Public Opinion Poll

Legislation, Conservation and Outreach Committee
May 24, 2012
Background

- Ongoing effort to monitor public opinion
- Survey residents countywide
- Measure progress toward Board’s Strategic Plan goals and targets

Schedule:
- Conduct survey July 2012
- Share results August 2012
Tentative Subject Areas:
Points of Emphasis in 2012

- Rate tolerance and acceptance
- Public willingness to pay for improved water reliability
  - Willingness to pay for water supplies from Carlsbad Desalination Project
  - Changes from previous surveys
- Factors driving current levels of water use
- Awareness of MWD rate litigation
Tentative Subject Areas: Strategic and Business Plan

- Attitudes toward supply diversification strategy
- Water use efficiency awareness and perception as a civic duty
- Indirect potable reuse awareness and acceptance
Tentative Subject Areas: Standard Topics

- Attitudes and opinions about general news/current events
- Attitudes and perceptions concerning water reliability
- Perception of value of water and service provided by public water agencies
San Diego County
Garden Friendly Plant Fairs

Legislative, Conservation and Outreach Committee
May 24, 2012
Background

- 2010 – The Home Depot formed partnership with Inland Empire water agencies
- 2011 – Water Authority and 11 member agencies formed public/private partnership with The Home Depot
- 2012 – Plant fairs took place
Plant Fair Benefits

- Promote plants listed in *A Homeowner’s Guide to a WaterSmart Landscape*
- Place low-water-use plants in mainstream marketplace
- Promote member agencies’ water efficiency programs and services
Plant Fair Details

- 10 events (February - May)
- Held throughout the region
- Hosted by member agencies
- Promoted by water agencies and The Home Depot
- Discounts as much as 50% on selected plants
- Include how-to workshops, expert advice on planting and maintenance
WATER CONSERVATION
PLANT SALE

SAVE WATER CHULA VISTA Apr 14th
SAVE MONEY

Save up to 50% on select climate appropriate plants
The Home Depot and its vendors have partnered to offer you special deals and great savings of up to 50% off on climate appropriate plants at each of the parking lot events throughout San Diego county.

Come meet the experts! Mini clinics once per hour covering sprinklers/controllers, evapotranspiration, water-saving soils, gardening with succulents, and water conservation rebates.

Available Event Saturday Only – While Quantities Last

- Bougainvillea Mandula 1 gallon
  - WAS: $26.00
  - NOW: $13.33
- Martha Washington 1 gallon
  - WAS: $8.48
  - NOW: $3.33
- Eupeps 1 gallon
  - WAS: $10.00
  - NOW: $3.98
- Kangaroo Paw 1 gallon
  - WAS: $7.98
  - NOW: $4.97

Miracle-Gro Moisture Control Garden Soil
- NOW: $7.24
  - SEL: 0-0-0

- Mandula Gulf Stream 3 gallon
  - WAS: $13.88
  - NOW: $11.38
- Deciduous 5 gallon
  - WAS: $19.00
  - NOW: $11.38
- Agave 5 gallon
  - WAS: $14.98
  - NOW: $11.38

Scotts NaturScapes Advanced Mulch
- NOW: $4.97
  - SEL: 2-24-246

See the Plants Express Kiosk at this Home Depot Store for Low-Water All Stars; great water conservation plants that can be purchased year round!

SPECIAL PARKING LOT EVENT
At the Following Home Depot Stores

<table>
<thead>
<tr>
<th>Store</th>
<th>Address</th>
</tr>
</thead>
<tbody>
<tr>
<td>SAN DIEGO</td>
<td>1300平面 ROAD</td>
</tr>
<tr>
<td>HAWTHORNE</td>
<td>1300平面 ROAD</td>
</tr>
<tr>
<td>HUNTINGTON BEACH</td>
<td>1300平面 ROAD</td>
</tr>
<tr>
<td>CARSON</td>
<td>1300平面 ROAD</td>
</tr>
<tr>
<td>IRVINE</td>
<td>1300平面 ROAD</td>
</tr>
<tr>
<td>ENCINITAS</td>
<td>1300平面 ROAD</td>
</tr>
<tr>
<td>SAN MARCOS</td>
<td>1300平面 ROAD</td>
</tr>
<tr>
<td>IRVINE</td>
<td>1300平面 ROAD</td>
</tr>
<tr>
<td>SAN DIEGO</td>
<td>1300平面 ROAD</td>
</tr>
<tr>
<td>CARSON</td>
<td>1300平面 ROAD</td>
</tr>
<tr>
<td>ENCINITAS</td>
<td>1300平面 ROAD</td>
</tr>
<tr>
<td>IRVINE</td>
<td>1300平面 ROAD</td>
</tr>
<tr>
<td>SAN MARCOS</td>
<td>1300平面 ROAD</td>
</tr>
<tr>
<td>IRVINE</td>
<td>1300平面 ROAD</td>
</tr>
</tbody>
</table>

Sponsored by:

- Scotts Miracle-Gro
- Hinek Growers LLC
- Master Gardeners
- Plymouth WPA
- Water Masters
Conclusion

- Cost-effective partnership for advancing landscape market transformation
- Planning another series of plant fairs for fall season
- Continue to seek similar partnerships with other plant retailers
Carlsbad Seawater Desalination Project Status Report

Water Planning Committee
May 24, 2012
Carlsbad Desalination Project
Upcoming Activities and Meetings

Activities

1. Results of Pipeline 3 Assessment and Extent of Relining
   - Includes Project Delivery and Financing alternatives for P3 rehabilitation and Twin Oaks Improvements

2. Serving treated and untreated Water Demands
   - Carlsbad Desalination and Twin Oaks Utilization
   - Wet year analyses

3. Continued discussion of incorporation into rate structure

4. Energy Pricing and Risk Management Analysis

5. Reliability Analysis and Cost Comparison to alternative local supplies
Carlsbad Desalination Project
Upcoming Activities and Meetings

Activities (Continued)

6. Risk Assignment in the Agreement with Poseidon
   • Construction
   • Operations

7. Financial Terms and Asset Acquisition
   • Project economics
   • Buyout Price methodologies (early and end of term)
   • Valuation of assets

8. Contract terms for Member Agency Purchases as local supply
Carlsbad Desalination Project
Upcoming Meetings

- May 24th Water Planning Committee
- June 14th Special Board Meeting/Workshop
- June 28th Water Planning Committee
- July 12th Special Board Meeting
- July 26th Water Planning Committee
- **TBA:** Informational Meeting for Member Agencies purchasing as local supply
- Additional Workshops as needed to discuss terms and conditions of Agreement with Poseidon
Water Supply Conditions

Water Planning Committee
May 24, 2012
State Water Project Hydrologic Conditions

- Snowpack on April 1st (typical maximum accumulation)
  - Northern Sierra - 77% normal
  - Statewide Sierra - 54% normal
- Northern Sierra 8-station precipitation index
  - 85% of normal on May 23
- CY 2012 Table A allocation at 65% on May 23, 2012
  - Increased from 60% following wet April
  - CY 2011 Table A was 80%
Average Water Year Statewide Runoff

*WY 2012 runoff based on October 1, 2011 – May 1, 2012
Reservoir Conditions - Lake Oroville

Lake Oroville Levels: Various Past Water Years and Current Water Year, Ending At Midnight May 22, 2012

Lake Oroville Conditions
(as of Midnight - May 22, 2012)

Current Level: 3,507,161.5 AF
99% (Total Capacity)

Reservoir Capacity (TAF)

0 1,000 2,000 3,000 4,000

Historical Average
Total Reservoir Capacity
1976-1977 (Driest)
1982-1983 (Wettest)
2010-2011
Current: 2011-2012
Colorado River Supply Conditions
May 21, 2012

- WY precipitation to date: 73% average
- WY 2012 runoff forecast to Lake Powell: 51% of average
- Outlook for surplus water reduced
  - No surplus water in 2013
  - ~10% chance of surplus in 2014
According to MWD’s May WSDM Report, based on 60% Table A, storage put capacity for CY 2012 ranges from 119 TAF at high demand to 383 TAF at low demand projections.
Local Supply Conditions

### Precipitation in San Diego
#### October 1, 2011 – May 22, 2012

<table>
<thead>
<tr>
<th>Station</th>
<th>Actual inches</th>
<th>Average inches</th>
<th>Percent Normal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lindbergh Field</td>
<td>7.9</td>
<td>10.0</td>
<td>79%</td>
</tr>
<tr>
<td>Ramona Airport</td>
<td>11.1</td>
<td>15.2</td>
<td>73%</td>
</tr>
</tbody>
</table>

- Local reservoir storage:
  ~ 100% of average
Summary

- Water year 2012 is dry on the State Water Project and Colorado River Basin
- Reservoir storage levels are close to average following a wet water year 2011
- Storage will help mitigate impacts of a dry water year 2012
- Continue to plan and conserve for the possibility of a dry water year 2013
Asset Management Program
Part 2 of 3 (Information)

Engineering & Operations Subcommittee
May 24, 2012
Huge Pipeline Bursts, Two Homes Flooded

A major pipeline of the San Diego Aqueduct near the Sweetwater Reservoir burst yesterday morning and flooded the homes of two Spring Valley residents.

The underground pipeline, 69 inches in diameter and carrying water from the Colorado River to the reservoir, ruptured at about 9:30 a.m. with a "roar like a tornado," a resident said.

Roberto C. Stanley of 166 Lakeview St. said he and his family were in bed when the huge pipe burst, cascading water high into the air. Authorities said no one was injured. "It sounded like a tidal wave or tornado," said Stanley, a computer systems analyst.

He said the water flooded his four-bedroom home, located about 180 feet from the break, and he and his family were forced to leave. Water in some of the rooms reached a level of more than two feet. Stanley's next door neighbor, Albert Gomez of 168 Lakeview St., also reported flood damage to his home.

Pete Rios, public information officer for the San Diego County Water Authority, said the force of the water from the pipeline excavated a hole 20 feet across, 30 feet long and at least six feet deep.

Rios said no one was injured when the waterline burst and that water flow was brought under control in a matter of minutes through the use of valves along the line and at the reservoir. Repair crews, operating with cranes, digging equipment and bulldozers, were removing a 20 foot section of damaged line and will replace it with a new one.

Rios estimated it would take four to five days to repair the line. He said water will be supplied through alternate routes.

Dave Jones, left, and Bob Gonzales of the Otay Water District help dig out a section of a main pipeline of the San Diego Aqueduct that burst yesterday morning near the Sweetwater Reservoir in Spring Valley. Two homes were damaged by water when the 69-inch waterline ruptured.
Pipeline Assessment

- Prestressed Concrete Cylinder Pipe
- Aqueduct Protection Program
  - Performed Condition Assessment
  - Developed Remaining Service Life
Pipeline Assessment Technologies

- Remote Field Eddy Current (RFEC) Scanning
- Acoustic Fiber Optic (AFO) Monitoring
Pipeline Risk Matrix

- R0211, FY2015, $30.6M
  - P3 Sweetwater to Otay Vent 1
- R0212, FY2015, $28.3M
  - P3 Otay Vent 1 to Lower Otay
- R0209, FY2016, $32.5M
  - P3 Lake Murray to Spring Street
- R0214, FY2016, $21.6M
  - P3 Spring Street to Sweetwater
PCCP Relining

- What is relining?
- What is the relining process?
- Where are we at in the program?
- Next Steps
What is Relining?
Lowering Steel Liner Into Portal
Securing Steel Liner to Cart
Applying cement lining
Completed Lining
Relining Status

PCCP Status

- Relined: 30.5 miles (37%)
- Unlined + Out-of-Service: 8 miles (10%)
- Unlined + In-Service: 44 miles (53%)
Asset Management Part 3

- Results of Condition Assessment
- Replacement Schedules
- Future Program Activities
Professional Services Contract

- Support Relining of Pipeline 3 and 4
- Electromagnetic Inspection
- Acoustic Fiber Optic Monitoring
Authorize the General Manager to award a professional services contract to Pure Technologies US Inc., for a total not-to-exceed amount of $681,010 to provide electromagnetic inspection of prestressed concrete cylinder pipe and installation of acoustic fiber optic cable monitoring system and monitoring services through June 30, 2015, for Pipelines 3 and 4 in Mission Trails Regional Park.
Extent of Pipeline 3 Relining
For Carlsbad Desalination Project
Due Diligence

Engineering and Operations Committee
May 24, 2012
Desal Conveyance Pipeline
10-miles of new 54-inch pipe

Pipeline 3 Relining (up to 27,100 feet)

TOVWTP Improvements

Desalination Plant

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

Aqueduct Connection Facilities

Lake San Marcos
Pipeline 3
27,000-ft reline/rehab
Proposed Re-Purposing of Pipeline 3 Reach

- Pipeline 3 reach (27,100 feet) constructed in 1958/59
  - Diameter ranges from 72 to 75 inches
  - 1997 condition assessment established usable life out to 2024

- Proposed Re-purposing will change the way Pipeline 3 operates
  - Increased steady-state operating pressures (Reverse flow)
  - Increased transient pressures

- Condition Assessment updated in February 2012
  - Magnetic Flux Leakage Inspection
  - Results used to conduct engineering analysis or proposed re-operation
Proposed Relining of Pipeline 3 Reach

- Engineering analysis identified 19,300 feet of Pipeline 3 that did not meet current design criteria due to:
  - Planned steady-state operating conditions exceeding design criteria
  - Hydraulic surge conditions exceeding design criteria
  - Out of roundness exceeding design standards
  - Localized corrosion pitting exceeding design standards
- 19,300 feet must be relined
- For remaining 7,800 foot segment:
  - Portion meets design criteria
  - Risk considerations impact decision to reline or not
    - Current useful life does not align with relined segment life or the term of the WPA
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 clearwell at maximum normal operating elevation.
2) Graphical data shown are approximate. See data tables for actual data and for notes and assumptions.
## Preliminary Construction Cost Ranges

<table>
<thead>
<tr>
<th></th>
<th>P3 Partial Relining (19,300 Ft)</th>
<th>P3 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>
Relining Remaining Segment – Risk Considerations

- Risk that pipeline segment will require relining during the term of the WPA
  - WPA contract structure (required for financing) would require Water Authority to take water if ready to be delivered.
  - If Water Authority were not able to take water due to shutdown for relining work, cost of water not taken could approach:
    - $3 million (10 day outage, minor repair, 2012$)
    - $36 million (4 month outage, relining, 2012$)

- Construction Cost Risk
  - Risk that cost of relining remaining segment later will be subject to significant cost escalation
  - Water Authority will lose the efficiencies of extending the relining now
Next Steps

- Develop recommendations for project procurement method
  - Incorporate into conveyance pipeline DB contract or;
  - Separate DB contract

- Develop recommendations for project financing
  - Incorporate into Project financing or;
  - Finance separately (Water Authority debt)

- Establish cost responsibility
  - Carlsbad Desalination Project or;
  - Asset Management
Staff Recommendation

Direct staff to assume the relining of 27,100 linear feet of Pipeline 3 for due diligence purposes related to costing and planning for the Carlsbad Desalination Project.
Proposed CY 2013 Rates and Charges
Agenda

- History of Water Supply Diversification Efforts
- Rate Mitigation Efforts
- Rate and Charge Drivers
- Recommendation
- Financial Performance Metrics
- Summary
1990s: Before Supply Diversification

- Water Authority is MWD’s largest member agency, buying ~30% of MWD’s water and providing ~30% of all of MWD’s revenues.
- Supplies from MWD account for 95% of all water used in San Diego County:
  - Water Authority buying twice the amount of water than it had a Preferential Right to at MWD.
  - San Diego’s then-$65 billion economy and quality of life for its 2.5 million residents were at significant risk during times of water shortage.
  - Our region had almost all of its “eggs” in one “basket”: MWD.

1991

- Local Supplies: 26,000 AF (5%)
- MWD Supplies: 552,000 AF (95%)
1990–91: Bottom of the Basket Falls Out

San Diego Region’s Response:

“Never Again!”

“No More Water Shortages!”

State to Shut Off Water Delivery to Southland
Limits on tap water use urged by staff
50% Water-Delivery Cut Will Be Blow to San Diego
Drought: Metropolitan Water District directors also

L.A. Ready to Battle San Diego Over Water
Conservation: DWP officials weigh legal action as southern neighbor refuses to impose rationing.

State Water Project cuts off water to farms; urban slash expected

Water: Authority to Vote Today on Mandatory Restrictions
Increasing San Diego County's Water Supply Reliability through Supply Diversification

1991
- 26 TAF (5%)
- 552 TAF (95%)
- Total = 578 TAF

2011
- 23 TAF (4%)
- 20 TAF (3%)
- 67 TAF (11%)
- 80 TAF (14%)
- 262 TAF (44%)
- Total = 594 TAF

2020
- 80 TAF (10%)
- 103 TAF (13%)
- 44 TAF (6%)
- 231 TAF (30%)
- Total = 779 TAF

Legend:
- Metropolitan Water District
- Imperial Irrigation District Transfer
- Recycled Water
- Seawater Desalination
- All American & Coachella Canal Lining
- Groundwater
- Conservation
- Local Surface Water
Investments in Reliable Supplies: Colorado River QSA Transfers

- In October 2003, Colorado River QSA is executed:
  - Water Authority signs 45–75-year deal to buy 200,000 AF annually from the Imperial Irrigation District
    - 100,000 AF in 2013; achieves full 200,000 AF/YR in 2021
  - Water Authority agrees to line the All American and Coachella canals and receive 80,000 AF annually for 110 years
    - 80,000 AF in 2013
CIP Spending 1991–2014
Investments in Reliable Infrastructure
$3.5 Billion Capital Improvement Program

- $1.5 billion Emergency Storage Project
- New and expanded surface storage
- Water treatment
- Canal linings
- Pipelines
- Pump stations
- Power generation
- Aqueduct Protection Program
  - Pipeline relining program
Project: Olivenhain Dam & Reservoir
Approved: 1998
Complete: 2003
Cost: $198 million
Benefit: 22,000 AF of storage
Project: All American & Coachella Canal Lining Projects
Approved: 2003
Complete: 2010 (AAC) and 2006 (CC)
Cost: $448 million total, including $190 million from Water Authority
Benefits: 80,200 AF/Y for 110 Years
Project: Twin Oaks Water Treatment Plant
Approved: 50MGD 2004; 100MGD 2005
Complete: 2008
Cost: $179 million
Benefit: 100 MGD advanced membrane treated supply for region
Project: Lake Hodges Projects
Approved: 1998; Pumped Storage added 2002
Complete: 2011
Cost: $196 million
Benefits: 20,000 AF ESP storage; 40MW of power
Project: San Vicente Tunnel & Pipeline System
Approved: 1998
Complete: 2011
Cost: $459 million
Benefit: Key link in ESP
Project: San Vicente Dam Raise  
Approved: 1998; CSP added 2003  
Complete: 2013  
Cost: $450 million  
Benefit: 152,000 AF of new storage
Project: Pipeline Relining Program
Approved: 1993
Complete: Ongoing
Cost: $780 million
Benefit: Extend the life of 82 miles of large-diameter imported water pipeline by 75 years
Paying for Major Infrastructure Investments: Annual Debt Service Payments through 2050

*Includes debt service payments on existing senior and subordinate issuances
Rate Mitigation Efforts

- Reduction in Water Authority FY 2012 & 2013 budget by 16% from previous budget
- MWD related activities
  - Lawsuit – challenging 2011 and 2012 rates
  - Budget advocate – succeeded in reducing MWD’s CY 2013 average rate increase from 7.5% to 5%
    - Savings of $5 million
- Debt management
  - Refunding & other activities – Significant savings realized – approx. $3 million a year
  - Cost of funds – below Business Plan target
- Managing debt service coverage levels
  - Rate relief provided by lowering debt service coverage level for FY 2013 to 1.35x (will achieve 1.5X target by FY 2014)
Key Rate Drivers

- Water sales volumes
- Increasing cost of water from suppliers
- Planned debt service payment increases and related coverage requirements
Water Sales Forecast

<table>
<thead>
<tr>
<th></th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>High-rate Scenario</td>
<td>397,672</td>
<td>417,707</td>
<td>442,439</td>
<td>469,842</td>
<td>488,242</td>
</tr>
<tr>
<td>Low-rate Scenario</td>
<td>431,559</td>
<td>479,675</td>
<td>502,859</td>
<td>529,190</td>
<td>542,808</td>
</tr>
<tr>
<td>2012 Assumptions</td>
<td>416,934</td>
<td>445,288</td>
<td>465,624</td>
<td>484,404</td>
<td>505,768</td>
</tr>
</tbody>
</table>

Calendar Year 2011 - 2015


Difference:

- 2011: (5,923)
- 2012: (7,343)
- 2013: (9,599)
- 2014: (12,486)
- 2015: (4,583)
## Adopted MWD CY 2013 Rates

<table>
<thead>
<tr>
<th>MWD Water Rates</th>
<th>Current CY 2012</th>
<th>MWD Staff Recommendation CY 2013</th>
<th>% Change</th>
<th>Option #2 CY 2013</th>
<th>% Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tier 1 Supply</td>
<td>$164</td>
<td>$149</td>
<td>-9.1%</td>
<td>$140</td>
<td>-14.6%</td>
</tr>
<tr>
<td>System Access</td>
<td>$217</td>
<td>$228</td>
<td>5.1%</td>
<td>$223</td>
<td>2.8%</td>
</tr>
<tr>
<td>Water Stewardship</td>
<td>$43</td>
<td>$41</td>
<td>-4.7%</td>
<td>$41</td>
<td>-4.7%</td>
</tr>
<tr>
<td>System Power</td>
<td>$136</td>
<td>$190</td>
<td>39.7%</td>
<td>$189</td>
<td>39.0%</td>
</tr>
<tr>
<td>Treatment</td>
<td>$234</td>
<td>$260</td>
<td>11.1%</td>
<td>$254</td>
<td>8.5%</td>
</tr>
<tr>
<td>Tier 1 Untreated</td>
<td>$560</td>
<td>$608</td>
<td>8.6%</td>
<td>$593</td>
<td>5.9%</td>
</tr>
<tr>
<td>Tier 1 Treated</td>
<td>$794</td>
<td>$868</td>
<td>9.3%</td>
<td>$847</td>
<td>6.7%</td>
</tr>
</tbody>
</table>

- Average overall increase including RTS & CRC is 5.0%
- Results in an estimated 8.5% increase in MWD Costs

**Transportation increase of 14.4%**

**Focus of the Lawsuit**

RTS – Readiness-to-Serve
CRC – Capacity Charge
### Adopted MWD CY 2014 Rates

<table>
<thead>
<tr>
<th>MWD Water Rates</th>
<th>CY 2013</th>
<th>CY 2014</th>
<th>% Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tier 1 Supply</td>
<td>$140</td>
<td>$148</td>
<td>5.7%</td>
</tr>
<tr>
<td>System Access</td>
<td>$223</td>
<td>$243</td>
<td>9.0%</td>
</tr>
<tr>
<td>Water Stewardship</td>
<td>$41</td>
<td></td>
<td></td>
</tr>
<tr>
<td>System Power</td>
<td>$189</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Treatment</td>
<td>$254</td>
<td>$297</td>
<td>16.9%</td>
</tr>
<tr>
<td>Tier 1 Untreated</td>
<td>$593</td>
<td>$593</td>
<td>0%</td>
</tr>
<tr>
<td>Tier 1 Treated</td>
<td>$847</td>
<td>$890</td>
<td>5.1%</td>
</tr>
</tbody>
</table>

Transportation **Increase** of 12.4%

<table>
<thead>
<tr>
<th>MWD Water Rates</th>
<th>2-Year % Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tier 1 Supply</td>
<td>-9.8%</td>
</tr>
<tr>
<td>System Access</td>
<td>12.0%</td>
</tr>
<tr>
<td>Water Stewardship</td>
<td>-4.7%</td>
</tr>
<tr>
<td>System Power</td>
<td>18.4%</td>
</tr>
<tr>
<td>Treatment</td>
<td>26.9%</td>
</tr>
<tr>
<td>Tier 1 Untreated</td>
<td>5.9%</td>
</tr>
<tr>
<td>Tier 1 Treated</td>
<td>12.1%</td>
</tr>
</tbody>
</table>

- Average overall increase including RTS & CRC is 5.0%
- Results in an estimated 2.0% decrease in MWD Costs
## MWD Supply vs. Wheeling Increases Since 2010

<table>
<thead>
<tr>
<th>Year</th>
<th>Tier 1 Supply</th>
<th>Wheeling</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010</td>
<td>$170</td>
<td>$314</td>
</tr>
<tr>
<td>2011</td>
<td>$155</td>
<td>$372</td>
</tr>
<tr>
<td>2012</td>
<td>$164</td>
<td>$396</td>
</tr>
<tr>
<td>2013</td>
<td>$140</td>
<td>$453</td>
</tr>
<tr>
<td>2014</td>
<td>$148</td>
<td>$445</td>
</tr>
<tr>
<td>‘10–’14</td>
<td>$-22</td>
<td>$+131/AF</td>
</tr>
</tbody>
</table>
MWD is Largest Share of Water Cost

Projected CY 2013 M&I Cost of Water Purchases/QSA Exchange

- QSA Transportation Costs with MWD: 29%
- Canal Water Purchases*: <1%
- IID Water Purchases*: 19%
- MWD Supply Costs: 52%
- Total Cost = $285M

- MWD represents 81% of the Water Authority’s cost of water purchased and/or transported

* Excludes the debt service for capital projects and recovery of settlement expenditures.
Quantification Settlement Agreement

- Colorado River QSA Supplies
  - Imperial Irrigation District transfer
    - 200,000 AF/year for 45 to 75 years
  - Canal-lining projects
    - 80,000 AF/year for 110 years
- Key to supply diversification strategy
  - Provide 180,000 acre-feet in 2013
- By 2021, 34% of region’s supply

---

IID and Canal Lining Deliveries 2003-2021

- IID Water Transfer
- Canal Lining

Calendar Year

- 2003
- 2004
- 2005
- 2006
- 2007
- 2008
- 2009
- 2010
- 2011
- 2012
- 2013
- 2014
- 2015
- 2016
- 2017
- 2018
- 2019
- 2020
- 2021

Acre-Feet

- 0
- 50,000
- 100,000
- 150,000
- 200,000
- 250,000
- 300,000
# QSA Transfer Schedule

## IID Water Transfer

<table>
<thead>
<tr>
<th>CY</th>
<th>AF</th>
<th>$/AF</th>
<th>% Increase</th>
</tr>
</thead>
<tbody>
<tr>
<td>2012</td>
<td>90,000</td>
<td>$491</td>
<td>-</td>
</tr>
<tr>
<td>2013</td>
<td>100,000</td>
<td>$540</td>
<td>10%</td>
</tr>
<tr>
<td>2014</td>
<td>100,000</td>
<td>$594</td>
<td>10%</td>
</tr>
<tr>
<td>2015</td>
<td>100,000</td>
<td>$624</td>
<td>5%</td>
</tr>
<tr>
<td>2016</td>
<td>100,000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2017</td>
<td>100,000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2018</td>
<td>130,000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2019</td>
<td>160,000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2020</td>
<td>190,000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2021</td>
<td>200,000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2022-34</td>
<td>200,000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2035-47</td>
<td>200,000</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*GDPIPD 10-Year (2001-11) Compound Annual Growth Rate is 2.3%*

## Canal Lining

<table>
<thead>
<tr>
<th>AF</th>
<th>Estimated O&amp;M**</th>
</tr>
</thead>
<tbody>
<tr>
<td>80,200</td>
<td>$5 - $8/AF</td>
</tr>
<tr>
<td>80,200</td>
<td>$5 - $8/AF</td>
</tr>
<tr>
<td>80,200</td>
<td>$5 - $8/AF</td>
</tr>
<tr>
<td>80,200</td>
<td>$5 - $9/AF</td>
</tr>
<tr>
<td>80,200</td>
<td>$6 - $9/AF</td>
</tr>
<tr>
<td>80,200</td>
<td>$6 - $9/AF</td>
</tr>
<tr>
<td>80,200</td>
<td>$6 - $10/AF</td>
</tr>
<tr>
<td>80,200</td>
<td>$6 - $10/AF</td>
</tr>
<tr>
<td>80,200</td>
<td>$6 - $10/AF</td>
</tr>
<tr>
<td>80,200</td>
<td>$7 - $10/AF</td>
</tr>
<tr>
<td>80,200</td>
<td>$10 - $15/AF</td>
</tr>
<tr>
<td>80,200</td>
<td>$14 - $23/AF</td>
</tr>
</tbody>
</table>

**Based on increases to 10-year historical cost index**
Water Supply Cost Comparison
QSA Supplies vs. MWD Supplies

- Water Authority QSA Supplies
- MWD Tier 1 Untreated Supply Rate + RTS
- MWD Tier 2 Untreated Supply Rate + RTS

$4,000
$3,000
$3,500
$2,000
$2,500
$3,000
$3,500
$4,000

$0
$500
$1,000
$1,500
$2,000
$2,500
$3,000

Market-based pricing
30% Increase
10% Decrease

2003 2008 2013 2018 2023 2028 2033 2038 2043
Proposed CY 2013 “All-in” M&I Water Rate Breakdown

<table>
<thead>
<tr>
<th>Rates and Charges</th>
<th>Adopted CY 2012 Rates</th>
<th>Proposed CY 2013 Rates</th>
<th>Proposed CY 2013 Increase</th>
<th>Increase in Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Melded Supply Rate</td>
<td>$638</td>
<td>$714</td>
<td>$76</td>
<td>11.9%</td>
</tr>
<tr>
<td>Melded Treatment Rate</td>
<td>234</td>
<td>256</td>
<td>22</td>
<td>9.4%</td>
</tr>
<tr>
<td>Transportation</td>
<td>85</td>
<td>93</td>
<td>8</td>
<td>9.4%</td>
</tr>
<tr>
<td>Storage *</td>
<td>133</td>
<td>139</td>
<td>6</td>
<td>4.5%</td>
</tr>
<tr>
<td>Customer Service *</td>
<td>58</td>
<td>57</td>
<td>-1</td>
<td>-1.7%</td>
</tr>
<tr>
<td>Total Cost of Treated Water</td>
<td>$1,148</td>
<td>$1,259</td>
<td>$111</td>
<td>9.7%</td>
</tr>
<tr>
<td>Total Cost of Untreated Water</td>
<td>$915</td>
<td>$1,003</td>
<td>$88</td>
<td>9.6%</td>
</tr>
</tbody>
</table>

* Fixed charges converted to $/AF using sales forecast and may not foot due to rounding
Breakdown of the CY 2013 Treated Water Rate and Charge Increases

“All-in” Increase Distribution
$111/AF

- Melded Supply Rate Increase
  $76/AF

- Transportation ($8) 7%
- Customer Service* (-$1) -1%
- Storage* ($6) 5%
- Melded Treatment Rate ($22) 20%
- MWD Increase 57% ($43)
- Water Authority 43% ($33)

*Converted to $/AF based on sales forecast
Key Rate & Charge Drivers: “All-In” Rate Increases

Untreated Water
$88/AF Increase

- MWD Costs: 26%
- Increase in IID Supplies: 12%
- Increase in IID Water Rate: 14%
- Primarily Debt Service and Other Factors: 10%

Treated Water Rate
$111/AF Increase

- MWD Costs: 31%
- Increase in IID Supplies: 11%
- Increase in IID Water Rate: 10%
- Primarily Debt Service and Other Factors: 48%
2011 Rate Forecasts
“All-in” Untreated Water Rate

High-rate Scenario
- 2012: $955
- 2013: $1,033
- 2014: $1,121
- 2015: $1,208

Low-rate Scenario
- 2012: $888
- 2013: $939
- 2014: $986
- 2015: $1,033

Current Rate
- $915

Proposed Rate
- 2013: $1,003
- 9.6% Increase

MWD Staff Recommendation
- $1,014
- 11.0% Increase
2011 Rate Forecasts
“All-in” Treated Water Rate

<table>
<thead>
<tr>
<th>Calendar Year</th>
<th>High-rate Scenario</th>
<th>Low-rate Scenario</th>
</tr>
</thead>
<tbody>
<tr>
<td>2012</td>
<td>$1,213</td>
<td>$1,115</td>
</tr>
<tr>
<td>2013</td>
<td>$1,305</td>
<td>$1,176</td>
</tr>
<tr>
<td>2014</td>
<td>$1,418</td>
<td>$1,231</td>
</tr>
<tr>
<td>2015</td>
<td>$1,559</td>
<td>$1,280</td>
</tr>
</tbody>
</table>

Proposed Rate
$1,259
9.7% Increase

Current Rate
$1,148

MWD Staff Recommendation
$1,274
10.8% Increase
## Proposed Rates & Charges

<table>
<thead>
<tr>
<th>Water Authority Rates and Charges</th>
<th>CY 2011 Previous</th>
<th>CY 2012 Current</th>
<th>CY 2013 Proposed</th>
<th>% Change</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Variable Rates</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Melded M&amp;I Supply Rate ($/AF)</td>
<td>$597</td>
<td>$638</td>
<td>$714</td>
<td>11.9%</td>
</tr>
<tr>
<td>Melded M&amp;I Treatment Rate ($/AF)</td>
<td>$215</td>
<td>$234</td>
<td>$256</td>
<td>9.4%</td>
</tr>
<tr>
<td>Transportation Rate ($/AF)</td>
<td>$75</td>
<td>$85</td>
<td>$93</td>
<td>9.4%</td>
</tr>
<tr>
<td><strong>Fixed Charges</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Storage Charge (million)</td>
<td>$44.3</td>
<td>$54.2</td>
<td>$60.2</td>
<td>11.1%</td>
</tr>
<tr>
<td>Customer Service Charge (million)</td>
<td>$23.2</td>
<td>$26.4</td>
<td>$26.4</td>
<td>0%</td>
</tr>
<tr>
<td><strong>Other Rates and Charges</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Untreated Special Agricultural Water Rate ($/AF)</td>
<td>$527</td>
<td>$560</td>
<td>$593</td>
<td>5.9%</td>
</tr>
<tr>
<td>Treated Special Agricultural Water Rate ($/AF)</td>
<td>$742</td>
<td>$794</td>
<td>$849</td>
<td>6.9%</td>
</tr>
<tr>
<td>IAC</td>
<td>$2.49/ME</td>
<td>$2.60/ME</td>
<td>$2.65/ME</td>
<td>1.9%</td>
</tr>
<tr>
<td>Standby Availability Charge per parcel or acre, whichever is greater&lt;sup&gt;1&lt;/sup&gt;</td>
<td>$10</td>
<td>$10</td>
<td>$10</td>
<td>0%</td>
</tr>
</tbody>
</table>

---

<sup>1</sup> Fiscal Year Charge.  
<sup>2</sup> ME means meter equivalent as defined in the resolution establishing the Infrastructure Access charge.
### Debt Service Schedule*

<table>
<thead>
<tr>
<th>Fiscal Year</th>
<th>2011 Projected Debt Service</th>
<th>2012 Projected Debt Service</th>
</tr>
</thead>
<tbody>
<tr>
<td>2012</td>
<td>$114</td>
<td>$114</td>
</tr>
<tr>
<td>2013</td>
<td>$138</td>
<td>$135</td>
</tr>
<tr>
<td>2014</td>
<td>$144</td>
<td>$141</td>
</tr>
<tr>
<td>2015</td>
<td>$148</td>
<td>$145</td>
</tr>
<tr>
<td>2016</td>
<td>$153</td>
<td>$151</td>
</tr>
</tbody>
</table>

- **Impact would** $31.5M with debt service coverage target (1.5x)

*Excludes CP program fees and trustee services*
Financial Performance Metrics – Debt Service Coverage Ratios

- Coverage requirement for Senior Lien Debt (FY 2013 – $129M)
  - Revenue required for coverage level
    - 1.35x – $45M
    - 1.50x – $65M
Utilities generally outperform policy targets although this trend has changed recently.

Water Authority coverage target below peer policies (LADWP – 2.0x, EBMUD – 1.6x, and MWD 2.0x).

Water Authority coverage target based on rating agency medians, peers’ targets, and realistic assumptions.

<table>
<thead>
<tr>
<th></th>
<th>Irvine Ranch Water District</th>
<th>Metropolitan Water District of Southern California</th>
<th>East Bay Municipal Utility District</th>
<th>San Diego County Water Authority</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ratings (S&amp;P/M/F)</td>
<td>AAA/Aa1/AAA</td>
<td>AAA/Aa1/AA+</td>
<td>AAA/Aa1/AA+</td>
<td>AA+/Aa2/AA+</td>
</tr>
<tr>
<td>Senior-Lien Debt Service Coverage</td>
<td>1.9x (2010)</td>
<td>1.48x (2011)</td>
<td>1.52x (2011)</td>
<td>1.35x (2013 Projected)</td>
</tr>
<tr>
<td>Internal Coverage Target</td>
<td>N/A</td>
<td>2.0x</td>
<td>1.6x</td>
<td>1.5x</td>
</tr>
</tbody>
</table>
# Regional Agency Financial Performance Metrics

<table>
<thead>
<tr>
<th>Agency</th>
<th>Senior Lien Coverage Ratio</th>
<th>FY 2010</th>
<th>Current Estimates</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fitch AA Median</td>
<td></td>
<td>2.50x</td>
<td>2.30x</td>
</tr>
<tr>
<td>Water Authority</td>
<td></td>
<td>1.50x</td>
<td>1.47x**</td>
</tr>
<tr>
<td>City of San Diego</td>
<td></td>
<td>4.23x</td>
<td>2.32x**</td>
</tr>
<tr>
<td>MWD</td>
<td></td>
<td>1.61x</td>
<td>1.58x**</td>
</tr>
<tr>
<td>Otay</td>
<td></td>
<td>1.90x</td>
<td>1.39x*</td>
</tr>
<tr>
<td>Padre Dam</td>
<td></td>
<td>1.47x</td>
<td>1.16x*</td>
</tr>
<tr>
<td>Helix</td>
<td></td>
<td>3.60x</td>
<td>8.40x*</td>
</tr>
</tbody>
</table>

* FY 2011 data taken from Comprehensive Annual Financial Reports with the exception of Padre Dam which was taken from continuing disclosure.
** FY 2012 estimates based upon data provided in bond official statements or other sources.
Financial Performance Metrics

Current Board Policy - RSF Fund Balance Requirements

Target level not achieved during projection period
Funds balances are projected to be fairly stable
# Impact of CY 2013 Rate Increase on Composite Monthly Residential Bill

## 5 Retail Agency Average Composite Cost (CY 2012)
- Fixed Charge: $19.83 monthly
- Commodity Charge: $51.40
- Composite Monthly Residential Bill: $71.23

<table>
<thead>
<tr>
<th>Wholesale Charges</th>
<th>Proposed Rates Monthly Retail Cost</th>
<th>Percent Retail Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>Untreated</td>
<td>$3.03</td>
<td>4.2%</td>
</tr>
<tr>
<td>Treated</td>
<td>$3.82</td>
<td>5.4%</td>
</tr>
</tbody>
</table>

Actual rate impact will vary by member agency

**Notes:**
1. Analysis based on retail rates for the City of Carlsbad, Helix Water District, the City of San Diego, Sweetwater Authority, and Otay Water District.
2. Tier 1 and Tier 2 pricing blocks vary by member agency.
3. Historic total water demand used to calculate member agency specific weighting factors.
4. Individual member agency commodity charge calculated using its average single family residential water use (hcf).
5. Composite commodity charge is the sum of the individual member agency’s commodity charge times its weighting factor.
Wholesale Monthly Cost of Water to Households

- Cost of water purchases is 63% of the wholesale cost of water.
- The remaining 37% or $19.22/month is for the Water Authority to:
  - Deliver water and maintain the system
  - Rapidly diversify the region’s water supplies
  - Provide in–region emergency water storage
  - Develop in–region water storage capacity

* Based upon 0.5 AF of consumption a year
Summary

- Key rate and charge drivers
  - 8.5% increase in MWD costs
  - $21 million (18%) increase in senior lien debt service
  - Increasing IID deliveries and scheduled IID cost increase
  - Persistent low water sales environment

- MWD rate and charge volatility mitigation
  - Succeeded in limiting MWD’s average rate increase to 5%
  - Coverage level reduced to 1.35x in FY 2013; target of 1.5X will be achieved in FY2014

- Increase in overall water rates & charges of:
  - 9.7% treated & 9.6% untreated

- Overall rate and charge increase will vary by member agency depending upon the fixed charge allocations
Summary of the Rate Setting Process

May Board Meeting
- Review proposed rates and charges for CY 2013
- Set date for a public hearing on proposed CY 2013 rates and charges

June Board Meeting
- Hold public hearing on proposed CY 2013 rates and charges
- Clerk of the Board publishes public hearing notice with proposed CY 2013 rates and charges
- Adopt CY 2013 rates and charges
Today’s Action

- Adopt the resolution setting a public hearing date for the Water Authority’s proposed calendar year 2013 Rate and Charge increases.