

# THE METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA

## General Manager's Monthly Activity Report for December 2015

December 31, 2015

This report identifies the actions and activities taking place during the month that support the objectives of the General Manager's Fiscal Year 2015/16 Business Plan.

### Safety and Environmental Protection

Timely erosion repair to Bull Creek was completed in preparation for expected El Niño storm runoff. This activity completes a repair to the eroded embankment of the natural stream bed that runs through the Jensen plant and ensuring the soil stability of the Vehicle Maintenance Center and the facility sewer line located on site. Jensen plant staff worked with Environmental Planning staff to obtain emergency permits with the regulatory agencies and a construction contract to provide access to the environmentally protected stream bed to backfill and reinforce the damaged stream bed and undermined retaining wall.



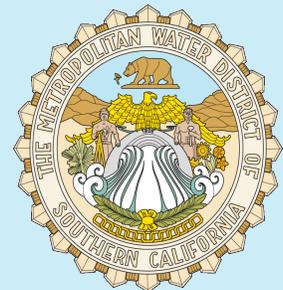
Bull Creek near Jensen plant showing eroded embankment in natural stream bed.



Bull Creek after repaired embankment prepared to handle future storm events.

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# BAY DELTA INITIATIVES

## STRATEGIC PRIORITY

### COMPLETE PLANNING PROCESS FOR THE CALIFORNIA WATERFIX AND CALIFORNIA ECORESTORE

Continue to take on a lead role in securing water supplies for the State Water Project (SWP) and working towards the completion of the State of California's Proposed Delta Improvements, Recirculated Draft Environmental Impact Report (RDEIR)/Supplemental Draft Environmental Impact Statement (SDEIS) for the California WaterFix and California EcoRestore.

Pursue decision on the State's Proposed Delta Improvements including the California WaterFix and California EcoRestore.

Bay Delta Conservation Plan/California WaterFix—The California Department of Water Resources (DWR) continues to process the large volume of comments received on the Bay Delta Conservation Plan/California WaterFix Partially Recirculated Draft Environmental Impact Report/Supplemental Draft Environmental Impact Statement in preparation for the Response to Comments and Final EIR/EIS, anticipated in 2016. Metropolitan staff continues to monitor the environmental review process and work with DWR and the other participating State Water Project and Central Valley Project public water agencies.

## CORE

### BAY-DELTA SOLUTIONS

- Develop near- and long-term solutions that enhance the Delta ecosystem, improve water supply reliability, and protect water quality.
- Participate in the State Water Resources Control Board (SWRCB) process considering petition for an additional point of diversion for new conveyance facility.
- Continue to work on efforts related to improving water supply reliability and protecting water quality.

Pursue the best scientific research to protect and restore fish, wildlife, and the Delta's ecosystem while ensuring water supply reliability.

Science Activities—Staff worked with the State Water Contractors and ICF consultants to develop the scope of work and contract for a 2015 Longfin Smelt Larval study. The Contractors will support the larval study that will be conducted by ICF, and the study will be conducted in parallel to the larval surveys being conducted by the Department of Fish and Wildlife and University of California, Davis. Due to the potential for a wet water year, staff anticipates significant increases in larval production in the estuary. The study will examine the mechanism for the flow/abundance relationship of longfin smelt.

Develop near-term measures, compatible with long-term Delta solutions, to improve water supply reliability and water quality, and facilitate protection and enhancement of Delta ecosystems and associated species.

Delta Operations—The Delta Conditions Team started holding weekly calls in December. This Team provides a forum for the fisheries agencies, water project operators, water contractors, and non-governmental organizations (environmental interests) to exchange information and provide input regarding water project operations. In the first half of December, flexible operations of the Delta Cross Channel were identified to help with

salinity management in the Delta. Storms at that time had not generated significant runoff. As a result, turbidity levels have not been a concern and the U.S. Fish and Wildlife Service biological opinion requirements have not been triggered. Staff continues to monitor storms and their potential effects on runoff and water quality.

## BAY DELTA INITIATIVES

Emergency Response – Ensure that Delta emergency response measures are implemented, including actions to develop a freshwater pathway after a major emergency event in the Delta.

Delta Flood Emergency Response Program—In mid-December, DWR advertised a construction contract for major facilities improvements at their Stockton and Rio Vista materials storage and transfer sites. At Stockton, the work will include existing warehouse improvements, new warehouses, waterside loading and unloading facilities, boat slips, roadway improvements and the transfer of a portion of rock stockpiles from their temporary storage site at the Port of Stockton. At Rio Vista, the work will consist of additional all-weather roadway access to new and existing rock storage sites and the transfer of a portion of rock stockpiles to Rio Vista from the Port of Stockton. This contract work would be completed in late 2016.

DWR reports that a recent contract to remove the drought salinity control barrier from the west False River site has placed an additional 115,000 tons of rock at the Rio Vista storage site. Together with this rock, there is a total of 365,000 tons of rock storage at Stockton and Rio Vista, which is sufficient to close several levee breaches to support formation of the emergency freshwater pathway in the event of a multiple-island failure. DWR plans a contract in 2017 to purchase large sheet pile as a redundant method to close levee breaches and perform additional warehouse renovation.

## BUSINESS TECHNOLOGY

### CORE

#### **BUSINESS PROCESSES AND INFORMATION TECHNOLOGY**

Advance continuous business process improvements to improve effectiveness and efficiency while striving for innovation, flexibility, and integration with technology.

Implement innovative solutions for our customers that will positively impact their business operations through improved quality, speed, simplicity, and cost improvements.

E-Forms Management Program—As the pilot phase of the LiveCycle E-Forms Management Program continues, small groups in Business Technology, Water System Operation, and other areas within Metropolitan have been trained to use the e-form upgrade product. Full implementation of the LiveCycle e-form is scheduled for June 2016.

Simplify access to business information.

Procurement Training Academy—The purchase card and requisition training modules will be developed using the Articulate platform, in partnership with Human Resources. The agreement administration training module will be developed under an existing agreement.

Metropolitan's Warehouse Inventory Project—A report summarizing the findings and recommending options for possible software solutions is completed and under review by management.

**BUSINESS PROCESSES AND INFORMATION TECHNOLOGY continued...**

Upgrade and refurbish IT applications and infrastructure to ensure system reliability and performance levels that meet customer needs.

**Hiram Wadsworth Pumping Plant Upgrade**—As During the on-going pilot implementation phase, the project team completed the installation of the Vibration Monitoring System and the Bridge Programmable Logic Controller for Unit 2.

**Voice over Internet Protocol Project**—The telephone system hardware and software is scheduled to arrive in January, and a pilot is scheduled to begin in early February 2016.

**Network Communications Infrastructure Upgrades**—Completed the final paperwork and payments to contractor for equipment totaling \$3.4 million. To date, staff deployed 262 out of 386 network devices throughout the field sites. Procurement is planned early next year for the materials needed to upgrade the electrical power and cooling systems at Metropolitan's Headquarters building.

**Oracle Financial Systems Upgrade Project**—Staff has substantially completed system integration testing of the Oracle Financial System and user acceptance testing has begun. The project is scheduled to be complete in February 2016.

Seek fair and equitable contract agreements with Member Agencies, federal, and state governments to maintain a long-term sustainable wholesale water resource to Southern California.

As a result of the following annexations, Metropolitan's current service area increased over 340 acres (or 0.53 of a square mile) and is now approximately 5,180 square miles:

MWD Board-approved annexations:

- 104th Fringe Area Annexation to Eastern MWD annexed September 22, 2015. Eastern's request for annexation of served parcels of the County Water Company was completed as per the provisions of Resolution 9185 adopted January 13, 2015, adding 68.9 acres.
- Meadowood Annexation to SDCWA annexed December 4, 2014. San Diego County Water Authority's request for annexation was completed per the provisions of Resolution 9162 adopted September 10, 2013, adding 266.9 acres.

MWD City- approved annexations:

- Reorganization No. 2014-01 City of Los Angeles annexed January 1, 2015. The city of Los Angeles adjusted their city boundary which is coterminous with Metropolitan. The City of Los Angeles and the county area of Universal City reorganized their boundaries adding 3.05 acres.
- Lake Wohlford Reorganization City of Escondido annexed April 21, 2015. The city of Escondido adjusted their city boundary, which is coterminous with San Diego County Water Authority and Metropolitan adding 1.3 acres.

Deploy security technologies to enhance Metropolitan's cyber security position.

**Cyber Security Countermeasures**—Staff completed review of the final report on Metropolitan's SCADA cyber security assessment. In addition, staff continued to evaluate and enhance IT security infrastructure to allow secure remote access to Metropolitan's applications for timekeeping and requisition approvals.

**BUSINESS PROCESSES AND INFORMATION TECHNOLOGY continued...**

Foster a culture of innovation.

Business Outreach Innovation and Technology Program

H2o TechHub Team activities this month:

- Presented at the Industrial Environmental Association (IEA) in San Diego. The presentation was about Metropolitan's planned Industrial TechFest, where technology companies will showcase game changing water technologies for industries.
- Participated in the second annual International Drone Expo held in Los Angeles. The team facilitated the panel participation of Metropolitan employees who discussed the potential uses of Unmanned Aerial Vehicles in the water sector.

Facilities Reporting Mobile Application—The pilot program to provide employees the option to easily report repair requests from within the Metropolitan facilities through the use of their mobile devices has been expanded to continue gathering data and customer feedback prior to full implementation scheduled for June 2016.

Maintain an effective Business Outreach Program for regional, small businesses and veterans to ensure

The Business Outreach team participated in several events throughout Metropolitan's service area that supported the local community, including disabled veterans, while encouraging them to bid on Metropolitan contracts, register as vendors in Metropolitan's E-procurement system, and participate in training, mentoring, and matchmaking opportunities. Events this month include:

- Small Business Council, Metropolitan Headquarters—Hosted the State of California, Department Of General Services Small Business Council. The Council represents small businesses throughout the state and advises the state on small business issues and concerns.
- Council for Supplier Diversity—Human Resources, Category Sourcing Exchange, San Diego.
- Los Angeles' Forum Women's Business Enterprise Council—4th Annual Winter Women Celebration, West Los Angeles.
- National Latina Business Women's Association—Annual Holiday Celebration and Toy Drive, Pasadena.
- Asian Business Association—Membership Appreciation Celebration, Pasadena.

Efficiently maintain and operate Metropolitan's Headquarters building, the Diamond Valley Lake Visitor Center, and the Diamond Valley Lake Education Center.

Headquarters building maintenance projects this month include:

- The painting of the accent walls on floors 9 and 10 was completed. With a planned completion of two floors per month, all floors are projected to be complete by May 2016.
- Testing and evaluating the option of installing motion sensors in Headquarters building conference rooms and other parts of the building is taking place, as recommended by the energy audit.

Continue innovative sustainability efforts in business practices, including Spring Green, Our Legacy Newsletter, the rideshare program, energy conservation and recycling efforts.

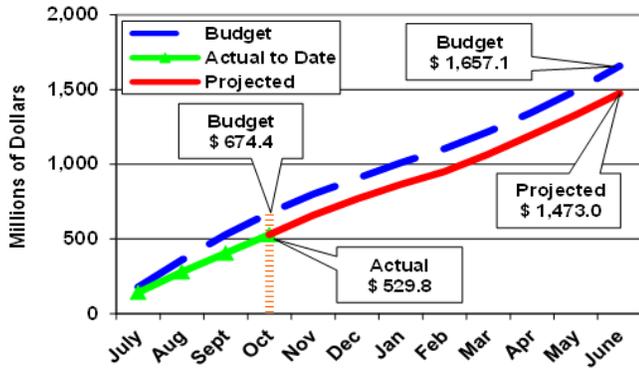
The annual Spring Green Expo will be held on April 28, 2016. Coordination activities this month:

- Identified and met with the core committee team to assist with hosting the event.
- Recruitment for a student intern was posted.

# CHIEF FINANCIAL OFFICER

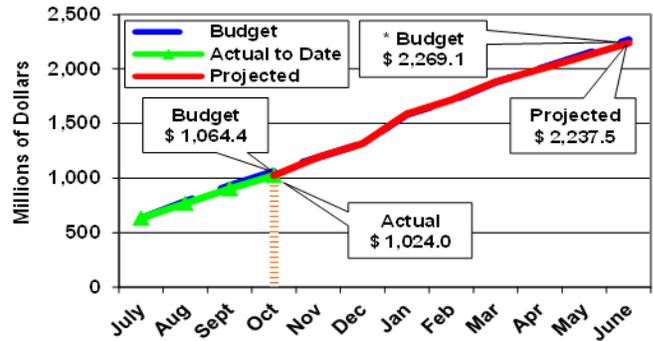
## FINANCIAL SUMMARY AS OF NOVEMBER 30, 2015

Total revenues are expected to be \$184 million lower than budget at year end, mainly due to lower water sales.



Excludes bond construction and other trust funds activity

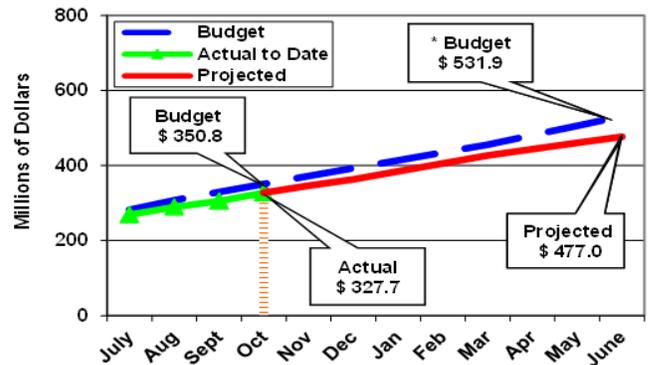
Total expenses are expected to be \$32 million lower than budget by year end, mainly due to lower Capital Program and O&M expenses, and partially offset by higher supply program costs.



Excludes bond construction and other trust funds activity

\* Includes \$305.6M, \$264M and \$8.8M Board-approved increases for Conservation, Riverside and Imperial County land purchase,

Capital Program expenses are expected to be \$55 million lower than budget by year end, mainly due to work prioritization and project rescheduling.



\* Includes \$264M Board-approved increase for Riverside and Imperial County land purchase.

### Summary Financial Statistics

	Target	Year-End Projected
Fixed Charge Coverage	≥ 1.20 x	1.11 x
Revenue Debt Service Coverage	> 2.00 x	1.34 x
Revenue Bond Debt / Equity Ratio	< 100.0%	60.7%

### Credit Ratings

	Target	Year-End Projected
- Moody's Investors Service	Aa2	Aa1
- Fitch Ratings	AA	AA+
- Standard & Poor's	AA	AAA

# CHIEF FINANCIAL OFFICER

## CORE

### FINANCIAL MANAGEMENT

Manage Metropolitan's finances in an ethical and transparent manner and provide consistent, clear, and timely financial reporting. Update Metropolitan's capital financing plans and work with rating agencies and investors to communicate Metropolitan's financial needs, strategies, and capabilities thus ensuring Metropolitan has cost-effective access to capital markets and the ability to finance ongoing future needs. In addition, actively manage Metropolitan's short-term investment portfolio to meet ongoing liquidity needs and changing economic environments.

Record and report the financial activities of Metropolitan in a timely, accurate, and transparent manner to the Board, executive management, member agencies, and the financial community.

Financial activities were recorded in a timely and transparent manner.

Prudently manage the investment of Metropolitan's funds in accordance with policy guidelines and liquidity considerations.

Staff continues to provide the necessary liquidity for operational and capital expenditures with no loss of principal and no policy violations, while generating a portfolio return that exceeded the benchmark.

Update capital financing plans and work with rating agencies and investors to communicate financial needs, strategies, and capabilities to ensure cost-effective access to capital markets.

Metropolitan sold \$208.26 million, of the 2015 Authorization Series A, Water Revenue Bonds. Total proceeds from the transaction will provide \$250 million for funding portions of the Capital Investment Plan through December 2016. The bond sale was very successful, with an all-in true interest cost of 3.11 percent.

## CFO PRIORITY

### BUSINESS CONTINUITY

Facilitate district-wide planning and training to prepare employees and managers to effectively carry out critical roles and functions thus ensuring continuity of operations in the event of a disaster.

Manage Business Continuity Program in accordance with Operating Policy A-06.

Fusion Framework data validation and system testing was completed. The System user manual was rewritten and tested by staff. Fusion Risk Management delivered administration notes regarding the implementation and staff began development of an administrator manual. Conducted briefing of the group Business Continuity Coordinators to review implementation and training plans and solicit input and support.

## INFRASTRUCTURE RELIABILITY

Manage Board-authorized projects in the Capital Investment Plan and collaborate with the Water System Operations Group to identify and address system vulnerabilities to ensure reliability of the region's water treatment and delivery infrastructure. In addition, coordinate closely with Water System Operations to integrate project planning and facility assessment efforts with near-term actions and planned shutdowns.

Manage and complete Board-authorized projects within the CIP to ensure the reliable delivery of water to Metropolitan's member agencies.

### Distribution System Reliability Program

This program maintains reliable water deliveries through specific repair and rehabilitation projects on Metropolitan's pipelines, reservoirs, and control structures. Recent activities include the following:

- DVL Boat Ramp Extension—This project extends the boat ramp at the East Marina of Diamond Valley Lake, enabling boat launches to continue when the lake level is low. The construction of the boat ramp extension was performed by Metropolitan forces and is now complete. .
- Greg Avenue Pump Station Rehabilitation—This drought-response project improves the operational reliability of the Greg Avenue Pump Station by replacing the existing pump and pump/turbine, and by upgrading the electrical and control systems. Design is 80 percent complete and is scheduled to be complete by March 2016.
- Sepulveda Canyon Control Facility Improvements (Bypass Line)—This project improves the operational reliability of the Sepulveda Feeder by adding a bypass to the Sepulveda Canyon Control Facility, which will maintain deliveries from the Jensen plant into the Central Pool when the control facility is out of service. Preliminary design is 10 percent complete and is scheduled to be complete by July 2016.
- Lake Skinner Outlet Tower Chlorine System Modifications—This project modifies the chlorine injection system at the lake's outlet tower. Construction was completed in November 2015.
- Etiwanda Pipeline Lining Repairs—This project replaces the Etiwanda Pipeline's damaged interior mortar lining with a polyurethane coating. The first phase of repairs, which was completed in 2014, lined approximately 2,800 feet of the pipeline. The remaining five miles of the pipeline will be relined in two phases. Design for Phase 2 is complete. Design for Phase 3 is 60 percent complete and is scheduled to be complete by January 2016.

### Right-of-Way and Infrastructure Protection Program

This program performs needed site improvements within the distribution system, including erosion protection for pipelines and access roads. It also addresses right-of-way issues such as access easements and third-party encroachments, and obtains long-term programmatic environmental permits to enable system-wide improvements. Recent activities include the following:

- Los Angeles County Operating Region—Preliminary design of improvements is 40 percent complete and is scheduled to be complete by February 2016.
- Riverside/San Diego County Operating Region—Preliminary design of improvements is 30 percent complete and is scheduled to be complete by June 2016.

### Prestressed Concrete Cylinder Pipe (PCCP) Rehabilitation Program

This program enhances the reliability of Metropolitan's water distribution system and reduces the risk of costly emergency repairs of PCCP lines. Recent activities include the following:

- Second Lower Feeder PCCP Rehabilitation—This project rehabilitates the remaining 28 miles of existing PCCP segments within the Second Lower Feeder. Design activities for the valve and pipe procurement are approximately 36 percent complete and are scheduled to be complete by June 2016.

## INFRASTRUCTURE RELIABILITY continued...

### Water Quality/Oxidation Retrofit Program (ORP)

This program adds ozonation facilities which reduce disinfection by-products and improve water quality at Metropolitan's five water treatment plants. Recent activities include the following:

#### Diemer ORP

- Diemer South Slope Revegetation & Mitigation Improvements—Construction to re-vegetate the Diemer plant's south-facing slope is 70 percent complete and is scheduled to be complete by January 2016.

#### Weymouth ORP

- Main ORP Facilities—The Weymouth plant is the final facility to receive the ozonation process. Construction of the ozonation system is 87 percent complete and is scheduled to be complete by late 2016. The ozonation system will commence operation in 2017. *(see photos below)*
- ORP Chemical Upgrades—These chemical systems are needed for integration of the upcoming ozonation system into the plant's treatment process. Construction of the project is two percent complete and is scheduled to be complete by early 2018.



Weymouth ORP – Excavation & shoring for pipeline tie-in



Weymouth ORP – Ozone destruct piping

### Cost Efficiency and Productivity Program

This program provides economic savings through enhanced business and operating processes, and through reduced energy costs. Recent activities include the following:

- La Verne Solar Power Plant—This project constructs a 3-megawatt solar generating facility on the grounds of the Weymouth plant in La Verne. The solar power plant will hedge against projected increases and volatility in the price of electricity, and will enhance Metropolitan's long-term power use efficiency. Construction is 45 percent complete and is scheduled to be complete by May 2016.
- Yorba Linda Power Plant Turbine Replacement—This project on the grounds of the Diemer plant replaces the existing Pelton Wheel turbine with a Francis turbine capable of operating under post-Oxidation Retrofit Program hydraulic conditions. Manufacture of the turbine generator is complete and the equipment has been delivered to the site. Construction work includes plant modifications and turbine installation, commissioning and testing. Construction is 99 percent complete and is scheduled to be complete by December 2015.

**INFRASTRUCTURE RELIABILITY continued...**Colorado River Aqueduct (CRA) Reliability Program

This program maintains the reliability of Metropolitan's CRA conveyance system. Recent activities include the following:

- Eagle Mountain Pumping Plant Domestic Water Line Replacement—This project replaces deteriorated portions of the domestic water line. Construction was completed in November 2015.
- Iron Mountain Vehicle Maintenance Center Rehabilitation—This project rehabilitates the existing vehicle maintenance center located at Iron Mountain Pumping Plant. Construction was completed in November 2015.
- Desert Wastewater System Replacement—This project replaces the wastewater collection systems and community septic tanks at all five CRA pumping plants. Construction at the Hinds and Eagle Mountain Pumping Plants is 30 percent complete and is scheduled to be complete by February 2016. Final design for the Iron Mountain and Gene Pumping Plants is 60 percent complete and is scheduled to be complete by December 2016. Preliminary design at Intake Pumping Plant is 50 percent complete and is scheduled to be complete by March 2016.
- CRA Motor Cables Replacement—This project replaces all of the aging 6.9kV electrical cables that supply power to each of the nine pump motors at each pumping plant. The power cables run from the 6.9kV switch house to each pump house through a cable tunnel. Preliminary design is 90 percent complete and is scheduled to be complete by January 2016.
- Intake and Gene Over-Current Relay Replacement—This project replaces the over-current protection relays at Intake and Gene Pumping Plants. Construction is 10 percent complete and is scheduled to be completed during a February 2016 CRA shutdown.

Treatment Plant Reliability Program

This program was initiated to maintain reliability and improve the operating efficiency of Metropolitan's five water treatment plants through specific improvement projects. Recent activities include the following:

Weymouth Plant

- East Washwater Tank Seismic Upgrades—This project upgrades the plant's east washwater tank to improve its ability to withstand a major seismic event. Construction is 97 percent complete and is scheduled to be complete by December 2015.
- Filter Rehabilitation—This project replaces the internal components of the plant's 48 filters, including the underdrains, media, launder troughs, and surface wash systems. Construction is 23 percent complete and is scheduled to be complete by May 2017.

Skinner Plant

- Administration Building HVAC System Replacement—This project replaces the Skinner Administration Building's heating, ventilating, and air conditioning system. Construction is 25 percent complete and is scheduled to be complete by March 2016.

Mills Plant

- Chemical Unloading Facility Chlorine Containment—Construction of containment facilities is 57 percent complete and is scheduled to be complete by February 2017.
- Industrial Wastewater Handling Improvement—This project adds three 20,000-gallon wastewater storage tanks and a force main connection to the sanitary sewer system for safer and more efficient handling of the wastewater and to reduce the risk of an accidental release. Construction is 26 percent complete and is scheduled to be complete by April 2016.

**INFRASTRUCTURE RELIABILITY** continued...

Treatment Plant Reliability Program continued...

**Jensen Plant**

- Washwater Tank Seismic Upgrades—This project upgrades the Jensen plant’s two washwater tanks to improve their ability to withstand a major earthquake. Construction was completed in November 2015.
- Module No. 1 Filter Valve Replacement—This project replaces 78 deteriorated filter valves within Module No. 1 with new AWWA-standard valves. Construction is 37 percent complete and is scheduled to be complete by November 2016.
- Solids Transfer System—This project enables Metropolitan to use four solids lagoons on the grounds of the Los Angeles Aqueduct Filtration Plant. The project installs 7,600 feet of solids transfer piping and a utility crossing structure across Bull Creek Channel. Construction is 96 percent complete and is scheduled to be complete by December 2015.
- LADWP Lagoon Refurbishment—This project rehabilitates four LADWP lagoons which will be used by Metropolitan. Construction is 48 percent complete and is scheduled to be complete by June 2016. *(see photo below)*

**Diemer Plant**

- Electrical Upgrades, Stage 2—This project replaces electrical equipment, improves backup capability, and upgrades the Diemer plant’s electrical system to be consistent with current codes and industry practices. Construction is 82 percent complete and is scheduled to be complete by June 2016.
- East Filter Upgrades—This project upgrades the Diemer plant’s east filters, including replacement of 127 deteriorated valves with AWWA-standard valves and seismic strengthening of the filter buildings. Construction is 20 percent complete and is scheduled to be complete by November 2016.
- East Basin Rehabilitation—This project rehabilitates the aging mechanical equipment and its electrical and structural components inside the four east flocculation/sedimentation basins. Construction is 13 percent complete and scheduled to be complete by July 2017. *(see photo below)*



Diemer East Basin Rehabilitation – Clarifier walkway



LADWP Lagoon Refurbishment

### STRATEGIC PRIORITY

#### **EDUCATE THE PUBLIC AND STAKEHOLDERS ON CRITICAL WATER SUPPLY CONDITIONS AND CRITICAL WATER MANAGEMENT DECISIONS**

External Affairs efforts will focus on educating the public, legislative leaders, government officials, non-governmental organizations, and other stakeholders on critical water supply conditions and critical water management decisions.

Expand and enhance Metropolitan's outreach to key stakeholder groups in Southern California, statewide, nationally and internationally in support of strategic priorities.

- General Manager Kightlinger was interviewed as part of a new documentary, *The Brink Project*, which will feature footage and interviews with leading experts regarding the water challenges faced by the San Joaquin Valley and how agencies are working to provide a healthy environment and reliable clean drinking water supplies for the region.
- Assistant General Manager Man made presentations on the proposed Regional Recycled Water Supply Program to a Municipal Water District of Orange County board workshop and the West Basin Caucus. (November 4)
- General Manager Kightlinger spoke on Metropolitan and the region's current and future water issues at the Los Angeles County Bar Association Symposium. (November 6)

Inform Southern Californians about the drought/water supply conditions and how they can help improve water supply reliability through conservation actions and support for water supply projects.

- General Manager Kightlinger held a press briefing on the Board's action to authorize negotiations for options to purchase four islands in the Sacramento-San Joaquin Delta. KCRA (NBC affiliate in Sacramento) Sacramento Bee, San Francisco Chronicle, Los Angeles Times, Reuters, KPCC and Courthouse News participated. (November 10)
- Set up interview with Assistant General Manager Breaux and L.A. Daily News reporter on revenues and the possible impact on future water rates from increased water conservation.
- Arranged interviews with Sacramento Bee reporters for articles about possible El Niño-caused water storage impacts on Southern California and in the State Water Project watershed areas.
- Set up interview with General Manager Kightlinger and Wall Street Journal reporter for a story about providing more water storage to help with future droughts.

#### Online Activities

More than 93,000 people visited the English and Spanish versions of bewaterwise.com for ideas on how to conserve water both indoors and outside.

Videotaped and posted General Manager blog on Regional Recycled Water Supply project.

#### Advertising and Outreach Campaign

- Provided information to the California Special Districts Association bi-monthly magazine, California Special District, about Metropolitan's use of Pandora streaming music and other public outreach efforts to spread the message about the importance of water conservation during the drought.
- Arranged interview with General Manager Kightlinger and San Fernando Sun editor to discuss ongoing Metropolitan water-saving public messaging efforts and related public outreach programs.
- Digital, outdoor, paid social media, search engine optimization and radio advertising for the Turn campaign continued in November throughout Los Angeles, Riverside/San Bernardino, Oxnard/Ventura and San Diego counties.

## EXTERNAL AFFAIRS

### STRATEGIC PRIORITY

#### **EDUCATE THE PUBLIC AND STAKEHOLDERS ON CRITICAL WATER SUPPLY CONDITIONS AND CRITICAL WATER MANAGEMENT DECISIONS** *continued...*

Communicate and cultivate support for Metropolitan's key initiatives related to Colorado River supplies.

General Manager Kightlinger was a keynote speaker at the 107th Arizona Town Hall, *Keeping Arizona's Water Glass Full*, event in Phoenix, Arizona and spoke on the important role of the Colorado River watershed and innovative projects that benefit water supply reliability in Southern California.

Set up interview with General Manager Kightlinger and KAWC, Colorado River Public Media to discuss general manager's insights that Arizonans could use in planning for future water supplies and the Colorado River watershed.

Secure support for Delta conveyance improvements and habitat restoration projects to maintain State Water Project supplies, including any regulatory and/or legislative policies and funding needed to facilitate its implementation.

Staff met with Sacramento Area Flood Control Agency, Yolo County and Yolo railroad interests to help understand/advance Delta habitat projects consistent with local objectives.

Secure support for water bond legislative proposals that meet Board-adopted principles and educate the public about the bonds' impacts to water resources.

Staff is providing input and monitoring the work of the California Water Commission, which is scheduled to approve draft regulations for the Water Storage Investment Program (Proposition 1) at its December 2015 meeting. The regulations package will then go to the Office of Administrative Law for formal public review and comment, which is expected to last for several months.

### CORE

#### **LEGISLATIVE, COMMUNICATIONS AND COMMUNITY RELATIONS**

- Develop near- and long-term solutions that enhance the Delta ecosystem, improve water supply reliability, and protect water quality.
- Participate in the State Water Resources Control Board (SWRCB) process considering petition for an additional point of diversion for new conveyance facility.
- Continue to work on efforts related to improving water supply reliability and protecting water quality.

Support Metropolitan's planning and operational objectives through communication and outreach to various stakeholders, including local government agencies and utilities and the Metropolitan workforce.

Staff met with the City of Fontana to discuss the schedule of the Etiwanda Pipeline Lining Repairs project, mitigation of impacts to residents, and community outreach.

Coordinate with member agencies to advance Metropolitan's interests and Board-adopted policies.

Met with member agency managers on November 20 to discuss water supply conditions, 2016 legislative priorities, drought management, conservation program and the IRP.

**LEGISLATIVE, COMMUNICATIONS AND COMMUNITY RELATIONS continued...**

Develop and implement local, state, and federal water policy and legislative strategies consistent with Board-adopted policies.

**FEDERAL**

Director Ackerman attended National Water Resources Association's annual conference in Denver, Colorado, to promote Metropolitan's federal legislation priorities, including the need for federal drought legislation and legislation exempting water conservation rebates from income taxes. On November 5, Director Ackerman was elected Vice Chair of NWRA's Municipal Caucus. (November 4-6)

Metropolitan is working with the Alliance for Water Efficiency and Western Urban Water Coalition to develop a plan of action promoting federal legislation that will make local water conservation rebates exempt from federal income taxes.

**STATE**

Assistant General Manager Man testified before the Assembly Committee on Water, Parks and Wildlife at a hearing on urban rivers and streams that was held at Metropolitan's headquarters. Man spoke about Metropolitan's current water supply challenges, investments, and future opportunities to ensure water supply reliability and enhance the protection of local watersheds and natural resources. (November 16)

**2015 Legislative Wrap-Up**

The Legislature and Administration took early action to respond to the drought. In March, the Legislature passed a \$1.059 billion drought relief package that included funding from Propositions 1 and 1E, the General Fund, cap-and-trade auction revenues, among other sources.

As part of the FY 2015/16 state budget, the Legislature passed and the Governor signed legislation to implement further drought-related actions, including new authority to the State Water Resources Control Board to initiate water system consolidations; a narrow CEQA exemption for recycled water projects; expanded drought enforcement authority for local agencies; additional drought monitoring and reporting requirements; and \$10 million as start-up funding for the CalConserve State Revolving Fund, administered by the California Department of Water Resources. In September, the Legislature and Governor agreed to appropriate \$90 million to the California Air Resources Board for local climate change activities and \$19 million from cap-and-trade auction revenues for a water/energy grant program within DWR.

In August, Senator Fran Pavley (D-Los Angeles) amended SB 20 to establish the California Water Resiliency Investment Fund, which directs the Legislature to appropriate money to identify a "sustainable" funding source for "orphan" water infrastructure investments where there are significant unmet needs. Working with the California Water Foundation, Senator Pavley seeks to identify a range of sustainable funding options to fill gaps that reportedly exist for state and local water infrastructure financing and operations. The first of two informational hearings was held by the Senate Natural Resources and Water Committee on November 16.

**LOCAL**

- Participated in the Los Angeles Chamber of Commerce State of Los Angeles Infrastructure Summit, which was attended by 200 local leaders. The Chamber released its Los Angeles Infrastructure Blueprint, which included a section on the need for enhanced water infrastructure. (November 3)

**LEGISLATIVE, COMMUNICATIONS AND COMMUNITY RELATIONS continued...****Local water policy and legislative strategies continued...**

- Staff participated in the California Economic Summit sponsored by California Forward (a statewide bipartisan leadership council). The Summit addressed major challenges facing California including the statewide drought. The event agenda proposed a policy goal of supporting development of 1 million acre-feet of water in the coming decade. The conference featured Lieutenant Governor Newsom, Secretary of State Padilla, and University of California President Janet Napolitano and was attended by approximately 500 attendees. (November 12-13)

**Support Board member and executive management communications and working relationships with elected officials, other government leaders, business, agriculture, non-governmental organizations, community leaders and other stakeholders to improve awareness and understanding of water policy issues.**

- Metropolitan staff provided an update on the Integrated Water Resources Plan at the Central Basin Caucus. (November 4)
- Staff presented an overview of Metropolitan and water supply conditions to the Los Angeles Shriners. (November 4)
- Staff attended the Building Industry Association of Southern California's Building Industry Show at the Riverside Convention Center and spoke on drought, conservation programs as they relate to the home building industry and the Integrated Water Resources Plan. (November 5)
- Staff provided a presentation on California's water supply outlook and El Niño at the Water Advisory Committee of Orange County. (November 6)
- Staff shared information on the drought and Metropolitan's water resources planning with landscape professionals at the National Irrigation Association conference. (November 12)
- Director Morris spoke to the San Gabriel Valley Chapter of the Young Presidents Organization on California's water issues. (November 19)
- Staff participated in the Council for Watershed Health – Sustainable Los Angeles, Enhancing Urban Biodiversity Conference in South Gate. The event is sponsored to support region-wide efforts to enhance sustainability for watersheds through green infrastructure, open space, and biodiversity strategies. (November 19)

**Provide public outreach to increase awareness of water issues and communicate Metropolitan's interests and Board-adopted policies.**

- Set up interview with Assistant General Manager Man and CNBC to discuss proposed regional water recycling project.
- Arranged interview with KPCC reporter for a story about Metropolitan's IRP update and public participation in the process.
- Arranged site visit and interviews at Diemer treatment plant for Mission Viejo Reporter staff writer about water treatment processes and work by Metropolitan to provide safe and clean drinking water.
- Provided information to Riverside Press-Enterprise columnist about the extended boat ramp and water storage levels at Diamond Valley Lake.
- Arranged interview with Colorado River Resources Manager Hasencamp and San Diego Union-Tribune reporter for a story about Colorado River water.

**LEGISLATIVE, COMMUNICATIONS AND COMMUNITY RELATIONS continued...**

Provide public outreach ... continued...

Press Releases

- Issued press release about the Metropolitan Board of Directors' approving potential development of a regional recycled water project in partnership with the Sanitation Districts of Los Angeles County.
- Issued press release about kick-off to Metropolitan's 14th annual Solar Cup boat competition with first boat-building session.
- Issued press release containing statements by Chairman Record and General Manager Kightlinger about the California WaterFix following the end of the public comment period for the recirculated draft environmental documents.
- Issued press release about Compton Mayor Pro Tem Janna Zurita joining the Metropolitan Board of Directors.

Community Partnering Program

Staff supported and provided informational materials for three events in November: the Council for Watershed Health's Environmental Funders Forum; the Irrigation Association's fall conference at the Long Beach Convention Center; and the Clockshop neighborhood forum on the Los Angeles River Basin.

Provide a suite of educational products and programs that promote conservation behaviors and critical thinking of the water issues facing Southern California.

**World Water Forum College Grant Program**—The Education Unit submitted its WWF semiannual report to U.S. Department of the Interior Bureau of Reclamation and is working with interested colleges and universities on project proposals for the next round of grants.

**General Education**—Staff supported various events/activities throughout the month including: (1) presentations at Cal Poly Pomona on the drought; CSU Los Angeles Workshop; Arcadia Girl Scout Troop; and Fairfax High School and (2) outreach events for the New Children's Museum; Sally Ride SMART School Faire; Taste of Soul event; Thompson Middle School Eco Fair; Discover Cube LA Teacher Open House; NatureBridge; and Alliance Academy of Health. This month, the Education Unit directly interacted with over 3,700 students and teachers.

**Curriculum**—Outreach efforts lead to curriculum requests from 95 new teachers. The total curriculum distributed for the month (including both new and returning teachers) serves 13,642 students.

**Solar Cup**—More than 900 students will participate in the Solar Cup program, with 40 teams from the 47 high schools selected by 18 member agencies. The Education Unit worked with Three Valleys Municipal Water District to complete two boat building sessions November 7-8. (*see photos page 17*)

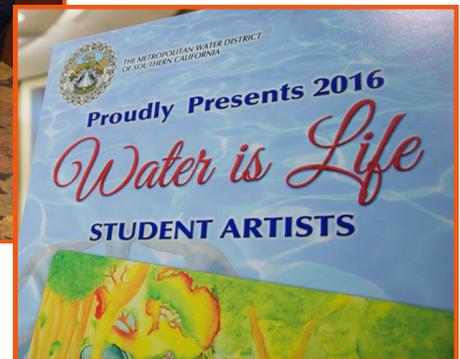
**Diamond Valley Lake Education Program**—Education staff conducted seven field trips at the DVL Visitor Center for nearly 250 students and hosted another 300 visitors.

**Tweets**—The Education Unit provided Tweets on numerous educational outreach programs including outreach from the Solar Cup boatbuilding event and the student Water is Life art exhibit for a monthly total of nearly 5,000 impressions.

## LEGISLATIVE, COMMUNICATIONS AND COMMUNITY RELATIONS continued...

Educational products and programs continued...

Water is Life Calendar, Student Art Recognition—Education staff hosted more than 100 students, parents, administrators and member agency representatives at the annual Student Art Recognition Event acknowledging the 37 student artists whose conservation artwork was selected for Metropolitan’s 2016 Water is Life calendar. Student artists were presented with certificates of appreciation and shared what inspired their artwork and messages. (November 18) *(see photos below)*



High school students making hulls in preparation for the 14th Annual Solar Cup™ competition, May 2016.

# HUMAN RESOURCES

## STRATEGIC PRIORITY

### EMPLOYEE DEVELOPMENT

This strategic priority focuses on ensuring employees have the tools necessary to meet current job and future responsibilities to support Metropolitan's goals.

Foster learning and development to expand internal talent pool.

- The second session of the new cohort of the 10-month Water System Operations Management Academy was held at Headquarters.
- *Leading Technical People* class was held for managers in the Water Resource Management Group.
- Classes delivered this month include: *Everyday Business Writing* and 2-hour modules of EXCEL and Access.
- Supported Career Launch efforts in Engineering Services by facilitating a Teamwork session.
- Two sessions of the *Augmented Leader Series* from University of California, San Diego and two sessions of the *Water Leadership and Management* certificate program were held at Headquarters on off-Fridays during the month.

Acquire talent.

During the past month Staffing has filled 9 positions and received 11 new requisitions. Staffing is currently recruiting for 70 positions of which 15 are in the final stages.

Foster management excellence.

- A *Reasonable Suspicion Training* session was conducted for managers.
- Continued to provide coaching, change-management and team building support through internal staff and external consultants to seven managers and their teams.
- Presented a new initiative to the Group Managers on revising training for new and transitioning managers focused on effective people management. The program covers business acumen, policy and compliance, managing/leading others, performance management and interpersonal effectiveness.

Foster workforce diversity.

Partnered with the Native American/Alaskan Native Employee Resource Group to present and provide information at the Native American and Veteran Career Exploration Day with the Southern California Indian Center.

## CORE

### HUMAN RESOURCES EXCELLENCE

Foster Human Resources Excellence with innovative and efficient processes that attract, hire and develop staff. Also, ensure Metropolitan is a high-performance workplace with excellent leadership and management practices.

Foster a high-performance culture.

Participated as a speaker in a STEM Student Forum as part of the ELEVATE program of University of California, San Diego's Rady School of Management.

**HUMAN RESOURCES EXCELLENCE continued...**

Provide proactive, swift, and consistent employee and labor relations.

EEO Investigations staff concluded both an internal investigation of alleged discrimination (no findings), as well as a response to the Equal Employment Opportunity Commission with regard to a complaint filed by a Metropolitan employee directly with that agency.

Manage total compensation benefits.

- Provided Stepping into Retirement workshop and financial education classes to assist employees with short-term and long-term retirement planning.
- Met with CalPERS auditors to provide data, documents and files for audit of Fiscal Year 2012/13 and FY13/14.
- Final interviews for service award companies and potential Company Store were conducted.
- Sixty newly hired employees attended Day 2 of the New Employee Orientation at Mills. The program is designed to increase new employees understanding of their Benefit package including their 401(k) and 457 plans.

Manage risk.

- The Risk Management Unit completed 22 incident reports communicating instances of Metropolitan property damage, liability, workplace injuries, regulatory visits and spills.
- Risk Management completed 58 risk assessments on contracts, including professional service agreements, construction contracts, entry permits, special events and film permits.

Control leave and disability costs.

- Conducted initial investigations on 9 injury incidents.
- Submitted 6 new claims to Metropolitan's workers' compensation claim administrator.
- Settlements were negotiated in 1 claim, finalized in 1 claim, and 13 claim files were closed.
- Arranged 7 medical evaluations (DMV, medical surveillance, hearing conservation, etc.).
- Coordinated random drug/alcohol tests at 1 facility.
- Addressed 2 accommodation issues.

## REAL PROPERTY ACQUISITION, MANAGEMENT AND REVENUE ENHANCEMENT

Manage Metropolitan's real property assets with a focus on revenue enhancement while ensuring that Metropolitan's core operations are protected. Acquire real property for future operational business needs.

Seek revenue-generating opportunities.

- Riverside County Regional Park and Open-Space District was issued an entry permit allowing access to perform studies for the planning of proposed recreational trails near Diamond Valley Lake and Lake Skinner.
- A license was issued to the City of La Verne to maintain landscaping and a V-ditch along Canyon Crest Drive near the Foothill Feeder Rialto Pipeline right of way.
- Verizon Wireless was issued an entry permit allowing temporary access to perform soil testing and sampling in conjunction with a proposed telecommunications site in San Dimas at the corner of San Dimas Canyon Road and E. Foothill Boulevard near the La Verne Pipeline right of way.
- Staff issued a consent letter to Friends of the Desert Mountains allowing removal of invasive plants on a portion of the Colorado River Aqueduct right of way near Whitewater Canyon Road in the County of Riverside.
- An existing lease with River Valley Ranches was amended to extend the term an additional year on property used for agricultural purposes within the Palo Verde Irrigation District.

Pursue development of the Diamond Valley Lake area, including the DVL Visitor Center and marina facilities, to support recreation, develop additional leasing and revenue opportunities for Metropolitan, and benefits the surrounding community.

Total visitors to the DVL Marina continued to decline as a result of low elevations and the private boat launch suspension effective May 2015. The lake elevation stands at 39 percent of capacity. In the first five months of the FY 2015/16, Diamond Valley Lake had 5,372 visitors, a drop of 55 percent from the same period in the previous year, and 80 percent from years when the lake capacity ranged from 70-100 percent. Rental boats are available and the DVL trail system remains open to the public.

Metropolitan forces completed construction on the DVL Marina 50' ramp extension.

Real Property Development and Management Group staff assisted Engineering with a job walk for the DVL Visitor Center Building Improvements project. The project will finish the build-out of two meeting rooms of more than 500 sf each.

Implement strategies for right-of-way planning and acquisition support of infrastructure reliability, protection programs, and Bay-Delta initiatives.

- Provided real property support to the Sepulveda Canyon Control Facility By-Pass Site Planning Study by completing the application process to create a street address for Metropolitan's fee property at Sepulveda Boulevard in the city of Los Angeles. This will facilitate design and installation of a new metering structure.
- Intex Properties Inland Empire Corp. entered into a lease with Metropolitan allowing use of its property for construction staging and laydown areas associated with the Etiwanda Pipeline North Liner Repair project.

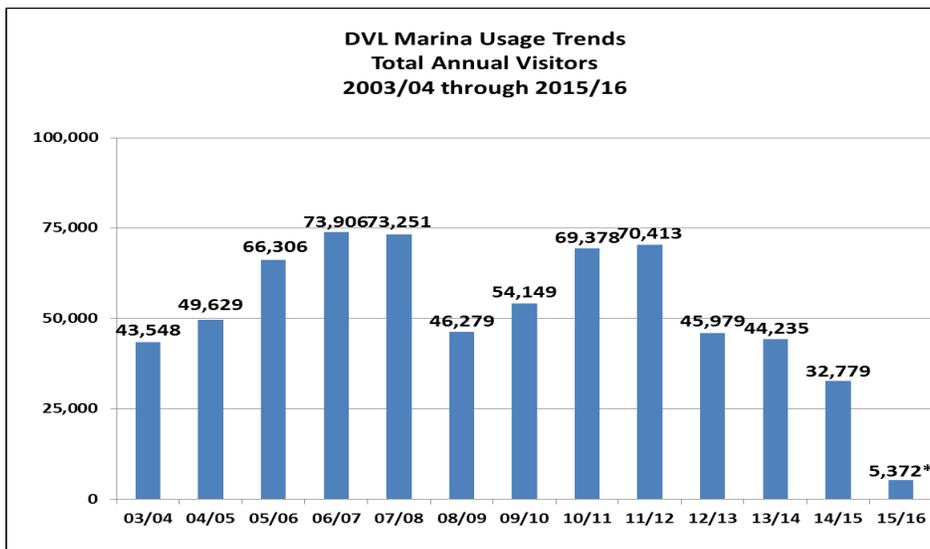
# REAL PROPERTY DEVELOPMENT AND MANAGEMENT

## CORE

### REAL PROPERTY ACQUISITION, MANAGEMENT AND REVENUE ENHANCEMENT *continued...*

Foster staff training and development.

- Staff participated in the Media Training and Public Presentation Training Workshops sponsored by Metropolitan’s External Affairs Group.
- Staff attended an external training course titled *Using Candor and Constructive Confrontation to Increase Accountability* sponsored by the Institute for Management Studies.



\*Actual thru November 2015  
(FY2015/16 projection is 31,000)

# WATER RESOURCE MANAGEMENT

## STRATEGIC PRIORITY

### Develop Water Supplies and Manage Water Reserves through Water Supply Allocation Plan Application

Staff will work closely with the Board to manage Metropolitan’s water supply reserves in the face of unprecedented drought conditions in California and throughout the Southwest. The actions will include implementation of storage withdrawals, coordination of deliveries with the member agencies, and administering and reporting on water use reductions under Level 3 of Metropolitan’s Water Supply Allocation Plan for allocation year 2015/16. Staff will also recommend adjustments to the allocation level, as necessary.

Local Resources Program—Metropolitan continues to meet with member agencies and sub-agencies to discuss the LRP and help them with the application process for their proposed projects. This month, staff met with Western MWD and Elsinore Valley MWD to assist them with an LRP application for a proposed 1,000 acre-feet per year groundwater recovery project.

Staff participated in a workshop at Las Virgenes MWD to provide input on LVMWDs proposed 2,000 acre-feet per year water recycling seasonal storage and reuse project.

## STRATEGIC PRIORITY

### **Develop Water Supplies and Manage Water Reserves through Water Supply Allocation Plan Application continued...**

Groundwater Reliability Improvement Program Recycled Water Project—Staff received an LRP application from City of Torrance for the Groundwater Reliability Improvement Program Recycled Water Project. The project will be owned and operated by the Water Replenishment District and it will recharge the Central Basin with about 10,000 acre-feet per year of recycled water from the Los Angeles County Sanitation Districts.

## CORE

### **WATER SUPPLY**

Develop and execute water resource strategies that achieve the long-term reliability envisioned in the Integrated Resources Plan (IRP). Efforts include the negotiation and management of supply, storage, and water use efficiency programs, administration of imported supply contracts, development of new water resource policy recommendations in support of the IRP, collaborative planning with member agencies, and forecasting resource and facility needs.

Ensure cost-effective and reliable imported water supplies.

Colorado River Diversions—Metropolitan submitted a revised 2015 Diversion Request to U.S. Bureau of Reclamation for Colorado River Water for up to 1,200,000 AF, pending availability in terms of agricultural adjustments and system operation needs.

Fallowing Program—Staff met with representative of Bard Water District to discuss potential terms of a pilot seasonal fallowing program.

2015 State Water Contractors Water Operations Committee—Metropolitan staff took the lead role in the planning and chairing of the 2015 State Water Contractors Water Operations Committee Workshop. The workshop was well attended by staff from 28 SWP contractors, given heightened interest in this year's extraordinary drought operations. Metropolitan staff will continue to take a lead role in the SWC Water Operations Committee meetings as we move through the water year, ensuring coordination with the Department of Water Resources and other SWP contractors.

Collaborate with member agencies to coordinate planning efforts, develop policy recommendations, and promote consistent public communications in water resource management issues.

Iron Mountain Pumping Station Tour—Staff hosted a tour of the Iron Mountain Pumping station for Imperial Irrigation District maintenance staff. The tour was focused on Metropolitan's approach to maintaining remote desert facilities.

## WATER SUPPLY continued...

Implement the Conservation Program effectively.

Request for Proposal - Landscape Survey Program—Staff received and evaluated two proposals to the Large Landscape Survey Program RFP. Staff selected one of the proposals to provide qualified landscape irrigation auditors for irrigation system surveys at non-residential sites located within Metropolitan’s service area to verify conservation project implementation.

2015 WaterSmart Innovations Conference and Expo—Staff attended the national 2015 WaterSmart Innovations Conference and Expo held in Las Vegas, Nevada. Metropolitan staff gave presentations on Metropolitan programs and research findings. Staff also used the opportunity to build relationships with other water industry and water conservation professionals.

Drought Challenges—Staff participated in a seminar sponsored by Ecolab/NALCO entitled *California Water Challenges: Risks & Opportunities* at University of California, Irvine. Ecolab/NALCO is a large, multi-national company that provides water processing management, equipment and technologies for a wide variety of industries including manufacturing, metals, hospitality, food and beverage processing, power generation, and more. Staff gave a presentation on the status of the drought, and described Metropolitan and member / retail water agency incentive programs to help conserve water.

Streamline approvals for future Sacramento Valley water transfers.

Water Transfer Approvals—On November 3, Metropolitan staff participated in a water transfer workshop convened by Department of Water Resources, U.S. Bureau of Reclamation, and State Water Resources Control Board. At the workshop, these agencies and water transfer stakeholders discussed 2015 water transfer experiences and suggestions for streamlining future water transfer approvals.

Association of California Water Agencies Water Market Technical Advisory Committee (TAC)—During November, Metropolitan staff continued participating in the Association of California Water Agencies Water Market Technical Advisory Committee, which is identifying short- and long-term proposals to enhance California’s water market, including streamlining approvals. Metropolitan staff is chairing TAC subcommittees focused on *Improving Existing Water Transfer Approval Processes and Improving Data Submittal and Management Processes*.



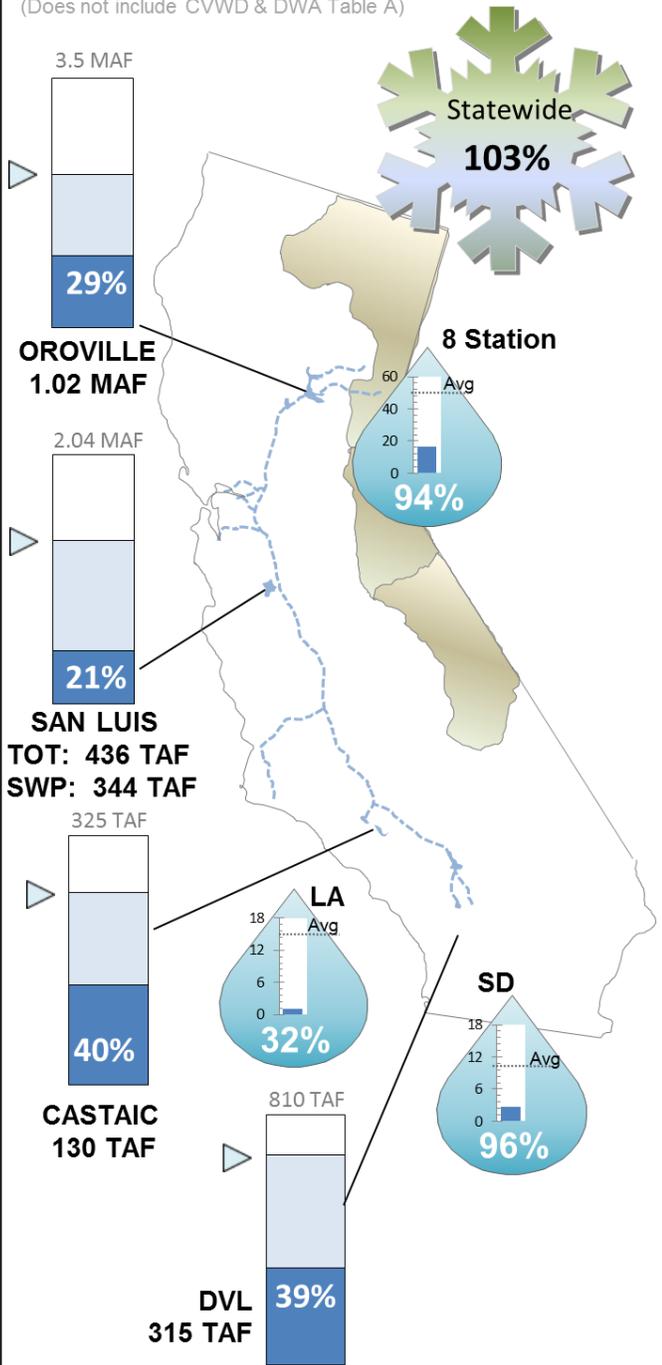
# WATER SUPPLY CONDITIONS as of November 30, 2015

## 2015 SWP Allocation

382,300 AF

20% of Table A

(Does not include CVWD & DWA Table A)

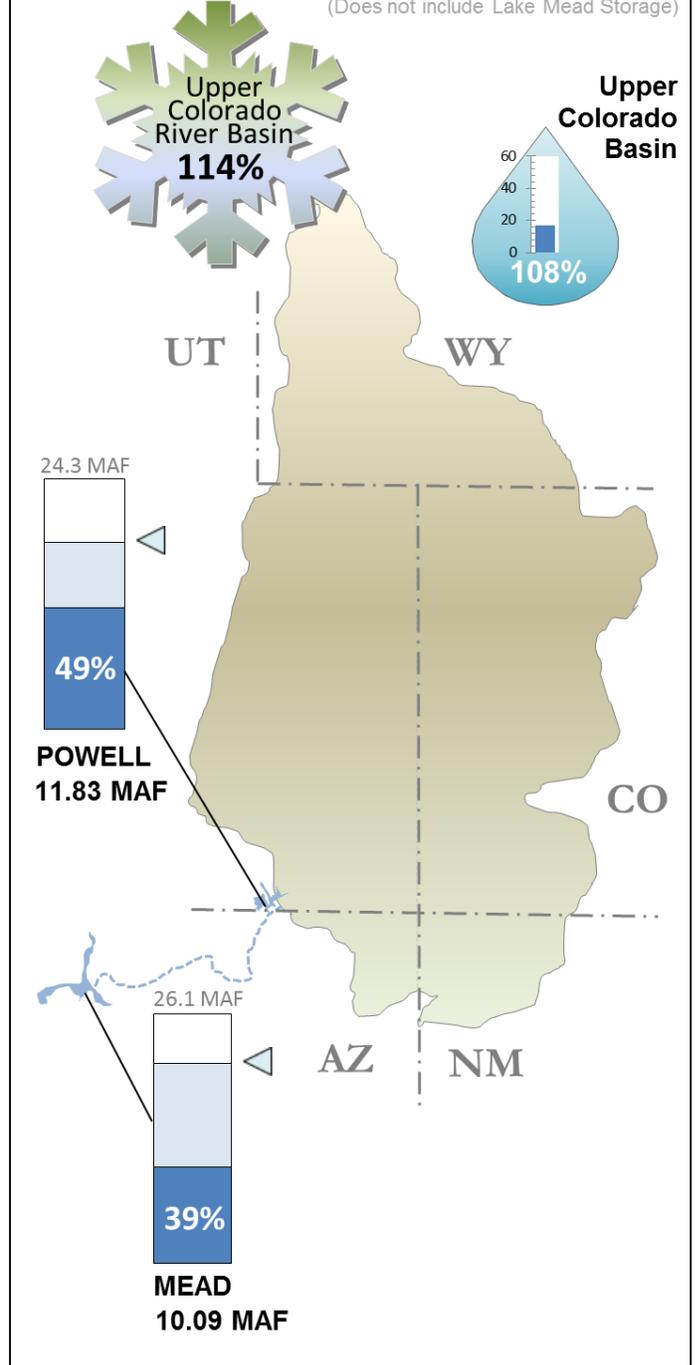


## 2015 Colorado River

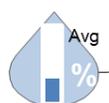
925,000 AF

74% of full CRA

(Does not include Lake Mead Storage)



Regional Snowpack



Rainfall to Date (in) % Normal



Capacity  
Average EOM Storage  
Current Storage (% Capacity)



Snow pack % Normal

# WATER SYSTEM OPERATIONS

## CORE

### PROVIDE RELIABLE WATER SUPPLIES

System Operations delivered approximately 120,000 acre-feet of water to meet member agency demands in November, which averaged approximately 4,000 AF per day. Treated water deliveries for November totaled 57,000 AF, or 47 percent of total deliveries for the month. In November, 95,500 AF of Colorado River water was pumped as the CRA remained on a seven-pump flow for the entire month. This was an average of 3,180 AF per day. Year-to-date CRA diversions are 1,078,000 AF. State Water Project imports averaged 1,630 AF per day, or 49,000 AF for the month. This was an increase of 3,500 AF from October. System Operations continued the strategy of minimizing the use of SWP water wherever possible. For the month of November, the use of SWP water accounted for 41 percent of Metropolitan's deliveries. This increase in SWP usage is due to ground water replenishment deliveries.

SWP blends to the Weymouth, Diemer, and Skinner plants remained at zero percent due to the low SWP allocation of 20 percent. The Greg Avenue pump station remained on-line for the month of November. By the end of the month, the pumps at Greg Avenue had delivered 38,500 AF of CRA water to the western side of Metropolitan's distribution system since the beginning of the year. The pumps at Greg Avenue have accounted for 39.4 percent of West Valley Feeder's deliveries over the last two years.

System Operations continued to maximize power generation throughout the month. In November, Metropolitan's hydroelectric plants generated an average of 20 megawatts per hour for 14,400 megawatt-hours for the month.

## CORE

### OPTIMIZE MAINTENANCE

Stretching across the desert floor and mountains are 321 miles of high-voltage transmission lines and 1,200 towers that bring power to the CRA pumps. Unpaved roads provide access for patrolling, maintenance, and repair of this critical 230kV transmission system. This month, staff maintained a portion of these roads using dump trucks, trailers, loaders, road-graders and survey equipment. When additional rock or gravel are needed in washed out areas, staff processes the materials from approved sites in key locations as commercially imported materials are not available in remote areas. Many areas that the roads travel through are environmentally sensitive and staff must work within strict permit conditions to preserve native plants and protected wildlife.

*(see photo right)*



Motor grader improving patrol road drainage .

Staff continued refurbishment work on the Etiwanda Hydroelectric Plant needle valves. The refurbishment work included disassembly and inspection of four needle valves. These valves and related components are being routed through the La Verne Shops for repairs, blasting, and coating.

## CORE

## OPTIMIZE MAINTENANCE continued...

Staff continued the system-wide coatings program aimed at preventing corrosion and extending the life of pipelines and infrastructure. Coating projects completed this month included structures on the East Orange County Feeder #2 pipeline, filter valves at the Skinner plant, and large sleeve valves at the Etiwanda Hydroelectric Plant. Additionally, staff performed repairs to the Lake Skinner outlet conduit piping after a scheduled inspection of the piping revealed minor corrosion where mortar coating had come loose. *(see photo below)*



Preparation work of Lake Skinner Outlet conduit prior to mortar repair.

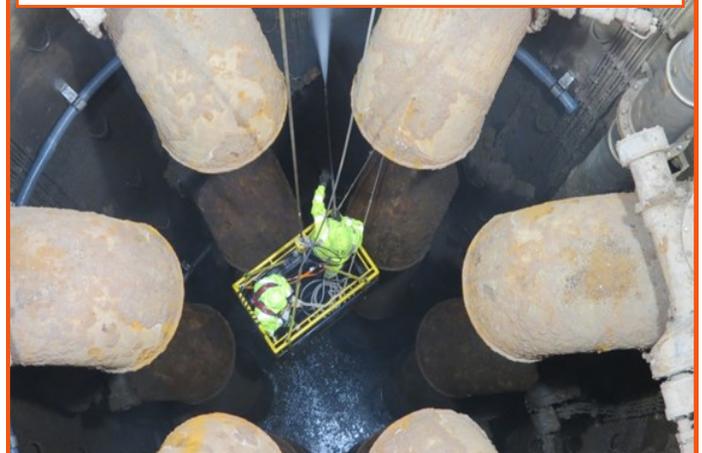
Periodic electrical maintenance ensures that high voltage equipment and electrical systems remain reliable. This month, staff performed maintenance on high voltage equipment at the Wadsworth Pumping Plant, the OC-88 Pump Station, and the Foothill Hydroelectric plant. *(see photo below)*



Staff testing and inspecting a high-voltage breaker at Foothill Hydroelectric Plant.

As part of Metropolitan's quagga mussel control program, the Lake Skinner Outlet Tower uses a chlorine injection and diffuser system to minimize mussel attachment in the tower and piping systems that connect to the treatment plant and raw water distribution piping. During a 14-day planned shutdown of the tower, staff repaired existing diffusers, and fabricated and installed two new diffusers to increase the depth of chlorine treatment within the tower. The work involved installation of an elaborate scaffolding system in the tower to facilitate safe access to the structure walls. The Skinner plant and all downstream customers remained in service because Lake Skinner was bypassed during this shutdown period. *(see photo right)*

Staff cleaning quagga from outlet tower walls. New chlorine diffuser shown on perimeter will prevent quaggas from attaching in the future.



# WATER SYSTEM OPERATIONS

## CORE

### OPTIMIZE MAINTENANCE continued...

Staff began the domestic water line improvement project at the Eagle Mountain Pumping Plant this month. This project consists of installing 2,500 linear feet of six-inch potable water line, including lateral connections to each of the homes in the village. *(see photo right)*

Staff excavating new domestic water line for 6-inch piping prior to installation.



## CORE

### DEVELOP WORKFORCE



The Water System Operations Apprentice and Technical Training Programs develop and train personnel to become qualified electricians and mechanics responsible for maintaining Metropolitan's water treatment and distribution systems. This month, the Class of 2016 Mechanics continued training at San Bernardino Valley College in machine shop practices. On-the-job training (OJT) is an integral part of the Apprenticeship Program. OJT comprises more than 6,640 hours of each apprentice's time over the course of four years. As apprentices near completion of the program, they perform increasingly complex tasks related to operation and maintenance of Metropolitan's equipment and facilities. This month, apprentices continued OJT at their home facilities. *(see photo left)*

Class of 2016 Conveyance & Distribution Mechanical Apprentice assisting with the disassembly of the thrust block on the main unit at the Hinds pump plant.

## CORE

### PREPARE FOR FUTURE LEGISLATION AND REGULATION

On October 29, President Obama signed H.R. 3819, a transportation policy bill, which extended the deadline for railroads to install positive train control technology by three years until December 31, 2018. Positive train control is a set of automated technologies designed to prevent train derailments and collisions. Metropolitan staff worked with water industry groups to raise concerns over the potential disruption to the delivery of critical water treatment chemicals, such as chlorine and anhydrous ammonia. By extending the positive train control deadline to 2018, the threat to Metropolitan's disinfection capabilities has been alleviated.

# WATER SYSTEM OPERATIONS

## CORE

### IMPROVE SECURITY AND EMERGENCY RESPONSE

On November 4, staff participated in one of the largest emergency exercises in recent history. During the *Desert Shake* exercise, participants practiced how they would respond to two, simulated magnitude 6+ earthquakes along the San Andreas fault. The Metropolitan Emergency Operations Center in Eagle Rock was fully activated for the exercise. Incident command centers at the Skinner and Mills plants and the Gene Pumping Plant were also activated for the day-long exercise. The San Diego County Water Authority, Three Valleys, Eastern MWD, Western Municipal Water District, and the Inland Empire Utilities Agency participated and helped design the exercise. Other participants included the California Department of Water Resources, State Office of Emergency Services, and the Riverside County Emergency Management Department. The scenario was based on recent seismic safety research conducted by Metropolitan, the United States Geological Survey, and the California Institute of Technology. The exercise also highlighted the use of new reporting and assessment technologies to aid Metropolitan's response to future emergencies. *(see photo right of participants in the emergency exercise)*



## CORE

### PROTECT SOURCE WATER QUALITY

On November 18, Pacific Gas and Electric completed final design of the Topock Chromium-6 Groundwater Remediation Project. California Department of Toxic Substances Control and U.S. Department of the Interior is slated to approve the final design in February 2017 following completion of a subsequent environmental review. Metropolitan staff will continue to participate in workgroups to ensure the project meets its target schedule to initiate construction of the groundwater remedy in 2017.

## CORE

### MANAGE THE POWER SYSTEM

Metropolitan and the Department of Water Resources executed a power sale agreement for the energy produced at Metropolitan's Corona, Red Mountain, Temescal, Venice, and Wadsworth (Diamond Valley Lake) hydroelectric power plants. This five-year agreement will become effective when the present sale agreement with Energy America expires on January 1, 2016. The new agreement will provide DWR all of the energy and environmental attributes from the five power plants, which are classified as "renewable generators" by the State of California. The price paid by DWR will be a combination of variable energy market prices and an adder for the renewable nature of the energy. Metropolitan anticipates annual revenues of \$3.8 million to \$7.4 million, depending upon water demands and market prices.

## CORE

## OPTIMIZE WATER TREATMENT AND DISTRIBUTION

State Water Project target blends at the Weymouth, Diemer and Skinner water treatment plants remained at zero percent for November. Flow-weighted running annual averages for total dissolved solids from September 2014 through August 2015 were 636, 639, and 588 mg/L for Weymouth, Diemer, and Skinner plants, respectively.

Staff took advantage of a 14-day shutdown of the Lake Skinner Outlet Tower to perform an inspection of the Lake Skinner Outlet Conduit flow meter transducers. The Outlet Conduit is chlorinated quarterly to prevent invasive quagga mussels from growing inside the conduit. The inspection confirmed that the flow meter transducers were free of quaggas and without corrosion from chlorination.

Work continues on the \$41 million capital improvement project to replace the internal components of the Weymouth plant's 48 filters, including the underdrains, media, launder troughs, and surface wash systems. These changes make room for more filter media, improving filtration and backwash performance. The contractor works with a limited number of filters at one time so as not to impact plant operations or treated water deliveries. In November, the contractor placed new filter media in four filters. The first rehabilitated filter will be completed and is expected to be released to the plant in mid-December. Project completion is targeted for May 2017. *(see photos below)*

Work continues on the \$46.7 million capital improvement project to upgrade the Diemer plant's east filters, including replacement of 127 deteriorated valves with AWWA-standard valves, and seismic strengthening of the filter buildings. In November, the contractor installed a filter channel drop gate to allow isolation of six filters as part of the Diemer Filter Valve Replacement and Filter Building Seismic Upgrade Project. The contractor work has minimal impact on plant operations and treated water deliveries given the small portion of the filters removed from service. The construction contract was awarded in February 2015. Construction is 16 percent complete and is scheduled to be complete by November 2016.



Filter troughs at the Weymouth plant before improvement work (left) and new filter troughs installed (below).



# WATER SYSTEM OPERATIONS

## CORE

### ENSURE WATER QUALITY COMPLIANCE, WORKER SAFETY AND ENVIRONMENTAL PROTECTION

Metropolitan complied with all water quality regulations and primary drinking water standards during the month of November 2015.

On October 15, 2015, an intense storm over the Castaic Lake watershed area caused significant mud and debris flows into the East Branch of the California Aqueduct. This event caused a shutdown of the East Branch of the State Water Project to allow the Department of Water Resources to remove approximately 16,000 cubic yards of mud and debris from within and around the aqueduct at Pool 49. Around-the-clock work was performed to dewater Pool 49, remove the debris, and repair cracked panels. The aqueduct was returned to service on November 5, 2015. During the East Branch outage, Metropolitan continued deliveries from Lake Silverwood storage. Prior to the storm, DWR had completed patrolling and clearing of drainage facilities around the SWP, in preparation for potentially wet El Niño conditions. Metropolitan conducted similar efforts and experienced no impacts to member agency deliveries during this storm. *(see photos below)*

The resulting mudslides created a high turbidity condition at the Castaic Lake Outlet Tower. This condition was worsened by the drought and extreme low reservoir levels with no ability to buffer the flows. The Jensen plant influent turbidity peaked at more than 20 times the normal level and gradually recovered over the following three weeks. Staff implemented actions at the plant to ensure treated water reliability for the member agencies. Water leaving the Jensen plant met all water quality requirements. *(see photo below)*



Photo left: Outage of DWR East Branch as a result of storm system on October 15.

Photo below: Repairs to DWR East Branch.



Flooded creek washing silt into Castaic Lake on October 15. (Photo credit: KABC)

## CORE

## SUPPORT EDUCATION AND OUTREACH INITIATIVES

Staff assisted with two, three-day tours of the Colorado River Aqueduct this month. A total of 80 participants (40 per tour)

### Useful information:

**AF** = acre-foot, the volume of water to cover an acre of land, one-foot deep.

Approximately 326,000 gallons of water, serves annual needs of two typical California families.

**TAF**=thousand acre-feet.

**MAF**=million acre-feet.

**Metropolitan's Mission** is to provide its service area with adequate and reliable supplies of high-quality water to meet present and future needs in an environmentally and economically responsible way.

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