crestline village
WATER DISTRICT

Memo

To: Board of Directors
From: Larrie Ann Davis
Date: January 14, 2015
Subject: ACWA Reports; Davis, Darel

Attached are Director Davis' reports on the sessions he attended at the ACWA Fall Conference in San Diego, CA.

ACWA 2014 Fall Conference

WATER YEAR 2015

California's Most Significant Droughts: Comparing Historical and recent Conditions

California, the country's most populated state, is in the midst of a three-year drought that may prove to be one of the most severe in its history. It's a constant challenge to manage water supplies across the state's urban, environmental, and agricultural sectors. **Jeanine Jones**, the Interstate Resources Manager for the California Department of Water Resources, was appointed Deputy Drought Manager this winter to help the state deal with ongoing drought conditions. A 30-year Department of Water Resources veteran, Jones has participated in interstate water negotiations and managed various planning and climate change adaptation programs. California has a very long track record of coordinated state water planning that goes back well into the 1900s. Part of that tradition includes a long-standing state philosophy of not only coordinated water supply planning, but of state financial assistance programs for local agencies. So we have very extensive state financial assistance programs for local water agencies to help them improve their water supply reliability.

We also have extensive provisions regarding water conservation. A requirement enacted in 2009 called for a statewide reduction in urban per capita water use of 20 percent by 2020. The governor's emergency proclamation on drought, issued this January, calls for trying to achieve that 20 percent on a voluntary basis right now as part of several drought response actions. In April Governor's Executive Order on drought further emphasizes the need to avoid wasteful water use practices. With respect to local agency water use, we've had legislation on the books for several decades that requires urban water agencies to prepare an urban water management plan and submit that document to us at the Department of Water Resources. One required element of that report is a water shortage contingency plan, which explains how the urban supplier will respond to dry year conditions, including cut backs of up to 50 percent in their supplies.

Because every aspect of a community is affected when water is scarce, NOAA scientists have created the U.S. Drought Portal—an interactive system designed to provide information on everything from early warnings about emerging and anticipated droughts to planning for and managing the impacts of droughts. The portal delivers the full story on drought to people who are working in potentially vulnerable sectors such as farming, shipping, insurance, energy, and tourism.

In the portal's most widely used product—the U.S. Drought Monitor—experts from across the 50 United States and Puerto Rico produce a weekly map of current drought conditions. This tool allows users to view state- and region-specific drought conditions, helping them see how drought is impacting their region right now. This up-to-date information allows water managers at all levels to make climate-smart decisions for their businesses and communities.

ACWA 2014 Fall Conference

Access the Tool

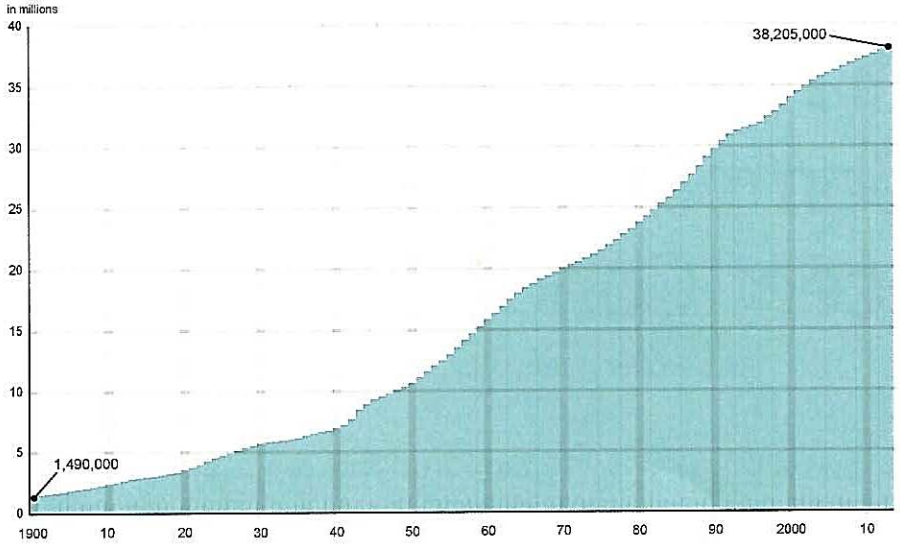
The U.S. Drought Portal is located at www.drought.gov. There, users can learn more about drought products, tools, resources, and regional programs by clicking the “read more” links halfway down the page.

Access the U.S. Drought Monitor tools directly at: http://droughtmonitor.unl.edu/. There, you can zoom in on a specific state or region, download a PDF of the current map, view last week’s map, or access statistical information by clicking the appropriate links underneath the latest map.

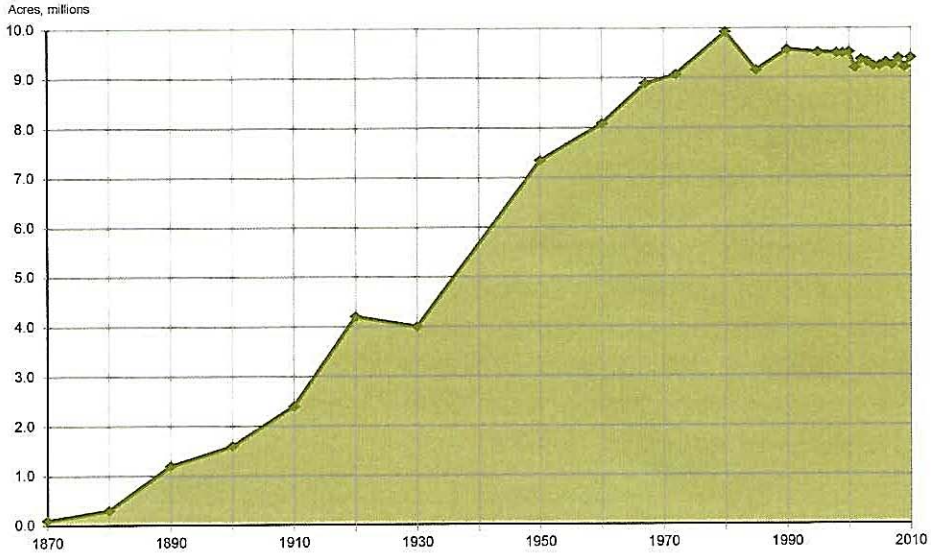
Other Resources

- Drought.gov
- National Drought Overview – October 2013
- U.S. Seasonal Drought Outlook
- NIDIS tools: Access and interact with drought and climate related data, including maps and graphing capabilities, to help understand drought and how it changes over time.

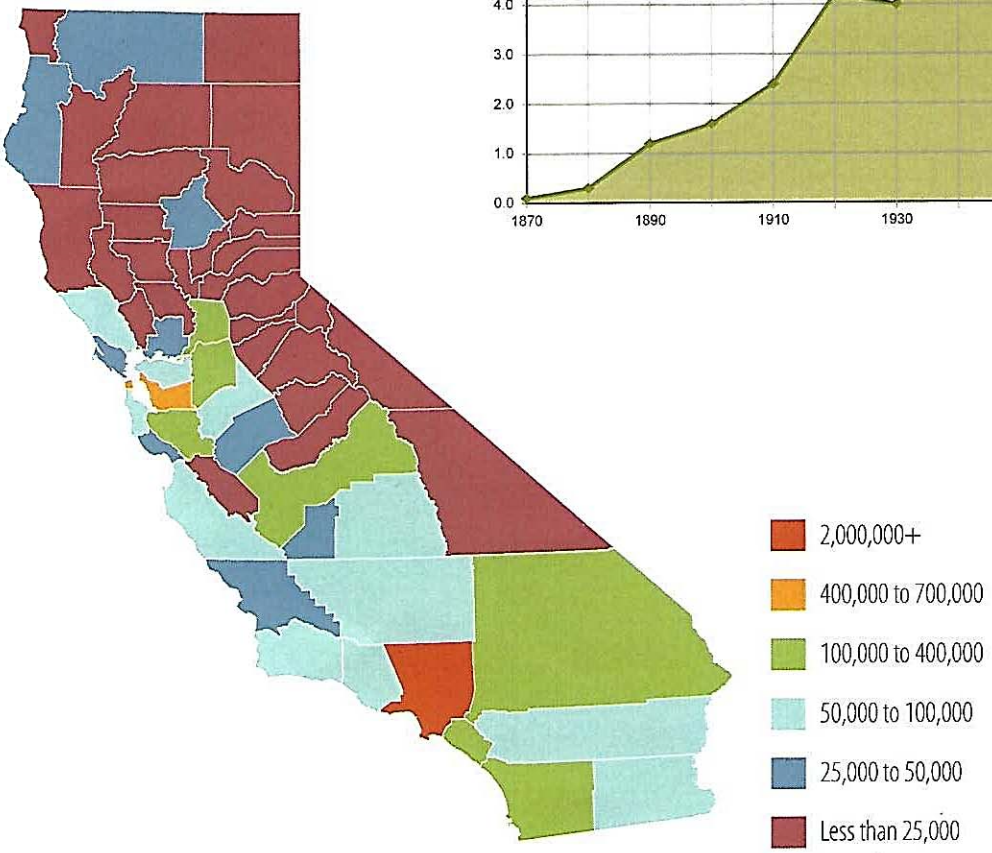
Historical Estimated California Population



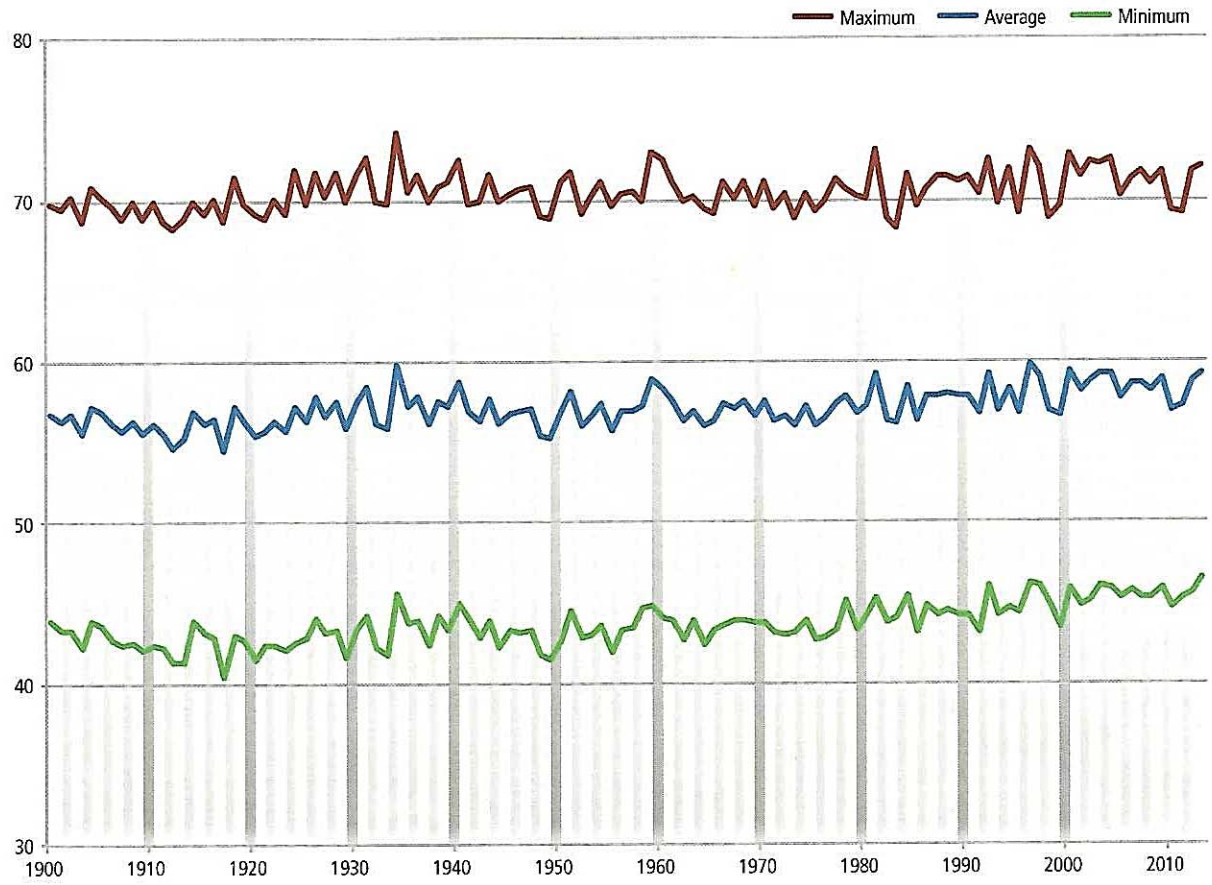
Historical California Estimated Irrigated Acreage



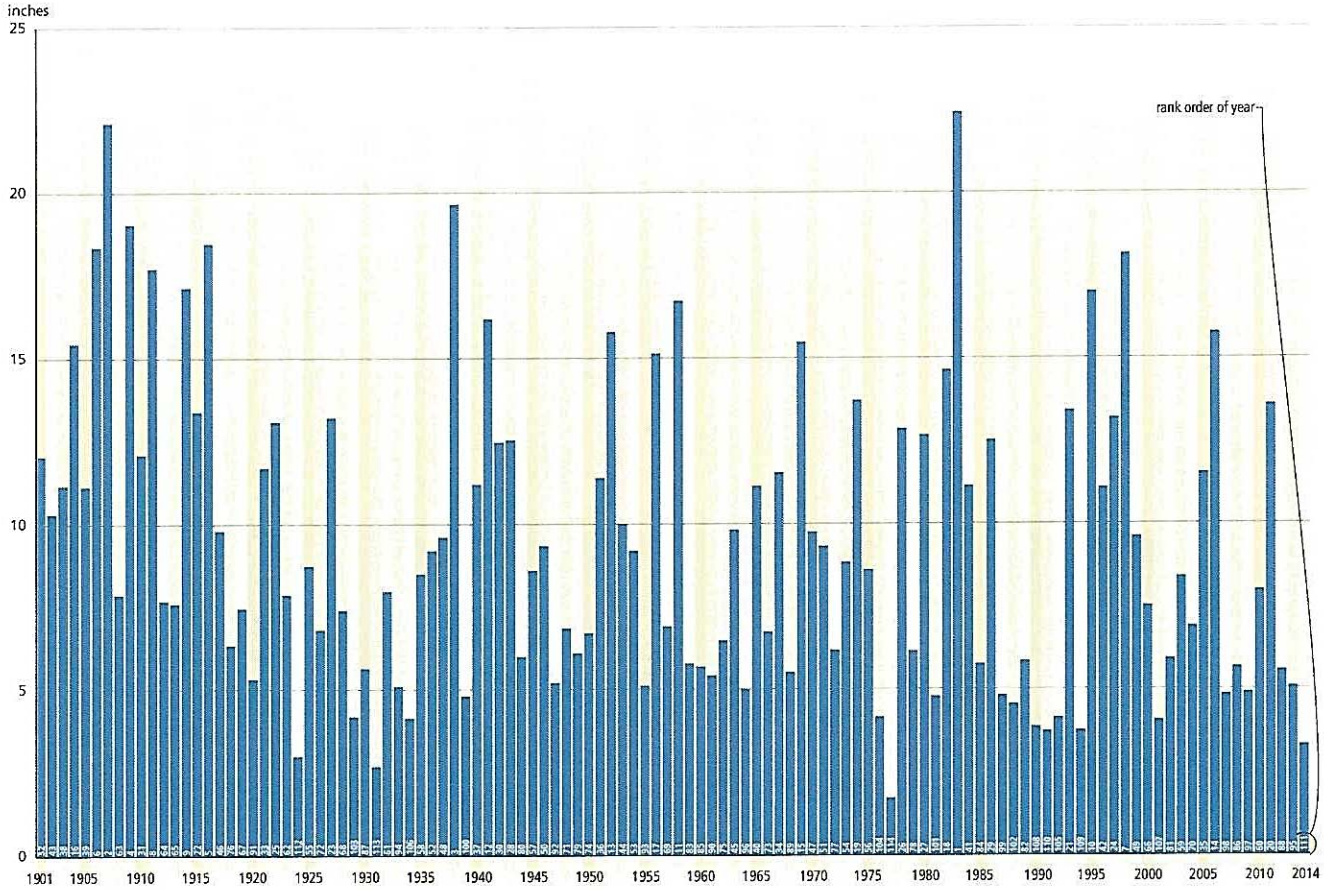
Distribution of California Population in 1930



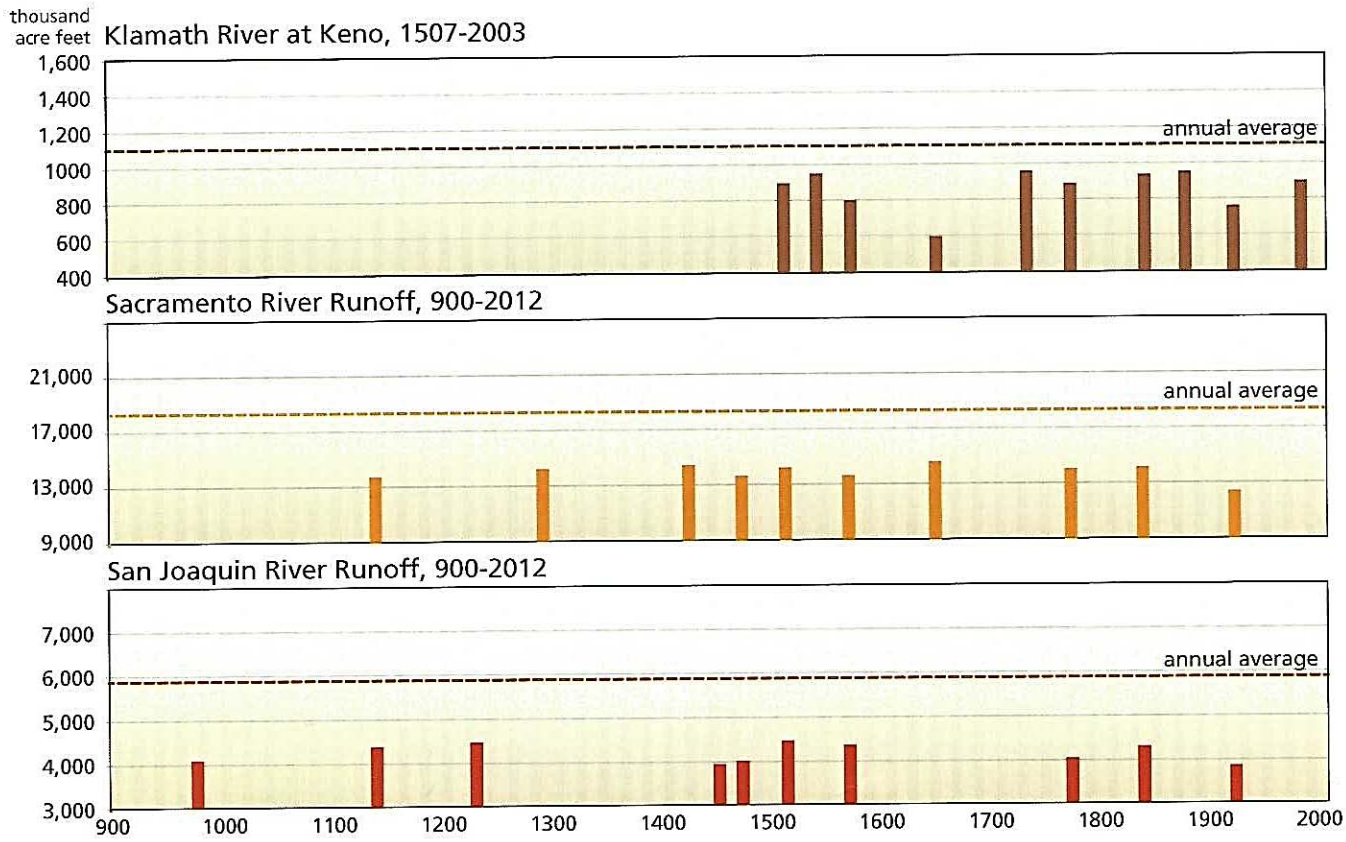
Time Series of California Statewide Minimum, Average, and Maximum Temperatures



Calculated Statewide Runoff



Driest 10-Year periods in Reconstructed Records



Note severity of the historical 1920s-30s period relative to the reconstructed record.

Sacramento River runoff is the sum of the unimpaired flow at the Sacramento River above Bend Bridge, Feather River at Oroville, Yuba River near Smartville, and American River below Folsom Lake.

San Joaquin River runoff is the sum of the unimpaired flow at the Stanislaus River below Goodwin Reservoir, Tuolumne River below La Grange, Merced River below Merced Falls, and San Joaquin River inflow to Millerton Lake.

California's Dozen Driest Years

USGS Computed CA WY Runoff (rank out of 114)

1. 1977	114th
2. 1931	113th
3. 1924	112th
4. 2014	111th
5. 1991	110th
6. 1994	109th
7. 1990	108th
8. 2001	107th
9. 1934	106th
10. 1992	105th
11. 1976	104th
12. 1929	103rd

Measured as USGS Computed Statewide Runoff

Driest Three Consecutive Water Years, Based on Statewide Precipitation

Years	Total Statewide Precipitation, inches
2012-14	44.5
1922-24	45.1
1918-20	46.1
1924-26	46.5
1929-31	46.7
1923-25	46.9
2007-09	48.2
1917-19	49.6
1975-77	49.8
1931-33	50.1

Data from Western Regional Climate Center

ACWA 2014 Fall Conference

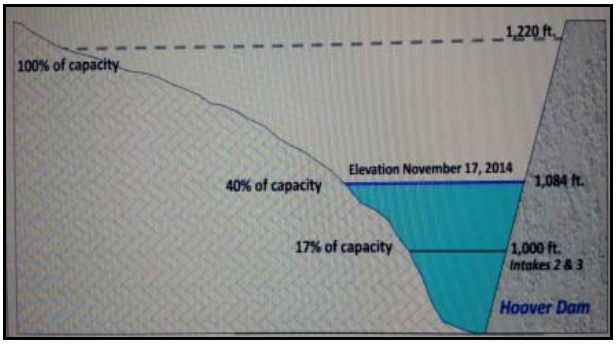
Drought on the Colorado and Responses to a Declining Lake Mead

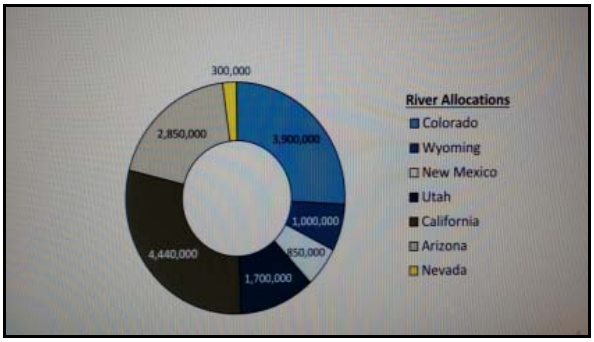
Gregory J. Walch

General Counsel

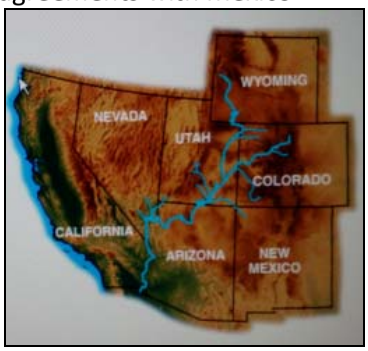
Southern Nevada Water Authority

The south west of Nevada, Arizona and California has experienced unprecedented dry conditions for some time now. Lake Mead is dangerously low and the Colorado River is overburdened. SNWA solutions are being put into place. Joint Powers Agency formed in 1991; members include each of the large municipal purveyors in Southern Nevada. Prior to 1991, each purveyor member had its own contract for Colorado River water through CRCN's contract with BOR. Pooling of contracts in SNWA has allowed better management of resources, removed competition incentive between purveyor members and created a better platform for conservation and gave Southern Nevada a voice in crafting river policy





The seven Colorado River Basin states and stakeholders have worked cooperatively and successfully to create needed flexibility on the River by authorize banking and coordinating operations of the system's two major reservoirs. By implement guidelines defining shortages and creating reservoir level dependent operating conditions, creating programs that allow water to be added to and stored in Lake Mead from conservation on in-state tributaries to the CO River mainstream and water imported from in-state to the CO River mainstream, also saved water by conservation of CO River mainstream water and water saved by CO River system efficiency improvements as well as water stored in Lake Mead through agreements with Mexico



2014 Memorandum of Understanding

- Participants – BOR, SNWA, CRCN, MWD, CRBC, CAWCD, and ADWR
- Goal – To voluntarily develop additional quantities of water stored in Lake Mead to reduce the risk of reaching critical reservoir elevations (Protection Volumes)
- Protection Volume goals are set as follows (for the time period from 2014-2017):
  - MWD 300 kaf
  - CAWCD 345 kaf
  - SNWA 45 kaf
  - Reclamation 50 kaf
  - Total: 740 kaf
- The goals are the first step in achieving a larger goal of developing between 1.5 and 3.0 maf of Protection Volume through 2019
- There are also agreements to immediately begin discussing long-term sustainability issues in the Lower Basin and various reconsultation provisions

ACWA 2014 Fall Conference

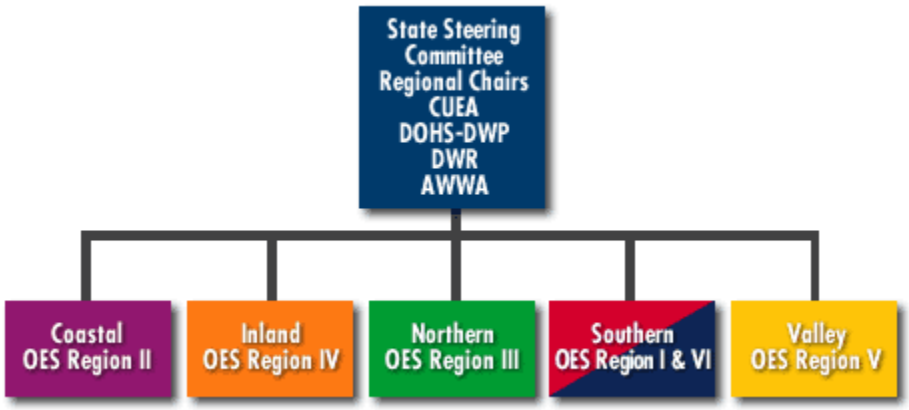
Whether its an earth quake, flood, drought, or catastrophic wildfire, California water utilities must respond to extreme weather events that can instantly or ultimately disrupt water supplies and adversely affect water quality. With advanced planning, utility management can help reduce and even eliminate some of the effects when a natural disaster hits.

Mission:
The mission of the Water/Wastewater Agency Response Network is to support and promote statewide emergency preparedness, disaster response, and mutual assistance matters for public and private water and wastewater utilities.

Organization:
The statewide Water/Wastewater Agency Response Network (WARN) functions in coordination with the State Office of Emergency Services (OES). WARN is organized along the geographical lines established by OES as shown on the map below:

Representatives (signers of the WARN agreement) of public and private water and wastewater utilities in each region establish a steering committee comprised of volunteers from member utilities within the region. A chair is elected by the committee to act as administrator for that region and serve on the statewide steering committee, which also elects a chair. The regional steering committee organizes an annual meeting for signatory utilities to address concerns and procedures related to mutual assistance and emergency preparedness.

At least annually, each regional chair provides member utilities an updated list of emergency contacts and a data base of available equipment. This Web site assists with this task. Additionally, the statewide steering committee meets annually to address mutual assistance concerns.



ACWA 2014 Fall Conference

The Statewide Steering Committee consists of WARN regional chairs, the Executive Director of the California Utilities Emergency Association (CUEA), representatives from the State Department of Health Services Drinking Water Program (DOHS-DWP), the Department of Water Resources (DWR), the American Water Works Association (AWWA), Emergency Planning Committee, the California Rural Water Association and the California Sanitation Risk Management Authority.

Purpose:
The Water Agency Response Network provides member utilities with:

- A standard omnibus mutual assistance agreement and process for sharing emergency resources among members.
- A mutual assistance program consistent with other statewide mutual aid programs and the Standardized Emergency Management System (SEMS) and the National Incident Management System (NIMS).
- The resources to respond and recover more quickly from a disaster.
- A forum for developing and maintaining emergency contacts and relationships.
- New ideas from lessons learned from disasters.

Funding:
There is no cost to join the Water Agency Response Network, it is supported by volunteers from members across the state including:

- East Bay Municipal Utility District
- City of Redding, Public Works Department
- Metropolitan Water District of Southern California
- Oro Loma Sanitary District
- City of Tulare, Department of Utilities
- San Diego County Water Authority
- Bella Vista Water District

Participation:
The WARN Omnibus Mutual Assistance Agreement is available to all public and private water utilities in California (see "How to Join WARN").

Approval:
All actions, recommendations, etc. are made in accordance with the articles of the WARN agreement.

Benefits:

- Water utilities are able to establish a contractual relationship under which they are able to share resources during an emergency at the discretion of each participating agency.
- Single agreement provides access to statewide water utility resources.
- Strengthens the network of mutual assistance resources.
- Meets DHS FEMA mutual aid requirements for reimbursement consideration.
- Is consistent with SEMS and the California Emergency Services Act.
- Provides a list of emergency contacts and phone numbers.
- Statewide emergency resource database.
- Contains indemnification and workers compensation provisions to protect participating utilities, and provides for reimbursement of costs between utilities sharing resources.

ACWA 2014 Fall Conference

Region Issue Forum - "Fire & Water: Managing the Effects of Large Wildfires on Water Supply and Protecting the Watershed"

Due to extreme drought conditions in California this year, it has been a long and devastating fire season. With dry condition predicted to continue into 2015, we are facing the possibility of more wild fires. Wild fires cause more runoff, damaging erosion not to mention property damage and endangering lives. In the last decade fires have been getting larger and more damaging. As of 1991 just 13% of the Forest Service budget was for fire control. this last year 47% of the budget is set aside for fire control.

This forum explored ways to fund the growing cost to stake holders and public for forest management.

Studies have shown that with proper thinning and erosion mitigation, fires can be stopped sooner and are more manageable. USAF and Serra Pacific have been at odds with environmental groups on the subject of forest management. Many tracts of forest lands have designations that don't allow for proper management.

Old growth and ladder fuels are a road to disaster. In some areas the USFS is not allowed to even cut fire breaks

Early in California history, a time when the forest service did not to try to control remote fires, photos show forests that closely resembled demonstration forest lands that have been thinned and managed . It was natural for a lightening strike fire to just burn until it ran out of fuel.

Dan Tomascheski from Sierra Pacific (the largest land owner in Ca.)Demonstrated post harvest work on erosion and cleanup that has been found to increase growth and promote percolation.

Representatives' from the USFS demonstrated how thinning (Stand Treatment) works to slow fires and promote health in the forest. Brent Smith from Placer County Water Agency could show the yield from a managed watershed would produce from 14% to as much as 41% more water per season than a watershed that was left over grown.

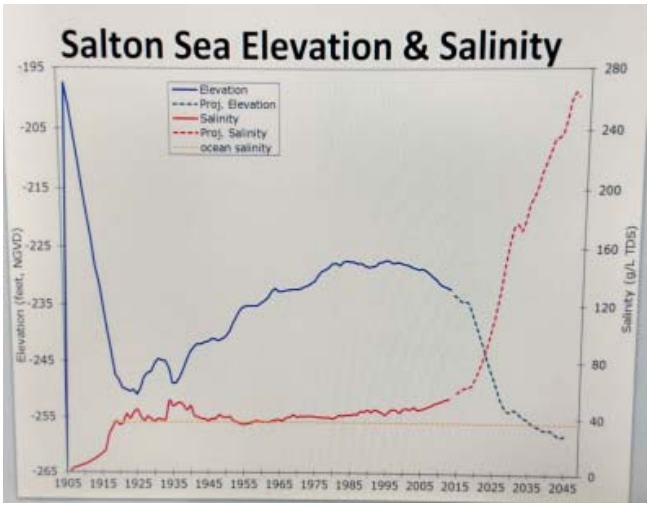
The complication then, is of course when a fire starts its harder to stop and the erosion after the fire is damaging to the watershed and facilities. Now we need to decide who will foot the bill for the management processes and who the extra water belongs to.

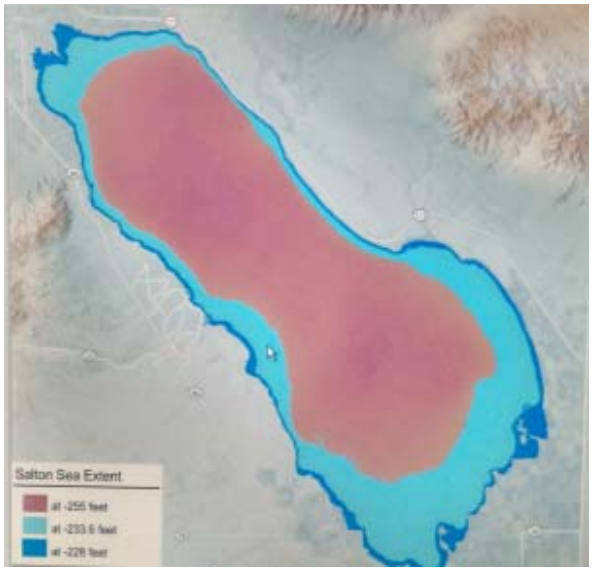
ACWA 2014 Fall Conference

The Salton Sea, The Next Chapter

Michael Cohen, Pacific Institute

The Salton Sea and surrounding communities are facing serious environmental and public health challenges in the absence of significant progress toward revitalizing the sea. The coasts of inaction are estimated by The Pacific Institute to be as high as $70 billion dollars. Regional stakeholders like the Salton Sea Authority, Riverside County and Imperial Irrigation District are leading the effort to develop economic opportunities as a means to help fund restoration activities via public / private partnerships. A primary objective is the development and integration of abundant renewable energy resources at the Sea in a manner that also stabilizes the environment.





Currently there is about 261 tons/day of dust @PM10 in the basin, as the water resides more lake bed will be exposed.

SALTON SEA AUTHORITY WATER BOND PRIORITIES:

California's responsibility and greatest opportunity to revitalize a dying ecosystem

The Salton Sea Authority respectfully proposes priorities for a water bond that will stabilize water resources statewide while providing the keys to unlock the chains that bind a region suffering from the worst economic and environmental conditions in California.

A water bond of this kind will transform the Salton Sea from despair and decay to health and prosperity accomplishing one of the greatest enduring legacies of leadership for the California legislature. The Salton Sea is the largest inland body of water in California. With nearly 365 square miles, the Salton Sea is a jewel in the middle of the desert. The sea serves as a critical link on the Pacific Flyway, providing habitat for hundreds of species of migratory and resident wildlife. Its renewable energy possibilities are nearly endless and the future is green with opportunities for a healthy and prosperous future.

ACWA 2014 Fall Conference

Sadly, absent state investment at the Sea in partnership with the Salton Sea Authority, the Sea is on a trajectory of decline, with serious impacts to human health, ecosystems and the economy. These problems are anticipated to accelerate in 2017 when the largest water transfer of Agriculture to Urban uses bypasses a third of the water otherwise destined for this area.

This transfer of Colorado River water was brokered by the state of California with assurances on the part of the state that resulting impacts would be mitigated and the Sea restored, as agreed to in the historic Quantification Settlement Agreements a decade ago.

Since then, the water levels have declined, salinity levels have increased, endangered species are threatened. Local residents at the Sea are regularly hospitalized for asthma conditions at twice the national average. The unemployment rate is nearly triple the national average. The impending water transfers will only make these conditions worse if action is not taken now.

On the positive side, local stakeholders at the Salton Sea Authority are determined to work cooperatively with state and federal counterparts to reverse the decline of the Salton Sea. With enormous opportunities to finance restoration at hand, it is not too late for the State of California to realize the great promise of an environmentally and economically transformed Salton Sea instead of the mounting costs and liabilities from a looming environmental disaster.