Report to The Legislature on the 2012-16 Drought

As Required by Chapter 340 of 2016
California’s climate naturally includes drought.

Historical droughts in California history:

- 1928-34
- 1976-77
- 1987-92
- 2007-09
- 2012-16
- 2020-???
Drought of 2012-16 stands out for record-breaking heat and dryness.

- 2015 and 2014 were, respectively, the warmest and second-warmest calendar years of record in terms of statewide average temperatures.
- The 2014 April 1 statewide snowpack water content tied a record low of 25 percent of average set in 1977, a record that was then surpassed in 2015 with a new low of only 5 percent of average.
- Water year 2014 was the single driest year of the drought, and it ranked as the state’s third driest single water year of record.
- San Joaquin Valley land subsidence accelerated.
Features of the 2012-16 drought

- First-ever zero allocations to Central Valley Project agricultural customers.
- Record warm statewide temperatures = reduced snowpack, river temperatures lethally warm to salmon, harmful algal blooms (HABs), increased wildfire activity.
- Heavy groundwater pumping in southern San Joaquin Valley for irrigation caused private residential wells to go dry; first state assistance authorized for private well owners.
- Water right administrators curtailed thousands of diversions on the mainstem Sacramento and San Joaquin rivers in order to protect fish and wildlife and senior water right holders.
• CNRA report considers major state response activities, notable successes, needed improvements, recommendations.

- Drinking water
- Water rights
- Water supply
- Water quality
- Fish and wildlife
- Water conservation
- Fire protection
- Emergency human assistance
- Agriculture
Major state actions during 2012-16 drought

- $7 billion in water resilience investments
- Second time a statewide emergency proclamation used to respond to drought, unprecedented first time state ordered mandatory urban water use reduction
- Unprecedented state assistance, including emergency water supplies, to disadvantaged communities
- Delivery of more than 2 million boxes of food to community food banks in drought-impacted counties
- Hundreds of separate fish rescues, trucking of migratory fish, closure of commercial and recreational fisheries
Major legislative and regulatory changes made during or after drought

- Enactment in 2014 of the Sustainable Groundwater Management Act to require local agencies to bring overdrafted groundwater basins into sustainable conditions by 2042
- Enactment of legislation to establish new standards for indoor, outdoor, and industrial use of water
- Funding of solutions for disadvantaged communities lacking access to safe drinking water through Safe and Affordable Drinking Water Act
- Increase in the frequency of water use reporting
- Expanded State authority to order failing public water systems to consolidate with better-run systems
- Tighter landscape efficiency standards for new developments.
Lessons learned

- Communicate early
- Act early.
- Provide longer lead time for both state and local agency response actions.
- Improve water diversion data in order to protect water right holders.
- Improve monitoring of ecological conditions and water quality.
- Gather better data to track dry wells and reservoir drinking water intakes.
- Improve drought contingency planning for small water systems and fish and wildlife resources.
- Improve temperature and precipitation forecasting to better manage risk.
Major Recommendations
Part 1

- Carry out Water Resilience Portfolio to build regional drought resilience for communities and ecosystems.
- Prepare water systems for threat of wildfire and post-fire damage from toxics and sediment.
- Take early permitting and action on standby wells with contamination (1,2,3-TCP, nitrates, PFAS).
- Establish instream flow requirements for ecologically important streams.
- Upgrade hatcheries and state wildlife areas.
Major Recommendations
Part 2

• Invest in data infrastructure (stream gages, monitoring wells) and forecasting.

• Coordinate early across state agencies on budgeting, staffing, monitoring, data collection, provision of state assistance, temperature management of salmon streams, etc.

• Make water right data easily available to the public.

• Streamline water right enforcement to protect senior water right holders.

• Dedicate staff to ongoing drought planning and response work.

• Invest in public communications.

• Manage headwater forests for resilience.
Current Water Conditions
April 26, 2021
Full Natural Flow at DWR Forecast Points on Selected California Rivers

Shown as a percent of Average to Date

Data as of Midnight: 25-Apr-2021
Current Response to Drought Conditions

• The Water Board has identified water suppliers at extreme financial risk that may need additional support due to the combined impacts of COVID and drought.

• DWR has updated its Dry Well website that tracks reports of water supply outages.

• DWR has drafted a Drought Contingency Plan that explains how it will manage the State Water Project in a manner that protects fish and wildlife.

• DWR has simplified its water transfer process.

• The Water Board has issued letters to approximately 40,000 water right holders across the state, advising them to plan for potential shortages by closely managing water use.

• DWR and U.S. Bureau of Reclamation plan for minimal deliveries from SWP and CVP.

• DWR released report that evaluates the water shortage risk of more than 4,000 small water providers.