MUNI/WESTERN EXHIBIT 10-6

SALINITY IN THE CENTRAL VALLEY, AN OVERVIEW

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CENTRAL VALLEY REGIONAL
WATER QUALITY CONTROL BOARD

Salinity in the Central Valley

An Overview

May 2006

CALIFORNIA ENVIRONMENTAL PROTECTION AGENCY

7. Appendix 1.
Selected Salinity Control Efforts Outside of the Central Valley

SOUTHERN CALIFORNIA SALINITY COALITION

The following information is taken directly from the Coalition's web site:

"The Southern California Salinity Coalition was formed in 2002 to address the critical need to remove salt from water supplies and to preserve water resources in California.

The non-profit organization is administrated by NWRI and is composed of the following member agencies:

- Central and West Basins Municipal Water Districts
- Inland Empire Utilities Agency
- Irvine Ranch Water District
- Los Angeles Department of Water and Power
- Metropolitan Water District of Southern California
- Orange County Sanitation District
- Orange County Water District
- San Diego County Water Authority
- Sanitation Districts of Los Angeles County
- Santa Ana Watershed Project Authority

What is Salinity?

Throughout history, salinity has threatened mankind's existence. Ancient civilizations disappeared as salt poisoned their land and water. Today, salinity increases are silently choking off our water supply while draining away hundreds of millions of dollars in salinity damages each year.

The most under-recognized water-quality problem in California is salinity. Referred to as TDS, salinity is the concentration of dissolved salts in water. Salts are added to water

supplies by consumers, irrigated agriculture, confined animal waste practices, and other human, industrial, and natural processes.

Salt accumulation can degrade water quality, limiting the use of water for agricultural, industrial, municipal, and other purposes.

The resulting financial impact on the nation is enormous. In the Lower Colorado River Basin alone, the Bureau of Reclamation estimates that the economic damage of salinity to the Colorado River has reached over $350 million a year.

Building the Coalition

The Southern California Salinity Coalition was formed to address the critical need to remove salt from water supplies and to preserve valuable water resources.

The Coalition's purpose is to coordinate salinity management strategies, including research projects, with water and wastewater agencies throughout Southern California.

OBJECTIVES

- Establish proactive programs to address the critical need to remove salts from water supplies
- Preserve, sustain, and enhance the quality of source water supplies
- Support economic development
- Help drought-proof the community
- Reach out to the general public on salinity problems

CRITICAL ISSUES

- Desalting
- Groundwater Basin Cleanup
- Brine Disposal
- Wastewater Systems
- Watershed/Source Control
- Ensure Sustainability of Supplies
- Research and Development Programs

The Benefits of Reducing Salinity

Salinity impacts residential, commercial, industrial, and agricultural water users, groundwater, wastewater, and recycled water resources, and utility distribution systems. When salinity levels of imported water are reduced, the region benefits from both the improved use of local groundwater and recycled water and the reduced costs to water consumers and utilities. A 100 milligram per liter (mg/L) salinity decrease in imported water would result in $95 million per year of economic benefits. Similarly, a 100 mg/L reduction in salt content in groundwater would lead to $65 million per year of economic benefits.

Salinity reduction and the resulting improved water quality would provide the following possible benefits:

- Reduced costs to water consumers and utilities.
- Millions of dollars saved in damages to pipes, faucets, washing machines, dish washers, water heaters, and other appliances.
- Increased crop yields.
- Improved consumer confidence.
- Decreased desalination and brine disposal costs.
- Reduced salt build-up in groundwater.
- Improved aesthetic quality for public consumers.

The Benefits of Working Together

Together, we can combat salinity by:

- Providing a unified voice to represent salinity concerns.
- Enhancing cooperation and coordination of regional, State, and federal agencies.
- Organizing public workshops and technical sessions to provide informational exchanges.
- Funding salinity-related research and programs.

If you would like to join the Southern California Salinity Coalition in its fight against salinity, by either becoming a member or by conducting salinity-related research, please email SOCALSALINITY@nwri-usa.org or call NWRI at (714) 378-3278."

SANTA ANA WATERSHED PROJECT AUTHORITY (SAWPA)

The Santa Ana River watershed is home to over 5 million people in southern California, and within the next 50 years, the region's population is projected to grow to almost 10 million people. This growth will certainly accelerate the pressures already on the region's limited water resources. The Santa Ana Watershed Project Authority, or SAWPA, has supported its five member water agencies and various stakeholder groups throughout the watershed including the Santa Ana Regional Water Quality Control Boards (RWQCB) with developing and implementing a plan to ensure that there is sufficient clean water to support all the water needs of the watershed into the future.

The Santa Ana River watershed catches stormwater draining a 2,650 square-mile area and channels it into the Pacific Ocean at the City of Huntington Beach. The Santa Ana River, flowing over 100 miles, drains the largest coastal stream system in Southern California including parts of Orange, Riverside, and San Bernardino Counties, as well as a sliver of Los Angeles County. The total length of the River and its major tributaries are about 700 miles.

Litigation of water use and rights has a long history within the Santa Ana River system. Early judgments and agreements preceding 1960 were primarily concerned with quantity of water. During the mid-1960's, Orange County Water District filed a lawsuit entitled, "Orange County Water District vs. City of Chino, et al. This complaint involved several thousand defendants in Riverside and San Bernardino Counties and hundreds of cross-defendants in Orange County. The defendants and cross-defendants included substantially all water users within the Santa Ana Watershed. Defense of the litigation in the Riverside/San Bernardino County areas was coordinated through the Chino Basin Municipal Water District, Western Municipal Water District, and San Bernardino Valley Municipal Water District, public agencies overlying substantially all of the major areas of water use within the upper basin.

On April 17, 1969, a stipulated judgment was entered in the case, which provided a physical solution by allocation of obligation and rights to serve the best interest of all water users in the watershed. Orange County Water District, Chino Basin Municipal Water District, Western Municipal Water District and San Bernardino Valley Municipal Water District were deemed to have the power and financial resources to implement the physical solution. The stipulated judgment provided for dismissal of all defendants and cross-defendants except for the four districts providing certain parties stipulated to cooperate and support the physical solution. The physical solution provided that water users in the Orange County area have rights, as against all upper basin users, to receive an annual average supply of 42 thousand acre feet of base flow at Prado, together with the right to all storm flow reaching Prado Dam. Lower basin users may make full conservation use of Prado Dam and reservoir subject to flood control use. Water users in the upper basin have the right to pump, extract, conserve, store and use all surface and groundwater supplies within the upper area, providing lower area entitlement is met.

The judgment further provided for adjustment to base flow (that portion of total surface flow passing a point of measurement, which remains after deduction of storm-flow) based on water quality considerations. As a result of the litigation and stipulated judgment to ensure the supply of good quality water to Orange County, the four remaining defendants and cross-defendants (CBMWD, WMWD, SBVMWD and OCWD) determined that planning the use of water supplies in the watershed would be beneficial to all users.

SAWPA, the ***Planning Agency***, was formed in 1968 as a joint exercise of powers agency. Its members were the four water districts who have the primary responsibility of managing, preserving and protecting the groundwater supplies in the Santa Ana Basin. These districts formed SAWPA because they foresaw a threat to the water supplies that is larger than any one of the districts could cope with alone - the threat of pollution. They foresaw the possibility that pollution by mineral salts and other pollutants could pose a greater danger to the basin than even overdraft. They suspected that if programs and projects were not implemented to control this problem, there could be a gradual accumulation of pollutants in the basins that would be almost impossible to clean up, causing a total loss of the usefulness and value of the basins.

Identifying the problems

Water quality degradation due to high concentrations of nitrogen and total dissolved substances (TDS) is among the most significant regional water quality problem in the Santa Ana River Watershed. Historically, the Santa Ana River and its major tributaries likely flowed during most of the year, recharging deep alluvial groundwater basins in the inland valleys and the coastal plain. However, irrigation projects eventually led to the diversion of most of the streams tributary to the river, and the quantity of groundwater recharge diminished greatly. Diverted stream flows were used to support extensive irrigated agriculture operations, principally citrus orchards that were also reliant on the use of nitrogen fertilizers to sustain crop yields. As a consequence of these historic practices, water quality issues in the Santa Ana River Watershed have often revolved around elevated concentrations of TDS and total inorganic nitrogen (TIN). Water from the Santa Ana River is used multiple times as it moves downstream through the watershed. Each cycle of use adds an increment of salt, whether through addition of soluble materials as a result of consumptive use, or though evaporation and evapotranspiration. Typically, each use adds 200-300 parts per million (ppm) or milligrams per liter (mg/L) of TDS. The high concentration of dairies in the Chino Basin, and other factors, has resulted in a situation that goes beyond the compliance problems of individual dairies, and extends to the local dairy industry as a whole. Increased herd size, lack of sufficient land to dispose of dairy wastes and dairies being flooded by storm water runoff from urbanized communities in the upslope areas of the Chino Basin have resulted in the need to explore and develop regional solutions to the water quality problems associated with the Chino Basin dairies. In addition to its regulatory program for individual dairies, the Santa Ana Water Board is working with other public agencies

and dairy industry organizations to identify and implement regional solutions to these problems.

SAWPA's first task was to characterize the problem and make projections of what the future might hold if nothing were done. To aid in this effort, sophisticated mathematical models of the basins were used. The projections supported the fears of the water districts. It was clear that something had to be done.

As a next step, SAWPA, in the early 1970's, developed a long-range plan for the entire Santa Ana Watershed. The plan included both regulatory programs and projects. The regulatory portion was recommended **to** the Regional Water Quality Control Board and has largely been adopted in the form of standards by that agency. The projects include some to be implemented by the individual districts, some by the State of California, some by the Metropolitan Water District and some by SAWPA. In total, they will result in a much safer water supply in the long term. That plan, completed in 1972, identified twelve major project areas of need. Of the identified areas, four were such that their impact overlapped more than one member district.

In 1974, upon completion of the Planning Agency work program, the ***Santa Ana Watershed Project Authority*** was created and empowered to develop, plan, finance, construct and operate programs and projects related to water quality-quantity control and management, resulting in pollution abatement and protection of the Santa Ana watershed. The original member districts were Chino Basin Municipal Water District (later renamed Inland Empire Utilities Agency), Western Municipal Water District, San Bernardino Valley Municipal Water District and Orange County Water District. Eastern Municipal Water District subsequently joined in 1984.

Degradation of water quality at Prado Dam due to nitrogen (often expressed as Total Inorganic Nitrogen, or TIN) was first observed in the mid-1980s. A significant increasing trend in concentrations was observed and it was recognized that the nitrogen wasteload allocations specified in the 1983 Basin Plan were no longer adequate. The Santa Ana Water Board derived a new nitrogen allocation, using computer modeling, and recommended that POTW discharges be limited to 10 mg/L TIN. However, POTW dischargers argued that additional studies were required to verify the Santa Ana Water Board's analysis.

In early 1988, a Nitrogen Task Force was formed to finance and oversee these studies, and its scope of work was broadened to include TDS and groundwater. In the interim, the Santa Ana Water Board adopted a WQO of 10 mg/L TIN for new discharges, while requiring existing discharges to conform to their 1987 July-September average TIN concentrations. The studies conducted by the nitrogen task force were used in developing the 1995 Basin Plan.

A TIN /TDS Task Force was formed in 1995 to provide funding, oversight, supervision, and approval of a study to evaluate the impact of Nitrogen and TDS on water resources in the Santa Ana River Watershed. The study was coordinated by SAWPA, and

investigated questions related to nitrogen and TDS management in the watershed, including groundwater sub basin water quality objectives, sub basin boundaries, and regulatory approaches to wastewater reclamation and recharge

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Members of the TIN/TDS Task Force

Chino Basin Water Conservation District Jurupa Community Services District
Chino Basin Watermaster Orange County Sanitation District
City of Colton Orange County Water District
City of Corona Santa Ana Regional Water Quality Control Board
City of Redlands Riverside-Highland Water Company
City of Rialto San Bernardino Valley Municipal Water District
City of Riverside San Bernardino Valley Water Conservation District
City of San Bernardino Santa Ana Watershed Project Authority
Eastern Municipal Water District,– Advisory Member
Elsinore Valley Municipal Water District West San Bernardino County Water District
Inland Empire Utilities Agency Yucaipa Valley Water District

The study findings recommended changes in groundwater water quality objectives and sub basin boundaries that would substantially affect management of water quality throughout the entire Santa Ana River. Basin Plan amendments to incorporate these changes were considered by the region's stakeholders and the Santa Ana Water Board in a series of workshops and hearings. In January 2004, the Santa Ana Water Board adopted Basin Plan amendments that revised TDS and TIN objectives and created groundwater management zones over large parts of the region.

JOINT POWERS AUTHORITY

SAWPA as a public agency enpowered to develop, plan, finance, construct and operate programs and projects related to water quality-quantity control and management, resulting in pollution abatement and the protection of the Santa Ana Watershed. SAWPA activities and responsibilities include, but are not limited to the following:

(a) Water quality control.
(b) Protection and pollution abatement in the Santa Ana Watershed, including development of waste treatment management plans for the area within the watershed.
(c) The construction, operation, maintenance and rehabilitation of works and facilities for the collection, transmission, treatment, disposal and/or reclamation of sewage, wastes, wastewaters, poor quality ground waters and stormwaters.
(d) The construction, operation, maintenance and rehabilitation of projects for irrigation, municipal and industrial supplies.
(e) Projects for aquifer rehabilitation.
(f) Projects for reclamation, recycling and desalting of water supplies for irrigation, municipal and industrial purposes.

The determination to utilize a Joint Exercise of Powers as the operating authority for the agency, included the recognition that at some future date, SAWPA should become an

independent agency. It was felt by those involved that the Joint Exercise of Powers afforded an opportunity to establish the agency, make modification, if necessary, at the local level and once the Authority proved acceptable and capable of performing its functions and duties, a bill would be submitted to the legislature to implement the program as an independent self-governing Authority.

Under its enabling contract documents, SAWPA has authority to exercise the common powers of its member agencies. Some of these powers are:
(a) To make and enter contracts.
(b) To employ staff and consultants.
(c) To acquire, construct, manage, maintain and operate building, work or improvements.
(d) To incur debt, liabilities or obligations.
(e) To issue bonds, notes, warrants or other evidence of indebtedness to finance cost and expenses incidental to agency projects.

Implementation

Implementation of some projects such as the Santa Ana Regional Interceptor (SARI) required that SAWPA contract with other public agencies. In the case of SARI in 1972, SAWPA contracted with the County Sanitation Districts of Orange County for Interceptor Treatment and Disposal Capacity in their system. In addition to implementing the various projects, SAWPA has a coordination role to assure that all of the various parts of the plan are moving ahead.

Major efforts to address the salt balance problem include the Santa Ana Water Board's program of regulating TDS levels in waste discharges, import and recharge of large volumes of low-TDS -water from the SWP, construction of the Santa Ana River Interceptor (SARI) Line to export high TDS wastes from the upper Santa Ana River Basin, and operation of groundwater desalting facilities that extract high-TDS groundwater, remove excessive TDS, export the resulting brine via the SARI Line, and provide water supplies with lowered TDS levels. In 2000, the Santa Ana Watershed Project Authority (SAWPA) began operating a 9 million-gallon per day groundwater desalter in the Chino Basin. Another 8 million-gallon per day groundwater desalter will be operational by 2004. The goal is to have over 40 million gallons per day of groundwater desalting capacity in the Chino Basin by 2020. Other desalters include SAWPA's Arlington Desalter, operating since 1990, the City of Corona's Temescal Basin Desalter, operating since 2002, and Eastern Municipal Water District's Sun City Desalter, operating since 2003. Eastern MWD has plans for two more desalters in the Menifee area.

The Implementation chapter of the 1983 Basin Plan focused largely on the mineral imbalance problem in the region and the management of total dissolved solids (TDS) through WDRs, wastewater reclamation requirements, improvements in water supply quality, recharge projects, and other measures. Since the adoption of the

1983 Basin Plan, the Santa Ana Water Board's knowledge of the water quality problems in the Santa Ana Region has increased considerably, and the number and variety of water quality programs undertaken to address those problems have increased accordingly.

1. Prohibitions Applying to Ground waters
The discharge of the following materials to the ground, other than into impervious facilities, is prohibited : a. Acids or caustics, whether neutralized or not, and b. Excessively saline wastes (EC greater than 2000 μS/cm)

2. Prohibitions Applying to Subsurface Leaching Percolation Systems
In 1973, the Santa Ana Water Board adopted prohibitions on the use of subsurface disposal systems in the numerous areas.

Computer Simulation of the Basin

The Basin Planning Procedure, or BPP, is used to project the quality and quantity of ground waters in the basin given various assumptions about the ways water is supplied and used, and how wastewater is managed. A complex set of data goes into the BPP, including: current and projected land use information and associated salt loads; population estimates; the location, quantity, and quality of waste discharges; the quantity and quality of water supply sources which are or will be used in the area; data on hydrology, including rainfall and deep percolation of precipitation into underlying groundwater; etc. This and other information is integrated into the BPP to make projections of future quality in each groundwater sub basin. For the upper Santa Ana Basin, the BPP also provides data on the location, quality, and quantity of groundwater which rises into the Santa Ana River and becomes part of the River's surface flows. The BPP projects where water quality problems will arise unless changes in water quality management are made. Such changes can include revisions in the requirements governing waste discharges, changes in water supply sources and quality, and the implementation of special projects or programs.

Recommended TDS/Nitrogen Management Plan - Upper Santa Ana Basin

The Recommended TDS/Nitrogen Management Plan (Recommended Plan) is a composite of plans, projects, assumptions, ongoing programs, and projections, and is therefore very difficult to define succinctly.

Included are summary descriptions of the following elements:

A. Water Supply Plan
B. Wastewater Management Plan
C. Groundwater Management Plan

Waste load Allocations for the Santa Ana River

Waste load allocations for discharges of TDS and nitrogen to the Santa Ana River are another important component of the wastewater management plan for the upper Santa Ana Basin. As described earlier, the Santa Ana River is a significant source of recharge to the Orange County groundwater basin. Therefore, the quality of the River has a significant effect on the quality of that groundwater and must be properly controlled

Groundwater Management Plan

The programs of groundwater extraction, treatment, and replenishment needed to completely address these historic salt loads far exceed the resources available to implement them. However, it is expected that desalters and other types of recharge and remediation programs beyond those now included in this Recommended Plan will be developed and implemented. Such projects are expected to be increasingly important to protect local water supplies and to provide supplemental, reliable sources of potable supplies.

Funding

The year 2000 estimate for the complete 10-year SAIWP program **is $3 billion dollars**. Through the efforts and planning foundation of the SAIWP, SAWPA has been remarkably successful in moving rapidly into project implementation since the passage of the Proposition 13 Water Bond by the State in March 2000. This includes contracting with the State Water Board to use $235 million in Proposition 13 Water Bond funds, matched with over $565 million local agency funds, to construct over $800 million in projects that directly support the SAIWP. Under an agreement with the SWRCB, SAWPA manages the implementation of 23 projects in the Southern California Integrated Watershed Program (SCIWP). These projects include activities as diverse as the development/improvement of desalters, the creation of groundwater recharge spreading basins, and the removal of *Arundo donax*, a very thirsty invasive species that is found all along the course of the Santa Ana River and its tributaries. Together these projects have generated approximately 300 thousand acre-feet of new water supply for the region at a cost to the State of less than $100 per acre-foot. Long term, the IWP proposes to store upwards of 1 million acre-feet of new water supplies sufficient to withstand a three-year drought without having to import water. SAWPA's role in the management of this effort is defined by 10 tasks:

1. Stakeholder Activities
2. CEQA and SCIWP Review,
3. Project Development,
4. Contract Development and Approval
5. Program Management
6. Budget and Schedule Aggregation
7. Financial Management
8. Project Closeout
9. Environmental Program

10. Project Management and Administration.

A summary of the SCIWP grant funds, anticipated benefits and schedules for each approved project is shown in Table 1-1. In addition, Table 1-1 presents a summary of the allocation of Proposition 13 funding, new water supply projection, and cost to the State to produce an acre-foot of new water. A number of SCIWP projects have received achievement awards from several professional organizations. The following is a list of awards received:

Table 1-1: SCIWP Projects: SOUTHERN CALIFORNIA INTEGRATED WATERSHED PROGRAM

No.	Agency	Project	Prop 13 Funds	Local Funds	New Water (Ac-Ft)	SCIWP $ per Ac-Ft
4	City of Norco	Recycled Water Piping	$ 450,000	$ 282,000	900	$ 25
5	Eastern Municipal Water District	4.5 MGD Perris Desalter	$ 15,150,000	$ 5,100,000	4,000	$ 189
13	Eastern Municipal Water District	San Jacinto Water Harvest Project	$ 525,000	$ 225,000	320	$ 82
16-A	SAWPA Environmental/Habitat Program	Arundo Removal Program	$ 17,745,000	$ 80,000,000	10,000	$ 89
49	San Gorgonio Pass Agency	Recharge Basins	$ 850,000	$ 280,000	3,000	$ 14
50	Orange County Water District	GWRS	$ 37,000,000	$ 319,000,000	78,400	$ 24
55	City of Redlands	Recycled Water and Desalting	$ 5,000,000	$ 10,500,000	9,500	$ 26
58	Western Municipal Water District	Agricultural Water Conveyance	$ 7,425,000	$ 2,451,000	6,000	$ 106
59	Western Municipal Water District	MARB Wastewater Reclamation	$ 2,925,000	$ 966,250	1,000	$ 146
60	Western Municipal Water District	MARB Groundwater Recovery	$ 765,000	$ 257,000	300	$ 128
62	City of Riverside	Canal Reconstruction	$ 5,250,000	$ 1,750,000		
64	Rubidoux Community Services District	La Verne WTF Expansion	$ 450,000	$ 150,000	3,600	$ 6
68	Chino Basin Desalter Authority	Chino I Expansion, Chino II Desalters	$ 48,000,000	$ 14,338,000	15,400	$ 159
70	San Bernardino Valley MWD	Central Feeder	$ 14,000,000	$ 9,200,000	30,000	$ 23
71-A	San Bernardino Valley MWD	High Groundwater Pumpout (Phase I)	$ 4,465,000	$ 2,066,421		
71-B	San Bernardino Valley MWD	High Groundwater Pumpout (Phase II)	$ 6,535,000	$ 5,233,579	20,000	$ 16
77	Jurupa Community Services District	Chino I-II Desalter Inter-tie	$ 1,000,000	$ 200,000		
83	Yucaipa Valley Water District	Non-Potable Water Distribution System	$ 6,000,000	$ 9,748,000	2,800	$ 107
87	San Bernardino County Flood Control	Riverside Dr Storm Drain Segment 2	$ 4,700,000	$ 5,600,000		
88	Riverside County Flood Control	County Line Channel	$ 6,300,000	$ 7,830,000		
98	OCWD	Dairy Wash Water Treatment Project	$ 60,000	$ 290,000		
99	Inland Empire Utilities Agency	Chino Basin Recharge Fac Improvements	$ 19,000,000	$ 28,000,000	100,000	$ 10
100	PA 9 SAWPA	Arlington Desalter	$ 8,000,000	$ 2,667,000	6,400	$ 63
	PA 9 SAWPA	Arlington Bridge - Pending $2M Modification	-na-	-na-		
101	SAWPA Environmental/Habitat Program	Irvine Ranch Water District Natural Treatment System	$ 4,605,000	$ 2,395,000		
	SAWPA	Program Management, 2%	$ 4,700,000	-na-		
	SWRCB	Administration, 3% per Water Code	$ 7,050,000	-na-		
	SWRCB	Proposed Additional SWRCB Administration Fee	$ 7,050,000	-na-		
		Total:	$ 235,000,000	$ 508,529,250	291,620	

Summary

SAWPA's role is recognized by the Central Valley Water Board, the State Water Board, the U.S. EPA and other agencies. In general, it can be accurately said that the Basin Plan for the Santa Ana Basin is the most comprehensive water quality protection program of any river basin in the world, largely because of the active, ongoing interest and participation by the member water districts.

METROPOLITAN WATER DISTRICT SALINITY MANAGEMENT STUDY

Metropolitan Water District of Southern California (MWD) conducted the Salinity Management Study (Study) in close collaboration with member agencies and numerous other concerned agencies. The USBR was the primary study partner, contributing financial assistance to develop a regional water-recycling plan for Southern California, because high salinity is a significant constraint to water recycling.

The Executive Summary clearly states that the benefits of reduced salinity, when salinity levels of imported water are reduced, the region benefits from:

- Improved use of local groundwater and recycled water
- Reduced costs to water consumers and utilities.

The 1999 Study estimated that $95 million per year of economic benefits would result if the Colorado River Aqueduct (CRA) and SWP waters were to simultaneously experience a 100 milligram per liter (mg/L) reduction in the salt content over their historic average.

About half the region's salt is contributed by imported water; the other half comes from local sources. Of the imported waters the CRA constitutes Metropolitan's highest source of salinity, averaging 700 mg/L. The SWP provides water of lower salinity, on average 25% to 50% less than imported CRA supplies. Unfortunately, SWP salinity levels can change rapidly in response to hydrologic conditions, and such changes are noticeable and disruptive as compared to the very gradual, almost imperceptible changes that occur in local streams, groundwater and wastewater collection systems. A Bay-Delta solutions are still being looked at that could lower SWP salinity and reduce its short-term variability.

Local Salinity sources include naturally occurring salts, salts added by urban water users, infiltration of brackish groundwater into sewers, irrigated agriculture, and confined animal waste management practices.

Metropolitan Water District of Southern California (MWD), United States Department of Interior – Bureau of Reclamation (USBR), 1999. SALINITY MANAGEMENT STUDY, Final Report