

Information Item

2016 Water Year in Review

Summary: The Council will be briefed on water operations for the 2016 Water Year (WY). The briefing will include discussion of impacts of the ongoing drought on the operation of the State Water Project; challenges or tradeoffs that had to be made to meet multiple water supply needs; the outlook for WY 2017; the 2016 drought contingency plan; and future drought planning efforts.

Background

Over the past several years, the Council has had briefings on the current drought. During the July 2013 Council meeting, with California in its second dry year, the Council heard how the Department of Water Resources (DWR) and Bay Area water suppliers were preparing for a continuing drought, including plans at the State and local level to redouble water conservation efforts (<http://deltacouncil.ca.gov/docs/delta-stewardship-council-july-25-2013-meeting-agenda-item-8-drought-and-delta-report-dry-year>).

In January of 2014, Governor Brown declared a drought emergency. With the State and federal reservoirs in precariously dire conditions leading into spring and summer 2014, the Council was briefed by DWR's newly appointed drought manager, other State and local water managers, and the California Department of Fish and Wildlife (<http://deltacouncil.ca.gov/docs/delta-stewardship-council-january-23-2014-meeting-agenda-item-12-drought-and-delta-report-dry> and <http://deltacouncil.ca.gov/docs/delta-stewardship-council-february-27-2014-meeting-agenda-9-drought-and-delta>). The message from the water managers segued from how they were planning for the drought to how they were mitigating the effects of the drought. The Council learned how one of California's main water supply reservoirs, Folsom Lake, was approaching "dead pool", the water elevation that would be below all water supply intake or reservoir release facilities. The water managers described what kind of tools, including regulatory approaches, were available to them to maximize existing water supplies, and how those tools would be wielded.

WY 2015 was the eighth of nine years with below-average runoff. The extended drought produced chronic and significant shortages to municipal and industrial, environmental, agricultural, and wildlife refuge water supplies and led to historically low groundwater levels. The dry hydrology set many new statewide records, including the driest four-year period of statewide precipitation (2012-2015). January 2015 was the driest January on record for precipitation statewide. WY 2015 also produced by far the lowest snowpack

in the Sierra Nevada since records have been kept, and by some estimates based on tree-ring analysis, was the lowest over the past five centuries (DWR, 2016¹).

Even though parts of Northern California experienced average to slightly above average precipitation in WY 2016, spring runoff was significantly below average due to factors such as replenishment of depleted soil moisture, increased uptake by vegetation, and less precipitation falling as snow. The April 1 statewide snow water equivalent was 85 percent of average in 2016, but still not enough to achieve average runoff levels.

Each successive year of historic drought conditions has brought new water management challenges. The challenge of managing limited reservoir water supplies for multiple uses has never been more difficult.

Today's Briefing

Today's briefing will include an overview of WY 2016 water operations and expand on some of the challenges and tradeoffs in balancing water supply for municipal and industrial, environmental, and agricultural needs; the outlook for WY 2017; and the need for future drought planning efforts.

John Leahigh, chief of DWR's State Water Project Water Operations Office will brief the Council.

Fiscal Information

Not applicable.

List of Attachments

None.

Contact

Anthony Navasero
Senior Engineer

Phone: (916) 445-5471

¹ Department of Water Resources (DWR). 2016. 2016 Drought Contingency Plan, CVP and SWP Operations February – November 2016. http://www.water.ca.gov/waterconditions/docs/2016-DroughtContingencyPlan-CVP-SWPOperations-Feb-Nov_1.19.16-FINAL.pdf