# CHAPTER 1 INTRODUCTION

The Chino Basin Desalter Authority 2010 Urban Water Management Plan (Plan) was prepared by The Chino Desalter Authority and The Inland Empire Utilities Agency (IEUA) (an ex-officio member of the CDA) as a companion document to the IEUA 2010 UWMP. This is an update to the 2005 Plan.

## 1.1 CHINO BASIN DESALTER AUTHORITY

The "Chino Basin Desalter Authority" (CDA) was formed under a Joint Exercise of Powers Agreement (JPA) on September 25, 2001 (See Appendix A) by a group of seven local agencies. The Jurupa Community Services District (JCSD), the Santa Ana River Water Company (SARWC), the Cities of Chino, Chino Hills, Norco and Ontario and the Inland Empire Utilities Agency (IEUA) are members of the CDA. The Western Municipal Water District was formally admitted to the CDA membership by the CDA Board on April 2, 2009 bringing the total number of member agencies to eight. The CDA purifies brackish groundwater extracted from the lower Chino Basin with the Chino I and II Desalter facilities and distributes the drinking water to its member agencies.

**Table 1.1 CDA Member Agency Characteristics**

| | |
|---|---|
| **CDA Members in San Bernardino County and Inland Empire Utilities Agency Service Area** | |
| **City of Chino** | The City of Chino serves water to approximately 85,000 residents of the City and some unincorporated areas in San Bernardino County. |
| **City of Chino Hills** | The City of Chino Hills provides water to approximately 79,000 residents of the City. |
| **City of Ontario** | The City of Ontario supplies water to approximately 174,500 residents of the City and some unincorporated areas of San Bernardino County. The City of Ontario also serves a small portion of the City of Rancho Cucamonga. |
| **Inland Empire Utilities Agency (IEUA)** | The IEUA serves as an ad-hoc member of the CDA Board; and provides assistance with financial commitments, seeking grant funds, loans, etc. The Agency also assists with O&M design, bidding and construction. The IEUA serves approximately a population of 850,000 which includes the Cities of Chino, Chino Hills, Fontana, Montclair, Ontario, Upland, the Cucamonga Valley Water District and Monte Vista Water District. IEUA does not receive product water from the CDA. |
| **CDA Members in Riverside County and Western Municipal Water District Service Area** | |
| **City of Norco** | The City of Norco supplies water to approximately 27,500 residents of the City. The areas that receive water from CDA are within the Jurupa Community Service Water District, usually the northern portion of the District. |
| **Santa Ana River Water Company** | The Santa Ana River Water Company provides water to a population of 8,500 in northwestern Riverside County. The SARWC will receive water from CDA Desalters I and II. (No population growth data is available from the SARWC as of June 2010). |
| **Jurupa Community Services District** | The Jurupa Community Services District provides water to a population of 91,000 residents in its service area, plus portions of the City of Norco. |
| **Western Municipal Water District** | The Western Municipal Water District makes water available for roughly 24,000 retail and eight wholesale customers with water from the Colorado River which includes a population of approximately 853,000 people in its service area. Western provides supplemental water to the cities of Norco, Corona, and Riverside and the water agencies of Box Springs Mutual, Eagle Valley Mutual, Elsinore Valley, Lee Lake, and Rancho California, and unincorporated areas of El Sobrante, Eagle Valley, Temescal Creek, Woodcrest, Lake Mathews and March Air Reserve Base. |

An eight-member Board of Directors governs the CDA; each director is designated and appointed by the governing body of the entity that he or she represents. IEUA's representative

serves as an ex-officio member. Characteristics of each of the CDA member agencies based on the State of California Department of Finance's Population Report (April-2010) are summarized in Table 1-1.

The cities of Chino, Chino Hills, and Ontario are located in San Bernardino County and are entirely within the boundaries of the IEUA. The Jurupa Community Services District (JCSD), the Santa Ana River Mutual Water Company (SARWC), and the City of Norco are within the Western Municipal Water District (WMWD), located in Riverside County. Both IEUA and WMWD are members of the Metropolitan Water District of Southern California (MWD) with responsibility to provide wholesale imported water to the retail agencies within their respective service areas. The IEUA and WMWD boundaries are shown in Figure 1-1. Figure 1-2 show general locations of CDA entities.

An eight-member Board of Directors governs the CDA. The Board selects from the membership of the Board, a Chairperson and Vice-Chairperson. The Board also appoints a Secretary who may be a Director. The Treasurer is the Manager of Fiscal Management of IEUA, who serves in the combined office of Treasurer and Auditor. WMWD will gain voting rights upon execution of a water purchase agreement with the CDA as the Chino Desalter Phase 3 expansion becomes operable.

As provided in the Joint Powers of Agreement, each member of the Board is entitled to vote. A voting Member's vote is weighted according to the relative proportion of each Member's existing firm commitment to purchase water proportional to the total quantity of water then available for purchase from the CDA by all of its Members. The weighting of votes as initially established is shown in Table 1-2a. This voting distribution will change when WMWD acquires its voting right which will provide a 10.04% of the overall weighted vote as shown in Table 1.2b

**Table 1.2a Weighted Voting % by Commitment to Purchase Water**

| Member Agency of CDA | Voting Weight (%) | Commitment to Purchase (AFY ) |
|---|---|---|
| Jurupa Community Services District | 33.33 | 8,200 |
| City of Chino | 20.33 | 5,000 |
| City of Ontario | 20.33 | 5,000 |
| City of Chino Hills | 17.07 | 4,200 |
| Santa Ana River Water Company | 4.88 | 1,200 |
| City of Norco | 4.07 | 1,000 |
| ***TOTAL*** | ***100%*** | ***24,600 AFY*** |

Source: Joint Exercise of Powers Agreement (Sept. 25, 2001)

| Table 1-2b Weighted Voting % by Commitment to Purchase Water | | |
|---|---|---|
| **Member Agency** | **Voting Weight (%)** | **Commitment to Purchase (AFY )** |
| Jurupa Community Services District | 33.33 | 11,733 |
| City of Chino | 14.21 | 5,000 |
| City of Ontario | 24.24 | 8,533 |
| City of Chino Hills | 11.93 | 4,200 |
| Santa Ana River Water Company | 3.41 | 1,200 |
| City of Norco | 2.84 | 1,000 |
| Western Municipal Water District | 10.04 | 3,534 |
| ***TOTAL*** | ***100 %*** | ***35,200AFY*** |

Source: Joint Exercise of Powers Agreement (Amendment No.2 to JPA, August 2008)

Bonds were issued by the CDA pursuant to an Indenture of Trust, dated as June 1, 2004, by and between the Authority and U.S. Bank National Association, as Trustee, and will be payable from the sources described in the bond documents. The issuance of Bonds totaled $110,500,000, due June 1, 2035.[1] The bonds were issued to refinance the 2002 Chino I Desalter Project by (i) refunding the $100,000,000 outstanding principal amount of the Chino Basin Desalter Authority Variable Rate Demand Desalter Revenue Bonds, Series 2002A, (ii) to provide additional financing for the 2002 Project, (iii) to acquire a debt service reserve fund surety bond, and (iv) to pay the cost of issuance for the Bonds.

On Amendment No. 2 of the Joint Exercise of Powers Agreement, creating the Chino Desalter Authority, executed on April 2, 2009, the expansion facilities proposed to be constructed by WMWD, the City of Ontario, and JCSD added to the existing facilities of the CDA in order to deliver desalter (product) water to WMWD and additional water to the City of Ontario and JCSD.
The Phase 3 expansion intends to increase the Chino Desalter raw water supply to 40, 000 AF/yr and achieving an additional 10 mgd (minimum) product water capacity. The cost of this expansion is expected to be approximately of $110M (in 2009 dollars).

[1]Chino Basin Desalter Authority Adjustable Rate Desalter Revenue Refunding Bonds Series 2004A-1and Series 2004A-2, June 2004.

**Figure 1-1 IEUA and WMWD Boundaries Relative to the Chino Groundwater Basin**

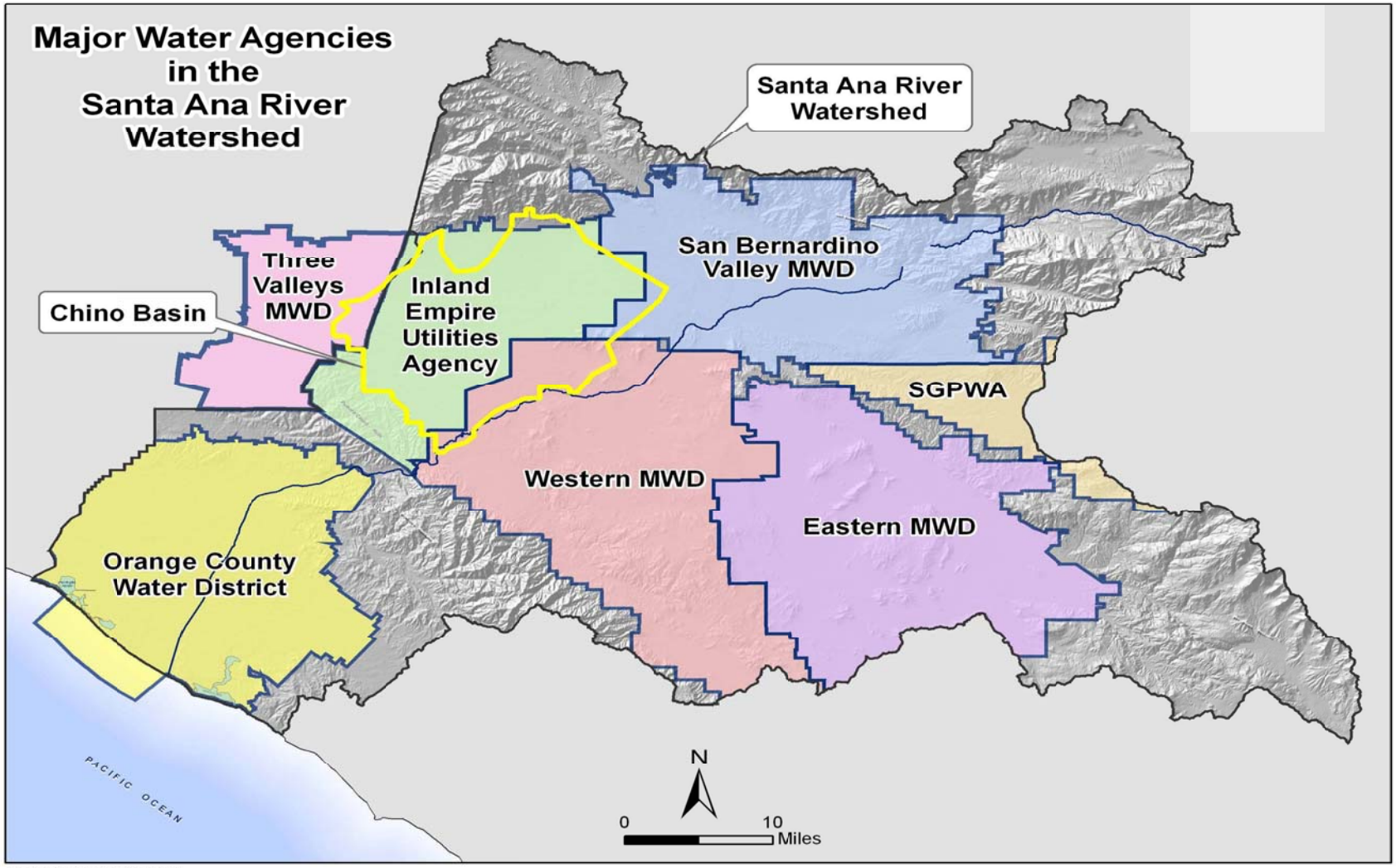
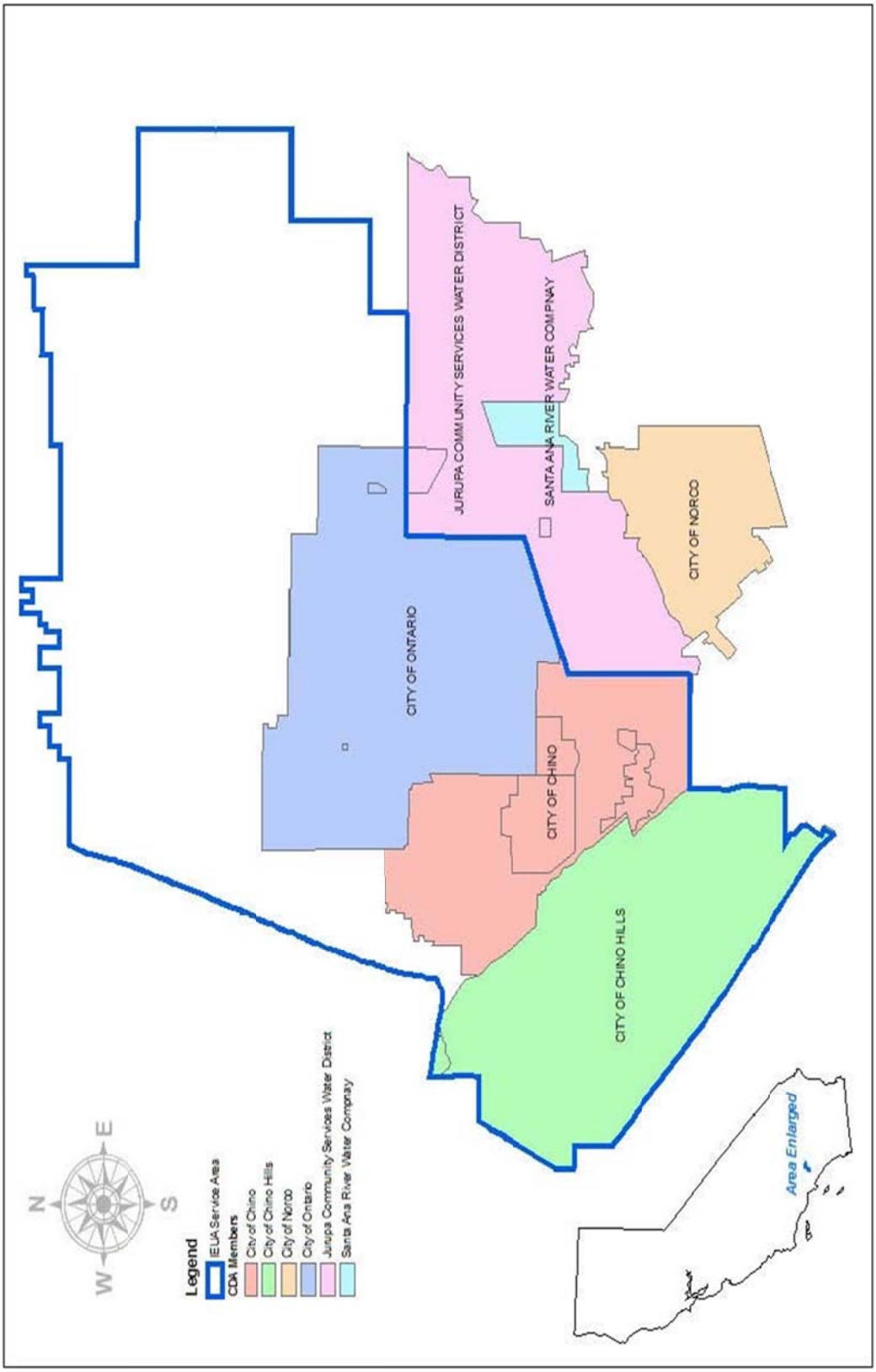


Figure 1-2 Service Areas of CDA Entities



## 1.2 URBAN WATER MANAGEMENT PLANNING ACT

The CDA UWMP 2010 (Plan) is consistent with the State of California Water Code Sections 10610 through 10656, known as the Urban Water Management Planning Act (Act). Originally enacted in 1983, the Act requires that every urban water supplier (providing water for municipal purposes to more than 3,000 customers or supplying more than 3,000 acre-feet of water annually) prepare and adopt an urban water management plan. The Act requires urban water suppliers to prepare plans that describe and evaluate reasonable and practical efficient water uses, recycling and conservation activities. These plans must be filed with the California Department of Water Resources every five years.

Since 1983, many amendments have been added to the Act (the most recent occurring in 2009). These amendments require additional actions addressing Urban Water Management Plan preparation and consideration for such issues as: metering, drought contingency planning, and water recycling. The latest implemented amendments have been adopted recently:

a. Senate Bills (SB) X 7-7, 2009 – It requires the state to achieve a 20% reduction in urban per capita water use in California by December 31st, 2020.
b. SB-1087, 2005 – Entails retail reporting of water use projections for lower income households.
c. Assembly Bill (AB) 1376, 2007 – Clarifies that suppliers provide cities and counties with 60 days notice of a public hearing on an UWMP.
d. AB-1420, 2007 – Conditions state funding for water management to urban water suppliers on implementation of water conservation methods.
e. SBX3-27, March 2007 – Clarifies that existing grant funding conditions of AB-1420
f. AB-1465, 2010 – Explains that compliance with the amended MOU satisfies AB-1420 grant funding conditions. Moreover, it spells out that “indirect potable reuse” of recycled water should be described and quantified in the plan, including a determination with regard to the technical and economic feasibility of serving those uses.

A copy of the Urban Water Management Plan Act is included in Appendix J.

## 1.3 DWR GUIDANCE

The Department of Water Resources (DWR) has provided detailed background information to guide water districts in developing their Urban Water Management Plans. Appendix K is a copy of DWR's check list for preparing an UWMP in compliance with the water code. Additional information can be found on DWR's web page (wwwd.water.ca.gov). The CDA and IEUA staff has followed the DWR guidelines and checklist in the development of both the CDA and IEUA Urban Water Management Plans.

## 1.4 REGIONAL WATER AGENCY COORDINATION

The six CDA voting agencies plus the new member agency, WMWD are involved in water management within the lower Chino Basin. These include JCSD, SARWC, and the cities of Chino, Chino Hills, Norco and Ontario. Each of these agencies is preparing their own UWMP that describes the water supplies and urban development within both residential housing, industrial, and commercial expansion that is occurring within their respective service areas. The Chino Basin Optimum Basin Management Plan (OBMP), dated August 19, 1999, guides the development of water resources in the area. Other key agencies involved in the CDA water supply project include: the Inland Empire Utilities Agency (IEUA), the Western Municipal Water District (WMWD) which became an official CDA member as of April 2, 2009, the California Regional Water Quality Control Board (RWQCB), the Chino Basin Watermaster (CBWM), the Santa Ana Watershed Project Authority (SAWPA), and the Metropolitan Water District of Southern California (MWD). Each of these agencies is discussed in detail in the IEUA UWMP.

## 1.5 CITY AND COUNTY NOTIFICATION OF CHANGES TO THE UWMP

As required by amendments to the Urban Water Management Planning Act, water suppliers are required to send notifications to all cities and counties in the supplier's service area that an Urban Water Management Plan is being prepared or updated, and that they are invited to provide comments during the preparation of the document or the updating process. The notice of preparation was mailed to local retail agencies in San Bernardino and Riverside Counties in March, 2011. A copy of the notification is included as Appendix B.

## 1.6 CDA COORDINATION WITH LOCAL AGENCIES

The CDA (assisted by IEUA as an ex-officio member) is required to coordinate UWMP preparation with local and regional agencies by soliciting their input during the planning process for each UWMP. Table 1-3 provides a list of local and regional agencies and their level of involvement in preparation of this CDA UWMP 2010. (Table 1-3 check marks to be updated after public review period)

**Table 1-3 Agencies Involved in CDA 2010 UWMP Preparation**

| Contributing Agency | Participated in CDA UWMP Development | Commented on CDA UWMP Draft | Attended Public Meetings | Sent Notice of Preparation | Received Copy of Draft CDA UWMP | Sent Notice of Intention to Adopt |
|---|---|---|---|---|---|---|
| MWDSC | | | | | | |
| Inland Empire Utilities Agency | | | | | | |
| City of Chino | | | | | | |
| City of Chino Hills | | | | | | |
| City of Ontario | | | | | | |
| City of Norco | | | | | | |
| Jurupa Community Services District | | | | | | |
| Santa Ana River Water Company | | | | | | |
| Western Municipal Water District | | | | | | |
| Santa Ana Watershed Project | | | | | | |
| Santa Ana RWQCB | | | | | | |
| County of San Bernardino | | | | | | |
| County of Riverside | | | | | | |
| Other | | | | | | |

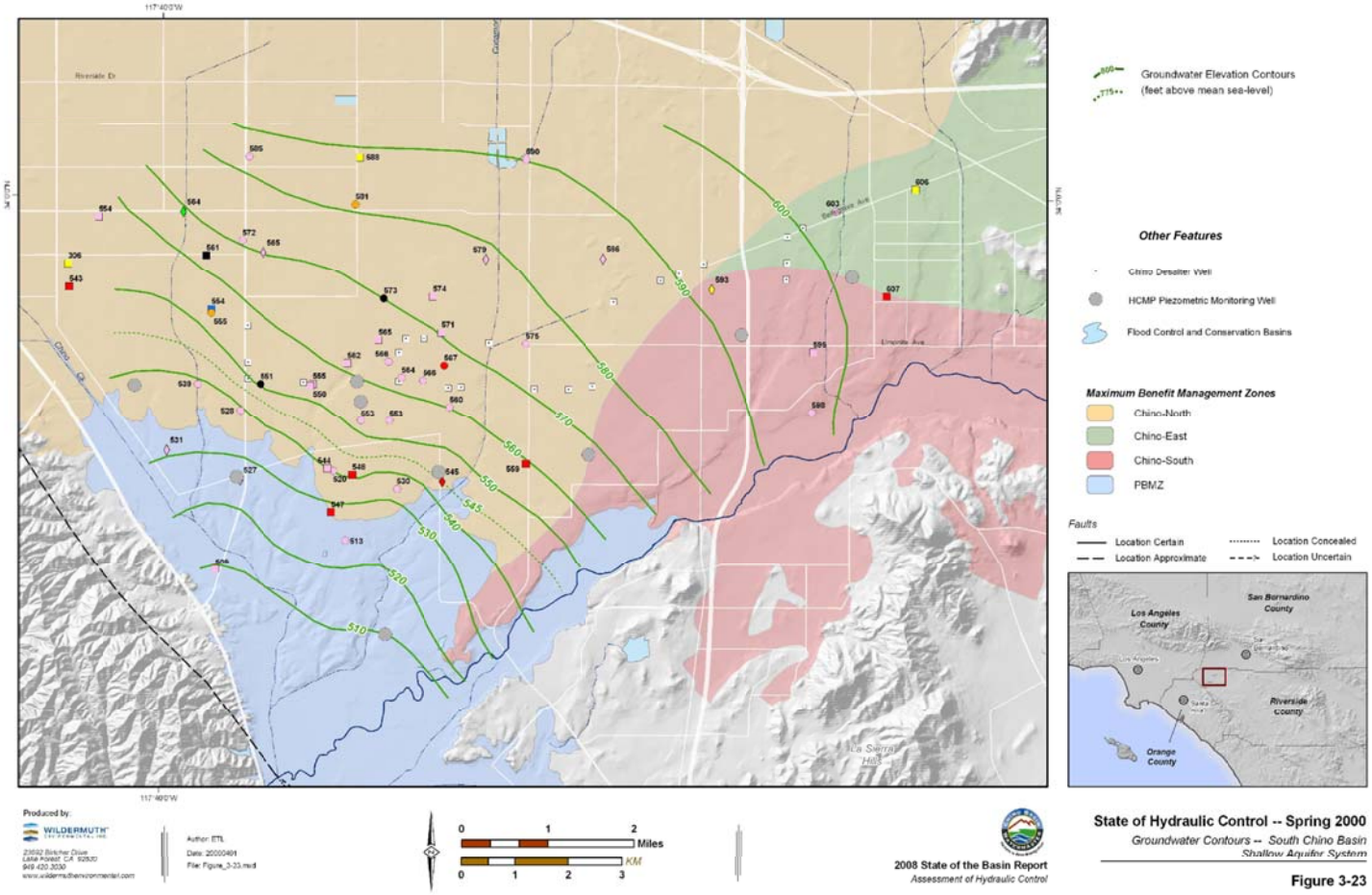
## 1.7 STRATEGIC OBJECTIVE FOR GROUNDWATER MANAGEMENT

The principal drainage for the Chino Groundwater Basin is the Santa Ana River. It flows sixty-nine miles across the Santa Ana Watershed from its origin in the San Bernardino Mountains to the Pacific Ocean. The Santa Ana River enters the Basin at the Riverside Narrows and flows along the southern Chino Basin boundary to the Prado Flood Control Reservoir where it is eventually discharged through the spillway of the Prado Dam and ultimately to the Pacific Ocean. Several intermittent streams in the Chino Basin drain to the River. Year-round flow occurs along the entire reach of the Santa Ana River due to surface inflows at Riverside Narrows, discharges from municipal water recycling plants to the Santa Ana River, and rising groundwater.

Groundwater in the southern portion of the Chino Basin is high in salts and nitrates. The "Maximum Benefit" concept for managing the Chino Basin (Basin) was approved by the SARWQCB in the 2004 Santa Ana River Basin Plan update. It provided that "hydraulic control" and groundwater quality improvement projects could be implemented to prevent degradation of adjacent downstream water supplies, and in particular, the Santa Ana River. The lower Basin area was identified with the intent to control and manage outflow of groundwater high in salts and nitrates from the Basin into the Santa Ana River. The Chino Basin Desalter Authority (CDA), and its service area, was established to reclaim the lower Chino Basin groundwater as a potable water resource. It is estimated that as much as 40,000 AFY of groundwater will need to be extracted from the lower Basin to maintain "hydraulic control." This would be done through a series of well fields along an east-west line at the south end of the Basin. If the contaminated water is treated for potable use through desalination, not only will the extracted water provide a reliable water supply, but it will also reverse degradation of water quality and provide

hydraulic control in the south end of the Basin.

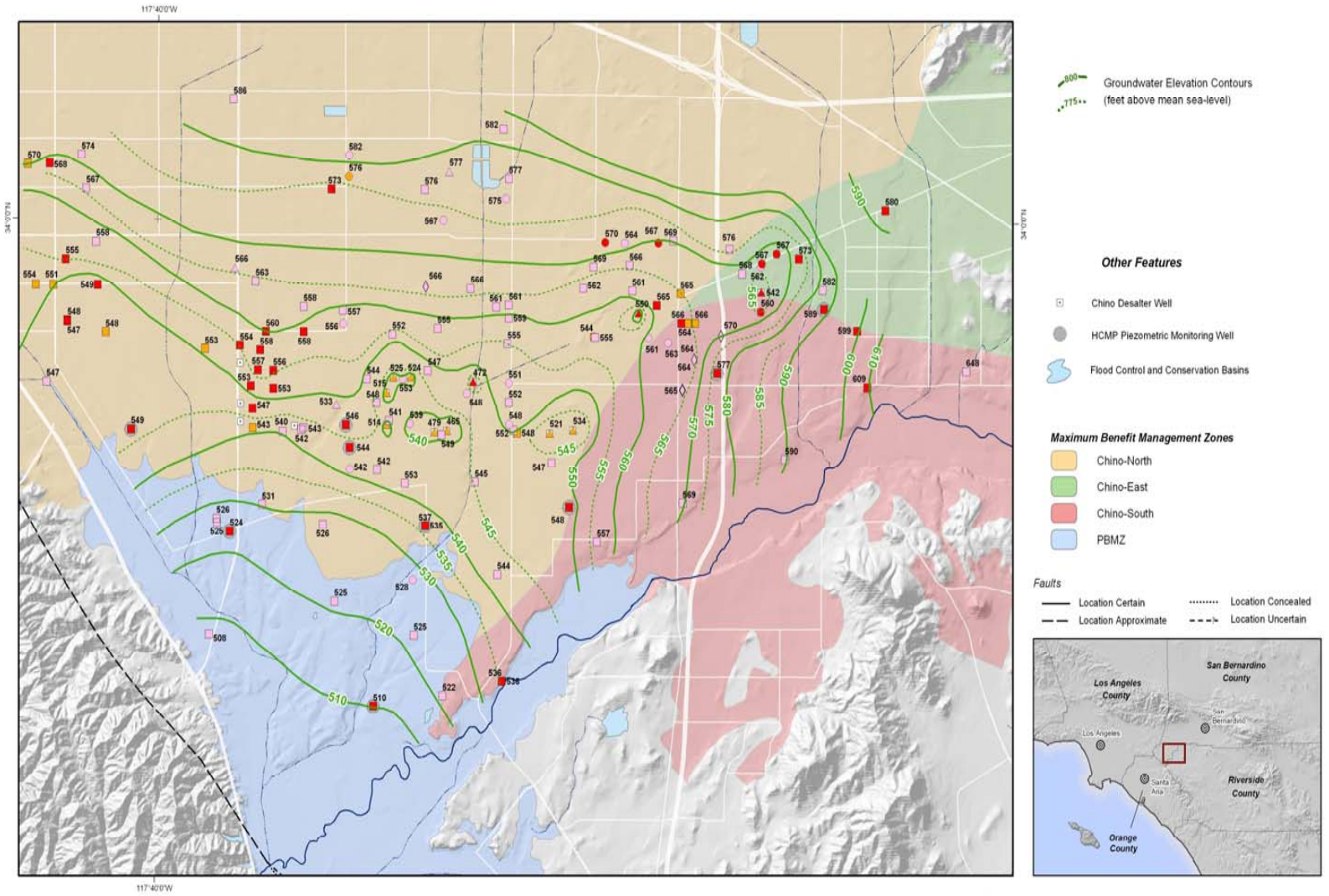
Figure 1-3a shows the State of Hydraulic Control as of the spring 2000, and 1-3b as of spring 2008. Figure 1-3c illustrates the relative location of the six water purveyors in the southern part of the Basin and the proposed location of the future wells to supply water to the Phase III expansion. The location of the east-west hydraulic control line, groundwater extraction wells, and the Santa Ana Watershed Project Authority's (SAWPA) Santa Ana Regional Interceptor (SARI) brine disposal system (now known as the Inland Empire Brine Line – IEBL) are also shown in these figures.




**State of Hydraulic Control -- Spring 2000**

*Groundwater Contours -- South Chino Basin Shallow Aquifer System*

**Figure 3-23**




**State of Hydraulic Control -- Spring 2008**

*Groundwater Contours -- South Chino Basin Shallow Aquifer System*

**Figure 3-26**

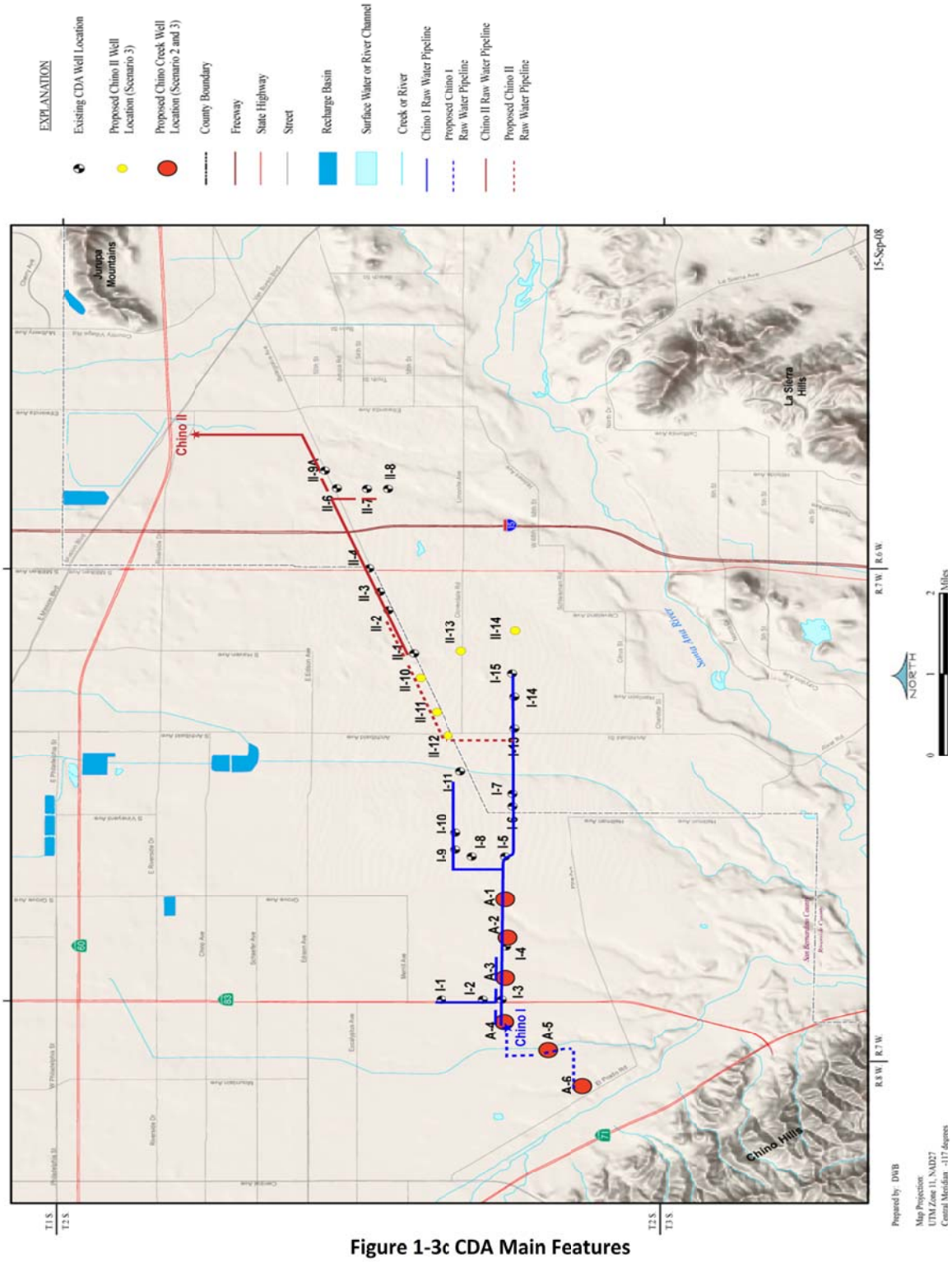



**Figure 1-3c CDA Main Features**