Energy Audit, Use, and Policies (Information)
Relationship between Climate Action Plan and Energy Strategy

- Energy Audit Report (Complete)
- Climate Action Plan & Master Plan Update
- Energy: Sustainability Strategic Plan
Aqueduct System Energy Use

- Gravity/pressure system
- Demand driven
- Pump stations at select locations
- Energy Use
  - Water Treatment
  - Kearny Mesa Office
  - Escondido Ops Center
  - Pump Stations
  - Hydro Facilities
  - Flow Control Facilities & misc. small structures

SDCWA Aqueduct System
Water Authority Energy Use FY2011

- SDCWA annual consumption approx. 10 GW-hours
- $1.5 M electricity cost per year
- Twin Oaks largest power consumer
- San Vicente Pump Station use for construction

Energy Use as Percentage of Total Energy Use

- TOWTP 57.6%
- SV PS 16.8%
- SD Office 12.5%
- FCF & Misc 3.4%
- Esc PS 0.2%
- VC PS 0.3%
- OLV PS 2.8%
- RPHES 1.3%
- Esc Ops 5.2%
Water Authority Energy Use FY2012

- SDCWA annual consumption approx. 7.8 GW-hours
- $1.3 M electricity cost per year
- Twin Oaks largest power consumer

Energy Use as Percentage of Total Energy Use

- Esc Ops: 6.2%
- Esc PS: 0.7%
- VC PS: 0.4%
- OLV PS: 2.5%
- 2SV PS: 4.1%
- RPHES: 1.2%
- SD Office: 14.2%
- FCF & Misc: 3.5%
- TOWTP: 67.3%
Energy Rate Alternatives

- Multiple commodity rates, based on energy demand (kW) and use (kWh)
- Energy Cost $/kWh: Summer/Winter, On Peak, Semi Peak, Off Peak, and weekends and holidays
- In addition to commodity - Transmission, Distribution, Public Purpose, Nuclear Decommissioning, Comp. Transmission, Reliability Services, Total Rate Adjustment
- Ability/willingness to participate in Critical Peak Pricing (CPP) demand reduction
- Staff audit 2011

<table>
<thead>
<tr>
<th>Period</th>
<th>Energy ($/kWh)</th>
<th>Demand ($/kW)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Summer</strong> (May 1 to Sept. 30)</td>
<td></td>
<td></td>
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<tr>
<td>On-Peak</td>
<td>0.09848</td>
<td>11.36</td>
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<tr>
<td>Semi-Peak</td>
<td>0.08024</td>
<td>8.91</td>
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<tr>
<td>Off-Peak</td>
<td>0.05902</td>
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<tr>
<td><strong>Winter</strong> (Oct. 1 to April 30)</td>
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<tr>
<td>On-Peak</td>
<td>0.09364</td>
<td>5.24</td>
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<tr>
<td>Semi-Peak</td>
<td>0.08539</td>
<td>8.91</td>
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<tr>
<td>Off-Peak</td>
<td>0.06435</td>
<td>--</td>
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</table>

Source: SDG&E 2012b
<table>
<thead>
<tr>
<th>Facility</th>
<th>SDG&amp;E Rate Schedule</th>
<th>Rate Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Escondido Ops</td>
<td>AL–TOU</td>
<td>Non Residential Time of Use, Monthly Max Demand ≥ 20 kW</td>
</tr>
<tr>
<td>Escondido Pump Sta.</td>
<td>PAT–1</td>
<td>Ag and Pumping Rate, Monthly Max Demand &gt;500 kW</td>
</tr>
<tr>
<td>Lake Hodges (Station Load)</td>
<td>AL–TOU</td>
<td>Non Residential Time of Use, Monthly Max Demand ≥ 20 kW</td>
</tr>
<tr>
<td>Olivenhain Pump Sta.</td>
<td>PAT–1–CP2</td>
<td>Ag and Pumping Rate, Monthly Max Demand &gt;500 kW, Curtailment</td>
</tr>
<tr>
<td>Rancho Penasquitos Hydro</td>
<td>AL–TOU–CP2</td>
<td>Non Residential Time of Use, Monthly Max Demand ≥ 20 kW, Curtailment</td>
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<tr>
<td>San Diego Office</td>
<td>AL–TOU–CP2</td>
<td>Non Residential Time of Use, Monthly Max Demand ≥ 20 kW, Curtailment</td>
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<tr>
<td>San Vicente Pump Sta.</td>
<td>PAT–1</td>
<td>Ag and Pumping Rate, Monthly Max Demand &gt;500 kW</td>
</tr>
<tr>
<td>Twin Oaks Treatment Plant</td>
<td>AL–TOU</td>
<td>Non Residential Time of Use, Monthly Max Demand ≥ 20 kW</td>
</tr>
<tr>
<td>Valley Center Pump Sta.</td>
<td>PA</td>
<td>Ag and Pumping Rate, monthly demand &lt;500 kW</td>
</tr>
<tr>
<td>Flow Control Facilities</td>
<td>A</td>
<td>Residential, Small Commercial Flat Rate, &lt;20kWh Month and &lt;20kWh Demand</td>
</tr>
</tbody>
</table>
Audit conducted Dec 2011 – Feb 2012
Completed report Sept. 2012
DHK Engineers, Inc & SDCWA
Funded by Local Government Partnership Program (SDG&E & SDCWA)

Purpose of ASHRAE Level I Audit
- Assess energy consumption, rates and processes
- Compile energy use and cost info
- Identify potential Energy Conservation Opportunities (ECO's)
Energy Audit Process

- 3 Project Tasks
  - Kick-off meeting and data requests
  - Data collection, data review, on-site energy audits, data evaluation, draft of Phase I report, preliminary ECO identification
  - ECO selection and development, Final Report

- 9 highest energy use facilities evaluated

- Evolving Water Authority system
TOVWTP – Energy Use

- Function: Water Treatment Plant
- Major Equipment:
  - Ozone Generators
  - Sodium Hypochlorite Generator
  - 14 Submerged Membrane Pumps
- Energy Use:* 
  - 6,014,937 kWh ($842,229)
  - $47 per MG treated
- Rate: AL-TOU

* Energy use total includes solar
TOVWTP – Energy Use

TOWTP Water Production & Energy Consumption

MW & MG/mo

KWh

Sum of KWh
Sum of Flow (mgd)
KW Demand

San Diego County Water Authority
Energy Use – San Diego

- Function: Administration
- Major Equipment:
  - HVAC
  - Lighting
  - Hot Water
- Energy Use:*
  - 1,090,624 kWh ($174,588)
- Natural Gas:
  - 9,666 therms ($8,557)
- Rate: AL-TOU (2011)
  DGR (2012)

* Energy use total includes solar

Kearny Mesa Headquarters
Energy Use – Escondido

- Function: Operations/Fleet/Admin/Control
- Major Equipment:
  - HVAC
  - Lighting
  - Light Industrial Equipment
- Energy Use:*
  - 514,400 kWh ($74,820)
- Natural Gas:
  - 683 therms ($709)
- Rate: AL-TOU

* Energy use total includes solar
Energy Use – Pump Stations

- **Function:** Water Distribution
- **Major Equipment:**
  - Pumps/Motors
  - HVAC
  - Lighting
  - Light Industrial Equipment (compressor)
- **Energy Use:**
  - 2,121,436 kWh ($294,399)
- **Rate:** PA & PA-T

*San Vicente Pump Station*
Energy Generation - Hydroelectric

- Rancho Penasquitos (2.5 – 4.6 Mw)
  - Constrained by untreated demand
  - Energy Production: 13,000 - 20,000 Mwh/yr
  - Revenue: $900,000/yr goal, $678,000 to date

- Lake Hodges (40 Mw) [FY2013]
  - Operation: Capacity payment for facility availability
  - Availability Goal:
    - 277,000 Mwh/yr
  - Revenue: $2.2 M/yr goal, $1.6 M to date
Energy Generation - Solar

- Locations (annual production):
  - Twin Oaks Valley Water Treatment Plant (1,986,076 kWh)
  - Kearny Mesa (694,686 kWh)
  - Escondido (257,296 kWh)

- Contract:
  - 20 year
  - No cost to SDCWA
  - $0.14 - $0.1947/kWh rate

- Annual Savings:
  - $88,142 /yr (2012)
Energy Conservation Opportunities

- 31 ECO’s identified
  - 6 ECO implemented, roll remaining into CAP
  - Lighting retrofit, VFD’s, pumps, Energy Management System
- 2 staff identified process ECO’s added
- Investment:
  - No Cost, <$10K, >$10K
  - Payback range 0 – 33.4 yrs
- Savings to date (annual):
  - $442,857
- Potential Savings (annual):
  - $146,987
Purpose: Identify long-term actions that would ensure efficient energy use of Water Authority facilities.

- How can we improve efficiencies?
- Modifying design standards for energy efficiency
- Distributed generation
- Training and outreach
Establish Water Authority’s objectives for:

- Energy Sustainability
- Goals for business practices and facilities
- Create or acquire future power supplies

Water Authority’s role as an energy provider and our tolerance for risk.

Should we be aggressive in Cap-and-Trade?
Regional Water Facilities Optimization and Master Plan Update

- Master Plan guides the Water Authority’s facility planning effort
  - Evaluates potential opportunities for renewable energy programs.
  - Identifies projects that may provide energy price stability.
  - Address greenhouse gas emission regulations.
Climate Action Plan

- Climate Action Plan (CAP)- guides implementation of strategies to reduce greenhouse gas emissions.
  - Comply with AB32 and CEQA
  - Energy Conservation Opportunities will be included in the CAP Mitigation Measures

- Once the CAP is approved by the Board, procedures and practices will be developed to ensure the Water Authority meeting statewide greenhouse gas emissions reduction goals.
Sustainability Strategic Plan

- Do we want to do to be compliant with AB 32?
  or
- Do we want to be the greenest water agency?
### Schedule

<table>
<thead>
<tr>
<th>Date</th>
<th>Event Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Complete</td>
<td>Audit of Water Authority’s Energy Use Completed</td>
</tr>
<tr>
<td>May 2013</td>
<td>Board presentation on Energy Audit</td>
</tr>
<tr>
<td>Sep 2013</td>
<td>Climate Action Plan – Public Review</td>
</tr>
<tr>
<td>Sep 2013</td>
<td>Energy Management Report Drafted</td>
</tr>
<tr>
<td>Sep 2013</td>
<td>Draft Energy Management Report discussed at Board as information item</td>
</tr>
<tr>
<td>Nov 2013</td>
<td>Sustainability Strategic Plan Outlined, meetings with stakeholders, discussed with Board</td>
</tr>
</tbody>
</table>
### Schedule

<table>
<thead>
<tr>
<th>Date</th>
<th>Event Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dec 2013</td>
<td>Energy Management Report completed</td>
</tr>
<tr>
<td>Feb 2014</td>
<td>Facilities Master Plan and Climate Action Plan adopted</td>
</tr>
<tr>
<td>Apr 2014</td>
<td>Sustainability Strategic Plan drafted, discussed with Board</td>
</tr>
<tr>
<td>Jun 2014</td>
<td>Sustainability Strategic Plan adopted by Board</td>
</tr>
</tbody>
</table>
Relationship between Climate Action Plan and Energy Strategy

- Energy Audit Report (Complete)
- Climate Action Plan & Master Plan Update
- Energy: Sustainability Strategic Plan
Advertisement for Bids for Pipeline 3 Relining Sweetwater to Lower Otay Reservoir

Engineering & Operations Committee Meeting

May 23, 2013

Nicola Kavanagh
Google Earth Visualization

Consequence of Failure:
Community Park, Housing

Consequence of Failure:
Power Line, High-pressure Gas

Probability of Failure:
Real-time PCCP wire break measurements

Probability of Failure:
Static PCCP wire break measurements (RFEC)

Google Earth Program – Pipeline 3 in Eastlake
Schedule and Construction Cost Estimate

Award Contract: August 2013

Construction: September 2013 to July 2014

Construction Cost Estimate: $36 to $44 million
Agreement to Relocate
San Diego Gas & Electric
4-inch High Pressure Gas Line

Engineering & Operations
Committee Meeting

May 23, 2013

Nick von Gymnich
Limits of Excavation

Typical Portal Excavation

SDG&E
4-inch HP Gas Line

6-inches to 12-inches

Pipeline 3
69-inch Diameter

Limits of Excavation
Staff Recommendation

Authorize the General Manager to execute an agreement with San Diego Gas and Electric up to the amount of $1,050,000 for the relocation of a 4-inch high pressure gas line located near the Pipeline 3 Relining - Sweetwater to Lower Otay Reservoir project.
San Vicente Dam Raise Construction Update

Engineering & Operations Committee Meeting
May 23, 2013
Downstream Step Repair
Upstream Liner Installation
Low Level Outlet Gate Structure

Cofferdam

- EL 625
- Flood Buffer
- Target: EL 594

Active Reservoir

- Bedrock
- Existing Dam

Future RCC Dam

Low Level Outlet Pipe
Low Level Outlet Gate Structure
Outlet Tower
Outlet Tower Gates
Fish Screen
Outlet Works

- Water Authority 90-inch Diameter Pipe
- City 66-inch Diameter Pipe
- Lower Level Outlet 108-inch Diameter Pipe
- Emergency Discharge
108-inch Diameter Butterfly Valve Installation
108-inch Diameter Butterfly Valve
Schedule Update

Contractor’s Baseline Schedule

(Construction Contract Duration) 7 Months

Complete Outlet Works

Start-up Testing

Decommission Exist OW

Commence Reservoir Fill

CONTRACTORS BASELINE SCHEDULE

108” Valve Actuator Delay

NOVEMBER 2013 FINISH

RESERVOIR FILL TO EL.640

FALL 2014 – 2017
Upcoming Activities

- Award Package 5 Marina Construction - Summer of 2013
- Complete Filling to Height of Existing Dam
- Award Package 4 Bypass Pipeline Construction - Summer of 2014
- Begin Filling to Full Height of Raised Dam
Twin Oaks Valley WTP
Expanded Service Area

Engineering & Operations Committee Meeting
May 23, 2013
Twin Oaks Valley WTP Expanded Service Area – Phases 1, 2 and 3

- **Phase 1:** Rescale MWD Meter on Second Aqueduct
- **Phase 2:** Meet ESP demands
- **Phase 3:** Optimize daily usage of Twin Oaks Valley WTP to serve the north
Twin Oaks Valley WTP Expanded Service Area – Phase 1
Twin Oaks Valley WTP Expanded Service Area – Phase 2 (ESP)

- **Status**
  - Initial planning efforts to upgrade the pumps at the Valley Center Pump Station
  - Performing transient analysis

- **Schedule**
  - Complete transient analysis (early summer 2013)
  - Complete upgrade of pumps at the Valley Center Pump Station (end of FY2015)

- **Budget** $5.6M (includes planning efforts for Phase 3)
Twin Oaks Valley WTP Expanded Service Area – Phase 3

- **Phase 1:** Rescale MWD Meter on Second Aqueduct
- **Phase 2:** Meet ESP demands
- **Phase 3:** Optimize daily usage of Twin Oaks Valley WTP to serve the north
Current Valley Center Pump Station Operations

Avg. Peak Demand = 80 cfs
Expanded Valley Center Pump Station Operations

Avg. Peak Demand = 80 cfs
Twin Oaks Valley WTP Expanded
Service Area – Phase 3

- System upgrades may be needed to use the expanded Valley Center Pump Station on a daily basis
  
  ✓ Flow Regulatory Storage (FRS)

  ✓ Improved Communications

  ✓ New valve and flow meter
Twin Oaks Valley WTP Expanded Service Area – Phase 3

- Project Budget and Return on Investment (ROI)

- Twin Oaks is ~$150/AF less than projected MWD Treatment (2020)
- Preliminary estimate $4.6M to $8.5M
- ROI = 3 to 6 years
- Still need to complete planning studies for potential system improvements
Twin Oaks Valley WTP Expanded Service Area – Phase 3

- Planning Phase Deliverables
  - Planning Study Final Report
  - Cost/Benefit Analysis (including ROI)
  - Project Procurement Plan
  - Right-of-Way Assessment
  - Environmental Assessment
  - Cost Estimate
  - Approval of Project Budget
Overview of Bay–Delta Issues

Imported Water Committee
May 23, 2013

Dennis Cushman, Assistant General Manager
Water Authority’s Link to Delta Supplies
(2008-12 five-year average)

State Water Project (Bay-Delta) 22%

Local Supplies and Conservation 15%

Colorado River 63%
But the Delta is broken --

Endangered Species, Regulations and Courts Restrict Bay Delta Supplies

- Listings of salmon, smelt, and other species under ESA have led to restrictions on water exports
- Loss of 586,000 acre-feet of SWP and CVP supply in an average water year

Delta smelt

Longfin smelt

Green sturgeon

Central Valley steelhead

Chinook salmon

Harvey O. Banks Pumping Plant
Support for Fixing the Bay–Delta

- Water Authority and San Diego business community support a Bay–Delta fix
  - Water Authority and San Diego business leaders worked together to pass 2009 legislation that established coequal goals:
    - Water Supply Reliability
    - Ecosystem Restoration
      - 2014 water bond would provide public share of cost of ecosystem restoration
  - Water Authority has not endorsed a specific conveyance project
    - Information still needed to do cost–benefit analysis
    - Unanswered question: what do we get for the investment?
Recent Activities

- Commented on various drafts of the Delta Stewardship Council’s Delta Plan and the Bay Delta Conservation Plan
  - Staff testified at the DSC’s EIR public hearing (January 2012 in San Diego)

- Participated in BDCP Governance and Financing Workgroups

- Participated in ACWA Ag-Urban Caucus, which submitted an Alternate Plan to DSC’s 4\(^{th}\) draft (June 2011)
# 2011 Board workshops to hear diverse Delta stakeholder perspectives

<table>
<thead>
<tr>
<th>Thursday, September 22, 2011</th>
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<tbody>
<tr>
<td><strong>Agricultural water district stakeholder - Westlands</strong></td>
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<tr>
<td><strong>Environmental stakeholder – Environmental Defense Fund</strong></td>
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<tr>
<td><strong>In-Delta region - Contra Costa County</strong></td>
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<tr>
<td><strong>North Delta Water Agency</strong></td>
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2011 Board workshops, cont’d

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<th>Thursday, November 10, 2011</th>
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<tbody>
<tr>
<td>Metropolitan Water District</td>
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<tr>
<td>State and Federal Water Contractors Authority</td>
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<tr>
<td>Delta Stewardship Council</td>
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<tr>
<td>State Water Resources Control Board</td>
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<tr>
<td>Delta Protection Commission</td>
</tr>
</tbody>
</table>
Board–Adopted Bay Delta Policy Principles

- The Board unanimously adopted Bay Delta policy principles in February 2012 and reiterated the principles in adopting the Legislative Policy Guidelines in November 2012.
Bay Delta Policy Principles (Cont.)

- Encourage a Bay Delta solution that promotes local water supply development
- Encourage a Bay Delta solution that is cost-effective when compared to other sources of water reliability
- Require independent technical analysis of key elements of the Bay Delta solution, including real urban and agricultural demands for water
- Support “right-sized” facilities to match firm commitments to pay
- Continue to support the co-equal goals of water supply reliability and ecosystem restoration
Support a deliberative process that is designed to ensure a meaningful dialog among the various stakeholders

Improve the ability of water users to divert more water in wet years, when impacts on the ecosystem are less

Encourage the development of a statewide water transfer market

Work with all stakeholders to ensure a meaningful dialog and that water supply and ecosystem restoration processes are conducted in an open and transparent manner
Portfolio Alternative

- Natural Resources Defense Council contacted a variety of water agencies to seek support for an alternative solution for the Bay Delta
  - A conceptual alternative to the current proposed project for the Bay–Delta Conservation Plan called the “Portfolio Approach”
- Water Authority was a signatory, along with a group of water agencies, on a Jan. 16, 2013 letter asking that the NRDC alternative be evaluated in the BDCP
  - Presentation on Portfolio Alternative at the Board’s Jan. 24, 2013 meeting
# 2013 Stakeholder Panel

## Thursday, March 28, 2013

<table>
<thead>
<tr>
<th>Organization</th>
<th>Representative</th>
</tr>
</thead>
<tbody>
<tr>
<td>Department of Water Resources</td>
<td>Paul Helliker, Deputy Director</td>
</tr>
<tr>
<td>Natural Resources Defense Council</td>
<td>Barry Nelson, Senior Policy Analyst</td>
</tr>
<tr>
<td>California Farm Water Coalition</td>
<td>Mike Wade, Executive Director</td>
</tr>
<tr>
<td>Alameda County Water District</td>
<td>Walt Wadlow, General Manager</td>
</tr>
</tbody>
</table>

## Thursday, May 23, 2013

<table>
<thead>
<tr>
<th>Organization</th>
<th>Representative</th>
</tr>
</thead>
<tbody>
<tr>
<td>California Natural Resources Agency</td>
<td>Jerry Meral, Deputy Secretary</td>
</tr>
</tbody>
</table>
What’s Next

- Review of Administrative Draft of BDCP and Environmental Documents
  - Operations, flow criteria, supply benefits, demand assumptions
  - Cost impact analysis
- Public Draft expected in October 2013
- Additional board workshop/discussions on BDCP and alternatives later this year
Water Bond Priorities

Legislation, Conservation & Outreach Committee
May 23, 2013

Dennis Cushman, Assistant General Manager
Alexi Schnell, Management Analyst
2014 Water Bond

- Authorizes $11.4 billion in general obligation bonds
- San Diego region allocated $227 million
- Water Authority Board adopted Support position January 2010
- Water bond has been delayed twice
- Anticipate that the bond measure will be revised this year and made smaller
Water Authority Board previously adopted Priorities and Principles for a water bond

Incorporated into Legislative Policy Guidelines

With likelihood that the 2014 Water Bond will be modified, staff asked for guidance in establishing priorities for a revised water bond measure

Five negotiating priorities were proposed

Based on feedback from the Board, staff is recommending three additional priorities
Recommended Priorities

- Support public funding of ecosystem restoration of the Bay-Delta in support of the co-equal goals (ecosystem restoration and water supply reliability)

- Oppose efforts to remove direct allocations for San Diego County unless all such allocations are removed
  - Otherwise preserve the $227 million funding allocations for the San Diego region

- If all direct allocations are eliminated, ensure funding is provided on an open and competitive basis, with a cost-sharing requirement
Local and regional supply projects should be funded through the Integrated Regional Water Management (IRWM) chapter of the water bond.

- Allocation made by state region in proportion to each region’s population.

Support funding for the expansion and addition of state-owned or controlled surface storage that improves water supply reliability of the State Water Project.
Additional Recommended Priorities

- Develop additional low-cost borrowing mechanisms to help finance local infrastructure projects
- Explore the availability of funds from a broader range of entities that benefit from bond-financed projects or that stress the system and contribute to ecosystem decline
- Oppose statewide fees on water to pay for statewide public benefits
Staff recommendation

- Adopt priorities for the renegotiation of a water bond
E-Guide to a WaterSmart Lifestyle

Legislation, Conservation and Outreach Committee
May 23, 2013
Background

- December 2010: Board directed staff to focus on five “core” activities
  1. Residential surveys
  2. K-12 educational programs
  3. Landscape audits
  4. MWD device-based incentive programs
  5. Development of “how to” resource tools
Purpose/Goals of E-Guide

- Help member agencies meet 2020 water use efficiency targets
- Inspire, educate, and empower homeowners to take water efficient actions
- Foster long-term behavioral change and market transformation
- Reinforce WaterSmart brand and lifestyle
Key Features

- Addresses indoor and outdoor water efficiency
- Utilizes a lifestyle magazine approach
- Incorporates animations, videos, and illustrations
- Functions as a living document
- Housed on WaterSmart website
Being WaterSmart

WaterSmart is where our San Diego lifestyle and water efficiency meet.

In San Diego County, summer ends in October and spring starts in February, which means more warm, sunny weather than anywhere else in the country for riding our beloved longboards, horses and Harleys.

Our Mediterranean climate occurs in just five places on the planet — on the western edges of southern between 30 degrees and 40 degrees latitude, north and south of the equator. This is the sweet spot where you find California and the Mediterranean Basin — think Provence and Tuscany — in the northern hemisphere, and Santiago, Cape Town and Perth in the southern hemisphere.

Life is fun when it only rains 42 days a year but that little bit of rain doesn’t produce enough water to supply the more than three million people who live here or sustain our growing economy.

The San Diego County Water Authority began importing water in the 1940s and diversifying our water resources in the 1990s. Water efficiency is so important because it reduces demand for more expensive water resources.

Here are four reasons to be WaterSmart.
Sample: In Your Home

Smart Buys
Want the best in your home? Here are the new standards in water efficiency

Plumbing Fixtures
Look for the WaterSense Label. WaterSense is a partnership between manufacturers and the U.S. Environmental Protection Agency to foster innovation. Products must be certified by independent laboratory tests for style, performance and efficiency to earn the label.

Faucets
Check the flow rate of your faucets. It’s engraved on the cap in very small type that you may need a flashlight and magnifying glass to see. If it’s 5.0 gallons per minute (GPM) or more, unscrew the cap and replace the aerator inside. WaterSense labeled aerators have flow rates less than 2.2 GPM and installation is easy. You can change aerators until you find the GPM level you like. Most people like 1.5 GPM or more on a kitchen faucet.
$5.00 - $15.00 hardware & plumbing supply stores.

Showerheads
Like to indulge in a hot, relaxing shower? The people in the focus group that tests products for WaterSense like to, as well. You can count on a relaxing stream of water wide enough to keep you wet and strong enough to rinse your hair.
$10 - $50 hardware & plumbing supply stores.

Toilets
Dual-flush models use just 0.5 gallons for most needs. To see how much water that could save, take the lid off your toilet tank and look around the rim of the tank for your current gallons per flush. Ask your water district about rebates before you buy and — unless you’ve done it before — you’re best off calling a plumber for installation.
$100 - $520 hardware & plumbing supply stores.
Choose Your Plants

When you choose plants and trees for your garden, don’t do it based on beauty alone. Think about the services each plant provides, like shade, motion, or habitat for birds. This guide shows you how

Shrubs & Perennials

What to Do With Them

Use evergreen shrubs and perennials (up to 2 feet high), and mixing variety, as groundcover.

Use tall varieties (over 5 feet high) as natural fences or screens to hide whatever you don’t want to see.

Choose shrubs and perennials native to California to attract birds and butterflies to your garden.

Place a potted shrub or perennial on each side of a door or gate.

Like your front entry with perennials.

What’s a Perennial?

A perennial is a plant that lives at least three years, and often much longer. If your usual gardening routine is buying and planting anew each spring and pulling them out in the fall, you’ll like that perennials take care of themselves and end up saving you money over the years.

Shrubs vs. Perennials

In colder climates, shrubs survive winters. However, only the roots of perennials survive, and need to be replanted in the spring. In Southern California’s mild climate, however, there is no difference—both shrubs and perennials keep their foliage year-round and continue growing year after year.

“I incorporate a variety of plants from Mediterranean climates, especially from Australia and New Zealand, into my landscaping.”

Steve Carlsbad
Sample: In Your Garden

Design Idea
Putting one of everything in a garden often leads to an unhappy gardening experience. Why? Because each plant looks lost among the others and the garden loses its structure. In gardening, repeating yourself is a good thing. Here are three ways to do it.

1. Make lines
Create axes to follow lines. Creating lines in your garden will make it visually interesting. Plant one type of grass, perennial, succulent, shrub or tree in straight, curved or parallel lines.

2. Plant five or more
If you can't see the beautiful perennial you planted from the kitchen window or from your car when you pull into the driveway, then one is not enough. Plant five or more in a group—as many as needed to look beautiful from a distance.

Lion's Tail
Leonotis leonurus
Low water use
Native to South Africa
Resource Assistance

3. Delight Your Soil with Mulch

Soil loves mulch. It provides moisture between irrigation cycles, protects it from evaporation on a sunny day, and reduces runoff and erosion when it rains. Like compost, it also helps in retaining water, adds water to filtration and reduces organic matter into the soil, providing nutrients that stimulate plant growth.

Which Mulch is Best?

**Shredded Mulch**
Mulch made from composted landscape trimmings is best for your soil. It contains leaf material that adds nutrients and branch material that adds texture and longevity. Shredded mulch also has a fibrous texture that helps it hold onto materials and not slide off. If it’s recycled and it keeps material out of the landfill, it’s also the best choice for the environment. It’s less expensive than other options and is available at the Miramar Greenery and the El Cajon Compost Facility.

**$6-$8 per cubic yard in bulk**

**Leaf Mulch**
Collect the fallen leaves on your property and use them as mulch or add them to your compost pile. Want more? Ask your neighbors.

**Bark and Wood Chip Mulch**
While we are accustomed to bark and wood chip mulch and like the way it looks, it has a number of drawbacks: bark and wood chips release little organic matter into the soil, do not improve soil aggregation, don’t stay in place on a hillside, and compete with plants for the nitrogen in your soil. Landscape contractors typically add nitrogen fertilizer when a client requests bark, adding to stormwater pollution.

**$6-$10 per cubic yard in bulk**

**Hay and Grass Clippings**
Hay and grass are high in nitrogen so they do not compete with plants for the nitrogen in your soil. Hay works as mulch, but it is more effective as compost. Grass clipping, however, keeps weeds down, reduces the amount of fertilizer a lawn needs by 50 percent.

How Much?

Try this How Much, Compost and Mulch Calculator to work out the math.
Leveraging Partnerships

- Hans and Margaret Doe Charitable Trust funding
- Content, “expert” review, and marketing assistance from industry partners
- Input and resources from member agencies
Project Status

- Finalizing layout and graphics
- Testing by late May
- Anticipate launch by June 2013
Next Steps

- Marketing and outreach
- Periodic assessment and modifications
Value of Water Outreach Update

Legislation, Conservation and Outreach Committee
May 23, 2013
Growing need to improve ratepayer understanding of:
- Bills they pay = water reliability received
- Elements of water system they may not know
- Investments necessary for repairs and maintenance
- Value of services provided for unit cost paid

Focused communications on issue recommended as priority
- LCO Committee goal for 2013-2014
Near-Term Recommendations

- Take advantage of existing opportunities
- Develop new materials focused on issue
  - Priorities:
    - Newsletter articles
    - Bill stuffers
    - Fact sheet
    - Video
- Make messaging broad enough to be useful to as many agencies as possible
- Consider investing in regional communication tactics with greatest impact
Leveraging Existing Activities

- 2012 annual report
- News releases
- Promotions and social media
- Planned Water Talks community forum
New Tools for Member Agencies

- Newsletter articles
- Bill stuffers
- Fact sheet
  - Partnership with CUWA
  - Customized illustration
  - Ready by summer
- Video
  - 30 sec./90 sec.
  - Ready by June
Summer Campaign

- Educate larger numbers of water users during highest water use months
- Show 30-second video in movie theaters
  - Regional reach
  - High popularity
  - Diverse audience
- Eight-week campaign starting in July
- Cost: $35,000
Future Activities

- Work with Joint Public Information Council on ongoing basis
- Evaluate and refine messages and tactics
- Develop strategic approaches
Adopt Positions on Bills

Legislation, Conservation & Outreach Committee
May 23, 2013

Alexi Schnell, Management Analyst
AB 71 (Pérez) Salton Sea Restoration

- Calls on the Natural Resources Agency to be more inclusive of the Salton Sea Authority in implementing a restoration program; aims to increase local participation
- Would form a technical advisory group to manage feasibility and financial planning studies for a restoration program
- Recommendation: Support
Salton Sea Legislation

- **AB 147 (Pérez) Salton Sea Air Pollution Mitigation Act**
  - Would establish a Dust Mitigation Project Account within the Salton Sea Restoration Fund
  - This bill could divert funding that is designated to fund the State’s Salton Sea Species Conservation Habitat Program
  - Amendments would be sought to address protection of the Salton Sea Restoration Fund and the inclusion of stronger language to protect QSA JPA mitigation funds already designated for important projects
  - **Recommendation: Oppose unless amended**
Salton Sea Legislation

- **AB 1096 (Nestande, Pérez) Salton Sea License Plates**
  - Would authorize the Department of Fish and Wildlife to apply to the DMV to sponsor a specialized license plate commemorating the Salton Sea
  - Funds generated would be placed into an account to fund Salton Sea restoration projects
  - **Recommendation: Support**
Other Salton Sea Legislation

- Two additional bills related to the Salton Sea are being monitored; however, no positions are recommended at this time
  - **AB 148** (Pérez) Salton Sea and Renewable Energy Development
  - **AB 709** (Nestande) Salton Sea Authority: Restoration Plan

- These bills failed the deadline to get out of committee but could become two-year bills
Water Supply Conditions

Water Planning Committee
May 23, 2013

Lesley Dobalian
Water Resources Specialist
State Water Project Supply Conditions

- Record dry conditions from January through April

- Statewide snowpack conditions
  - April 1 – typical date for maximum accumulation: 48% of normal
  - May 2 – final snow survey: 17% normal

- Table A allocation only 35 percent for CY 2013
  - Last time the allocation this low was in 2008
  - Allocation also affected by increased pumping restrictions in late 2012/early 2013 to protect Delta smelt
  - Increased restrictions prevented DWR from pumping more than 550,000 AF from the Delta
San Luis Conditions
(as of Midnight - May 21, 2013)

Current Level: 912,711 AF
45% (Total Capacity) | 52% (Historical Avg.)

San Luis Levels: Various Past Water Years and Current Water Year, Ending At Midnight May 21, 2013

Total Reservoir Capacity: 2,039,000 AF

Legend:
- Historical Average
- Total Reservoir Capacity
- 1976-1977 (Driest)
- 1982-1983 (Wettest)
- 2011-2012
- Current: 2012-2013
Average Water Year Statewide Runoff

*Runoff through April 30, 2013*
Colorado River Supply Conditions
May 13, 2013

- Precipitation for Upper Basin: 81% of average
- Basin Snowpack: 76% of normal
- Storage in Lake Mead and Lake Powell
  - 24.2 MAF in 2013
  - 29.4 MAF in 2012
Water Year Unregulated Inflow to Lake Powell

*Water year 2013 forecast on May 1, 2013*
MWD Storage Reserve Levels
With Range of 2013 Uncertainty

<table>
<thead>
<tr>
<th>Year</th>
<th>Emergency Storage</th>
<th>Dry-Year Storage</th>
</tr>
</thead>
<tbody>
<tr>
<td>2006</td>
<td>1.1</td>
<td>2.2</td>
</tr>
<tr>
<td>2007</td>
<td>1.0</td>
<td>1.8</td>
</tr>
<tr>
<td>2008</td>
<td>1.1</td>
<td>1.8</td>
</tr>
<tr>
<td>2009</td>
<td>1.0</td>
<td>1.7</td>
</tr>
<tr>
<td>2010</td>
<td>1.7</td>
<td>2.4</td>
</tr>
<tr>
<td>2011</td>
<td>2.1</td>
<td>2.7</td>
</tr>
<tr>
<td>2012</td>
<td>2.5</td>
<td>2.7</td>
</tr>
<tr>
<td>2013</td>
<td>2.1</td>
<td>2.5</td>
</tr>
</tbody>
</table>

Source: May 13, 2013 MWD Water Planning and Stewardship Committee
Local Service Area Conditions

- Local reservoir storage on April 30, 2013 was approximately 260,370 AF
- Potable demand for the last 12 months is 526,500 AF, up 5% from the previous year

<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Station</td>
<td>Actual (in.)</td>
</tr>
<tr>
<td>Lindbergh Field</td>
<td>6.5</td>
</tr>
<tr>
<td>Ramona Airport</td>
<td>8.0</td>
</tr>
</tbody>
</table>
Summary

- Second consecutive dry year in California and on Colorado River Basin
- No supply shortages anticipated this year
  - Demands are increasing slightly but remain low compared to 2007
  - MWD’s storage reserves expected to remain high through 2013 compared with historic levels
- Continue to encourage water use efficiency and closely monitor conditions into 2014

Seasonal Drought Outlook
Valid May 16 – August 31, 2013

KEY
- **Drought to persist or intensify**
- **Drought ongoing, some improvement**
- **Drought likely to improve, impacts ease**
- **Drought development likely**

Released May 16, 2013 by the National Weather Service
San Diego County Water Authority
Cost of Service Study –
Proposed CY 2014 Rates & Charges

May 23, 2013

Robert S. Grantham
Agenda

- CY 2014 Water Rate & Charges Overview
- Key Governing Board Policies and Legal Requirements
- Rate Calculations
- Questions
Cost of Service Rate Analysis
Cost of Service Review Process

- Independent review of rate methodologies for consistency with AWWA M1 guidelines, Board policy, and legal requirements
- Met with Water Authority staff to review operating cost allocation to rate and charge categories
- Analyzed historic CIP and Debt Service expenditure allocations
- Allocated cost to functional rate and charges categories
  - Supply, Treatment, Transportation, Storage, and Customer Service
- Calculated Proposed CY2014 water rates and charges
Key Governing Board Policies

- Ordinance No. Ordinance 2002-03
  - Transitioned the rate structure from a historical unit price ("postage stamp") water rate to assigning the revenue requirements to functional categories
  - Fixed Water Rate Categories: Storage and Customer Service Charges
  - Variable Water Rate Categories: Transportation, Melded M&I Treatment and Melded M&I Supply Rates.

- Resolution No. 98-26
  - Established the Infrastructure Access Charge to pay at least 25 percent of the estimated annual fixed costs of the Authority.

- Board Financial Management Policy (August 2006)
  - Set a 1.50x coverage target for senior lien debt service (1.00x coverage excluding capacity charges)
  - Set a new target and maximum fund balance for the Rate Stabilization Fund

-- Complete list of Ordinances relating to rates can be found at http://www.sdcwa.org/member-agency-dates-and-general-information
Overview of Legal Cost-of-Service Requirements

The Water Authority’s rates must adhere to California constitutional and statutory requirements:

- Proposition 26 – Charge imposed for service may not exceed the reasonable cost or providing the service
- GC § 50076 – Special taxes shall not include any fee which does not exceed the reasonable cost of providing the service for which the fee is charged
- GC § 54999.7 – Fees shall not exceed the reasonable cost of providing utility service and will be “established in consideration of service characteristics, demand patterns, and other relevant factors.”
Rate Definitions Based on Board Policy

- The **Supply Rate** recovers the cost of water supply incurred by the Water Authority, including the purchase of water from MWD, payments to IID, costs of MWD wheeling for non-MWD water supplies, and certain other costs associated with the QSA.

- The **Transportation Rate** is a uniform rate set to recover capital, operating, and maintenance costs of the Water Authority’s aqueduct system, including all facilities used to physically transport the water to member agency meters.
Rate Definitions Based on Board Policy

- The **Treatment Rate** recovers the costs of treating water, including costs associated with MWD, Helix, Olivenhain treatment facilities, as well as the costs associated with the Water Authority’s treatment plant.

- The **Storage Charge** is set to recover the costs associated with the Emergency Storage Program (ESP) and the Carryover Storage Program (CSP). ESP/CSP is a system of reservoirs, interconnected pipelines and pumping stations designed to make water available to the San Diego region in the event of an interruption in imported water deliveries.

- The **Customer Service Charge** is set to recover costs that are necessary to support the functioning of the Water Authority, to develop policies and to implement programs that benefit the region as a whole.
CY 2014 Water Rate and Charge Calculation Process

- Revenue Requirement Analysis
- Functional Allocation By Rate Category
- Water Rates & Charges
- Member Agency Allocation
Revenue Requirement Analysis

- Operating Costs
- Annual Debt Service
- Miscellaneous Cost Recovery
- Coverage and Reserve Driven Needs
- Offsetting Revenues to Reduce Rev Req
  - IAC Allocation, Standby Availability Charge, Capacity Charges, Property Tax, Interest Earning, Misc. Revenue Allocation
## Revenue Requirement Summary

<table>
<thead>
<tr>
<th>Revenue Component</th>
<th>Description</th>
<th>Annual Costs (1)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operating Costs</td>
<td>Funds the day-to-day operations of the water authority.</td>
<td>$45.95</td>
</tr>
<tr>
<td>Debt Service</td>
<td>Annual cost associated with the issuance of debt to fund capital and refunding of previous debt.</td>
<td>$129.58</td>
</tr>
<tr>
<td>Miscellaneous Costs</td>
<td>Various expenditures included seepage and evaporation, recovery of working capital, local supply development, TOVWTP reimbursement, and Twin Oaks operating contract.</td>
<td>$20.73</td>
</tr>
<tr>
<td>Offsetting Revenues</td>
<td>Additional revenues generated from sources outside traditional water rates and charges.</td>
<td>($76.84)</td>
</tr>
<tr>
<td>Coverage &amp; Reserve Driven Needs</td>
<td>Revenue needs associated with meeting the financial management policies.</td>
<td>$49.93</td>
</tr>
</tbody>
</table>

(1) Costs rounded and stated in $ millions
Functional Allocation

- Melded Supply
- Melded Treatment
- Transportation
- Storage
- Customer Service

Water Rates and Charges
## Operating Budget Functional Allocation

<table>
<thead>
<tr>
<th></th>
<th>Operating Budget (1)</th>
<th>Customer Service</th>
<th>Storage</th>
<th>Transportation</th>
<th>Supply</th>
<th>Treatment</th>
<th>G&amp;A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Admin/HR</td>
<td>$14.43</td>
<td>16%</td>
<td>0%</td>
<td>4%</td>
<td>0%</td>
<td>0%</td>
<td>80%</td>
</tr>
<tr>
<td>Colorado River Program</td>
<td>2.82</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>100%</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>Engineering</td>
<td>7.78</td>
<td>6%</td>
<td>4%</td>
<td>40%</td>
<td>8%</td>
<td>0%</td>
<td>41%</td>
</tr>
<tr>
<td>Finance</td>
<td>4.80</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>100%</td>
</tr>
<tr>
<td>General Counsel</td>
<td>9.08</td>
<td>15%</td>
<td>0%</td>
<td>0%</td>
<td>75%</td>
<td>0%</td>
<td>10%</td>
</tr>
<tr>
<td>General Manager</td>
<td>5.19</td>
<td>53%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>47%</td>
</tr>
<tr>
<td>MWD Program</td>
<td>2.94</td>
<td>30%</td>
<td>0%</td>
<td>0%</td>
<td>70%</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>Operations &amp; Maintenance(2)</td>
<td>34.59</td>
<td>17%</td>
<td>12%</td>
<td>64%</td>
<td>0%</td>
<td>0%</td>
<td>6%</td>
</tr>
<tr>
<td>Public Affairs/Conservation</td>
<td>7.71</td>
<td>66%</td>
<td>6%</td>
<td>7%</td>
<td>19%</td>
<td>1%</td>
<td>1%</td>
</tr>
<tr>
<td>Water Resources</td>
<td>7.36</td>
<td>53%</td>
<td>12%</td>
<td>6%</td>
<td>30%</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td><strong>Functional Allocation</strong></td>
<td><strong>31.7%</strong></td>
<td><strong>8.3%</strong></td>
<td><strong>37.5%</strong></td>
<td><strong>22.3%</strong></td>
<td><strong>0.2%</strong></td>
<td>N/A</td>
<td></td>
</tr>
</tbody>
</table>

(1) Costs rounded and stated in $ millions
(2) Includes Lake Hodges pumped storage
## Operating Cost Allocation

<table>
<thead>
<tr>
<th>Revenue Requirement</th>
<th>CY 2014 Total (1)</th>
<th>Customer Service</th>
<th>Storage</th>
<th>Transportation</th>
<th>Supply</th>
<th>Treatment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Functional Allocation</td>
<td>31.7%</td>
<td>8.3%</td>
<td>37.5%</td>
<td>22.3%</td>
<td>0.2%</td>
<td></td>
</tr>
<tr>
<td>Operating Cost</td>
<td>$45.95</td>
<td>$14.57</td>
<td>$3.80</td>
<td>$17.24</td>
<td>$10.25</td>
<td>$0.08</td>
</tr>
</tbody>
</table>

(1) Costs rounded and stated in $ millions
## Debt Service Allocation

<table>
<thead>
<tr>
<th>Revenue Requirement</th>
<th>CY 2014 Total (1)</th>
<th>Customer Service</th>
<th>Storage</th>
<th>Transportation</th>
<th>Supply</th>
<th>Treatment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Debt Service Allocation</td>
<td>10.78%</td>
<td>47.27%</td>
<td>28.50%</td>
<td>8.24%</td>
<td>5.22%</td>
<td></td>
</tr>
<tr>
<td>LTD Service</td>
<td>$116.63</td>
<td>$12.83</td>
<td>$55.46</td>
<td>$33.47</td>
<td>$9.29</td>
<td>$5.58</td>
</tr>
<tr>
<td>STD Service</td>
<td>12.96</td>
<td>1.14</td>
<td>5.79</td>
<td>3.45</td>
<td>1.40</td>
<td>1.18</td>
</tr>
<tr>
<td>Total Debt Service</td>
<td>$129.58</td>
<td>$13.96</td>
<td>$61.25</td>
<td>$36.93</td>
<td>$10.68</td>
<td>$6.76</td>
</tr>
</tbody>
</table>

(1) Costs rounded and stated in $ millions

Annual debt service costs are allocated to each functional rate category based on its proportionate share of each issuance.
## Allocation of Offsetting Revenues

<table>
<thead>
<tr>
<th>Offset Allocation</th>
<th>Total Revenue Offsets (1)</th>
<th>Customer Service</th>
<th>Storage</th>
<th>Transportation</th>
<th>Supply</th>
<th>Treatment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Capital Only</td>
<td>11.11%</td>
<td>48.77%</td>
<td>31.20%</td>
<td>8.92%</td>
<td></td>
<td>0.00%</td>
</tr>
<tr>
<td>Capital and O&amp;M</td>
<td>17.06%</td>
<td>40.76%</td>
<td>30.82%</td>
<td>11.44%</td>
<td></td>
<td>0.00%</td>
</tr>
</tbody>
</table>

### Offsets (Capital Only)

<table>
<thead>
<tr>
<th>Description</th>
<th>Total Revenue Offsets</th>
<th>Customer Service</th>
<th>Storage</th>
<th>Transportation</th>
<th>Supply</th>
<th>Treatment</th>
</tr>
</thead>
<tbody>
<tr>
<td>System Capacity Charge</td>
<td>$14.54</td>
<td>$1.62</td>
<td>$7.09</td>
<td>$4.54</td>
<td>$1.30</td>
<td>$ -</td>
</tr>
<tr>
<td>Treatment Capacity Charge</td>
<td>0.36</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>0.36</td>
</tr>
<tr>
<td>Standby Availability Charge</td>
<td>11.28</td>
<td>1.25</td>
<td>5.50</td>
<td>3.52</td>
<td>1.01</td>
<td>-</td>
</tr>
<tr>
<td>PAYGO Earnings</td>
<td>1.49</td>
<td>0.17</td>
<td>0.73</td>
<td>0.47</td>
<td>0.13</td>
<td>-</td>
</tr>
</tbody>
</table>

### Offsets (Capital and O&M)

<table>
<thead>
<tr>
<th>Description</th>
<th>Total Revenue Offsets</th>
<th>Customer Service</th>
<th>Storage</th>
<th>Transportation</th>
<th>Supply</th>
<th>Treatment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Property Tax</td>
<td>$11.16</td>
<td>1.90</td>
<td>4.54</td>
<td>3.44</td>
<td>1.28</td>
<td>$ -</td>
</tr>
<tr>
<td>IAC</td>
<td>29.40</td>
<td>5.02</td>
<td>11.96</td>
<td>9.06</td>
<td>3.36</td>
<td>-</td>
</tr>
<tr>
<td>Interest Earnings</td>
<td>3.17</td>
<td>0.54</td>
<td>1.29</td>
<td>0.98</td>
<td>0.36</td>
<td>-</td>
</tr>
<tr>
<td>Twin Oak Reimbursement</td>
<td>1.02</td>
<td>1.02</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Misc. Revenue</td>
<td>4.43</td>
<td>0.76</td>
<td>1.80</td>
<td>1.37</td>
<td>0.51</td>
<td>-</td>
</tr>
</tbody>
</table>

| Total Offsets                      | $76.84                | $12.27           | $32.91  | $23.36         | $7.95 | $0.36     |

(1) Costs rounded and stated in $ millions
Infrastructure Access Charge

- Provides balance of "fixed" revenues required to generate a 25% ratio of fixed revenues to fixed expenditures.
- Accounts for fixed revenues produced by the Water Standby Availability Charge and property taxes.
- Allocated to member agencies based on total household meter equivalents as of December 31 of the previous year (914,166 as of 12/31/12)
### IAC Calculation

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Long Term Debt Service</td>
<td>$130.42</td>
</tr>
<tr>
<td>Misc LTD Fees</td>
<td>0.01</td>
</tr>
<tr>
<td>Total Short Term Debt Service and Costs</td>
<td>14.65</td>
</tr>
<tr>
<td>Administration and Maintenance times 80%</td>
<td>37.46</td>
</tr>
<tr>
<td>Transportation O&amp;M times 80%</td>
<td>0.08</td>
</tr>
<tr>
<td>Total Local Supply Development Costs times 80%</td>
<td>3.14</td>
</tr>
<tr>
<td>ESP Evaporation and System Losses times 80%</td>
<td>3.34</td>
</tr>
<tr>
<td>Total Fixed Costs</td>
<td>$189.40</td>
</tr>
<tr>
<td>Total Fixed Costs Times 110% Times 25%</td>
<td>$52.08</td>
</tr>
<tr>
<td>Less:</td>
<td></td>
</tr>
<tr>
<td>Other Tax Receipts</td>
<td>($11.39)</td>
</tr>
<tr>
<td>Standby Availability Charge Rev</td>
<td>(11.30)</td>
</tr>
<tr>
<td>Remaining Fixed Cost Need (IAC Revenue)</td>
<td>$29.40</td>
</tr>
</tbody>
</table>

| Number of Meter Equivalents (ME) Used in Calculation             | 914,166   |
| Proposed CY 2014 IAC Per Meter Equivalent (Monthly)             | $2.68     |

(1) Costs rounded and stated in $ millions
### Remaining Coverage & Reserve Allocation

- Rates are established to separately meet the 1.50x coverage test by rate category, proportionate to its share of overall debt.

<table>
<thead>
<tr>
<th></th>
<th>CY 2014 Total</th>
<th>Customer Service</th>
<th>Storage</th>
<th>Transportation</th>
<th>Supply</th>
<th>Treatment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Remaining Coverage &amp; Reserve Driven Needs (1)</td>
<td>$49.93</td>
<td>$6.31</td>
<td>$24.07</td>
<td>$12.67</td>
<td>$5.22</td>
<td>$1.67</td>
</tr>
</tbody>
</table>

(1) Costs rounded and stated in $ millions
# Revenue Requirement Allocation Matrix

<table>
<thead>
<tr>
<th>Revenue Requirements</th>
<th>Customer Service</th>
<th>Storage</th>
<th>Supply</th>
<th>Transportation</th>
<th>Treatment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operations &amp; Maintenance</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Annual Debt Service</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Cash (PAYGO)*</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td><strong>Offsetting Revenues</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>IAC Revenue</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Property Taxes</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Standby Availability Charges</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>System Capacity Charges</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td>Treatment Capacity Charges</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td>Interest Earnings &amp; Misc. Rev</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
</tbody>
</table>

* If applicable
Water Rates and Charges

- Variable Rates
  - Melded Supply
  - Melded Treatment
  - Transportation
- Commodity Based Annual Charges
  - Storage
  - Customer Service
## Customer Service Revenue Requirement – CY2014

<table>
<thead>
<tr>
<th>Component</th>
<th>Amount ($M)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Debt Service</td>
<td>$13.96</td>
</tr>
<tr>
<td>Operating Cost + Miscellaneous Cost Recovery</td>
<td>18.40</td>
</tr>
<tr>
<td>Gross Revenue Requirements</td>
<td>$32.37</td>
</tr>
<tr>
<td>Less: Offsetting Revenues</td>
<td></td>
</tr>
<tr>
<td>Capital Offsets</td>
<td>$(3.03)</td>
</tr>
<tr>
<td>Operating Offsets</td>
<td>(9.24)</td>
</tr>
<tr>
<td>Revenue Requirement before Coverage</td>
<td>$20.09</td>
</tr>
<tr>
<td>Coverage &amp; Reserve Driven Needs</td>
<td>6.31</td>
</tr>
<tr>
<td><strong>Total CS Revenue Requirement</strong></td>
<td><strong>$26.40</strong></td>
</tr>
</tbody>
</table>

(1) Costs rounded and stated in $ millions
## Storage Revenue Requirement – CY2014

<table>
<thead>
<tr>
<th>Component</th>
<th>Amount ($M)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Debt Service</td>
<td>$61.25</td>
</tr>
<tr>
<td>Operating Cost + Miscellaneous Cost Recovery</td>
<td>10.79</td>
</tr>
<tr>
<td><strong>Gross Revenue Requirements</strong></td>
<td><strong>$72.04</strong></td>
</tr>
<tr>
<td><strong>Less: Offsetting Revenues</strong></td>
<td></td>
</tr>
<tr>
<td>Capital Offsets</td>
<td>$(13.32)</td>
</tr>
<tr>
<td>Operating Offsets</td>
<td>(19.59)</td>
</tr>
<tr>
<td><strong>Revenue Requirement before Coverage</strong></td>
<td><strong>$39.13</strong></td>
</tr>
<tr>
<td>Coverage &amp; Reserve Driven Needs</td>
<td>24.07</td>
</tr>
<tr>
<td><strong>Total Storage Revenue Requirement</strong></td>
<td><strong>$63.20</strong></td>
</tr>
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</table>

(1) Costs rounded and stated in $ millions
Transportation Required Revenue – CY2014

<table>
<thead>
<tr>
<th>Component</th>
<th>Amount ($M)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Debt Service</td>
<td>$36.93</td>
</tr>
<tr>
<td>Operating Cost + Miscellaneous Cost Recovery</td>
<td>17.24</td>
</tr>
<tr>
<td>Gross Revenue Requirements</td>
<td>$54.17</td>
</tr>
<tr>
<td>Less: Offsetting Revenues</td>
<td></td>
</tr>
<tr>
<td>Capital Offsets</td>
<td>$(8.52)</td>
</tr>
<tr>
<td>Operating Offsets</td>
<td>(14.84)</td>
</tr>
<tr>
<td>Revenue Requirement before Coverage</td>
<td>$30.81</td>
</tr>
<tr>
<td>Coverage &amp; Reserve Driven Needs</td>
<td>12.67</td>
</tr>
<tr>
<td>Total Revenue Requirement</td>
<td>$43.48</td>
</tr>
</tbody>
</table>

(1) Costs rounded and stated in $ millions

Projected Acre Feet Sales | 448,210

Proposed A/F Rate (Total Rev Req/Total A/F Sales) | $97
## Supply Required Revenue – CY2014

<table>
<thead>
<tr>
<th>Component</th>
<th>Amount ($M)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Debt Service</td>
<td>$10.68</td>
</tr>
<tr>
<td>Operating Cost + Miscellaneous Cost Recovery</td>
<td>10.25</td>
</tr>
<tr>
<td><strong>Gross Revenue Requirements</strong></td>
<td><strong>$20.94</strong></td>
</tr>
<tr>
<td><strong>Less: Offsetting Revenues</strong></td>
<td></td>
</tr>
<tr>
<td>Capital Offsets</td>
<td>$(2.44)</td>
</tr>
<tr>
<td>Operating Offsets</td>
<td>(5.51)</td>
</tr>
<tr>
<td>Revenue Requirement before Coverage</td>
<td>$12.98</td>
</tr>
<tr>
<td>Coverage &amp; Reserve Driven Needs</td>
<td>5.22</td>
</tr>
<tr>
<td><strong>Total Revenue Requirement</strong></td>
<td><strong>$18.20</strong></td>
</tr>
</tbody>
</table>

(1) Costs rounded and stated in $ millions
# Proposed CY2014 Melded Supply Rate

## Projected Acre-Foot Sales (A/F) (000's)

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>MWD Tier I</td>
<td>258.30</td>
</tr>
<tr>
<td>IID</td>
<td>100.00</td>
</tr>
<tr>
<td>Canal Water Delivery Costs</td>
<td>80.20</td>
</tr>
<tr>
<td><strong>Total A/F Sales</strong></td>
<td><strong>438.50</strong></td>
</tr>
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</table>

## Water Purchase Costs ($ Millions)

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
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</thead>
<tbody>
<tr>
<td>MWD Tier 1 Water</td>
<td>$153.17</td>
</tr>
<tr>
<td>QSA Exchange with MWD Costs</td>
<td>80.19</td>
</tr>
<tr>
<td>IID Water</td>
<td>59.40</td>
</tr>
<tr>
<td>Canal Water</td>
<td>0.80</td>
</tr>
<tr>
<td><strong>Subtotal Water Purchase Costs</strong></td>
<td><strong>$293.56</strong></td>
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</table>

## Additional Costs ($ Millions)

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
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</thead>
<tbody>
<tr>
<td>Supply Revenue Requirement (Table 15)</td>
<td>$18.20</td>
</tr>
<tr>
<td>IID Socioeconomic</td>
<td>3.20</td>
</tr>
<tr>
<td>QSA Environmental</td>
<td>5.30</td>
</tr>
<tr>
<td>Groundwater Storage</td>
<td>0.50</td>
</tr>
<tr>
<td><strong>Subtotal Other Costs</strong></td>
<td>27.20</td>
</tr>
<tr>
<td><strong>Total Supply Cost</strong></td>
<td><strong>$320.76</strong></td>
</tr>
</tbody>
</table>

(1) Costs rounded and stated in $ millions

## Proposed A/F Rate (Total Supply Cost / Total A/F Sales)

$732
## Treatment Required Revenue – CY2014

<table>
<thead>
<tr>
<th>Component</th>
<th>Amount ($M)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Debt Service</td>
<td>$6.76</td>
</tr>
<tr>
<td>Operating Cost + Miscellaneous Cost Recovery</td>
<td>10.00</td>
</tr>
<tr>
<td>Gross Revenue Requirements</td>
<td>$16.76</td>
</tr>
<tr>
<td>Less: Offsetting Revenues</td>
<td></td>
</tr>
<tr>
<td>Capital Offsets</td>
<td>$(0.36)</td>
</tr>
<tr>
<td>Operating Offsets</td>
<td>(0.00)</td>
</tr>
<tr>
<td>Revenue Requirement before Coverage</td>
<td>$16.40</td>
</tr>
<tr>
<td>Coverage &amp; Reserve Driven Needs</td>
<td>1.67</td>
</tr>
<tr>
<td><strong>Total Revenue Requirement</strong></td>
<td><strong>$18.07</strong></td>
</tr>
</tbody>
</table>

(1) Costs rounded and stated in $ millions
# Proposed CY2014 Melded Treatment Rate

<table>
<thead>
<tr>
<th>Projected Treatment Demands - (AF 000's)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>MWD</td>
<td>104.74</td>
</tr>
<tr>
<td>CWA (Twin Oaks)</td>
<td>65.83</td>
</tr>
<tr>
<td>Helix</td>
<td>25.57</td>
</tr>
<tr>
<td>Olivenhain</td>
<td>3.75</td>
</tr>
<tr>
<td><strong>Projected Total Treatment Demands</strong></td>
<td><strong>199.89</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Projected Treatment Costs ($ Millions)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>MWD</td>
<td>$31.10</td>
</tr>
<tr>
<td>CWA</td>
<td>18.10</td>
</tr>
<tr>
<td>Helix</td>
<td>4.00</td>
</tr>
<tr>
<td>Olivenhain</td>
<td>1.50</td>
</tr>
<tr>
<td><strong>Projected Total Treatment Cost</strong></td>
<td><strong>$54.70</strong></td>
</tr>
</tbody>
</table>

(1) Costs rounded and stated in $ millions

| Proposed A/F Rate (Total Treatment Cost /Total A/F Sales) | $274  |
Proposed CY 2014 Water Rate & Charges Summary

- Customer Service – $26,400,000 or approx. $56/AF
- Storage – $63,200,000 or approx. $144/AF
- Supply – $732 /AF
- Treatment – $274 /AF
- Transportation – $97 /AF
- Demands are based on historical 3yr rolling avg.
- Customer Service Charge Allocation includes all deliveries
- Storage Charge Allocation excludes agriculture deliveries
## Proposed CS Member Agency Allocation

<table>
<thead>
<tr>
<th>Member Agency</th>
<th>3-Year Average Deliveries (AF)</th>
<th>CY14 Annual Charge</th>
<th>Monthly Charge</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carlsbad M.W.D.</td>
<td>16,344</td>
<td>955,121</td>
<td>79,593</td>
</tr>
<tr>
<td>Del Mar, City of</td>
<td>1,100</td>
<td>64,282</td>
<td>5,357</td>
</tr>
<tr>
<td>Escondido, City of</td>
<td>16,284</td>
<td>951,615</td>
<td>79,301</td>
</tr>
<tr>
<td>Fallbrook P.U.D.</td>
<td>12,321</td>
<td>720,022</td>
<td>60,002</td>
</tr>
<tr>
<td>Helix W.D.</td>
<td>23,961</td>
<td>1,400,248</td>
<td>116,687</td>
</tr>
<tr>
<td>Lakeside W.D.</td>
<td>3,319</td>
<td>193,958</td>
<td>16,163</td>
</tr>
<tr>
<td>Oceanside, City of</td>
<td>23,296</td>
<td>1,361,386</td>
<td>113,449</td>
</tr>
<tr>
<td>Olivenhain M.W.D.</td>
<td>19,246</td>
<td>1,124,710</td>
<td>93,726</td>
</tr>
<tr>
<td>Otay W.D.</td>
<td>30,526</td>
<td>1,783,898</td>
<td>148,658</td>
</tr>
<tr>
<td>Padre Dam M.W.D.</td>
<td>11,789</td>
<td>688,933</td>
<td>57,411</td>
</tr>
<tr>
<td>Pendleton Military Reservation</td>
<td>58</td>
<td>3,389</td>
<td>282</td>
</tr>
<tr>
<td>Poway, City of</td>
<td>10,648</td>
<td>622,254</td>
<td>51,855</td>
</tr>
<tr>
<td>Rainbow M.W.D.</td>
<td>20,574</td>
<td>1,202,316</td>
<td>100,193</td>
</tr>
<tr>
<td>Ramona M.W.D.</td>
<td>6,364</td>
<td>371,903</td>
<td>30,992</td>
</tr>
<tr>
<td>Rincon Del Diablo M.W.D.</td>
<td>6,000</td>
<td>350,632</td>
<td>29,219</td>
</tr>
<tr>
<td>San Diego, City of</td>
<td>174,511</td>
<td>10,198,184</td>
<td>849,848</td>
</tr>
<tr>
<td>San Dieguito W.D.</td>
<td>2,240</td>
<td>130,903</td>
<td>10,909</td>
</tr>
<tr>
<td>Santa Fe I.D.</td>
<td>5,137</td>
<td>300,199</td>
<td>25,017</td>
</tr>
<tr>
<td>Sweetwater Authority</td>
<td>9,045</td>
<td>528,577</td>
<td>44,048</td>
</tr>
<tr>
<td>Vallecitos W.D.</td>
<td>15,972</td>
<td>933,382</td>
<td>77,782</td>
</tr>
<tr>
<td>Valley Center M.W.D.</td>
<td>27,640</td>
<td>1,615,244</td>
<td>134,604</td>
</tr>
<tr>
<td>Vista I.D.</td>
<td>12,836</td>
<td>750,118</td>
<td>62,510</td>
</tr>
<tr>
<td>Yuima M.W.D.</td>
<td>1,779</td>
<td>103,962</td>
<td>8,664</td>
</tr>
<tr>
<td>Contract Water</td>
<td>766</td>
<td>44,764</td>
<td>3,730</td>
</tr>
<tr>
<td><strong>Totals</strong></td>
<td><strong>451,756</strong></td>
<td><strong>$26,400,000</strong></td>
<td><strong>$2,200,000</strong></td>
</tr>
</tbody>
</table>
## Proposed Storage Member Agency Allocation

<table>
<thead>
<tr>
<th>Member Agency</th>
<th>3-Year Average Deliveries (AF)</th>
<th>CY14 Annual Charge</th>
<th>Monthly Charge</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carlsbad M.W.D.</td>
<td>16,384</td>
<td>2,513,737</td>
<td>209,478</td>
</tr>
<tr>
<td>Del Mar, City of</td>
<td>1,100</td>
<td>168,769</td>
<td>14,064</td>
</tr>
<tr>
<td>Escondido, City of</td>
<td>13,819</td>
<td>2,120,199</td>
<td>176,683</td>
</tr>
<tr>
<td>Fallbrook P.U.D.</td>
<td>8,206</td>
<td>1,259,017</td>
<td>104,918</td>
</tr>
<tr>
<td>Helix W.D.</td>
<td>23,961</td>
<td>3,676,249</td>
<td>306,354</td>
</tr>
<tr>
<td>Lakeside W.D.</td>
<td>3,319</td>
<td>509,222</td>
<td>42,435</td>
</tr>
<tr>
<td>Oceanside, City of</td>
<td>22,787</td>
<td>3,496,126</td>
<td>291,344</td>
</tr>
<tr>
<td>Olivenhain M.W.D.</td>
<td>19,056</td>
<td>2,923,693</td>
<td>243,641</td>
</tr>
<tr>
<td>Otay W.D.</td>
<td>30,517</td>
<td>4,682,112</td>
<td>390,176</td>
</tr>
<tr>
<td>Padre Dam M.W.D.</td>
<td>11,172</td>
<td>1,714,079</td>
<td>142,840</td>
</tr>
<tr>
<td>Pendleton Military Reservation</td>
<td>58</td>
<td>8,899</td>
<td>742</td>
</tr>
<tr>
<td>Poway, City of</td>
<td>10,608</td>
<td>1,627,547</td>
<td>135,629</td>
</tr>
<tr>
<td>Rainbow M.W.D.</td>
<td>12,693</td>
<td>1,947,441</td>
<td>162,287</td>
</tr>
<tr>
<td>Ramona M.W.D.</td>
<td>4,707</td>
<td>722,178</td>
<td>60,182</td>
</tr>
<tr>
<td>Rincon Del Diablo M.W.D.</td>
<td>5,745</td>
<td>881,434</td>
<td>73,453</td>
</tr>
<tr>
<td>San Diego, City of</td>
<td>174,402</td>
<td>26,757,865</td>
<td>2,229,822</td>
</tr>
<tr>
<td>San Dieguito W.D.</td>
<td>2,240</td>
<td>343,675</td>
<td>28,640</td>
</tr>
<tr>
<td>Santa Fe I.D.</td>
<td>5,106</td>
<td>783,395</td>
<td>65,283</td>
</tr>
<tr>
<td>Sweetwater Authority</td>
<td>9,045</td>
<td>1,387,741</td>
<td>115,645</td>
</tr>
<tr>
<td>Vallecitos W.D.</td>
<td>15,009</td>
<td>2,302,776</td>
<td>191,898</td>
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<tr>
<td>Valley Center M.W.D.</td>
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<td>1,414,898</td>
<td>117,908</td>
</tr>
<tr>
<td>Vista I.D.</td>
<td>12,784</td>
<td>1,961,403</td>
<td>163,450</td>
</tr>
<tr>
<td>Yuima M.W.D.</td>
<td>(16</td>
<td>(2,455)</td>
<td>(205)</td>
</tr>
<tr>
<td><strong>Totals</strong></td>
<td><strong>411,924</strong></td>
<td><strong>$63,200,000</strong></td>
<td><strong>$5,266,667</strong></td>
</tr>
<tr>
<td>Member Agency</td>
<td>IAC Equivalent Meters (ME) (12/31/12)*</td>
<td>Monthly Rate ($/ME)</td>
<td>CY14 Annual Charge</td>
</tr>
<tr>
<td>-------------------------------</td>
<td>----------------------------------------</td>
<td>----------------------</td>
<td>-------------------</td>
</tr>
<tr>
<td>Carlsbad M.W.D.</td>
<td>36,533</td>
<td>$2.68</td>
<td>$1,174,896</td>
</tr>
<tr>
<td>Del Mar, City of</td>
<td>2,502</td>
<td>$2.68</td>
<td>80,460</td>
</tr>
<tr>
<td>Escondido, City of</td>
<td>34,861</td>
<td>$2.68</td>
<td>1,121,124</td>
</tr>
<tr>
<td>Fallbrook P.U.D.</td>
<td>11,645</td>
<td>$2.68</td>
<td>374,508</td>
</tr>
<tr>
<td>Helix W.D.</td>
<td>64,662</td>
<td>$2.68</td>
<td>2,079,528</td>
</tr>
<tr>
<td>Lakeside W.D.</td>
<td>7,934</td>
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</tr>
<tr>
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<td>$2.68</td>
<td>1,799,640</td>
</tr>
<tr>
<td>Olivenhain M.W.D.</td>
<td>28,215</td>
<td>$2.68</td>
<td>907,392</td>
</tr>
<tr>
<td>Otay W.D.</td>
<td>58,226</td>
<td>$2.68</td>
<td>1,872,552</td>
</tr>
<tr>
<td>Padre Dam M.W.D.</td>
<td>26,124</td>
<td>$2.68</td>
<td>840,144</td>
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<tr>
<td>Pendleton Military Reservation</td>
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<td>$2.68</td>
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<td>Poway, City of</td>
<td>16,999</td>
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<td>546,684</td>
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<td>Rainbow M.W.D.</td>
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<td>Ramona M.W.D.</td>
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<td>326,616</td>
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<td>Rincon Del Diablo M.W.D.</td>
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<td>San Diego, City of W.D.</td>
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<td>San Dieguito W.D.</td>
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<td>Santa Fe I.D.</td>
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<td>Sweetwater Authority</td>
<td>42,434</td>
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<td>Vallecitos W.D.</td>
<td>25,889</td>
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<td>832,596</td>
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<td>474,204</td>
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<tr>
<td>Vista I.D.</td>
<td>35,094</td>
<td>$2.68</td>
<td>1,128,624</td>
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<tr>
<td>Yuima M.W.D.</td>
<td>461</td>
<td>$2.68</td>
<td>14,820</td>
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<tr>
<td><strong>Totals</strong></td>
<td><strong>914,166</strong></td>
<td><strong>$29,399,556</strong></td>
<td><strong>$2,449,963</strong></td>
</tr>
</tbody>
</table>
Cost of Service Study – Phase I
CY 2014 Rates & Charges
Timeline

Administrative and Finance Committee Meeting
May 23, 2013

Tracy McCraner,
Director of Finance/Treasurer

San Diego County Water Authority
A&F Committee and Member Agency’s

- **January 2013**
  - January 15th – Staff – GMs – overview of calendar/key dates
  - January 30th – Staff – MAFO – overview of calendar/key dates

- **February 2013**
  - February 19th – GM/MAFO
    - Carollo – Overview of COS Ph I – Capacity charge review & preliminary analysis
    - Staff provided timeline for COS Ph I & II and Fiscal Sustainability
  - February 28th – A&F Committee received overview & timeline:
    - COS Ph I; COS Ph II; and Fiscal Sustainability

- **March 2013**
  - March 19th – Carollo – preliminary calculations and analysis of the capacity charges to GM/MAFO
  - March 28th – Carollo – A&F Committee:
    - Overview of COS Ph I process
    - Preliminary analysis and calculations of capacity charges
A&F Committee and Member Agency’s

April 2013
- April 16th – Carollo – COS Ph I update and preliminary ranges for CY 2014 rates and charges to GM/MAFO
- April 19th – Staff met with BIA to give preliminary notice of capacity charge review and analysis
- April 25th – Carollo – A&F Committee:
  - COS Ph I update
  - Preliminary ranges for CY 2014 rates and charges

May 2013
- May 3rd – Staff provided Member Agency’s with the CY 2014 rates & charges (finance)
- May 14th – Carollo – GMs:
  - Provided findings of COS Ph I
  - COS Ph I report mailed to the Board and GM’s
- May 15th – Finance – MAFO:
  - Provided COS Ph I report
  - Discussed CY 2014 rates and charges
- May 17th – Staff returned to BIA to provide capacity charge review, analysis and preliminary charge for CY 2014
Calendar Year 2014
Rates and Charges Update

Administrative and Finance Committee Meeting
May 23, 2013

David Shank, Financial Planning Manager
Agenda

• History of Rate Increases
• Calendar Year 2014 Rate and Charge Drivers
  – Scheduled increase in IID Water Price
  – MWD Treatment Costs
  – Achieving Financial Policies
• Proposed Rates and Charges
• Rate and Charge Calendar
History of Rate Increases

Percent All-in Treated and Untreated Rate Increases

• Prudent Financial Management
  – Debt management
  – Operational efficiencies
• Modest increase in water sales, still not back to pre-recession sales
• MWD decreasing wheeling by 1.8% in CY 2014 compared to last year’s increase of 14.4%
**CY 2014 Rate and Charge Drivers**

- Scheduled IID water price increase of 10%
  - In CY 2015, the contract price increase = 5%
  - In CY 2016, the price of IID water will be tied to an inflation index which has averaged 2.3% over last 10 years

- MWD’s treatment rate increase
  - MWD’s CY 2014 rate increase is focused on treatment – 17% increase

- Securing a prudent financial position
  - Advancing towards the Board policy targets
    - Coverage target of 1.50x achieved
    - RSF approximately 85% of target with projected $5M deposit
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 2014
- **By 2021, 34% of region’s supply**

### IID and Canal Lining Deliveries 2003-2021

![Graph showing IID and Canal Lining Deliveries 2003-2021](image)

- **Acre-Feet**
  - 300,000
  - 250,000
  - 200,000
  - 150,000
  - 100,000
  - 50,000
  - 0
- **Calendar Year**
  - 2003
  - 2004
  - 2005
  - 2006
  - 2007
  - 2008
  - 2009
  - 2010
  - 2011
  - 2012
  - 2013
  - 2014
  - 2015
  - 2016
  - 2017
  - 2018
  - 2019
  - 2020
  - 2021
### 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>
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<tr>
<td>2013</td>
<td>100,000</td>
<td>$540</td>
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<tr>
<td>2014</td>
<td>100,000</td>
<td>$594</td>
<td>10%</td>
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<tr>
<td>2015</td>
<td>100,000</td>
<td>$624</td>
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<tr>
<td>2016</td>
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<tr>
<td>2017</td>
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<tr>
<td>2018</td>
<td>130,000</td>
<td></td>
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<tr>
<td>2019</td>
<td>160,000</td>
<td></td>
<td><em>GDP/IPD</em></td>
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<tr>
<td>2020</td>
<td>190,000</td>
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<td>2021</td>
<td>200,000</td>
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<td>2022-34</td>
<td>200,000</td>
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<tr>
<td>2035-47</td>
<td>200,000</td>
<td></td>
<td><em>Price Formula</em></td>
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</table>

*GDP/IPD 10-Year (2001-11) Compound Annual Growth Rate is 2.3%

#### Canal Lining

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

**Based on increases to 10-year historical cost index
## Adopted MWD CY 2014 Rates

<table>
<thead>
<tr>
<th>Adopted MWD</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>5.71%</td>
</tr>
<tr>
<td>System Access</td>
<td>$223</td>
<td>$243</td>
<td>8.97%</td>
</tr>
<tr>
<td>Water Stewardship</td>
<td>$41</td>
<td>$41</td>
<td>0.0%</td>
</tr>
<tr>
<td>System Power</td>
<td>$189</td>
<td>$161</td>
<td>-14.81%</td>
</tr>
<tr>
<td>Treatment</td>
<td>$254</td>
<td>$297</td>
<td>16.93%</td>
</tr>
<tr>
<td>Tier 1 Untreated</td>
<td>$593</td>
<td>$593</td>
<td>0.0%</td>
</tr>
<tr>
<td>Tier 1 Treated</td>
<td>$847</td>
<td>$890</td>
<td>5.08%</td>
</tr>
</tbody>
</table>

- **Transportation decrease of 1.77%**

**Fixed charge increases**
- Readiness-to-Serve Charge (RTS) = 17% increase
- Capacity Charge (CRC) = 34% increase
MWD Remains the Largest Share of Water Cost

- MWD Exchange Agreement Costs: 28%
- IID Water Purchases*: 20%
- Canal Water Purchases*: <1%
- MWD Supply Costs: 52%

Total Cost = $294M

Excludes MWD’s fixed RTS and CRC charges
*Excludes the debt service for capital projects and recovery of settlement expenditures
• MWD treatment costs increase by 16.9% while Water Authority costs decreased by 4.8%
## Proposed Rates & Charges

<table>
<thead>
<tr>
<th>Water Authority Rates and Charges</th>
<th>CY 2012 Previous</th>
<th>CY 2013 Current</th>
<th>CY 2014 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>$638</td>
<td>$714</td>
<td>$732</td>
<td>2.5%</td>
</tr>
<tr>
<td>Melded M&amp;I Treatment Rate ($/AF)</td>
<td>$234</td>
<td>$256</td>
<td>$274</td>
<td>7.0%</td>
</tr>
<tr>
<td>Transportation Rate ($/AF)</td>
<td>$85</td>
<td>$93</td>
<td>$97</td>
<td>4.3%</td>
</tr>
<tr>
<td><strong>Fixed Charges</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Storage Charge (millions)</td>
<td>$54.2</td>
<td>$60.2</td>
<td>$63.2</td>
<td>5.0%</td>
</tr>
<tr>
<td>Customer Service Charge (millions)</td>
<td>$26.4</td>
<td>$26.4</td>
<td>$26.4</td>
<td>0%</td>
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<tr>
<td><strong>Other Rates and Charges</strong></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Untreated Special Agricultural Water Rate ($/AF)</td>
<td>$560</td>
<td>$593</td>
<td>$593</td>
<td>0%</td>
</tr>
<tr>
<td>Treated Special Agricultural Water Rate ($/AF)</td>
<td>$794</td>
<td>$849</td>
<td>$867</td>
<td>2.1%</td>
</tr>
<tr>
<td>IAC</td>
<td>$2.60/ME&lt;sup&gt;2&lt;/sup&gt;</td>
<td>$2.65/ME</td>
<td>$2.68/ME</td>
<td>1.1%</td>
</tr>
<tr>
<td>Standby Availability Charge&lt;sup&gt;3&lt;/sup&gt; per parcel or acre, whichever is greater</td>
<td>$10</td>
<td>$10</td>
<td>$10</td>
<td>0%</td>
</tr>
<tr>
<td>System Capacity Charge</td>
<td>$4,326/ME</td>
<td>$4,326/ME</td>
<td>$4,681/ME</td>
<td>8.2%</td>
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<tr>
<td>Treatment Capacity Charge</td>
<td>$166/ME</td>
<td>$166/ME</td>
<td>$119/ME</td>
<td>-28.3%</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
## Proposed CY 2014 “All-in” M&I Water Rate Breakdown

<table>
<thead>
<tr>
<th>Rates and Charges ($/AF)</th>
<th>Adopted CY 2013 Rates</th>
<th>Proposed CY 2014 Rates</th>
<th>Proposed CY 2014 Increase</th>
<th>Increase in Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Melded Supply Rate</td>
<td>$714</td>
<td>$732</td>
<td>$18</td>
<td>2.5%</td>
</tr>
<tr>
<td>Melded Treatment Rate</td>
<td>256</td>
<td>274</td>
<td>18</td>
<td>7.0%</td>
</tr>
<tr>
<td>Transportation</td>
<td>93</td>
<td>97</td>
<td>4</td>
<td>4.3%</td>
</tr>
<tr>
<td>Storage*</td>
<td>139</td>
<td>144</td>
<td>5</td>
<td>3.6%</td>
</tr>
<tr>
<td>Customer Service*</td>
<td>57</td>
<td>56</td>
<td>-1</td>
<td>-1.8%</td>
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<tr>
<td><strong>Total Cost of Treated Water</strong></td>
<td><strong>$1,259</strong></td>
<td><strong>$1,303</strong></td>
<td><strong>$44</strong></td>
<td><strong>3.5%</strong></td>
</tr>
<tr>
<td><strong>Total Cost of Untreated Water</strong></td>
<td><strong>$1,003</strong></td>
<td><strong>$1,029</strong></td>
<td><strong>$26</strong></td>
<td><strong>2.6%</strong></td>
</tr>
</tbody>
</table>

*Fixed charges converted to $/AF using sales forecast and may not foot due to rounding*
Breakdown of the CY 2014 Treated Water Rate and Charge Increases

"All-in*” Increase Distribution $44/AF

- Melded Supply 39% ($18)
- Melded Treatment** 39% ($18)
- Transportation 9% ($4)
- Storage 11% ($5)
- Customer Service -2% (-$1)

Melded Supply Rate Increase $18/AF

- IID Supply Rate ($12)
- QSA Mitigation ($7)
- MWD Wheeling (-$3)
- Other ($2)

*Converted to $/AF based on sales forecast
**MWD treatment costs represent 100% of the increase in the Melded Treatment Rate
## Proposed All-in Untreated Water Rate

### Current Rate

- **2013**: $1,003
- **2014**: $1,121

### Proposed CY 2014

- **All-in Untreated Water Rate**: $1,029 (2.6%)

### 2011 Rate Forecast

#### High Rate Scenario
- **2013**: $1,208
- **2014**: $1,273
- **2015**: $1,334

#### Low Rate Scenario
- **2013**: $986
- **2014**: $1,033
- **2015**: $1,146

### Calendar Year

- **2013**: $986
- **2014**: $1,033
- **2015**: $1,146
- **2016**: $1,210
- **2017**: $1,273

### Rate Forecast

- **2011**: High Rate Scenario
- **2011**: Low Rate Scenario
Proposed All-in Treated Water Rate

- Current Rate: $1,259
- Proposed CY 2014 All-in Treated Water Rate: $1,303 (3.5%)
- 2011 Rate Forecast High Rate Scenario: $1,717
- 2011 Rate Forecast Low Rate Scenario: $1,530
Prudent Debt Management*

- Debt Service savings of $6.1 million in FY 2013

*Excludes CP program fees and trustee services
Achieves the Board’s policy target of 1.50x in FY 2014
- Target level not achieved during projection period
Financial Performance Metrics

- Significant withdrawals from the PAYGO fund are projected.
- Stable to slightly increasing balances in Operating and Rate Stabilization Funds are projected.
Impact of CY 2014 Rate Increase on Composite Monthly Residential Bill

- 5 Retail Agency Average Composite Cost (CY 2013)
  - Fixed Charge: $19.88 monthly
  - Commodity Charge: $52.58
  - Composite Monthly Residential Bill: $72.46

<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>$0.90</td>
<td>1.2%</td>
</tr>
<tr>
<td>Treated</td>
<td>$1.52</td>
<td>2.1%</td>
</tr>
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</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 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

Estimated CY 2014 Wholesale Costs per Household*

- MWD Costs: $28.67
- IID/QSA Costs: $5.72
- Water Authority Operating Costs: $4.45
- Water Authority Capital Costs: $15.48

TOTAL: $54.30/month

- Cost of water purchases is 63% of the wholesale cost of water
- The remaining 37% or $19.93/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
  – 17% increase in MWD treatment costs
  – Scheduled IID water price increase
  – Achieving Board financial policies

• Rate and charge volatility mitigation
  – Very successful debt management
  – Improving sales environment and continued cost control measures

• Increase in overall water rates & charges of:
  – 3.5% treated & 2.6% untreated

• Overall rate and charge increase will vary by member agency depending upon the fixed charge allocations
Rate and Charge Calendar

• May
  – Release Carollo’s Phase I COS Report
    • May 14 – Preview of findings presented to member agency general managers
    • May 15 – Available to public
  – Set the time and place for the public hearing
    • May 23th – A&F Committee

• June Board Meeting
  – Hold public hearing on rates and charges
  – Adopt CY 2014 rates and charges and FY 2014 & 2015 Budget
Today’s Action

• Adopt Resolution Number 2013-__ setting the time and place for a public hearing on June 27, 2013, at 1:00 p.m., or as soon thereafter as may practicably be heard, during the Administrative and Finance Committee meeting, to receive comments regarding proposed rates and charges to be effective January 1, 2014.
General Manager’s Recommended Multi-Year Budget Fiscal Years 2014 and 2015

Maureen A. Stapleton, General Manager
May 23, 2013
Two-Year Budget

• First time Water Authority Implemented a two-year budget: Fiscal Years 2004 and 2005
Increasing San Diego County's Water Supply Reliability through Supply Diversification

1991

- Metropolitan Water District: 552 TAF (95%)
- Other: 26 TAF (5%)
Total = 578 TAF

2012

- Metropolitan Water District: 274 TAF (45%)
- Imperial Irrigation District Transfer: 80 TAF (13%)
- All American & Coachella Canal Lining: 70 TAF (11%)
- Seawater Desalination: 18 TAF (3%)
Total = 612 TAF

2020

- Metropolitan Water District: 231 TAF (30%)
- Imperial Irrigation District Transfer: 103 TAF (13%)
- All American & Coachella Canal Lining: 80 TAF (10%)
- Seawater Desalination: 44 TAF (6%)
Total = 779 TAF

Legend:
- Yellow: Metropolitan Water District
- Blue: Imperial Irrigation District Transfer
- Red: All American & Coachella Canal Lining
- Green: Conservation (existing and additional)
- Purple (light blue): Recycled Water
- Orange: Seawater Desalination
- Gray: Groundwater
- Cyan: Local Surface Water

TAF=Thousand Acre-Feet
Historical Spending

Capital Improvement Program

Expenses (in Millions $)

FY00 FY01 FY02 FY03 FY04 FY05 FY06 FY07 FY08 FY09 FY10 FY11 FY12 FY13
Historical Spending

Debt Service

Expenses (in Millions $)

FY00  FY01  FY02  FY03  FY04  FY05  FY06  FY07  FY08  FY09  FY10  FY11  FY12  FY13

$160
$140
$120
$100
$80
$60
$40
$20
$0
Historical Water Sales

Allocation: July 2009 – April 2011
Historical Staffing

Budgeted FTEs

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<th>FY00</th>
<th>FY01</th>
<th>FY02</th>
<th>FY03</th>
<th>FY04</th>
<th>FY05</th>
<th>FY06</th>
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Significant Milestones

- Acquired over 1,000,000 total acre feet (TAF) additional imported supplies
- Acquired 43,000 acre feet (AF) in spot transfers
- Acquired 70,000 acre feet (AF) of Central Valley Storage
- Lowered gallons consumed per day (GCPD) from 211 to 144
- Developed and implemented the Drought Management Plan
Significant Milestones

• Built
  – 2 dams and reservoir
  – A state-of-the-art treatment plan
  – 40MW Pumped Storage Facility
  – 23 miles of large diameter pipeline
  – 29 miles of pipe relined

• Approved the largest desalinated plant on west coast and in the western hemisphere

• $35 million Integrated Regional Water Management Plan
Continued Focus on Improvement and Efficiencies

Fiscal Years 2010 and 2011

- $2.4 million operating budget cut in FY 2010
- $3.6 million operating budget cut in FY 2011

- Reduction in spot water purchases
- Sold stored water
- Rate stabilization draw
- Debt service coverage below target
  - Consistent with 2010 Bonds Official Statement
- Planned phase-out of Limited Duration Employees (17.22 FTEs)
- Challenged MWD’s rate structure
Continued Focus on Improvement and Efficiencies

Fiscal Years 2012 and 2013 Budget Development

• Deferral of 14 CIP projects ($150 million)
• Reorganization & consolidation for enhanced efficiency
• Managed personnel costs - significant staffing reductions
  • Reduction in positions
  • Increased PERS & health benefit employee cost sharing
• Programmatic changes to enhance internal efficiencies and effectiveness
• Provided discreet services to Member Agencies
• Litigation with MWD on fairness of rate charging methodology and process
• Process Improvements and program refinements during off-budget year
FYs 2014 & 2015 Environment

- Gradually improving economy
- Slight increase in water sales
- Continued ratepayer fatigue
- Challenging water supply conditions
- Emphasis on water efficiency and the true value of water
- Effort to supplement Water Authority programs with outside funding
- Ensure the full benefit of QSA to regional water supply reliability
- Continued focus on MWD rate litigation
- Effort to identify Bay Delta solution
- Continued focus of cost containment
- Transition continuing to operating organization
Navigating the Budget Document

Objectives

- Communicate vital information easily
- Simplify and streamline format

Sections

- General Manager’s Budget Message
  High-level summary

- Financial Summaries
  Summary data of major components of the budget (Water Sales & Purchases, CIP, Debt Service, Operating Depts)

- Sources and Uses
  Comprehensive overview of the sources (revenues) and uses (expenditures) of Water Authority funds

- Operating Departments
  Detail by focus area of each department, including significant changes

- Capital Improvement Program
  Summary information and project details
Sources of Funds

- Water Sales: $1,106,664 (74%)
- Net Fund Withdraws: $176,703 (12%)
- Infrastructure access charges: $59,054 (4%)
- Capacity Charges: $29,784 (2%)
- Water Standby availability charges: $22,549 (2%)
- Property Taxes and in-lieu charges: $22,320 (1%)
- All Other Revenue Sources: $77,521 (5%)

Total: $1,494,595 (100%)
FYs 14&15 Recommended Budget

- **Water Purchases & Treatment**: $832,756 (56%)
- **Debt Service**: $281,531 (19%)
- **CIP Expenditures**: $259,602 (17%)
- **Operating Departments**: $92,570 (6%)
- **Hodges Pumped Storage**: $4,133 (<1%)
- **Equipment Replacement**: $3,103 (<1%)
- **Other**: $20,900 (1%)

**TOTAL BUDGET**: $1,494,595 (100%)

92% of TOTAL BUDGET
Upcoming CIP Spending (in comparison to peak)

<table>
<thead>
<tr>
<th>Year</th>
<th>CIP Expenditures (in millions)</th>
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<tbody>
<tr>
<td>FY 08</td>
<td>270</td>
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<td>FY 09</td>
<td>250</td>
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<td>FY 10</td>
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Debt Service Coverage Ratio

Senior Debt Service Coverage

- Required Bond Covenant Ratio
- Senior Lien Debt Service Coverage Ratio
- Board Policy Target

FY 10: 1.50
FY 11: 1.36
FY 12: 1.47
FY 13: 1.49
FY 14: 1.50
FY 15: 1.50

Board Policy Target: 1.80
Key Focus Areas

- Carlsbad Desalination Project
- Asset Management
- Fiscal Sustainability Task Force
- Cost of Service Study – Phase II
- Water Demand Forecasting
- Urban Water Management Plan
- Ongoing QSA and MWD Litigation
Continuous Improvement

- Department Restructuring
- Allocation of resources
  - Transfer of positions
  - Downgrading classification
  - Position elimination
- Performance Improvement Projects
  - Evaluate Energy Program
  - Fleet Assessment
  - Succession Planning Program Expansion
Continuous Improvement

• Performance Improvement Projects (cont.)
  – Computer Purchase Assessment
  – Right-of-Way (ROW) Management Assessment
  – Accounts Payable Assessment
  – Grant Management and Administration Assessment
Budget Hearings
June 11th and 13th 1:30 – 4pm

- Cost of Water
- Debt Service
- Capital Improvement Program (CIP)
- Operating Departments (cont.)
  - Public Outreach and Conservation
  - Water Resources
  - General Manager and Board of Directors
  - Finance
  - MWD Program
  - Colorado River Program
- Operating Departments
  - Operations and Maintenance
  - Administrative Services
  - General Counsel
  - Engineering