



### ● 2008 - 2010 Water Transfer and Exchange Transactions

#### Summary

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Following the 1986 - 1991 drought, Metropolitan intensified its strategic planning efforts towards diversification of supplies as the methodology for providing Southern California with dry year supply reliability. This strategy was detailed in Metropolitan's 1996 Integrated Resources Plan (IRP), subsequently updated in 2004 and 2010. The strategy called for investments in conservation and local supply programs to reduce regional reliance on imported water along with investments in storage to buffer the impacts of inevitable droughts. Additionally, the strategy targeted limited long-term or "core" water transfers to strengthen imported supplies coupled with timely purchase of short-term or "spot market" water supplies in dry years.

The recent 2007 - 2010 drought was one of the more severe droughts in California's history and posed a significant challenge to Metropolitan and the member agencies. Coming out of the drought with a very wet year in 2011, it is important to review the performance of Metropolitan's overall drought strategy and determine what modifications should be made, if any.

This report focuses on the role water transfers and exchanges played in responding to the recent drought. Over the course of the past 15 years, significant changes have occurred in agriculture which led to concerns that "spot market" water transfers might be a less viable tool. For instance, the significant rise in the percentage of permanent crops in California's Central Valley led to a concern that not only would there be less agricultural water available to transfer, but the significant investment in those permanent crops would force those farms to compete for available water transfer supplies. In addition, growing urbanization in the Central Valley has created a higher urban demand in a number of areas such as Bakersfield and Fresno leaving less water available for transfers. Also, there were concerns that transportation bottlenecks, primarily in the troubled Delta region, could significantly curtail opportunities for transfers from north of the Delta.

The good news is despite these shifts and challenges, Metropolitan and other agencies were able to secure transfer water and move that water when needed. While some agricultural areas also competed for transfer water and were willing to pay the full market rate for that water, in general there were sufficient supplies available to buffer the impacts of the drought. Also, Metropolitan's investments in storage and conveyance infrastructure provided invaluable flexibility that facilitated cooperative water management partnerships with agricultural entities. There were also a number of important lessons learned, which will be incorporated into future efforts to secure water transfer and exchange supplies. But, the overall conclusion is that transfers, both "core" and "spot market", will remain valuable dry year water management tools for Metropolitan with some modifications.

#### Attachments

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[Attachment 1 – 2010 SWP Transactions](#)

[Attachment 2 – 2009 SWP Transactions](#)

[Attachment 3 – 2008 SWP Transactions](#)

[Attachment 4 – CRA Transactions](#)

[Attachment 5 – Yield and Cost Summary Table](#)

#### Detailed Report

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The State of California experienced consecutive dry years from 2007 to early 2010. Following a dry 2007, the California Department of Water Resources (DWR) announced an initial State Water Project (SWP) allocation of 25 percent at the onset of 2008. With continued dry conditions through 2009 and increased regulatory restrictions in the Delta, the initial 2010 SWP allocation was only 5 percent, the lowest initial SWP allocation in history. In addition, the Colorado River Basin was in the midst of an extended drought. In response, and consistent with the

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IRP, Metropolitan utilized a significant amount of surface and groundwater storage reserves to meet Metropolitan service area demands during this period of reduced imported supplies. For example, storage levels in Metropolitan’s Diamond Valley Lake dropped below 350,000 acre-feet, its lowest level since its initial filling, and Metropolitan utilized approximately 445,000 acre-feet of water previously stored in Central Valley groundwater programs.

Metropolitan relied on core transfers to further supplement imported supplies and along with other water agencies throughout the State pursued various water transfers and exchanges in 2008 through 2010 which utilized the SWP and Colorado River Aqueduct (CRA) systems. These transactions fell primarily into three categories:

- SWP annual or “spot market” transactions;
- CRA short-term transactions; and
- CRA long-term or “core” transactions.

Tables 1-3 summarize the yields and unit costs for the three categories of transactions developed by Metropolitan and non-Metropolitan interests. The water transfers and exchanges described herein include transactions exceeding 5,000 acre-feet that were either conveyed in the SWP and CRA or stored in Lake Mead. All yield information was derived from reports published by either the California Department of Water Resources or U.S. Bureau of Reclamation (Reclamation) and cost information was based on readily available and/or published data. All expenditures listed in this report have not been adjusted for inflation and do not include transportation energy costs.

Nearly 95 percent of the SWP water transfers and exchanges were completed one-year or “spot market” transactions and the unit cost is provided by dividing the total transaction costs by the total amount of water secured after losses (see Table 1). The CRA water transfers and exchanges were nearly all multi-year transactions, solely funded by the water recipient, with the exception of the All-American Canal and Coachella Canal Lining Projects and Yuma Desalting Plant. The CRA short-term transactions were initiated in response to drought conditions and have since concluded. The CRA long-term transactions were developed to provide long-term augmentation of Colorado River supplies and will continue beyond 2010. For these CRA programs, the unit cost through 2010 is provided by dividing the total transaction costs through 2010 by the total amount of water secured through 2010 (see Tables 2 and 3). For the All-American Canal and Coachella Canal Lining Projects and Yuma Desalting Plant, only yield information is provided, since these transactions were partially funded by either the State of California or the United States and accordingly do not provide meaningful unit cost comparisons to other transactions. It is recognized that long-term unit costs for these programs may decrease as these programs yield additional supplies beyond 2010 to offset early program payments.

<b>Table 1 - SWP Annual Transactions</b>		<b>2008</b>	<b>2009</b>	<b>2010</b>	<b>TOTAL</b>
Metropolitan Transactions	Yield <sup>1</sup>	41,168 AF	61,937 AF	228,977 AF	<b>332,081 AF</b>
	Unit Cost <sup>2</sup>	\$204/AF	\$320/AF	\$195/AF	<b>\$220/AF</b>
Non-Metropolitan Transactions	Yield <sup>1</sup>	57,291 AF	124,115 AF	48,351 AF	<b>229,757 AF</b>
	Unit Cost <sup>2</sup>	\$236/AF	\$293/AF	\$238/AF	<b>\$267/AF</b>

<sup>1</sup> Includes applicable losses including Delta carriage and California Aqueduct conveyance losses.

<sup>2</sup> Does not include transportation energy costs.

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<b>Table 2 – CRA Short-Term Transactions</b>		<b>SUBTOTAL</b>	<b>TOTAL<sup>3</sup></b>
Metropolitan Transactions	Yield through 2010	<b>237,291 AF</b>	<b>254,041 AF</b>
	Unit Cost through 2010 <sup>2</sup>	<b>\$236 AF</b>	<b>N/A</b>

<b>Table 3 – CRA Long-Term Transactions</b>		<b>SUBTOTAL</b>	<b>TOTAL<sup>4</sup></b>
Metropolitan Transactions	Yield through 2010	<b>2,343,106 AF</b>	<b>2,385,439 AF</b>
	Unit Cost through 2010 <sup>2</sup>	<b>\$182/AF</b>	<b>N/A</b>
Non-Metropolitan Transactions	Yield through 2010	<b>330,000 AF</b>	<b>546,089 AF</b>
	Unit Cost through 2010 <sup>2</sup>	<b>\$689/AF</b>	<b>N/A</b>

Detailed descriptions of Metropolitan and non-Metropolitan SWP water transfers and exchanges for 2010, 2009, and 2008 are provided in [Attachment 1](#), [Attachment 2](#), and [Attachment 3](#), respectively. [Attachment 4](#) provides detailed descriptions of Metropolitan and non-Metropolitan CRA short-term and long-term transactions. [Attachment 5](#) provides a summary table of yields and unit costs for all Metropolitan and non-Metropolitan SWP and CRA transactions discussed in this report.

### Lessons Learned

Metropolitan’s experience with negotiating and implementing the water transfer and exchange transactions described herein provides a number of lessons learned, which will be incorporated into future efforts to secure water transfer and exchange supplies:

- First, Metropolitan was able to acquire significant amounts of SWP transfer and exchange supplies via one-year or “spot market” transactions. As shown in Table 1, Metropolitan secured 332,081 acre-feet of SWP transfer and exchange supplies between 2008 and 2010. Of this amount, nearly 95 percent were spot market transactions, which will continue to be a key, flexible water management tool under Metropolitan’s IRP.
- Second, Metropolitan’s participation in cooperative buyer coalitions proved to be a more effective means for acquiring SWP water transfer supplies than participating in the state-wide 2009 Governor’s Drought Water Bank (2009 Bank). The 2009 Bank failed to develop the volumes of transfer supplies secured in earlier Drought Water Banks. Accordingly, Metropolitan led the effort in 2010 to re-convene a State Water Contractors Buyers Group, which provided Metropolitan with a greater amount of transfer supplies than the 2009 Bank secured for all buyers and at a lower cost. Metropolitan will continue to advocate for and play a key role in cooperative buyer coalitions in future dry years.
- Third, the 2009 and 2010 State Water Resources Control Board (State Board) petitions submitted by the California Department of Water Resources and U.S. Bureau of Reclamation to consolidate the authorized place of use for the SWP and Central Valley Project supplies helped facilitate innovative water management actions. Specifically, Metropolitan was able to implement an exchange with Westlands Water District and San Luis Water District. Under the exchange, for every three acre-feet Metropolitan received in 2010, two acre-feet would be returned in 2011. The exchange yielded 36,897 acre-feet to Metropolitan at no cost for the transaction. In 2011, Metropolitan is working cooperatively with Reclamation to submit a petition to the State Board which will improve the operating flexibility of the

<sup>3</sup> Total yield amount includes 16,750 AF developed by the Yuma Desalting Plant transaction. The unit cost was not calculated since this transaction was partially funded by the United States.

<sup>4</sup> Total yield amounts include 42,333 AF for Metropolitan and 216,089 AF for SDCWA from the All-American and Coachella Canal Lining Projects. The unit costs were not calculated as these transactions were partially funded by the State of California.

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Arvin-Edison/Metropolitan Water Management Program and is investigating approaches to more closely integrate the operation of the CVP and the SWP to create further beneficial exchange opportunities.

- Fourth, Metropolitan's long-term CRA transactions continue to be a cost effective means to secure long-term core water transfer supplies consistent with Metropolitan's IRP. As shown in Table 3, Metropolitan secured 2,385,439 acre-feet of water supplies to date via these long-term programs. Further, Metropolitan worked cooperatively with Palo Verde Irrigation District (PVID) to develop 56,382 acre-feet of additional CRA water supplies under the PVID Emergency Land Fallowing Program, thereby demonstrating how an existing long-term program can be adaptively managed to increase benefits for both parties. Metropolitan will continue to adaptively manage its long-term programs to provide increased water supply reliability for the member agencies.
- Fifth, Metropolitan's Intentionally Created Surplus (ICS) storage account in Lake Mead proved to be an invaluable tool to help manage Metropolitan's Colorado River supplies. In 2007, the Interim Guidelines for Coordinated Operations of Lake Powell and Lake Mead were adopted, which allows Metropolitan to develop conserved water and store it in Lake Mead. By the end of 2010, Metropolitan accumulated a total of 255,967 acre-feet of ICS storage credits in Lake Mead. That water was stored at no additional cost and can be withdrawn to meet future demands. Metropolitan continues to exercise its right to develop ICS credits and is projected to store an additional 200,000 acre-feet in Lake Mead in 2011.
- Lastly, Metropolitan's investments in water management infrastructure and rights to convey and store water in both the SWP and CRA systems make Metropolitan an attractive partner. These investments allow Metropolitan to develop innovative water management programs through operational flexibility to better manage its own water supplies and those of other water agencies. Metropolitan will continue to look for opportunities to leverage these investments to increase water supply reliability and reduce costs for Metropolitan's member agencies.

## 2010 SWP Transactions

### Metropolitan Transactions

#### State Water Contractors Buyers Group Transfer Supply

In December 2009, Metropolitan's Board authorized entering into an agreement (Agreement) with the State Water Contractors (SWC) Buyers Group (Buyers Group) to pursue up to 100,000 acre-feet of Central Valley water transfers for 2010. Metropolitan entered into similar agreements with the SWC in 2005 and 2008 (see [Attachment 3](#)). Under the Agreement, sharing among the Buyers Group is based on their relative Table A contract amounts.

Metropolitan purchased 88,158 acre-feet, approximately 90 percent of the total sellers' supplies, at \$244 per acre-foot, for a total cost of \$21.48 million. These supplies incurred 20 percent Delta carriage losses and 3 percent California Aqueduct conveyance losses. Net of losses, Metropolitan received 68,411 acre-feet for a unit cost of approximately \$314 per acre-foot.

#### Yuba Accord Transfer Supply

In November 2007, Metropolitan's Board authorized entering into an agreement (Agreement) with DWR to purchase water supplies from Yuba County Water Agency (YCWA) under the Yuba Accord. The dry year supplies made available are shared equally between participating State Water Project (SWP) contractors and the San Luis Delta-Mendota Water Authority representing participating Central Valley Project contractors. Sharing among the participating SWP contractors is based on their relative Table A contract amounts.

The Agreement provides Metropolitan with an assured purchase of 13,750 acre-feet and up to 35,000 acre-feet of water supplies in dry years. The Agreement also provides YCWA discretion to provide additional supplies by utilizing groundwater and forgoing surface water deliveries. Metropolitan purchased 67,068 acre-feet, approximately 82 percent of the total 2010 Yuba Accord supplies. Metropolitan's melded cost was \$183 per acre-foot for a total cost of \$12.29 million. These supplies incurred 20 percent Delta carriage losses and 3 percent California Aqueduct conveyance losses. Net of losses, Metropolitan received 52,045 acre-feet for a unit cost of approximately \$236 per acre-foot.

#### San Luis Water District/Westlands Water District Transfer Supply

In August 2010, Metropolitan's Board authorized the purchase of 18,453 acre-feet of water transfer supplies from two Central Valley Project (CVP) contractors, San Luis Water District and Westlands Water District (CVP Contractors). The CVP Contractors originally purchased this water to ensure adequate water supplies to irrigate permanent crops in 2010. This water became surplus to their irrigation needs as improved hydrology in 2010 increased their water supplies. Metropolitan purchased and received 18,453 acre-feet for a total cost of \$4.24 million for a unit cost of approximately \$230 per acre-foot.

#### San Luis Water District/Westlands Water District Exchange Supply

In August 2010, Metropolitan's Board authorized a one-year unbalanced water exchange with the CVP Contractors for up to 150,000 acre-feet. For every three acre-feet Metropolitan received, two acre-feet would be returned in 2011. The CVP Contractors requested Metropolitan's assistance to conserve 2010 water supplies stored in San Luis Reservoir. This agreement presented a unique opportunity to leverage Metropolitan's investments in storage infrastructure to develop an innovative partnership. The CVP Contractors developed 110,692 acre-feet to Metropolitan, of which Metropolitan returned 73,795 acre-feet in 2011. Under this exchange Metropolitan received 36,897 acre-feet at no cost for the transaction.

### Shasta Exchange Supply

In January 2003, Metropolitan's Board approved transfer agreements with various Sacramento Valley water and irrigation districts. This action was taken to augment water supplies in water year 2003 following a low initial SWP allocation of 20 percent. Improved hydrology impeded the ability to pump a portion of this water at Banks Pumping Plant. Metropolitan entered into an Operational Exchange Agreement with the U.S. Bureau of Reclamation (Reclamation) in late August 2003 to make 47,124 acre-feet available to Reclamation to prevent losing this supply. Reclamation agreed to return a like amount of water to Metropolitan at some future date subject to certain conditions. However, in the years following the 2003 exchange, insufficient water, inadequate capacity and other issues prevented Reclamation from completing this exchange. In 2010, Reclamation returned the water to Metropolitan.

Metropolitan purchased the 47,124 acre-feet of transfer supply at \$103 per acre-foot for a total cost of \$4.85 million. These supplies incurred 20 percent Delta carriage losses and 10 percent pumping capacity losses. Net of losses, Metropolitan received 33,171 acre-feet for a unit cost of approximately \$146 per acre-foot.

### San Bernardino Valley Municipal Water District Supply

In April 2001, Metropolitan's Board authorized entering into an agreement with San Bernardino Valley Municipal Water District (SBVMWD) for the coordinated use of facilities and State Water Project supplies. The agreement began in 2002 and extends through 2014, but was not operated in 2008 and 2009 by mutual consent. Under the agreement, Metropolitan purchases a minimum of 20,000 acre-feet of SBVMWD's SWP allocation annually. Metropolitan has the option to purchase SBVMWD's additional SWP allocation if available. SBVMWD delivers the purchased water to Metropolitan through the coordinated use of facilities and interconnections within the water conveyance systems of the two districts. In 2010, Metropolitan purchased and received 20,000 acre-feet of supplies for a total cost of \$1.89 million for a unit cost of approximately \$94 per acre-foot.

The following table summarizes the total yield, cost, and unit cost of Metropolitan's 2010 SWP transactions:

<b>Metropolitan 2010 SWP Transactions</b>	<b>Yield<sup>1</sup> (acre-feet)</b>	<b>Cost<sup>2</sup> (\$ millions)</b>	<b>Unit Cost<sup>2</sup> (\$/acre-foot)</b>
SWC Buyers Group Transfer Supply	68,411	21.48	314
Yuba Accord Transfer Supply	52,045	12.29	236
CVP Contractors Transfer Supply	18,453	4.24	230
CVP Contractors (3 for 2) Exchange Supply	36,897	0.00	0
Shasta Exchange Supply <sup>3</sup>	33,171	4.85	146
San Bernardino Valley MWD Supply	20,000	1.89	94
<b>Total</b>	<b>228,977</b>	<b>44.76</b>	<b>195</b>

<sup>1</sup> Includes applicable losses.

<sup>2</sup> Does not include transportation energy costs.

<sup>3</sup> Payments made in 2003. Water delivered in 2010.

### **Non-Metropolitan Transactions**

#### State Water Contractors Buyers Group Transfer Supply

Details for this effort are described above under "Metropolitan Transactions". Three other SWP contractors purchased 10,800 acre-feet at \$243 per acre-foot for a total cost of \$2.63 million. These supplies incurred 20 percent Delta carriage losses and 3 percent California Aqueduct conveyance losses. Net of losses, the Buyers Group, excluding Metropolitan, received 8,381 acre-feet for a unit cost of approximately \$313 per acre-foot.

#### Yuba Accord Transfer Supply

Details for this effort are described above under "Metropolitan Transactions". Nine other SWP contractors purchased 14,787 acre-feet at a melded cost of \$144 per acre-foot for a total cost of \$2.12 million. These supplies incurred 20 percent Delta carriage losses and 3 percent California Aqueduct conveyance losses. Net of losses, the other SWP contractors buying Yuba Accord supplies received 11,482 acre-feet for a unit cost of approximately \$185 per acre-foot.

#### Merced Irrigation District to Kern County Water Agency and Dudley Ridge Water District

The Buyers Group also considered pursuing a water transfer with Merced Irrigation District (MID). MID indicated it did not want to sell any water transfer supplies outside of the San Joaquin Valley. As a result, both Metropolitan and Antelope Valley-East Kern Water Agency were not able to participate in this water transfer. The remaining Buyers Group members located in the San Joaquin Valley, namely Kern County Water Agency (KCWA) and Dudley Ridge Water District (DRWD), purchased 15,000 acre-feet from MID. KCWA staff has indicated that the purchase price was \$200 per acre-foot for a total cost of \$3 million. These supplies incurred 10 percent Delta carriage losses because they originated in the San Joaquin watershed and 3 percent California Aqueduct losses. Net of losses, these districts received 13,095 acre-feet for a unit cost of approximately \$229 per acre-foot.

Kern County Water Agency to Coachella Valley Water District

In December 2010, Coachella Valley Water District (CVWD) purchased 8,393 acre-feet of water from DMB Pacific LLC (DMB) that was transferred from Kern County Water Agency (KCWA) to CVWD. Because the transfer could not be conveyed directly to the CVWD service area through SWP facilities, the water was provided to CVWD pursuant to the existing 2003 exchange agreement between CVWD and Metropolitan. CVWD staff has indicated they purchased and received 8,393 acre-feet for a total cost of \$2.73 million for a unit cost of approximately \$325 per acre-foot.

Kern Tulare Water District to U.S. Bureau of Reclamation

Reclamation acquired 7,000 acre-feet of Kern-Tulare Water District's (KTWD) water that was stored in the Rosedale-Rio Bravo Groundwater Program. The water was purchased for delivery to the Kern National Wildlife Refuge. Kern-Tulare Water District staff has indicated that the purchase price of the water was \$150 per acre-foot for a total cost of \$1.05 million.

The following table summarizes the total yield, cost, and unit cost of the non-Metropolitan 2010 SWP transactions:

<b>Non-Metropolitan 2010 SWP Transactions</b>	<b>Yield<sup>1</sup> (acre-feet)</b>	<b>Cost<sup>2</sup> (\$ millions)</b>	<b>Unit Cost<sup>2</sup> (\$/acre-foot)</b>
SWC Buyers Group Transfer Supply	8,381	2.63	313
Yuba Accord Transfer Supply	11,482	2.12	185
MID/KCWA/DRWD	13,095	3.00	229
KCWA/CVWD	8,393	2.73	325
KTWD/Reclamation	7,000	1.05	150
<b>Total</b>	<b>48,351</b>	<b>11.53</b>	<b>238</b>

<sup>1</sup> Includes applicable losses.

<sup>2</sup> Does not include transportation energy costs.



## 2009 SWP Transactions

### Metropolitan Transactions

#### Yuba Accord Transfer Supply

Details of this effort are described in [Attachment 1](#) under “Metropolitan Transactions”. Metropolitan purchased 42,915 acre-feet, approximately 36 percent of the total 2009 Yuba Accord supplies. The melded cost was \$221 per acre-foot for a total cost of \$9.47 million. These supplies incurred 20 percent Delta carriage losses and 3 percent California Aqueduct conveyance losses. Net of losses, Metropolitan received 33,302 acre-feet for a unit cost of approximately \$284 per acre-foot.

#### Governor’s Drought Water Bank

In 2009, the Governor issued an executive order to address the statewide drought and declared a drought emergency for much of the Central Valley. In response, the Department of Water Resources (DWR) established a 2009 Governor’s Drought Water Bank (2009 Bank). DWR purchased water from willing sellers from water suppliers upstream of the Sacramento-San Joaquin Delta. This water was transferred using both State Water Project (SWP) and Central Valley Project (CVP) facilities to water suppliers that were at risk of experiencing water shortages in 2009.

In February 2009, Metropolitan’s Board authorized an agreement with DWR to pursue up to 300,000 acre-feet of Central Valley water transfer supplies from the 2009 Bank. A similar water bank secured over 800,000 acre-feet in 1991. The 2009 Bank only secured 74,050 acre-feet from 21 sellers on behalf of 9 buyers. The 2009 Bank was not able to meet total buyers demands due to Delta pumping restrictions, continued drought conditions, high prices of rice and more stringent criteria to verify available “real water”. In addition, the 2009 Bank resulted in litigation over the application of the California Environmental Quality Act. A settlement was reached resulting in additional cost to Metropolitan and the other 2009 Bank participants.

Metropolitan purchased 36,899 acre-feet or approximately 50 percent of the total 2009 Bank supplies at \$275 per acre-foot for a total cost of \$10.33 million, including litigation costs. These supplies incurred 20 percent Delta carriage losses and 3 percent California Aqueduct conveyance losses. Net of losses, Metropolitan received 28,635 acre-feet for a unit cost of approximately \$361 per acre-foot.

The following table summarizes the total yield, cost, and unit cost of Metropolitan’s 2009 SWP transactions:

<b>Metropolitan 2009 SWP Transactions</b>	<b>Yield<sup>1</sup> (acre-feet)</b>	<b>Cost<sup>2</sup> (\$ millions)</b>	<b>Unit Cost<sup>2</sup> (\$/acre-foot)</b>
Yuba Accord Transfer Supply	33,302	9.47	284
Governor’s Drought Water Bank	28,635	10.33	361
<b>Total</b>	<b>61,937</b>	<b>19.80</b>	<b>320</b>

<sup>1</sup> Includes applicable losses.

<sup>2</sup> Does not include transportation energy costs.

## **Non-Metropolitan Transactions**

### Yuba Accord Transfer Supply

Details of this effort are described in [Attachment 1](#) under “Metropolitan Transactions”. Fifteen other SWP Contractors and San Luis Delta-Mendota Water Authority purchased 77,706 acre-feet, approximately 64 percent of the total 2009 Yuba Accord supplies. The melded cost was \$201 per acre-foot for a total cost of \$15.62 million. These supplies incurred 20 percent Delta carriage and 3 percent California Aqueduct conveyance losses. Net of losses, these other agencies received 60,360 acre-feet in total for a unit cost of approximately \$259 per acre-foot.

### Governor’s Drought Water Bank

Details for this effort are described above under “Metropolitan Transactions”. Five other State Water Contractors and three CVP participants purchased 37,151 acre-feet or approximately 50 percent of the total 2009 Bank supplies at \$275 per acre-foot for a total cost of \$10.40 million, including litigation costs. These supplies incurred 20 percent Delta carriage and 3 percent California Aqueduct conveyance losses. Net of losses, these contractors received 28,610 acre-feet in total for a unit cost of approximately \$364 per acre-foot.

### Butte County to Palmdale Water District

Palmdale Water District (PWD) requires a minimum of 70 percent of its SWP Table A contract allocation to meet its existing service area water demand. With a SWP Table A allocation of 40 percent in 2009, PWD sought supplemental water to meet its water supply needs. Similar to 2008 (see [Attachment 3](#)), Butte County determined that it had excess allocated Table A water in 2009 after meeting its local demands and agreed to sell its excess amount to PWD. PWD purchased and received 9,625 acre-feet of Butte County’s Table A supplies for a total cost of \$1.88 million for a unit cost of approximately \$195 per acre-foot.

### Santa Clara Valley Water District to Kern County Water Authority

In May 2009, Kern County Water Authority (KCWA) purchased 10,000 acre-feet of Santa Clara Valley Water District’s (SCVWD) Article 21 water previously stored in its Semitropic Groundwater Banking Program. SCVWD staff has indicated that the purchase price of the water was \$300 per acre-foot for a total cost of \$3 million.

### Placer County Water Agency to San Diego County Water Authority

San Diego County Water Authority (SDCWA) purchased supplemental water supplies from Placer County Water Agency (PCWA). These supplies were made available through reservoir releases by PCWA and conveyed to SDCWA using Metropolitan’s unused capacity in the California Aqueduct. SDCWA purchased 20,000 acre-feet of PCWA’s water supplies at \$275 per acre-foot for a total cost of \$5.50 million. These supplies incurred 20 percent Delta carriage and 3 percent California Aqueduct conveyance losses. Net of losses, SDCWA received 15,520 acre-feet for a unit cost of approximately \$354 per acre-foot.

The following table summarizes the total yield, cost, and unit cost of the non-Metropolitan 2009 SWP transactions:

<b>Non-Metropolitan 2009 SWP Transactions</b>	<b>Yield<sup>1</sup> (acre-feet)</b>	<b>Cost<sup>2</sup> (\$millions)</b>	<b>Unit Cost<sup>2</sup> (\$/acre-foot)</b>
Yuba Accord Transfer Supply	60,360	15.62	259
Drought Water Bank	28,610	10.40	364
Butte County/PWD	9,625	1.88	195
SCVWD/KCWA	10,000	3.00	300
PCWA/SDCWA	15,520	5.50	354
<b>Total</b>	<b>124,115</b>	<b>36.41</b>	<b>293</b>

<sup>1</sup> Includes applicable losses.

<sup>2</sup> Does not include transportation energy costs.

## 2008 SWP Transactions

### Metropolitan Transactions

#### State Water Contractors Buyers Group Transfer Supply

Details for this effort are described in [Attachment 1](#) under “Metropolitan Transactions”. In November 2007, the Board authorized an agreement (Agreement) with the State Water Contractors (SWC) to pursue up to 200,000 acre-feet of Central Valley water transfers for 2008. Metropolitan entered into similar agreements in 2005 and 2010 (see [Attachment 1](#)).

Metropolitan purchased 26,621 acre-feet, approximately 70 percent of the total sellers’ supplies at \$200 per acre-foot for a total cost of \$5.32 million. These supplies incurred 20 percent Delta carriage and 3 percent California Aqueduct conveyance losses. Net of losses, Metropolitan received 20,658 acre-feet for a unit cost of approximately \$258 per acre-foot.

#### Yuba Accord Transfer Supply

Details for this effort are described in [Attachment 1](#) under “Metropolitan Transactions”. Metropolitan purchased 26,430 acre-feet, approximately 50 percent of the total 2008 Yuba Accord supplies. Metropolitan’s melded cost was \$116 per acre-foot for a total cost of \$3.07 million. These supplies incurred 20 percent Delta carriage and 3 percent California Aqueduct conveyance losses. Net of losses, Metropolitan received 20,510 acre-feet for a unit cost of approximately \$150 per acre-foot.

The following table summarizes the total yield, cost, and unit cost of Metropolitan’s 2008 SWP transactions:

<b>Metropolitan 2008 SWP Transactions</b>	<b>Yield<sup>1</sup> (acre-feet)</b>	<b>Cost<sup>2</sup> (\$millions)</b>	<b>Unit Cost<sup>2</sup> (\$/acre-foot)</b>
SWC Buyers Group	20,658	5.32	258
Yuba Accord Transfer Supply	20,510	3.07	150
<b>Total</b>	<b>41,168</b>	<b>8.39</b>	<b>204</b>

<sup>1</sup> Includes applicable losses.

<sup>2</sup> Does not include transportation energy costs.

### Non-Metropolitan Transactions

#### State Water Contractors Buyers Group Transfer Supply

Details for this effort are described in [Attachment 1](#) under “Metropolitan Transactions”. Seven other State Water Project (SWP) contractors purchased 12,531 acre-feet at \$200 per acre-foot for a total cost of \$2.51 million. Most of these supplies incurred 20 percent Delta carriage and 3 percent California Aqueduct conveyance losses (Napa County Flood Control and Water Conservation District did not incur these losses because they are located north of the Delta). Net of losses, the other SWP contractors received 9,888 acre-feet for a unit cost of approximately \$253 per acre-foot.

#### Yuba Accord Transfer Supply

Details for this effort are described in [Attachment 1](#) under “Metropolitan Transactions”. Seventeen other SWP contractors and San Luis Delta-Mendota Water Authority purchased 26,614 acre-feet, approximately 50 percent of the total 2008 Yuba Accord supplies. The melded cost was \$165 per acre-foot for a total cost of \$4.38 million. These supplies incurred 20 percent Delta carriage and 3 percent California Aqueduct conveyance losses. Net of losses, these other agencies received 20,745 acre-feet in total for a unit cost of approximately \$211 per acre-foot.

Butte County to Palmdale Water District

Palmdale Water District (PWD) requires a minimum of 70 percent of its SWP Table A contract allocation to meet its existing service area water demand. With a SWP Table A allocation of 35 percent in 2008, PWD sought supplemental water to meet its water supply needs. Butte County determined that it had excess allocated Table A water in 2008 after meeting its local demands and agreed to sell its excess amount to PWD. PWD purchased and received 8,750 acre-feet of Butte County's Table A supplies for a total cost of \$1.99 million for a unit cost of approximately \$227 per acre-foot.

Butte Water District to San Diego County Water Authority

San Diego County Water Authority (SDCWA) implemented a transfer agreement with Butte Water District. These supplies were conveyed using Metropolitan's unused capacity in the California Aqueduct and delivered to SDCWA's groundwater storage account in the Semitropic Water Storage District. SDCWA purchased 10,006 acre-feet at \$200 per acre-foot for a total cost of \$2 million. These supplies incurred 20 percent Delta carriage and 3 percent California Aqueduct conveyance losses. Net of losses, SDCWA received 7,765 acre-feet for a unit cost of approximately \$258 per acre-foot.

Sutter Extension Water District to San Diego County Water Authority

San Diego County Water Authority (SDCWA) implemented a transfer agreement with Sutter Extension Water District. These supplies were conveyed using Metropolitan's unused capacity in the California Aqueduct and delivered to SDCWA's groundwater storage account in the Semitropic Water Storage District. SDCWA purchased 13,071 acre-feet at \$200 per acre-foot for a total cost of \$2.61 million. These supplies incurred 20 percent Delta carriage and 3 percent California Aqueduct conveyance losses. Net of losses, SDCWA received 10,143 acre-feet for a unit cost of approximately \$258 per acre-foot.

The following table summarizes the total yield, cost, and unit cost of the non-Metropolitan 2008 SWP transactions:

<b>Non-Metropolitan 2008 SWP Transactions</b>	<b>Yield<sup>1</sup> (acre-feet)</b>	<b>Cost<sup>2</sup> (\$millions)</b>	<b>Unit Cost<sup>2</sup> (\$/acre-foot)</b>
SWC Buyers Group	9,888	2.51	253
Yuba Accord Transfer Supply	20,745	4.38	211
Butte County/PWD	8,750	1.99	227
BWD/SDCWA	7,765	2.00	258
SEWD/SDCWA	10,143	2.61	258
<b>Total</b>	<b>57,291</b>	<b>13.49</b>	<b>236</b>

<sup>1</sup> Includes applicable losses.

<sup>2</sup> Does not include transportation energy costs.

## **CRA Transactions**

### **Metropolitan Short-Term Transactions**

#### Central Arizona Water Conservation District Demonstration Program

In September 1992, Metropolitan's Board authorized an agreement with the Central Arizona Water Conservation District (CAWCD) to demonstrate the feasibility of CAWCD storing Colorado River water in central Arizona for the benefit of an entity outside of the State of Arizona. Pursuant to this agreement, Metropolitan paid CAWCD a total of \$7.9 million to deliver and store a portion of Arizona's Colorado River water in central Arizona, with CAWCD providing 80,909 acre-feet of long-term storage credits recoverable in a future year by Metropolitan. Metropolitan, the Arizona Water Banking Authority, and CAWCD executed an amended agreement for recovery of these storage credits in December 2007. As shown in Table 1, Metropolitan recovered the 80,909 acre-feet between 2007 and 2010, for a unit cost of \$98 per acre-foot.

#### Drop 2 Reservoir

In April 2008, Metropolitan's Board authorized a funding agreement with the U.S. Bureau of Reclamation (Reclamation), Southern Nevada Water Authority and CAWCD to construct the Drop 2 Reservoir (renamed Brock Reservoir in 2010) to capture and store water that would otherwise be lost from the Colorado River system in the United States.

Under the 2007 Interim Guidelines for Operation of Lake Powell and Lake Mead, agencies funding system efficiency projects, such as the Drop 2 Reservoir, can receive Intentionally Created Surplus (ICS) storage credits in Lake Mead. As shown in Table 1, Metropolitan paid \$26.23 million to secure 100,000 acre-feet for a unit cost through 2010 of \$262 per acre-foot. The final unit costs for the conserved water will depend on final project costs, which are anticipated to be lower than originally projected resulting in Metropolitan receiving a refund.

#### Palo Verde Irrigation District-Metropolitan Emergency Land Fallowing Program

In March 2009, Metropolitan's Board authorized the Palo Verde Irrigation District (PVID)-Metropolitan Emergency Land Fallowing Program (Program). The Program, which began in 2009 and extended into 2010, temporarily increased fallowing in the Palo Verde Valley in response to continued drought conditions and increasing cutbacks in State Water Project supplies. The Program augmented the long-term PVID-Metropolitan Program described below by allowing up to 13,350 acres of additional land to be fallowed. As shown in Table 1, Metropolitan paid \$21.75 million to fallow additional lands securing 56,382 acre-feet for a unit cost of \$386 per acre-foot.

#### Yuma Desalting Plant

In September 2009, Metropolitan's Board authorized participation in the pilot operation of the Yuma Desalting Plant (YDP) with Reclamation, Southern Nevada Water Authority and CAWCD. Construction of the YDP was completed by Reclamation in 1992 to extend Colorado River water supplies by desalting brackish agricultural return flow. The YDP sat idle for many years until extended drought conditions prompted renewed interest to reinstate operation.

Under the 2007 Interim Guidelines for Operation of Lake Powell and Lake Mead, agencies funding system efficiency projects, such as the pilot operation of YDP, can receive ICS storage credits in Lake Mead. Metropolitan's total yield from the YDP is 24,397 acre-feet, of which the majority was secured through 2010. As shown in Table 1, Metropolitan secured 16,750 acre-feet of conserved water through 2010. The United States government provided funding for environmental compliance, equipment related construction projects, labor, and materials.

The following Table 1 summarizes the total yield, cost, and unit cost through 2010 for the Metropolitan short-term CRA transactions:

<b>Table 1 - Metropolitan Short-Term CRA Transactions</b>	<b>Yield through 2010 (acre-feet)</b>	<b>Cost through 2010<sup>1</sup> (\$ millions)</b>	<b>Unit Cost through 2010<sup>2</sup> (\$/acre-foot)</b>
CAWCD Demonstration Program <sup>3</sup>	80,909	7.90	98
Drop 2 Reservoir	100,000	26.23	262
PVID Emergency Land Fallowing Program	56,382	21.75	386
<b>Subtotal</b>	<b>237,291</b>	<b>55.88</b>	<b>236</b>
Yuma Desalting Plant <sup>4</sup>	16,750	N/A	N/A
<b>Total</b>	<b>254,041</b>	N/A	N/A

### **Metropolitan Long-Term Transactions**

#### **Imperial Irrigation District-Metropolitan Water Conservation Program**

In December 1988, Metropolitan's Board authorized the Imperial Irrigation District (IID) – Metropolitan Water Conservation Program (Program). During 2008 - 2010, IID and Metropolitan continued to implement the Program that began in 1990 and extends through December 31, 2041, or 270 days following Quantification Settlement Agreement termination, whichever is later, with extensions to the term as specified in the 1988 Conservation Agreement and 1989 Approval Agreement, as amended. Under the Program, Metropolitan funds water efficiency improvements within the IID service area in return for the right to water conserved by those investments. The 17 water efficiency measures implemented include concrete lining canals and adjusting the duration of irrigation.

As shown in Table 2, Metropolitan's funding through 2010 of \$251.38 million secured 1,708,699 acre-feet for a unit cost through 2010 of \$147 per acre-foot. Annual details for these expenditures and secured supplies are provided in Table 4. The long-term unit costs for the conserved water will depend on future program costs and the amount of water made available to Metropolitan.

#### **Palo Verde Irrigation District-Metropolitan Land Management, Crop Rotation, and Water Supply Program**

In October 2002, Metropolitan's Board authorized the Palo Verde Irrigation District (PVID) – Metropolitan Land Management, Crop Rotation, and Water Supply Program (Program). During 2008 - 2010, PVID, Metropolitan, and farmers in the Palo Verde Valley continued to implement the Program that began in 2005 and extends through July 31, 2040. Under the Program, Metropolitan pays farmers to annually fallow a portion of their land and rotate their crops in return for the right to acquire the water saved. The amount of fallowing can range from 6,487 acres to 25,947 acres depending on Metropolitan's water supply needs.

As shown in Table 2, Metropolitan's funding through 2010 of \$171.97 million saved 616,875 acre-feet for a unit cost through 2010 of \$279 per-acre foot. Annual details for these expenditures and secured supplies are provided in Table 5. The long-term unit costs for the conserved water will depend on future program costs and the amount of water made available to Metropolitan.

<sup>1</sup> Does not include transportation energy costs.

<sup>2</sup> The yields and costs for the short-term CRA transactions are from program inception through 2010. The unit costs through 2010 are calculated by dividing the expenditures through 2010 by the water supply developed through 2010.

<sup>3</sup> Payments made in 1992-1995. Water delivered in 2007-2010.

<sup>4</sup> Cost and unit cost are not provided since this transaction received funding from the United States and accordingly does not provide a meaningful unit cost comparison to other transactions.

### All-American and Coachella Canal Lining Projects

In September 2003, Metropolitan's Board authorized an Allocation Agreement that provides for Metropolitan to take delivery of a portion of the water conserved by the replacement of earthen portions of the All-American and Coachella Canals with concrete-lined canals. Under the Allocation Agreement, Metropolitan takes delivery of up to 16,000 acre-feet per year of water conserved prior to that water becoming available for the benefit of the San Luis Rey Settlement Parties (Parties). Metropolitan has signed a Supplemental Agreement with the Parties, which calls for Metropolitan to hold funds in trust for the San Luis Rey Indian Water Authority for receipt of 42,333 acre-feet of water resulting from the canal lining projects through 2010 as shown in Table 2. Metropolitan contends that sections of the Supplemental Agreement related to payment for such water are unenforceable and Metropolitan is not legally obligated to pay for the water. Annual details for these secured supplies are provided in Table 6. Metropolitan and the San Luis Rey Indian Water Authority are proceeding to arbitration to resolve the dispute.

### Lower Colorado Water Supply Project

In February 2007, Metropolitan's Board authorized an agreement with the City of Needles and Reclamation to provide Metropolitan with water available from the unused capacity in the Lower Colorado Water Supply Project (Project). The Project provides an alternative water supply for parties adjacent to the river that were either previously using Colorado River water without appropriate rights or wish to use water for municipal and industrial purposes and have no prior right. The Project is authorized to provide up to 10,000 acre-feet per year, via wells that pump water into the All-American Canal. Water pumped from the Project wells is exchanged with IID.

Metropolitan pays the City of Needles two types of charges: (1) the Project operation, maintenance, and administrative charges that cover the costs of Metropolitan's share of Project yield, and (2) payments into a Water Quality Maintenance Trust Fund. As shown in Table 2, Metropolitan's funding through 2010 of \$3.03 million secured 17,532 acre-feet for a unit cost through 2010 of \$173 per acre-foot. Annual details for these expenditures and secured supplies are provided in Table 7. The long-term unit costs for the conserved water will depend on future program costs and the amount of water made available to Metropolitan.



The following Table 2 summarizes the total yield, cost, and unit cost through 2010 for the Metropolitan long-term CRA transactions:

<b>Table 2 - Metropolitan Long-Term CRA Transactions</b>	<b>Yield through 2010 (acre-feet)</b>	<b>Cost through 2010<sup>5</sup> (\$ millions)</b>	<b>Unit Cost through 2010<sup>6</sup> (\$/acre-foot)</b>
IID-MWD Water Conservation Program	1,708,699	251.38	147
PVID-MWD Water Supply Program	616,875	171.97	279
Lower Colorado Water Supply Project	17,532	3.03	173
<b>Subtotal</b>	<b>2,343,106</b>	<b>426.38</b>	<b>182</b>
All-American and Coachella Canal Lining Projects <sup>7</sup>	42,333	N/A	N/A
<b>Total</b>	<b>2,385,439</b>	N/A	N/A

### **Non-Metropolitan Long-Term Transactions**

#### Imperial Irrigation District-San Diego County Water Authority Transfer of Conserved Water Program

During 2008 - 2010, IID and San Diego County Water Authority (SDCWA) continued to implement the IID-SDCWA Transfer of Conserved Water Program (Program) that began in 2003 and extends through December 31, 2047 initially or December 31, 2077, if renewed. Under the Program, SDCWA pays IID for the transfer of conserved water. IID has paid farmers in the Imperial Valley to fallow land to conserve water for transfer to SDCWA. The supply is then exchanged with Metropolitan for use in SDCWA's service area.

As shown in Table 3, SDCWA's funding through 2010 of \$227.48 million secured 330,000 acre-feet for a unit cost through 2010 of \$689 per acre-foot. Annual details for these expenditures and secured supplies are provided in Table 8. The long-term unit costs for the conserved water will depend on future Program costs as well as the amount of water made available to SDCWA.

#### All-American and Coachella Canal Lining Projects

During 2008-2010, SDCWA, IID, Coachella Valley Water District, Reclamation, and the Department of Water Resources continued to implement the All-American Canal and Coachella Canal Lining Projects (Projects) under a 2003 agreement allocating conserved water. The term of the Allocation Agreement (Agreement) initially extends through December 31, 2058, has an automatic renewal through December 31, 2113, and can be extended further as specified in the Agreement. Water has been conserved by replacing earthen portions of the canals with concrete-lined canals. The Projects were enabled by Title II of Public Law 100-675 and the 2003 Colorado River Water Delivery Agreement.

The Coachella Canal Lining Project was completed in spring 2007 and provides a firm supply of at least 21,500 acre-feet per year to SDCWA. The All-American Canal Lining Project was completed in spring 2010 and provides a firm supply of 56,200 acre-feet per year to SDCWA. As shown in Table 3, SDCWA secured 216,089 acre-feet through 2010. Annual details for these secured supplies are provided in Table 9.

The following Table 3 summarizes the total yield, cost, and unit cost through 2010 for the non-Metropolitan long-term CRA transactions:

<sup>5</sup> Does not include transportation energy costs.

<sup>6</sup> The yields and costs for the long-term CRA transactions are from program inception through 2010. The unit costs through 2010 are calculated by dividing the expenditures through 2010 by the water supply developed through 2010. The long-term unit costs for these transactions will depend on future program costs and the amount of water developed over the lifetime of these programs.

<sup>7</sup> Yield shown is prior to San Luis Rey Indian water Rights Settlement Parties' use. Cost and unit costs are not provided since this transaction received State funding and accordingly does not provide a meaningful unit cost comparison to similar transactions.

<b>Table 3 - Non-Metropolitan Long-Term CRA Transactions</b>	<b>Yield through 2010 (acre-feet)</b>	<b>Cost through 2010<sup>8</sup> (\$ millions)</b>	<b>Unit Cost through 2010<sup>9</sup> (\$/acre-foot)</b>
IID-SDCWA Transfer of Conserved Water <sup>10</sup>	330,000	227.48	689
<b>Subtotal</b>	<b>330,000</b>	<b>227.48</b>	<b>689</b>
All American and Coachella Canal Lining Projects (SDCWA) <sup>11</sup>	216,089	N/A	N/A
<b>Total</b>	<b>546,089</b>	N/A	N/A

<sup>8</sup> Does not include transportation energy costs.

<sup>9</sup> The yields and costs for the long-term CRA transactions are from program inception through 2010. The unit costs through 2010 are calculated by dividing the expenditures through 2010 by the water supply developed through 2010. The long-term unit costs for these transactions will depend on future program costs and the amount of water developed over the lifetime of these programs.

<sup>10</sup> Excludes payments to IID for Habitat Conservation Plan/Natural Community Conservation Plan processing and to Reclamation for the on-Colorado River mitigation program.

<sup>11</sup> Cost and unit cost are not provided since this transaction received State funding and accordingly does not provide a meaningful unit cost comparison to other transactions.

Table 4: Imperial Irrigation District – Metropolitan Water Conservation Program

Year	Water Received by Metropolitan (acre-feet)	Funding Provided by Metropolitan:			
		Capital (\$)	Indirect (\$)	Annual (\$)	Total (\$)
1990	6,110	17,704,102		638,500	18,342,602
1991	26,700	35,688,000	4,600,000	1,131,000	41,419,000
1992	33,929	17,870,663	4,600,000	2,258,419	24,729,082
1993	54,830	10,794,322	4,600,000	2,796,626	18,190,948
1994	72,870	7,102,626	4,600,000	1,868,772	13,571,398
1995	74,570	7,063,978	4,600,000	2,782,845	14,446,823
1996	90,880	6,352,417		1,788,232	8,140,649
1997	97,740	9,951,751		6,532,955	16,484,706
1998	107,160			4,839,047	4,839,047
1999	108,500			5,498,149	5,498,149
2000	109,460			5,462,757	5,462,757
2001	106,880			4,418,760	4,418,760
2002	104,940			5,817,397	5,817,397
2003	105,130			6,759,359	6,759,359
2004	81,900			7,944,335	7,944,335
2005	81,940			8,128,870	8,128,870
2006	81,160			8,828,878	8,828,878
2007	85,000			8,975,788	8,975,788
2008	89,000			10,080,272	10,080,272
2009	93,000			9,223,455	9,223,455
2010	97,000			10,078,161	10,078,161
Total through 2010	1,708,699	112,527,859	23,000,000	115,852,577	251,380,436

Table 5: Palo Verde Irrigation District – Metropolitan Land Management, Crop Rotation and Water Supply Program

Year	Water Savings (acre-feet)	Program Administration Costs (\$)	Funding Received by PVID Community Improvement Fund (\$)	Funding Received from Metropolitan for Fallowing Land (\$)		Funding Received by PVID for Program Administration (\$)	Total Program Costs (\$)
				Signup	Annual		
2001		375,671					375,671
2002		48,425					48,425
2003		377,363					377,363
2004		646,157					646,157
2005	108,666	1,504,321	6,000,000	31,415,988	20,999,496	979,500	60,899,305
2006	105,039	370,444		39,441,477	8,492,659	521,883	48,826,463
2007	72,310	-2,001		2,051,875	8,730,682	314,057	11,094,613
2008	94,303	20,281		291,475	15,623,770	140,739	16,076,265
2009	120,247	13,253		291,475	16,246,939	212,694	16,764,361
2010	116,310	31,336			16,626,495	203,707	16,861,538
Total through 2010	616,875	3,385,250	6,000,000	73,492,290	86,720,041	2,372,580	171,970,161

Table 6: All-American and Coachella Canal Lining Projects Prior to San Luis Rey Indian Water Rights Settlement Parties' Use

Year	Water Received by Metropolitan (acre-feet)
2006	172
2007	4,500
2008	6,013
2009	15,648
2010	16,000
Total through 2010	42,333

Table 7: Payments to City of Needles for Lower Colorado Water Supply Project Water

Year	Water Received by Metropolitan (acre-feet)	Administrative and Operation, Maintenance, and Replacement Fees (\$)	Water Quality Maintenance Trust Fund Deposit (\$)	Total (\$)
2007	5,011	216,565	493,497	710,062
2008	6,300	290,518	761,112	1,051,630
2009	2,349	197,884	525,429	723,313
2010	3,872	232,599	309,432	542,031
Total through 2010	17,532	937,566	2,089,470	3,027,036

Table 8: Imperial Irrigation District – San Diego County Water Authority Transfer of Conserved Water

Year	Water Exchanged by Metropolitan with SDCWA (acre-feet)	Revenues Received from SDCWA for Transfer of Conserved Water by:					Total Revenues Received from SDCWA (\$) <sup>13</sup>
		IID for:			Quantification Settlement Agreement Joint Powers Authority for Mitigation Projects (\$) <sup>12</sup>	Department of Fish and Game for Salton Sea Restoration Fund (\$)	
		Water Transfer (\$)	Water Transfer Prepayment (\$)	Local Entity (\$)			
2003	10,000	2,580,000		100,000	2,340,273		5,020,273
2004	20,000	5,340,000		2,049,330	901,575	11,779,441	20,070,346
2005	30,000	8,280,000		3,111,373	634,341		12,025,714
2006	40,000	11,440,000		5,251,439	1,314,855		18,006,294
2007	50,000	14,800,000	10,000,000		5,309,104		30,109,104
2008	50,000	15,145,049		6,000,000	2,164,086		23,309,135
2009	60,000	27,000,000			7,879,603		34,879,603
2010	70,000	28,350,000	50,000,000	2,940,000	2,770,483		84,060,483
Total through 2010	330,000	112,935,049	60,000,000	19,452,142	23,314,320	11,779,441	227,480,952

## Sources:

IID 2003 through 2008 Annual Implementation Reports, Quantification Settlement Agreement, Water Conservation and Transfer Project

Enclosure 2 to January 8, 2009 Reclamation letter to Metropolitan, Subject: Final Accomplishment Report and Funding Status for Secretarial Implementation Agreement (SIA)

December 21, 2009 Fifth Amendment to Agreement between Imperial Irrigation District and San Diego County Water Authority for Transfer of Conserved Water

SDCWA \$98,495,000 San Diego County Water Authority Financing Agency Water Revenue Bonds Series 2010A (Non-AMT Tax-Exempt), \$526,135,000 San Diego County Water Authority Financing Agency

Water Revenue Bonds Series 2010B (Taxable Build America Bonds), January 21, 2010

QSA Joint Powers Authority Fiscal Year 2011 Budget (July 1, 2010 to June 30, 2011), June 18, 2010

QSA Joint Powers Authority Treasurer's Report at December 31, 2010

IID Provisional Monthly Cost Report, (as of) December 31, 2010, Water Transfer/Western Farm Lands, (dated) March 3, 2011

Attachment to SDCWA March 16, 2011 Memorandum to Imported Water Committee, Subject: Adopt a Resolution Supporting Salton Sea Restoration (Action)

<sup>12</sup> Excludes \$3,349,126 received by Reclamation for the on-Colorado River mitigation program which is a credit toward SDCWA's payment obligation to the QSA Joint Powers Authority.<sup>13</sup> Excludes \$2,000,000 received by IID for Habitat Conservation Plan/Natural Community Conservation Plan processing. Excludes \$4,650,262 received by Reclamation for the on-river mitigation program associated with the changes in point of delivery and diversion of up to 200,000 acre-feet per year associated with the transfer of Conserved Water and up to 77,700 acre-feet per year associated with the All-American and Coachella Canal Lining Projects.

Table 9: All-American and Coachella Canal Lining Projects - SDCWA

	Water Received by SDCWA (acre-feet)
2006	687
2007	23,125
2008	30,582
2009	80,188
2010	81,507
Total through 2010	216,089

### Yield and Cost Summary Table

<b>2010 SWP Transactions</b>	<b>Yield<sup>1</sup></b> <b>(acre-feet)</b>	<b>Cost<sup>2</sup></b> <b>(\$ millions)</b>	<b>Unit Cost<sup>2</sup></b> <b>(\$/acre-foot)</b>
<b>Metropolitan Transactions</b>			
SWC Buyers Group	68,411	21.48	314
Yuba Accord Transfer Supply	52,045	12.29	236
CVP Contractors Transfer Supply	18,453	4.24	230
CVP Contractors (3 for 2) Exchange Supply	36,897	0.00	0
Shasta Exchange Supply <sup>3</sup>	33,171	4.85	146
San Bernardino Valley MWD Transfer Supply	20,000	1.89	94
<b>MWD Total</b>	<b>228,977</b>	<b>44.76</b>	<b>195</b>
<b>Non-Metropolitan Transactions</b>			
SWC Buyers Group	8,381	2.63	313
Yuba Accord Transfer Supply	11,482	2.12	185
MID/KCWA/DRWD	13,095	3.00	229
KCWA/CVWD	8,393	2.73	325
KTWD/Reclamation	7,000	1.05	150
<b>Non-MWD Total</b>	<b>48,351</b>	<b>11.53</b>	<b>238</b>

<b>2009 SWP Transactions</b>	<b>Yield<sup>1</sup></b> <b>(acre-feet)</b>	<b>Cost<sup>2</sup></b> <b>(\$ millions)</b>	<b>Unit Cost<sup>2</sup></b> <b>(\$/acre-foot)</b>
<b>Metropolitan Transactions</b>			
Yuba Accord Transfer Supply	33,302	9.47	284
Drought Water Bank	28,635	10.33	361
<b>MWD Total</b>	<b>61,937</b>	<b>19.80</b>	<b>320</b>
<b>Non-Metropolitan Transactions</b>			
Yuba Accord Transfer Supply	60,360	15.62	259
Drought Water Bank	28,610	10.40	364
Butte County/ PWD	9,625	1.88	195
SCVWD/KCWA	10,000	3.00	300
PCWA/SDCWA	15,520	5.50	354
<b>Non-MWD Total</b>	<b>124,115</b>	<b>36.41</b>	<b>293</b>

<b>2008 SWP Transactions</b>	<b>Yield<sup>1</sup></b> <b>(acre-feet)</b>	<b>Cost<sup>2</sup></b> <b>(\$ millions)</b>	<b>Unit Cost<sup>2</sup></b> <b>(\$/acre-foot)</b>
<b>Metropolitan Transactions</b>			
SWC Buyers Group	20,658	5.32	258
Yuba Accord Transfer Supply	20,510	3.07	150
<b>MWD Total</b>	<b>41,168</b>	<b>8.39</b>	<b>204</b>
<b>Non-Metropolitan Transactions</b>			
SWC Buyers Group	9,888	2.51	253
Yuba Accord Transfer Supply	20,745	4.38	211
Butte County/PWD	8,750	1.99	227
BWD/SDCWA	7,765	2.00	258
SEWD/SDCWA	10,143	2.61	258
<b>Non-MWD Total</b>	<b>57,291</b>	<b>13.49</b>	<b>236</b>



### Yield and Cost Summary Table

<b>Short-Term CRA Transactions</b>	<b>Yield<sup>4</sup></b> <b>(acre-feet)</b>	<b>Cost<sup>2,5</sup></b> <b>(\$ millions)</b>	<b>Unit Cost<sup>6</sup></b> <b>(\$/acre-foot)</b>
<b>Metropolitan Transactions</b>			
CAWCD Demonstration Program <sup>7</sup>	80,909	7.90	98
Drop 2 Reservoir	100,000	26.23	262
PVID Emergency Land Fallowing Program	56,382	21.75	386
<b>Subtotal</b>	<b>237,291</b>	<b>55.88</b>	<b>236</b>
Yuma Desalting Plant <sup>8</sup>	16,750	N/A	N/A
<b>Total</b>	<b>254,041</b>	<b>N/A</b>	<b>N/A</b>

<b>Long-Term CRA Transactions</b>	<b>Yield<sup>4</sup></b> <b>(acre-feet)</b>	<b>Cost<sup>2,5</sup></b> <b>(\$ millions)</b>	<b>Unit Cost<sup>6</sup></b> <b>(\$/acre-foot)</b>
<b>Metropolitan Transactions</b>			
IID-MWD Water Conservation Program	1,708,699	251.38	147
PVID-MWD Water Supply Program	616,875	171.97	279
Lower Colorado Water Supply Project	17,532	3.03	173
<b>Subtotal</b>	<b>2,343,106</b>	<b>426.38</b>	<b>182</b>
All-American and Coachella Canal Lining Projects <sup>8,9</sup>	42,333	N/A	N/A
<b>Total</b>	<b>2,385,439</b>	<b>N/A</b>	<b>N/A</b>
<b>Non-Metropolitan Transactions</b>			
IID-SDCWA Transfer of Conserved Water	330,000	227.48	689
<b>Subtotal</b>	<b>330,000</b>	<b>227.48</b>	<b>689</b>
All-American and Coachella Canal Lining Projects (SDCWA) <sup>8</sup>	216,089	N/A	N/A
<b>Total</b>	<b>546,089</b>	<b>N/A</b>	<b>N/A</b>

<sup>1</sup> Includes applicable losses.

<sup>2</sup> Does not include transportation energy costs.

<sup>3</sup> Payments made in 2003. Water delivered in 2010.

<sup>4</sup> Yield secured from inception through 2010.

<sup>5</sup> Costs incurred from inception through 2010.

<sup>6</sup> The unit cost for the short- and long-term CRA transactions are calculated by dividing the revenues expended through 2010 by the amount of water supplies developed through 2010.

<sup>7</sup> Payments made in 1992-1995. Water delivered in 2007-2010.

<sup>8</sup> Cost and unit cost are not provided as this transaction received funding from either the United States or the State of California and accordingly does not provide a meaningful unit cost comparison to other transactions

<sup>9</sup> Yield shown is prior to San Luis Rey Indian Water Rights Settlement Parties' use.