



• Status Update on Five-Year Supply Actions

Summary

The Five-Year Supply Plan identifies specific resource and conservation actions to be implemented over the next five years to expedite augmentation of water supplies and deliveries under continued drought conditions and court ordered restrictions. Work on the plan began in April 2008 and was first reported to the Board in August 2008. Since then, staff has been securing resources, negotiating agreements, working with the member agencies, and bringing multiple information and action items to your Board to implement the plan. Approximately 404 thousand acre-feet (TAF) of resources have been identified for 2009 and a potential for 461 TAF to 1.0 million acre-feet (MAF) per year has been indentified in future years. This report provides an update on the status of implementing the Five-Year Supply Plan.

Implementation of this plan has already had a beneficial impact in 2009. Conservation programs have been expanded by Metropolitan and member agencies in response to the recent supply challenges and the Governor's call for water use efficiencies and reductions statewide. Additional programs completed in this five-year supply actions effort have allowed Metropolitan to increase Colorado River Aqueduct (CRA) deliveries to approximately 1.1 MAF for the first time since 2002. Water transfers purchased through the Department of Water Resources drought water bank are being delivered to Metropolitan starting in July to supplement State Water Project (SWP) supplies that have been limited due to dry conditions and regulatory restrictions. Operational plans are being implemented to move and store all available SWP Table A and transfer supplies, as well as to move water at up to 600 cfs through the Inland Feeder upon its scheduled completion in late 2009. Additionally, system deliveries are being managed to meet demands in areas served exclusively by SWP water. Conservation efforts as part of this plan appear to have already reduced demands. Had it not been for the five year actions taken to date, year-end surface storage forecasts would have been significantly lower. Continued implementation of these actions is critical to improving regional reliability in the near term given the ongoing nature of the regulatory issues impacting SWP supply.

Attachments

[Attachment 1: Potential Resource Options for the Next Five Years](#)

Detailed Report

In August 2008, a board report described the early development and implementation of a comprehensive plan to pursue five-year supply actions to address potential shortfalls in the five-year planning horizon for water supply due to the effects of ongoing dry conditions and regulatory restrictions on exports from the Sacramento-San Joaquin Delta. This report provides an update on the progress of implementing the Five-Year Supply Plan. Since August, project teams have been working on securing additional resources, staff has met with the Member Agency Managers to communicate and coordinate the plan, updates have been provided at board meetings and a special board workshop, and individual projects have been brought to the board for information and approval as they develop.

Resource Options

A set of potential resource options for the next five years has been evaluated based on the feasibility of specific projects and transactions. These options are estimated to yield 404 TAF of additional resources in 2009, and from 461 TAF to 1.0 MAF per year in future years if successfully implemented. The specific resource options are projects or transactions that are being implemented or expedited by Metropolitan and are shown in [Attachment 1](#), along with information on their estimated annual supply yield and preliminary costs that would be incurred by Metropolitan. The set of resource options focuses on initiatives in six main areas: conservation, Colorado River transactions, near-term Delta actions, SWP transactions, groundwater recovery, and local resources.

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Conservation

Two major conservation strategies were developed to increase and accelerate conservation savings.

- *Support Local Ordinances and Tiered Pricing:* The resources and support provided to the member agencies were increased to promote the implementation of water use ordinances and conservation-based tiered rate structures. Staff completed ordinance workshops with retailers and local jurisdictions and presented the results to the Board in December 2008. In addition, there is now a library of water saving ordinances available online for member and local agencies.
- *Expand Conservation Programs:* In November 2008, the Board authorized the Phase II Public Sector Program, the Turf Removal Pilot Program, and the requirement that ordinances be enacted to participate in extraordinary conservation programs. In January 2009, staff presented a Board information item to explain the administrative procedures to meet this new conservation ordinance requirement.

Staff estimates that the implementation of these actions will result in 235 TAF of annual conservation savings over and above what would have been achieved without the Five-Year Supply Plan. These strategies have helped to keep demands down in 2009 and will help the member agencies reach their conservation goals under the Water Supply Allocation Plan Level 2 allocation currently in effect. In addition, conservation habits formed by retail customers will continue to reduce demands in subsequent years.

Colorado River Transactions

Several opportunities to gain additional Colorado River water supplies, by enhancing existing programs and pursuing new initiatives, have been or are in the process of being implemented. The increase in supply resulting from these actions will allow Metropolitan to pump over 1 MAF this year on the Colorado River Aqueduct for the first time since 2002.

- *Expansion of the Palo Verde Irrigation District (PVID) Land Management Program:* In March, the Board approved the emergency one year land fallowing expansion of the existing PVID program. An agreement with PVID was signed in April 2009 and farmers began fallowing later that month. The yield of the program is 66 TAF, with 30 TAF expected in 2009 and the balance of 36 TAF in 2010. Additional fallowing agreements could be developed in subsequent years.
- *Yuma Desalter:* The pilot operation of the Yuma Desalting Plant has been delayed until 2010. If the project moves forward, Metropolitan, Southern Nevada Water Authority (SNWA), and the Central Arizona Water Conservation District have the opportunity to fund the operation and receive a portion of the water desalted by the plant via exchange. Metropolitan is currently working with its partners to resolve the outstanding environmental issues. The current proposal, which is scheduled for Board consideration in September, would allow Metropolitan to receive up to 27 TAF during 2010.
- *Arizona Exchange:* An exchange program with Central Arizona Project is under discussions. In lieu of Arizona storing Colorado River water in the ground, they would exchange it with Metropolitan for later return. Arizona does not expect to have water to provide to Metropolitan in 2009, but discussions continue for 2010 and beyond. At this time the potential yield could be up to 50 to 150 TAF per year.
- *California Tribes:* Discussions continue on developing a one year fallowing program. There is potential to receive from 10 to 20 TAF beginning in 2010.
- *ICS Exchange:* Under the terms of the California agreement for agencies to store conserved water in Lake Mead, Imperial Irrigation District (IID) may implement extraordinary conservation measures and store up to 25 TAF of conserved water in Lake Mead. Metropolitan has the option of taking delivery of that water and returning it to IID at a future date at IID's call, but Metropolitan is not obligated to return water when it has implemented a supply allocation plan for its member agencies. In 2009, IID submitted a plan to store 25 TAF in Lake Mead, and Metropolitan will exercise its option to take delivery of the conserved water this year.

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- *Expansion of Southern Nevada Water Authority Agreement:* In May 2009, Southern Nevada Water Authority (SNWA) and Metropolitan reached an agreement to amend the existing exchange agreement between the agencies. SNWA anticipates providing 50 TAF to Metropolitan in 2009, and up to 35 TAF per year may be available in future years.
- *Coachella Valley Water District Agreement:* Per the Colorado River Quantification Settlement Agreement (QSA), Coachella Valley Water District (CVWD) has the option to purchase 35 TAF of Colorado River water per year from Metropolitan. In November 2008, CVWD agreed to reduce its 2009 purchase from 35 TAF to 10 TAF. This will allow Metropolitan to receive an additional 25 TAF in 2009. Discussions continue for additional supplies in 2010 and beyond.

Combined, these resources are estimated to yield approximately 130 TAF in 2009 and between 176 TAF and 358 TAF per year in future years.

Near-Term Delta Actions

Metropolitan is committed to working within a framework of actions to improve Sacramento-San Joaquin Delta water supply reliability, water quality, and protect fish species with the goal of building a sustainable Delta. Within this framework are near-term Delta actions including the following: (1) developing and implementing measures that protect fish species and reduce supply impacts, such as habitat and hatchery projects, and (2) developing and implementing physical and operational actions with the goal of reducing conflicts between water supply conveyance and the environment.

A near-term Delta action that could have a near-term impact on water supply, while meeting the goals of the framework described above, is the current effort to install the 2-Gate System. The proposed system includes the installation of new temporary gates in central Delta channels that would be operated in real time to reduce fish take, minimize water supply restrictions at the State and Federal export facilities, and improve Delta water quality. Administrative Drafts of the Mitigated Negative Declaration/ Environmental Assessment (MND/EA) and Biological Assessment (BA) have been prepared for the project. The draft MND/EA and BA documents were submitted to the Department of Water Resources (DWR) and the U.S. Bureau of Reclamation (USBR) for filing in April as CEQA and NEPA leads for the project. A review by the State Water Contractors (SWC) and Central Valley Project contractors suggests that the 2-Gate System can operate within the discretionary provisions of the Biological Opinion (BiOp) to reduce water supply restrictions. This would beneficially affect Delta smelt salvage, help maintain Delta smelt and their preferred habitats further downstream from the export pumps, and provide improved water supply benefits.

Metropolitan, the San Luis & Delta-Mendota Water Authority (SLDMWA), and the SWC have developed a draft Cooperation Agreement for the 2-Gate System Project to define certain implementation and management responsibilities.

The 2-Gate System could be completed in late 2009 or early 2010 and then tested for effectiveness with agreement from the fishery agencies. If successfully implemented, the system could be fully operational in 2011 and could yield up to 150 TAF per year of additional water, except in critically dry years when hydrology, instead of the BiOp, is the primary cause of reduced Delta pumping.

SWP Transactions

Staff has been pursuing a number of transfer and exchange opportunities on the SWP system including the following:

- *Drought Water Bank:* In April 2009, the Board authorized staff to purchase up to 300 TAF of Drought Water Bank (Bank) transfer supplies. At this time, it appears the Bank will secure approximately 82 TAF of which Metropolitan will receive approximately 45% or 37 TAF, before carriage losses. After carriage losses, Metropolitan would net approximately 28 TAF. In late-April, Metropolitan notified DWR that it would like to receive as much Bank water as possible since the most recent forecasts of 2009 SWP deliveries completed by DWR indicate there is available capacity at Harvey O. Banks Pumping Plant to transport these water transfers through the Delta under dry conditions, when such water transfers would

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be most needed. The quantity of water secured by the Bank was limited by the May and June Delta export restrictions, which precludes purchasing water from most north-of-the Delta sellers. In addition, environmental mitigation measures to protect the Giant Garter Snake limited participation by sellers. Both of these issues will continue into the near future and staff is exploring alternative strategies to secure water transfer supplies in 2010 and beyond. Recently, Butte Environmental Council, California Sportfishing Protection Alliance, and the California Water Impact Network filed a lawsuit against DWR, the California Natural Resources Agency, and the Governor's office on the grounds that the use of an emergency CEQA exemption to facilitate the Bank violates CEQA. Staff will continue to monitor this development and the potential ramifications.

- *Delta Wetlands*: In January 2009, the Board authorized staff to enter into a water transfer agreement with Delta Wetlands Properties. Metropolitan entered into the water transfer agreement in late January to secure up to 18 TAF of new supply prior to any losses. The program is estimated to provide 8 TAF in 2009, depending on the amount of land fallowed and the conveyance losses. Metropolitan only pays for water that is made available for transfer. For 2010 and beyond, additional transfer agreements like this one could yield up to 20 TAF per year.
- *North Kern / DWA Exchange*: In this agreement, Desert Water Agency (DWA) will purchase water from North Kern and deliver it to Metropolitan in exchange for Colorado River water delivered to DWA. In 2008, DWA purchased over 8 TAF from North Kern and delivered it to Metropolitan. In 2009, DWA is attempting to buy an additional 18 TAF for delivery to Metropolitan. Metropolitan is scheduled to return all water received from DWA uniformly over the next 30 years, but may return it sooner if desired.

The total yield from these resources will vary from year to year. Under low SWP allocations, yields will be low as there will be a high demand for transfers and a low supply of willing sellers. Under higher SWP allocations, there will be more transfer supplies available, but they will be difficult to deliver through the Delta due to environmental constraints. Under the mid-range SWP allocations, 40 percent to 50 percent, there will likely be a favorable balance between available transfer supply and capacity to move these supplies through the Delta and annual yields could be up to 130 TAF.

Groundwater Recovery

Groundwater that requires treatment and recovery for consumptive use is a resource that has the potential to yield significant amounts of supply. Based on groundwater inventories conducted by Metropolitan and the member agencies, it is estimated that there is over 300 TAF of groundwater that could be recovered in our service area by local agencies as well as through Metropolitan's local resources program. An additional 400 TAF or more could be recovered outside our service area in the San Joaquin Valley and Hayfield Basin. The feasibility and cost of groundwater recovery is dependent on the type and concentration of constituents that must be removed. Listed below are a number of groundwater recovery projects that are in development under the five-year supply actions:

- *LADWP Groundwater Demonstration Project*: Treatment facilities will be installed at the Tujunga Well Field to produce 12 to 18 TAF per year. In December 2008, Metropolitan entered into an agreement with LADWP and in April 2009, a contract was awarded to Siemens Water Technologies Corporation. The facilities are estimated to be on line at the end of October 2009. Metropolitan's partnership with LADWP will bring the treatment facilities on-line nearly two years ahead of the original schedule. LADWP will fully reimburse Metropolitan for all costs incurred. Expediting groundwater recovery through this partnership approach is a viable option for other member agencies.
- *Hayfield*: This project could ultimately recover about 100 TAF in the Hayfield Basin. In February 2009 the Board authorized a hydrogeologic study, including the drilling of one full scale prototype well, to gather information to support design of additional production wells. This work is currently scheduled for completion in September 2009. The next Board action, currently anticipated for October 2009, will be to report on the project and recommend whether or not to continue with the authorization of preliminary design, final design, and construction of additional production wells. Production wells could be on-line in late 2010 or early 2011 if needed.

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- *San Joaquin Valley Agricultural Water Recovery Demonstration Projects:* In March 2009, staff presented an informational letter describing a new potential water supply through the recovery of agricultural water in the San Joaquin Valley. Staff completed a conceptual-level analysis of alternative water supply projects showing the initial yields for the demonstration projects could be up to 15 TAF per year. An August 2009 Board letter is scheduled to request authorization for environmental and permitting work on one demonstration project yielding 11 TAF per year. Assuming this project moves forward as planned, it could begin operation in late 2011.

Combined, these recovery projects could yield over 50 TAF per year if fully implemented.

Accelerated Local Resources

Metropolitan is working with the member agencies to determine which local projects could be expanded and/or accelerated with a potential to be on line within the next five years. Local projects include recycled water treatment plants, groundwater recovery plants, desalination plants, and new hookups to existing recycled plants. These new projects are not part of Metropolitan's Local Resources Program. All combined, over 50 potential projects have been identified, ranging from projects in the conceptual stages to projects farther along in the development process. Metropolitan is investigating several options to assist the member agencies by providing funding for facilities, studies, design, and/or permitting for these projects. If appropriate, Metropolitan may also partner on a project or contract for a portion of the supply. No yield is anticipated for 2009, but the combined annual yield for these projects has the potential to grow to the 122 TAF range by 2013.

Next Steps

The extraordinary events affecting water supply leading up to and including this year have demonstrated the value of Metropolitan's diverse regional resource portfolio. Under this Five-Year Supply Plan, numerous projects and transactions are moving forward to improve water supply reliability over the next five years. Staff will continue to implement these projects as well as identify new resource opportunities, provide periodic updates on the progress of the five-year supply actions, continue coordination with the member agencies, and request board actions to implement projects as they develop.

Potential Resource Options for the Next Five Years

Resource Options	2009 Yield (AF)	2010 - 2013 Potential Yield (AF/Year)		
Conservation				
Ordinances / Tiered Pricing	200,000	200,000	--	200,000
Expanded Conservation Program	35,000	35,000	--	35,000
Subtotal	235,000	235,000	--	235,000
Colorado River Transactions				
Additional PVID Transfers (Crop Stressing / Fallowing)	30,000	66,000	--	66,000
Yuma Desalter	0	0	--	27,000
Arizona Programs -- CAP	0	50,000	--	150,000
California Indians / Other Ag	0	10,000	--	20,000
ICS Exchange	25,000	0	--	25,000
Expand SNWA Agreement	50,000	15,000	--	35,000
Agreements with CVWD	25,000	35,000	--	35,000
Subtotal	130,000	176,000	--	358,000
Near-Term Delta Actions				
2-Gate System	0	0	--	150,000
Subtotal	0	0	--	150,000
SWP Transactions				
Drought Water Bank / NOD Transfers	28,000	25,000	--	100,000
In-Delta Transfers -- Delta Wetlands	8,000	8,000	--	20,000
North Kern / DWA Exchange	0	0	--	10,000
Subtotal	36,000	33,000	--	130,000
Groundwater Recovery				
LA DWP GW Demo	3,000	12,000	--	18,000
Hayfield	0	0	--	25,000
San Joaquin Valley Demonstration Projects	0	0	--	11,000
Subtotal	3,000	12,000	--	54,000
Local Resources				
Local Resources Projects	0	5,000	--	122,000
Subtotal	0	5,000	--	122,000
Total	404,000	461,000	--	1,049,000