Municipal Water District of Orange County

IRP Committee Discussions
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Metropolitan Water District of Southern California
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Integrated Resources Plan Strategy

Water Use Efficiency
- Reduce Per Capita Water Use
- Shift Focus To Outdoor Water Use

Local Resources
- Incentives and Partnerships To Increase Local Supply Production

SWP
- Pursue Improvements In Bay-Delta To Stabilize Supplies

CRA
- Develop Dry-Year Supply Programs To Secure Minimum of 900,000 AF/Year
Heavy dependence on imported supply and SWP Diversions

Emphasis on Conservation and Local Supplies

State WP (33%)
Colorado (27%)
Local Supply (34%)
Conservation & Recycling (7%)

1990 – 41% Local

2040 – 65% Local
Emphasis on Conservation and Local Supplies

State WP (20%)
Colorado (15%)
Local Supply (32%)
Conservation & Recycling (33%)

How Is The Plan Working?
Focus: Conservation and Local Resources
Great Progress In Water Use Efficiency
Potable Gallons Per Capita Per Day

Demands Remain Flat Even As Population Grew By 5 Million
### Metropolitan Funds Local Supplies

<table>
<thead>
<tr>
<th>Program</th>
<th>Number of Projects</th>
<th>Contract Yield (AFY)</th>
<th>Deliveries to Date (AF)</th>
<th>Incentives to Date ($M)</th>
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</thead>
<tbody>
<tr>
<td>Recycling</td>
<td>78</td>
<td>314,000</td>
<td>2,471,000</td>
<td>428</td>
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<tr>
<td>Groundwater Recovery</td>
<td>25</td>
<td>118,000</td>
<td>856,000</td>
<td>146</td>
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<tr>
<td><strong>Total</strong></td>
<td><strong>103</strong></td>
<td><strong>432,000</strong></td>
<td><strong>3,327,000</strong></td>
<td><strong>574</strong></td>
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</tbody>
</table>

### Many Factors Affect Regional Per Capita Use
Reducing Regional Per Capita Use

MWD Conservation Incentives Increased
Drought Periods Saw Greatest Declines

Gallons Per Capita per Day (Potable Water)


130 140 150 160 170 180 190 200 210

Drought Rationing and Outreach

Economy Is Also Linked To Water Use

Gallons Per Capita per Day (Potable Water)


130 140 150 160 170 180 190 200 210

Economic Recession
Economic Growth

205 GPCD
131 GPCD
Conservation – Next Steps

- Peer review of conservation incentive program
- Implications of new State regulations
  - Sample budgets for areas within MWD
  - Should Metropolitan help agencies comply? If yes, then how should conservation program adjust?
- Continue to focus on outdoor water use
  - Much to learn in the coming years as a result of turf removal programs and media campaigns
- Future recommendations to Board as needed

Is The Way We Get Water Really Changing?
Water Demands and Supplies

1990: Hot/Dry (Declining Economy)

- Local Demands: 3.9 MAF
- Los Angeles Aqueduct: 107 TAF
- Groundwater: 3.9 MAF
- Surface Reservoir: 94 TAF
- Recycled Water: 68 TAF
- GW Recovery: 2 TAF

Water Demands and Supplies

2015: Drought Actions (Recovering Economy)

- Local Demands: 3.2 MAF
- Los Angeles Aqueduct: 27 TAF
- Groundwater: 3.2 MAF
- Surface Reservoir: 37 TAF
- Recycled Water: 198 TAF
- GW Recovery: 99 TAF
- 208 TAF
Focus On Increasing Local Supplies Within The Region

LRP Doubled Local Production

Recycled Water and Recovered Groundwater Production

Fiscal Year Ending

LRP Non-LRP

Acre-Feet


9
LRP Has Slowed the Decline of Local Supplies

The current budget level allows for additional future projects.
Local Resources – Next Steps

- Local resource program has helped
  - LRP was just refined at the end of 2014
  - New projects have started coming in
- Are there other steps MWD should take to help encourage “net” increases in local resources?
  - Direct development of projects
  - Reimbursable services are available
  - Changes to allocation method or other policies?

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IRP Targets & Actual Local Supply Production

2015 IRP Update Forecast & Targets
Total Local Supplies

- IRP Forecast + Target
- 2006-2015 Actual
2015 IRP Update Forecast
Surface Water

2015 IRP Update Target
Recycling, Groundwater Recovery & Desalination
**Inventory of Potential Local Projects**

**2015 IRP Update**

<table>
<thead>
<tr>
<th></th>
<th>2020</th>
<th>2025</th>
<th>2030</th>
<th>2035</th>
<th>2040</th>
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<tbody>
<tr>
<td><strong>Total Local Resource Potential</strong> (Thousand Acre-Feet)</td>
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<tr>
<td>Full Design</td>
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<td>102</td>
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<tr>
<td><strong>Total</strong></td>
<td>144</td>
<td>341</td>
<td>413</td>
<td>517</td>
<td>574</td>
</tr>
</tbody>
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Legend:
- Full Design & Appr. Funds
- Advanced Planning
- Feasibility
- Conceptual

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**Future Droughts**

The risk of a decade-long drought within the next century is highest in Texas and the Southwest.

Lamont Doherty Earth Observatory of Columbia University; U.S. Drought Monitor; Cornell University
Doyle Rice, Frank Pompa and Julie Snider, USA TODAY
We Have A Roadmap To Reliability

1. Increase local supplies within the region
2. Improve State Water Project system to capitalize on wet/normal year supplies (Cal Water Fix)
3. Secure at least 900 thousand acre-feet of annual Colorado River supplies even in shortage conditions
4. Focus on outdoor water use to further reduce per capita water use
5. Change State regulations to recognize local supply and conservation investments
Local Supplies

Ensure that the total local supply production target is reached

- 2.43 MAF on average by 2040
- 230 TAF increase projected from 2016 to 2040

Recognize risks and potentially develop additional supplies

<table>
<thead>
<tr>
<th>Local Supplies (MAF)</th>
<th>2016</th>
<th>2020</th>
<th>2025</th>
<th>2030</th>
<th>2035</th>
<th>2040</th>
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<tbody>
<tr>
<td>Total Local Supply Target</td>
<td>2.20</td>
<td>2.31</td>
<td>2.36</td>
<td>2.39</td>
<td>2.41</td>
<td>2.43</td>
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</table>
California Water: How It’s Used

- Farms: 41%
- Homes and Businesses: 10%
- Environment: 49%

Source: California Water Plan Update 2013