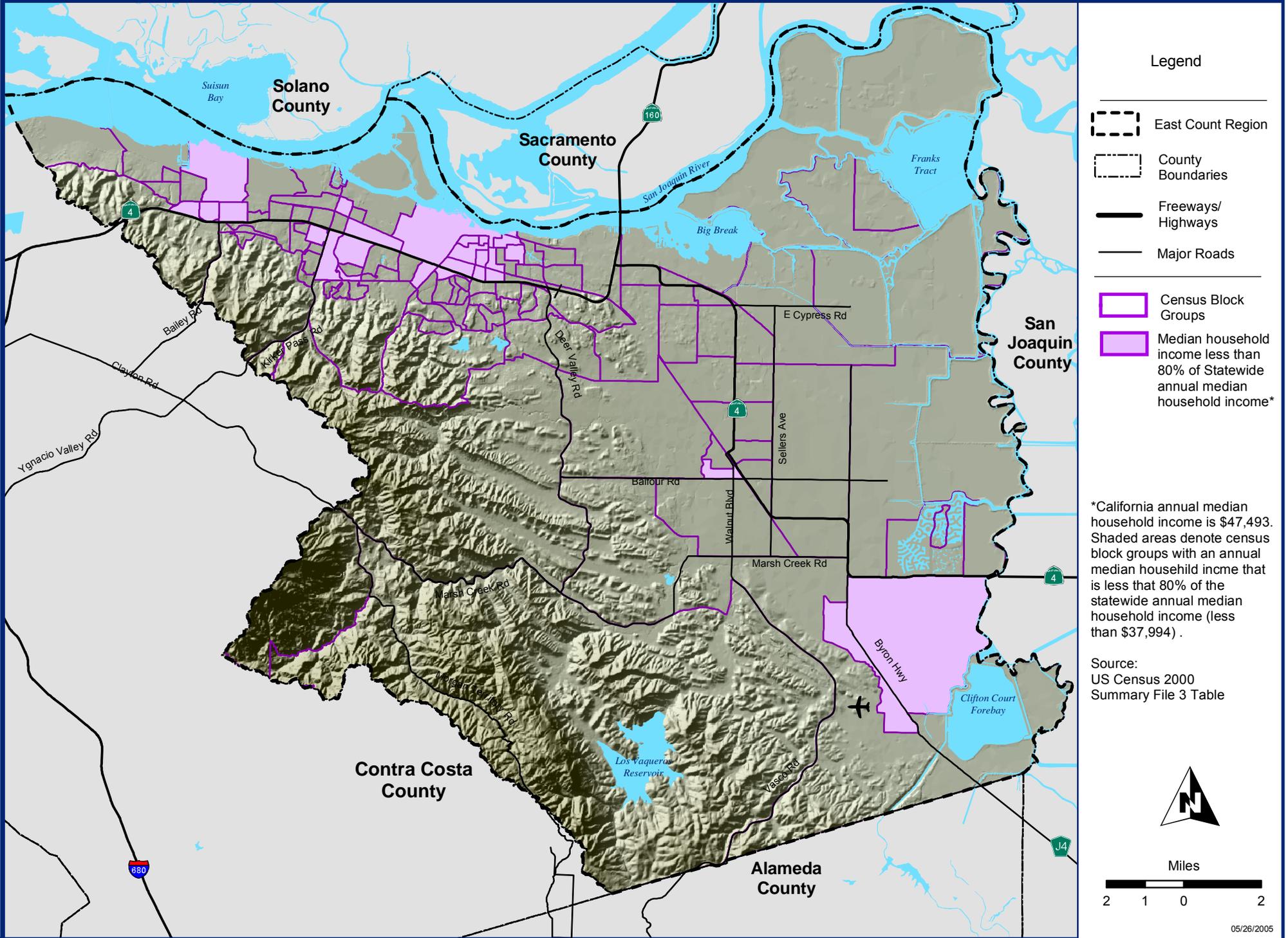


Figure 1-15: Disadvantaged Communities in East Contra Costa County



---

### 1.3. IRWM PLAN

#### History of IRWM Planning

The ECWMA member agencies have a long history of working together on regional water management planning and implementation efforts. This is due in large part to the previously-discussed specific regional attributes that bring these agencies together and facilitates an integrated approach to regional water management. The history of collaborative water management planning at the regional level goes back more than a decade and pre-dates the Proposition 50 IRWM Planning. Specific examples of the successful regional water management planning include:

***East County Water Supply Management Study (ECWSMS).*** In 1994, ECWMA completed the first Phase of its assessment of future water supply management within the eastern portion of Contra Costa County. The second Phase of this effort was completed in 1996. Through this effort, these 11 partnering agencies developed a comprehensive regional assessment of water demands and supplies, treatment and delivery options, water supply alternatives, and recommendations and implementation strategies for regional water management. The ECWSMS includes projected water demands and supplies for East County through the year 2040.

***Future Water Supply Study.*** In 1996, CCWD completed a Future Water Supply Study (updated in 2002), which contains detailed analysis of the future supply and water needs for the entire Contra Costa Water District service area, including Eastern Contra Costa County. This analysis evaluated alternatives to meet those needs through the year 2050.

***East County Habitat Conservation Plan.*** The development of the Habitat Conservation Plan / Natural Community Conservation Plan (HCP) was undertaken by Contra Costa County and the Cities of Brentwood, Clayton, Oakley, and Pittsburg. Completed in 2007, the HCP provides a framework to protect natural resources in Eastern Contra Costa County and contributes to the recovery of endangered species through comprehensive species, wetlands, and ecosystem conservation.

***Groundwater Investigation.*** In 1998, five East County public agencies authorized an investigation of the groundwater resources in East County. Contra Costa County Water Agency, the Town of Discovery Bay Community Services District (formerly Contra Costa Sanitation District No. 19), the City of Brentwood, Diablo Water District and the East Contra Costa Irrigation District initiated the Study to focus on gathering and organizing existing information related to groundwater resources in the region encompassing the City of Brentwood, East Contra Costa Irrigation District, the City of Oakley, Byron, and the Town of Discovery Bay Community Services District. Existing information was used to better characterize the quantity and quality of East County groundwater supplies.

***Watershed Planning.*** Several participating agencies have collaborated over the last decade to define and advance multiple-objective watershed planning initiatives in each of the regions principle watersheds. The Contra Costa County Flood Control and Water Conservation District (CCC FC & WCD), the cities, the

Contra Costa Resource Conservation District (CCRCD), and the County have traditionally cooperated in watershed based planning efforts to provide drainage and flood control services necessary to support General Plan growth. More recently, these agencies and groups have joined together with watershed planning groups, Contra Costa Water District, and the Natural Heritage Institute to integrate water quality, wetland and riparian habitat enhancement projects into the drainage and flood control infrastructure of the regions principle watersheds. These efforts have resulted in comprehensive watershed planning documents for Kirker, Marsh, and Kellogg Creeks as well as on the ground water quality and habitat enhancement projects in all three watersheds. In addition, these agencies are working to improve the quality of water flowing into the Delta by providing technical and financial assistance to East Contra Costa growers for voluntary implementation of BMPs for agricultural tailwater and runoff management, water conservation and wildlife friendly agriculture. This will reduce the amount of polluted tail water flowing into the Delta and improve the water quality of runoff. Other ongoing cooperative water and watershed-related planning and operation efforts and include the Brentwood sewer treatment plant discharge to Marsh Creek.

To foster collaboration among agencies and share information across watersheds, the County and Flood Control District worked with other agencies and organizations to establish the Contra Costa Watershed Forum, which brings together a variety of groups and individuals monthly to address watershed issues in Contra Costa County. The forum provides a vehicle to advance integrated watershed planning initiatives and projects that achieve multiple objectives from ecosystem restoration and water quality protection to flood management and water supply protection.

Through these ongoing, cooperative planning efforts, East County has developed sound water management approaches to benefit the Region as a whole. East County agencies have a history of successfully working together to plan for and respond to increasing pressures on water management resources in the Region. The shared geographic, environmental and water supply conditions combined with the established successful history of coordinating planning and implementation of water resources projects distinguishes East County as a logical unit for continued regional planning efforts.

### **Existing Functionally Equivalent IRWM Plan**

A “Functionally Equivalent” Integrated Regional Water Management Plan (FEIRWMP) was developed for the East Contra Costa County Region in 2005. This document tied together several regional management plans covering different aspects of water resources management for the East Contra Costa County Region, including:

- East County Water Supply Management Study, Phase II (1996)
- Stormwater Management Plan (1999)
- Future Water Supply Study and Updates (1996, 2002)
- Delta Regional Drinking Water Quality Management Plan (2005)

- East Contra Costa Habitat Conservation Plan and Natural Community Conservation Plan (Draft, 2005). This plan was finalized in 2007 and implementation started in 2008.

ECWMA member agencies, along with several other stakeholders, were involved in the 2005 IRWM process and FEIRWMP development which included identification of water management issues, goals and objectives and determination of priority projects for implementation for the East County Region. These issues, goals, objectives, and projects need to be revisited and revised, as necessary, to represent present-day conditions through a complete update to the 2005 FEIRWMP. The planning grant funds received would be used to revise the FEIRWMP to become a fully-integrated IRWMP for the East County Region that accurately reflects current water-related conflicts and solutions within the Region. Further, in order to meet the IRWM Plan Standards as outlined in the Prop 84 Guidelines (DWR, 2010), several existing plan sections will have to be substantially revised to account for new standards (e.g. Resources Management Strategies) or will need to be created in their entirety (e.g. Climate Change and Relation to Land Use Planning).

As noted in Table 1-3, several of the ECMWA member agencies and IRWM stakeholders had projects included within the FEIRWMP, and those that didn't have specific projects included were supportive of the Plan development. All participants in the development of the FEIRWMP were given the opportunity to formally adopt the plan. Note that a participant in the regional project formulation and prioritization process was not obligated to adopt the plan at a specific point in time. As updates to the IRWMP are undertaken in response to emerging water management challenges and new project needs, any entity that chooses to participate in the planning process will have the opportunity to adopt the updated IRWMP (RMC, 2009). Therefore, within the next two years, as the East Contra Costa County Region updates their FEIRWMP to a fully-integrated plan, as described in Subtask 1.4 - Compile and Adopt IRWMP, entities will again have the opportunity to adopt the updated Plan.

TABLE 1-3 - FEIRWMP PARTICIPATION

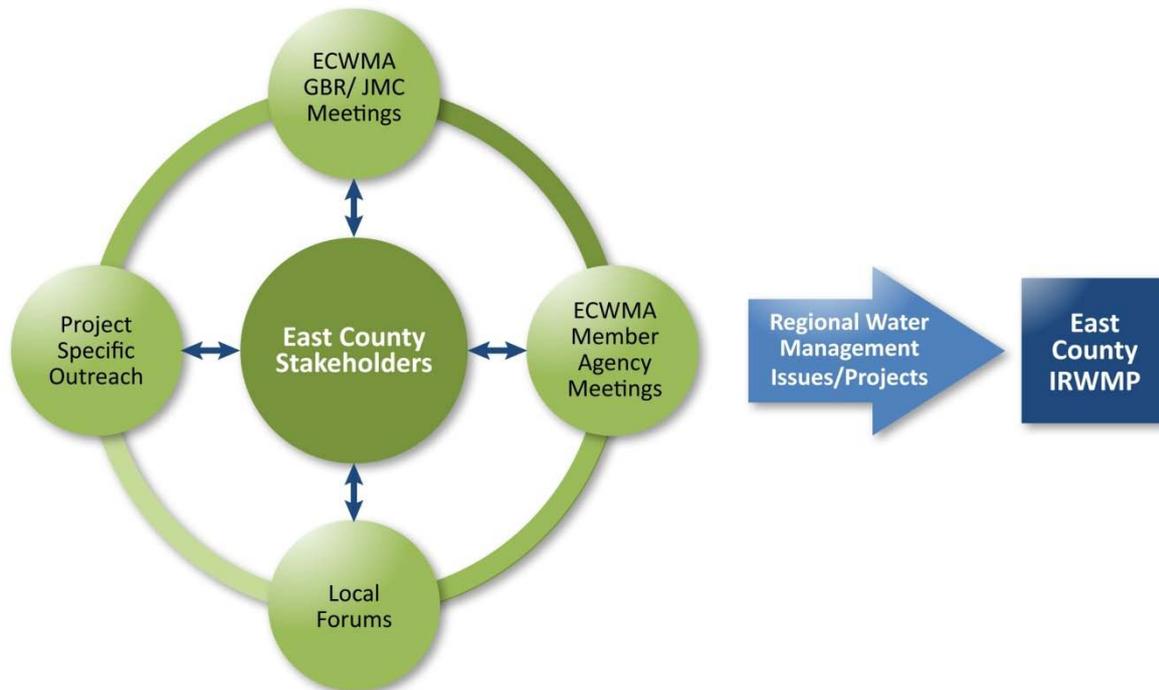
IRWM Participating Entity	Supporting Entity	Project Included in Plan?	Adopted IRWMP?	Notes
<b>ECWMA Member Agencies</b>				
Antioch	✓	✓	Yes	
Brentwood	✓	✓	Yes	
BBID	✓		-	Signed agreement supporting the development of the IRWMP
CCC	✓	✓	Yes	
CCWD	✓	✓	Yes	
DDSD	✓	✓	Yes	
DWD	✓	✓	Yes	
Discovery Bay CSD	✓		-	Signed agreement supporting the development of the IRWMP
ECCID	✓		-	Signed agreement supporting the development of the IRWMP
ISD	✓	✓	Yes	
Pittsburg	✓	✓	Yes	
<b>IRWM Stakeholders</b>				
Contra Costa Resource Conservation District	✓		-	Provided letter of support for IRWMP
East Contra Costa County Habitat Conservancy	✓	✓	-	Member agencies of this stakeholder group adopted the Plan (Brentwood, Pittsburg, Contra Costa County)
Natural Heritage Institute	✓	✓	Yes	
Reclamation District 800	✓	✓	-	
Knightsen Community Services District	✓	✓	-	

#### 1.4. PUBLIC PROCESS

The ECWMA recognizes the importance of incorporating stakeholders through all stages of water management planning and project implementation. An active stakeholder involvement process provides the following benefits:

- ❑ Provides a forum for explaining the need for certain projects and projected benefits;
- ❑ Allows potential concerns and/or opposition to be addressed early-on so that projects can be planned in a way to minimize negative impacts and maximize benefits to all affected parties;
- ❑ Facilitates the sharing of data and solicitation of feedback from interested and/or affected stakeholders; and
- ❑ Helps garner support for implementation.

The East Contra Costa County Region used several different mechanisms for engaging stakeholders and the public at large while they developed the 2005 FEIRWMP. The ECWMA identified stakeholders and got them involved through regularly held water management meetings, established forums and project-specific outreach efforts. These stakeholder involvement forums actually pre-date the development of the FEIRWMP, and continue to be actively used by member agencies and stakeholder alike. These forums effectively promote access to entities and individuals representing a diverse range of water management interests.



### **ECWMA Meetings**

In accordance with the agreement forming the ECWMA, the Governing Board Representatives (GBR), which is comprised of one elected official from each member agency, met at least two times per year to discuss relevant water resources management issues and activities. The meeting locations varied throughout Eastern Contra Costa County in order to provide an opportunity for each of the member agencies to host coordination of the GBR meetings. These meetings were open to the public, noticed and conducted in accordance with the Brown Act. In addition, the Joint Managers Committee (JMC), which is comprised of managers from each of the member agencies, conducted periodic meetings as needed to coordinate and collaborate on regional water management issues that arose. Stakeholders participated in those meetings as well. The JMC was the forum in which ECWMA member agencies agreed to move forward with the development of the East County FEIRWMP in 2005.

In addition to the ECWMA meetings, each of the individual member agencies holds regular meetings (e.g. City Council meetings, Board meetings, etc.) that were open to the public and interested stakeholders. These meetings provided a forum for interested parties to provide input and feedback into on-going water management activities and raise any concerns and/or ideas they had regarding the process. In the context of IRWM planning specifically, the City Council meetings, Board meetings, and Board of Supervisor meetings

were (and continue to be) the forum for adoption of the FEIRWMP and presentations by agency representatives on the FEIRWMP and implementation.

**Local Forums**

There are other local forums that focus specifically on water resources management-related issues. These forums were regularly attended by ECWMA member agencies and provided another avenue for soliciting stakeholder input and feedback into the water management planning and implementation activities. As an example, monitoring the activities of the East Contra Costa FEIRWMP is one of the standing responsibilities of the Contra Costa County Transportation, Water and Infrastructure Committee.

Water Supply & Quality Forums	Wastewater & Recycled Water Forums	Flood/Stormwater Forums	Watershed/Habitat Forums
<ul style="list-style-type: none"> <li>• Contra Costa Council</li> <li>• Contra Costa County Transportation, Water and Infrastructure Committee</li> <li>• Sanitation and Water Agency Group</li> </ul>	<ul style="list-style-type: none"> <li>• Biosolids to Energy Coalition</li> <li>• Sanitation and Water Agency Group</li> </ul>	<ul style="list-style-type: none"> <li>• Contra Costa Clean Water Program</li> <li>• Contra Costa Watershed Forum</li> <li>• Delta Levee Coalition</li> <li>• Contra Costa County Transportation, Water and Infrastructure Committee</li> </ul>	<ul style="list-style-type: none"> <li>• Contra Costa Council</li> <li>• Contra Costa County Fish and Wildlife Committee</li> <li>• Contra Costa Watershed Forum</li> <li>• Dutch Slough Restoration Committee</li> <li>• East Contra Costa Habitat Conservancy</li> <li>• Friends of Marsh Creek Watershed</li> <li>• Kirker Creek – Partners for the Watershed</li> </ul>

*ECWMA Members Regularly Attended these Existing Forums to Provide Updates on the IRWM Planning Process, Solicit for Input, and Actively Engage Stakeholders.*

**Project-Specific Outreach**

In addition to participating in regularly scheduled meetings and forums, each of the ECWMA member agencies implemented a stakeholder outreach process tailored to a specific project and/or study. For example, during development of the East County Habitat Conservation Plan/Natural Community Conservation Plan (HCP/NCPP), an extensive public outreach program was conducted. An HCP/NCPP Coordination Group was created, consisting of a Stakeholder Panel, HCP Association staff and staff from the State, Federal and other regional agencies. The Stakeholder Panel was designed to include organizations and interests in the HCP process, including private permit seekers, conservation advocates, and private landowners and agriculturalists. Once the HCP/NCPP moved from the planning phase to the implementation phase, a new group was developed - the Public Advisory Committee, who meets quarterly to provide input on the implementation of the Project. Multiple other efforts, very similar to the HCP/NCPP stakeholder outreach effort, were conducted for projects included in the FEIRWMP. For greater detail, refer to East County’s RAP submittal. As the IRWMP is

updated and additional projects are identified and developed, there will be more project-specific outreach conducted in a format similar to that discussed above.

**Stakeholder Participation**

Through the various stakeholder involvement mechanisms previously described, including ECWMA meetings, member agencies meetings (e.g. City Council meetings), local forums and project-specific outreach, the ECWMA was able to reach a broad range of stakeholders with diverse views within the Region. This helped to ensure that stakeholder interests were represented as the East Contra Costa County Region developed integrated, multi-benefit, regional solutions to the water resource management issues. As stakeholders and members of the public at large posted questions, issues or expressed interest in the IRWM planning activities through these various mechanisms, they were put in contact with Contra Costa Water District (CCWD), the entity who served as the primary point of contact for all IRWM activities. For example, Natural Heritage Institute (NHI), an environmental stakeholder, contacted CCWD with ideas for integrated projects when the Proposition 50 program was initiated and was brought fully into the IRWM process, ultimately adopting the FEIRWMP and receiving grant funds for one of its projects.

The same process would be undertaken for any new stakeholder or member of the public that expressed interest in being involved in the East County IRWM planning process. Marie Valmores of CCWD is currently the primary point of contact for all IRWM planning related questions and comments. The primary point of contact for the ECWMA is Greg Gartrell of CCWD. Contact information for the primary points of contact for both the ECWMA and the East Contra Costa County Region IRWM planning process are included in Table 1-4.

**TABLE 1-4 - PRIMARY POINTS OF CONTACT**

Point of Contact	ECWMA	East County IRWM Planning Process
Name	Greg Gartrell	Marie Valmores
Agency	Contra Costa Water District	Contra Costa Water District
Mailing Address	P.O. Box H2O Concord, CA 94524	P.O. Box H2O Concord, CA 94524
Telephone	925-688-8100	925-688-8132
Fax	925-688-8142	925-688-8312
email	ggartrell@ccwater.com	mvalmores@ccwater.com

**Other Stakeholder Involvement Mechanisms**

Although ECWMA has created and maintained an internal IRWMP website, this site has not historically been available to the general public. As part of the Plan revision, ECWMA will provide public access to the existing East Contra Costa County IRWM planning website or create an external website with links to other resources and information regarding water management interests in the Region. This publically-available website will facilitate the public input and feedback process and keep them engaged in the IRWM planning activities now

and into the future. The website will be created and updated under Subtask 5.3 - Create Website, as described in Section 2 Proposal Scope of Work.

In the interim, additional mechanisms for encouraging public awareness of the East Contra Costa County water management issues and IRWM planning process will include:

- ❑ Written updates provided as utility bill inserts, fact sheets, brochures and/or project status newsletters distributed to a stakeholder database and designed to keep stakeholders informed and engaged in project implementation;
- ❑ Project-specific websites which provide information on the status and progress of projects being implemented and potentially allow for electronic submittal of feedback; and
- ❑ Development and enfranchisement of stakeholder coordination groups to ensure active stakeholder involvement.

---

### **1.5. DISADVANTAGED COMMUNITIES**

During the Prop 50 IRWM planning process, the East County Region identified disadvantaged communities (DACs) in the unincorporated communities of Bay Point and Byron as well as parts of the cities of Pittsburg and Antioch. Census block groups that qualified as disadvantaged communities covered an area of 14,430 acres and were home to 40,323 people. As shown in the following table nearly 17 percent of the population of East County was considered disadvantaged.

**Table 1-5 - DACs in East County**

<b>Metrics</b>	<b>East County Total</b>	<b>Disadvantaged Communities</b>	<b>Percent DAC</b>
Area (acres)	222,093	14,430	6.5%
Population (people)	238,702	40,323	16.9%

There was no formal “Environmental Justice” or DAC group for the East County Region during the Prop 50 IRWM planning process, but these communities had representation through several different forums in which ECWMA members were also involved:

- ❑ Pittsburg City Council Meetings
- ❑ Antioch City Council Meetings
- ❑ Contra Costa County Public Meetings
- ❑ Contra Costa Community Development Block Grant Program

In addition, the East County FEIRWMP was developed to include several projects that provided benefits to DACs, including:

1. Antioch Recycled Water Implementation
2. Antioch Water Treatment Plant Improvement Projects
3. Caltrans Recycled Water Implementation
4. DDSD Feasibility-Level Desalination Plant
5. City of Pittsburg Groundwater Study, Well Site Selections, and Design and Construction of two New Municipal Wells and development of a Groundwater Management Plan
6. Pittsburg Recycled Water Implementation

The stakeholder processes associated with these projects included members of DACs within the respective areas served, and members of DACs are welcome to all of the ECWMA meetings, local forums, and project-specific outreach opportunities which are available to stakeholders in general.

The ECWMA recognizes that an even more robust public outreach effort will add greater depth and a wider range of benefits to the revised IRWMP as it is created. A portion of the planning grant funds received would contribute to an outreach strategy for DACs as described in Task 5 - Public Outreach. The analysis of DACs within the Region will also be performed again with updated 2010 U.S. Census data to ensure the most accurate identification possible.

---

## **1.6. OBJECTIVES & CONFLICTS**

The ECWMA member agencies share common water management challenges that stem from their location within the statutory Delta and their reliance on the Delta as a primary source of supply. Common challenges facing the East County agencies include:

- ❑ **Meeting future demands.** East County is a rapidly growing region, and demands are projected to outpace supplies in the future, particularly in dry years.
- ❑ **Maintaining and improving water supply reliability.** With the Delta as a primary source of supply, East County supplies are particularly vulnerable to varying hydrologic conditions. Similarly, failing Delta levee stability, subsidence, and changing regulatory conditions threaten the region's water supply reliability.
- ❑ **Protecting and improving raw and treated water quality.** Delta supplies are variable by season and hydrology, and groundwater supplies may be vulnerable to contamination. Further, due to their location in the statutory Delta, limiting discharges to the sensitive ecosystem is of utmost importance.
- ❑ **Ecosystem protection, restoration and enhancement.** Located in the heart of the statutory Delta, the region is home to a variety of special species and sensitive habitats, which need to be protected from potential impacts of urbanization. In addition, enhancing existing habitats and restoring the ecosystem are of primary importance.

- **Flood control.** Flood management and planning is critical to achieving the objectives of protecting public safety, ensuring and maintaining public access, and managing water quality. In addition, careful flood management can provide opportunities for ecosystem and environmental habitat protection, restoration and enhancement (RMC, 2009).

During the development of the FEIRWMP, the participating agencies identified regional water management objectives in the categories shown to the right.

For each category, specific objectives were developed through the regional planning process. Specifically, the regional goals and objectives were derived from the documents comprising the Functionally Equivalent Plan - all of which had gone through an extensive stakeholder outreach process. An ECWMA IRWM subcommittee (including JMC members and interested stakeholders) was responsible for reviewing and approving the final list of goals and objectives identified in the Plan. Table 1-6 presents the regional objectives identified for each category, the range of potential approaches to meet the objectives, and the source or planning efforts responsible for development of each objective (RMC, 2005).



**Table 1-6 - Regional Planning Objectives**

Category	Objective(s)	Potential Approaches	Source or Planning Study
Water Supply	Maximize Dry Year Supplies Maximize Water Supply Reliability Meet Future Demands Maximize Use of Local Supplies/Reduce Dependence on Imported Supplies	Maximize Recycled Water Maximize Conjunctive Use Maximize Conservation Maximize Water Transfers Maximize Desalination Enhance Stability of Western Delta Levee	ECWSMS, FWSS
Water Quality	Maximize Public Health Protection Protect and Enhance Source Water Quality	Maximize Treated Water Quality Relocate Intakes Optimize Surface and Groundwater Treatment NPS Pollution Control Stormwater Collection and Management Minimize Risk of Salt Water Intrusion (i.e., maximize levee stability) Optimize Flood Control and Management	ECWSMS, DRDWQMP, SWMP
Groundwater Management	Protect Against Overdraft Protect Water Quality from Degradation	Characterize Groundwater Basins Develop Conjunctive Use Programs	ECWSMS
Ecosystem Restoration/Preservation	Minimize Environmental Impacts Maximize Environmental Benefits	Protect and Restore Sensitive Species Protect, Restore and Enhance Sensitive Habitats Minimize Environmental Impacts of Development Protect, Restore and Enhance Wetlands	HCP

Category	Objective(s)	Potential Approaches	Source or Planning Study
Wastewater	Reduce Pollutant Discharges Maintain Regulatory Compliance Protect Public Health and Environmental Resources Maximize Environmental Sustainability	Maximize Recycled Water Optimize treatment Increase Beneficial Reuse of Solids	Local agency Wastewater Master Plans
Flood Control	Protect Against Flooding	Flood Control Planning to accommodate General Plan Growth Development review to assure compliance to standards and planning goals Monitor and maintain existing facilities to design capacities	Flood Control Drainage Area and Drainage Zone Plans
Implementability	Maximize Implementability	Maximize Regional Coordination Conduct Public/Stakeholder Outreach Maximize Cost-Effectiveness Minimize Impacts Maximize Benefits Address Environmental Justice/Benefit Disadvantaged Communities	ECWSMS, SWMP, HCP

While many of these regional objectives may still be valid, recent changes in regulations, economics, and State legislation and policy, combined with recent analyses and studies may have made some of these objectives obsolete or somewhat inapplicable. To this end, these regional objectives, along with regional conflicts, will need to be reviewed in present-day context and updated as appropriate.

## 1.7. REGIONAL PRIORITIES

The process for prioritizing projects and programs to identify Regional Priorities within the East County Region involved:

- ❑ **Identification of Prioritization Criteria and Subcriteria.** Projects and programs within the region were prioritized according to their ability to achieve criteria and subcriteria based on the regional objectives, Proposition 50 Chapter 8 Program Preferences, and other important considerations within the region.
- ❑ **Assignment of Relative Weights to Criteria and Subcriteria.** Each of these criteria was assigned a weight to determine its overall contribution to the project scoring. For example, ability to meet regional objectives was identified as the most important criterion, and was therefore assigned a weighting factor of 50 percent.
- ❑ **Evaluation of Projects against Subcriteria.** Each project was evaluated with respect to each subcriterion, based on the established rating system for each subcriterion.

- **Development of Project Rankings.** Projects were then ranked according to overall score, which is based on (1) how well the project fared against a given subcriterion, (2) the relative weighting of the subcriteria, and (3) the relative weighting of the criteria.

## **Criteria**

Three main criteria were used to prioritize projects in the 2005 FEIRWMP, based on their applicability to regional integrated planning:

1. Regional Objectives (see Section 1.6)
2. Proposition 50 Chapter 8 Program Preferences (included in Prop 50 Guidelines)
3. Other Considerations (e.g. readiness to proceed)

Regional Objectives, Program Preferences, and Other Considerations are multi-faceted criteria with several layers of refinement. To capture the subtleties of these criteria, subcriteria were identified, and relative weightings developed. The criteria, subcriteria and weighting used in the FEIRWMP will all require reevaluation and revision (as needed) to reflect updated regional conflicts and objectives, differing Prop 84 Program Preferences, and current Statewide Priorities and Resource Management Strategies. The criteria, subcriteria and their associated weighting factors applied during development of the 2005 FEIRWMP are shown in Table 1-7 and discussed in the following section.

## **Criteria Weighting**

In the 2005 FEIRWMP, the ability of projects to meet Regional Objectives was determined to be an important factor in prioritizing projects. Regional Objectives are particularly important in the prioritization process because they reflect the common goals established by the participating agencies. As such, the criterion of Regional Objectives was assigned 50% of the overall score. The importance of a project's ability to address program preferences is reflected in the assigned weight of 30% of the overall project score. To reflect the importance of factors that were not adequately addressed by the Regional Objectives and Program Preferences, the Other Considerations criterion was assigned an overall weighting of 20% of the total score. Table 1-7 presents the criteria, subcriteria, and weightings used to tabulate project scores.

TABLE 1-7 - 2005 FEIRWMP CRITERIA, SUBCRITERIA, AND WEIGHTINGS

Criterion	Subcriterion	Factor	Weighting
Regional Objectives	Water Supply	1x	7.1%
	Water Quality	1x	7.1%
	Groundwater Management	1x	7.1%
	Ecosystem Restoration	1x	7.1%
	Wastewater	1x	7.1%
	Flood Control	1x	7.1%
	Implementability	1x	7.1%
	Subtotal		50%
Program Preferences	Integrated Project with Multiple Benefits	2x	6.7%
	Improves Water Supply Reliability	3x	10.0%
	Improves Water Quality	2x	6.7%
	Reduces Pollution to Sensitive Habitats	1x	3.3%
	Serves Disadvantaged Communities	1x	3.3%
	Subtotal		30%
Other Considerations	Agency Top Priority	4x	8.9%
	Readiness to Proceed	2x	4.4%
	Cost Share	1x	2.2%
	Synergies with Other Projects	2x	4.4%
	Subtotal		20%

Each project was given a score for each subcriteria, and then based on the total scores, the East County Region identified near- and long-term projects for FEIRWMP implementation. Implementation of the projects included in the FEIRWMP were to be phased with short-term projects meeting immediate needs and providing multiple benefits, while being feasible, cost effective and read to proceed, and the long-term projects meeting the regional objectives but not yet ready to proceed. Additional consideration was given to those projects that were identified as agency top priorities, had a high percentage of local funding in place, demonstrated synergies with other projects, and were ready to proceed. This prioritization process was intended to identify a group of diverse projects that posed the greatest potential benefit to the region. The high priority, short-term projects balanced agency interests, regional objectives, program preferences, and other considerations (RMC, 2005).

The prioritization process used during development of the 2005 FEIRWMP will be the basis for the process to be used during the update of the FEIRWMP. The entire prioritization process, including the criteria and subcriteria, as well as the weighting of each, will be revised and updated as needed to reflect present-day conditions within the Region.

---

## **1.8. TECHNICAL ANALYSIS AND DATA MANAGEMENT**

### **Technical Analysis**

The projects included in the 2005 East Contra Costa County FEIRWMP provided multiple benefits to both the individual East County member agencies and the Region as a whole. Each project included in the Plan was developed based on technical analyses of historic and projected data for the individual agencies and overall region, including:

- ▣ Water supply data;
- ▣ Population information;
- ▣ Water demand information;
- ▣ Dry year supply reliability;
- ▣ Water quality data;
- ▣ Cost information for potential water management alternatives.

Depending upon the status of each project identified in the Plan, studies ranging from feasibility analyses to detailed design were completed, establishing the technical and economic feasibility of the projects. Analytical tools used to establish scientific basis for the projects included hydraulic models, water quality models, land use data, species and habitat maps and models, and watershed inventories. The same sort of technical analyses will be applied to projects during the IRWM Plan revision.

For each project or program included in the 2005 FEIRWMP, specific project metrics were also developed, and appropriate monitoring approaches were identified to assess plan performance on an ongoing basis. The Region developed metrics and monitoring approaches for gathering performance data and measuring Plan success. A lead agency was identified for each project or program and this agency acted as the primary entity responsible for overseeing project implementation, including ongoing assessment of project performance. The ECWMA was responsible for periodically reviewing the overall progress of the 2005 FEIRUMP in achieving the regional objectives. Many of the same metrics/monitoring strategies used for implementation of the 2005 FEIRWMP can be applied to the projects in the revised IRWMP, but these will be reevaluated to be project-specific and appropriate for existing conditions.

### **Data Management**

Data is and will be collected and managed in a manner intended to facilitate coordination with statewide data collection efforts, with spreadsheets and/or databases as potential tools. Water quality data will be formatted for integration with the SWRCB's statewide data management efforts.

### **SURFACE WATER QUALITY**

Currently, water quality and supply is being monitored both on an individual agency and a regional scale. Since CCWD supplies raw water to the majority of the East County water agencies, CCWD water supply and water quality monitoring is common to the East County agencies. Studies such as the East County Water Supply Management Study and the Future Water Supply Study are ongoing regional planning efforts aimed at evaluating changes in water supply and water quality within the region and projecting future water supply and water quality needs and challenges. In addition, the Delta Region Drinking Water Quality Management Plan, funded by a CALFED grant, provides a detailed assessment of water quality in the Delta, including potential treatment techniques and other alternatives for water quality improvement. These regional water supply and water quality programs and studies provide solid foundational water quality and supply monitoring data. Surface water monitoring data resulting from Plan implementation will be provided to SWRCB's Surface Water Ambient Monitoring Program (SWAMP).

#### GROUNDWATER QUALITY

Further study of groundwater basins and subbasins in East County is needed for sustainable groundwater management within the region. In addition, increased groundwater supply and groundwater quality monitoring data will be helpful in characterizing the groundwater supplies in use throughout the region and in developing programs to protect both water quality and quantity. As part of this proposal, Task 2 - Develop Pittsburg Plain Groundwater Management Program and Task 4 - Develop Salinity & Nutrient Management Program consist of developing Groundwater Management and Salt and Nutrient Management Programs for that basin by establishing a groundwater management subcommittee, collecting and reviewing available groundwater quality and elevation data, and ultimately developing a groundwater elevation and water quality monitoring program and management plan. Groundwater basin characterization and increased groundwater monitoring are important elements of the groundwater projects included in this Plan. Groundwater elevation and quality data resulting from Plan implementation will be managed by one or more entities identified as part of the program formation, and will be made available to the SWRCB's Groundwater Ambient Monitoring Assessment (GAMA) Program and the upcoming California Statewide Groundwater Elevation Monitoring (CASGEM) Program.

Data dissemination to public and other stakeholders will be conducted through regular channels, including posting information on agency websites, providing written materials related to procedures for obtaining data and information, and holding workshops to disseminate data for review and comment by major stakeholders (RMC, 2005).

---

## 1.9. RESOURCE MANAGEMENT STRATEGIES

### Water Management Strategies in FEIRWMP

During development of the 2005 FEIRWMP, East County explored a broad range of local and regional water management alternatives to address the region's objectives. Water management strategies (WMS) were undertaken to meet the objectives and address the Region's challenges. The WMS considered for inclusion in the FEIRWMP included:

- ❑ Ecosystem Restoration/Habitat Protection
- ❑ Water Supply Reliability
- ❑ Flood Management
- ❑ Groundwater Management
- ❑ Recreation and Public Access
- ❑ Stormwater Capture and Management
- ❑ Water Conservation
- ❑ Water Quality Protection and Improvement
- ❑ Water Recycling
- ❑ Wetlands Enhancement and Creation
- ❑ Conjunctive Use
- ❑ Desalination
- ❑ Imported Water
- ❑ Land Use Planning
- ❑ NPS Pollution Control
- ❑ Surface Storage
- ❑ Watershed Planning
- ❑ Water and Wastewater Treatment
- ❑ Water Transfers

These strategies were evaluated for their ability to achieve the regional objectives, and those that were found to most effectively contribute to achievement of the regional objectives for the East County agencies were retained for inclusion in the Plan. The strategies included in the Plan and the objectives they assist in addressing are described in Table 1-8. As shown, multiple strategies were found to contribute to each objective.

TABLE 1-8 - OBJECTIVES AND WATER MANAGEMENT STRATEGIES

Category	Objectives	Water Management Strategies
Water Supply	Maximize Water Supply Reliability Meet Future Demands Maximize Use of Local Supplies/Reduce Dependence on Imported Supplies	Water Supply Reliability Groundwater Management Water Recycling Desalination NPS Pollution Control Conjunctive Use Subsidence mitigation/levee stability
Water Quality	Maximize Public Health Protection Protect and Enhance Source Water Quality	Flood Management Groundwater Management Stormwater Capture and Management Water Quality Protection and Improvement Desalination NPS Pollution Control Water and Wastewater Treatment Conjunctive Use Subsidence mitigation/levee stability
Groundwater Management	Protect Against Overdraft Protect Water Quality from Degradation	Groundwater Management Water and Wastewater Treatment Conjunctive Use
Ecosystem Restoration	Minimize Environmental Impacts Maximize Environmental Benefits	Ecosystem Restoration Environmental and Habitat Protection and Improvement Flood Management Stormwater Capture and Management Wetlands Enhancement and Creation Land Use Planning NPS Pollution Control Watershed planning Recreation and Public Access
Flood Control	Protect Against Flooding	Flood Management
Implementability	Maximize Regional Coordination Conduct Stakeholder Outreach Maximize Cost-Effectiveness Minimize Impacts Maximize Benefits Address Environmental Justice Issues/Benefit Disadvantaged Communities	All

**Resource Management Strategies**

The WMS, included in the Prop 50 Plan Standards, have been replaced by Resource Management Strategies (RMS) in the *Proposition 84 & 1E IRWM Guidelines* (August 2010). The RMS that the East County Region will consider while revising their IRWM Plan are shown in Table 1-8.

TABLE 1-9 - RESOURCE MANAGEMENT STRATEGIES

Category	Resource Management Strategy
Reduce Water Demand	Agricultural Water Use Efficiency Urban Water Use Efficiency
Improve Operational Efficiency and Transfers	Conveyance - Delta Conveyance - Regional/local System Reoperations Water Transfers
Increase Water Supply	Conjunctive Management & Groundwater Storage Desalination Precipitation Enhancement Recycled Water Municipal Water Surface Storage - CALFED Surface Storage - Regional/local
Improve Water Quality	Drinking Water Treatment and Distribution Groundwater Remediation / Aquifer Remediation Matching Quality to Use Pollution Prevention Salt & Salinity Management Urban Runoff Management
Improve Flood Management	Flood Risk Management
Practice Resources Stewardship	Agricultural Lands Stewardship Economic Incentives (Loans, Grants and Water Pricing) Ecosystem Restoration Forest Management Recharge Area Protection Water-Dependent Recreation Watershed Management
Other Strategies	Crop Idling for Water Transfers Dewvaporation or Atmospheric Pressure Desalination Fog Collection Irrigated Land Retirement Rainfed Agriculture Waterbag Transport / Storage Technology

Many of the WMS included in the FEIRWMP overlap with the RMS that will be considered while preparing the integrated IRWM Plan (e.g. desalination or conjunctive use). There are some new strategies that were not considered during the FEIRWMP preparation, so these will be during the update in order to further diversify the East County Region’s water management portfolio and means for water management. The ECWMA will review each RMS and determine its applicability to meeting the Region’s objectives. The East County Region will also identify ways to integrated approaches to resource management issues in order to provide multiple economic, environmental, and long-term water security benefits to the Region. Combining multiple RMS to achieve a single objective will similarly provide multiple benefits and will diversify the approach to problem solving.

A key strategy that was not considered during the Prop 50 IRWM planning process that will be part of the RMS section in the new integrated Plan is Salt & Salinity Management. Task 4 - Develop Salinity & Nutrient Management Plan of the Proposal Scope of Work will specifically address this particular RMS by identifying salinity and nutrient issues within the Pittsburg Plain Groundwater Basin, as well as the potential sources for the issues, monitoring groundwater quality, modeling potential groundwater degradation, and ultimately developing a groundwater quality monitoring and management program. (Note: The Region anticipates the continued participation of several ECWMA members in the CV-SALTS process as the means for achieving similar protection for the Tracy Subbasin of the San Joaquin Groundwater Basin.)

---

---

## **1.10. IMPLEMENTATION AND IMPACTS AND BENEFITS**

### **Implementation of the FEIRWMP**

The FEIRWMP was to be implemented through short- and long-term implementation of a series of projects and programs designed to achieve the regional objectives. For each project/program, the following was identified and compiled for FEIRWMP implementation:

- ❑ Lead agency(ies) responsible for project implementation;
- ❑ Relationship and linkages between implementation of projects included in the FEIRWMP;
- ❑ The status of project development (e.g., planning stages, CEQA complete, in construction, etc);  
and
- ❑ Anticipated schedules and timelines.

Although a lead agency was identified as responsible for overseeing project implementation for each project/program, the ECWMA was also responsible for periodically reviewing the progress of the FEIRWMP in achieving the regional objectives, and reassessing project priorities as needed. The scope of work contained in this proposal is to revise the East County FEIRWMP into a fully-integrated IRWMP. Implementation of the updated IRWMP is anticipated to be conducted in a manner similar to the implementation of the FEIRWMP.

### **Impacts and Benefits**

During completion of the FEIRWMP, the East Contra Costa County Region identified numerous benefits which would be seen, both within the Region and in the San Joaquin-Sacramento Delta, through implementation of the Plan. Further, due to the profound ecological importance of the Delta system, benefits that accrued to the Delta environment would affect millions of Californians. Minimization of impacts and maximization of benefits were identified as key regional objectives by the ECWMA member agencies. As such, the projects included for implementation in the FEIRWMP were selected, in part, due to their ability to provide maximum benefit with minimum impact. Anticipated benefits and potential impacts associated with FEIRWMP implementation were included in Section 4.2 of the FEIRWMP; these impacts and benefits were developed on a project-level basis. In addition to the project-specific benefits anticipated to accrue from project implementation, additional benefits were identified which were expected to result from a regional approach to planning, including:

- *Increasing Regional Understanding.* By working together as a group, each agency gained a deeper understanding of the effects of their projects on other agencies, as well as the effects of other agencies' projects on their own agency. This in turn assisted agencies in developing projects that minimized the types of interagency conflicts that can ultimately prevent projects from gaining the support necessary to proceed to implementation.
- *Economies of Scale.* Many of the East County agencies used common sources of supply. As a result, many agencies shared the same water management challenges. By coming together to develop integrated regional approaches to water management, resources were pooled, maximizing efficiency on a regional scale. In this way, existing resources can be optimized, duplication of efforts can be avoided, and larger-scale efforts can be established, potentially providing a greater benefit than from individual efforts alone.
- *Fostering Support.* When planning is conducted on a regional scale, more parties are involved in projects from the planning stage. Each participant brought to the planning process his or her own values and priorities. The result was projects that not only minimized impacts to more parties, but incorporated benefits to more parties as well. When more benefits are realized and impacts avoided, more support follows.

The East County Water Supply Management Study process and other early regional planning efforts helped to build trust and coordination between the East County agencies. As a result, many issues that could have developed into conflicts were either avoided or successfully addressed by the agencies. For example, DDSD and CCWD were able to negotiate an agreement for recycled water production in overlapping service areas, ISD was able work with CCWD to resolve potential groundwater/surface water issues related to ISD discharge, and potential issues related to overlap in the DWD and Brentwood service areas were avoided.

Regional planning allows for a holistic approach to water management by integrating project elements from different water management agencies to develop a more effective overall project. For example, taking a regional approach to planning helped identify opportunities for combining projects to achieve synergies like in the case of the ISD Wastewater Treatment Plant Upgrade and Dutch Slough Projects which would not have been possible on their own. By combining these projects, feasibility can be established and greater benefits realized. This is just one example of integrating projects on a regional scale to achieve greater benefits to communities, habitat and wastewater treatment.

As new projects are identified within the Region and added to the IRWMP during Task 1 of the proposed scope of work, potential impacts and benefits will be revisited and identified for each project. The ECWMA member agencies agree though, that the benefits realized within the Region through the IRWM planning process, including increasing regional understanding, economies of scale, and fostering support, will continue to be seen with revisions to the FEIRWMP. Without development of this integrated plan, East County regional planning will continue at a reduced level without important stakeholder input. Furthermore, potential future impacts to the Pittsburg Plain Groundwater Basin may occur due to a lack of coordinated monitoring and a data evaluation program with regards to groundwater elevation and quality.

---

### **1.11. CURRENT IRWM PLAN STANDARDS**

Table 1-9 describes how the existing East County FEIRWMP meets the current IRWM Plan standards as described in the *Proposition 84 & Proposition 1E IRWM Guidelines* (August 2010).

**Table 1-10 - Existing Plan and Current IRWM Plan Standards**

IRWM Plan Standard	IRWMP to Include	Existing Plan Meets Current Standards	Update/Revision Required
Governance	<p>Name the RWMG responsible for development and implementation of the Plan.</p> <p>RWMG and individual project proponents who adopted the Plan.</p> <p>Description of the IRWM governance structure.</p> <p>Description of how the chosen form of governance addresses various activities and decisions.</p>	Partially	The existing Plan discusses the RWMG, but did not include discussion of the governance structure; this discussion was included in the Region's RAP submittal to DWR in 2009.
Region Description	<p>Description of the watersheds and water systems within the Region.</p> <p>Description of internal boundaries.</p> <p>Description of water supplies and demands, including potential effects of climate change.</p> <p>Comparison of current and future water quality conditions in the Region.</p> <p>Description of social and cultural makeup of the regional community.</p> <p>Description of major water related objectives and conflicts.</p> <p>Explanation of how the IRWM regional boundary was determined and why it is appropriate.</p> <p>Identification of neighboring and/or overlapping IRWM efforts and explanation of planned/working relationship.</p>	Yes	<p>A general update to the section would be included in a Plan update to ensure there have been no changes to the Region. The potential effects of climate change on the Region will also be summarized here. A full description of the climate change analyses will be included in the Climate Change section.</p>
Objectives	<p>Present Plan objectives that are measurable and describe the process used to develop them.</p> <p>Explanation of prioritization of objectives if they are prioritized or reason they are not prioritized.</p>	Yes	A general update to the section would be included in a Plan update to revisit the objectives as they were initially developed years ago.
Resource Management Strategies	<p>Resource management strategies considered to meet IRWM objectives and which strategies were incorporated into the Plan.</p> <p>Effects of climate change.</p>	Partially	The existing Plan included water management strategies; these will be updated to include additional strategies and address flood risk management and salt & salinity management. Climate change will be a factor in developing the RMS.
Integration	Structures and processes that provide opportunities to develop and foster integration.	Yes	A general update to this section would be included in a Plan update.
Project Review Process	Procedures for submitting a project to the RWMG.	Yes	This section would be updated to reflect potentially

IRWM Plan Standard	IRWMP to Include	Existing Plan Meets Current Standards	Update/Revision Required
	Procedures for review of projects considered for inclusion into the Plan. Displaying the lists of selected projects.		new objectives for the Region and ensure the short-term and long-term projects identified meet the Region's needs.
Impact and Benefit	Discussion of potential impacts and benefits of Plan implementation.	Yes	This section would be updated to reflect other revised sections.
Plan Performance and Monitoring	Performance measures and monitoring methods to ensure the objectives of the Plan are met.	Yes	This section would be updated to reflect other revised sections.
Data Management	Process of data collection, storage, and dissemination to IRWM participants, stakeholders, public, and the State.	Yes	This section would be updated to reflect other revised sections.
Finance	Possible funding sources, programs, and grant opportunities for the development & ongoing funding of the Plan.  Funding mechanisms (e.g. rate structures) for projects that implement the Plan.  Explanation of the certainty and longevity of known or potential funding for the Plan and projects included in the Plan.  Explanation of how O&M costs for projects would be covered.	Yes	This section would be updated to reflect other revised sections.
Technical Analysis	Data and technical analyses that were used in the development of the Plan.	Yes	This section would be updated to reflect other revised sections.
Relation to Local Water Planning	A list of local water plans used in the Plan.  Discussion of how the Plan related to planning documents and programs established by local agencies.  Description of the dynamics between the Plan and local planning documents.	Yes	This section would be updated to reflect other revised sections.
Relation to Local Land Use Planning	Current relationship between local land use planning, regional water issues, and water management objectives.  Future plans to further a collaborative, proactive relationship between land use planners and water managers.	Partially	Land use was briefly discussed in the existing Plan; it would be expanded upon and include a more robust description.
Stakeholder Involvement	Description of public process that provides outreach and an opportunity to participate in the Plan development and implementation.  Process used to identify, inform, invite and involve stakeholder groups in the IRWM process.  Discussion of how RWMG will	Yes	Additional outreach would be conducted to DACs, and the section would be updated to include all outreach endeavors for the Regional's IRWM planning since completion of the existing Plan in 2005.

IRWM Plan Standard	IRWMP to Include	Existing Plan Meets Current Standards	Update/Revision Required
	<p>endeavor to involve DACs and Native American tribal communities in the IRWM planning effort.</p> <p>Description of the decision making process.</p> <p>Discussion regarding how stakeholders are necessary to address the objectives and resource management strategies.</p> <p>Discussion of how collaborative processes will engage a balance of the interest groups regardless of their ability to contribute financially to the Plan's development or implementation.</p>		
Coordination	<p>Identification of process to coordinate water management projects and activities of participating local agencies and stakeholders to avoid conflicts and take advantage of efficiencies.</p> <p>Identification of neighboring IRWM efforts and how cooperation/coordination with these efforts will be accomplished.</p> <p>Identification of areas where a State agency may be able to assist in communication, cooperation, or implementation of Plan components, processes, projects, etc.</p>	Yes	This section would be updated to reflect other revised sections.
Climate Change	<p>Discussion of the potential effects of climate change on the IRWM region, including an evaluation of the IRWM region's vulnerabilities to the effects of climate change and potential adaptation responses.</p> <p>Process that discloses and considers greenhouse gas emissions when choosing between project alternatives.</p>	No	Climate change was not addressed during the development of the existing Plan. A brand new analysis would be conducted in order to address climate change in the Region. Adapting to the potential changes from Climate Change will also be discussed in relation to adaptive management.

The primary objective of this planning grant proposal is to revise the East County Region's existing FEIRWMP to create a fully-integrated regional water management plan that meets current Plan Standards and fully addresses the Region's needs, objectives, and provides appropriate solutions. Creating such a plan will require filling data gaps by creating new programs and plan sections, updating existing sections of the FEIRWMP to meet plan standards as outlined in the *August 2010 Proposition 84 & 1E IRWM Plan Guidelines*, and incorporating relevant documentation from the Regional Acceptance Process application into the revised IRWM plan.

While most sections of the IRWM Plan require some form of updating, a number of data gaps have been identified in the 2005 Plan which must be addressed. Revisions required to meet the new Plan Standards are:

- ❑ Use the FEP to develop a fully-integrated Plan.
- ❑ Update the RWMG section to encompass all items as required in the Governance section.
- ❑ Reevaluate and identify disadvantaged communities (DACs) within the Region per 2010 U.S. Census data.
- ❑ Revise the Integration section.
- ❑ Reevaluate regional goals and objectives and project prioritization criteria to integrate flood management strategies.
- ❑ Separate the technical analysis discussion into its own section.

Discussion items and standards that were not included in the 2005 Plan, which will be added to the revised IRWM Plan include:

- ❑ Resource Management Strategies, specifically flood risk management and salt and salinity management, with climate change being a factor of considerations for all RMS
- ❑ Relationship to local land use planning and regional water issues and conflicts
- ❑ Project review process
- ❑ Groundwater elevation and quality evaluation, and monitoring and data management program development
- ❑ Method for working with adjacent IRWMP Regions
- ❑ Climate change
- ❑ Adaptive management

These updates to existing sections in the 2005 FEIRWMP and the creation of new sections will be completed to ensure a thorough understanding of the Region's current water resource issues, conflicts and potential strategies to deal with those conflicts. Because recycled water is being used for irrigation purposes within the Region, in addition to the fact that the Region is neighboring the San Francisco Bay Delta, a better understanding of the condition of underlying groundwater resources is imperative. Through preparation of a Groundwater Management Program and Salt and Nutrient Management Program, areas of concern due to seawater intrusion, salt loadings and potential areas of basin overdraft will be identified, allowing the Region to more effectively manage this part of its water resource portfolio as well as comply with both the State's new Recycled Water Policy and upcoming groundwater elevation monitoring requirements.

---

## 2. PROPOSAL SCOPE OF WORK

The East Contra Costa County is submitting this Prop 84 Planning Grant Application in order to obtain grant funds to revise the East County Region's existing FEIRWMP and create a fully-integrated IRWMP that meets current Plan Standards and fully addresses the Region's needs, objectives, and provides appropriate solutions based on current conditions. Creating such will require filling data gaps, updating existing sections of the Region's 2005 FEIRWMP and creating new sections to meet Prop 84 IRWM Plan Standards, and incorporating relevant documentation from new analyses and plans completed or in progress. The proposal includes the following six tasks:

**Task 1** - Update and Integrate IRWMP

**Task 2** - Develop Pittsburg Plain Groundwater Management Program

**Task 3** - Data Gap Analysis for East County Portion of Tracy Subbasin

**Task 4** - Develop Salinity & Nutrient Management Program

**Task 5** - Public Outreach

**Task 6** - Funding Administration

As part of the proposal scope of work, the East Contra Costa County Region will develop a groundwater management and monitoring program for the Pittsburg Plain Groundwater Basin (Task 2) and identify data gaps that will require filling in order to ultimately determine the safe yield of the East County portion of the Tracy Subbasin of the San Joaquin Groundwater Basin (Task 3), helping the Region better manage the underlying groundwater basins. Under Task 4, the Region will develop a Salt/Nutrient Management Program for the Pittsburg Plain Groundwater Basin allowing for current and future basin protection and facilitating future recycled water use in the region. In addition to these monitoring/ management programs and associated data management, the East Contra Costa County Region will perform a more robust public outreach effort while revising the 2005 FEIRWMP to a fully-integrated IRWMP. While the Region has allowed for stakeholder participation throughout the history of IRWM planning in their area, Task 5 - Public Outreach will contribute to a more extensive outreach program in which disadvantaged communities (DACs) can be identified based on 2010 U.S. Census data to allow for better facilitation and support of DACs. Additionally, an East Contra Costa County IRWM website will be created for access by the public, and other measures will be implemented to ensure public participation, input, and support throughout the IRWM planning process.

All of the work completed under Tasks 2, 3, 4, and 5 will be incorporated into the revised IRWM Plan during completion of Task 1, when all sections in the FEIRWMP are updated to meet new Plan Standards and when new sections are added. Finally, the Funding Administration task, Task 6, consists of all activities necessary for successful funding agreement implementation, including, but not limited to, execution of the funding agreement with DWR, preparation and submittal of quarterly progress reporting, and preparation of claim submittals.

The East County Region presents the following scope of work, demonstrating the overall feasibility of the work plan with the end result of a complete, fully-integrated East County IRWMP. Implementation of this proposed scope of work will also ensure that the State's Program Preferences are met by creating an IRWMP that:

1. Includes regional projects and programs
2. Effectively integrates water management programs and projects within the Plan through completion of Subtask 1.2 - Review and Revise Sections in which a call for projects will be made, criteria will be established for minimum project requirements, projects will be prioritized, and opportunities for integration will be identified.
3. Effectively resolves significant water-related conflicts within the Region by continuing the collaborative process within the Region, identifying current-day conflicts, goals and objectives and developing solutions to meet those goals and objectives.
4. Contributes to the CALFED Bay-Delta ecosystem restoration objective through inclusion of the on-going East Contra Costa County Habitat Conservation Plan/Natural Community Conservation Plan and other similar programs.
5. Addresses critical water supply and quality needs of disadvantaged communities within the East County Region through the identification of, and specific outreach to, disadvantaged communities during Subtask 5.2 - DAC Outreach.
6. Effectively integrates water management with land use planning through the continued participation of Contra Costa County and other regional cities in ECWMA, and by completing Subtask 1.3 and preparing the new section Local Land Use Planning for inclusion in the Plan.
7. Addresses Statewide Priorities
  - a. Climate Change Response Actions through completion of Subtask 1.3 - Create New Sections, by evaluating climate change and adaptive management.
  - b. Protecting Surface Water and Groundwater Quality by developing a Groundwater Management Program and a Salt & Nutrient Management Program for the Pittsburg Plain Groundwater Basin during Tasks 2 and 4 and by identifying data required for the future calculation of the safe yield of the East County portion of the Tracy Subbasin.
  - c. Ensuring Equitable Distribution of Benefits by implementing Task 5 - Public Outreach, increasing participation of small and disadvantaged communities in the IRWM planning process and addressing their needs.

The total proposal cost is \$600,000, with a local match of \$150,000 and total grant request of \$450,000.

### **Task 1 – Update and Integrate East County IRWMP**

As described in Chapter 1 - Background, the East County Region prepared and adopted an FEIRWMP in 2005. Task 1 includes all of the work items required to revise the Plan to ensure that it is fully compliant with the August 2010 *Proposition 84 & 1E IRWM Guidelines* and with present-day regional conditions. In the same way that the FEIRWMP was outlined, each section of the revised IRWMP will directly correlate to a Plan Standard included in the August 2010 *Proposition 84 & 1E IRWM Guidelines*. These Plan Standards, and therefore sections of the revised IRWMP, are as follows:

- |                                   |                                    |
|-----------------------------------|------------------------------------|
| 1. Governance                     | 5. Integration                     |
| 2. Region Description             | 6. Project Review Process          |
| 3. Objectives                     | 7. Impacts & Benefits              |
| 4. Resource Management Strategies | 8. Plan Performance and Monitoring |

9. Data Management

10. Finance

11. Technical Analysis

12. Relation to Local Water Planning

13. Relation to Local Land Use Planning

14. Stakeholder Involvement

15. Coordination

16. Climate Change

Table 1-9 - Existing Plan and Current IRWM Plan Standards in Section 1.11 summarizes the data gaps, and updates and additions to plan sections required in order to be consistent with new Plan Standards. The subtasks to complete Task 1 are described below.

#### SUBTASK 1.1 – UPDATE SECTIONS WITH EXISTING INFORMATION

Since completion of the 2005 FEIRWMP, some additional IRWM planning work has been completed, primarily through the Region Acceptance Process (RAP) application submittal. The following sections will be updated during this subtask based on existing information from the FEIRWMP and/or the RAP submittal:

- ▣ Governance
- ▣ Region Description
- ▣ Plan Performance and Monitoring
- ▣ Technical Analysis
- ▣ Relation to Local Water Planning
- ▣ Coordination

It is anticipated these sections will not require much modification. Descriptions of governance and the East County Region were included in the 2009 RAP submittal. The other sections included in Subtask 1.1 already meet the Plan Standards and will therefore be extracted from the FEIRWMP and incorporated into the revised IRWMP with minimal editing or revision.

*Subtask 1.1 Deliverables: Revised Governance, Region Description, Plan Performance and Monitoring, Technical Analysis, Relation to Local Water Planning, and Coordination sections for inclusion in the updated IRWMP.*

#### SUBTASK 1.2 – REVIEW AND REVISE SECTIONS

The sections that will be reviewed and revised as part of Subtask 1.2 will require a more rigorous update and/or revision than the sections discussed in Subtask 1.1. These sections will need to be modified following reexamination of objectives, conflicts, and issues within the Region and determining which projects (existing and new) are available to provide solutions. The following sections, as they were included in the FEIRWMP and/or RAP submittal, will initially be reviewed and then revised, as appropriate, to account for present-day conditions. These sections include:

- ❑ Objectives
- ❑ Resource Management Strategies
- ❑ Integration
- ❑ Project Review Process
- ❑ Impacts and Benefits
- ❑ Data Management
- ❑ Finance
- ❑ Stakeholder Involvement

The objectives and conflicts of the Region will be revisited as they were last developed in 2005. As discussed in Task 5 - Public Outreach, at Public Workshop #1, the ECWMA will solicit for stakeholders to attend four section-specific workshops covering these topics: (1) objectives and conflicts, (2) project review, (3) project prioritization process, and (4) climate change and adaptive management. The workshops themselves will be included in the respective subtask under Task 1 rather than the generic Public Outreach task. Subtask 1.1 will include the workshop to identify and discuss objectives specific to the East County Region.

After the conflicts within the Region are identified and understood, the ECWMA will make a call for projects in which agencies and stakeholders can submit projects that will contribute to meeting the identified objectives. This is a key component of the update to the FEIRWMP, ensuring the future implementation of the fully-integrated IRWMP will meet the Region's current-day conditions, objectives and Statewide Priorities as outlined in the Prop 84 Guidelines. The ECWMA will develop a project submittal form to be used for submitting a project for consideration in the IRWM planning process. Information to be included on the form may include a project description, estimated project costs, project schedule, status of CEQA compliance, and identification of project benefits and impacts. After the call for projects, another workshop (or series of workshops) will occur with the specific task of reviewing the projects submitted. Attendees at this workshop will develop criteria to determine if the project meets the minimum standards for inclusion in the IRWMP. For example, a project submitted for plan inclusion may be reviewed initially based on technical feasibility; if the project is not technically feasible, then it will not move forward in the review process. Once a preliminary list of projects is developed, the attendees will identify opportunities for project integration to increase synergistic benefits, and will identify the RMS that apply to the projects. The projects will then be prioritized to identify those that, once implemented, will best meet the regional objectives for integrated water resource planning and management. Similar to the process used during the Prop 50 FEIRWMP development, the following activities will likely be applied in order to prioritize projects and programs to identify Regional Priorities within the East County Region:

- ❑ **Identification of Prioritization Criteria and Subcriteria.** Projects and programs within the region will be prioritized according to their ability to achieve criteria and subcriteria based on the regional

objectives, Prop 84 Program Preferences (including Statewide Priorities), and other important considerations within the region.

- ❑ **Assignment of Relative Weights to Criteria and Subcriteria.** Each of these criteria will be assigned a weight to determine its overall contribution to the project scoring. For example, during the Prop 50 process, the Region determined ability to meet regional objectives as the most important criterion, and was therefore assigned a weighting factor of 50 percent. The Region will reevaluate the criteria and subcriteria in relation to their existing needs and assign appropriate weights.
- ❑ **Evaluation of Projects against Subcriteria.** Each project will be evaluated with respect to each subcriterion, based on the established rating system for each subcriterion.
- ❑ **Development of Project Rankings.** Projects will then be ranked according to overall score, which may be based on (1) how well the project fared against a given subcriterion, (2) the relative weighting of the subcriteria, and (3) the relative weighting of the criteria.

Regional Objectives, Program Preferences, and Other Considerations were the criteria used in the FEIRWMP and were multi-faceted criteria with several layers of refinement. The criteria, subcriteria and weighting used in the FEIRWMP will be reevaluated and revised, as needed, to reflect updated regional conflicts and objectives, the Prop 84 Program Preferences, and current Statewide Priorities and Resource Management Strategies.

As described in the Background, the FEIRWMP included Water Management Strategies (WMS), which have now been replaced with Resource Management Strategies (RMS). Many of the WMS included in the FEIRWMP overlap with the RMS that will be considered while revising the IRWM Plan (e.g. desalination or conjunctive use). There are some new strategies that were not considered in the original plan, but they will be included in the analysis conducted during the plan revision in order to further diversify the East County Region's water management portfolio. The ECWMA will review each RMS and determine its applicability to meeting the Region's objectives, also updated in this subtask. The East County Region will also identify ways to integrated approaches to water management issues in order to provide multiple economic, environmental, and long-term water security benefits to the Region. Combining multiple RMS to achieve a single objective will similarly provide multiple benefits and will diversify the approach to problem solving.

A key strategy that was not considered during Prop 50 that will be part of the RMS section in the revised Plan is Salinity & Nutrient Management. Task 4 - Develop Salinity & Nutrient Management Program of the Proposal Scope of Work will specifically address this particular RMS by identifying salinity and nutrient issues within the Pittsburg Plain Groundwater Basin, as well as the potential sources for the issues, monitoring groundwater quality, modeling potential groundwater degradation, and ultimately developing a groundwater quality monitoring and management program. Salt and nutrient management was not considered for the other two groundwater basins underlying the East County Region as the Tracy Subbasin is currently being covered under the on-going CV-SALTS process, and the region overlies a very small portion of the Clayton Valley Groundwater Basin and does not now, or in the foreseeable future, anticipate having projects overlying that groundwater basin with the potential to impact groundwater nor does it utilize groundwater from that basin as part of its water supply portfolio.

Another series of workshops will be held to develop the project prioritization process. During this workshop, the criteria, subcriteria and weighting factors to be applied will be revisited and an efficient and effective way to determine the regional priorities developed. Development of the prioritization process is expected to be completed in approximately two workshops. Once developed, the ECWMA will implement the designed process and prioritize the projects.

The Data Management section of the FEIRWMP will be revised to include new proposed data management scenarios, tools and roles. The ECWMA will perform Database and Data Management Integration, involving coordinating regional member databases with a central hosting location, and will analyze the compiled database to identify data gaps. The centralized database will be linked to the IRWMP website (see Task 5). This database would also be coordinated with statewide databases and data uploaded, as appropriate.

The Stakeholder Involvement section of the IRWM Plan will be revised based on all of the Public Outreach work to be completed in Task 5. All of the work performed under Subtask 1.2 will be described in the Objectives, Resource Management Strategies, Integration, Project Review Process, Impacts and Benefits, Data Management, Finance, and Stakeholder Involvement sections.

*Subtask 1.2 Deliverables: Revised sections; Compilation of existing databases leading to their improvement and accessibility through new website; Data submittal system for areas where data gaps are identified.*

#### SUBTASK 1.3 – CREATE NEW SECTIONS

There are two key plan sections that were not included in the 2005 FEIRWMP and therefore, need to be added to the revised IRWM Plan; these sections include the Relation to Local Land Use Planning section and the Climate Change section.

A climate change evaluation will be performed under Subtask 1.3 which will include a qualitative climate change impact assessment and identification of adaptive management strategies (e.g. conjunctive use of water resources and carbon sequestering). One means in which mitigation of climate change can be achieved (and is relevant to the East County Region) is through additional sequestration of atmospheric carbon and reduced emissions from agriculture, forestry and other land uses. Management of grazing lands worldwide and in the U.S. has the potential for significant carbon sequestration at reasonable cost. The techniques and practices necessary to achieve such mitigation for carbon emissions are reasonably well known, and in general tend to have multiple co-benefits. This adaptive management strategy may be considered as part of the development of this section of the IRWM Plan, with the overall goal of evaluating, developing and implementing mechanisms for water districts in the coastal region of California to generate adaptive management strategies.

The climate change and adaptive management analysis conducted under Subtask 1.3 will be vetted with the public and stakeholders through a specific public workshop. This will allow for the opportunity to discuss the adaptive management alternatives, provide comments, and ask questions.

The other analysis and section to be created for the revised IRWMP is Relation to Local Land Use Planning. This section will summarize how information is exchanged between land use and water resource managers within the East County Region and how land use is considered during water management planning and vice-versa. The ECWMA will identify methods to improve communication and planning efforts. It is believed through coordination of land use planners and the ECWMA, a more efficient IRWMP can be developed with greater benefits to more people.

*Subtask 1.3 Deliverables: Climate Change and Local Land Use Planning sections.*

#### SUBTASK 1.4 – COMPILE AND ADOPT IRWMP

Subtask 1.4 consists of compiling all sections and new analyses into one fully-integrated IRWMP. This includes assembling the sections prepared as part of Subtasks 1.1 through 1.3 into a complete document, as well as incorporating the deliverables and findings of Tasks 2, 3, 4, and 5 into the updated IRWM Plan. The preparation of the Pittsburg Plain Groundwater Management Program, creation of the Data Gap Plan for the East County portion of Tracy Subbasin, and development of the Pittsburg Plain Salt and Nutrient Management Program will feed into, at a minimum, the Region Description, Data Management, and Goals & Objectives sections of the plan. A draft IRWMP will be prepared for review by all member agencies of the ECWMA. Based on comments received, a Public Draft version of the IRWMP will be prepared and posted for public review. Prior to finalizing the IRWMP, Public Workshop #3 will be conducted as described in Task 5 in order to solicit comments from the public at large, stakeholders, and DACs.

East County's fully-integrated IRWMP, once completed, will be exempt from the California Environmental Quality Act (CEQA) pursuant to CEQA Guidelines Section 15262 because it is a planning study that identifies potential projects, programs, and policies for possible future actions, but does not have a legally binding effect on participating agencies. Similarly, the IRWMP will be categorically exempt from CEQA pursuant to Sections 15306 (Class 6), because the Plan consists of basic data and information collection and evaluation of water resources management activities. All participants in the development of the revised IRWMP will be given the opportunity to formally adopt the plan. This adoption is not a direct commitment of resources, but rather an agreement with regional priorities. The participants that adopt the IRWMP are not legally bound to undertake any aspect of the IRWMP through adoption. Therefore, environmental analyses, at either the programmatic or project-level, is not required under CEQA. For adoption, the ECWMA member agencies will likely give a presentation to their respective boards and councils prior to adoption. The council and board meetings are open to the public, providing one last avenue for public input prior to adoption.

*Subtask 1.4 Deliverables: Draft IRWMP; Public Draft IRWMP; Final IRWMP; Resolutions of agencies approving adoption of IRWMP.*

#### SUBTASK 1.5 – IRWM PLAN UPDATE OVERSIGHT

Subtask 1.5 consists all actions by CCWD to ensure that the plan update is making forward progress. Work to be completed under this subtask may include general coordination of IRWM Plan update efforts, regular communication with the ECWMA, coordination of plan adoption, and other similar program coordination effort.

## **Task 2 – Develop Pittsburg Plain Groundwater Management Program**

A comprehensive program for groundwater management, monitoring and reporting will be developed for the Pittsburg Plain Groundwater Basin, one of the basins underlying the East County Region. Task 2 will be implemented through the completion of eight subtasks as described below.

### **SUBTASK 2.1 – ESTABLISH GROUNDWATER MANAGEMENT COMMITTEE**

A groundwater management committee will be identified, consisting of regional members and interested basin stakeholders. A kickoff meeting will be held once the groundwater management committee is established to facilitate communications between the subcommittee and ECWMA and to establish expectations for the final product. During this meeting, the proposed end-products will be discussed and a schedule established for work implementation.

*Subtask 2.1 Deliverables: Kickoff meeting agenda and minutes; List of required documents and/or information and transmittal schedule; List of end-products and schedule of deliverables.*

### **SUBTASK 2.2 – COLLECT AND REVIEW DATA**

Through a coordinated effort with the ECWMA, data required for completion of the study and program development will be identified, collected, and reviewed. Data from available reports and other relevant sources will be collected and reviewed along with other documents identified in the project kickoff meeting. Maps and tables to be developed will be identified, and their preparation coordinated with ECWMA. Examples of maps and figures required to illustrate information include groundwater basin and subbasin boundaries, surface water impoundment locations, groundwater elevation data, basin recharge zones, locations of groundwater monitoring wells, locations of extensometers and leveling survey benchmarks, areas of groundwater contamination, saltwater intrusion zones, and other similar areas of information.

*Subtask 2.2 Deliverables: List of tables and figures to be prepared with the entity responsible for preparation and due dates identified on the list.*

### **SUBTASK 2.3 – DEVELOP REGIONAL WATER SUPPLY SETTING**

This subtask consists of identifying and summarizing where groundwater is used as part of the Region's water supply portfolio. The ECWMA will identify groundwater use trends and geographic distribution, as well as document known impairments to groundwater that makes groundwater unusable. Lastly, other potential water supply options (e.g. recycled water) will be identified for the Region.

*Subtask 2.3 Deliverables: Summary of groundwater use, impairments, and other potential water supplies.*

## SUBTASK 2.4 – DEVELOP CONCEPTUAL HYDROGEOLOGIC MODEL

A conceptual hydrogeologic model for the Pittsburg Plain groundwater basin will be developed, summarizing readily available hydrogeologic data. Work includes summarizing soil and near-surface conditions, summarizing geologic setting, describing aquifer systems and characteristics; identifying available water level data and use that data to develop water elevations maps, summarize available groundwater quality data, identify areas of land subsidence and summarize available related information.

*Subtask 2.4 Deliverables: Conceptual hydrogeologic model.*

## SUBTASK 2.5 – DEVELOP BASIN MANAGEMENT OBJECTIVES

Basin Management Objectives (BMOs) for the Pittsburg Plain Groundwater Basin will be developed and groundwater management activities that are linked with each BMO will be identified. BMOs developed by project participants and will include objectives for water elevations, water quality and land subsidence. Activities associated with developing BMOs may include summarizing groundwater protection issues, control of saline water and nutrient loading (linked to Task 4), identification of well protection and recharge areas, regulation of the migration of contaminated groundwater, administration of a well abandonment and destruction program, identification of well construction policies, coordination with agencies responsible for groundwater contamination cleanup, recharge, storage, recycling and extraction projects, review of land use plans and coordination with land use planning agencies as it relates specifically to groundwater use and potential contamination, assessment of potential impacts from climate change (coordinated with Subtask 1.3), summarizing groundwater use/recharge issues, mitigation of overdraft, monitoring, facilitating conjunctive use, developing/identifying groundwater management areas, developing BMOs for groundwater management areas. These BMOs will also be evaluated in light of the overall IRWM planning process, and may be incorporated as criteria in the project prioritization process.

Groundwater management areas are defined as areas that encompass portions of the aquifer system where similar groundwater conditions exist and similar management programs will be established. Groundwater management areas to be developed by project participants based on information developed in previous tasks.

*Subtask 2.5 Deliverables: BMOs and associated groundwater management activities.*

## SUBTASK 2.6 – DEVELOP GROUNDWATER ELEVATION MONITORING PROGRAM

Using available information and existing monitoring programs as a base, a basin-wide groundwater elevation monitoring program will be developed. Integration with salinity and nutrient monitoring and existing monitoring programs will be conducted in coordination with Task 4.

A monitoring network will be developed by incorporating existing monitoring and production wells and identifying potential candidates and/or locations for future network expansion. The information regarding duration and quality of the well's water level data, geographic locations, vertical locations of well screens, and other well information will be collected and summarized. Ideally, the program will use wells with detailed well construction data. Other work to be completed under this subtask includes developing and documenting

monitoring protocols for the new program, developing base maps for use in new monitoring plan, developing a data management system to store, manage and analyze groundwater data (may be same database as that developed for IRWMP in Task 1), and preparing initial analysis of groundwater conditions in the basin. This program will be consistent and compatible with the California Statewide Groundwater Elevation Monitoring (CASGEM) database requirements in order to facilitate periodic data uploads to the State's system.

*Subtask 2.6 Deliverables: Groundwater Elevation Monitoring Program.*

#### SUBTASK 2.7 – DEVELOP IMPLEMENTATION AND DATA MANAGEMENT PLAN

This subtask involves developing an implementation plan or protocol outlining how the monitoring program will be implemented, how the data will be managed, and how the overall basin management program will be maintained and updated in the future. The implementation plan/protocol may identify entity(ies) who will implement and maintain program, methods for analysis and reporting of annual groundwater conditions, monitoring of groundwater protection efforts, planning for groundwater recharge and/or conjunctive use opportunities, adaptive management strategies and program updates.

*Subtasks 2.7 Deliverables: Implementation and Data Management Plan.*

#### SUBTASK 2.8 – STAKEHOLDER INVOLVEMENT AND MEETINGS

Subtask 2.8 includes activities associated with the stakeholder involvement process such as communication with basin stakeholders and other interested parties, and planning for and holding associated meetings.

*Subtask 2.8 Deliverables: Meeting agenda, notes, and handouts.*

### **Task 3 – Data Gap Analysis for East County Portion of Tracy Subbasin**

In 1999, Luhdorff & Scalmanini performed a detailed study of the occurrence of groundwater in the Tracy Subbasin within the San Joaquin Groundwater Basin for the City of Brentwood, Discovery Bay, East Contra Costa Irrigation District and Diablo Water District (DWD). This study was then incorporated into the *Diablo Water District AB3030 Ground Water Management Plan* as Chapter 3. The purpose of this task is to update the 1999 study portion of the Groundwater Management Plan to develop a plan to assist the ECWMA member agencies in determining the safe yield of the portion of the sub-basin used for groundwater extraction. The outcome of this task will provide a data collection plan for the ECWMA to follow so that once sufficient data is collected, the sub-basin yield can be determined.

#### SUBTASK 3.1 – REVIEW EXISTING STUDY

The existing study included in Chapter 3 of the afore-referenced GWMP will be reviewed and data gaps will be identified. The data gaps will focus on information that must be developed, calculated and/or analyzed before a safe yield of the subbasin can be determined.

*Subtask 3.1 Deliverables: List of data gaps.*

## SUBTASK 3.2 – PREPARE DATA GAP PLAN

After reviewing the study and identifying data gaps, a revised program will be prepared for collecting the data necessary to calculate the safe yield. This Data Gap Plan may include, but is not limited to, creating and/or updating the monitoring program that will be used to address the data gaps and specifying data formatting and management in order to facilitate uploading to the State's CASGEM database as the plan is implemented. At present, it is not known the depth or breadth of data gaps nor the level of effort that will be required to acquire the necessary data. Therefore, the tasks of implementing the Data Gap Plan and performing the safe yield calculation have not been included as part of this scope of work.

*Subtask 3.2 Deliverables: Data Gap Plan.*

## **Task 4 – Develop Salinity & Nutrient Management Program**

The State of California adopted the Recycled Water Policy (Policy) that requires Salt/Nutrient Management Plans (SNMPs) be developed to manage salts, nutrients, and other significant chemical compounds on a watershed- or basin-wide basis. The Policy specifies that SNMPs are to be developed in a cooperative and collaborative manner among water and wastewater agencies and other salt/nutrient stakeholders. The SNMPs are intended to help streamline permitting of new recycled water projects while ensuring compliance with water quality objectives and protection of beneficial uses. The latter goal of the SNMP (ensuring compliance with basin water quality objectives and protecting the beneficial uses of groundwater) overlaps with the IRWM Plan intended goals. This is reflected in the Resource Management Strategies presented in the Prop 84 IRWM Plan Guidelines.

As previously mentioned, the East County IRWM Region overlies the Clayton Valley, Pittsburg Plain, and San Joaquin (Tracy Subbasin) Groundwater Basins. Because the Region does not anticipate implementing any projects overlying the Clayton Valley Basin that have the potential to impact groundwater, nor does the Region utilize that particular groundwater basin as part of its water supply, a Plan will not be developed for this basin at this time. The East Contra Costa County Region member agencies will continue to participate in the CV-SALTS effort for salt/nutrient management planning for the Tracy Subbasin of the San Joaquin Groundwater Basin as the primary pathway for protecting groundwater in that subbasin. To that end, a SNMP for the Pittsburg Plain Groundwater Basin will be developed; the following subtasks describe the work required to develop a Salinity and Nutrient Management Program for this Groundwater Basin. These subtasks assume that no pre-existing salt/nutrient management planning efforts are available for the Pittsburg Plain Groundwater Basin, but that completion of the Pittsburg Plain Salt and Nutrient Management Program will be conducted in coordination with the Groundwater Management Program completed for that same groundwater basin under Task 2.

### SUBTASK 4.1: ESTABLISH COLLABORATIVE PROCESS

The ECWMA shall develop a stakeholder process to address salt and nutrient loading in the Pittsburg Plain Groundwater Basin. As part of the program formulation, a collaboration process will be developed as the

primary conduit for communication and coordination with the greater IRWM plan revision process and with the public.

Active participants in the program development process are assumed to be part of one of two groups intended to help guide the process and provide local input. Both working groups will be convened specifically for this portion of the IRWMP development and will focus solely on the identification of salt and/or nutrient issues in the Pittsburg Plain and on the development of management strategies to ensure the long-term protection of the groundwater basin. The two working groups to be convened are:

1. Technical Working Group - This group consists of those who contribute technical information and provide technical review. This group is assumed to consist of staff from overlying Agencies and member(s) of the Regional Water Quality Control Board. Key staff members for each overlying organization shall be identified for direct participation in the SNMP development process.
2. Stakeholder Advisory Committee - This group consists of those whose activities and operations may impact salt and nutrient management in the Basin, including: agricultural interests, private well owners, environmental groups, regulatory staff, and the general public. As part of this task, Basin stakeholders shall be identified and a contact list developed in order to maintain stakeholder contact and for coordination all workshop notifications and deliverable distribution.

The working groups will contribute to data collection and review of deliverables.

Public workshops, conference calls, or other appropriate form of communication shall be conducted to help gather input from stakeholders and provide a forum for discussion of salt/nutrient issues. An agenda and slides, as appropriate, will be prepared for the workshops to guide the stakeholder discussion and technical presentation. Topics covered at the workshops/conference calls/other communication may include:

- An overview of the Statewide Recycled Water Policy, IRWM planning process and relevant drivers
- The process for SNMP development and SNMP elements, constituents that shall be assessed, and an overview of current understanding regarding salt and nutrient sources in the basin.
- The technical approach, preliminary findings, results of the salt and nitrogen loading analysis, and a summary of the Anti-Degradation Analysis and Proposed Groundwater Monitoring Plan.
- The draft SNMP and any comments the stakeholders may have

Workshops and/or conference calls will be scheduled on dates matching the IRWM planning meetings so stakeholder can attend both meetings. Workshop materials, including agenda and draft documents, will be provided to the stakeholders approximately one week in advance of the workshops.

*Subtask 4.1 Deliverables: Up to Three Technical Working Group conference calls; slide presentations for three SNMP Meetings/Workshops, as necessary.*

## SUBTASK 4.2: IDENTIFY SALT AND NUTRIENT SOURCES

Several actions will be conducted under this subtask, including developing a GIS, identifying constituents, and conducting a salt loading analysis.

GIS data will be compiled from overlying Agencies and other stakeholders, and maps will be developed for the study area using ArcView. Land cover data shall be compiled using existing GIS coverages and the Technical Working Group will have the opportunity to provide input regarding significant land cover changes that might have taken place since the existing coverages were created.

Additionally, a list of salts and nutrients that may be found in the underlying groundwater basin will be developed for inclusion in the SNMP. Candidates for the recommended list include, but are not limited to, total dissolved solids (TDS), nitrogen compounds (nitrate, nitrite, total nitrogen, TKN and ammonia), phosphorous, boron, arsenic, and chloride. The relevance of these and other potential constituents shall be discussed during a Technical Working Group meeting, and input regarding other potential compounds received. Although information may be available for a number of constituents, the analysis during this work effort shall focus on TDS and nitrogen for reasons discussed below. Chemicals of emerging concern shall be dealt with in a qualitative fashion since a Blue Ribbon Panel commissioned by the State is currently developing monitoring recommendations for these compounds.

Finally, a salt loading analysis will be conducted. Land cover designations shall be assigned to categories representing similar salt, nutrient, irrigation practice, and chemical loading characteristics. The type of water used for outdoor irrigation for each parcel shall be defined using available information, and is assumed to be either: treated imported water, untreated imported water, treated groundwater, untreated groundwater, and/or recycled water from various sources. Recycled water irrigation areas shall be defined using information provided by the Technical Working Group. Other water sources and their places of use shall be identified by the participating agencies based on discussions with local water purveyors and irrigators.

The concentration of constituents in each of the source waters shall be characterized using existing data made available by the Technical Working Group. To obtain these data, the project team will likely develop a standardized electronic spreadsheet template for specific information that shall be submitted to stakeholders with a data request.

*Subtask 4.2 Deliverables: GIS coverages populated with salt and nutrient source location and loads; Water quality data request for water supply sources (using electronic template).*

## SUBTASK 4.3: SUMMARIZE EXISTING PROGRAMS FOR GROUNDWATER QUALITY MONITORING

Existing databases of well locations, well construction details, geologic logs, water level data and water quality shall be compiled into the GIS. Data shall be requested from the Technical Working Group. To obtain these data, a standardized template will be developed for specific information and submitted with the data request. Additionally, this will be a coordinated effort with Subtask 2.2 - Collect and Review Data, as part of the

completion of the Pittsburg Plain Groundwater Management Program such that data collected during Subtask 2 will parallel data collected here. These data shall then be uploaded to the GIS.

*Subtask 4.3 Deliverables: Water quality data request from groundwater and surface water monitoring programs (using electronic template); Table describing existing groundwater monitoring programs*

#### SUBTASK 4.4: SUMMARIZE EXISTING GROUNDWATER QUALITY DATA

Basic statistics shall be used to summarize compiled water quality data, such as: dates of first and most recent analytical results; number of reported results; and maximum, minimum, and average concentrations. Chemographs and water quality maps shall be prepared for TDS, nitrogen, and chloride, assuming enough data is available to allow significant patterns to be observed. Chemographs and water quality maps shall be visually examined to assess potential departures from “background” conditions for these constituents.

*Subtask 4.4 Deliverables: Figures and tables summarizing groundwater quality data.*

#### SUBTASK 4.5: DEVELOP RELATIONAL MODEL TO EVALUATE POTENTIAL FOR GROUNDWATER DEGRADATION

During this task, GIS data shall be related in a quantitative manner to assess potential for salt and nitrogen loading impacts to groundwater and surface water. Information to be related may include: land cover type; irrigation practices; source-water type and constituent concentrations; and assimilative capacities of the various soils and land uses (retention, uptake, removal, and transformation). This model shall be designed to provide an indication of steady-state constituent loading to the aquifer at a parcel or land use block scale (depending upon detail present in existing land cover data), not to model fate and transport of the constituents. The relational model shall be based on the average annual irrigation and water quality inputs collected in prior tasks.

*Subtask 4.5 Deliverables: PowerPoint presentation in which the findings from Subtask 4.5 will be presented.*

#### SUBTASK 4.6: PERFORM ANTI-DEGRADATION ANALYSIS

As part of this task, the relational model developed in Subtask 4.5 shall be used to identify areas of groundwater potentially vulnerable to degradation. Particular emphasis shall be given to areas of recycled water usage. These results shall be compared to TDS, nitrogen, and chloride groundwater quality data compiled and reviewed in Subtask 4.4. Loading of TDS and nitrogen shall be calculated and summed for the various land cover categories identified in Subtask 4.2, as well as for a basin-wide salt balance. A loading analysis shall also be conducted assuming implementation of planned recycled water projects. Areas of potential excess loading (anomalously high concentrations) shall be identified for potential future analysis of historical land use and irrigation practices.

Potential remedies for areas that may be impacted by elevated concentrations of salts and nutrients shall be identified and discussed, focusing on “Best Management Practices” (BMPs). Recommended BMPs may include: salt source control (i.e., water softeners), improved irrigation practices, improved feedlot management, irrigation source water changes, enhanced recharge of stormwater, and management strategies that might be undertaken at a basin level. These BMPs will be evaluated in light of the overall IRWM planning process, and may be incorporated as criteria in the project prioritization process. In the revised IRWMP, the potential benefits of these BMPs for proposed and existing irrigation projects in light of findings from this work effort shall be discussed as well as the potential benefits of looking at how past land cover and irrigation practices may have impacted groundwater.

*Subtask 4.6 Deliverables: Maps showing areas of existing and/or potential groundwater degradation (if any); A table summarizing BMPs and projected effectiveness in reducing salt and nutrient loads.*

#### SUBTASK 4.7: DEVELOP GROUNDWATER QUALITY MONITORING PROGRAM

Based on results of prior tasks, a Groundwater Monitoring Program shall be designed to fill data gaps and provide ongoing assessment of salt and nutrient issues throughout the study area. This monitoring program will use existing or developing Groundwater Monitoring Programs as a basis; that is, groundwater elevation monitoring as defined in a Groundwater Management Program (Task 2) shall be coordinated with groundwater quality sampling and analysis that will be required for the SNMP. Data gap analysis shall include analytes (such as Chemicals of Emerging Concern) and potential need for additional monitoring wells. Particular focus shall be paid to using existing wells to assess shallow groundwater quality, particularly near and downgradient of areas identified to be most at-risk for high salt/ nutrient and related chemical loading. The monitoring program shall include recommendations regarding the frequency of sampling and how the frequency and number of wells may be modified through time as additional data are collected, data formatting, and protocols for periodically uploading the data collected to the State’s groundwater databases.

*Subtask 4.7 Deliverables: Groundwater Monitoring Program.*

#### SUBTASK 4.8: PREPARE MONITORING PROGRAM AND MANAGEMENT PLAN FOR RWQCB REVIEW

The outline and content of the SNMP shall be developed as part of the collaborative stakeholder process, but may simply consist of documentation of information developed and presented as part of this work effort and how it relates to maintaining Basin Plan Objectives. The final SNMP shall be developed within the framework of the outline shaped by the Stakeholder Advisory Committee (with review provided by the ECWMA, the Technical Working Group and the Stakeholder Advisory Committee), and shall provide a basis for the development of basin objectives for key constituents as well as best practices designed to maintain water quality in the future. The team shall present the Final Draft Plan to Regional Board staff at their offices and facilitate comment response and incorporation to arrive at an approvable Plan.

*Subtask 4.8 Deliverables: Draft Salt/Nutrient Management Plan; Final Salt/Nutrient Management Plan.*

#### SUBTASK 4.9 – STAKEHOLDER INVOLVEMENT AND MEETINGS

This subtask includes activities associated with stakeholder involvement processes such as communication with basin stakeholders and other interested parties, as well as planning for and holding associated meetings, conference calls, and other appropriation forms of communication.

*Subtask 4.9 Deliverables: Meeting materials (e.g. agenda, minutes).*

#### **Task 5 – Public Outreach**

During the development of the 2005 FEIRWUMP, the East Contra Costa County IRWM Region used a variety of mechanisms for encouraging public awareness of regional water management issues and IRWM planning within the Region, including:

- ❑ Various regularly scheduled meetings open to the public (ECWMA meetings, local forums, and project-specific meetings)
- ❑ Written updates provided as utility bill inserts, fact sheets, brochures, etc.
- ❑ Project-specific websites which provide information on the status and progress of projects being implemented and allow for electronic feedback.
- ❑ Development and enfranchisement of stakeholder coordination groups to ensure active stakeholder involvement.

These outreach efforts will continue to be used during the Plan revision, in addition to the activities described in the following subtasks.

#### SUBTASK 5.1 – PUBLIC WORKSHOPS

Several public workshops/meetings will be held to notify the public as to the Plan update and allow for direct feedback during the revision and adoption process. In addition to, or in combination with the regularly scheduled ECWMA meetings and local forums available to stakeholders, up to four public outreach workshops/meetings will be conducted. It is anticipated the public workshops may be conducted as follows.

**Public Workshop #1** will occur after the grant award is executed and it will act as a public kickoff meeting/announcement for revising the 2005 FEIRWUMP. The ECWMA will prepare a presentation describing the updates necessary, the anticipated schedule, and an emphasis will be made on how stakeholders can participate, provide input, ask questions and comment on work items. The task-specific workshops will be explained and attendees will be solicited for. Mailing/contact lists will be created for each of the 4 task-specific workshops: (1) Regional Objectives & Conflicts, (2) Project Review, (3) Project Prioritization Process, and (4) Climate Change (see Task 1 for more detail).

**Public Workshop #2** is a progress meeting which will likely occur after the first three task-specific workshops. This will allow the ECWMA to present the results of the task-specific workshops and the IRWM planning work to date.

**Public Workshop #3** is for obtaining public input on the draft IRWMP. The workshop will be conducted after the IRWMP is drafted and available on the East Contra Costa County IRWM website for at least two weeks for review. The ECWMA will obtain public comments and will answer any questions posed to the group.

**Public Workshop #4** will occur prior to Plan adoption. This will allow public to provide any final input and for the ECWMA to present the Final Plan before they bring it to their respective Boards/Councils for adoption. This workshop may coincide with Council and/or Board meetings at which the IRWM Plan is adopted.

*Subtask 5.1 Deliverables: Public workshop agenda, presentations, notes, and handouts.*

#### SUBTASK 5.2 – DAC OUTREACH

The East County Region plans to address critical water supply and water quality needs of DACs, but before that can be done, the DACs must be identified, contacted, and informed. Although DACs were identified during development of the 2005 FEIRWMP, another analysis will be performed using more recent data, including 2010 U.S. Census data. Once the DACs are identified, a list will be compiled which will include the name of the DAC, a contact person and their associated contact information. The East County Region will perform active outreach specifically to the DACs to encourage participation in available stakeholder involvement opportunities, such as the public workshops included in Task 5 and the task-specific workshops conducted under Task 1.

*Subtask 5.2 Deliverables: Updated list of DACs within the Region, including contact information.*

#### SUBTASK 5.3 – CREATE WEBSITE

A centralized East Contra Costa County IRWM planning website will be created to focus on the IRWM planning effort and keep the public informed of meetings, IRWM planning progress, and project status. An East County IRWM-specific domain will be registered and the new website designed and populated with information. The website will be designed to ensure that it is easy to navigate and maintain/update beyond the revised plan development. The website could include user login, email sign-ups, online form submittal, email feedback options, events calendar, and/or interactive maps. It will be a valuable tool for obtaining public comment on draft documents, lists and other deliverables.

*Subtask 5.3 Deliverables: Registered domain; Comprehensive website framework designed and populated with information from the current website along with project-specific information*

## **Task 6 – Funding Administration**

In accordance with a letter agreement signed February 25, 2005 by all of the ECWMA member agencies, Contra Costa Water District (CCWD) has served as the lead agency responsible for submitting any and all IRWM grant materials on behalf of the East Contra Costa County Region. As such, CCWD is the agency submitting this grant application and they will administer the grant, manage consultants/contract as necessary, and complete all work items under Task 6. Funding administration includes the day-to-day management and administrative overhead for the project. Work items, such as execution of the funding agreement with DWR, administration of consultant contracts, coordination with other agencies, development and execution of agreements, and processing invoices and grant payments are included in the subtasks under Task 6.

### **SUBTASK 6.1 – PROP 84 FUNDING AGREEMENT ADMINISTRATION**

Upon grant award, CCWD will coordinate and execute the funding agreement with DWR.

*Subtask 6.1 Deliverables: Executed funding agreement with DWR.*

### **SUBTASK 6.2 – CONSULTANT CONTRACT ADMINISTRATION**

CCWD will administer, sign, and track any contracts with consultants or other agencies to complete the other tasks for this project. All funding will be funneled through CCWD. Contract administration includes invoicing, tracking progress, ensuring that tasks are completed on time and within budget, reporting, contract management, claim preparation and submittal and any other tasks necessary for administering the grant.

*Subtask 6.2 Deliverables: Executed contract(s) with consultant(s); Consultant invoices and progress reports; Claim submittals to DWR.*

### **SUBTASK 6.3 – QUARTERLY AND FINAL REPORTING**

This subtask will include the preparation of quarterly reports and a final report as required by DWR. The quarterly reports may include, but are not limited to, the following information:

1. Time period covered by the request.
2. Description of activities since the previous report.
3. Status of the project relative to the schedule.
4. Estimate of the percentage of work completed.
5. Records of expenditures.
6. Percentages of State and total funding expended to date.
7. Key issues that need to be resolved.

Once the project is complete, CCWD will submit a final report summarizing completion of the project. CCWD will keep all records and documents pertaining to the project for a minimum of three years after project completion.

*Subtask 6.3 Deliverables: Quarterly and Final reports.*