Water Supply Reliability

San Diego County Water Authority
October 2007
Agenda

- 2007 & 2008 Water Conditions
  - Environmental challenges
  - Dry Year/Drought Response

- Long-Range Water Supply Planning
  - Relationship to Land Use planning
  - Growth and Water Issues
Single Cause – Separate Responses

- Current Water Supply Outlook
  - Urban Water Management Plan
  - Drought Management Plan
  - 20-Yr Long-Term Resource Planning
Cyclical Dry Year/Drought

Current Water Supply Outlook

Drought Management Plan
Drought Headlines from 1991

State to Shut Off Water Delivery to Southland
By VIRGINIA ELLIS and TED ROHRICH TIMES STAFF WRITERS

SACRAMENTO - Gov. Pete Wilson on Monday announced new and unprecedented cutbacks of state water deliveries so drastic that Southern California will be cut off from this traditional source of water by mid-March.

Wilson said that heightened drought conditions had forced the state to notify cities and industry companies cringe at 50 percent cut in water

Firms offer conservation plans to mayor; some say cutbacks could cripple growth

L.A. Ready to Battle San Diego Over Water

- Conservation: DWP officials weigh legal action as southern neighbor refuses to impose rationing.

Limits on tap water use urged by staff

By Steve LaRue Staff Writer

The staff of the San Diego County Water Authority (CWA) will continue to recommend a blanket ban of tap water on private lawns and golf course greens and fairways despite intense opposition by landscaping contractors and others at a hearing last week.

50% Water-Delivery Cut Will Be Blow to San Diego

- Drought: Metropolitan Water District directors also vote a 90% cut in allocation for agricultural users.

Water Dependence Bodes a Dry San Diego Future

S.D. Faces 31% Cut in Imported Water Supply

By JENIFER WARREN TIMES STAFF WRITER

Faced with record-low rainfall and no prospects for relief, the Metropolitan Water District declared a water emergency on Tuesday and cut by 31% the amount of water it delivers to 27 agencies from Ventura to San Diego.

Grim water outlook is getting even worse

SACRAMENTO - Southern Californians are likely to be ordered to cut back their water consumption by an unheard-of 30 percent.

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

Water: Authority to Vote Today on Mandatory Restrictions
San Diego’s Water Supply Portfolio Diversification Since 1991

2007*

- MWD: 76%
- IID Transfer: 6%
- Canal Lining Transfer: 1%
- Local Surface Water: 6%
- Groundwater: 2%
- Recycled Water: 2%
- Conservation: 7%
- IID Transfer: 6%

1991

- MWD: 95%
- Local Surface Water: 5%

* Projected for fiscal year ending June 30, 2007.
Colorado River

- 2007 is 8th year of historic drought
  - 2003: surplus water no longer available
    - 662,000 AF less per year
  - MWD’s Colorado River Aqueduct half-full
  - Reservoirs are at <50%
    - 60 MAF when full
    - System will take many years to recover
State Water Project & Local Supplies

- 2007 is historic dry year throughout California
- State Water Project challenges
  - Project never completed as planned
  - Only 5.8 maf of storage
    - Less than 1-1/2 years of protection
  - Faces significant environmental, regulatory and judicial challenges
  - Supplies vary widely from year to year

U.S Drought Monitor
Aug. 21, 2007
# California Snowpack Conditions

## Summary By Section

<table>
<thead>
<tr>
<th>Section</th>
<th>May 1, 2006</th>
<th>May 1, 2007</th>
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<tbody>
<tr>
<td>NORTH</td>
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<tr>
<td>Number of Stations Reporting</td>
<td>31</td>
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<tr>
<td>Average snow water equivalent</td>
<td>43&quot;</td>
<td>5&quot;</td>
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<tr>
<td>Percent of April 1 Average</td>
<td>153%</td>
<td>18%</td>
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<td>Percent of normal for this date</td>
<td>215%</td>
<td>25%</td>
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<tr>
<td>CENTRAL</td>
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<td>Number of Stations Reporting</td>
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<tr>
<td>Average snow water equivalent</td>
<td>40&quot;</td>
<td>8&quot;</td>
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<tr>
<td>Percent of April 1 Average</td>
<td>133%</td>
<td>25%</td>
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<tr>
<td>Percent of normal for this date</td>
<td>165%</td>
<td>31%</td>
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<tr>
<td>SOUTH</td>
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<td></td>
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<tr>
<td>Number of Stations Reporting</td>
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<td>31</td>
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<tr>
<td>Average snow water equivalent</td>
<td>36&quot;</td>
<td>4&quot;</td>
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<tr>
<td>Percent of April 1 Average</td>
<td>139%</td>
<td>17%</td>
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<tr>
<td>Percent of normal for this date</td>
<td>177%</td>
<td>22%</td>
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## Statewide Summary

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<tr>
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<th>May 1, 2006</th>
<th>May 1, 2007</th>
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<tbody>
<tr>
<td>Statewide Average SWEQ</td>
<td>40&quot;</td>
<td>6&quot;</td>
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<tr>
<td><strong>Statewide Percent of April 1</strong></td>
<td><strong>140%</strong></td>
<td><strong>21%</strong></td>
</tr>
<tr>
<td><strong>Statewide Percent of Normal</strong></td>
<td><strong>181%</strong></td>
<td><strong>27%</strong></td>
</tr>
</tbody>
</table>

5/1/07 & 5/1/06, California Cooperative Snow Surveys; Water Equivalents (Inches)
Lawsuits, Delta Pumps and Water Supply Reliability

- State and federal court decisions found pumping is jeopardizing Delta smelt
- Court ruling Aug. 31 imposed restrictions on Bay-Delta pumping
- Ruling will remain in effect until new plans to protect smelt are approved (12-18 months)
What Does This Mean for San Diego County?

- Less imported supplies for 2008
  - Actual supply reduction depends upon:
    - Rain/snow between now and spring 2008
    - How state/federal water projects divide count-mandated reductions

- More reliance on conservation, storage and spot water transfers

- Implementation of multi-faceted drought response plan
Drought Management Plan

- Adopted in May of 2006

- Serves as a guide to Drought Response

- Reflects an emphasis on avoiding cutbacks

- Region’s water reliability increases over time due to planning & investments in supply and facilities
  - Imperial Valley water transfers and canal lining supplies
  - 10,000 Acre Feet San Vicente carryover storage
  - Seawater Desalination
  - Additional Recycling and Groundwater
  - Outdoor Conservation Efforts
**Key Water Authority Actions to Date**

- Activated Drought Management Plan
  - Implementing Stage 1: Voluntary Actions
  - Approaching Stage 2: Supply Enhancement

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**Water Authority Drought Response Matrix – Firm Demands**

<table>
<thead>
<tr>
<th>POTENTIAL SDCWA DROUGHT ACTIONS</th>
<th>STAGES</th>
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<tbody>
<tr>
<td></td>
<td>Voluntary</td>
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<tr>
<td>Ongoing BMP implementation</td>
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<tr>
<td>Communication strategy</td>
<td>X</td>
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<tr>
<td>Monitoring supply conditions and storage levels</td>
<td>X</td>
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<tr>
<td>Call for voluntary conservation</td>
<td>X</td>
</tr>
<tr>
<td>Draw from SDCWA Carryover Storage</td>
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<tr>
<td>Secure transfer option contracts</td>
<td>X</td>
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<tr>
<td>Buy phase 1 spot transfers (cost at or below Tier 2 rate)</td>
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<tr>
<td>Call transfer options</td>
<td>X</td>
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<tr>
<td>Buy phase 2 spot transfers (cost at or below Tier 2 rate)</td>
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<tr>
<td>Implement allocation methodology</td>
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<tr>
<td>Utilize ESP Supplies</td>
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## 2008 Water Demand & Supplies

<table>
<thead>
<tr>
<th></th>
<th>DRY</th>
<th>NORMAL</th>
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<tbody>
<tr>
<td>Authority Demand</td>
<td>700,000</td>
<td>700,000</td>
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<tr>
<td>MWD Supplies</td>
<td>455,000</td>
<td>560,000</td>
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<tr>
<td>Local Supplies</td>
<td>68,500</td>
<td>68,500</td>
</tr>
<tr>
<td>Imperial Transfer</td>
<td>71,500</td>
<td>71,500</td>
</tr>
<tr>
<td>Authority Storage</td>
<td>20,000</td>
<td>20,000</td>
</tr>
<tr>
<td>20-Gallon Challenge</td>
<td>56,000</td>
<td>56,000</td>
</tr>
<tr>
<td>(voluntary conservation)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Surplus/ Deficit</td>
<td>(29,000)</td>
<td>56,000</td>
</tr>
</tbody>
</table>

| Spot Water Transfers | 30,000 | -       |
| Surplus             | 1,000  | 56,000  |
The ‘20-Gallon Challenge’

- Regional theme for voluntary conservation
  - Part of Drought Management Plan
  - Asks everyone to save 20 gallons per person, per day
  - Emphasizes specific water-saving tips at [www.sdcwa.org](http://www.sdcwa.org)
  - Goal: Keep as much water as possible in storage for 2008
  - Developed in cooperation with water agencies in the region
  - Business community involved and supportive

SDCWA Board Chair Fern Steiner speaks at June 28 news conference announcing 20-Gallon Challenge.
The ‘20-Gallon Challenge’

- Help promote the 20-Gallon Challenge
  - Share information with businesses & their employees
    - Via email, newsletter or handouts at workplace
    - Refer to website for conservation tips
  - Share information with communities
Commercial, Industrial & Institutional Conservation Programs

- Artificial Turf Replacement – form is on our website at: www.sdcwa.org
- Free Landscape Audits
- Smart Landscape Grant up to $2,500/acre (Maximum $5,000)
- Smart Controller Vouchers
- Device Voucher Program
- Water Efficiency Audits
Land Use & Long Term Water Planning

Current Water Supply Outlook

-Urban Water Management Plan

20-Yr Long-Term Resource Planning
California Senate Bills 610 and 221

- California law adopted in 2002
- Stronger linkage between water availability and land-use approval
- SB 610: Water assessment prepared as part of state environmental compliance for large developments (500 units or equivalent)
- SB 221: Verification of sufficient supply is condition of tentative map approval
- Documentation must demonstrate 20-year water supply sufficient to meet needs of proposed project and existing and planned future uses
  - Doesn’t mean 100% reliable 100% of time
  - Shortage contingency plan required
Supply Development

- **Colorado River Quantification Settlement Agreement**
  - 277,700 AF/yr by 2021
  - Imperial Irrigation District Water Transfer
  - Canal lining projects

- **Conservation**
  - Will double to 94,000 AF/yr in 2020
  - Increased emphasis on outdoor conservation

- **Groundwater**
  - More than triple to 52,600 AF/yr in 2020

- **Recycled water**
  - Triple to 52,300 AF/yr in 2020

- **Seawater desalination**
  - Projected 56,000 AF/yr by 2020
Water Facilities

- Capital Improvement Program
  - 76 Construction projects to meet region’s needs through 2030
  - $3.4 billion budget

- Projects
  - Olivenhain Dam & Reservoir
  - Lake Hodges
  - San Vicente Dam Raise & Pipeline
  - Canal Lining Projects
  - Twin Oaks Water Treatment Plant
  - Pipeline Replacement/Relining
  - New Transmission Pipelines
  - Emergency Storage Project
  - Hydropower Projects: 45 MW

- Investing $617 million over next 2 years
Managing Risk Through Diversification
Supply Portfolio

2006

- Local Supplies: 27%
- MWD: 73%

2020

- MWD: 29%
- IID Transfer: 22%
- Conservation: 11%
- Seawater Desalination: 10%
- Recycled Water: 6%
- Local Surface Water: 6%
- Groundwater: 7%
- Canal Lining Transfer: 9%
Summary

- **Short-Term Drought Response**
  - Thoughtful and measured steps needed
  - Additional action being developed in anticipation of moving into the next stage of drought
  - Success of voluntary conservation necessary under any foreseeable water supply condition
  - Potential of mandatory measures under very dry weather if voluntary conservation unsuccessful

- **Long-Term Resource Planning**
  - Information, policy and planning will occur over an extended period
  - Development standards for water use are expected to be implemented in the future.