SLIDES: A Water Manager's Perspective: A View from the Field

Jeffrey Kightlinger

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A Water Manager’s Perspective: A View from the Field

Jeffrey Kightlinger
The Metropolitan Water District of Southern California
June 2003
Report On Metropolitan’s Water Supplies

■ Premise
  – Retail water supply reliability is dependent on the development of both local and supplemental imported water supplies

■ Law (SB221 / SB610)
  – Require new, large-scale developments to provide substantial evidence of available supplies in the event of drought

■ Objective
  – Demonstrate a comprehensive plan to provide sufficient supplemental supplies
  – Assist member agencies and local agencies in complying with SB 221 and SB 610
Where Southern California Gets its Water

- Transfers & Storage
- Local Supplies
- Colorado River Aqueduct
- SWP Entitlement
- Local Supplies
- Groundwater & Recycling
- Conservation
Changed Conditions for Southern California Resources

- Challenges
  - Reduced Colorado River deliveries

May 2003
Total Surplus Available to MWD (with QSA 2004 through 2016)

- 2000: 4.9 million acre-feet
- 2001: 4.5 million acre-feet
- 2002: 3.1 million acre-feet
- 2003 (Apr.): 2.5 million acre-feet

Year of Estimate

May 2003
Changed Conditions for Southern California Resources

- **Challenges**
  - Reduced Colorado River deliveries
  - Water quality constraints

- **Opportunities**
  - Full Diamond Valley Lake
  - Re-operation of storage and transfers

May 2003
Metropolitan’s Storage Capacity

<table>
<thead>
<tr>
<th>Location</th>
<th>Water in Storage (End of 2003)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kern Delta</td>
<td>3.0</td>
</tr>
<tr>
<td>San Bernardino</td>
<td>2.45</td>
</tr>
<tr>
<td>Valley</td>
<td>2.0</td>
</tr>
<tr>
<td>Desert / Coachella</td>
<td>1.0</td>
</tr>
<tr>
<td>Lake Matthews</td>
<td>1.0</td>
</tr>
<tr>
<td>Lake Skinner</td>
<td>1.0</td>
</tr>
<tr>
<td>Arvin Edison</td>
<td>1.0</td>
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<tr>
<td>Semitropic</td>
<td>1.0</td>
</tr>
<tr>
<td>Castaic / Perris</td>
<td>1.0</td>
</tr>
<tr>
<td>No. Las Posas</td>
<td>1.0</td>
</tr>
</tbody>
</table>

Greater than 10X Increase by 2.45 MAF

May 2003
Changed Conditions for Southern California Resources

- **Challenges**
  - Reduced Colorado River deliveries
  - Water quality constraints

- **Opportunities**
  - Full Diamond Valley Lake
  - Re-operation of storage and transfers
  - Enhanced conservation measures
  - Additional local resources

May 2003
Conservation & Recycling

- **2020 Resources**
  - Conservation: ~1.0 MAF
  - Recycling: 0.5 MAF

Cumulative Investments:
- **As of 2000**
  - Conservation: $220 mil
  - Recycling: $1,200 mil
  - Total: $1,420 mil
- **By 2020**
  - Conservation: $1,300 mil
  - Recycling: $4,100 mil
  - Total: $5,400 mil
Metropolitan’s Supply Inventory

- Colorado River Aqueduct Deliveries
- California Aqueduct Deliveries
- In-Basin Storage Deliveries
Multiple Dry-Year Supply Capability & Projected Demands

Demands on MWD

Supplies Under Development

Current Supplies

Supplies (million acre-feet)

2005  2010  2015  2020  2025

0.5  1.0  1.5  2.0  2.5  3.0  3.5  4.0

May 2003
Single Dry-Year Supply Capability & Projected Demands

- **Supplies Under Development**
  - 2005: 2.5 million acre-feet
  - 2010: 3 million acre-feet
  - 2015: 3.5 million acre-feet
  - 2020: 3.5 million acre-feet
  - 2025: 3.5 million acre-feet

- **Current Supplies**
  - 2005: 1 million acre-feet
  - 2010: 2 million acre-feet
  - 2015: 2 million acre-feet
  - 2020: 2 million acre-feet
  - 2025: 2 million acre-feet

- **Demands on MWD**
  - 2005: 0.5 million acre-feet
  - 2010: 1 million acre-feet
  - 2015: 3 million acre-feet
  - 2020: 3 million acre-feet
  - 2025: 3 million acre-feet

May 2003
Colorado River Aqueduct Deliveries

Current Program Capabilities

- Terms: 2033 to perpetuity
- Storage Capacity = 800 TAF
- Max Dry-Year deliveries:
  - 721 TAF/Yr in 2005
  - 837 TAF/Yr in 2025

May 2003
Colorado River Aqueduct Deliveries

Additional Programs Under Development

- Storage Capacity = 1.0 MAF
- Max Dry-Year deliveries:
  - 167 TAF/Yr in 2005
  - 412 TAF/Yr in 2025

Interim Surplus Guidelines

- Palo Verde ID
- IID / MWD (Coachella Opt)
- IID / SDCWA Transfer

May 2003
California Aqueduct Deliveries

SWP Entitlement Deliveries

- Contract term: 2035
- Based on historical record
- Deliveries = 0.418 – 1.741 MAF/Yr

May 2003
California Aqueduct Deliveries
Current Banking / Transfer Programs

- Contract terms: 2028 – 2035
- Storage Capacity = 1.1 MAF
- Max Dry-Year deliveries = 330 TAF/Yr (10 months)
California Aqueduct Deliveries

Current Transfer Options

Sacramento Valley Transfers
- Single & multiple - year options
- Market available every year
- Up to 250 TAF in 2003

DWR Drought Water bank

San Joaquin Valley Transfers

May 2003
California Aqueduct Deliveries

Programs Under Development

- Max Dry-Year deliveries:
  - 195 TAF/Yr in 2010
  - 390 TAF/Yr in 2025

Additional Transfers / Storage

May 2003
In-Basin Storage Deliveries
Current Reservoir Capabilities

With a Full DVL:
- Integrate Metropolitan & DWR reservoirs
- Total storage capacity = 1.67 MAF
  - Emergency = 30%
  - Dry-year = 70%
- Max Dry-year return = 600 TAF/Yr

May 2003
In-Basin Groundwater Storage Programs

Existing Groundwater Storage
1. Calleguas
2. Inland Empire
3. Long Beach
4. Orange County
5. Pasadena/Foothill
6. Three Valleys
7. Upper San Gabriel
8. Long-Term Seasonal

Current Supply Capability
- Storage capacity = 543,000 AF
- Dry-Year supply = 120,000 AF/Yr
In-Basin Groundwater Storage Programs

**Additional Programs**
- Storage capacity = 272,000 AF
- Dry-Year supply = 90,000 AF/Yr

**Existing Groundwater Storage**
1. Calleguas
2. Inland Empire
3. Long Beach
4. Orange County
5. Pasadena/Foothill
6. Three Valleys
7. Upper San Gabriel
8. Long-Term Seasonal

**Additional Prop. 13 Groundwater Storage**
9. Inland Empire
10. Foothill
11. Three Valleys
12. San Diego -- Mission
13. Orange County
14. Pasadena/Foothill
15. San Dieguito