Water Conservation

Water Leaders Class 2009
What do you get…?

Class ingredients:

- Consultants
- Two attorneys
- Journalist
- Political staffers
- Urban interests
- Agricultural interests
- Environmentalist views
What do you get…?

- **Instructions:**
  - Place all ingredients in a room
  - Shake to combine
  - Transport throughout California
  - Sprinkle with 20 perfectly ripened mentors just before serving
What do you get…?

• Result:
  ▪ Largest Water Leaders class to-date
  ▪ Beginning of career-long relationships
  ▪ Many diverse opinions
Water Leaders Class Project

- **Topic: Water Conservation**
  - All sectors (e.g., urban, agriculture, commercial, etc.)

- Tours, educational events

- Mentors
Mentors

• Located throughout California

• Represent many stakeholder groups
  ▫ Water agency managers
  ▫ Agricultural interests
  ▫ Environmental advocates
# Mentors

<table>
<thead>
<tr>
<th>Mentor</th>
<th>Water Leader</th>
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<tbody>
<tr>
<td>Timothy Brick</td>
<td>Kari Fisher</td>
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<tr>
<td>Chairman, Board of Directors</td>
<td>Associate Counsel</td>
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<tr>
<td>Metropolitan Water District of</td>
<td>California Farm Bureau Federation</td>
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<tr>
<td>Southern California</td>
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<tr>
<td>Dennis Falaschi</td>
<td>Teresa Chan</td>
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<tr>
<td>General Manager</td>
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<td>Panoche and Pacheco Water</td>
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<td>District</td>
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<td>Teresa Geimer</td>
<td>Kimberly Brown</td>
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<tr>
<td>Drought Water Bank Coordinator</td>
<td>Manager</td>
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<td>California Department of Water</td>
<td>Westside Mutual Water Company</td>
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<td>Resources</td>
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<tr>
<td>Donald Glaser</td>
<td>Kimberly Houdling-Kaufmann</td>
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<tr>
<td>Mid-Pacific Regional Director</td>
<td>Field Representative</td>
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<td>Bureau of Reclamation-Mid</td>
<td>Congressman Radanovich</td>
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<td>Pacific</td>
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<tr>
<td>Dana Haasz</td>
<td>Kristen Mignone Crane</td>
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<tr>
<td>Water Conservation Administrator</td>
<td>Water Conservation Manager</td>
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<tr>
<td>San Francisco Public Utilities</td>
<td>City of Poway</td>
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<td>Commission</td>
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<tr>
<td>Ellen Hanak</td>
<td>Tara Lohan</td>
</tr>
<tr>
<td>Research Fellow</td>
<td>Senior Editor</td>
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<tr>
<td>Public Policy Institute of CA</td>
<td>AlterNet</td>
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<tr>
<td>Paul Jones</td>
<td>Brian Heywood</td>
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<tr>
<td>General Manager</td>
<td>Water Resources Engineer</td>
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<tr>
<td>Irvine Ranch Water District</td>
<td>CDM</td>
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<td>Randele Kanouse</td>
<td>Meghan Moda</td>
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<tr>
<td>Special Assistant to General Manager</td>
<td>Conservation Program Administrator</td>
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<tr>
<td>East Bay Municipal Utility District</td>
<td>Resources Legacy Fund</td>
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<tr>
<td>Jay Lund</td>
<td>Lisa McPhee</td>
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<tr>
<td>Professor</td>
<td>Assistant Resource Specialist</td>
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<tr>
<td>University of California Davis</td>
<td>Metropolitan Water District of Southern California</td>
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<tr>
<td>Wendy Martin</td>
<td>Derek Larsen</td>
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<tr>
<td>Drought Coordinator</td>
<td>Project Manager</td>
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<td>California Department of Water Resources</td>
<td>MBK Engineers</td>
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<td>Mentor</td>
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<td>James Nickel</td>
<td>Matt Notley</td>
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<tr>
<td>Real Estate Manager</td>
<td>Public Affairs Assistant Director</td>
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<td>Nickel Family, LLC</td>
<td>California Department of Water Resources</td>
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<tr>
<td>Jennifer Persike</td>
<td>Allison Dvorak</td>
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<tr>
<td>Director of Strategic Coordination and Public Affairs</td>
<td>Water Resource Specialist State Water Contractors</td>
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<td>Association of California Water Agencies</td>
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<tr>
<td>Frances Spivy-Weber</td>
<td>Summer Bundy</td>
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<tr>
<td>Board Member</td>
<td>Water Resources Engineer</td>
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<td>State Water Resources Control Board</td>
<td>CH2M Hill</td>
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<tr>
<td>Ted Trimble</td>
<td>Andrea Schmid</td>
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<tr>
<td>General Manager</td>
<td>Environmental Planner</td>
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<td>Western Canal Water District</td>
<td>New Fields</td>
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<tr>
<td>Peter Vorster</td>
<td>Vincent Marchand</td>
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<tr>
<td>Staff Hydrologist</td>
<td>Senior Consultant</td>
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<tr>
<td>The Bay Institute</td>
<td>Senator Gloria Negrete McLeod</td>
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| Michael Wade  
*California Farm Water Coalition* | Aracely Campa  
*Legislative Consultant* 
*California State Assembly Member Caballero* |
| Mark Weston  
*General Manager*  
*Helix Water District* | Lisa Skutecki  
*Senior Engineer*  
*Brown & Caldwell* |
| Leo Winternitz  
*Director of Delta Projects*  
*The Nature Conservancy* | Lisa Mash  
*Senior Project Scientist*  
*ENTRIX, Inc.* |
| John Woodling  
*Executive Director*  
*Regional Water Authority* | Jeffrey Payne  
*Water Resources Engineer*  
*MWH Americas, Inc.* |
| Greg Zlotnick  
*Special Counsel for Strategic Planning / Delta Policy*  
*Santa Clara Valley Water District* | Michelle Yeh  
*Hydrogeologist*  
*Shaw Environmental and Infrastructure Group* |
Mentor Interviews

• Focused on four main topics
  ▫ Policy and regulation
  ▫ Economics
  ▫ Public outreach
  ▫ Technology

Delta Tour – June 2009
Why is Conservation Important?

- Third year of drought in California
- Environmental regulations
- Increasing population
- Climate change
Mentor Responses

- Agreement that water conservation is needed
- Different opinions on how conservation should be achieved
Policy and Regulation

- Not a regulatory-driven process
- Local level (if necessary)
- Conservation market/bank
Economics

• Economics should be a tool to promote conservation

• Is water a commodity or a basic human need?

• Tiered pricing structures
Public Outreach

• Funding for a long-term outreach plan
• Maintain message in wet years
• Inconsistent messages across California
• Focus on behavior change
Technology

- Integral to conservation
- Cost is a barrier
- More effective implementation of existing technologies
Urban Residential Technology

- **Urban – Indoor**
  - Low-flow fixtures
  - Building code changes

- **Urban – Outdoor**
  - Weather-based irrigation
  - Drought-tolerant landscape
  - “Smart” water meters
Commercial / Industrial Technology

- Great opportunity for savings in some areas
- Creative solutions for water reuse

Pre-rinse spray valves
Urban Reclaimed Water

- Important long-term tool to preserve potable water supply

- Implementation challenges
  - Economics
  - Regulations

“Purple pipe” for landscape irrigation
Agricultural Technology

- **On-Farm**
  - Drip irrigation
  - Climate-driven systems
  - Drought-tolerant hybrids

- **Conveyance efficiency**

*Central Valley citrus farmers demonstrate water-efficient growing practices*
20 x 2020

- Achievable, but challenging
- How will baselines be established?
- Regional variation
- Flexibility
- Funding
Challenges – Social / Economic

- Societal view of water
- Monetary value of water
- Challenging to achieve behavior change
Challenges – Political

- Varied positions on “highest and best use” of water
- Demand hardening
- Different opinions on role of conservation
Challenges – Other

- **Infrastructure**
  - Without meters in some areas, how is success measured?

- **Institutional and legal**
  - Framework of water regulation
  - Groundwater vs. surface water
Successes – Social / Economic

• Progressive rate structures
  ▫ “Water budgets” for customers
  ▫ Tiered rate structure

• Examples of agencies:
  ▫ Irvine Ranch Water District
  ▫ East Bay Municipal Utility District
  ▫ Helix Water District
Successes - Political

- Camino Tassajara Integrated Project
  - Net-zero water demand
  - On-site conservation measures
  - Offsets additional water requirements through off-site mitigation
Successes – Agriculture

• Panoche & Pacheco Water Districts
  ▫ New, water saving methods and equipment
  ▫ 65% to 80% increased water-use efficiency
  ▫ Grasslands Bypass Project
    • Use low-quality brackish water from the San Joaquin River
Successes - Commercial

- Bean sprout grower water reuse
  - Pilot project by San Francisco PUC
  - Treatment and reuse of drainage water
  - Significant water and wastewater savings
Water Leaders’ Take-Aways

- California’s water system is broken
- Conservation should be part of the solution
- Conservation alone will not resolve the problem

Jones Tract Island
Water Leaders’ Thoughts

• Least Effective to Achieve Conservation
  ▫ Requirements through legislation
  ▫ Pricing water like other commodities (e.g., electricity)
  ▫ 20 x 2020
Water Leaders’ Thoughts

- Urban water use should be focus
  - Residential
  - Landscape Irrigation
- Public education is critical
- Economics measures
- No “one size fits all” approach
And the Answer Is?

- Delta Cross Channel
- Lake Shasta
- Russian River
Thank You