

# Optimum Basin Management Program

Status Report 2009-1: January to June 2009

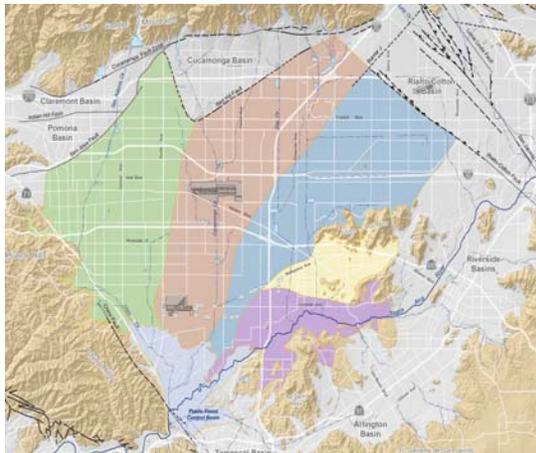


CHINO BASIN WATERMASTER

Optimum Basin Management Program

## Highlighted Activities

- The Chino Basin Facilities Improvement Project (CBFIP) Phase II, a joint effort of Watermaster, the Chino Basin Water Conservation District (CBWCD), Inland Empire Utilities Agency (IEUA), and the San Bernardino County Flood Control District (SBCFCD) to increase the annual recharge of storm, imported, and recycled water and to reduce long-term maintenance costs, has shown considerable progress in its construction and is expected to be completed by October 2009. The project is co-funded by Watermaster and IEUA with matching fund from the California Department of Water Resources.
- A series of court hearings have taken place for the purpose of testifying on the program elements in the Optimum Basin Management Plan (OBMP).
- The Hydraulic Control and Monitoring Report was prepared and delivered to the Regional Board in April.
- Ongoing work continued to prepare the Recharge Master Plan. Watermaster held workshops and technical group meetings. The Chino Basin Water Conservation District is currently working on the stormwater section of the recharge master plan. This section is anticipated to be completed by October 2009. IEUA has provided water demand forecasting. Watermaster's consultant, Wildermuth Environmental Inc, has released estimates for the supplemental water recharge requirements for the future.



Chino Groundwater Basin

## Program Element 1: Develop and Implement a Comprehensive Monitoring Program

### Groundwater Level Monitoring

Watermaster has three active groundwater level monitoring programs operating in the Chino Basin: 1) A semiannual basin-wide well monitoring program, 2) A key well monitoring program associated with the Chino I/II Desalter Well Fields and the Hydraulic Control Monitoring Program (HCMP), and 3) A piezometric monitoring program associated with land subsidence and ground fissuring in Management Zone 1 (MZ-1). The frequency of groundwater level monitoring varies with each program, depending on the needs of the data analyst. These groundwater level monitoring programs also rely on municipal producers, other government agencies, and private entities to supply their groundwater level measurements on a cooperative basis. Watermaster digitizes all these measurements and combines them into a relational database for general usage.

## Important Court hearings and orders

- FEB 3 – FIRST HEARING WITH NEW HON. JUDGE WADE
- MARCH 2—TRANSMITTAL OF THIRTY-FIRST ANNUAL REPORT
- APRIL 27 – EXPERT WITNESS TESTIMONY ON PROGRAM ELEMENTS NO. 1, 2, AND 3
- JUNE 29 – EXPERT WITNESS TESTIMONY ON PROGRAM ELEMENTS NO. 4, 5, AND 6



Desalter Product Water Tank

AS CALIFORNIA IS FACING THE MOST SIGNIFICANT WATER CRISIS IN HISTORY, IT IS CRITICAL THAT WATER SYSTEMS AND THEIR CUSTOMERS PROPERLY CONSERVE AND MANAGE OUR WATER RESOURCES.

# Optimum Basin Management Program

## Program Element 1: Develop and Implement a Comprehensive Monitoring Program (Continued)

### Groundwater Quality Monitoring

Watermaster initiated a comprehensive monitoring program as part of the implementation of the OBMP. The groundwater quality monitoring program consists of the following four components:

1. An Annual Key Well Water Quality Monitoring Program designed to target privately owned agricultural wells in the southern portion of Chino Basin that are otherwise not included in an established sampling program.
2. Quarterly sampling at nine HCMP multi-port monitoring wells strategically placed between the Chino Basin Desalter well fields and the Santa Ana River. Results of the quarterly sampling are used to analyze the effect of the desalter pumping over time by comparing water quality of the native groundwater and the Santa Ana River.
3. Monthly sampling at four near-river wells to characterize the Santa Ana River's influence to nearby groundwater. These shallow monitoring wells along the Santa Ana River consist of two former United States Geologic Survey (USGS) National Water Quality Assessment Program (NAWQA) wells (Archibald 1 and Archibald 2), and two wells (well 9 and well 11) owned by the Santa Ana River Water Company (SARWC).
4. A cooperative basin-wide data collection effort known as the Chino Basin Data Collection (CBDC) program which relies on municipal producers and other government agencies to supply groundwater quality data on a cooperative basis. These sources include the appropriators, Department of Toxic Substance Control (DTSC), Regional Water Quality Control Board (RWQCB), US Geological Survey (USGS), the Counties, and other cooperators.

All water quality data are routinely collected, QA/QC'd, and loaded into Watermaster's relational database.

### Groundwater-Production Monitoring

All active wells (except for minimum user wells) are now metered. Watermaster reads the agricultural production data from the meters on a quarterly basis and enters these data into Watermaster's relational database.

### Surface Water Monitoring

**Water Quality and Quantity in Recharge Basins.** Watermaster measures the quantity and quality of storm and supplemental water entering the recharge basins. Pressure transducers or staff gauges are used to measure water levels during recharge operations. In addition to these quantity measurements, imported water quality data for State Water Project water are obtained from the Metropolitan Water District of Southern California (MWDSC) and recycled water quality data for the RP-1 and RP-4 treatment plant effluents are obtained from IEUA. Watermaster monitors the storm water quality in the eight major channels (San Antonio, West Cucamonga, Cucamonga, Deer Creek, Day Creek, San Sevaine, West Fontana, and DeClez), usually after each major storm event. Combining the measured flow data with the respective water qualities enables the calculation of the blended water quality in each recharge basin, the "new yield" to the Chino Basin, and the adequate dilution of recycled water.



New MWD Turnout (CB-20)

# Optimum Basin Management Program

## Program Element 1: Develop and Implement a Comprehensive Monitoring Program (Continued)

**Surface Water Monitoring in the Santa Ana River (SAR).** Watermaster measures the discharge of the River and selected water quality parameters to determine those reaches of the SAR that are gaining flow from the Chino Basin and/or, conversely, those reaches that are losing flow into the Chino Basin. These bi-weekly flow and water quality measurements are combined with discharge data from permanent USGS and Orange County Water District (OCWD) stream gauges and discharge data from publicly owned treatment works (POTWs). These data are used along with groundwater modeling to assess the extent of hydraulic control.

### *HCMP Annual Report*

In January 2004, the RWQCB amended the Water Quality Control Plan (Basin Plan) for the Santa Ana River Basin to incorporate an updated total dissolved solids (TDS) and nitrogen (N) management plan. The Basin Plan Amendment includes both "antidegradation" and "maximum benefit" objectives for TDS and nitrate-nitrogen for the Chino and Cucamonga groundwater management zones. The application of the "maximum benefit" objectives relies on Watermaster and IEUA's implementation of a specific program of projects and requirements, which are an integral part of the OBMP. On April 15, 2005, the RWQCB adopted resolution R8-2005-0064; thus approving the Surface Water Monitoring Program and Groundwater Monitoring Program in support of maximum benefit commitments in the Chino and Cucamonga Basins.

Pursuant to the Basin Plan Amendment and the Watermaster/IEUA permit to recharge recycled water, Watermaster and IEUA have conducted groundwater and surface water monitoring programs. During this reporting period, Watermaster measured 641 manual water levels at private wells throughout the Chino Basin, conducted two quarterly downloads at the 130 wells containing pressure transducers, and collected 66 groundwater quality samples, and 212 surface water quality samples. Quarterly Surface Water Monitoring Program reports that summarize data collection efforts were submitted to the RWQCB in January and April of 2009. The Chino Basin Maximum Benefit Monitoring Program 2008 Annual Report was submitted in April 2009.

### *Chino Basin Groundwater Recharge Program*

IEUA, Watermaster, CBWCD, and the SBCFCD jointly sponsor the Chino Basin Groundwater Recharge Program. This is a comprehensive water supply program to enhance water supply reliability and improve the groundwater quality in local drinking water wells throughout the Chino Basin by increasing the recharge of storm water, imported water, and recycled water. The recharge program is regulated under RWQCB Order No. R8-2007-0039 and Monitoring and Reporting Program No. R8-2007-0039.

**Recharge Activities.** On-going recycled water recharge occurred in the Brooks, 8th Street, Hickory, Turner, RP-3, and Ely Basins this reporting period.

**Monitoring Activities.** Watermaster and IEUA collect weekly water quality samples from basins that are actively recharging recycled water and from lysimeters installed within those basins. During this reporting period, approximately 271 basin and lysimeter samples were collected and two recycled water samples were collected for alternative monitoring plans that include the application of a correction factor for Soil-Aquifer Treatment determined from each basin's start-up period. Monitoring wells located downgradient of the recharge basins were sampled quarterly at a minimum, however, some monitoring wells were sampled more frequently during the reporting period for a total of 108 samples.



New Radio Antenna for the SCADA system

CALIFORNIA GOVERNOR  
ARNOLD  
SCHWARZENEGGER HAS  
DEMANDED THAT PRESIDENT  
BARACK OBAMA'S CABINET  
RETHINK FEDERAL POLICY  
THAT WOULD DIVERT  
WATER FROM PARCHED  
FARMS AND CITIES TO  
THREATENED FISH.

"I AM CONCERNED THAT  
THE CATASTROPHIC  
IMPACTS OF THE CURRENT  
CRISIS ON OUR ECONOMY  
AND ENVIRONMENT COULD  
TAKE DECADES TO REVERSE  
AND SIGNIFICANTLY  
HAMPER ANY LONG-TERM  
SOLUTIONS"



Victoria Basin

# Optimum Basin Management Program

## Program Element 1: Develop and Implement a Comprehensive Monitoring Program (Continued)



Rubber dam inflated near Lower Day Basin

**Construction Activities.** Lysimeters and monitoring wells associated with the 7th and 8th Street Basins were installed in the first half of fiscal year (FY) 2007/08. There have been no further construction activities since that time.

**Reporting.** Watermaster and IEUA completed the following required reports concerning the recharge program during the reporting period:

- 4Q08 Quarterly Report, submitted to the RWQCB – February 2009
- 1Q09 Quarterly Report, submitted to the RWQCB – May 2009

### *Land Surface Monitoring*

The MZ-1 Subsidence Management Plan (MZ-1 Plan) was approved by Watermaster in October 2007, and was approved by the Court in November 2007 which ordered its implementation (see Program Element 4: Develop and Implement a Comprehensive Groundwater Management Plan for Management Zone 1). The MZ-1 Plan calls for a number of activities with the goal of minimizing or completely abating the future occurrence of land subsidence and ground fissuring in Chino Basin. Some of these activities include:

- Continuing the scope and frequency of monitoring within the so-called Managed Area (southwest MZ-1) that was conducted during the period when the MZ-1 Plan was being developed.
- Expanding the monitoring of the aquifer system and land subsidence into other areas of MZ-1 and Chino Basin where the data indicate concern for future subsidence and ground fissuring.
- Monitoring of horizontal strain across the historical fissure zone.
- Further evaluating the potential contribution of pumping in the central and northern portions of MZ-1 on groundwater conditions in the central and southern portions of MZ-1.
- Conducting additional testing and monitoring to refine the Guidance Criteria.
- Developing alternative pumping plans for the MZ-1 producers that are impacted by the MZ-1 Plan.
- Constructing and testing a lower-cost extensometer facility at Ayala Park.
- Evaluating and comparing ground-level surveying and InSAR, and recommending future monitoring protocols for both techniques.
- Conducting an ASR (aquifer injection and recovery) feasibility study at a production well owned by the City of Chino Hills within the Managed Area.
- Providing for recovery of groundwater levels.



Use of InSAR to monitor subsidence

With regard to monitoring and testing, Watermaster began or continued the implementation of some of these activities called for in the MZ-1 Plan. During this reporting period these activities included:

- The continuation of detailed water-level monitoring at wells within the Managed Area and at wells in central MZ-1.

# Optimum Basin Management Program

## Program Element 1: Develop and Implement a Comprehensive Monitoring Program (Continued)

- Replacement of two water-level-recording transducers at wells where these transducers have failed after about seven years of reliable service.
- Continuation of monitoring and maintenance at the Ayala Park Extensometer Facility. This includes monitoring at the newly installed lower-cost pair of cable extensometers within two piezometers at Ayala Park to test this technology for possible application in other parts of the Basin.
- Collection of InSAR data from radar satellites during all six months of the reporting period, which will be analyzed for land surface displacement in early 2010.
- Collection of vertical and horizontal strain data across the historical zone of ground fissuring during April 2009, which will be analyzed for land surface displacement in early 2010.

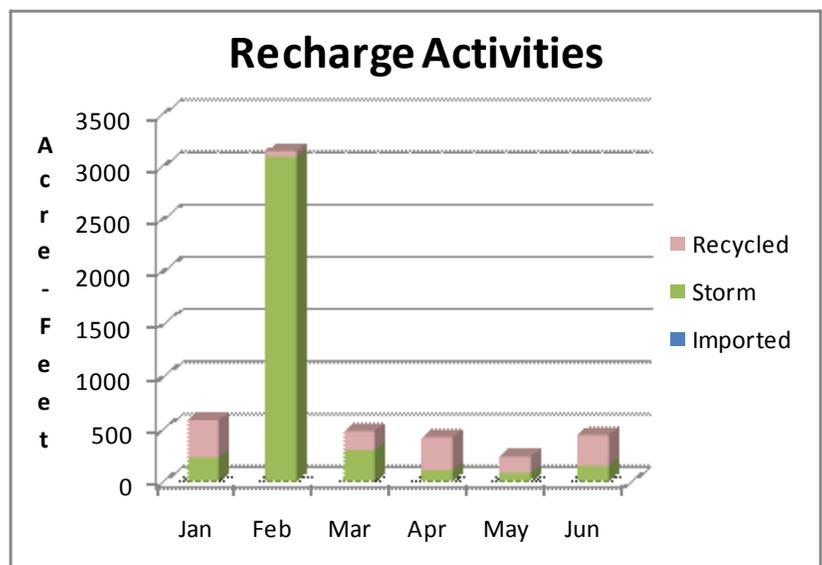
## Program Element 2: Develop and Implement a Comprehensive Recharge Program

Construction on the Chino Basin Facilities Improvement Project (CBFIP) Phase I was completed by December 31, 2005 at a cost of \$38M; 50-percent from a State Water Resources Control Board (SWRCB) Proposition 13 Grant, and 25-percent each from Watermaster and IEUA. A CBFIP Phase II list of projects was developed by Watermaster and IEUA, including monitoring wells, lysimeters, recycled water connections, Supervisory Control And Data Acquisition (SCADA) system expansions, three MWDC turn-outs, and berm heightening and hardening. At a cost of approximately \$10.5M, these Phase II facilities were financed through a 50-percent Grant from DWR and 25-percent each from Watermaster and IEUA.

In FY 2007/08, the CBFIP Phase I facilities were able to recharge approximately 13,000 Acre-Feet (AF) of storm and recycled water. With the completion of the Phase II facilities by October 2009, the total recharge capacity will be about 96,000 AF. By the start of FY 2009/10, most of the basins will be able to operate on a 12 months-per-year basis with combinations of storm, imported, and recycled water, with occasional downtime for silt and organic growth removal. Operations and basin planning are coordinated through the Groundwater Recharge Coordinating Committee (GRCC), which met quarterly during this reporting period.

Because of the drought and Delta water quality, water supply, and environmental issues, MWDC has been unable to provide replenishment water to southern California since May 1, 2007. This greatly restricts Watermaster's ability to recharge recycled water, since the California Department of Public Health requires that approximately four parts of diluent water (imported or storm water) be blended with each part of recycled water. Watermaster and IEUA are working closely with DPH and the Regional Water Quality Control Board to reduce the blend ratio. For this reporting period, about 5,300 AF of storm and recycled water were recharged.

Preparation of the Recharge Master Plan update is underway, in satisfaction of Condition Subsequent No. 5. On March 28, 2008, the initial meeting of the Recharge Master Plan group occurred. A detailed outline of the scope and content of the Recharge Master Plan update was filed with the Court for approval on June 30, 2008. A progress report was provided to the Court on January 1, 2009. Since that time the Court has relieved Watermaster of the semi-annual project reporting. During the reporting period two technical memoranda have been prepared and workshops were conducted for project stakeholders. The project website has been maintained as a receptacle for project references, memoranda, meeting notes and presentations. The final updated Recharge Master Plan is due to the Court by July 1, 2010.



# Optimum Basin Management Program

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## **Program Element 3: Develop and Implement Water Supply Plan for the Impaired Areas of the Basin; and Program Element 5: Develop and Implement Regional Supplemental Water Program**

Construction of the Chino I Desalter Expansion and the Chino II Desalter facilities was completed in February 2006. As currently configured, the Chino I Desalter provides 2.6 million gallons per day (MGD) of treated (air stripping for VOC removal) water from Wells Nos. 1-4, 4.9 MGD of treated (ion exchange for nitrate removal) water from Well Nos. 5-15, and 6.7 MGD of treated (reverse osmosis for nitrate and TDS removal) water from Wells Nos. 5-15 for a total of 14.2 MGD (15,900 AFY). The Chino II Desalter provides 4.0 MGD of ion exchange treated water and 6.0 MGD of reverse osmosis treated water from eight additional wells for a total of 10.0 MGD (11,200 AFY).

During the reporting period, negotiations continued between the Chino Desalter Authority (CDA) and Western Municipal Water District (WMWD) to allow WMWD to join the CDA and to expand the Chino II Desalter by 10.5 MGD (11,800 AFY). The CDA approved WMWD membership in November 2008. Planning and engineering investigations related to the expansion are ongoing. The expansion will be completed in 2013. Raw water will be drawn from existing CDA II wells, and possible additional new wells, if needed. In addition, a new Chino Creek Desalter Well Field, required for the hydraulic control commitment associated with Maximum Benefit, will provide additional raw water to the Chino I Desalter, enabling some existing wells to direct production to the expanded Chino II Desalter facility, if approved by the Chino Basin Desalter Authority.

## **Program Element 4: Develop and Implement a Comprehensive Groundwater Management Plan for Management Zone 1 and Management Zone 3**

### *MZ-1 Management Plan*

Because of the historical occurrence of pumping-induced land subsidence and ground fissuring in southwestern Chino Basin (southern MZ-1), the OBMP called for the development and implementation of an interim management plan for MZ-1 that would:

- Minimize subsidence and fissuring in the short-term,
- Collect information necessary to understand the extent, rate, and mechanisms of subsidence and fissuring, and
- Formulate a management plan to reduce to tolerable levels or abate future subsidence and fissuring.

From 2001-2005, Watermaster developed, coordinated, and conducted an Interim Monitoring Program (IMP) under the guidance of the MZ-1 Technical Committee, which is composed of representatives from all major MZ-1 producers and their technical consultants. The IMP was an aquifer-system and land subsidence investigation focused in the southwestern region of MZ-1 that would support the development of a long-term management plan to minimize and abate subsidence and fissuring (MZ-1 Plan). The IMP involved the construction of highly-sophisticated monitoring facilities, such as deep borehole extensometers and piezometers, the monitoring of land surface displacements through traditional ground-level surveys and remote-sensing techniques, the detailed monitoring of the aquifer system with water-level-recording transducers installed at an array of production and monitoring wells, and the purposeful stressing of the aquifer system through multiple controlled pumping tests.

The investigation methods, results, and conclusions are described in detail in the MZ-1 Summary Report, dated February 2006. The investigation provided enough information for Watermas-

# Optimum Basin Management Program

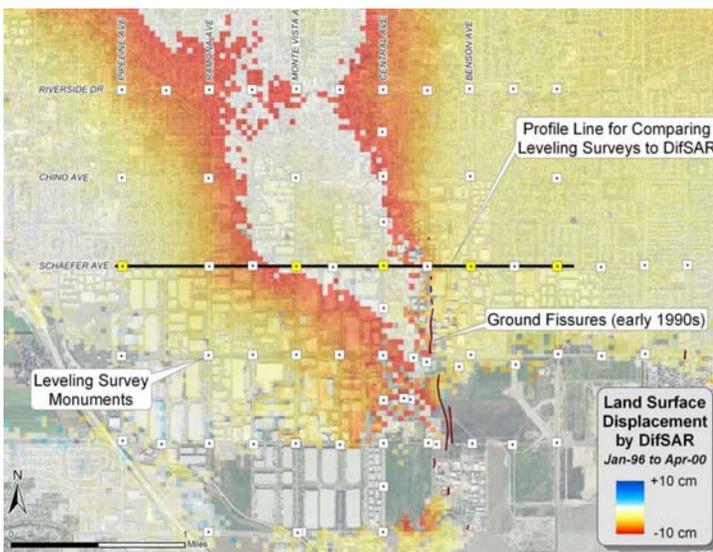
## Program Element 4: Develop and Implement a Comprehensive Groundwater Management Plan for Management Zone 1 and Management Zone 3 (Continued)

ter to develop Guidance Criteria for the MZ-1 producers in the investigation area that, if followed, would minimize the potential for subsidence and fissuring during the completion of the MZ-1 Plan. The Guidance Criteria included a listing of Managed Wells and their owners subject to the criteria, a map of the so-called Managed Area, and an initial threshold water level (Guidance Level) of 245 feet below the top of the PA-7 well casing. The MZ-1 Summary Report and the Guidance Criteria were adopted by the Watermaster Board in May 2006. The Guidance Criteria formed the basis for the MZ-1 Plan, which was approved by Watermaster in October 2007. The Court approved the MZ-1 Plan in November 2007 and ordered its implementation.

During this reporting period, Watermaster continued implementation of the MZ-1 Plan with the exception of the implementation of prescribed groundwater level recovery periods (see Land Surface Monitoring under Program Element 1: Develop and Implement a Comprehensive Monitoring Program). A new scope of work for FY 2009/10 was developed by the MZ-1 Technical Committee and was approved for implementation by Watermaster. All data collected during 2008, including InSAR, ground-level survey, extensometer, and groundwater-level data, were compiled, analyzed, and are being included in the 2008 MZ-1 Annual Report which will be published during the next reporting period.

### MZ-3 Monitoring Program

Watermaster performed a groundwater investigation to characterize groundwater levels and quality in Management Zone 3 (MZ-3) of the Chino Basin. The OBMP Implementation Plan states that MZ-3 is hydrologically out of balance and that new storm water and supplemental water recharge will be required to keep MZ-3 in balance. The blend of storm water, imported water, and recycled water used in the future to hydrologically balance MZ-3 must be of a quality to protect beneficial uses and comply with the proposed Title 22 regulations for planned recharge projects that use recycled water. Watermaster drilled, installed, developed, and sampled two nested, multiple-depth piezometers in the projected path of the Kaiser Steel plume, which is an immediate threat to potable supply wells owned by the City of Ontario and Jurupa Community Services District. The monitoring program also incorporated four quarters of



Monitoring of subsidence through use of Synthetic aperture radar (SAR)

sample collection and analyses from 22 wells in MZ-3 to assess other groundwater quality issues, including total dissolved solids (TDS), nitrate, and perchlorate. Watermaster also continued to download transducer data from the six new monitoring wells. The perchlorate may have originated from the Mid-Valley Landfill (in Rialto Basin, across the Rialto-Colton fault) or it may be a non-point source that resulted from the historical application of Chilean fertilizer. Watermaster completed and submitted the final report to the California Department of Water Resources (DWR) in December 2008, in partial fulfillment of the AB303 Grant requirements. In January 2009, Watermaster coordinated with IEUA staff to ensure that DWR's comments were addressed in the letter addendum to the Technical Memorandum. On March 19, 2009 the project was formally accepted by DWR, who issued a very good Grantee Performance Evaluation, which covered all aspects of grant project performance such as project completeness, budget, timeliness, compliance, reporting, invoicing and communication.

# Optimum Basin Management Program

## Program Element 6: Develop and Implement Cooperative Programs with the Regional Water Quality Control Board, Santa Ana Region (Regional Board) and Other Agencies to Improve Basin Management; and Program Element 7: Develop and Implement a Salt Management Program

### Ontario International Airport

Watermaster coordinated with EcoGeo and GeoTrans, Inc. regarding the drilling schedule for the Ontario International Airport (OIA) monitoring wells and provided technical input on the well design for MW-4. Watermaster reviewed EcoGeo monthly reports and received electronic data deliverables that were uploaded into Watermaster's database. Watermaster began coordination with the OIA parties for rounds of split sampling of the recently installed OIA monitoring wells.

### Chino Airport

Watermaster coordinated with the County of San Bernardino, Department of Airports (County) and exchanged pertinent well, water level, and water quality for wells that the County has installed and for wells that Watermaster samples. Watermaster prepared a map that shows all current Chino Airport monitoring wells, planned Chino Creek Desalter wells (as described in Carollo Engineers Preliminary Design Report, dated May 2009), proposed Chino Airport monitoring wells, groundwater flow vectors, and nearby private wells. This map is to be used in working with the County to possibly locate one of their proposed nests of monitoring wells to a location that, while still addressing the County's needs, would also be beneficial to Watermaster's HCMP. This would result in substantial cost savings to Watermaster parties.

### Perchlorate in MZ-3

A regional study, the Cross-Fault Isotope Study, whose objective is to determine the source of the wide-spread, low-level perchlorate in groundwater in MZ-3, was proposed and Watermaster was asked to participate. The project is to be funded by the Environmental Security Technology Certification Program (ESTCP), which is a Department of Defense (DoD) program that promotes innovative, cost-effective environmental technologies through demonstration and validation at DoD sites. Watermaster met with the parties involved in the study, contacted the University of Illinois/Chicago – who would perform the isotope work, and helped draft the study work plan. Watermaster's role in this study is to provide feedback and review, but not to fully participate or contribute funding to the study.

### Hexavalent Chromium

Watermaster intelligence suggested that the California Environmental Protection Agency's Office of Environmental Health Hazard Assessment (OEHHA) was considering the adoption of a Public Health Goal (PHG) below 1 ug/L for hexavalent chromium. Watermaster queried its database and created summary tables and maps describing the prevalence and extent of hexavalent chromium in groundwater in the Chino Basin. Watermaster reviewed the Regional Board minutes from 1958, which details a release of chromic acid waste (hexavalent chromium) from the GE Flat Iron facility into the City of Ontario sewer system in 1948. Watermaster attended a meeting at the Regional Board on April 8, 2009 to discuss the chromic acid disposal issue. Watermaster also compiled historical maximum nitrate, TCE, and hexavalent chromium data for the Chino Basin by decade (1950s, 1960s, 1970s, 1980s, and 1990s) and created completed maps of these constituents overlying the 1938 aerial photograph showing Cucamonga Channel. These maps clearly show that contaminants could have percolated in an area to the east of the current Cucamonga Channel, due to stream braiding.

### Crown Coach Facility

Watermaster reviewed the report, "Effectiveness of Remedial Actions – Former Crown Coach Facility, Chino, California." This report was prepared for the General Electric Company (GE) by AMEC Geomatrix and asked the Regional Board for a finding of No Further Action. Watermaster met with the Regional Board on May 27, 2009 and prepared a comment letter that petitioned the Regional Board to have GE continue monitoring the TCE plume because the concentrations are still quite high and there are no data to suggest that the plume has not reached the main aquifer.



DROUGHTS DIFFER FROM TYPICAL EMERGENCY EVENTS SUCH AS FLOODS OR FOREST FIRES, IN THAT THEY OCCUR SLOWLY OVER A MULTIYEAR PERIOD. DROUGHT IMPACTS INCREASE WITH THE LENGTH OF A DROUGHT, AS CARRY-OVER SUPPLIES IN RESERVOIRS ARE DEPLETED AND WATER LEVELS IN GROUNDWATER BASINS DECLINE.

# Optimum Basin Management Program

## Program Element 8: Develop and Implement a Groundwater Storage Management Program; and Program Element 9: Develop and Implement a Storage and Recovery Program

The existing Watermaster/IEUA/MWDSC Dry-Year Yield (DYY) program continued during the reporting period. All DYY program construction projects have been completed and are currently being used for a DYY take, or removal from storage.

Due to the current drought conditions throughout the state of California, Metropolitan has not provided water for the DYY account since April 2007. As of April 30, 2008, about 86,000 AF had been stored in the Basin in Metropolitan's DYY account. On May 1, 2008, Metropolitan called for the parties to begin withdrawing water from the DYY account in the amount of 33,000 AF per 12-month period. At the end of the calendar year, the account balance was 34,493 AF.

In February 2008, the DYY Expansion Project was initiated by IEUA and Watermaster to evaluate increasing the DYY storage account. The purpose of the DYY Expansion Project was to determine the facilities needed to store up to 150,000 AF and to recover up to 50,000 AFY. The expansion project analysis was completed in December 2008. The expansion project evaluated the technical, financial, and institutional frame work for individual projects to move forward. Negotiations to-date related to actual projects and the amount of expansion have not resulted in any planned expansion projects.

