Carlsbad Seawater Desalination Project Status Report

Water Planning Committee – April 26, 2012
Today's Status Report on Carlsbad Desalination Project

1. Status of Agreement Development
2. Status of Due Diligence Activities
3. Status of Water Authority Distribution Improvements
   • Continuation of April 19th Special Committee Meeting
**Status of Agreement Development**

- Provide fourth Draft to Poseidon by mid-May
  - Most commercial terms addressed and resolved
  - Incorporating Water Authority role during plant construction and operations
  - Remaining focus on operational coordination and asset management
  - Making significant progress on technical appendices

- Work initiated on Design Build Agreement for Conveyance Pipeline
  - Poseidon construction agreement with Kiewit-Shea will align with DB Agreement between Water authority and Poseidon
  - Will maintain transfer of “pipeline to nowhere“ risk to Poseidon
  - Currently defining Water Authority involvement in design and construction
Status of Due Diligence Activities: Technical

- Completing technical due diligence activities
  - Plant (Poseidon and Kiewit-Shea JV)
  - Conveyance Pipeline (Plant to Second Aqueduct)
  - O&M agreement (Poseidon and IDE)

- Focus is on financial due diligence
  - Project economics
  - Financing process
    - Indicative financial rating (investment grade)
    - Bond documents
    - Equity documents

- Verifying financial assumptions in Poseidon pro-forma

- Conducting Risk Analysis of energy costs
  - Electricity pricing
Water Authority Distribution Improvements

- Improvements to existing Water Authority facilities needed to accept desalinated water
  - Project Definition
  - Project Cost
- TOVWTP Improvements
- Pipeline 3 Rehabilitation
- Second Aqueduct facilities
Pipeline 3 Rehab/Relining Assessment

Water Planning Committee
April 26, 2012
Desal Conveyance Pipeline
10-miles of new 54-inch pipe

Pipeline 3 Relining
up to 5-miles

TOVWTP Improvements

Desalination Plant

Aqueduct Connection Facilities

Desal Conveyance Pipeline
10-miles of new 54-inch pipe

Vista

Lake San Marcos
Pipeline 3 Assessment

- Assessment of Pipeline 3 for use as dedicated conveyance for desalinated water from San Marcos north to TOVWTP
  - Constructed in 1958/59
  - Diameter ranges from 72 to 75 inches

- Pipeline 3 assessment to consider:
  - Increased steady-state operating pressures
  - Increased transient pressures
  - Changes to surface conditions
  - Pipe corrosion
  - Added pipe design stresses related to out-of-round sections and thrust restraint

- Evaluation of rehabilitation alternatives and cost estimates
Pipeline 3
27,000-ft reline/rehab
Magnetic Flux Leakage (MFL) Inspection

- In-pipe Magnetic Flux Leakage Inspection Completed
  - New technology (applied to water pipelines) to determine wall thickness for existing steel pipeline
- Preliminary results indicate pipeline in overall good condition
- A few areas were identified where minor repairs are necessary due to isolated corrosion pitting and out-of-round induced stresses
MFL Tool in Pipeline 3
Pipeline 3 Excavation
Corrosion location identified by MFL (Before coating is removed)
Corrosion location identified by MFL (After coating is removed)
FIGURE 1: SUMMARY OF PIPELINE 3 CONDITION ASSESSMENT RESULTS AND RECOMMENDATIONS
-- With Baseline Surge Control (33,800 gal. Surge Tank) --

Notes:
1) Data presented are for flow pumped north to the Twin Oaks deepwells at maximum normal operating elevation.
2) Graphical data shown are approximate. See data tables for actual data and for notes and assumptions.
Pros & Cons of Relining Remaining Segment

Pros:
• Highest assurance Pipeline 3 will operate risk free for 30-year term of the WPA
• Eliminates need for a future Pipeline 3 shutdown
• Cost benefit to extending relining
• Extends Pipeline 3 service life
• Increased pressure variations with Pumped flow not accounted for in original design

Cons:
• Rehabilitation not needed to extend service life for 30-year term of the WPA
• Increases project cost
• Failure mechanism for welded steel pipe not the same as PCCP
• Funding could impact timing of other higher priority relining projects
## Preliminary Cost Considerations

- **Estimated cost for full versus partial relining**

<table>
<thead>
<tr>
<th></th>
<th>Partial Relining (19,300 Ft)</th>
<th>Full Relining (27,100 Ft)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Relining Cost</td>
<td>$25 - $29 million</td>
<td>$35 - $41 million</td>
</tr>
<tr>
<td>Rehabilitation Cost</td>
<td>$1 million</td>
<td>n/a</td>
</tr>
<tr>
<td><strong>Total Cost Range</strong></td>
<td><strong>$26 - $30 million</strong></td>
<td><strong>$35 - $41 million</strong></td>
</tr>
</tbody>
</table>
Next Steps

- Develop recommendation for remaining 7,800 feet of pipeline
- Develop recommendation for project delivery method
  - Consider cost, schedule, risk and resource impacts
- Incorporate Pipeline 3 costs into desal cost allocation methodology
Desal Conveyance Pipeline
10-miles of new 54-inch pipe

TOVWTP Improvements

Pipeline 3 Relining up to 5-miles

Desalination Plant
Aqueduct Connection Facilities

Desal Conveyance Pipeline
10-miles of new 54-inch pipe
TOVWTP Modifications

![Diagram showing Twin Oaks Clearwells and Pipeline connections](image-url)
TOVWTP Modifications

- Connection of Pipeline 3 to existing Clearwell
- Valve Vault for 72-inch and 54-inch diameter isolation valves
- 1,100 feet of new 54-inch diameter piping with flow meter
- Chemical feed facilities; chlorine and ammonia
- Clearwell and TWFCF upgrades
Questions?
Aqueduct System Treated Water Capacity South of Twin Oaks

- Construction of Pipeline 5 allowed Pipeline 3 to be converted to treated water conveyance
  - Redundant treated water pipelines provided necessary reliability for PCCP relining projects
- Recent local treatment plant expansions have suppressed regional demand for treated water
- Pipeline 4 capacity is 290 mgd (450 cfs)
- Sufficient to meet treated water conveyance needs through 2035 UWMP and Master Plan planning horizons
  - Projected demands do not meet thresholds for new treated water conveyance
Average Monthly Treated Water Demand Pipeline 4 south of Twin Oaks - 2015 thru 2035

- 100% of Capacity
- 90% of Capacity
- 75% of Capacity

San Diego County Water Authority
Approve Modifications to the Water Authority’s Water Shortage and Drought Response Plan Allocation Methodology

Water Planning Committee
April 26, 2012
Agenda

- Review Process
  - Opportunities for Member Agency and Committee Input
  - Work Products
- Summary of proposed modifications
- Staff recommendation

Presentation Acronyms

**WSDRP** - Water Authority’s 2006 Water Shortage and Drought Response Plan (A plan formerly known as the Drought Management Plan)

**WSAP** - MWD’s 2008 Water Supply Allocation Plan
Allocation Methodology - Review Process

- Consensus that methodology worked as envisioned
- Review specific elements of allocation methodology
  - Wholesale changes not needed – maintain basic principles
- Identified seven issues to be addressed - based on:
  - Lessons learned during implementation
  - Alignment with MWD WSAP
  - Changed conditions since 2006 adoption
- Presented issues and potential modifications to member agencies for input
  - Held 6 meetings with agencies to review modifications
## Water Planning Committee Review

<table>
<thead>
<tr>
<th>Date</th>
<th>Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>January 2012</td>
<td>Committee received update from staff on review of WSDRP allocation methodology including identified areas of improvement</td>
</tr>
<tr>
<td>February 2012</td>
<td>Committee workshop on proposed modifications to WSDRP allocation methodology - where topics included:</td>
</tr>
<tr>
<td></td>
<td>• Review process</td>
</tr>
<tr>
<td></td>
<td>• Basic description of methodology</td>
</tr>
<tr>
<td></td>
<td>• Proposed modifications</td>
</tr>
<tr>
<td></td>
<td>• Next steps</td>
</tr>
</tbody>
</table>
Work Products on Proposed Modifications

- Detailed technical report for member agency staff
  - Opportunity to review details on proposed modifications and provide comments
- Policy summary report (Attachment 2 to Board memo)
  - Current description of adjustment, issue, proposed modification, and basis for modification
- Updated WSDRP Section 5 that highlights proposed modifications (Attachment 1 to Board memo)
<table>
<thead>
<tr>
<th>Element</th>
<th>Proposed Modification</th>
<th>Why</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Base Period</strong></td>
<td>Clarify that base period will contain three consecutive years prior to activation of WSDRP and not include years where WSDRP was activated</td>
<td>Avoids penalizing agencies for conserving</td>
</tr>
<tr>
<td><strong>Growth Adjustment</strong></td>
<td>Revise adjustment to use population increase and GPCD efficiency and, if requested, also utilize new CI1 meter installations for agencies with minimal population increase</td>
<td>Accurately capture growth between base period and allocation year</td>
</tr>
<tr>
<td><strong>Loss of Local Supply Adjustment</strong></td>
<td>Utilize full loss of local supply, reduced based on Water Authority cutback percentage from MWD</td>
<td>Ensure agencies are not penalized for having developed local supplies</td>
</tr>
</tbody>
</table>
### Summary of Proposed Modifications to Elements of Methodology (continued)

<table>
<thead>
<tr>
<th>Element</th>
<th>Proposed Modification</th>
<th>Why</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>GPCD Compliance Adjustment</strong></td>
<td>Replace conservation adjustment with GPCD compliance adjustment, applied to those agencies failing to meet target</td>
<td>Importance of meeting SBX7-7 target and changed approach on tracking conservation (no longer based on BMP implementation)</td>
</tr>
<tr>
<td><strong>Regional Reliability Adjustment</strong></td>
<td>Lower reliability adjustment trigger from 30% to 20% Water Authority cutback level to provide reliable “safety-net”</td>
<td>Avoid large discrepancies in member agency reliability which could occur at lower shortage levels</td>
</tr>
<tr>
<td><strong>MWD WSAP Alignment</strong></td>
<td>Pass through net effect on Water Authority’s allocation from MWD due to development of recycled water after the base period to member agencies that developed the recycled water.</td>
<td>MWD approved WSAP recycled water adjustment could reduce Water Authority’s allocation - need to ensure equitable allocation to agencies</td>
</tr>
<tr>
<td>WSDRP Stage</td>
<td>Scenario</td>
<td>Proposed Approach</td>
</tr>
<tr>
<td>-------------------</td>
<td>--------------------------------------------------------------------------</td>
<td>---------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Stage 2</td>
<td>• MWD is allocating supplies (cutback minimal)</td>
<td>Establish SAWR allocation based on Water Authority shortage level without utilization of CSP supplies</td>
</tr>
<tr>
<td>Supply Augmentation</td>
<td>• Water Authority avoids M&amp;I shortage through use of CSP supplies</td>
<td></td>
</tr>
<tr>
<td>Stage 3</td>
<td>• MWD and Water Authority are allocating supplies</td>
<td>• For M&amp;I customers, establish allocation of CSP supplies</td>
</tr>
<tr>
<td>Mandatory Cutbacks</td>
<td>• Water Authority lessens M&amp;I shortage through use of CSP supplies</td>
<td>• Agency’s total M&amp;I wholesale allocation equal supply allocation (MWD and QSA supplies) and CSP allocation</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• SAWR only receives supply allocation</td>
</tr>
</tbody>
</table>
Staff Recommendation

Approve the updated Section 5, Supply Allocation Methodology, of the Water Authority’s Water Shortage and Drought Response Plan that includes the proposed modifications (included as Attachment 1 to Board memo)
Controller’s Report
February 2012
Report Format

Main Staff Report: Budget Variance Analysis and Discussion

Attachments
A: Water Sales Volumes (Acre-Feet)
B: Water Sales Revenues (Dollars)
C: Water Purchases & Treatment Costs (Dollars)
D: Multi-Year Budget Status Report
E: Operating Department
F: Schedule of Cash & Investments
WATER SALES VOLUMES
Budget Versus Actual (in Acre-Feet)
for the 8 Months Ended February 29, 2012

Difference
-1 K AF 0%

297,029
295,877

Acre-Feet (AF)

Budget (a) Actual
WATER SALES REVENUES
Budget Versus Actual (in Millions) for the 8 Months Ended February 29, 2012

Difference

- $1 Mil
0%

$289.6

$288.6

*Budget (a)  Actual
WATER PURCHASES AND TREATMENT COSTS
Budget Versus Actual (in Millions $)
for the 8 Months Ended February 29, 2012

Difference
$205.6
-3%

$199.4

-6.2 Mil

*Budget (a)
Actual

$199.4

$205.6

Difference

-6.2 Mil

-3%
## Attachment D

### Net Water Sales Revenue

at 67% of the fiscal year

<table>
<thead>
<tr>
<th></th>
<th>[A]</th>
<th>[B]</th>
<th>[A - B]</th>
<th>[B / A]</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>FY 12</strong></td>
<td><strong>Adopted Budget</strong></td>
<td><strong>FY 12</strong></td>
<td><strong>Variance Month-to-Date / Adopted Budget</strong></td>
<td><strong>% Actual / Budget</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>8 Months</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Net Water Sales Revenue</td>
<td></td>
<td><strong>Month-to-Date</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Water sales</td>
<td>$ 434,684,000</td>
<td>$ 288,583,437</td>
<td>$ 146,100,563</td>
<td>66%</td>
</tr>
<tr>
<td>Water purchases &amp; treatment</td>
<td>(308,237,000)</td>
<td>(199,412,526)</td>
<td>(108,824,474)</td>
<td>65%</td>
</tr>
<tr>
<td><strong>Total Net Water Sales Revenue</strong></td>
<td>$ 126,447,000</td>
<td>$ 89,170,911</td>
<td>$ 37,276,089</td>
<td>71%</td>
</tr>
</tbody>
</table>
### Revenues and Other Income

<table>
<thead>
<tr>
<th>Budget Description</th>
<th>[A] FY 12 8 Months Month-to-Date Budget</th>
<th>[B] FY 12 8 Months Month-to-Date Actual</th>
<th>[A - B] Variance Month-to-Date Budget - Actual</th>
<th>[B / A] % Actual / Budget</th>
</tr>
</thead>
<tbody>
<tr>
<td>Infrastructure Access Charges</td>
<td>$18,559,000</td>
<td>$18,253,982</td>
<td>$305,018</td>
<td>98%</td>
</tr>
<tr>
<td>Property Taxes and In-Lieu Charges</td>
<td>6,104,606</td>
<td>6,009,724</td>
<td>94,882</td>
<td>98%</td>
</tr>
<tr>
<td>Investment Income</td>
<td>4,174,100</td>
<td>1,524,204</td>
<td>2,649,896</td>
<td>37%</td>
</tr>
<tr>
<td>Hydroelectric Revenue</td>
<td>603,000</td>
<td>944,218</td>
<td>(341,218)</td>
<td>157%</td>
</tr>
<tr>
<td>Other Income</td>
<td>16,730,570</td>
<td>10,177,521</td>
<td>6,553,049</td>
<td>61%</td>
</tr>
<tr>
<td>Capital Contributions:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Capacity Charges</td>
<td>8,140,490</td>
<td>8,439,069</td>
<td>(298,579)</td>
<td>104%</td>
</tr>
<tr>
<td>Water Standby Availability Charges</td>
<td>6,092,215</td>
<td>6,463,902</td>
<td>(371,687)</td>
<td>106%</td>
</tr>
<tr>
<td>Contributions in Aid of CIP</td>
<td>4,529,200</td>
<td>3,684,823</td>
<td>844,377</td>
<td>81%</td>
</tr>
</tbody>
</table>

**Total Revenues and Other Income**

|                                                | $64,933,181 | $55,497,443 | $9,435,738 | 85%        |

### Expenditures

<table>
<thead>
<tr>
<th>Description</th>
<th>[A]</th>
<th>[B]</th>
<th>[A-B]</th>
<th>[B/A] % Actual/Budget</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stored Water Purchases</td>
<td>$2,137,300</td>
<td>$-</td>
<td>$2,137,300</td>
<td>0%</td>
</tr>
<tr>
<td>Debt Service</td>
<td>74,940,840</td>
<td>72,736,889</td>
<td>2,203,951</td>
<td>97%</td>
</tr>
<tr>
<td>QSA Mitigation</td>
<td>3,085,000</td>
<td>3,084,803</td>
<td>197</td>
<td>100%</td>
</tr>
<tr>
<td>Hodges Pumped Storage</td>
<td>1,867,255</td>
<td>2,168</td>
<td>1,865,087</td>
<td>0%</td>
</tr>
<tr>
<td>Equipment Replacement</td>
<td>466,320</td>
<td>152,433</td>
<td>313,887</td>
<td>33%</td>
</tr>
<tr>
<td>Other Expenditures</td>
<td>8,974,650</td>
<td>1,567,815</td>
<td>7,406,835</td>
<td>17%</td>
</tr>
<tr>
<td>Operating Departments</td>
<td>29,138,423</td>
<td>23,892,326</td>
<td>5,246,097</td>
<td>82%</td>
</tr>
</tbody>
</table>

**Total Expenditures**

|                                                | $120,609,788 | $101,436,434 | $19,173,354 | 84%        |
### Attachment D: Operating Departments

<table>
<thead>
<tr>
<th>[A]</th>
<th>[B]</th>
<th>[A - B]</th>
<th>[B / A]</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>FY 12</td>
<td>FY 12</td>
<td>Variance Month-to-Date</td>
<td>% Actual /</td>
<td></td>
</tr>
<tr>
<td>Adopted</td>
<td>8 Months</td>
<td>Adopted Budget Positive(Negative)</td>
<td>Budget</td>
<td></td>
</tr>
<tr>
<td>Budget</td>
<td>Month-to-Date</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Administrative Services</td>
<td>$ 5,638,715</td>
<td>$ 3,579,613</td>
<td>$ 2,059,102</td>
<td>63%</td>
</tr>
<tr>
<td>Colorado River Program</td>
<td>1,254,208</td>
<td>659,497</td>
<td>594,711</td>
<td>53%</td>
</tr>
<tr>
<td>Engineering</td>
<td>3,363,825</td>
<td>1,920,224</td>
<td>1,443,601</td>
<td>57%</td>
</tr>
<tr>
<td>Finance</td>
<td>2,237,064</td>
<td>1,224,042</td>
<td>1,013,022</td>
<td>55%</td>
</tr>
<tr>
<td>General Counsel</td>
<td>3,070,190</td>
<td>1,886,776</td>
<td>1,183,414</td>
<td>61%</td>
</tr>
<tr>
<td>General Manager/Board of Directors</td>
<td>2,523,881</td>
<td>1,338,145</td>
<td>1,185,736</td>
<td>53%</td>
</tr>
<tr>
<td>Human Resources</td>
<td>1,372,715</td>
<td>686,105</td>
<td>686,610</td>
<td>50%</td>
</tr>
<tr>
<td>MWD Program</td>
<td>1,708,626</td>
<td>883,516</td>
<td>825,110</td>
<td>52%</td>
</tr>
<tr>
<td>Operations &amp; Maintenance</td>
<td>14,396,641</td>
<td>7,541,849</td>
<td>6,854,792</td>
<td>52%</td>
</tr>
<tr>
<td>Public Outreach &amp; Conservation</td>
<td>4,032,963</td>
<td>2,007,598</td>
<td>2,025,365</td>
<td>50%</td>
</tr>
<tr>
<td>Water Resources</td>
<td>3,891,358</td>
<td>2,164,961</td>
<td>1,726,397</td>
<td>56%</td>
</tr>
<tr>
<td>Total Operating Departments/Programs</td>
<td>$ 43,490,186</td>
<td>$ 23,892,326</td>
<td>$ 19,597,860</td>
<td>55%</td>
</tr>
</tbody>
</table>
Attachment E: Operating Departments

FY 12 Adopted Budget $43.5 Million
Period-To-Date Adopted Budget $29.1 Million
Period-to-Date Actual Operating Expenditures $23.9 Million
## San Diego County Water Authority
### Schedule of Cash and Investments
#### As of February 29, and January 31, 2012

<table>
<thead>
<tr>
<th>Fund</th>
<th>February</th>
<th>January</th>
<th>Target</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operating Fund</td>
<td>$118,287,927</td>
<td>$110,626,447</td>
<td>$67,000,000</td>
</tr>
<tr>
<td>Stored Water Fund</td>
<td>44,644,297</td>
<td>44,642,891</td>
<td></td>
</tr>
<tr>
<td>Equipment Replacement Fund</td>
<td>8,782,698</td>
<td>8,802,983</td>
<td></td>
</tr>
<tr>
<td>Rate Stabilization Fund</td>
<td>43,748,365</td>
<td>43,746,986</td>
<td>55,100,000</td>
</tr>
<tr>
<td><strong>Total Unrestricted Funds</strong></td>
<td><strong>215,463,287</strong></td>
<td><strong>207,819,307</strong></td>
<td></td>
</tr>
<tr>
<td>Pay As You Go Fund</td>
<td>128,258,197</td>
<td>128,576,806</td>
<td></td>
</tr>
<tr>
<td>CIP/Bond Construction Funds</td>
<td>356,507,760</td>
<td>366,871,370</td>
<td></td>
</tr>
<tr>
<td>Debt Service Reserve Funds</td>
<td>69,529,039</td>
<td>69,550,143</td>
<td></td>
</tr>
<tr>
<td><strong>Total Restricted Funds</strong></td>
<td><strong>554,294,996</strong></td>
<td><strong>564,998,319</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Total Cash and Investments</strong></td>
<td><strong>$769,758,283</strong></td>
<td><strong>$772,817,626</strong></td>
<td></td>
</tr>
</tbody>
</table>
### Comparison to end of FY2011

**San Diego County Water Authority**  
**Schedule of Cash and Investments**  
**As of February 29, 2012 and June 30, 2011**

<table>
<thead>
<tr>
<th>Fund</th>
<th>Percentage</th>
<th>February</th>
<th>June</th>
<th>Variance</th>
<th>Target</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operating Fund</td>
<td>15%</td>
<td>$118,287,927</td>
<td>$76,484,907</td>
<td>$41,803,020</td>
<td>$67,000,000</td>
</tr>
<tr>
<td>Stored Water Fund</td>
<td>6%</td>
<td>44,644,297</td>
<td>44,697,342</td>
<td>(53,045)</td>
<td></td>
</tr>
<tr>
<td>Equipment Replacement Fund</td>
<td>1%</td>
<td>8,782,698</td>
<td>8,915,398</td>
<td>(132,700)</td>
<td></td>
</tr>
<tr>
<td>Rate Stabilization Fund</td>
<td>6%</td>
<td>43,748,365</td>
<td>43,456,187</td>
<td>292,178</td>
<td>55,100,000</td>
</tr>
<tr>
<td><strong>Total Unrestricted Funds</strong></td>
<td>28.0%</td>
<td><strong>215,463,287</strong></td>
<td><strong>173,553,834</strong></td>
<td><strong>41,909,453</strong></td>
<td></td>
</tr>
<tr>
<td>Pay As You Go Fund</td>
<td>17%</td>
<td>128,258,197</td>
<td>119,558,427</td>
<td>8,699,770</td>
<td></td>
</tr>
<tr>
<td>CIP/Bond Construction Funds</td>
<td>46%</td>
<td>356,507,760</td>
<td>435,517,268</td>
<td>(79,009,508)</td>
<td></td>
</tr>
<tr>
<td>Debt Service Reserve Funds</td>
<td>9%</td>
<td>69,529,039</td>
<td>69,485,618</td>
<td>43,421</td>
<td></td>
</tr>
<tr>
<td><strong>Total Restricted Funds</strong></td>
<td>72%</td>
<td><strong>554,294,996</strong></td>
<td><strong>624,561,313</strong></td>
<td><strong>(70,266,317)</strong></td>
<td></td>
</tr>
<tr>
<td>Total Cash and Investments</td>
<td>100.0%</td>
<td><strong>$769,758,283</strong></td>
<td><strong>$798,115,147</strong></td>
<td><strong>($28,356,864)</strong></td>
<td></td>
</tr>
</tbody>
</table>
Overview of 2010 Board action on Revised Special Agricultural Water Rate Program, Changed Conditions Since Adoption, and Alternative Actions in Response to Requests to sustain Current Program

Administrative and Finance Committee
April 26, 2012
Agricultural Classes of Service

Customers pay reduced water rate commensurate with reduced level of service

1. Metropolitan Water District’s Interim Agricultural Water Program (IAWP)  *(Terminates Dec 31, 2012)*

2. Water Authority’s Transitional Special Agricultural Water Rate (TSAWR)  *(Terminates Dec 31, 2012)*

3. Water Authority’s Special Agricultural Water Rate (SAWR)  *(Begins Jan 1, 2013)*
## Estimated Rate Differential - Cost Benefit to Agricultural Customers

<table>
<thead>
<tr>
<th></th>
<th>MWD IAWP (CY 2012)</th>
<th>TSAWR (CY 2012)</th>
<th>Revised SAWR (CY 2013)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>IAWP Discount</strong>¹</td>
<td>$23/AF</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td><strong>SDCWA Supply Rate Differential</strong>¹</td>
<td>$78/AF</td>
<td>$78/AF</td>
<td>$0/AF</td>
</tr>
<tr>
<td><strong>Estimated SDCWA Storage Charge Exemption</strong></td>
<td>$133/AF</td>
<td>$133/AF</td>
<td>$159/AF</td>
</tr>
<tr>
<td><strong>Total Estimated Rate Differential:</strong></td>
<td>$234/AF</td>
<td>$211/AF</td>
<td>$159/AF</td>
</tr>
</tbody>
</table>

¹Untreated
# Customer Level of Reliability During Shortages

<table>
<thead>
<tr>
<th></th>
<th>IAWP (ends Dec 2012)</th>
<th>TSAWR (ends Dec 2012)</th>
<th>Revised SAWR (begins Jan 2013)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Supply Cutback</strong></td>
<td>Prior to Phase-out: 30% to 100%</td>
<td>• MWD cutback level</td>
<td>• Same level of reliability as M&amp;I customers</td>
</tr>
<tr>
<td></td>
<td>MWD cutback based on Regional Shortage Level</td>
<td>• Receive no SDCWA supplies</td>
<td></td>
</tr>
<tr>
<td><strong>Limited Storage Supplies</strong></td>
<td>• ESP Emergency: cutback at twice level of M&amp;I</td>
<td>• ESP Emergency: cutback at twice level of M&amp;I</td>
<td>• ESP Emergency: cutback at twice level of M&amp;I</td>
</tr>
<tr>
<td></td>
<td>• No deliveries from CSP</td>
<td>• No deliveries from CSP</td>
<td>• No deliveries from CSP</td>
</tr>
</tbody>
</table>

ESP: Emergency Storage Program
CSP: Carryover Storage Program
Request for Continuation of TSAWR

- Received letters requesting continuation of TSAWR
  - Agricultural member agencies (Fallbrook PUD, Rainbow MWD, Valley Center MWD, and Yuima MWD), Farm Bureau of San Diego County and California Avocado Commission
  - Concerns raised regarding viability of agricultural industry based on high cost of water
  - Request Water Authority expand dialogue to look more broadly at agricultural benefits based on changed conditions

- A&F Committee directed staff to provide follow-up in April
  - Overview SAWR Workgroup efforts and recommendations
  - Information on changed conditions since adoption of revised SAWR in March 2010
Estimated Percent Acres in IAWP and TSAWR to Total Acres Within San Diego County (2010) (Top Three Valued Crops by Major Categories)

Source: San Diego County 2010 Crop Report and Water Authority Member Agencies
SAWR Board Workgroup Efforts

Comprehensive Approach

- Formed to consider options after TSAWR terminates
- Held 10 meetings between July 2009 and March 2010
  - Included meetings with agricultural industry
- Established goals for potential new SAWR
  - Benefit both M&I and agricultural customers
    - Water management benefit for M&I
    - Offer stable/predictable program for farmers
- Conducted thorough analysis of options based on goals
Analysis: SAWR Supply Rate Differential

- Assumptions
  - Five-year period with cutbacks in 2014 and 2015
  - M&I cutbacks 10% and Agricultural cutbacks 30%
  - Sensitivity analysis at various rate differentials

<table>
<thead>
<tr>
<th>Rate Differential</th>
<th>$20/AF</th>
<th>$30/AF</th>
<th>$40/AF</th>
<th>$64/AF*</th>
<th>$80/AF</th>
<th>$100/AF</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unit Expense</td>
<td>$1,040</td>
<td>$1,169</td>
<td>$1,298</td>
<td>$1,590</td>
<td>$1,813</td>
<td>$2,071</td>
</tr>
</tbody>
</table>

*5-year average discount of existing program (2009)

- Estimated total transfer costs: $750/AF - $950/AF during five year period
- Transfers more cost-effective alternative to securing dry-year supplies
Analysis: SAWR Storage Charge Exemption

- ESP event – 2-month analysis (2015)
- SAWR cutback at twice the level of regional M&I cutback
- Storage supplies “freed-up” from SAWR greater cutback allocated to commercial and industrial (C&I) customers
  - Achieve higher level of service

<table>
<thead>
<tr>
<th>Classes of Service</th>
<th>Level of Service</th>
<th>Cutback Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>M&amp;I</td>
<td>75%</td>
<td>25%</td>
</tr>
<tr>
<td>SAWR</td>
<td>50%</td>
<td>50%</td>
</tr>
<tr>
<td>C&amp;I</td>
<td>87%</td>
<td>13%</td>
</tr>
</tbody>
</table>

- Beneficial to have shortage management option within region
March 2010 – Board Approved Workgroup Recommendations on Revised SAWR

- Discontinue supply rate differential
  - Does not provide cost-competitive M&I water management benefit compared with other options (i.e., dry-year transfers)

- Maintain storage charge exemption
  - Reliability benefit makes this “insurance program” cost effective to M&I customers

- Revised program effective January 1, 2013
  - Would be reflected in Water Authority’s 2013 water rates
Changed Conditions Highlighted by Agricultural Community

- Rate shock due to termination of MWDs IAWP
- Blocked access to approximately $2 million in funds in 2010 from MWD’s Agricultural Conservation Program
  - Not available due to MWD rate integrity policy that eliminates access to funds due to rate litigation
- Greater public policy emphasis on climate benefits associated with tree crops that offset carbon emissions
- Results of 2011 Water Authority public opinion survey supporting local agricultural
Agricultural Program Deliveries: 63% Decline

IAWP Phase-out and TSAWR program began January 1, 2009

<table>
<thead>
<tr>
<th>Class of Service</th>
<th>Cutback Levels (Calendar Year)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2007</td>
</tr>
<tr>
<td>IAWP</td>
<td>0</td>
</tr>
<tr>
<td>TSAWR</td>
<td>0</td>
</tr>
</tbody>
</table>

¹TSAWR cutbacks scheduled on fiscal year basis. 13% cutback level began July 1, 2009
²Cutback terminated for both classes of service in April 2011.
Water Authority 2011 Public Opinion Survey

Importance of Local Farmers and Agricultural to San Diego Economy

- Very Important: 81%
- Somewhat Important: 9%
- Neither: 5%
- Somewhat Unimportant: 2%
- Not Important: 3%

Maintain Reduced Water Rates for Farmers and Agriculture

- Yes: 87%
- No: 9%
- Not Sure: 4%
### Changes in Total Agricultural Acres and Value
(Source: San Diego County Crop Report)

<table>
<thead>
<tr>
<th>Top Three Valued Crops by Major Categories</th>
<th>2008</th>
<th>2010</th>
<th>Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nursery &amp; Flower</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acres</td>
<td>10,670</td>
<td>12,606</td>
<td>18.1%</td>
</tr>
<tr>
<td>Value</td>
<td>$1,042,703,756</td>
<td>$1,107,558,336</td>
<td>6.2%</td>
</tr>
<tr>
<td>Fruit &amp; Nut</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acres</td>
<td>43,624</td>
<td>36,239</td>
<td>-16.9%</td>
</tr>
<tr>
<td>Value</td>
<td>$239,810,088</td>
<td>$261,399,642</td>
<td>9.0%</td>
</tr>
<tr>
<td>Vegetable</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acres</td>
<td>7,228</td>
<td>6,303</td>
<td>-13%</td>
</tr>
<tr>
<td>Value</td>
<td>$163,027,398</td>
<td>$169,803,464</td>
<td>4%</td>
</tr>
</tbody>
</table>

Note: The Crop Report reflects gross values and does not represent net return to farmers nor multiplier effect on surrounding community.
Avocado Acres and Value Comparison between San Diego and Ventura Counties
(Source: County Crop Reports)

<table>
<thead>
<tr>
<th></th>
<th>2008</th>
<th>2010</th>
<th>Change</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>San Diego County</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acres</td>
<td>26,549</td>
<td>19,133</td>
<td>-28%</td>
</tr>
<tr>
<td>Value</td>
<td>$144,694,905</td>
<td>$147,051,864</td>
<td>2%</td>
</tr>
<tr>
<td><strong>Ventura County</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acres</td>
<td>17,608</td>
<td>18,916</td>
<td>7%</td>
</tr>
<tr>
<td>Value</td>
<td>$63,376,000</td>
<td>$148,343,000</td>
<td>134%</td>
</tr>
</tbody>
</table>
Estimated Cost Impact to M&I Customers

Estimated increase in regional storage unit cost, due to exempting agricultural deliveries from storage charge allocation:

<table>
<thead>
<tr>
<th>TSAWR (CY 2012)</th>
<th>Revised SAWR (CY 2013)</th>
</tr>
</thead>
<tbody>
<tr>
<td>$15/AF</td>
<td>$13/AF</td>
</tr>
</tbody>
</table>

Estimated unit cost associated with providing supply rate differential:

<table>
<thead>
<tr>
<th>TSAWR (CY 2012)</th>
<th>Revised SAWR (CY 2013)</th>
<th>Continuation TSAWR (CY 2013)</th>
</tr>
</thead>
<tbody>
<tr>
<td>$9/AF</td>
<td>$0/AF</td>
<td>$10/AF - $12/AF¹</td>
</tr>
</tbody>
</table>

¹Equates to approximate 1 to 2 percent increase in the “all-in” M&I untreated rate. Range is provided because proposed CY 2013 rates had not been established.
Consistent with Cost-of-Service Principles and Proposition 26

- Consistent with cost-of-service principles
  - TSAWR reasonably allocates costs according to level of service received

- Proposition 26
  - Program adopted prior to enactment of Prop. 26 and no amendments to program are being proposed except extension of prior sunset date
  - Program based on cost-of-service principles
Provide Direction to Staff in Response to the Request to Sustain TSAWR

Alternative actions being provided for Board consideration:

1. Affirm the March 2010 Board action to implement the revised SAWR starting January 1, 2013

2. Extend the current TSAWR program for a specific time period (i.e. one year)

3. Reconvene workgroup to evaluate the Water Authority’s SAWR
School Education Program Update

Legislation, Conservation and Outreach Committee
April 26, 2012
Goals of Education Program

- **Support Strategic Plan and Business Plan**
  - Conservation Goals
    - Promote water efficiency
    - Establish conservation as civic duty
    - Reach 250,000 students/7,500 teachers by June 2012

- **Meet California State Content Standards**
  - All 42 County school districts use our materials
School Program Organization

- Partnership Programs
- Contracted Programs
- In-House Programs
## 5-Year Goals Achieved

<table>
<thead>
<tr>
<th>Program</th>
<th>Teachers</th>
<th>Students</th>
</tr>
</thead>
<tbody>
<tr>
<td>Classroom Presentations</td>
<td>1,659</td>
<td>43,301</td>
</tr>
<tr>
<td>Workshops</td>
<td>298</td>
<td>21,468</td>
</tr>
<tr>
<td>Splash Science Mobile Lab</td>
<td>341</td>
<td>15,000</td>
</tr>
<tr>
<td>School Assembly Programs</td>
<td>6,570</td>
<td>157,238</td>
</tr>
<tr>
<td>Contests and Promotions</td>
<td>119</td>
<td>4,420</td>
</tr>
<tr>
<td>Traveling Library</td>
<td>651</td>
<td>27,841</td>
</tr>
<tr>
<td>Curriculum Materials and Videos</td>
<td>398</td>
<td>18,480</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>10,036</strong></td>
<td><strong>287,748</strong></td>
</tr>
</tbody>
</table>
Partnership Programs

- **Splash Science Mobile Lab**
- **Reuben H. Fleet Science Center exhibit**
- **“Be Water Smart” video**
- **Water History video, 8-part series**

(In partnership with Historical Society, City Schools and County Office of Education)
Contracted Programs

- **School Assembly Programs**
  - Splashtastic!
  - Magic of Water
  - H2O, Where Did you Go?

- **Teacher Training Programs**
  - Water Quality Testing
  - Water-Wise Gardening Workshops
In House Programs and Materials

- 3rd & 5th Grade Class Presentations
- Science Fair Awards
- Be Water Sm“Art” Essay Contest
- Merit Badge Program
- Curriculum Materials

2011 Science Fair Awards
Transition of Education Program

- Programmatic changes starting in 2012-2013 school year
- Part of organizational restructuring
- Focus moving forward:
  - Continue to provide quality programs
  - Reduce costs
  - Focus on more cost-efficient programs
Transition of Education Program

- Continue school assembly programs
- Continue high-capacity partnership programs
  - Splash Lab
  - Reuben H. Fleet Exhibit
- Discontinue in-class presentations
- More emphasis on providing teachers with curriculum materials
- Continue teacher training workshops
  - Condense schedules for greater efficiency
- Continue less labor-intensive programs
  - Science Fair Awards
  - Merit Badge
Education Programs
DESIGNING GARDENS FOR SMALL SPACES
SUSTAINABLE LANDSCAPES AND PERMEABLE PAVING
New

Urban Chickens

Tai Chi in the Garden

What’s All the Buzz About Bees?
Ms. Smarty-Plants™ programs have reached over 30,000 kids in all areas of San Diego, Riverside and Imperial Counties IN 2011/2012
Field Trips to the Garden
Davila Day Deaf School

Pilot Program for Deaf and Hard of Hearing children with learning disabilities
School Assemblies

Ms. Smarty-Plants™ and

The Magic of Water
OUTREACH

Earth Day Balboa Park 2012
Dear Ms. Smarty Plants

November 15, 2010

Thank you for the field trip. Today on the field trip I learned to save water and how do plants get adaptations. I liked it when I get to smell the plants. My favorite part was when you sang us the song. It was funny and cool. And I like your garden. Thank you very much!

Sincerely,
Super hero Wendy

Dear Ms. smart plants

Thank you for teaching us about drought tolerant plants.

I really liked when we searched for dinosaur rocks.

Today I learned that we really need to conserve water and that we are Earth's heroes.

Your friend,
Catie
Our mission is to inspire people of all ages to connect with nature.
Free Succulent Plants
Ag Pals and Hydroponics

Hamilton Children’s Garden

Seeds of Wonder
Vermiculture

Vermiculture
Eco-Bingo
Hamilton Children’s Garden

Reuse, Recycle, Renewable, Reduce!
Can you find three photos on a row?

- **Worm Bin**: Recycles garden waste
- **Rain Barrel**: Reuses rainwater
- **Hydroponic Salad Bar**: Uses 90% less water
- **Solar Powered Restrooms**: Uses renewable energy from sun
- **Electric Cart**: Use electric vehicles to reduce gasoline use where possible
- **Succulent Plants**: Use less water
- **Recycled Picnic Tables**: Recycles 3700 milk bottles per table
- **Recycled Bins**: Recycle your bottles and cans
- **Lavender Sprinklers**: Reuses wastewater to water plants

Eco-Bingo Game
Water Wise Tour

We Use Less Water

Water use in this building is reduced by more than 35%. Recycled water irrigates landscaping and flushes toilets. By recycling water, we conserve this precious resource and improve the reliability of our water supply. Pipes that carry recycled water are either purple in color or have purple identifying labels.

To Support Conservation
We Irrigate with Recycled Water

Please Do Not Drink!
Native Plants/Native People Tour
Plant Adaptation Tour for Kids
Teaching Permaculture to Title I Kids from Ocean Knoll
The Garden
Water Use Efficiency Policy Principles

Legislative, Conservation and Outreach Committee
April 26, 2012
Purpose of Policy Principles

• Provide high-level strategic direction to:
  • Assist member agencies in meeting their WUE goals
  • Define Water Authority’s role in promoting efficiency
  • Evaluate regional projects and programs
Background

- December 2010 Board direction
  - Shaped budget programming through FYs 12-13

- Legislative, Conservation and Outreach Committee goals for 2011/2012
  - Re-evaluate long-term goals and objectives of program

- Board workshop on March 8, 2012
Feedback and Suggestions

• Promote and encourage alternate water supplies
  • Grey water
  • Recycled water
  • Storm water capture
• Highlight consumption based sewer rates
• Additional education geared toward the value of water
Policy Principles

1. Support Member Agencies

2. Funding/Resources

3. Program Performance

4. Outreach and Education

5. Regulation/Legislation
Support Member Agencies

• Work cooperatively with member agencies
• Recognize member agencies’ requirements under SBX7-7
• Implement and administer regional programs where appropriate
• Provide opportunities to discuss programs, facilitate access to other resources
Funding/ Resources

- Reflect program costs as supply costs
- Pursue broad, cost-effective strategy that also reflects non-programmatic approaches
- Ensure broad regional benefits
- Leverage outside funding sources
- Seek equitable treatment from MWD
- Form collaborative partnerships
Program Performance

• Encourage long-term market transformation and behavior changes
• Promote cost-effective programs in all water use sectors
• Provide technical expertise to maximize success of Water Authority, member agency efforts
• Support research and testing of innovative water use efficiency programs
• Evaluate ongoing programs; report to Board on performance
Outreach and Education

• Promote water efficiency as ongoing responsibility
• Enhance outreach related to water reliability and rates
• Increase awareness and demand for WaterSmart landscapes
• Promote and increase awareness of alternative water supplies
• Provide regional communications tools to help water users learn how to improve their efficiency
• Facilitate and advance improved water efficiency standards and products
Regulation and Legislation

- Sponsor or support legislation in accordance with Legislative Policy Guidelines
- Update Legislative Policy Guidelines on water use efficiency, as needed
- Advocate for national, state, regional policies and regulations compatible with needs of our region
Increasing San Diego County's Water Supply Reliability through Supply Diversification

1991

- 552 TAF (95%)
- 26 TAF (5%)
- Total = 578 TAF

2011 (final)

- 262 TAF (44%)
- 80 TAF (14%)
- 67 TAF (11%)
- 23 TAF (4%)
- 20 TAF (3%)
- Total = 594 TAF

2020

- 231 TAF (30%)
- 103 TAF (13%)
- 80 TAF (10%)
- 44 TAF (6%)
- 56 TAF (7%)
- 27 TAF (4%)
- 48 TAF (6%)
- Total = 779 TAF

- Metropolitan Water District
- Imperial Irrigation District Transfer
- All American & Coachella Canal Lining
- Groundwater
- Conservation (existing and additional)
- Recycled Water
- Seawater Desalination
- Local Surface Water
Recommendation

Approve the Water Use Efficiency Policy Principles that will provide long-term strategic direction for staff in planning and implementing regional water use efficiency initiatives and programs.
Report on AB 2398

Legislation, Conservation & Outreach Committee

April 26, 2012
AB 2398 (Hueso) Water Recycling

- In March, the board adopted a position of Support and Co-sponsor on AB 2398
- Other co-sponsor is WateReuse
- Major re-write of law regarding recycled water
- Regulate as a resource, instead of a waste
Fundamental tension in current law

“use of potable water...is unreasonable and a waste...where recycled water is reasonably available”
(Water Code Section 13550 et seq)

“...reclamation permits shall include...waste discharge requirements”
(Water Code Section 13520 et seq)
AB 2398 (Hueso) Recycled Water

- Removes recycled water (beyond secondary) from the definition of waste
- Defines recycled water as a resource
- Eliminates requirements for low-level spill reporting in the Health & Safety and Water Codes
- Clearly outlines the roles and responsibilities of the regulatory agencies
More specifically

- Treats advanced treated, purified water as a drinking water supply permitted by the Department of Public Health.
- Recycled water will be permitted by the Regional Boards under a recycled water permit distinct from Waste Discharge Requirements and Porter Cologne.
- Consolidates provisions related to local agency planning and coordination in one place.
- Realigns the permit and regulatory fee structure to better support regulatory agencies’ work.
Outstanding Issue

- Fee
  - Needed to implement the bill
  - Must be dedicated to recycled water permitting only
MWD’s Adopted Biennial Budget & Water Rates and Charges
Fiscal Years 2012/13 and 2013/14

Imported Water Committee
April 26, 2012
MWD 2012/13 and 2013/14 Budget & Rates Timeline

- January 9: Revenue requirements & associated rates & charges
  - Adoption of biennial budget and associated rates for two years
  - Average rate increases of 7.5% for CY 2013, and 5% for CY 2014
- February 3: Water Authority Delegates letter to MWD with comments, questions and requests for information
  - February 10, MWD responded: issues will be addressed in workshops
- Budget/rate workshops: January 24 & February 13
  - Did not address all of Water Authority’s questions
- Acceleration of budget/rate adoption
  - February 13: F&I committee acted to accelerate adoption to March
  - February 28: Exec committee affirmed acceleration
  - March 5: Water Authority Delegates raised concerns with accelerated adoption schedule, requested supported cost of service data, requested again MWD respond to issues raised in February 3 letter
  - March 8: Water Authority Delegates reposed the concern with lack of dry-year peaking accounting as a question
MWD 2012/13 and 2013/14 Budget & Rates Timeline

- March 12 Public Hearing
  - 28 San Diego organizations testified; 17 testified in support of MWD
- March 21: Water Authority Delegates provided budget proposal that cap rate increases at no more than 3% in 2013 and 2014
- April 9 MWD F&I committee meetings:
  - Series of motion and substitute motions, including Delegates recommendation, that resulted in no committee recommendation
- April 10 (MWD Board Meeting)
  - Public Comment
    - 31 speakers; 9 San Diego representatives testified
  - Board adopted “average” rate increase of 5% in 2013 and 2014
    - Tier 1 Treated: 6.7% in 2013 and 5.1% in 2014
    - Tier 1 Untreated: 5.9% in 2013 and 0% in 2014
March 21 Water Authority Budget and Rate Cap Proposal

- Start with MWD staff’s recommended budget that required 7.5% and 5% rate increases for 2013 and 2014, respectively; and to achieve 3% rate hike cap:
  - Suspend $20 million/year conservation subsidies for two years
  - Reduce O&M expenses by 10%
  - Keep scheduled OPEB and PAYGo funding levels
  - Keep funding for infrastructure/capital improvement projects intact (no CIP budget reductions)
  - Preserve funding for water storage
  - Do not use reserves to make up potential revenues gap
Approved Rate Increase – 5% in 2013 and 2014

- Based on MWD staff’s recommended option of 7.5% in 2013 and 5% in 2014, then, to achieve 5% increase in 2013 and 2014:
  - Reduce storage and other expenses by $26.4M
  - Eliminate funding of 18 positions
    - Budget funds increases actual workforce by at least 40
  - Reduce operating equipment replacement and debt administration costs
- Water Authority delegation did not support adoption of the budget and rates and charges
# Key Assumptions
(Based on modified accrual)

<table>
<thead>
<tr>
<th>Fiscal year Ending</th>
<th>2013</th>
<th>2014</th>
</tr>
</thead>
<tbody>
<tr>
<td>“Average” rate increase effective Jan. 1</td>
<td>5%</td>
<td>5.0%</td>
</tr>
<tr>
<td>MWD supply assumptions</td>
<td>1.87 MAF</td>
<td>1.92 MAF</td>
</tr>
<tr>
<td>State Water Project allocation</td>
<td>65%/60%</td>
<td>60%/50%</td>
</tr>
<tr>
<td>Colorado River Aqueduct deliveries</td>
<td>0.73 MAF</td>
<td>0.89 MAF</td>
</tr>
<tr>
<td>Interest income rate</td>
<td>1.49%</td>
<td>1.53%</td>
</tr>
<tr>
<td>New debt interest rate – Fixed</td>
<td>4.5%</td>
<td>4.5%</td>
</tr>
<tr>
<td>Variable</td>
<td>0.5%</td>
<td>0.5%</td>
</tr>
<tr>
<td>Total water sales &amp; exchanges</td>
<td>1.7 MAF</td>
<td>1.7 MAF</td>
</tr>
<tr>
<td>Full service</td>
<td>1.52 MAF</td>
<td>1.50 MAF</td>
</tr>
<tr>
<td>SDCWA exchange</td>
<td>185 TAF</td>
<td>198 TAF</td>
</tr>
<tr>
<td>PAYGo funding</td>
<td>$55M</td>
<td>$125M</td>
</tr>
<tr>
<td>OPEB funding</td>
<td>$5M</td>
<td>$10M</td>
</tr>
</tbody>
</table>
## Adopted Budget Expenditures

<table>
<thead>
<tr>
<th>$Millions</th>
<th>2011/12 “Managed” 1.8 MAF budget</th>
<th>2011/12 Projected</th>
<th>2012/13 Adopted</th>
<th>2013/14 Adopted</th>
<th>2013/14 Adopted Comp to 2012/13 Adopted</th>
</tr>
</thead>
<tbody>
<tr>
<td>SWP</td>
<td>$557.5</td>
<td>$508.3</td>
<td>$593.5</td>
<td>$564.0</td>
<td>($29.4)</td>
</tr>
<tr>
<td>CRA Power</td>
<td>45.4</td>
<td>33.0</td>
<td>36.2</td>
<td>24.9</td>
<td>(11.3)</td>
</tr>
<tr>
<td>Supply Programs</td>
<td>47.5</td>
<td>64.0</td>
<td>36.3</td>
<td>37.0</td>
<td>0.7</td>
</tr>
<tr>
<td>Debt service</td>
<td>332.8</td>
<td>333.3</td>
<td>341.2</td>
<td>343.4</td>
<td>2.2</td>
</tr>
<tr>
<td>Demand management</td>
<td>59.1</td>
<td>55.1</td>
<td>53.2</td>
<td>53.6</td>
<td>0.4</td>
</tr>
<tr>
<td>O&amp;M</td>
<td>356.2</td>
<td>372.8</td>
<td>367.1</td>
<td>390.2</td>
<td>23.1</td>
</tr>
<tr>
<td>CIP</td>
<td>281.9</td>
<td>192.5</td>
<td>257.3</td>
<td>294.6</td>
<td>37.3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>$1,680.5</strong></td>
<td><strong>$1,558.9</strong></td>
<td><strong>$1,684.7</strong></td>
<td><strong>$1,707.9</strong></td>
<td>$23.1</td>
</tr>
</tbody>
</table>

Totals may not foot due to rounding.
# MWD adopted 2013 and 2014 rates

<table>
<thead>
<tr>
<th>Rate Category</th>
<th>Existing 2012</th>
<th>Adopted 2013</th>
<th>2013 % Change</th>
<th>Adopted 2014</th>
<th>2014 % Change</th>
<th>% Change 2012 to 2014</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tier 1 Supply Rate ($/AF)</td>
<td>164*</td>
<td>140</td>
<td>-14.6%</td>
<td>148</td>
<td>5.7%</td>
<td>-9.8%</td>
</tr>
<tr>
<td>Tier 2 Supply Rate ($/AF)</td>
<td>290</td>
<td>290</td>
<td>0%</td>
<td>290</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>System Access Rate ($/AF)</td>
<td>217</td>
<td>223</td>
<td>2.8%</td>
<td>243</td>
<td>9%</td>
<td>12%</td>
</tr>
<tr>
<td>Water Stewardship Rate ($/AF)</td>
<td>43</td>
<td>41</td>
<td>0%</td>
<td>41</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>System Power Rate ($/AF)</td>
<td>136</td>
<td>189</td>
<td>39%</td>
<td>161</td>
<td>-14.8%</td>
<td>18.4%</td>
</tr>
<tr>
<td>Treatment Surcharge ($/AF)</td>
<td>234</td>
<td>254</td>
<td>8.5%</td>
<td>297</td>
<td>16.9%</td>
<td>26.9%</td>
</tr>
<tr>
<td>Readiness-to-Serve Charge ($M)</td>
<td>146</td>
<td>142</td>
<td>-2.7%</td>
<td>166</td>
<td>16.9%</td>
<td>13.7%</td>
</tr>
<tr>
<td>Capacity Charge ($/CFS)</td>
<td>7,400</td>
<td>6,400</td>
<td>-13.5%</td>
<td>8,600</td>
<td>34.4%</td>
<td>16.2%</td>
</tr>
</tbody>
</table>

* Tier 1 rate includes a $58/af Delta Supply Surcharge in 2012; the Delta Supply Surcharge will be suspended after 2012
** Discussions on the replenishment program are continuing with the Member Agencies.
*** The Interim Agricultural Water Program will be discontinued after 2012.
MWD Tier 1 Treated Rate Increases 2006–2014

<table>
<thead>
<tr>
<th>Year</th>
<th>MWD Tier 1 Treated Rate</th>
<th>MWD Tier 1 Treated (% Increase)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2006</td>
<td>$453</td>
<td>2.3</td>
</tr>
<tr>
<td>2007</td>
<td>$478</td>
<td>5.5</td>
</tr>
<tr>
<td>2008</td>
<td>$508</td>
<td>6.3</td>
</tr>
<tr>
<td>2009</td>
<td>$579</td>
<td>14.0</td>
</tr>
<tr>
<td>2010</td>
<td>$701</td>
<td>21.1</td>
</tr>
<tr>
<td>2011</td>
<td>$744</td>
<td>6.1</td>
</tr>
<tr>
<td>2012</td>
<td>$794</td>
<td>6.7</td>
</tr>
<tr>
<td>2013</td>
<td>$847</td>
<td>6.7</td>
</tr>
<tr>
<td>2014</td>
<td>$890</td>
<td>5.1</td>
</tr>
<tr>
<td>TOTAL</td>
<td></td>
<td>96.5%</td>
</tr>
</tbody>
</table>
## Historical and Projected Rates & Other Indicators

### Fiscal Year Ending

<table>
<thead>
<tr>
<th>Year</th>
<th>Reserves</th>
<th>Rate Case Escrow Amount</th>
<th>Minimum Reserve</th>
<th>Maximum Reserve</th>
</tr>
</thead>
<tbody>
<tr>
<td>2006</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2007</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2008</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2009</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2010</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2011</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2012</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2013</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2014</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2015</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2016</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2017</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Key Indicators

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Ave Rate Increase</strong></td>
<td>1.6%</td>
<td>3.4%</td>
<td>5.8%</td>
<td>14.3%</td>
<td>19.7%</td>
<td>7.5%</td>
<td>7.5%</td>
<td>5.0%</td>
<td>5.0%</td>
<td>3.0- 5.0%</td>
<td>3.0- 5.0%</td>
<td>3.0- 5.0%</td>
</tr>
<tr>
<td><strong>Sales and Exchange, MAF</strong></td>
<td>2.12</td>
<td>2.26</td>
<td>2.26</td>
<td>2.16</td>
<td>1.77</td>
<td>1.72</td>
<td>1.68</td>
<td>1.7</td>
<td>1.7</td>
<td>1.75</td>
<td>1.75</td>
<td>1.75</td>
</tr>
<tr>
<td><strong>Revenue Bond Coverage</strong></td>
<td>1.8</td>
<td>2.2</td>
<td>1.8</td>
<td>1.8</td>
<td>1.6</td>
<td>1.5</td>
<td>1.5</td>
<td>1.6</td>
<td>1.9</td>
<td>2.0</td>
<td>2.0</td>
<td>2.0</td>
</tr>
<tr>
<td><strong>Fixed Charge Coverage</strong></td>
<td>1.3</td>
<td>1.7</td>
<td>1.3</td>
<td>1.3</td>
<td>1.1</td>
<td>1.0</td>
<td>1.1</td>
<td>1.2</td>
<td>1.4</td>
<td>1.4</td>
<td>1.4</td>
<td>1.3</td>
</tr>
<tr>
<td><strong>PAYGO, $M</strong></td>
<td>88</td>
<td>95</td>
<td>43</td>
<td>30</td>
<td>37</td>
<td>45</td>
<td>45</td>
<td>55</td>
<td>125</td>
<td>125</td>
<td>125</td>
<td>125</td>
</tr>
<tr>
<td><strong>Conservation, $M</strong></td>
<td>15.0</td>
<td>11.0</td>
<td>16.0</td>
<td>36.2</td>
<td>22.3</td>
<td>12.9</td>
<td>15.8</td>
<td>20.0</td>
<td>20.0</td>
<td>20.0</td>
<td>20.7</td>
<td>21.4</td>
</tr>
<tr>
<td><strong>LRP, $M</strong></td>
<td>24.4</td>
<td>26.8</td>
<td>32.5</td>
<td>39.4</td>
<td>40.1</td>
<td>35.2</td>
<td>39.4</td>
<td>33.2</td>
<td>33.6</td>
<td>41.2</td>
<td>46.2</td>
<td>52.2</td>
</tr>
<tr>
<td><strong>Supply Program, $M</strong></td>
<td>79.8</td>
<td>32.9</td>
<td>52.1</td>
<td>76.3</td>
<td>109.8</td>
<td>99.7</td>
<td>64.0</td>
<td>45.1</td>
<td>44.9</td>
<td>48.5</td>
<td>47.9</td>
<td>42.8</td>
</tr>
<tr>
<td><strong>Retiree Health Care, $M</strong></td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>5.0</td>
<td>10.0</td>
<td>15.0</td>
<td>20.0</td>
</tr>
</tbody>
</table>
Next Steps

- Water Authority has the greatest stake in MWD’s success
- Continue to review and advocate prudent expenditures, including reductions in expenses that provide no benefits to MWD
- Continue to outreach and educate
Purpose of Study

— Forecast Colorado River Basin water demands and supplies through 2060
— Identify imbalances between supplies and demands
— Recommend strategies and measures to address imbalances
Colorado River Basin

Key Characteristics

- Variable hydrology
- 60 million acre-feet of storage capacity
- System considered to already be over-allocated
Study Partnership

• Participants include Reclamation and seven Colorado River Basin states
• $2 million cost, divided equally between federal and non-federal partners
• Begun in January 2010
Study Phases and Tasks

Study done in four phases:

1. Water supply projection
2. Water demand projection
3. System reliability analysis
4. Development and evaluation of opportunities to address imbalances
## 50 Years of Change

<table>
<thead>
<tr>
<th>Demographics / Land Use</th>
<th>1960</th>
<th>2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Population served</td>
<td>12 million</td>
<td>30 million</td>
</tr>
<tr>
<td>• Acres irrigated</td>
<td>&lt; 3 million</td>
<td>3 million</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Physical System</th>
<th>1960</th>
<th>2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Storage capacity</td>
<td>30 maf</td>
<td>67 maf</td>
</tr>
<tr>
<td>• Hydropower generation capacity</td>
<td>6,700 GW</td>
<td>12,400 GW</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Natural System</th>
<th>1960</th>
<th>2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Annual mean natural flow at L.F.</td>
<td>15.5 maf</td>
<td>14.4 maf</td>
</tr>
<tr>
<td>• Lowest 10-yr average flow at L.F.</td>
<td>12.5 maf (1931-1940)</td>
<td>12.0 maf (2001-2010)</td>
</tr>
</tbody>
</table>

* 50-year period ending in year shown

<table>
<thead>
<tr>
<th>Legal</th>
<th>1960</th>
<th>2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Acts, agreements, etc</td>
<td>Colorado River Compact, Boulder Canyon Project Act, Upper Colorado River Basin Compact</td>
<td>AZ v. CA, NEPA, ESA, QSA, ICS</td>
</tr>
</tbody>
</table>
Annual Colorado River Supply and Use

10-Year Running Average of Historical and Projected Future Supply and Demand

- Historical
- Projected

Observed - Median

Projected Use - 2007 Depletion Schedule

Climate Projection - Median

Climate Projection - 10th Percentile

Climate Projection - 90th Percentile

Demand and Supply Scenarios in Development

DRAFT – SUBJECT TO REVISION
(FOR ILLUSTRATION PURPOSES)
Quantify Range of Imbalances

10-Year Running Average of Historical and Projected Future Supply and Demand

- 10-YEAR RUNNING AVERAGE BASIN WATER USE
- 10-YEAR RUNNING AVERAGE BASIN WATER SUPPLY
- Projected Use - 2007 Depletion Schedule
- Climate Projection - Median
- Climate Projection - 10th Percentile
- Climate Projection - 90th Percentile
- Observed - Median

DRAFT – SUBJECT TO REVISION (FOR ILLUSTRATION PURPOSES)

Demand and Supply Scenarios in Development
Water Supply

• Four scenarios used to project supply:
  – Observed streamflow (100 years)
  – “Paleo” trends (1,250 years)
  – Observed, with increased flow variability
  – Climate change

• Projections for average annual flow range from 13.7 maf/yr (climate change) to 15.0 maf/yr (observed)
Water Demand

• Six scenarios used to project range of demand
• Scenarios vary by assumptions for:
  – future demographics
  – land use
  – technology
  – economic conditions
  – social and governance structures
Water Demand

Historical Supply and Use

Water Supply (10-year Running Average)

Water Use (10-year Running Average)

Projected Future Supply and Demand

Projected Demand

Projected Water Supply (10-year Running Average)

Year

Preliminary Results

Volume - Million Acre-feet


2011 2014 2017 2020 2023 2026 2029 2032 2035 2038 2041 2044 2047 2050 2053 2056


2011 2014 2017 2020 2023 2026 2029 2032 2035 2038 2041 2044 2047 2050 2053 2056
Reliability Analysis

• Measure capacity to meet six resources needs:
  1. Water deliveries (consumptive use)
  2. Electric power
  3. Water quality
  4. Flood control
  5. Recreation
  6. Ecological

• Reclamation computer model (CRSS) primary tool for measurement

• Socioeconomic impacts addressed qualitatively for all resources needs
Balancing Supply and Demand

• Identify options for addressing imbalances
  – Solicited public input for options
    • 139 options were submitted
• Options include: water importation, desalination, efficiency measures, transfers and exchanges, governance, and watershed management
• Evaluate major categories of options and combinations of options
Schedule

• Project team currently refining water demand projections and evaluating options for balancing supply and demand

• Study completion by July 2012
Background

- **QSA Joint Powers Authority**
  - Formed in 2003 to fund mitigation for QSA water transfers
  - QSA JPA has fulfilled all mitigation requirements to date, including deliveries of water to Salton Sea

- **QSA legislation**
  - State required to develop Salton Sea restoration and financing plans
  - Very limited progress on State effort on Salton Sea restoration
Ongoing Environmental Mitigation
Managed Marsh
Managed Marsh
Managed Marsh
Air Quality Mitigation
Air Quality Mitigation
Burrowing Owl Surveys
Burrowing Owl Surveys
Burrowing Owl Surveys
Desert Pupfish Monitoring
Desert Pupfish Monitoring
Salton Sea
SWRCB Petition

- IID/SDCWD filed joint petition to State Water Resources Control Board in October 2011
  - Stop mitigation water to Salton Sea from 2014-2017
  - Mitigation water would instead be transferred to urban agencies to fund accelerated mitigation measures
Alternative QSA Mitigation Measures
Joint Petition
Proposed Mitigation

POTENTIAL MITIGATION

- Red Hill Bay Shallow Water Habitat
- Geothermal Use
- Area for Fresh-Saline Wetland & Open Water
- Species Conservation Habitat
- Agricultural Use
Red Hill Bay

Red Hill Bay Concept

Detailed map and diagrams of the Red Hill Bay concept.
New River Playa after channel construction

- Constructed Channel
- New River
San Vicente Dam Raise
Construction Update

Engineering & Operations Committee Meeting
April 26, 2012
Agenda

- Contractor’s Recovery Plan
  - RCC Placement
  - Conveyor System
  - Outlet Tower
  - Downstream Control Facility
RCC Placement
October 2011

ULTIMATE DAM HEIGHT – FALL 2012

ELEV. (FEET)
800
750
700
650
600
550
500
450
400

776
453
RCC Placement
November 2011

ULTIMATE DAM HEIGHT – FALL 2012

ELEV. (FEET)
800
750
700
650
600
550
500
450
400

776
496
RCC Placement
December 2011

ULTIMATE DAM HEIGHT – FALL 2012
RCC Placement
January 2012

ULTIMATE DAM HEIGHT – FALL 2012
RCC Placement
February 2012

ULTIMATE DAM HEIGHT – FALL 2012
RCC Placement
March 2012

ULTIMATE DAM HEIGHT – FALL 2012
RCC Placement
April 2012

ULTIMATE DAM HEIGHT – FALL 2012

ELEV. (FEET)
800
750
700
650
600
550
500
450
400

776
642
Conveyor System
March 2012
Conveyor System
April 2012
Outlet Tower
Coordination with RCC Placement
Asset Management Program
Part 1 of 3 (Information)

Engineering & Operations Subcommittee
April 26, 2012
The Replacement Era
- Assets reaching end of useful life
- $1 trillion over next 25 years

Infrastructure asset management program for individual utilities
- Timing
- Materials and installation
- Life expectancy
- Replacement costs
- Probability distribution for wear out

AWWA, Buried No Longer, 2012
Guidance Documents

- Strategic Plan
  - Key Result Area
    - Asset Management
- Business Plan
- Asset Management Plan & Funding Policy
Planning, design, construction, operation, maintenance and surplus of assets is completed at the optimum time to ensure water delivery system reliability at the lowest cost and least impact to member agencies.
Benefits

- Increased efficiency (planned vs. reactive)
- Rate stabilization
- Improved relationships w/stakeholders
Asset Classification

- **Pipelines**
  - PCCP, Steel, BWCP, etc.
  - Includes BO, AV, MH, PW, CP, AFO

- **Facilities**
  - Flow Control, Hydrogeneration, etc.
  - Structural, Electrical, Electronic, Mechanical

- **Equipment**
  - Fleet
  - Computers
  - SCADA
  - Security
Funding

- Funding Policy
  - January 2010

- Budget
  - Pipelines ($810 M)
  - Facilities ($11 M)
  - Equipment ($4 M)

- Living Document
  - Updated during budget process
  - Includes schedules and budgets
**Process**

**Asset Assessment & Prioritization**
- Inspection/condition assessment
- Prioritize projects based on consequence & risk of failure
- Develop potential projects

**Multi-Departmental Review**
- Review condition assessment/prioritization
- Approve budgets and schedule
- Recommend projects to be included in CIP

**Board Approval**
- Review asset management forecast
- Approve AM projects during budget review process
- Incorporate projects into CIP
Facility/Equipment Assessment

- **Probability of Failure**
  - Visual Inspection
  - CMMS Records Check
  - Remaining Service Life

- **Consequence of Failure**
  - Life/Safety/Property
  - Environmental
  - Member Agency Service
  - Adjacent Utilities Impacts
  - System Redundancy
Tools & Techniques

- Visual Inspection (fiber optic camera, ROV)
- Sounding
- Infrared
- Ultrasonic
- Fluid Analysis
- Remote Field Eddy Current
- Acoustic Fiber Optic Monitoring
- Magnetic Flux Leakage
Prioritization

- Data Analysis
  - Microsoft Access
  - Visual Basic Programming

- Philosophy
  - Systematic & Logical Process
  - Consistent Across AM Classes
  - Repeatable Results
Condition Assessment Status

- **Pipelines – Complete** (baseline assessments)

- **Facility Evaluations**
  - Complete – 97 FCF’s by June 2011
  - On Schedule – 35 major facilities (pumping, hydro-generation) by July 2012

- **Aqueduct Structures**
  - Complete – 400 structures by August 2011
  - On Schedule – Remaining 1,300 by December 2013
Pipeline Risk of Failure

Combined Consequence and Probability of Failure w/Google Earth
Asset Management Part 2

- Review of pipeline assessment
- Google Earth “fly by” demonstration with AFO
- Relining program status