California Water 2015: *The drought, the future, and us*

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Overview

- Overview
- Drought update
- Where do we go from here? How do we go from here?
Setting—the whole elephant

- **Most Variable hydrology**
  - Year to year
  - Location to Location
  - Time of year

- **Mix of sources**
  - Surface Water local or imported (storage/conveyance)
  - Groundwater (intensely local)
  - Every locale different mix
  - Mix of water rights varies greatly
  - Impact of drought varies greatly

- **Climate change and other drivers as game-changers**
  - *Snowpack/Population/Australia’s Millennial Drought*

- **Mix of solutions**
  - Conservation/Recycling/Stormwater/Desal
  - Integrated Water Management in regions and statewide
  - Storage, storage, storage, storage and other infrastructure improvements

- **Drought**
  - Worst in impact in modern history
  - Multiple low precipitation years; disaster of a snow year
  - More pop; more irrigated ag; more endangered and threatened species make impact greater than ‘24 & ’77
  - 2015 far worse despite December/February rains because of temperature=dismal snowpack
Statewide Snow Water Content

April 1st: 25% of Historic Low
- No Snow Storage
- Minimum Runoff
- Loss of Cold Water
Selected impacts

- 500,000+ acres fallowed*
- Diminished yield on others
- 18,000+ out of work directly connected to agriculture
- Groundwater levels dropping precipitously
- Communities running out of drinking water
- Fish and wildlife impacts across the board
- Increased wildfires= $$, ecological devastation, air, land, and water impacts now and into future

- 5-10x worse without groundwater
Selected Actions—

- Drought Task Force
- Emergency Orders
- Disaster relief—Food and Water
- State Federal coordination:
  - Temporary urgency changes to water right permits and flexible implementation of federal biological opinions
  - Contract water allocation cutbacks by state and federal projects
Actions—con’t

- “Curtailments” of water rights
- Adding supply →
  - IRWM $$$
  - Recycled water advancement
    - 1% financing through SRF ($800m/150,000 af/yr)
    - Streamlined permitting at state and regional level
- Fish and Wildlife rescues/voluntary agreements
- Water Conservation—statewide regulations on urban water purveyors and SaveOurWater.com campaign
- $7.57 BILLION water bond passes
How we’re doing—

- Effective and rapid conservation—*results*
- *July Statewide Average was 31%!* But we needed it to be. August 27%—still good.
- Last big drought we learned what we could do indoors and built local storage; this one we’re learning what we can do outside and have put recycling, stormwater capture, and desal in high gear for the future. We also discovered our groundwater basins.
- Yet, continuing rhetorical and political conflict—fish v. people; environmental vs. ag; urban vs. ag; scapegoating/blaming
El Nino for Winter 2015/16?

Cannot plan on above-normal precipitation for interior California

Enough already.....

http://www.wrh.noaa.gov/sto/climate/ENSO.
What’s it gonna be?
Reality: Loss of snowpack

Jan 18, 2013 vs Jan 18, 2014
Reality: Sea Level Rise
Reality: Fish and wildlife are imperiled

Winter-Run Chinook Salmon Populations

Source: California Department of Fish and Game
Reality: Population will rise

[Bar chart showing projected growth in California's population from 2010 to 2060]

- Source: Department of Finance; Controller Betty Yee website
Reality: We can do something about it
Reality: We are doing something about it

- Myriad Individual acts of transcending traditional silos
  - Integrated Regional Water Management
  - Drought “angels”
  - Fish/farmer win/wins
- Legislative action, e.g.,
  - “Human right to water”
  - 2009 legislation/“coalition of the willing“
  - Groundwater legislation
  - Water Bond
  - Move of drinking water program and creation of Office of Sustainable Solutions
  - More enforcement and information gathering authority over water rights including seniors
- Local leadership
  - Conservation heroes—turf attitudes
  - Stormwater capture/Recycled water/Contaminated basin reuse—and other integrated solutions
- Water Action Plan—see infra
California Water Action Plan

- Make Conservation a California Way of Life
- Increase Regional Self-Reliance and Integrated Water Management Across All Levels of Government
- Achieve the Co-Equal Goals for the Delta
- Protect and Restore Important Ecosystems
- Manage and Prepare for Dry Periods
- Expand Water Storage Capacity and Improve Groundwater Management
- Provide Safe Water for All Communities
- Increase Flood Protection
- Increase Operational and Regulatory Efficiency
- Identify Sustainable and Integrated Financing Opportunities
“Our relationship with water has to evolve.”  Los Angeles Mayor Eric Garcetti, October 14, 2014
Our relationship with each other has to evolve.
One way to slice the California Water Pie

- Wild & Scenic Rivers: 31%
- Irrigated Agriculture: 41%
- Urban: 10%
- Managed Wetlands: 2%
- Required Delta Outflow: 7%
- Instream Flow: 9%

Source - Northern California Water Association
GOV. BROWN, EASE THE DROUGHT: SAY NO TO CHEESE

2 slices of cheese = 55 gals. of water

PETA
Thank you!!!