

- Semiannual Report on State Water Project Strategic Initiatives

## Detailed Report

This report discusses efforts to meet challenges facing administration of the State Water Project contract. Staff is taking measures to protect Metropolitan's State Water Contract rights and benefits in five strategic areas: costs, energy, infrastructure reliability, supplies, and water quality. Highlights are listed below and explained in the subsequent pages.

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### Overview

- ❖ Unit costs are trending upward given increasing SWP costs, along with reduced supplies (see Figure 1).

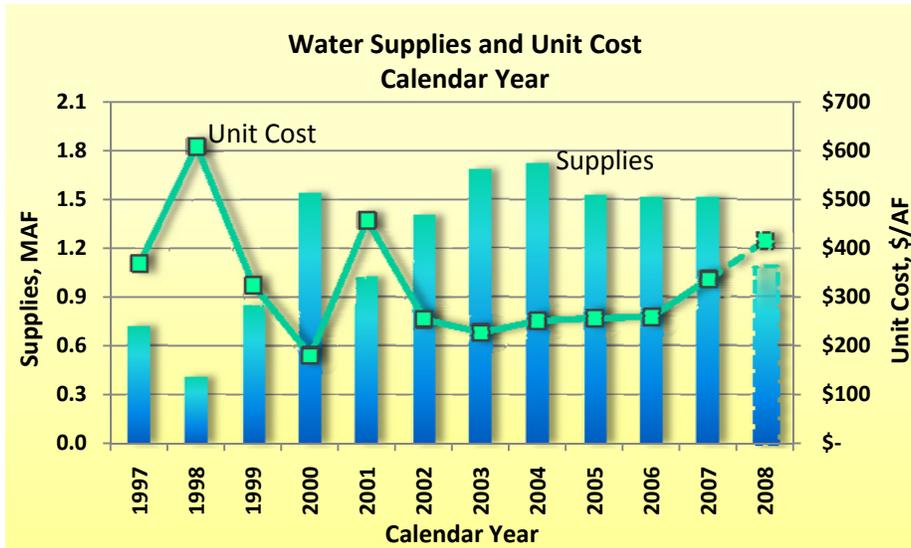


Figure 1. Total annual MWD SWP supplies and transfers in million acre-ft (left) and unit cost in \$/AF (right). Unit costs reflect payments to DWR and do not include costs related to ground water storage programs with partners along the California Aqueduct.

- ❖ First multi-year water transfer agreement (page 7).
- ❖ Transfers obtained from north of the Delta (page 7).
- ❖ Bay-Delta planning efforts underway on conveyance alternatives (page 7).
- ❖ Delta levee emergency preparedness progress (page 7).
- ❖ SWP operations constrained by federal court decision on Delta smelt (page 9).



### SWP Strategic Initiatives

## Ensure Costs are Accurate and Reasonable and Promote Efficient Business Processes

*Metropolitan repays the State for its costs of developing and transporting water. Because of significant cost exposure and need for reliable supplies, Metropolitan strives to influence efficiency of operations and equity of benefits provided.*

Key near-term goals include:

- DWR obtaining a cost-effective Federal power license for Lake Oroville power generation complex that protects water supplies;
- Ensuring that DWR billings are accurate and reasonable;
- Maintaining the value of the investment in Hyatt-Thermalito power generation facilities; and
- DWR improving use of management tools and disclosing relevant business information to the State Water Contractors.



Figure 2. Thermalito Power Plant (DWR Photo.)

### MILESTONE:

#### **OROVILLE FEDERAL ENERGY REGULATORY COMMISSION (FERC) RELICENSING**

DWR issued the Final Environmental Impact Report and Notice of Determination related to its new FERC license application to operate the Hyatt-Thermalito generation facilities at Oroville Dam on July 22, 2008. Plumas County and Butte County filed lawsuits on August 21, 2008 that allege that DWR violated the requirements of the California Environmental Quality Act and named Metropolitan and other signatories to settlement agreement as "Real Parties In Interest."

### MILESTONE:

#### **MEMORANDUM OF AGREEMENT ON REID GARDNER CAPITAL COST ALLOCATION**

DWR has reached agreement with the Nevada Power Company regarding the allocation of capital cost during the remaining term of the project participation agreement that expires in 2013. Under the Memorandum of Agreement, certain project costs will not be charged to DWR and DWR's share of the remaining project capital costs will be prorated downward given the remaining number of contract years. This will reduce DWR's cost exposure by approximately \$55 million.

### EMERGING CHALLENGE

#### **STATUS OF 2008 SOC AUDIT ISSUES**

During the last review of the statement of charges, Metropolitan's independent auditors, Richardson and Company, identified recreation-related costs they considered were inappropriately charged to Metropolitan. The charges were for a fishing pier and beach improvement, and marina repair and relocation at the Perris Reservoir. DWR recently declined Metropolitan's request to remove these costs from our charges. Metropolitan, along with Desert Water Agency and Coachella Valley Water District, the two other contractors sharing the costs of the reservoir, are currently evaluating the contract remedies and possible legal actions to resolve this issue.

### EMERGING CHALLENGE

#### **RECREATION COSTS FUNDING BY THE STATE (DAVIS DOLWIG DISCUSSIONS)**

The recent round of State budget discussions have seen a renewed interest by the Legislature in the share of SWP costs allocated to recreation. The Legislature is tying a \$3.9 million funding request for the recreation portion of new SWP capital projects to resolution of the dispute between the Department of Finance and the Department of Water Resources over the appropriate share of project costs allocable to recreation. This may require DWR to reevaluate

the share of costs for recreation and fish and wildlife enhancement. Metropolitan and other water supply contractors are working to develop approaches that protect the contractors while at the same time securing state funding for recreation and SWP facilities. Securing reliable state funding for the recreation portion of SWP costs will ensure DWR is able to obtain bond financing for the remaining water contractors share of costs for facility improvements.

**EMERGING CHALLENGE**

**2009 STATEMENT OF CHARGES**

Next calendar year's State Water Project charges are currently estimated at \$708 million. This is a \$124 million increase from last year. The major factor for the growth in charges is an anticipated increase in pumping costs due to higher costs for purchased energy and transmission services, and lost revenue due to low Hyatt generation during a dry year. Volatile energy charges result from low energy generation at Hyatt, cost of purchased energy, and actual amount of water deliveries. The power cost envelope in Figure 3 shows the range of expected power costs associated with deliveries.

Commencing in 2009, the statement of charges will include a substantial commitment to develop proposed solutions for the Delta, including planning and design costs for a Delta Habitat Conservation and Conveyance Program and actions to maintain Delta pumping while protecting fish. Additional interim funding sources have been identified for the Delta Conveyance Program and a revised Statement of Charges will be issued in December reducing Metropolitan's charge.

The last two years have seen little increase in capital charges as DWR has issued no new bonds. Recently, DWR issued a substantial amount of new debt to fund on-going capital improvements. Metropolitan's share of the additional debt service is also included in next year's charges. A separate briefing will be provided to the Board that discusses CY 2009 charges.

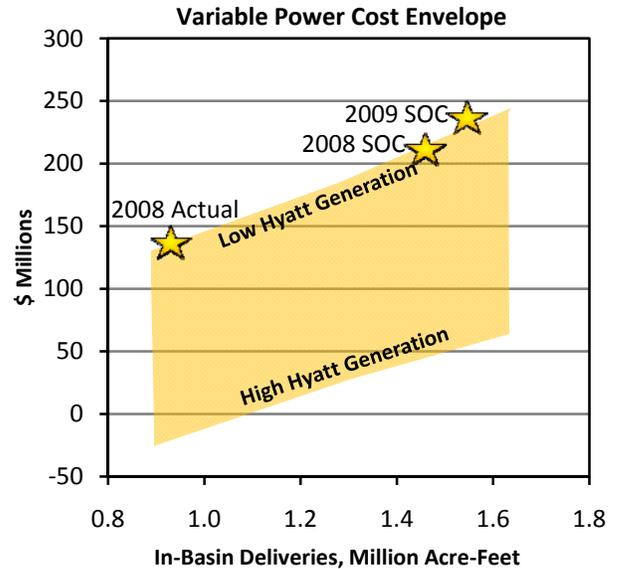


Figure 3. The power cost envelope shows the range of expected power costs associated with deliveries.

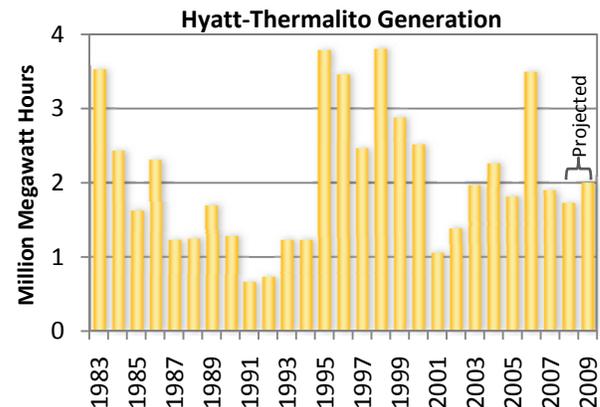


Figure 4. Variable generation at Hyatt-Thermalito power facilities is a major driver for the power cost envelope, above.

## Ensure Cost Effective Reliable Energy Sources

*With the expiration of long-standing contracts and radical changes in energy market regulations, the SWP is experiencing increased exposure to energy and fuel price fluctuations, credit risk, and power plant reliability risk.*

Metropolitan provides support to DWR to provide a reliable supply of energy at an affordable and predictable cost for the SWP. Metropolitan staff actions are focused on the following goals:

- Increasing attention to evolving green-house gas and renewable policies;
- Developing a strategic plan and IRP-like power portfolio that manages cost and risk when pursuing future acquisitions and sales; and
- Ensuring reliable infrastructure that supports the ability to use cost-effective off-peak energy for pumping.

Water Project. Metropolitan participated with the State Water Contractors in providing comments in August. CARB will make their final Scoping Plan proposal in October; formal adoption is scheduled for January 2009. Metropolitan and the other contractors are working with DWR to craft written guidelines for a SWP carbon management program linked to AB32 objectives.

### MILESTONE:

#### ***NCPA LODI II PARTICIPATION FUNDING***

The Northern California Water Agency is making progress on development of the Lodi Energy Center (formerly "Lodi II Power Plant"). DWR has reserved a 60 megawatt (MW) capacity interest in the natural gas-fired power plant to provide energy to operate the State Water Project pumping facilities in place of low-cost coal from the 226 MW Reid Gardner contract. A long-term contract will benefit the SWP by reducing price fluctuation risk as well as the project's carbon footprint. The next critical step is execution of the funding and ownership agreement in 2010. This step will require state Department of General Services review as well as final decisions regarding appropriate financing mechanisms under the State Water Project contracts.

### EMERGING CHALLENGE

#### ***AB 32 COMPLIANCE***

The California Air Resources Board published its draft Scoping Plan for development of regulations to reduce greenhouse gas emissions under AB 32 in June 2008. CARB is relying on measures that would require development of renewable energy and reduced energy use through energy efficiency measures to arrest the growth of CO<sub>2</sub> emissions and require further reductions of emissions to 1990 levels by 2020. It is widely anticipated that the required measures will have a significant impact on the cost of energy in California, including the State

## Ensure Sufficient Infrastructure Reliability

*Metropolitan and other contractors' water delivery schedules call for the SWP system to move more water through its aging infrastructure, requiring increased focus on maintaining infrastructure reliability.*

To ensure that DWR is operating, maintaining and repairing SWP facilities with Metropolitan's interests in mind, staff is pursuing the following goals:

- Monitoring and influencing key project decisions; and
- Providing DWR shop-services to support equipment maintenance and rehabilitation.

### MILESTONE:

#### **INSTALLATION OF NEW HIGHER EFFICIENCY HITACHI PUMP AT EDMONSTON PUMPING PLANT**

The Department of Water Resources recently completed the installation of a new higher efficiency Hitachi Pump at the Edmonston Pumping Plant. The installation of the new higher efficiency pump will lower pumping costs, help reduce greenhouse gas emissions, and improve operational reliability.



*Figure 5. At left, the first of four Hitachi pumps to be installed at the Edmonston Pumping Plant. At right, one of four original pumps built by Allis-Chalmers, scheduled for replacement. (DWR Photos.)*

### MILESTONE:

#### **GIANELLI PUMPING-GENERATING PLANT STATOR BOLT REPAIR**

During DWR's annual Condition Assessment Program (CAP), a problem was detected with stator bolts (which keep the stationary part of pump motors

in place) on the pumping units at Gianelli Pumping-Generating Plant. The plant can be used to pump water into the San Luis Reservoir or to generate power when water is withdrawn from the reservoir. Some of the bolts had broken while others were cracked. The early detection through CAP inspection potentially prevented a major failure of the motors. Repairs are currently underway.



*Figure 6. Gianelli Pumping-Generating Plant. (DWR Photo.)*

### EMERGING CHALLENGE

#### **REPLACEMENT OF REMAINING EDMONSTON PUMPS**

There are three remaining pumps at the Edmonston Pumping Plant that will be replaced under contract with Hitachi America, Ltd. The costs to manufacture these pumps have increased, mainly due to the recent rise in steel prices. DWR is working with Hitachi to manage these costs and to obtain improvements in the performance of the pumps. In addition to the four pumps that are to be replaced under contract, there are ten remaining pumps that could be replaced to further increase the energy efficiency and reliability at the plant. Metropolitan will work with DWR on decision making for these ten pumps.

**EMERGING CHALLENGE*****GIANELLI PUMPING-GENERATING PLANT  
BUTTERFLY VALVE  
REPLACEMENT/REFURBISHMENT***

There are eight butterfly valves that are used for the operation of the eight pumping units at the Gianelli Pumping-Generating Plant. The valves are now over forty years old and require replacement or refurbishment. The current estimate to replace all eight valves is estimated at around \$43 million. Metropolitan staff is working with DWR staff to determine the best approach in replacing or refurbishing the valves.

**EMERGING CHALLENGE*****EAST BRANCH ENLARGEMENT TIMING***

DWR is currently proceeding with the preliminary design and environmental studies needed for the East Branch Enlargement. DWR has recently released a draft feasibility report. Metropolitan staff estimates that the cost of the enlargement would exceed \$500 million based on the report, and is currently evaluating the timing needs for the enlargement – originally considered to be around 2017. Metropolitan staff is evaluating the effects of increased conservation and local projects on the need for the increased capacity.



*Figure 7. Devil Canyon Second Afterbay on the East Branch. (MWD Photo.)*

## Ensure Cost-Effective Water Supplies

*Staff participates in activities to optimize Metropolitan's water supply benefits, including protection of its contract rights.*

Metropolitan is working with other SWP Contractors and State agencies to ensure cost-effective water supplies. Key goals are:

- Monitoring current water supply conditions;
- Developing water management actions; and
- Preserving access to flexible storage.

### MILESTONE:

#### **FIRST MULTI-YEAR TRANSFER AGREEMENT**

In December 2007 Metropolitan entered into an agreement with DWR for an annual Dry Year Water Purchase Program through 2025. The water originates from the Yuba County Water Agency as part of the Yuba Accord approved by the State Water Resources Control Board (SWRCB) that incorporated Yuba River flow requirements for the protection of fisheries. Under the Accord, Yuba makes water available to participating CVP and SWP contractors with Metropolitan's share being at least 25 percent of the available supply. For calendar year 2008 Metropolitan's allocated supply after Delta conveyance losses is approximately 22,000 acre-feet at a melded cost of \$120 per acre-foot.

### MILESTONE:

#### **NORTH OF DELTA TRANSFERS**

Through the SWP Contractors Authority Buyers Group, Metropolitan is a participant in a calendar year 2008 water transfer program. Supplies are provided by several agencies from within the Feather River Basin. Metropolitan's allocated supply after Delta conveyance losses is nearly 24,000 acre-feet at a cost of approximately \$250 per acre-foot.

### MILESTONE:

#### **BAY DELTA PLANNING PROGRESS**

In August 2008 Delta Vision staff released the third draft of the Delta Vision Strategic Plan. The Governor's Delta Vision Blue Ribbon Task Force will finalize the plan in October 2008. Metropolitan staff

is working with other water interests to prepare comments on the Draft Strategic Plan.

In March 2008, DWR initiated the public process to study the environmental impacts of the Bay-Delta Conservation Plan. The BDCP aims to address the current conflict between the protection of at-risk fish species and water supply and includes analysis of water conveyance alternatives. Metropolitan staff participated in many of the scoping meetings. BDCP workgroups and technical teams meet on a regular basis, and are scheduled to develop recommended conservation strategies throughout the month of August.

### MILESTONE:

#### **DELTA LEVEE EMERGENCY PREPAREDNESS AND RESPONSE PLAN**

In April 2007, the Board directed staff to work with the SWC, DWR and other stakeholders to develop a plan to implement a post-levee failure strategy of creating an emergency freshwater pathway to export pumps. Metropolitan has been working with DWR to expedite a program to acquire emergency-response equipment and materials. Initial construction contracts have been completed which have prepositioned rock at several locations in the Delta and constructed loading and storage facilities at the Port of Stockton. Significantly more prepositioning work is planned for the upcoming fiscal year to distribute the stockpiles of materials and equipment to help minimize the disruption of SWP deliveries in the event of a levee emergency.



*Figure 8. DWR testing their emergency rock loading system at the Port of Stockton in 2008. (DWR Photo.)*

**MILESTONE:**

**ARVIN-EDISON GROUNDWATER STORAGE AMENDMENT**

Metropolitan amended the groundwater storage agreement in January 2008 pursuant to Board direction. The amendment provides for the opportunity to improve the water quality in the California Aqueduct. The amendment funds Arvin-Edison’s South Canal Improvement Project that will allow for increased delivery and return flows. The project is funded with \$16.2 million of Proposition 13 funds and up to \$1.2 million of direct Metropolitan funding. The project is scheduled to be completed in early 2009.



Figure 9. – Semitropic Water Storage District groundwater banking facility (Semitropic photo).

**MILESTONE:**

**2008 STATE WATER PROJECT ORDER**

Figure 11 summarizes Metropolitan’s projected water deliveries through December that reflect DWR’s 2008 SWP allocation of 35 percent. Total scheduled deliveries for the year using SWP infrastructure are 1.08 MAF, which includes Table A supplies, supplemental supplies from exchange programs with other SWP contractors, purchase agreements, and groundwater storage programs along the California Aqueduct. Metropolitan received a Table A allocation of about 688 TAF and is using the SWP infrastructure to move an additional 392 TAF into its service area.

**MILESTONE:**

**CENTRAL VALLEY GROUNDWATER STORAGE PROGRAMS**

Metropolitan has made substantial investments in groundwater storage programs in the Central Valley. In fiscal year 2007-08, Metropolitan’s investment provided approximately 235,000 acre-feet of previously stored State Water Project supplies. Yield from these programs improved Metropolitan’s water supply while flows through the Delta were limited.

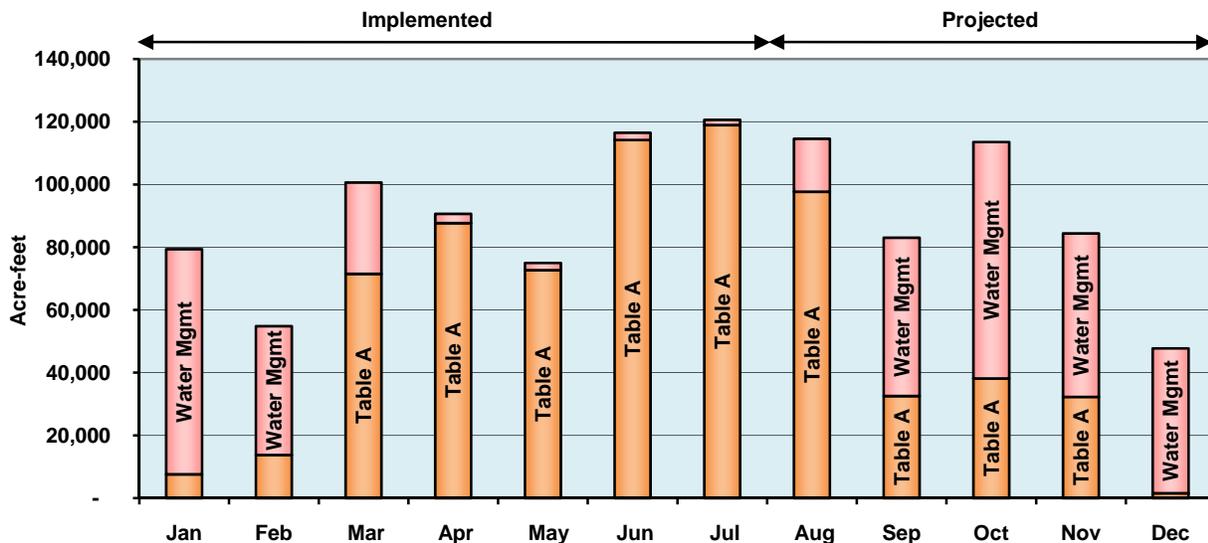


Figure 10. – Metropolitan’s SWP 2008 Water Order. Water management actions include deliveries of surplus water, withdrawals from groundwater storage and surface water programs along the California Aqueduct, and short-term transfers. The determination of such actions occurs on a weekly basis depending on water supply and demand conditions.

## EMERGING CHALLENGE

### **ACTIONS PURSUANT TO GOVERNOR'S DROUGHT DECLARATION AND STATE OF EMERGENCY PROCLAMATION**

Governor Schwarzenegger declared a drought emergency in nine Central Valley counties on June 12th. As a result, DWR and Metropolitan are working with USBR and other State Water Contractors on coordinated SWP and CVP operations that will permit additional water deliveries to the San Joaquin Valley through September of this year while minimizing undue impacts to SWP contractors. The plan includes a short-term loan to the CVP of up to 37,500 AF of SWP supplies from San Luis Reservoir, wheeling up to 20,000 AF of groundwater pumped into the California Aqueduct from within Westlands Water District for conveyance and delivery to other locations within Westlands, and Metropolitan deferring delivery of 25,000 AF of its SWP supplies from July to August to enable a like amount of deliveries to be made in the San Joaquin Valley. Metropolitan engaged in coordination actions with DWR and the water districts to limit risks and impacts.

## EMERGING CHALLENGE

### **ACTIONS TAKEN TO PROTECT FISH IMPACT SUPPLIES**

A number of actions are being taken to protect Delta smelt, longfin smelt, and salmon in the Sacramento-San Joaquin Bay Delta. In 2008, the SWP lost up to 500,000 AF in exports (~250,000 AF to Metropolitan) due to operations under the federal court order to protect Delta smelt. The federal court has ordered U.S. Fish and Wildlife Service (USFWS) to finish its Biological Opinion covering Delta smelt by September 15, 2008. In July 2008, the federal court ruled that Delta export operations are harming anadromous species, including salmon. The court is still considering whether interim remedy measures will be required before National Marine Fisheries Service (NMFS) completes a new Biological Opinion for anadromous species by March 2009. The new Biological Opinions will replace the ones invalidated by the federal court.

The California Department of Fish and Game is preparing a draft regulation to protect longfin smelt from export pumps during August 2008 through February 2009, while the California Fish and Game Commission considers the merits of listing the

species. A new regulation for longfin smelt may cause additional water supply impacts.



Figure 11. Governor Schwarzenegger signs drought proclamation. (DWR Photo.)



Figure 12. Delta smelt. (DWR Photo.)

## Protect and Improve Water Quality

*The quality of SWP water is highly variable, creating challenges in meeting drinking water standards, integrating various water supply sources, and supporting service area needs for groundwater and recycling.*

Metropolitan is pursuing SWP water quality needs by:

- Promoting projects to protect and improve water quality in the Bay-Delta watershed and SWP system;
- Implementing the Municipal Water Quality Investigations program; and
- Supporting DWR in administering appropriate criteria for the introduction of non-project water into the California Aqueduct.

### MILESTONE:

#### **NEW WATER QUALITY MONITORING STATION AT BANKS PUMPING PLANT**

A new water quality monitoring building at H.O. Banks Pumping Plant has been constructed to gain reliability and efficiency. Previously, all water quality monitoring equipment at this site operated by DWR's O&M Division and DWR's MWQI Program were separately housed in temporary sheds. Inadequate communication lines and undersized power lines resulted in data collection interruptions. The new building now houses all equipment. Ultimately, the monitoring equipment in the building will transmit real-time data that can be accessed on DWR's web page.



Figure 13. New water quality monitoring building at H.O. Banks Pumping Plant (DWR photo.)

### EMERGING CHALLENGE

#### **WESTLANDS WATER DISTRICT PUMP-IN OPERATIONS**

In compliance with the Governor's June emergency order, DWR allowed Westlands Water District to pump in to the California Aqueduct up to 20,000 AF of groundwater from within Westlands for conveyance and delivery to other locations within the district. The Westlands groundwater has the potential to degrade the water quality of SWP supplies within the Aqueduct. Metropolitan worked with DWR, USBR, Westlands, and downstream users to manage the amount and timing of pump-ins.



Figure 14. Westlands Water District pumps groundwater into the San Luis Canal portion of the California Aqueduct (DWR photo.)



Figure 15. San Luis Reservoir. (DWR photo.)

### **Acronyms**

AF	– Acre-Feet
BDCP	– Bay Delta Conservation Plan
CARB	– California Air Resources Board
CEQA	– California Environmental Quality Act
CVP	– Central Valley Project
CY	– Calendar Year
DFG	– California Department of Fish and Game
DWR	– California Department of Water Resources
FEIR	– Final Environmental Impact Report
FERC	– Federal Energy Regulatory Commission
IRP	– Integrated Resources Plan
MAF	– Million Acre-Feet
MW	– Megawatt
MWQI	– Municipal Water Quality Investigations
NCPA	– Northern California Power Agency
NMFS	– National Marine Fisheries Service
NPC	– Nevada Power Company
SOC	– Statement of Charges
SWC	– State Water Contractors, Inc. (includes Metropolitan)
SWP	– State Water Project
USBR	– United States Bureau of Reclamation
USFWS	– United States Fish and Wildlife Service