BAY AREA WATER SUPPLY AND CONSERVATION AGENCY
BOARD POLICY COMMITTEE MEETING

November 12, 2021

Correspondence and media coverage of interest between October 19, 2021 and November 10, 2021

Correspondence

From: Tom Francis, Water Resources Manager, BAWSCA
To: Steve Ritchie, Assistant General Manager, Water Enterprise, SFPUC
Date: November 10, 2021
Subject: BAWSCA's Review of the SFPUC's 2021 Annual Report on Water Enterprise-Managed Capital Projects (2021 Water E-M Projects Report)

From: California Water Commission
Date: October 25, 2021
Subject: Press Release: First two projects meet continuing eligibility requirements, move forward in Water Storage Investment Program

From: Nicole Sandkulla, CEO/General Manager, BAWSCA
To: Joint Legislative Audit Committee, Alfred E. Alquist Seismic Safety Commission, and State Water Resources Control Board
Date: October 20, 2021
Subject: BAWSCA's Review of the SFPUC's Fiscal Year (FY) 2020-21 Annual Report, Water System Improvement Program

From Nicole Sandkulla, CEO/General Manager, BAWSCA
To: The Hon. Anson Moran, President, and Members of the San Francisco Public Utilities Commission
Date: October 20, 2021
Subject: BAWSCA's Review of the SFPUC's Fiscal Year (FY) 2020-21 Annual Report, Water System Improvement Program

Media Coverage

Water Policy:

Date: October 27, 2021
Source: Modesto Bee
Article: State moves toward higher flows on Tuolumne and nearby rivers. Irrigators vow a fight

Date: October 19, 2021
Source: Western Farm Press
Article: Water District fights curtailment amid FERC relicensing

Water Supply Conditions:

Date: November 8, 2021
Source: Los Angeles Times
Article: October's torrential rains brought some drought relief, but California's big picture still bleak

Water Supply Conditions, cont'd.:

Date: November 8, 2021
Source: Bay Area News Group
Article: 'Another drop in the bucket:' Monday's storm won't put a big dent in the drought

Date: November 3, 2021
Source: SF Gate
Article: The Bay Area's main reservoir is up 21 feet. Here's what that means.

Date: October 25, 2021
Source: San Francisco Chronicle
Article: Recent Northern California storms made a dent in the drought. But will it be enough?

Date: October 21, 2021
Source: Associated Press
Article: It will take more than rain to end drought in Western U.S.

Date: October 20, 2021
Source: Imperial Valley Press
Article: La Nina looms in Pacific as new water year begins

Drought:

Date: November 8, 2021
Source: Public Policy Institute of California
Article: The Current Drought: Time to Hope for the Best, Prepare for the Worst

Date: November 4, 2021
Source: Sacramento Bee
Article: What will it take for California drought to end? It's way more complicated than 'rain'

Date: October 19, 2021
Source: Maven Breaking News
Article: Governor Newsom Expands Drought Emergency Statewide, Urges Californians to Redouble Water Conservation Efforts

Date: October 19, 2021
Source: Maven Announcements
Article: Temporary Suspension of Curtailments In The Sacramento-San Joaquin Delta (Delal) Watershed

Water Conservation:

Date: November 4, 2021
Source: New York Times
Article: How Californians Can Save More Water

Date: October 21, 2021
Source: American Water
Article: New Research Shows Most Americans are Unaware of Their Daily Water Consumption

Water Management:

Date: October 26
Source: Pacifica Tribune
Article: Statewide water wars draw attention in Pacifica

Date: October 26, 2021
Source: Berkeley Lab
Article: Managing Water Resources in a Low-to-No-Snow Future

Water Infrastructure:

Date: October 20, 2021
Source: Santa Barbara Independent
Article: California's Drought Sparks Innovation in Santa Barbara County

Date: October 20, 2021
Source: Pleasanton Weekly
Article: Bay Area water agencies form joint powers authority

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Bay Area Water Supply & Conservation Agency

November 10, 2021

Via email

Steven Ritchie
Assistant General Manager, Water Enterprise
San Francisco Public Utilities Commission
525 Golden Gate Avenue, 13th Floor
San Francisco, CA 94102

RE: BAWSCA's Review of the SFPUC's 2021 Annual Report on Water Enterprise-Managed Capital Projects (2021 Water E-M Projects Report)

Dear Mr. Ritchie,

BAWSCA has reviewed the SFPUC's 2021 Annual Report on Water Enterprise-Managed Capital Projects (2021 Water E-M Projects Report). Based on that review, this letter presents BAWSCA's comments and questions in the following order: 1) Background detailing BAWSCA's interest in having a Water E-M Project's Report produced, 2) Requests and suggestions as to what BAWSCA would like to see in future reports produced: and 3) Questions and clarifications regarding the content of the 2021 Water E-M Projects Report.

Background

As of 2020, the SFPUC began preparing and providing to BAWSCA a yearly update on enterprise-managed projects. The SFPUC is required to produce such a report each year, referenced in Section 6.09.I.1 of the Amended and Restated Water Supply Agreement as adopted by the SFPUC in November 2018, which states:

> *"In each fourth quarter of the fiscal year CIP Quarterly Projects Report, the SFPUC will also address the status of Regional projects in the 10-Year CIP that have an estimated cost of less than $5 million, noting any such projects that are behind schedule and describing the SFPUC's plan and timeline for either making up the delay or adopting a revised project schedule."*

In November 2020, BAWSCA requested the SFPUC enhance its reporting on the Water Enterprise-Managed projects. These are the small projects, generally less than $5M in cost, which are not tracked in the Water Enterprise (Regional) and Hetch Hetchy (Water and Joint) quarterly reports. Tracking these projects are important to both BAWSCA and the SFPUC because they represent about 25% ($432M) of the Regional Water Enterprise (WE) CIP and Programmatic budgets, and about 20% ($284M) of the Hetch Hetchy Water (HH) CIP budget for Water Only and Joint projects for FY2021-2030.

SFPUC made significant progress in addressing BAWSCA's prior input, as provided following BAWSCA's review of the 2020 Small Projects Report, regarding improvements to reporting on small projects in an annual report. The project data sheets that form the bulk of the 2021 Water E-M Projects Report include budget and expenditures for sub-projects. The project descriptions are reasonable and include current and upcoming work.

Overall, BAWSCA can readily identify the care and work required to produce the document, and commends the staff of the SFPUC assigned to the task.

Requests for Future Water E-M Projects Reports

BAWSCA requests that the SFPUC build on the reporting improvements incorporated into the 2021 Water E-M Projects Report by including the following into the 2022 Water E-M Projects Report, and those that ensue:

1. a. Include a front end to the report with high level budget information;

   b. Include a separate listing at the front end that includes project name and SFPUC's project identifier number;

2. Clarifying some consistency issues over the terms "project" and "continuous" efforts;

3. Organize the annual report in a manner that allows for quick comparison to the Water Enterprise (WE) and Hetch Hetchy (HH) Capital Improvement Programs (CIPs) and their related quarterly and annual reports.

The following information is provided as a means to explain why the above three requests are being made.

Request #1 – Include a Front End to the Report

As a standalone document, the reader benefits by having front end discussion that offers insight and context for the work being performed and as summarized in the ensuing tables. That summary and/or background information can be kept short, yet it should also provide the following:

- A listing of which projects were dropped from the previous report and the reason they were no longer included, such as projects that were completed during the previous reporting cycle, or those that were moved to quarterly reporting on the WE or HH CIPs, etc.

- Simple fiscal information (such as a pie charts) that provides high level comparisons of these small capital project expenditures with other capital program expenditures. This should include 1) a chart with all CIP expenditures broken out by WECIP, HHCIP, WSIP, and Water E-M Projects during the year, 2) a chart that compares all WE capital expenditures between the WECIP and Water E-M Projects expenditures over the past 3 fiscal years, and 3) a similar chart for the HH system for water and joint facilities.

- A separate list that shows project name and associated SFPUC project identifier number would be helpful for quick review and tracking when and if questions arise by other staff within BAWSCA, such as BAWSCA's Finance Manager.

Request # 2 – Provide Additional Clarification Regarding Project Type

There appears to be inconsistent application of the term "continuous" versus the term "project" for designating whether an effort is the ongoing small work needed to keep an asset/facility functional, or whether the effort is a discreet project managed as a single effort with a defined end date. These designations have been made for each project in the report but there appear

to be many projects that are not accurately designated. Examples from the 2021 Water E-M Projects Report is provided below:

- On page 15, the Tesla UV R&R Project is detailed. This appears to be a continuous effort, yet it is designated as a project.
- Similar issues exist for the designations of projects as found on pages 18, 23, 26, 28, 29, 31, 34, 49, and 53.

To address the above, BAWSCA suggests that in future reports the SFPUC should clarify the definition of "continuous" and "project" as designated by project managers.

BAWSCA views that "continuous" work is the regular ongoing capital expenditures that are required to maintain level of service, safe operation, and overall functionality of an asset. BAWSCA also recognizes that these expenditures typically reduce the overall life cycle cost of the asset since they promote the longevity of service. BAWSCA anticipates that the SFPUC shares that view.

BAWSCA is also of the opinion that reporting of "continuous" efforts does not need to be as rigorous as for projects since there really is no end date. A description of work performed and expenditures during the reporting period would be most useful. And it would be useful to report the expenditures for the two previous reporting periods for comparison purposes. The template currently includes spaces for providing this expenditure information but in many locations the data is not provided.

Request #3 – Organize Reports Consistent with How WE and HH CIPs are Organized

BAWSCA requests that the SFPUC organize future Water E-M Projects Reports consistent with the two major CIP programs for these assets – the WECIP and the HHCIP. BAWSCA has prepared an example of how such an organization would look, and would be pleased to meet with the SFPUC to discuss that example. Doing so would allow both BAWSCA and the SFPUC to quickly and readily compare the information presented in the Water E-M Projects Reports to information provided in the WE and HH CIPs.

Questions and Comments on Content Provided in the 2021 Water E-M Projects Report

BAWSCA has reviewed the 2021 Water E-M Projects Report and identified select places where there is information that is needed to present a complete picture of the work performed. BAWSCA understands that the report is final, and asks that a letter be provided by the SPFUC that provides the information requested, or a response as to why that information is not available. BAWSCA is open to meet with SFPUC staff to go over these questions. Questions and Comments are numbered for ease of reply. They are as follows:

1. Page 13, Tesla CO2 Improvements. This project appears to be closed and the budget transferred to the Thomas Shaft UV Reactor Replacement Project. Should this project be closed out and eliminated from this report?

2. Page 31, Pipeline Inspection and Repair. Were the leak repairs on BDPLs 3 and 4 completed per the schedule?

3. Page 34, San Andreas Dam Spillway Bridge. There are no funds shown for this project. Please provide information as to the funding and or information as to why it is currently not funded.

4. Page 35, San Andreas Dam and Reservoir. There are no funds shown for this project. Please provide information as to the funding and or information as to why it is currently not funded.

5. Page 38, San Antonio Dam and Reservoir. There are no funds shown for this project. Please provide information as to the funding and or information as to why it is currently not funded.

6. Page 41, Radio Communications. This project now has an $11M budget and yet it remains in the 2021 Water E-M Projects Report. Is there a mechanism for transferring projects and their budgets into the other capital programs which have quarterly reporting when those projects are projected to substantially exceed the small project threshold (under $5M)?

7. Page 54, Millbrae Yard Security Upgrade. Explain the overlap between this project and the other Millbrae Yard CIP Work?

8. Page 57, Native Plant Nursery. There are no data provided for work in FY20-21 and for future work. If this is for continuous R&R work to maintain the nursery then the project description should be updated to reflect that.

9. Page 61, Watershed ROW Infrastructure. There are no start or completion dates for work conducted in FY21 and there are no start dates for future work. BAWSCA requests that that information be provided.

10. Page 91, R & R Priest Moccasin Water Transmission Line AAR. Is the AAR complete and available to BAWSCA?

11. Some HH subprojects that had previously been reported in the quarterly reports are not specifically identified in the current report: Priest Outlet 24-inch Pipe Recoating, SJPL System-Wide Testing, SJPL Isolation Valve Replacement, SJPL No. 3 Damage Assessment East of River Road, SJPL Improvement at Claratina Crossing. Are these projects active or reported as part of another subproject in the report?

In closing, BAWSCA commends the SFPUC for the work and effort required to produce the 2021 Water E-M Projects Report. This report represents a significant improvement over the prior report, and the details provided serve as a useful way for BAWSCA to track the progress of the work. The improvements to future reports recommended by BAWSCA in this letter are offered with the intention of making those reports an even better means to track the progress of the work, as well as an easier way for SFPUC staff to provide the necessary input to those at the SFPUC charged with the report preparation.

BAWSCA anticipates that the SFPUC will want to meet to discuss the contents of this letter, perhaps one meeting to discuss the requests associated with future report, and one meeting to

discuss the questions and comments raised regarding the 2021 Water E-M Projects Report. BAWSCA sees such meetings as advantageous.

Thank you for the opportunity to review and comment on the 2021 Water E=M Projects Reports. If you would like to discuss this letter prior to the organization of any follow-up meetings and or a response letter, please contact me at 510-944-4392, or email me at tfrancis@bawsca.org.

Sincerely,

Thomas B. Francis
Water Resources Manager

TF/ns//le

cc: Nicole Sandkulla, BAWSCA CEO/General Manager
Alan Johanson, SFPUC, Chief Engineer / Assistance General Manager of Infrastructure
Katie Miller, SFPUC, Acting Director, Water Capital Projects and Programs
Alison Kastama, SFPUC, BAWSCA Liaison
BAWSCA Water Management Representatives
Allison Schutte, Hanson Bridgett, LLP, Legal Counsel

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California
WATER COMMISSION

October 25, 2021

Contact: Paul Cambra
(916) 873-5774
paul.cambra@cwc.ca.gov

First two projects meet continuing eligibility requirements, move forward in Water Storage Investment Program

Two projects in the Water Storage Investment Program (WSIP), the Los Vaqueros Reservoir Expansion Project and the Harvest Water Program, met the statutory deadline to ensure progress and remain eligible for WSIP funding. Proposition 1, the Water Quality, Supply, and Infrastructure Improvement Act of 2014, requires all WSIP applicants to complete their feasibility studies, release a draft version of their environmental documents for public review, provide the DWR director documentation of commitments for at least 75 percent of the non-program funding, and have the California Water Commission find their project feasible no later than January 1, 2022. At the October 20 meeting, the Commission found that the Los Vaqueros Reservoir Expansion Project and the Harvest Water Program are both feasible.

The Los Vaqueros Reservoir Expansion Project would add 115,000 acre-feet of storage by enlarging the existing off-stream reservoir located in southeastern Contra Costa County from 160,000 to 275,000 acre-feet. The project would deliver water to agencies within Contra Costa Water District's service area, the Bay Area, the Delta, neighboring regions, and south-of-Delta wildlife refuges. Construction is expected to begin in mid-2023.

The Harvest Water Program is a conjunctive use project that would supply 320,000 acre-feet of tertiary treated wastewater to irrigate up to 16,000 acres of agriculture and habitat lands in Sacramento County near the lower Cosumnes River and Stone Lakes National Wildlife Refuge. The Harvest Water Program is scheduled to begin operation in mid-2024.

"This is an important step in the progress of these projects and the Water Storage Investment Program as whole," said Commission Chair Teresa Alvarado. "The applicants have worked hard to get to this point and we are hopeful that they will build upon this success and see these projects through to completion."

Two more projects – the Chino Basin Program and Kern Fan Groundwater Storage Project – are expected to come before the Commission for feasibility determinations in November, with the remaining three projects – Pacheco Reservoir Expansion Project, Sites Project, and Willow Springs Water Bank Conjunctive Use Project – scheduled for December.

Beyond January 1, 2022, Proposition 1 requires each of the seven projects to meet four requirements before they can appear before the Commission for a final funding decision: final environmental documents, non-public benefit cost share contracts, contracts for the administration of public benefits, and all permits required to begin construction. Combined, the projects, if completed, would add 2.77 million acre-feet to California's water storage capacity.

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The nine-member California Water Commission uses its public forum to explore water management issues from multiple perspectives and to formulate recommendations to advise the director of the California Department of Water Resources, and as appropriate, the California Natural Resources Agency, the Governor and Legislature on ways to improve water planning and management in response to California's changing hydrology. For more information regarding the California Water Commission visit cwc.ca.gov.

Bay Area Water Supply & Conservation Agency

October 20, 2021
Via email

Assembly Member Rudy Salas, Chair
Senator John Laird – Vice Chair
Joint Legislative Audit Committee
1020 N. Street, Room 107
Sacramento, CA 95814

The Hon. Kit Miyamoto, Chairman
The Hon. Cindy Silva, Vice-Chair
Alfred E. Alquist Seismic Safety Commission
2945 Ramco Street, Suite 195
West Sacramento, CA 95691

Stefan Cajina, Chief
North Coastal Section, Division of Drinking Water
State Water Resources Control Board
850 Marina Bay Parkway, Bldg P, Second Floor
Richmond, CA 94804

RE: BAWSCA's Review of the SFPUC's Fiscal Year (FY) 2020-21 Annual Report, Water System Improvement Program

Dear Assembly Member Salas, Senator Laird, Commissioners Miyamoto and Silva, and Mr. Cajina:

The San Francisco Public Utilities Commission (SFPUC) recently provided the Bay Area Water Supply and Conservation Agency (BAWSCA) a copy the Water System Improvement Program (WSIP) Annual Report for Fiscal Year 2020-21, dated September 1, 2021 (Annual Report). Attached is BAWSCA's comment letter, dated October 20, 2021, which includes a request that the Commission direct staff to implement the recommendations provided with our comments.

As noted in Section 6 of the Annual Report, there were noteworthy achievements made toward completing the WSIP, and there were challenges encountered. The SFPUC was able to navigate COVID-19 workforce challenges and for that, BAWSCA commends the dedicated work of SFPUC staff, their consultants and contractors. BAWSCA is aware of the strong probability that the schedule for the WSIP is going to need adjustment, as it appears unlikely that all efforts would conclude by May 5, 2023.

BAWSCA agrees with SFPUC's statement in the Annual Report that there continues to be progress on the overall WSIP effort. Yet closing out the WSIP in a timely fashion will be challenging due to the nature of the upcoming work.

Key points regarding the Status and Progress of the WSIP

- **Possible need for a future NOC** - The SFPUC's Commission approved an NOC to the WSIP at a hearing held on April 14, 2020. State agencies were notified of the NOC via correspondence from the SFPUC dated June 30, 2020. The NOC extended the

proposed WSIP completion date to May 5, 2023. The NOC also alerted the State that there was uncertainty that remained regarding one particular WSIP project, the Regional Groundwater Storage and Recovery Project (RGSRP). It is BAWSCA's view that the schedule for completing the project will result in the need for a subsequent NOC. In BAWSCA's letter to you last year that detailed our comments to the SFPUC's FY 2019-20 Annual Report, BAWSCA noted that the SFPUC anticipated that they will have more certainty as to the need for an NOC sometime in 2021. It appears that they will not have that certainty until sometime in 2022. While less likely, the construction of the Alameda Creek Recapture Project (ACRP) could also extend beyond May 5, 2023.

- **Possible need for a future WSIP budget extension** - There were no WSIP budget revisions proposed in the NOC nor significant budget concerns detailed in the Annual Report. BAWSCA believes that the RGSRP will need additional monies to complete construction. Budget considerations may be incorporated into a future NOC. BAWSCA has shared this comment with you in our 2020 letter and it remains valid.

- **Possible need for additional WSIP project(s) to address Level of Service (LOS)** - Both the RGSRP and the ACRP serve to address LOS goals associated with water supply reliability. BAWSCA understands that due to potential changes to both the RGSRP and the ACRP, the water supply yields of those projects may be lower than originally planned. The WSIP's purpose was to upgrade aging or insufficient infrastructure to address seismic concerns, and to implement specific delivery and drought reliability elements that, when implemented, would enable the SFPUC to meet its adopted LOS goals. If the respective water supply yield of those two WSIP projects is reduced, the SFPUC will need to implement alternative projects to make up the difference. BAWSCA asks that the State support BAWSCA's position on the importance of meeting the LOS goals as part of the WSIP when and if such a reduction of yield is documented by the SFPUC. As with the prior comments, BAWSCA raised this point in our letter of last year.

Please call me if BAWSCA can provide further assistance in the State's review of the SFPUC's FY 2019-20 Annual Report, or if you would like to discuss BAWSCA's comment letter to the SFPUC. I can be reached by phone at (650) 743-6688 or via email at nsandkulla@bawsca.org. BAWSCA sincerely appreciates the time and attention given by the State in helping to make sure the WSIP's progress continues.

Sincerely,

Nicole Sandkulla
Chief Executive Officer/General Manager

NS/tf/le

Enclosure

cc: SFPUC Commissioners
Michael Carlin, Acting General Manager, SFPUC

Alan Johanson, Acting Assistant General Manager of Infrastructure, SFPUC
Steven Ritchie, Assistant General Manager of the Water Enterprise, SFPUC
Katie Miller, Acting Director, Water Capital Projects and Programs, SFPUC
Alison Kastama, BAWSCA Liaison, SFPUC
Wesley Opp, Chief Consultant, Joint Legislative Audit Committee
Richard McCarthy, Executive Director, Alfred E. Alquist Seismic Safety Commission
Fred Turner, Structural Engineer, Alfred E. Alquist Seismic Safety Commission
Vlad Rakhamimov, Associate Engineer, No. Coastal Sect., SWRCB Div. of Drinking Water
Marco Pacheco, San Francisco District Engineer, SWRCB Div. of Drinking Water
Darrin Polhemus, Deputy Director, SWRCB, Div. of Drinking Water
Daniel Newton, Assistant Deputy Director, SWRCB, No. Ca. Drinking Water Field Ops
BAWSCA Board of Directors
BAWSCA Water Management Representatives
Allison Schutte, Legal Counsel, Hanson Bridgett, LLP

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Bay Area Water Supply & Conservation Agency

October 20, 2021

Via email

The Hon. Anson Moran, President
and Members of the Commission
San Francisco Public Utilities Commission
525 Golden Gate Avenue, 13th Floor
San Francisco, CA 94102

RE: BAWSCA's Review of the SFPUC's Fiscal Year (FY) 2020-21 Annual Report, Water System Improvement Program

Dear President Moran and Members of the Commission,

BAWSCA has reviewed the WSIP FY 2019-20 Annual Report and has the following findings and recommendations:

1. **Section 3.2 – Progress Towards Meeting LOS Goals for RGSRP and ACRP (pages 13-14).**
   Findings:
   The Regional Groundwater Storage and Recovery Project (RGSRP) and the Alameda Creek Recapture Project (ACRP) continue to make progress towards implementation. This progress has been slow or late, partially due to the impact of COVID-19 on the workforce and partially due to construction and implementation challenges in general. These water supply projects are most important during severe droughts especially when other supplies are curtailed due to regulatory action. BAWSCA appreciates the hard work of the SFPUC staff to bring four RGSRP wells on line next year, such that they are available should the current drought continue.

   Both the RGSRP and the ACRP must substantially meet their Level of Service (LOS) goals as they are of critical importance to the regional water supply reliability. However, BAWSCA is concerned that completing these projects, as they are currently scoped, may not fully address the intent of AB 1823. Specifically, the WSIP PEIR identified the LOS guiding the design of the facilities in the program. For these two projects, the LOS is associated with their water supply yield. Changes have been made to the projects that could lower that water supply yield. SFPUC staff have indicated that it could take years of operation of said projects before their water supply yield will be known. Yet BAWSCA remains steadfast in its view that an assessment of the overall performance of the program, with respect to these goals, is integral and critical information to the definition of completeness.

   The SFPUC has broken the implementation of the RGSFP into three (3) phases, and pulled the last phase of the RGSRP from the WSIP and placed it in the SFPUC's 10-year CIP as a stand-alone project. While BAWSCA has been kept informed of that action, a more formal agreement on that approach between the parties is warranted.

Recommendations:

(a) It is recommended that the SFPUC provide current estimated available yield from the RGSRP and ACRP in future WSIP Annual Reports and report out that yield vs. the full project LOS goal as a percentage so that progress can be tracked annually. This estimate would include data collection during pre-operation testing and operational periods (e.g., groundwater extraction during drought). BAWSCA understands that the yield number may become more precise as project operations continue over time.

(b) It is recommended that the SFPUC and BAWSCA formalize their mutual understanding regarding any scope transferred to the Water Enterprise 10-Year CIP that will be completed after the WSIP is completed.

(c) It is recommended that the SFPUC and BAWSCA engage in identifying specific water supply projects in the Water Enterprise 10-Year CIP and/or the SFPUC's Alternative Water Supply Program that produce sufficient water to offset any yield shortfalls from the completed WSIP projects.

2. **Section 4.3 – Project Schedule Forecast and Variances (page 16).**
Finding
Based on the WSIP Q4 FY20-21 report and on the recent meeting between BAWSCA and the SFPUC to review that report, it seems very likely that completion of the RGSRP will be delayed beyond the current WSIP end date. Only Phase 1 of the work effort will be completed. Completion of Phase 2 will likely extend beyond the WSIP's completion date of May 5, 2023, and Phase 3 is likely to take many more years to implement. It is BAWSCA's understanding that the SFPUC is planning to review the RGSRP's schedule in 2022.

While less likely, it is also possible that the ACRP schedule will extend beyond the current WSIP end date. Once right-of-way and other issues are better known for the former project and barge contract delivery timelines and other issues are understood for the ACRP, then the SFPUC should be able to forecast a reliable date for program completion.

Recommendations
It is recommended that when reliable completion dates for RGSRP and ACRP projects are forecasted, the WSIP should be re-baselined to maintain reporting integrity.

Thank you for the opportunity to review and comment on this report. If you have questions or wish to discuss these issues further, please contact me at 650-743-6688, or email me at nsandkulla@bawsca.org.

Sincerely,

Nicole Sandkulla
CEO/General Manager

NS/tf/le

cc: Assembly Member Rudy Salas, Chair, Joint Legislative Audit Committee
Senator John Laird, Vice Chair, Joint Legislative Audit Committee
The Hon. Kit Miyamoto, Chair, Alfred E. Alquist Seismic Safety Commission
The Hon. Cindy Silva, Vice Chair, Alfred E. Alquist Seismic Safety Commission
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Katie Miller, SFPUC, Acting Director, Water Capital Projects and Programs
Alison Kastama, SFPUC, BAWSCA Liaison
BAWSCA Water Management Representatives
Allison Schutte, Hanson Bridgett, LLP, Legal Counsel

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State moves toward higher flows on Tuolumne and nearby rivers. Irrigators vow a fight
Modesto Bee | October 27, 2021 | John Holland

The state is moving ahead with its proposal to boost flows on the Tuolumne and nearby rivers, to the dismay of irrigation districts and San Francisco.

The reservoir releases are needed to help fish and other wildlife on tributaries to the San Joaquin River, two cabinet secretaries said in a letter Thursday, Oct. 20.

The water users contend that the releases would take too much from farms and cities supplied by the Tuolumne, Stanislaus and Merced rivers.

They have instead sought “voluntary agreements” that would increase reservoir releases to some extent while enhancing fish habitat in other ways, such as restoring spawning gravel for salmon.

“Walking away from the VA’s, as the state is doing without an agreement, is saying, ‘Let the litigation begin,’ ” Steve Knell, general manager of the Oakdale Irrigation District, wrote in an email on Tuesday.

At issue is a 2018 vote by the State Water Resources Control Board. Its key provision is to have at least 40% of natural flows from February to May, when young salmon are heading out to sea.

The new flow regime could start late next year if the five-member board gives final approval. But the districts warned that the issue could be tied up in court for years, as the state seeks to modify their long-held water rights.

The voluntary agreement approach had public support from Gov. Jerry Brown as his tenure was ending and then from Gov. Gavin Newsom.

The latest letter said the agreements might work at some point but so far do not provide adequate measures for the rivers. It was signed by Resources Secretary Wade Crowfoot and Jared Blumenfeld, secretary of the California Environmental Protection Agency. Click here to access the letter.

“ .... at this point it is clear that despite considerable efforts, proposed voluntary actions by water agencies on the San Joaquin River tributaries have fallen short of needed flow and habitat improvements, and viable proposals are not being offered at this time,” the secretaries wrote.

The letter was addressed to the Modesto and Turlock irrigation districts and San Francisco, which tap the Tuolumne; the Oakdale and South San Joaquin irrigation districts on the Stanislaus; and the Merced Irrigation District.

The districts have a total of about 325,000 acres of irrigated farmland. MID also supplies some of the city of Modesto’s water, and Turlock and Ceres will get TID water from a plant now under construction.

San Francisco’s system provides at least part of the water for about 2.8 million Bay Area residents. A spokesperson was not available Tuesday, but the city made its position clear in a May 13 lawsuit. It claimed that the state plan would require too much water rationing during droughts.

The state plan has support from environmental and fishing groups. The Tuolumne River Trust, for example, points out that only about 20% of this waterway is not diverted in average years, and even less during droughts.

“Water flows are kind of necessary for fish,” said Ronald Stork, senior policy advocate for Friends of the River in Sacramento, in a phone interview. “It’s kind of obvious.”

He suggested increased water conservation and recycling to help meet the needs for farms and cities.

MID and TID offered a plan for the Tuolumne that would mesh with a separate federal process for operating Don Pedro Reservoir.

The plan includes restoration of the gravel where salmon spawn after a few years in the Pacific Ocean, and floodplains where baby fish can develop. The districts also urge measures against predation by nonnative bass.

And they note that the new treatment plant will draw water well downstream of the farm water diversion. This will improve habitat and boating on about 25 river miles between La Grange and Hughson.

“We are committed to long-term, science-based voluntary solutions and remain willing to re-engage in discussions with the state to reach an agreement that will benefit all,” the districts said in a joint emailed statement.

# # #

Water district fights curtailment amid FERC relicensing
Western Farm Press | October 19, 2021 | Todd Fitchette

When Central California's Turlock Irrigation District was formed in 1887, it already had rights to the Tuolumne River. Today this river sustains billions of dollars in agricultural output and the livelihoods of water attorneys in a region known for its food production and processing prowess.

The benefits of those appropriative water rights – a legal guarantee dating back to California's Gold Rush and formalized in 1914 by the Water Commission Act – allows Turlock Irrigation District (TID) to divert river water for beneficial use. Today the benefactors of those rights include about 4,700 farmers, and numerous major food processors including Hilmar Cheese Company and Blue Diamond Growers.

The electricity generated from the district's stored water provides green power to the same processing facilities, thousands of homes, industrial users including Amazon, and the economies of 14 cities across two counties.

Curtailments

When the State of California issued its water curtailments late last summer, TID and neighboring districts pushed back. A coalition of water districts from Modesto, Oakdale, Manteca, and San Francisco sued the state over its curtailment order.

Michelle Reimers, TID's general manager and chief executive, says she understands the idea behind the curtailments. Aside from the pre-1914 water rights the districts own and what that means under California law, Reimers says TID is bothered by the blanket order because it fails to consider how well-managed irrigation districts like hers operate and manage their systems.

"We recognize there is a need for curtailment at some point; the question is how they are implemented," she said of the state's curtailment order. "For instance, they have no jurisdiction over pre-1914 water rights."

Plaintiffs in the lawsuit against the State of California include the Turlock, Oakdale, and Modesto irrigation districts, South San Joaquin Irrigation District, and the City/County of San Francisco, which owns the Hetch Hetchy project.

"For us the issue (of curtailment) is that we've managed our water appropriately," Reimers said.

Questions arose quickly over the late-summer curtailment order. Water districts sought clarification from the state while TID growers had one basic question: "will I get the rest of my irrigation water this year?"

TID was willing to challenge its right to stored water in court, Reimers said. The water in question was stored in Lake Don Pedro, awaiting delivery to district growers and other water users. One almond grower who spoke with Western Farm Press in August said he'd used about

25% of his 34-inch irrigation allotment on the season by mid-August and was planning to use the rest for his post-harvest irrigation in a move meant to set the trees up for winter dormancy and a way to replenish his aquifer.

Careful management

TID growers were allocated just under three-acre feet of ditch water for the season that ended in October. This was about 30% lower than the previous year, according to Brad Koehn, chief operating officer for the district, and just over a foot less than what is typically a full allotment.

That allocation could be reduced further next growing season if winter rain and snow does not materialize, Koehn said.

Reimers highlights the district's water management efforts by saying that district staff consistently update the board of directors – this five-member board generally meets once a week – and by employing new technology to closely predict and manage water supplies.

Technology

Growers in the district have access to online ordering systems that streamline water deliveries and tell them how much water they have left in their allocation. The automated system streamlines delivery. Among the online water tools is a water budget to help growers plan their water usage during the season.

District staff works closely with NASA and the USDA to accurately understand snowpack and its available water content while watching the weather. Through a partnership with Scripps Institute of Oceanography, the district seeks to better understand atmospheric rivers and effectively capture water from those events while minimizing downstream damage and better manage the spillway at Don Pedro Dam.

In 2017 the district worked with the Army Corps of Engineers while seeking permission to deviate from its flood control plan as heavy runoff upstream from Lake Don Pedro forced the district to open one of three spillway gates.

"Having the technology we had really helped us," Reimers said. "We had to open one spillway gate, not all three, but we were able to control it with the data and technology we had."

Some of the new technology TID is using is also being used by other water agencies in the state. The Airborne Snow Observatory is an aerial snow monitoring tool that provides precise measurements of snow depth for every square meter of snow in the watershed. The technology was developed at the NASA Jet Propulsion Laboratory and allows accurate snow water measurements by air.

Who’s in charge?

Reimers argues that because the state of California is uninvolved in district water management and, more importantly, does not understand the Tuolumne River watershed like the district does, issues like the curtailments and proposed unimpeded flow requirements punish local agencies that manage their water supplies well. She argues that the unimpeded flow proposal by the state that will force water users to give up 40% of their water to unimpeded flows during the spring will not have the environmental benefits officials claim.

The unimpaired flows are said to improve river ecosystems and delta health under the Bay Delta Water Quality Control Plan.

Dam relicensing

Reimers said TID has been represented at meetings to discuss the unimpaired flows. These discussions have particular significance for TID because it is also undergoing a relicensing process for Don Pedro Dam with the federal government.

Reimers says the California State Water Board has mandatory conditioning over the Federal Energy Regulatory Commission (FERC) license TID must renew, meaning that the state board can insert the Bay Delta Water Quality Control Plan into the FERC license and the federal government can't do anything about it.

"It's probably the biggest driver on why the relicensing is taking so long," Koehn added.

TID is operating under a year-to-year license through FERC while the district works on upgrades to the hydroelectric facilities.

Though not directly tied to the FERC relicensing, the repairs to the powerhouse are necessary, Koehn said. The aging facilities needed replacement at the same time the FERC relicensing came about.

When complete, Don Pedro Dam will produce 30% more power than it does today on the same volume of water. Existing power generation is 203 megawatts, of which 139 megawatts is used for TID customer needs. The district delivers 64 megawatts to neighboring Modesto Irrigation District.

Koehn said the ability to generate carbon-free hydroelectric power like this benefits TID and California.

"These facilities are fast-acting," he said. "We can increase supply in minutes, just by using water."

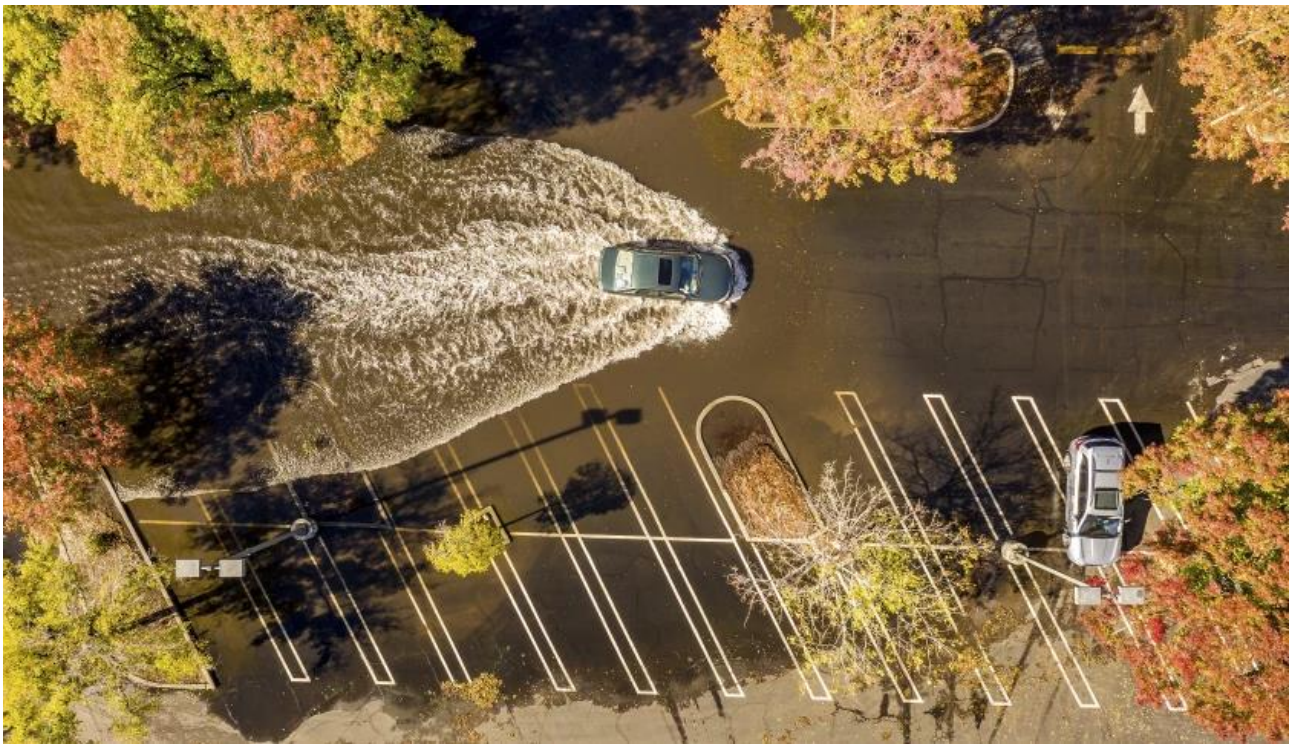
That is just one more benefit of a well-managed water system, Koehn continued. The district's ability to store water does not merely affect irrigation deliveries to farmers but allows them and others to keep the lights on.

Moreover, TID is its own power balancing authority, according to district spokesperson Brandon McMillan, "meaning we are solely responsible for meeting the energy demands of our customers and are unaffected by California ISO rolling blackouts."

# # #

October’s torrential rains brought some drought relief, but California’s big picture still bleak

Los Angeles Times | November 8, 2021 | Lila Seidman



A car crosses a flooded parking lot in Oroville, Calif., after a massive storm last month caused flooding across the northern half of the state.(Noah Berger / Associated Press)

When a fierce early-season storm drenched parts of Northern California last month, some experts said it was in the nick of time.

Reservoir levels were critically low. Soils were parched. Fires rampaged through dry forests.

There was general consensus among climate experts that not even the record-breaking downpour would end the two-year drought plaguing the state. There was too much of a deficit, and a single storm — even of biblical proportions — would not be able to solve it in one fell swoop.

Still, climate experts expressed hope that the atmospheric river that landed in late October could improve the drought in parts of Northern California, where some areas experienced rain that sank hundred-year records. But those expectations didn’t extend to Southern California, which saw only modest precipitation during the storms and is projected to receive below-average rainfall this winter amid a second year of La Niña weather pattern.

While the powerful rains did bring some relief to the northern and central parts of the state — and more moisture is on the way — climate experts and weather officials said it’s not clear how

long those positive influences will last. They stressed that the moisture did little to move the dial on the bigger drought barometer; the majority of the state remains in extreme or exceptional drought.

“It was a deposit into the bank account just before it was overdrawn,” said Daniel Swain, a climate scientist at UCLA.

“It doesn’t solve a long-term problem,” he added. California could be back in the same boat in a few months as things dry out, “but it was a substantial injection of water just in time to help ecosystems get through the fall, that otherwise would have been hard to get through.”

The benefits, however ephemeral, were significant.

Desiccated soil lapped up the moisture, and streams quickened their pace. Depleted reservoirs began to fill. After an onslaught of ferocious blazes, fire season in the northern part of the state was extinguished.

Some northern coastal areas, including parts of Sonoma and Mendocino counties, dropped from exceptional drought — the worst category — to extreme drought based on short-term improvements such as enhanced soil moisture and stream flow, said Adam Hartman, a meteorologist with the National Oceanic and Atmospheric Administration and an author of the U.S. Drought Monitor. Parts of Shasta County and the northern Sierra Nevada also saw improvement, he said.

By late last week, San Francisco and Sacramento were 649% and 675% above average, respectively, for their rainfall tallies since the water year began Oct. 1, according to officials with the National Weather Service. Sacramento reported a record 24-hour rainfall total of 5.44 inches during last month’s storm, surpassing a mark set in 1880.

Still, forecasters in San Francisco and Sacramento hesitate to make too much of the high rainfall totals given how early it is in the season.

As Swain put it, “It’s a big number, but it’s kind of skewed by the fact that the denominator is really small.”

The region typically records its most rainfall December through March.

“What really matters is, how many of those storms do we get before the end of March? And it’s a long time until March,” said Jay Lund, a professor of civil and environmental engineering and director of the Center for Watershed Sciences at UC Davis.

La Niña tends to signal warmer, drier winters in Southern California, but the association between the weather phenomenon and the state’s northern regions is less clear.

While nothing is set in stone, some weather experts are bracing for a potentially drier-than-normal winter, even to the north.

Roger Gass, a meteorologist with the National Weather Service's office in Monterey, said projections indicate below-average rainfall for the Bay Area. Swain seconded that notion.

Although the state's water year started with an "active pattern," it "doesn't mean that we're not going to turn dry during the peak of our winter season," Gass said. "There's still a lot of unknowns."

A weak storm rolled through the central and northern parts of California Friday into Saturday, and a stronger system is expected Monday. Sacramento and San Francisco could receive up to half an inch of rain from the stronger system, with coastal ranges and mountain areas potentially receiving up to two inches, forecasters said.

"It's going to move through rather quickly," Gass said. "But nonetheless, it will provide some more beneficial, widespread rainfall to the region."

There's a relatively slim chance that parts of Southern California north of Santa Barbara will get light rain as the system heads south. Precipitation would probably amount to an inch or less, said Ryan Kittell, a meteorologist with the weather service's Oxnard station.

Unlike Northern California, where rainfall is far above average for this time of year, Southern California is "right around normal," Kittell said. By late last week, roughly three-quarters of an inch had fallen on downtown Los Angeles since the water year began. Typically, the area gets .63 inches of rain by that time.

Regardless of how the season unfolds, experts point to troubling long-term drought conditions that will require more than a few storms — or even an entire wet winter — to erase.

Although many reservoir levels ticked up after the October downpour, Lund said the large ones — including Folsom Lake east of Sacramento — remain below where they were this time last year.

Bill Patzert, a retired climate scientist at NASA's Jet Propulsion Laboratory, estimates it would take 17 years of above-normal rainfall and snowpack to refill Lake Mead, an important water source for the West, which has fallen to critically low levels.

Groundwater levels remain low in other areas as well, said Hartman, the meteorologist with NOAA, noting that precipitation hasn't "seeped deep enough into the ground to recharge those water tables."

"There are still longer-term drought impacts that are being felt," he said.

# # #

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‘Another drop in the bucket:’ Monday’s storm won’t put a big dent in the drought
Atmospheric river expected to bring widespread rain to the Bay Area
Bay Area News Group | November 8, 2021 | Summer Lin

The second atmospheric river storm in as many weeks arrived Monday night in the Bay Area, but residents shouldn’t expect it to significantly move the needle when it comes to California’s drought.

“This is just gonna be another drop in the bucket as far as total rainfalls of the season and for the drought,” said National Weather Service meteorologist Roger Gass. “The onset of the drought is typically one to two, maybe three years of below average rainfall. It’ll be beneficial rain and there will be runoff to the reservoirs, but it will have minimal impact on a larger scale.”

“We would really need to see a pretty active and wet winter season to dig ourselves out of the drought,” he added.

An atmospheric river — a narrow, moisture-rich system — was expected to bring widespread rainfall starting Monday evening, with the North Bay and Santa Cruz mountains expected to get 2 to 4 inches of rain and the North Bay valleys slated to receive 1.5 to 2.5 inches. San Francisco and Oakland could see around one inch of rain while there will be 0.5 to 0.75 of an inch of rain along the Bay shoreline, including Redwood City, Fremont and the East Bay valleys, according to the weather service.

As of 10:10 p.m. Monday, 24-hour precipitation totals included .55 inches at the Petrified Forest in Napa County, .49 inches in Venado in Sonoma County, .40 inches in Kentfield in Marin County, .20 inches at Bald Peak in the Berkeley Hills, .16 inches at the Oakland South Remote Automated Weather Station, or RAWS, .13 inches at the Ben Lomond RAWS, .09 inches at the Spring Valley RAWS in San Mateo County and .04 inches at Valley Christian School in San Jose.

It’s forecast to be a weak storm, a 1 on the UC San Diego Center for Western Weather and Water Extremes’ scale of 1-5, with 5 being the strongest.

San Jose could get less than 0.5 of an inch of rain due to the “rain shadowing” effect — when higher elevations like the Santa Cruz and North Bay mountains see the most rainfall and there is a “lifting” mechanism along the western side of the coastal ranges: When the air comes up after the mountains, it starts to decompress downwards and the rain becomes lighter as it moves over the ranges.

Most of the precipitation will taper off from north to south around sunrise Tuesday, and most of the region will see dry conditions by Tuesday afternoon.

The storm could bring some ponding on roadways, minor urban flooding in already poorly drained areas and scattered power outages, but widespread flooding was not expected.

Afternoon temperatures for the next several days were expected to be in the mid to low 60s. A warming trend could take effect on Thursday, bringing temperatures to the high 60s and lower 70s for the region.

The weather service issued a wind advisory from Monday evening until early Tuesday morning for the North Bay, East Bay, Santa Cruz Mountains, San Francisco Peninsula and the Bay Area shoreline. Strong winds were forecast moving ahead of the cold front, with gusts up to and potentially exceeding 40 miles per hour.

“These winds aren’t extremely strong,” Gass said. “If you have any tree limbs that are falling down already, you might want to be aware of those type of things. Overall, just make sure trash, patio furniture and any loose objects are secured because we could see some things blowing around.”

Internet and cellphone service was knocked out late Monday throughout the Bay Area, though it was not immediately clear if it was directly related to the storm. But in Sonoma County, there were reports of numerous trees and power lines down. As of 11 p.m., service was starting to be restored in some areas, according to a spokesperson for Comcast.

“We do not have a root cause identified yet,” said Comcast spokesperson Joan Hammel.

Most of the region’s significant wildfire risk was wiped out by the Oct. 24 storm, a 5 on UC San Diego Center for Western Weather and Water Extremes’ scale, that dumped 4.05 inches of rain in one day on San Francisco, marking the city’s wettest October day in history and fourth-wettest day ever dating back to the 1849 Gold Rush. A foot of rain fell in the East Bay at Tilden Park in Berkeley and on Mount Diablo’s summit will Mount Tamalpais in Marin County had over 26 inches of rain. San Jose got 50% as much precipitation over that weekend than it did during the entire previous year.

“The ground is still pretty saturated from those rains we had in October,” Gass said. “This is only gonna help keep things green and moist across the region.”

# # #

Staff writer Jason Green contributed to this report.

The Bay Area's main reservoir is up 21 feet. Here's what that means.
SF Gate | November 3, 2021 | Amy Graff

Waterfalls gushed at Hetch Hetchy after an atmospheric river event in October 2021. Courtesy of Evergreen Lodge

Northern California's reservoir levels continued to rise in the week after an atmospheric river slammed the state with torrential rain and high winds. The soaking was welcome in a drought-plagued state with a diminishing water supply. And while one storm didn't come close to ending the drought, some reservoirs in Northern California, especially those that fell right in the path of the storm, saw significant gains.

One of the most impressive was Hetch Hetchy, which provides drinking water to 2.6 million people in San Francisco and other Bay Area communities. Located within the boundaries of Yosemite National Park, the reservoir saw a sizable 21.31-foot bump in its water level and gained 36,300 acre-feet, according to Tuesday data from the U.S. Geological Survey.

Steve Ritchie, the San Francisco Public Utilities Commission's assistant general manager for water, said the additional water amounted to roughly 11% of the reservoir's total capacity. The gain came after weather gauges in the area recorded more than 5 inches from one storm. One gauge in the area has measured 6.12 inches since Oct. 1, which is 899% of normal.

"It was a very healthy shot in the arm. It didn’t end the drought, but it was definitely really good," said Ritchie. "This was rare for October. I don’t know if we’ve seen anything like this in October before."

The commission plans to decide Nov. 23 whether to formally ask customers to conserve water. Over the summer, Gov. Gavin Newsom asked all California residents to voluntarily reduce use by 15% compared with use in 2019.

The state's second-largest reservoir, Lake Oroville in Butte County, saw especially dramatic gains with a 30.4-foot rise in the water level and a 182,625-acre-foot increase in the total amount of water, data posted Tuesday from the California Department of Water Resources showed.

Lake Shasta, the state's largest reservoir, rose 2.9 feet and added 31,020 acre-feet of water.

The Department of Water Resources, which manages the state's water supply, said in a statement that there are several possible reasons for the difference in inflow amounts between the two reservoirs. The main reason for the discrepancy, the department said, is that the focus of the atmospheric river was generally between the Golden Gate and Mount Lassen, meaning that the Feather River watershed received much more rainfall than the Shasta Lake drainage area.

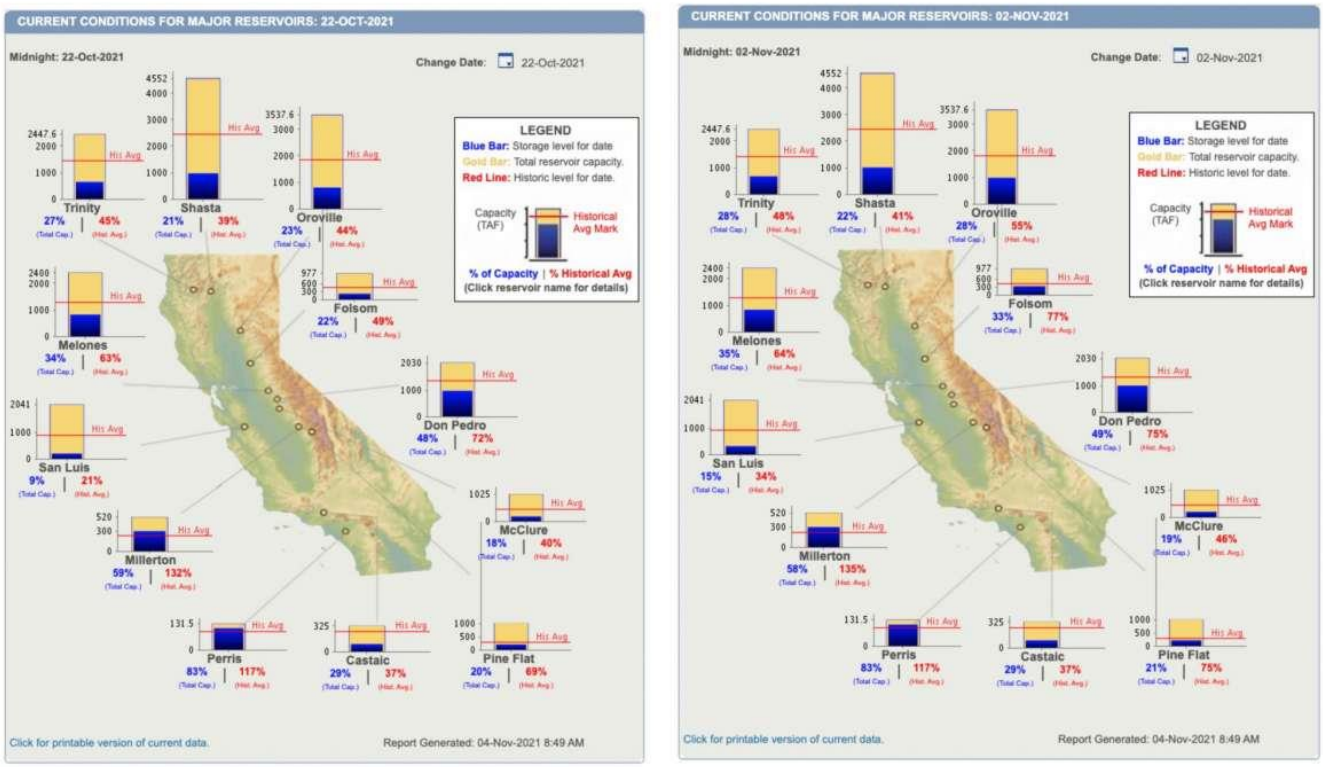
"Some weather monitoring stations in the Feather River drainage received as much as 12 to 19 inches during the period of the storms," the department said. "In contrast, the Shasta Lake drainage had only a couple of stations in excess of 10 inches whereas most received less."

The difference in soil type in the two watersheds was likely another factor. The area around Shasta has more volcanic soils that absorb rainfall than the Feather River drainage. "Soils that have become hydrophobic due to wildfire can also contribute to increased runoff because the water is less able to penetrate the burned soil," the department said. "It is unknown how much area of the Feather River and Shasta Lake drainages are impacted by hydrophobic soils."

Some of Northern California's key reservoirs saw big gains

(next page)

You can find the charts below from the California Department of Water Resources website.



Charts from the California Department of Water Resources show conditions at key state reservoirs on Oct. 22 (left) and on Nov. 2 (right). California Department of Water Resources

It can take several days to see the full impact on reservoirs as water continues to run through watersheds and into streams in the days after a storm.

SFGATE took a look at reservoir levels three days after the Oct. 24 storm and below we take another look, examining water level rises and storage increases at a broader range of reservoirs roughly a week after the atmospheric river event.

Lake Shasta
Level before the storm on Oct. 22: 882.57 feet
Level after the storm on Nov. 1: 885.47 feet
Total rise: 2.9 feet

Storage before the storm: 970,859 acre-feet
Storage after the storm: 1,001,879 acre-feet
Total storage increase: 31,020 acre-feet

Lake Oroville

Level before the storm: 630.80 feet
Level after the storm: 661.20 feet
Total rise: 30.4 feet

Storage before the storm: 799,638 acre-feet
Storage after the storm: 982,263 acre-feet
Total storage increase: 182,625 acre-feet

Hetch Hetchy
Level before the storm: 3,729.68 feet
Level after the storm: 3,750.99 feet
Total rise: 21.31 feet

Storage before the storm: 221,500 acre-feet
Storage after the storm: 257,800 acre-feet
Total storage increase: 36,300 acre-feet

Trinity Lake
Level before the storm: 2,209.55 feet
Level after the storm: 2,213.22 feet
Total rise: 3.67 feet

Storage before the storm: 648,675 acre-feet
Storage after the storm: 672,930 acre-feet
Total storage increase: 24,255 acre-feet

Folsom Lake
Level before the storm: 370.28 feet
Level after the storm: 390.33 feet
Total rise: 20.05 feet

Storage before the storm: 214,225 acre-feet
Storage after the storm: 318,577 acre-feet
Total storage increase: 104,352 acre-feet

New Melones Lake
Level before the storm: 916.28 feet
Level after the storm: 917.09 feet
Total rise: 0.81 feet

Storage before the storm: 822,619 acre-feet

Storage after the storm: 827,786 acre-feet
Total storage increase: 5,167 acre-feet

Don Pedro
Level before the storm: 723.96 feet
Level after the storm: 727.41 feet
Total rise: 3.45 feet

Storage before the storm: 970,226 acre-feet
Storage after the storm: 995,836 acre-feet
Total storage increase: 25,610 acre-feet

McClure
Level before the storm: 663.70 feet
Level after the storm: 672.27 feet
Total rise: 8.4 feet

Storage before the storm: 180,900 acre-feet
Storage after the storm: 198,467 acre-feet
Total storage increase: 17,210 acre-feet

# # #

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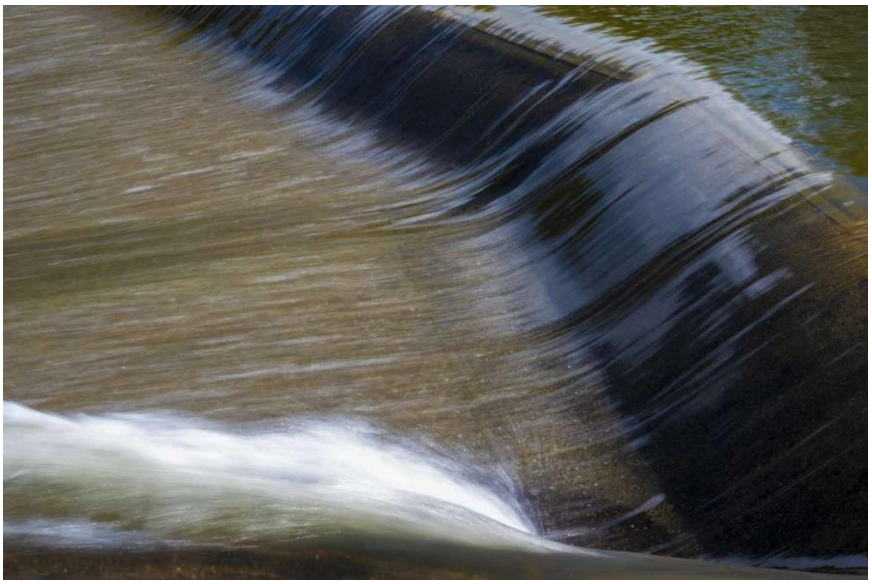
Recent Northern California storms made a dent in the drought. But will it be enough?
San Francisco Chronicle | October 25, 2021 | Kurtis Alexander



Water is spilling over the spillway edge of Bon Tempe Lake. The Marin Watershed accumulated an abundance of water in the storm over the last few days. Photographed in Marin County, California on October 25, 2021. Deanne Fitzmaurice

The parade of storms that blasted California over the past week marked a strong start to the rainy season. Some parts of the state, including Napa, Santa Rosa and Sacramento, received half the rain in 24 hours that they got in all of the past year.

But with California locked in one of its worst droughts in modern history, and some areas short two years' worth of water, a lot more wet weather is needed to mend the state's water woes.

The long-term forecast calls for more dry conditions across much of California in the months ahead. Climate scientists are watching a La Niña weather pattern emerge in the tropical Pacific, which can push the storm track to the north and divert needed rain from the state during the crucial wet season. This would make it even harder for California to get the above-average precipitation required to put an end to the drought.

"Pretty much everyone in my neighborhood was watching their Halloween decorations wash away this weekend," said Dave Rizzardo, a hydrology manager for the California Department of Water Resources. "It's easy to think we're out of the drought now, but this storm is clearing out. It's not going to rain much more this week and possibly beyond that."

The past two years have been two of the driest in a century, a situation exacerbated by record warm temperatures that have further choked the brown and brittle landscape. California saw one of its worst fire seasons this year, with nearly 2.5 million acres burned, in part because of the drought. Meanwhile, dwindling water supplies have prompted restrictions on drawing water in many watersheds, hitting the agricultural industry especially hard. Some cities and towns, many in the North Bay, have also faced cutbacks, though no statewide reductions have been ordered by the governor.

In the northern Sierra, where precipitation is vital because its big reservoirs provide much of the state's water, up to a foot of rain fell in the past few days. The quantity is impressive, helping Lake Oroville, one of the largest reservoirs, swell 100,000 acre-feet, or more than 10% its current volume, even before all of the runoff was counted. In some mountain areas, rainfall totals were 20% of what typically falls in a year.

This year, however, officials at the Department of Water Resources say the northern Sierra will need much more than average precipitation — perhaps 140% to 150% — to bring water supplies back to average, or at least close.

"Average doesn't pull us out of this drought," Rizzardo said "We're trying to make up for several years. There's still a long way to go."

As of Sunday night, Lake Oroville was at only 25% of capacity, or about 41% of where it typically stands at this point in the year. Shasta Lake, the only reservoir that is bigger than Oroville, was just 22% full, holding about 37% of what it typically holds on this date.

The latest reservoir levels don't reflect the entire fallout of the storms. It can take two to three days for the rain to run down hills and creeks into the lakes.

While most of the Bay Area relies on Sierra reservoirs for water, the North Bay remains an exception. Like the Sierra, the North Bay gets its supply from local rivers and lakes that fill with rain, and similarly, water agencies in Marin, Sonoma and Napa counties were reporting healthy inflows but only a fraction of what's necessary to fill their deficits.

Over the past year, some communities in the North Bay have mandated water restrictions of 40%. In Marin County, local leaders have begun allocating millions toward the construction of an 8-mile pipeline across the Richmond-San Rafael Bridge with the hope of importing water.

"There's still a tremendous amount of rain needed," said Brad Sherwood, assistant general manager for the Sonoma Water agency, which delivers water to communities in Sonoma and Marin counties.

Lake Mendocino, one of Sonoma Water's two primary reservoirs in the Russian River watershed, added a third of its volume over the past week. However, the lake remained less than 15% full.

The heavy rain Sunday and Monday capped a weeklong siege of on-and-off wet weather in California, Oregon and Washington from the Pacific. The train of storms was largely triggered by a "bomb cyclone," an area of rapidly decreasing low pressure, that pushed the systems ashore, including a Category 5 atmospheric river over the weekend.

An atmospheric river is a giant plume of moisture that generally wrings out when it makes landfall. Similar to hurricanes, the intensity of the systems is measured on a 1 to 5 scale.

In addition to widespread flooding and mudslides in areas that recently burned in wildfires, especially in and around the scar of the northern Sierra's Dixie Fire, the atmospheric river drove many record 24-hour precipitation totals.

Downtown San Francisco received 4.02 inches of rain on Sunday, the highest daily total ever for October, according to the National Weather Service. Sacramento reported 5.44 inches, the most ever recorded in a 24-hour period there.

Also over the weekend, the city of Napa recorded a 24-hour rainfall total of 5.35 inches and Santa Rosa recorded a 7.83-inch 24-hour period. Both totals were more than half the amount of rain that fell during the past water year, from Oct. 1, 2020, to Sept. 30, 2021, according to the weather service.

Most of the wet system moved out of Northern California on Monday with a few patches of rain possible Tuesday, forecasters said.

"Afterward, the forecast is calling for a much drier pattern," said National Weather Service meteorologist Brayden Murdock. "It doesn't mean things are going to dry out, but it's going to be a lot calmer."

The weather service's Climate Prediction Center reported last week that a developing La Niña could mean dry weather for California and parts of the West through winter. This is when the region gets the bulk of its precipitation.

A La Niña, which is marked by below-average sea surface temperatures in the equatorial Pacific, tends to move the jet stream north, meaning crucial rains could miss California, particularly the southern end. Not all La Niñas mean the same thing, however. Some have brought wetter-than-normal weather.

Gov. Gavin Newsom last week expanded the state's drought emergency to the entire state, a largely symbolic move that did not go as far as enacting mandatory cuts like the drought declaration last decade. In July, the governor asked Californians to reduce water use 15%, though residents have so far pared back just 3.5%.

Newsom has said that he would consider a mandate if more people don't comply and weather conditions don't get better.

# # #

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It will take more than rain to end drought in Western U.S.
Associated Press | October 21, 2021 | Adam Beam

SACRAMENTO, Calif. (AP) — Californians rejoiced this week when big drops of water started falling from the sky for the first time in any measurable way since the spring, an annual soaking that heralds the start of the rainy season following some of the hottest and driest months on record.

But as the rain was beginning to fall on Tuesday night, Gov. Gavin Newsom did a curious thing: He issued a statewide drought emergency and gave regulators permission to enact mandatory statewide water restrictions if they choose.

Newsom's order might seem jarring, especially as forecasters predict up to 7 inches (18 centimeters) of rain could fall on parts of the Northern California mountains and Central Valley this week. But experts say it makes sense if you think of drought as something caused not by the weather, but by climate change.

For decades, California has relied on rain and snow in the winter to fill the state's major rivers and streams in the spring, which then feed a massive system of lakes that store water for drinking, farming and energy production. But that annual runoff from the mountains is getting smaller, mostly because it's getting hotter and drier, not just because it's raining less.

In the spring, California's snowpack in the Sierra Nevada mountains was 60% of its historical average. But the amount of water that made it to the reservoirs was similar to 2015, when the snowpack was just 5% of its historical average. Nearly all of the water state officials had expected to get this year either evaporated into the hotter air or was absorbed into the drier soil — a dynamic playing out across the arid Western U.S.

“You don’t get into the type of drought that we're seeing in the American West right now just from ... missing a few storms,” said Justin Mankin, a geography professor at Dartmouth College and co-lead of the Drought Task Force at the National Oceanic and Atmospheric Administration. “A warm atmosphere evaporates more water from the land surface (and) reduces (the) amount of water available for other uses, like people and hydropower and growing crops.”

Storms are expected to linger in Northern California through the beginning of next week, including moderate to heavy rain with snow at higher elevations. The rain has helped contain some of the nation's largest wildfires this year, including a fire that threatened the Lake Tahoe resort region this summer. Officials said Wednesday night that fire is now 100% contained after storms covered the western side of the blaze with snow, while rain fell on the eastern side.

The state is expecting so much snow that Mammoth Mountain Ski Area near Yosemite National Park announced it would open for the season two weeks early on Oct. 29. But the amount of snow and rain amounts to just a drop in the bucket for California's changing climate.

California's “water year” runs from Oct. 1 to Sept. 30. The 2021 water year, which just ended, was the second driest on record. The one before that was the fifth driest on record. Some of the state's most important reservoirs are at record low levels. Things are so bad in Lake Mendocino that state officials say it could be dry by next summer.

Even if California were to have above-average rain and snow this winter, warming temperatures mean it still likely won't be enough to make up for all the water California lost. This past year, California had its warmest ever statewide monthly average temperatures in June, July and October 2020.

Jeanine Jones, interstate resources manager for the California Department of Water Resources, said people should not think about drought “as being just this occasional thing that happens sometimes, and then we go back to a wetter system.”

“We are really transitioning to a drier system so, you know, dry becomes the new normal," she said. “Drought is not a short-term feature. Droughts take time to develop, and they usually linger for quite some time."

Water regulators have already ordered some farmers and other big users to stop taking water out of the state's major rivers and streams. Mandatory water restrictions for regular people could be next.

In July, Newsom asked people to voluntarily reduce their water use by 15%. In July and August, people cut back 3.5%. On Tuesday, Newsom issued an executive order giving state regulators permission to impose mandatory restrictions, including banning people from washing their cars, using water to clean sidewalks and driveways and filling decorative fountains.

State officials have warned water agencies that they might not get any water from the state's reservoirs this year, at least initially. That will be very challenging, said Dave Eggerton, executive director of the Association of California Water Agencies.

But he said he believes Californians will start to conserve more water soon with the help of a statewide conservation campaign, which will include messages on electronic signboards along busy highways.

“It's going to happen,” he said. “People are starting to get the message, and they want to do their part.”

# # #

La Niña looms in Pacific as new water year begins
Imperial Valley Press | October 20, 2021 | Christine Souza

California's water bucket is not even half full as the state enters the 2022 water year, which began Oct. 1.

Two years of drought has depleted the state's surface and groundwater supplies, and weather forecasters predict a La Niña climate pattern in the Pacific Ocean, which has brought drought conditions in the past.

California State Climatologist Michael Anderson said a wet storm is expected in the state this week, and if this is followed by additional storms in the next month, "the precipitation would provide much-needed moisture to our very dry soils." The lack of moisture in the soil last winter and spring contributed to the decrease in runoff from snowmelt because it was absorbed by the very dry soils, he said.

"Model estimates by (United States Geological Survey) scientists suggest 140 percent of average precipitation would be needed just to generate average runoff," Anderson said. "It is important to get as much benefit out of these events to mitigate against the expected seasonal shortcomings."

An uncertain water supply for the coming year has farmers, water managers and water officials planning for all scenarios.

Kern County almond farmer Jenny Holtermann, who grows almonds in water districts served by the federal Central Valley Project and the State Water Project, said her farm was affected by drought this year. She said her water allocation from the CVP was 15 percent and nothing from the SWP, adding that the farm had to rely on groundwater in some orchards.

"Our family farm had to make the difficult decisions to remove acres this year. The trees were at a downward yield, but if water was available, we most likely would have been able to have a few more years of production," Holtermann said. "With limited water availability, it made more sense to remove the acres now. We will fallow the land for a year and hope to replant in fall in 2022 if the water outlook appears more promising."

Looking at the possibility of another dry year, Holtermann suggested that farmers will need to be even more innovative and efficient.

"In our area, many farmers are turning to water banking projects on their own farms by using tile drain systems. These projects will help farmers in water districts that do have access to water supplies during the winter months, where we can store the water for use during the summer," Holtermann said. "As much banking we can do when there is rain or runoff, the better off we will be."

Jeanine Jones, California Department of Water Resources drought manager and interstate resources manager, said that state water agencies are doing a lot of contingency planning for potentially a very dry year.

"We've learned a lot from past droughts, and we are doing more on the preparedness side," Jones said. "The department has been reaching out to the water contractors and inquiring about their minimum health and safety needs, which would be for residential use."

Jones noted that the 2021 water year was the second-driest in terms of statewide precipitation, with 1924 being the driest year. Jones said she expects the SWP and CVP water projects will have low water allocations for water contractors. The SWP initial allocation, which is made on Dec. 1, will likely be very low, she said, because it is based on water available now. In discussing the SWP reservoirs, she said, "Oroville is at a record low storage and San Luis is not far behind in terms of record low." The U.S. Bureau of Reclamation makes its initial allocation for the CVP in late February.

"We're on par with 1976-77. In 1977, we ended up the water year at 36% of statewide reservoir storage. Sept. 30, we ended up with about 60 percent of statewide reservoir storage, so clearly we're much better off," Jones said.

In terms of planning for 2022 for his district, Lewis Bair, general manager of Reclamation District No. 108, a Sacramento River settlement contractor, said he is planning for various possible water scenarios.

"We are doing a budget as if we wouldn't have water, and a budget as if we would have water. We're looking at how can you creatively operate the system under different scenarios," said

Bair, whose district received 65% of its water supply this year from the U.S. Bureau of Reclamation and had to fallow farmland. "A lot of our expertise is around salmon, and so we've been looking at what the state has proposed and checking whether that's appropriate and if there's anything that can be done."

In discussing the state's operational approach of prioritizing water for public health and safety, followed by fisheries needs and lastly, water for consumptive use, Bair said, "The state needs to be thinking about all scenarios."

"What the state hasn't done a good job of addressing is: What if there isn't enough water, period? What if there isn't enough for the fishery?" Bair said. "The fisheries (agencies) are projecting that we're going to have a million out-migrating winter juvenile salmon. It's not a good year, but it's not the kind of thing that we have to sacrifice the Sacramento Valley for."

Farther north, Siskiyou County farmer and rancher Jim Morris farms with water diverted from the Scott River, and he said he remains concerned about the coming year and lifting of curtailments. The Scott River and Shasta River are part of the Klamath River watershed, which is one of several watersheds in the state that faces water rights curtailments adopted by the State Water Resources Control Board this year.

"If we stay curtailed and they don't let us turn on, we don't really have any good outcome," Morris said, adding that Scott River farmers are working with the state on a voluntary agreement to reduce water use in the coming year by 30 percent (Shasta River by 15 percent). "We have a week of what looks like pretty wet weather ahead of us, and that's what it's going to take to get the Scott (River) running again."

Specific to when and how water curtailments would be lifted, Diane Riddle, State Water Resources Control Board assistant deputy director of the division of water rights, said board staff is tracking and evaluating hydrologic conditions.

"For the Bay-Delta watershed, we lifted some curtailments since September, and we've continued to make adjustments in response to precipitation events. That's going on on a regular basis," Riddle said. "It may be at some point we will reach the threshold in which curtailments are not needed for a period of time if we get a good amount of precipitation events."

A full lifting of curtailments will happen, Riddle said, "when there's excess flow in the system and there's water available for all. It could be a temporary lifting that would apply for a couple of months and then a reimposition of curtailments later in the season."

"We're preparing ourselves for whatever conditions might materialize. Prepare for the worst and hope for the best," Riddle said.

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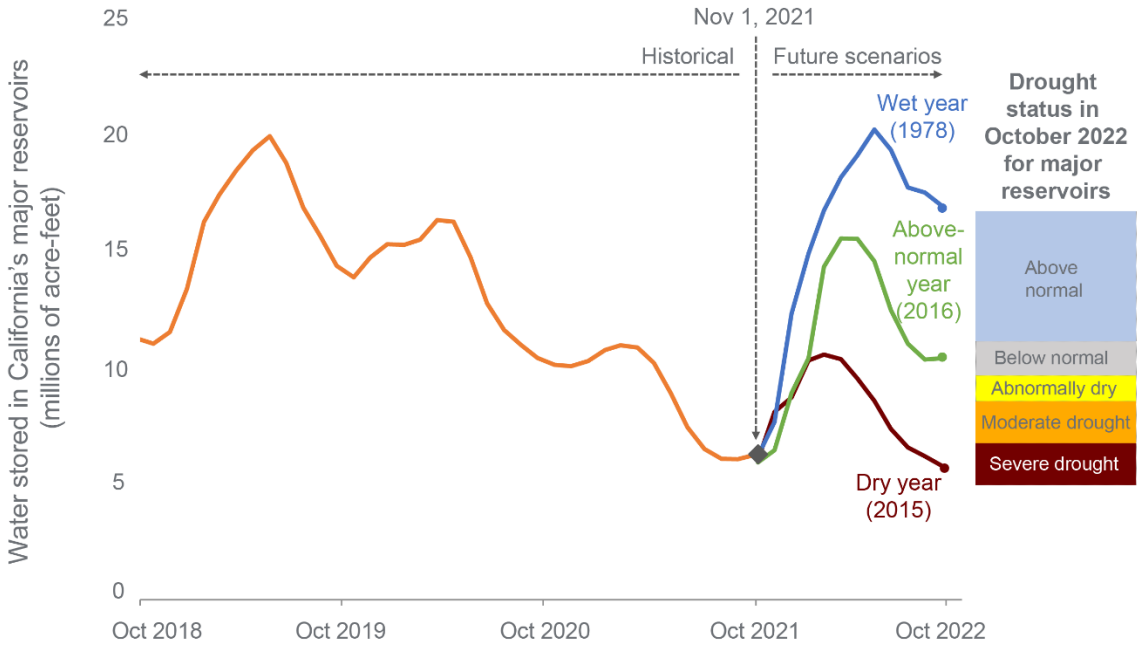
The Current Drought: Time to Hope for the Best, Prepare for the Worst
Public Policy Institute of California | November 8, 2021 | Alvar Escriva-Bou & Ellen Hanak


photo - Shasta Lake with Low Water Level

Last month's atmospheric river brought much-needed precipitation to California, which has been in the grip of the second-driest and third-warmest two-year period on record. It was a balm to the drought-stricken state, and more than 600,000 acre-feet have arrived in the state's major reservoirs, but are our worries over? In a word, no.

California remains in a historic drought. We ended the 2021 water year in conditions similar to the end of 2014, year three of the last major drought. Future scenarios for the 2022 water year—shown in the figure—demonstrate that we'll need a generous year of rainfall to move the drought needle out of the danger zone. If dry conditions persist, as they did in 2015, drought impacts will be amplified. Even an above-normal water year won't take us out of drought: in 2016, for instance, we were able to fill up our reservoirs, but drought conditions persisted because reservoir managers made conservative decisions on water releases to avoid taking more risks. Only a wet year like 2017—or like 1978, which followed the driest two-year period on record and mirrors current conditions—will relieve the drought stress, although we could still see some persistent drought impacts in freshwater ecosystems and overdrafted groundwater basins.

Only a wet year will take California's reservoirs out of drought conditions



FROM: PPIC Blog, November 2021.
SOURCE: Author estimates using data from California Data Exchange Center (CDEC).
NOTES: The chart shows the water stored in California's 13 major reservoirs for the 2019–21 water years, and then three scenarios for water storage by the end of the current water year: a dry year (modeled after 2015), an above-normal year (like 2016), and a wet year (like 1978). These years were selected because overall reservoir levels at the beginning of the water year were similar to those in October 2021. The "Drought status in October 2022 for major reservoirs" uses the 1995–2021 historical conditions in October for the same 13 reservoirs. "Severe drought" ranges from the historical minimum to the 10th percentile of years, "moderate drought" from the 10th to the 20th percentile, "abnormally dry" from the 20th to the 30th percentile, "below normal" from the 30th to the 50th percentile, and "above normal" from the 50th percentile to the historical maximum.

We're here in part because the most recent drought has been so fast-moving. In the 2012–16 drought, it took more than three years for reservoir levels to drop to extreme drought levels. In the current drought, that drop took less than two years—reflecting the especially dry conditions in Northern California, where most major reservoirs are located. Climate change is exacerbating drought intensity: conditions deteriorated rapidly this summer, the hottest on record.

The conditions in the Sacramento River watershed are critical not only for the region itself, but also for Bay Area and Southern California cities and the San Joaquin Valley farms served by the Central Valley Project and the State Water Project. Water allocations from these projects were set to just 5% for SWP contractors and as low as 0% for some agricultural contractors of the CVP. One consequence is reduced crop acreage; for instance, around 110,000 acres less than in 2020 were planted—mostly rice and cotton—given the dry conditions, and anecdotal reports suggest both acreage and yield declines for other crops from reduced water deliveries and heat

stress. While there will be some costs, overall agriculture has proven fairly resilient. The real question is what happens next year.

The reduction in surface water supplies has also spurred more groundwater pumping, accelerating declines in groundwater levels that occur naturally during droughts: almost a thousand drinking water wells have been reported dry, leaving residents of some low-income rural communities without water running through their taps.

In general, cities have dealt with the drought so far without major problems, reflecting significant past investments in drought preparedness, including water storage. Notable exceptions include communities in the normally wetter North Coast—including Marin, Sonoma, and Mendocino—and a few others throughout the state where severe drought restrictions are now in force.

Finally, freshwater ecosystems have been acutely affected by the drought. Low streamflows and high water temperatures in the Sacramento Valley and North Coast have caused severe stress to salmon and other endangered species.

As Californians eye the skies and hope for more rain, we also need to take immediate actions to minimize social, economic, and environmental risks if the drought continues into 2022. In our latest report, we highlight a few short-term priority actions, including lessening the negative impacts of increased groundwater pumping, identifying drinking water systems at risk of shortages and taking rapid action, and managing reservoirs more conservatively to ensure essential flows are available for the environment.

Despite recent rainstorms, it’s important to remember that we’re still in a drought—and we may face yet another year of extreme conditions. We must be prudent in how we manage our water: hoping for the best, but preparing for the worst.

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What will it take for California drought to end? It's way more complicated than 'rain'
Sacramento Bee | November 4, 2021 | Hanh Troung

While drought does come and go, rain can bring some relief, according to the U.S. Geological Survey. But exactly how much precipitation it would take to end the California drought is complicated.

A major storm, like the bomb cyclone Northern California saw last month, can help — but it won't end water woes.

"It is important to remember that drought is a naturally recurring feature of our climate in California, and droughts will never completely go away," said Michelle Stern, a hydrologist at USGS. "Droughts and floods are central to California's past, present, and future."

The agency said on its website that light to moderate showers bring temporary, cosmetic improvements; whereas, rain from thunderstorms mostly go to drains and streams and not into the ground.

Storms that can best alleviate drought are ones where rain soaks the soil, recharges groundwater, and "sustains vegetation and feeds streams during periods of no rain."

HOW RAIN CAN IMPROVE THE DROUGHT

In terms of improving drought, Richard Heim, a meteorologist at the National Oceanic and Atmospheric Administration's National Centers for Environmental Information, said that soil moisture, rivers, groundwater and reservoirs need to be taken into account, as each of these factors needs different amounts of rain to recover.

"The drought created a deficit of soil moisture storage, empty reservoirs, and groundwater that has been overdrafted for decades," Stern, with USGS, said. "Surface reservoirs and soil moisture can recover in one wet season, whereas groundwater takes one to tens of thousands of years to recover.

"Atmospheric rivers are key to refilling our surface reservoirs and soil moisture, but we need more than one to get us back to normal conditions."

An atmospheric river is a stream of intense water vapor that cools and produces heavy rain and snow. This type of phenomenon can provide up to 50% of the West Coast's water supply, the U.S. Department of Energy said on its website.

This year marks the second driest year on record. Last month, Gov. Gavin Newsom extended the drought emergency across California.

WHAT CALIFORNIA NEEDS TO RECOVER

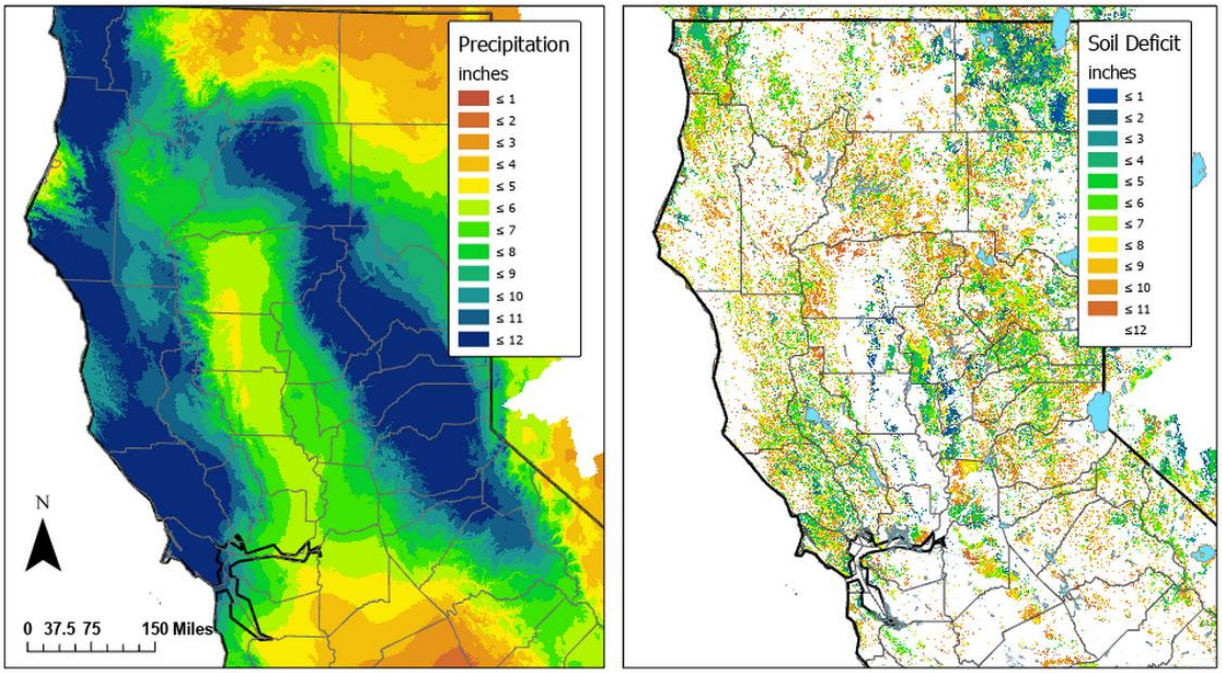
According to the USGS and the hydrology team at the California Department of Water Resources, California needs 140% of precipitation to reach average runoff conditions. The average amount of precipitation in California is 23 inches per year, Stern said. California would need 140% of that — roughly 32 inches — to recover.

The average across California in October was 4 inches. This year, the state would “need an additional 28 inches of precipitation ... to recover to average runoff conditions,” Stern said.

Essentially, with 140% of rainfall, there will be a sufficient amount water to moisturize the soil to conditions where runoff to the reservoirs is possible.

“It helps to think of soils like a sponge; when you first wet a sponge, water must completely saturate the sponge before water starts to spill over,” Stern said. “It will take many storms once the soils are saturated to create enough runoff to refill California’s larger reservoirs.”

Depending on the severity of the drought, different regions will need more or less to see significant improvements.



The figure on the left shows how much rainfall counties in Northern California experienced from recent rain in October. The figure on the right demonstrates how dry the soil is, even after the rain. The colors show how many inches of rain is necessary to fill the soil before there is runoff. Note: the model data is preliminary and subject to change. MICHELLE STERN OF THE U.S. GEOLOGICAL SURVEY

HOW TO TELL DROUGHT ENDED

Identifying the end of a drought is complicated because of its many definitions.

Simply put, drought is the absence of water. According to the NOAA, there are different types of drought: meteorological, hydrological, agricultural and socioeconomic. You can experience more than one type at a time.

“The surface water drought can be considered over once the major reservoirs are refilled,” Stern said. “Landscape (soil moisture and vegetation) and groundwater droughts are more difficult to declare ‘over’ because they are variable across space and time and are more difficult to measure.”

LA NIÑA WINTER

There's doubt as to whether California will have a wet season to that extent.

"There are relatively few years in California's historical record in which we've had 140% or more of average precipitation," said Jeanine Jones, the drought manager at DWR. "So that's another way of saying that the odds of getting the average run off this year aren't good."

The National Weather Service announced last month that California had a high chance of experiencing its second consecutive La Niña winter. And while the season is starting off wet, forecasts show that it may get drier in the later phase.

Jones said it won't be until the end of the wet season, around March or April, that we can see what the drought conditions look like and whether it improved.

"Something else to keep in mind is that California has the highest variability of precipitation of any state in the United States," she said, "meaning that it's very easy for us to swing from a very wet year to a very dry year or anywhere in between."

Stern said, in the meantime, individual actions to conserve water and reduce water usage are important. It's also key to consider how agencies manage the state's reservoirs, snowpacks and groundwater resources during times of drought and flood.

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THIS JUST IN … GOVERNOR NEWSOM EXPANDS DROUGHT EMERGENCY STATEWIDE, URGES CALIFORNIANS TO REDOUBLE WATER CONSERVATION EFFORTS
Maven Breaking News | October 19, 2021 | From the Office of the Governor:

Following the second driest year on record and with near record low storage in California's largest reservoirs, Governor Gavin Newsom today issued a proclamation extending the drought emergency statewide and further urging Californians to step up their water conservation efforts as the western U.S. faces a potential third dry year.

Bolstering conservation efforts, the proclamation enables the State Water Resources Control Board to ban wasteful water practices, including the use of potable water for washing sidewalks and driveways. The Governor issued an executive order in July calling on Californians to voluntarily reduce water use by 15 percent compared to 2020 to protect water reserves and complement local conservation mandates. The Governor's action today comes as the Board reports that in August, California reduced urban water use by 5 percent compared to 2020.

"As the western U.S. faces a potential third year of drought, it's critical that Californians across the state redouble our efforts to save water in every way possible," said Governor Newsom. "With historic investments and urgent action, the state is moving to protect our communities, businesses and ecosystems from the immediate impacts of the drought emergency while building long-term water resilience to help the state meet the challenge of climate change impacts making droughts more common and more severe."

A copy of today's proclamation can be found here.

The proclamation adds the eight counties not previously included in the drought state of emergency: Imperial, Los Angeles, Orange, Riverside, San Bernardino, San Diego, San Francisco and Ventura. In addition, the proclamation requires local water suppliers to implement water shortage contingency plans that are responsive to local conditions and prepare for the possibility of a third dry year.

Expanding the Save Our Water initiative, a critical resource during the last drought, California has launched robust water conservation public education campaigns in partnership with stakeholders, including public water agencies. Statewide per capita residential water use declined 21 percent between 2013 and 2016 and as of 2020, the urban sector is using approximately 16 percent less on average statewide than in 2013. The Administration will continue to monitor the evolving drought conditions and evaluate all tools available to respond in real-time.

California is experiencing its worst drought since the late 1800s, as measured by both lack of precipitation and high temperatures. August 2021 was the driest and hottest August on record since reporting began and the water year that ended last month was the second driest on record. Today's proclamation authorizes the Governor's Office of Emergency Services to

provide assistance and funding under the California Disaster Assistance Act to support the emergency response and delivery of drinking water and water for public health and safety.

The Governor's California Comeback Plan invests $5.2 billion over three years to support immediate drought response and long-term water resilience, including $815 million for emergency drought relief projects to secure and expand water supplies, drought contingency planning and multi-benefit land repurposing projects; support for drinking water and wastewater infrastructure, with a focus on small and disadvantaged communities; Sustainable Groundwater Management Act implementation to improve water supply security and quality; and projects to support wildlife and habitat restoration efforts, among other nature-based solutions.

More information on the state's response to the drought and informational resources available to the public are available at https://drought.ca.gov/

# # #

NOTICE: TEMPORARY SUSPENSION OF CURTAILMENTS IN THE SACRAMENTO-SAN JOAQUIN DELTA (DELTA) WATERSHED

Maven Announcements | October 19, 2021 | From the State Water Board:

All curtailments under the August 20, 2021 curtailment orders (Order for water rights/claims under 5,000 acre-feet and Order for water rights/claims over 5,000 acre-feet) issued pursuant to the Sacramento-San Joaquin Delta (Delta) Watershed Emergency Reporting and Curtailment Regulation are temporarily suspended at this time.

The reporting requirements remain in place, as do other curtailment requirements pursuant to Standard Water Right Term 91. The temporary suspension of curtailments is subject to change. Water supply forecasts will continue to be evaluated regularly to determine if, when, and to what extent re-imposition of curtailments is appropriate, and updates will continue to be provided by email and web posting.

Current forecasts call for notable precipitation in the Delta watershed over the next seven days, particularly in the Sacramento River watershed. Precipitation is also anticipated in the San Joaquin River watershed, though to a less significant extent.

The decision to temporarily suspend curtailments is based in part on the Water Unavailability Methodology for the Delta Watershed, together with consideration of a range of precipitation forecasts from the California Nevada River Forecast Center (CNRFC), low water demand for direct diversions in October, the importance of allowing reservoirs to refill when water becomes available due to storm events, and existing instream flow requirements. However, dry soil conditions in the Delta watershed may limit the immediate impact of early precipitation. Additional precipitation events are expected to result in more dynamic changes to observed runoff. As such, the State Water Board will continue to closely monitor forecasted precipitation and hydrologic conditions and may re-evaluate curtailment statuses within the next week if appropriate.

Suspension of curtailments should not be construed as a validation of water right claims or an authorization to divert. Existing constraints on water right permits and licenses, such as seasonal diversion restrictions and bypass flow requirements, remain in effect. In addition, all water right holders and claimants may only divert under valid water rights and are not authorized to divert if it would result in injury to other water users.

Water right holders and claimants are responsible for monitoring their curtailment status online on the Delta Watershed Curtailment Status List. Notice of changes to curtailment status will not be mailed. For those with limited internet access, a pre-recorded curtailment summary can be heard on the Delta Curtailment Status phone line at (916) 323-4643.

For more information about drought in the Delta watershed, please visit the Delta Drought webpage. For more information about curtailment compliance and responses to the August 20 Orders, please visit the Curtailment Compliance and Responses webpage. The Curtailment

Compliance and Responses tracker is updated every Friday and can be filtered to see the latest changes. If you have any questions, you may send an email to Bay-Delta@waterboards.ca.gov or call the Delta Drought phone line at (916) 319-0960.

How Californians Can Save More Water

Gov. Gavin Newsom has called for a 15 percent reduction in water usage, but we're far from that target.

New York Times | November 4, 2021 | Soumya Karlamangla

ImageGov. Gavin Newsom wants Californians to find ways to use 15 percent less water.
Gov. Gavin Newsom wants Californians to find ways to use 15 percent less water.Credit...Justin Sullivan/Getty Images

The results are in: Californians aren't saving enough water.

Amid a historic drought, Gov. Gavin Newsom has asked us to reduce water consumption by 15 percent. Yet in August, the most recent month for which data is available, we'd brought usage down just 5 percent compared with the same time last year.

Of course, not all water-saving is the responsibility of California households. Eighty percent of California's water goes toward agriculture, and other businesses play a big role too.

But that doesn't mean we can't conserve more — and many of us seem to be trying. You wrote to me about letting your cars get dusty and your lawns turn brown and collecting cold shower water to boil pasta and fill your dog's bowl.

The state offers these simple water conservation tips, and below I've shared some of the more creative ones you sent me:

“Easy to save water by showering every other day, and taking shorter showers. No reason we need showers every single day unless we are totally covered with dirt due to jobs. And that doesn’t apply to a lot of people.” — Amy Skewes-Cox, Ross

“My husband and I switched to a ‘If it’s yellow, let it mellow’ rule in our house and have been very pleasantly surprised with how effective it is at reducing water consumption. It’s so much more impactful than watering our lawn less, taking shorter showers and doing fewer loads of laundry.” — Meredith Alcala, Alameda

“We are installing a laundry-to-landscape greywater system. Instead of using sprinklers to irrigate our 75-foot blue Atlas cedar, 75-foot redwood and three smaller redwoods, we will be watering them every time we do laundry.” — Roger Bergman, Santa Barbara

“We started keeping a sizable metal bowl in the bottom of our kitchen sink. When we wash fruits or vegetables or rinse something off with just water, we capture the water and use it on our container plants. So the more fruits and vegetables we eat, the more we grow!” — Jessica Koning, Big Sur

“I bought a shower clock. I am amazed at how helpful it is. I note the time as soon as I turn on the water and I try to shower as fast as I can.” — Diane E. Johnson, Mission Viejo

“My boys (13, 16) don’t love that we urge them to take on-off showers, but they do it. Strange that a 13-year-old would even be aware of our drought. Growing up in the Bay Area, I certainly had no idea of the California water situation when I was that young.” — Hunter Hubby, Berkeley

“We have been in California for 36 years and, from the very beginning, have been meticulously careful with our water usage knowing we were now living in a semi-desert land. We use a bowl in the kitchen sink where all water goes, emptying it on the plants many times a day. We use the dishwasher every six days, wear most clothing longer between washes, gave up the swimming pool and lawns many years ago, changed many plants to those that don’t need much water, use much less water on the garden, flush the toilet less frequently, and do ‘up and downer’ body washes in between less frequent showers. We don’t smell!!

It’s going to be hard for us to cut back 15 percent from our water usage with the way we already conserve. We will do our very best to help save this beautiful state.” — Rosalind Roberts, Los Gatos

# # #

New Research Shows Most Americans are Unaware of Their Daily Water Consumption
American Water | October 21, 2021

MECHANICSBURG, Pa. (Oct. 21, 2021) – According to new research conducted by global research agency Opinium on behalf of American Water, Americans underestimate the amount of water they use daily by 90%. Most believe they use less than 100 gallons of water each day, when the actual number is more than 2,000 gallons on average (according to Water Footprint Network). This figure considers the water consumed by individuals directly (e.g. dishwashing or watering the lawn) and indirectly (e.g. the water required to produce food). With the majority of Americans underestimating their own personal water usage, the study also found a lack of awareness for water consumption in specific areas of their lives as well.

Ahead of the annual observance of the Value of Water's Imagine a Day Without Water on October 21st, the survey asked a nationally representative sample of more than 2,000 Americans to reflect on their daily water consumption and how much water is required to produce many common items we consume daily. The findings revealed that – regardless of gender, homeownership, or age – Americans are largely unaware of just how large their water footprint is and the variety of ways water impacts their everyday lives.

"We all know water is a vital part of our daily lives for drinking and basic hygiene, but we often don't consider the water needed to produce the foods we eat or even the clothes we wear," said Dr. Lauren Weinrich, Principal Scientist, Water Research & Development at American Water. "As part of our commitment to provide clean, safe, reliable drinking water for our customers, it's important to raise public awareness of the true value of water. During this year's Imagine a Day Without Water, we want to help educate our customers on the importance of water, but also ways they can participate in the efforts to support water efficiency and conservation."

The study revealed Americans' various underestimations of water consumption for products they likely use every day:

- Almost 90 million Americans believe it takes no water at all to make a pair of jeans. In reality, a fresh pair of jeans requires around 2,600 gallons to make.
- It takes 713 gallons of water to make a new cotton t-shirt to pair with those jeans. Americans believe it takes just 136.
- Americans believe it takes 158 gallons of water to produce a smartphone, but the actual amount is more than 3,400.

With fall right around the corner, Americans are looking forward to enjoying the season's special events – like gathering around the table for holiday dinners. However, most people aren't aware of just how much water goes into producing these fall-favorites. Americans drastically underestimated the water needed to make:

- One 16-pound holiday turkey takes 4,688 gallons vs. estimated 158 gallons

- A pecan pie takes 1,068 gallons vs. the estimated 135 gallons; and a pumpkin pie takes 458 gallons vs. the estimated 135 gallons
- The traditional green bean casserole – with fried onions on top! – takes 547 gallons of water to hit the holiday dinner table vs. the estimated 116 gallons

The company created an infographic to depict key findings of the study, which you can read more about here. For more information on Pennsylvania American Water and how you can reduce your water footprint, visit https://www.amwater.com/paaw/water-information/wise-water-use.

About Pennsylvania American Water
Pennsylvania American Water, a subsidiary of American Water (NYSE: AWK), is the largest investor-owned water utility in the state, providing high-quality and reliable water and/or wastewater services to approximately 2.4 million people. For more information, visit www.pennsylvaniaamwater.com and follow Pennsylvania American Water on Twitter and Facebook.

About American Water
With a history dating back to 1886, American Water is the largest and most geographically diverse U.S. publicly traded water and wastewater utility company. The company employs more than 7,000 dedicated professionals who provide regulated and market-based drinking water, wastewater and other related services to 15 million people in 46 states. American Water provides safe, clean, affordable, and reliable water services to our customers to help make sure we keep their lives flowing. For more information, visit amwater.com and follow American Water on Twitter, Facebook, and LinkedIn.

# # #

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Statewide water wars draw attention in Pacifica
Pacifica Tribune | October 26, 2021 | Clay Lambert

Dozens of Pacificans gave up their Friday evening to learn more about the challenges California faces as a result of dwindling water resources. After 2 ½ hours, it's unlikely many of them felt better about the problem.

Coalition of Pacificans for an Updated Plan and Responsible Planning sponsored the screening of "River's End: California's Latest Water War" as well as a lively discussion of local and statewide water concerns. Organization leader Christine Boles opened the evening by noting the city of Pacifica's General Plan, the planning document that underpins much of the city's growth in the years to come, is "40 years old and doesn't even mention climate change."

Key to the evening was connecting the dots between population growth, limited natural resources and climate change.

The film highlights the divergent interests of the Bay Area, Southern California's urban region, the Northern California delta and the San Joaquin Valley. It does not offer a solution that is acceptable to all of those parties. In fact, it points out that disputes over the distribution of California's water have raged for a century or more. One key to the problem, the film notes, is that maintaining California's massive agriculture industry — including exports around the world — limits what is ultimately available for the state's population centers.

Ironically, North Coast County Water District General Manager Adrianne Carr told those gathered that she actually expects local water use to go down in the years to come. That would continue a trend. She said Pacificans are using 36 percent less potable water than they did in 2000.

That doesn't mean the city's water problems are solved. Carr said one issue is that it's hard to use historical data to plan for the future given the vagaries of climate change. Historically, one in 11 years are drought years that affect local water supplies, but she suggested that could get worse. She said there are options going forward, including desalination, water purification, more recycled water, expanded reservoirs and even buying more water from farm interests.

Those options won't come cheap.

Gregg Dieguez, who is a member of the Midcoast Community Council with a long history of work on climate change, said he worried about the cost of new supply. He said published reports put the cost of recycled water or desalination projects could mean water bills as much as 10 times their current levels.

"Why are we conserving if we are still allowing new water connections?" he asked. "I think this is a pretty serious issue as you think about growth in Pacifica. At what cost is this water going to be available?"

In response to a question about state mandates that call for 1,900 new housing units in Pacifica in the next eight years, Carr expressed confidence about meeting the new demand.

“The water district, I believe, would be able to provide for these new residents of the city,” she said. “One really important thing to note is that new development has a much lower water footprint than existing development.”

One thing was clear from the evening’s discussion: greater efficiencies will be required regardless of growth.

The film quotes Pulitzer Prize-winning reporter Bettina Boxall, who writes about water issues in the state.

“When people find out I write about water, they want to know, ‘Are we running out of water?’” she says. “We’re not running out of water, but we are running out of water to use the way we did in the 20th and 19th centuries.”

# # #

Managing Water Resources in a Low-to-No-Snow Future

With mountain snowpacks shrinking in the western U.S., new Berkeley Lab study analyzes when a low-to-no-snow future might arrive and implications for water management

Berkeley Lab | October 26, 2021 | Julie Chao

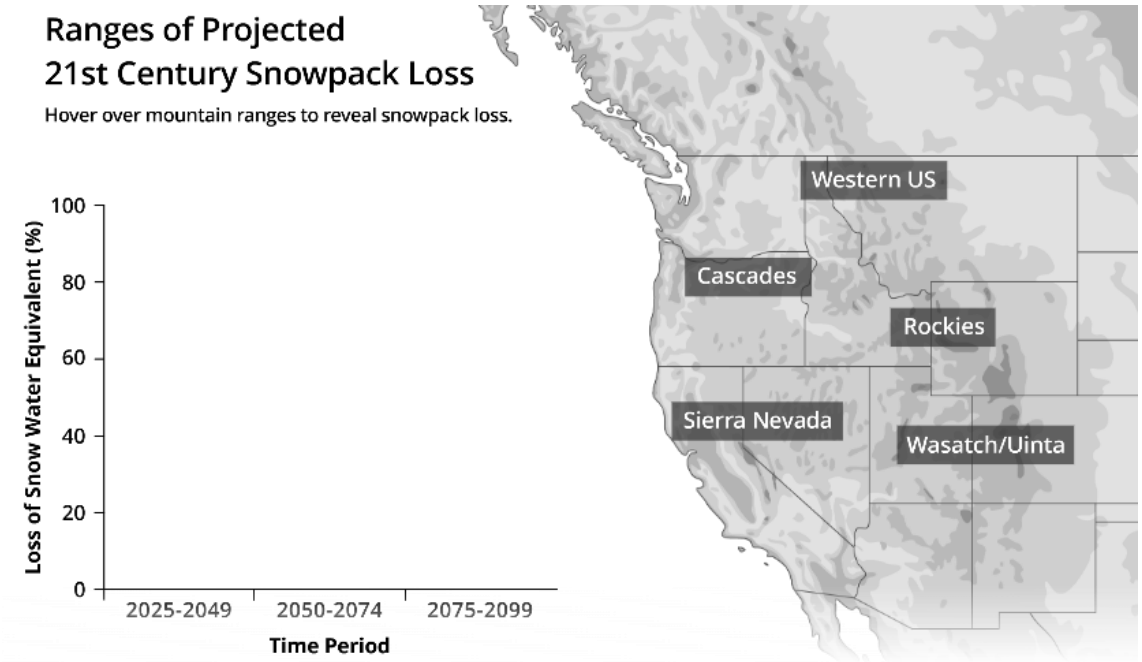
A new Berkeley Lab analysis finds that if greenhouse gas emissions continue along the high-emissions scenario, low-to-no-snow winters will become a regular occurrence in the western U.S. in 35 to 60 years. (Credit: Melissa Kopka/iStock)

Mountain snowpacks around the world are on the decline, and if the planet continues to warm, climate models forecast that snowpacks could shrink dramatically and possibly even disappear altogether on certain mountains, including in the western United States, at some point in the next century. A new study led by researchers at Lawrence Berkeley National Laboratory (Berkeley Lab) analyzes the likely timing of a low-to-no-snow future, what it will mean for water management, and opportunities for investments now that could stave off catastrophic consequences.

Their review paper, “A low-to-no-snow future and its impacts on water resources in the western United States,” published in the journal Nature Reviews Earth and Environment, analyzes previous climate projections and finds that if greenhouse gas emissions continue along the high-emissions scenario, low-to-no-snow winters will become a regular occurrence in the western U.S. in 35 to 60 years. Further, the study re-evaluates longstanding assumptions in water management in the U.S. and stresses that scientists and water managers need to work together more closely to develop and implement climate adaptation strategies.

The Sierra Nevada, Rockies, Cascades, and other mountain ranges provide a tremendous service by capturing, storing, and releasing water for downstream use. Historically, snowmelt timing provides a critical delay in the delivery of water supply during the spring and into the summer, when precipitation is low and when water demands are at their highest due to agriculture. The factors causing shrinking snowpacks are predominantly tied to temperature increases and shifting precipitation characteristics. Warmer temperatures also imply that storms will produce more rainfall and less snowfall, limiting the amount of seasonal snowpack that can build through the winter.

The research, co-led by authors Erica Siirila-Woodburn and Alan Rhoades of Berkeley Lab's Earth & Environmental Sciences Area, starts with a literature review which distills several hundred scientific studies on snow loss; of those, they identify and analyze 18 studies that had quantitative snowpack projections for the western U.S.



Charts show projected snowpack loss for three time periods: near future, mid-century, and end-century. The projections are synthesized from 18 published climate studies, which predominantly provide projections from a higher-emissions scenario. The loss of snow water equivalent, or the total water content for a given depth of snowpack, is computed relative to a historical base period chosen by each individual study. Each bar denotes the interquartile range (25th-75th percentiles) of the projections.

When will the low-to-no-snow future arrive?

"A recent study highlighted that there has been a 21% decline in the April 1 snowpack water storage in the western U.S. since the 1950s – that's equivalent to Lake Mead's storage capacity. In our review, we found that around mid-century we should expect a comparable decline in snowpack," said Rhoades. "By the end of the century, the decline could reach more than 50%, but with a larger range of uncertainty."

Many water managers use the somewhat arbitrary date of April 1 to make snowpack observations and planning decisions. Over the last several decades, there have been decreases in peak snowpack volume as well as earlier occurrences of the timing of peak snowpack, with the peak occurring approximately 8 days earlier in the year for every 1 degree Celsius (1.8 degrees Fahrenheit) of warming.

Many regions have already experienced winters with very little snow in recent years, such as the Sierras in 2015 when the April 1 snowpack level was 5% of normal, which the authors call an “extreme” event. The paper defines two other types of low-to-no-snow conditions – “episodic low-to-no snow,” or when more than half of a mountain basin experiences low-to-no snow for five consecutive years, and “persistent low-to-no snow,” in which this happens for 10 consecutive years. “Low snow” is defined as when the snowpack (or more precisely, the snow water equivalent, a measure of how much water will be released when the snowpack melts) is in the 30th percentile or lower of the historical peak.

Using these definitions, California could experience episodic low-to-no snow as early as the late 2040s and persistent low-to-no snow in the 2060s according to one high-resolution climate projection. For other parts of the western U.S. persistent low-to-no snow emerges in the 2070s. The authors caution the need for more analyses with a broader set of climate projections to enhance confidence in the timeline for emergence of low-to-no-snow conditions.

The authors describe the climate projections in their study, writing: “Through the middle and end of the 21st century, an increasing fraction of the western U.S. is impacted by snow water equivalent deficits relative to the historical period. In particular, only 8 to 14% of years are classified as low-to-no snow over 1950-2000, compared to 78 to 94% over 2050-2099. In all regions, an abrupt transition occurs in the mid-to-late 21st century.”

Impacts on water resources

The impacts of a low-to-no-snow future extend beyond just decreased streamflow, although that is certainly a significant consequence. In the Sierra Nevada, for example, the amount of water in the snowpack on a typical April 1 is nearly double the surface reservoir storage in California.

“A low-to-no-snow future has massive implications for where and when water is stored in the western U.S.,” said Siirila-Woodburn. “In addition to the direct impacts on recreation and the like, there are a lot of secondary effects on natural and managed systems, from a hydrologic perspective. So that’s anything ranging from increased wildfire occurrence to changes in groundwater and surface water patterns and changes in vegetation type and density.”

With less snow and more rain, groundwater levels in mountainous systems may be impacted because snowmelt more effectively infiltrates into the subsurface than rainfall does. Further, less snow at lower elevations will decrease the overall surface area of snowpack stored in the mountains, potentially resulting in less available snowmelt that infiltrates into the ground.

Now for the good news …

The authors' aim in doing this study was to spur thinking now about adaptation strategies. "We want society to be proactive about these changes in snowpack rather than reactive," said Rhoades. "Our hope in presenting the literature synthesis of low-to-no snow is so that we can understand the problem in a 'one-stop shop' way. Additionally, we highlighted some novel climate adaptation strategies that are coming about through nontraditional academic and water agency partnerships, which will be key parts of a portfolio of adaptation approaches needed to overcome snow loss in a warmer world."

One such partnership is a Department of Energy-supported project called HyperFACETS, which involves 11 research institutions, including Berkeley Lab, working with water utility managers in California, Colorado, Florida, and Pennsylvania.

The paper also discusses potential adaptation strategies, such as a technique known as managed aquifer recharge, in which excess surface water is stored underground as groundwater for later use. Another relatively new technique, forecast-informed reservoir operations, in which weather and hydrological forecasts are used to inform decisions about retaining or releasing water from reservoirs, was recently shown to increase water storage at Lake Mendocino in California by 33%.

These and other techniques show promise for increasing water supply, but the authors also recommend more cross-collaboration, both among scientists and within society as a whole, to expand the portfolio of climate adaptation strategies.

"We are advocating for the idea of engagement with best scientific practices and more collaboration or partnership between researchers and stakeholders. For example, city managers are concerned with flood control; farmers are concerned with water storage; everyone has their own objectives. Even within science, the disciplines are typically siloed," said Siirila-Woodburn. "If everyone were working together to manage water rather than working independently for their own purpose, there would be more water to go around."

# # #

California's Drought Sparks Innovation in Santa Barbara County
Hope Ranch's Water Supplier Floats Idea of Offshore Desal
Santa Barbara Independent | October 20, 2021 | Jean Yamamura

Dry times call for innovative measures, and with California facing its driest year in nearly a century, the privately held water company that supplies Santa Barbara's Hope Ranch community is floating a unique idea. La Cumbre Mutual Water Company, the affluent community's supplier, is considering purchasing water produced by an offshore desalination plant contained within a buoy being designed by Ecomerit Technologies.

Called the SeaWell Buoy, each unit could produce as much as 950 acre-feet per year, enough to supply 5,000 homes, and be able to sell it at competitive rates, said Peter Stricker of Ecomerit. The buoys, which would cost roughly $2 million-$4 million to produce, would lie six feet above the water, be about 15 feet in diameter, and have a 40-foot submerged reverse osmosis plant.


The SeaWell would float below a buoy, which are well-adapted to heavy ocean movement and waves. | Credit: Courtesy

Stricker is working with Jim Dehlsen, who founded Clipper Windpower, an early wind turbine company in Carpinteria. Their background in green technologies powers a larger plan for the desal buoy, which includes a slow seawater intake to avoid harming sea life, dispersed brine disposal, marine-based power generation or land-based micro-grid, and material that resists salt corrosion.

It could be a couple of years before they got through the required permitting, Stricker acknowledged. But with 17 million people living in coastal counties and the whiplash weather effects of climate change, "it could solve water problems here in Santa Barbara County," Stricker said, "and water being delivered now could instead be used in the Central Valley for agriculture or other areas without coastal access."

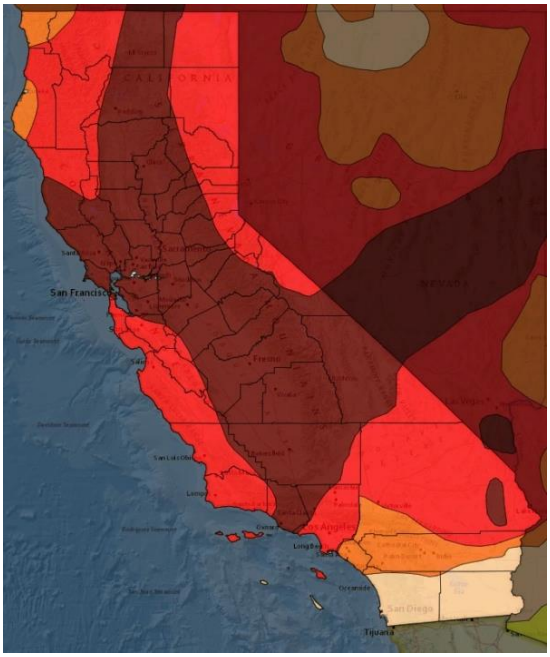
Stricker had been involved in Clipper with Dehlsen two decades ago. "When wind energy started, it was all centralized power plants. No one took it seriously," he said. "Now it's the cheapest form of energy out there, sustainable, all those good things. The state could benefit from rethinking the water supply."

The need for such radical rethinking underscores just how critical the state's water woes have become. Currently, all 58 counties that make up California are under drought disaster declarations by the U.S. Department of Agriculture, which recently opened USDA grants for crops, livestock, honeybees, and emergency watershed protection and reforestation programs. Santa Barbara County was dry during the 2021 water year — which runs from September 1 to August 31 — measuring a low of 4 inches in Carpinteria to a high of 14 inches at San Marcos Pass, or 48 percent of normal overall. Though Governor Gavin Newsom asked for voluntary conservation of 15 percent in July, that request has not been passed along to Goleta or Santa Barbara water customers.

Fully 87 percent of the state is in either exceptional or extreme drought conditions, having averaged barely a foot of rain last year, the driest year on record since 1924. The largest reservoir in California, Shasta up near Redding, is at critically low levels, and its second largest, Oroville on the Feather River, has gone from a crisis-level spill in 2017 to a record low this year.

Santa Barbara County's water agencies pull their state water from San Luis Reservoir in Merced County, which resembles a prairie at its current 10 percent capacity. The reservoir, which has no natural streams or springs, customarily goes dry at the end of the water year and is filled by water project pipes to hold downstream customers' allocations of water.

"It's like the Central Bank of water," said Josh Haggmark, head of water resources for the City of Santa Barbara. "It's a completely manmade storage device," but it figures into the health of water sources like the San Joaquin Delta in the long run. If there's inadequate Sierra snowmelt to feed Northern California's rivers and aquifers, less water is likely to be allocated to Southern California and be held in San Luis.



The darkest red represents areas of exceptional drought. | Credit: Courtesy

Haggmark wasn't too worried. He said Santa Barbara has about three years' worth of water banked in Lake Cachuma, a savings mainly from the city's desal plant, which creates more than 3,000 acre-feet of water. City water customers use about 10,000 acre-feet per year, and their conservation rate is 25 percent, said Haggmark. He was peeved the governor had changed the conservation baseline year from 2013 to 2020, but he saw no need to ask the city's customers for further conservation — yet. A very dry winter could change that.

Similarly, Goleta Water District considered its mix of Cachuma, state, ground, and recycled water would meet all needs through spring 2023. The district's customers were among the most conservation-minded in the state, said David Matson, assistant general manager, and had already adopted drier gardens and appliances.

While both Matson and Haggmark welcomed a rainy winter, Haggmark noted that climate change was generating more extremes. "We can go from drought to a flood year pretty quickly," he said. An El Niño or La Niña year used to mean something when the atmosphere was more stable, but "we don't have models that know what to do with climate change right now."

# # #

Bay Area water agencies form joint powers authority

New regional partnership moves forward Los Vaqueros Reservoir expansion plans

Pleasanton Weekly | October 20, 2021 | Julia Baum

Taking a "critical step" toward becoming a regional water source, Bay Area jurisdictions overseeing the future expansion of the Los Vaqueros Reservoir filed the necessary agreements to form a joint powers authority (JPA) earlier this month.

Project leaders said in a statement that "transforming a local reservoir into a regional facility requires partnerships," and creating a JPA is "a critical step in forming this partnership."

Partnering agencies including Zone 7 Water Agency, East Bay Municipal Utility District and the Santa Clara Valley Water District will manage the project using organizational framework for design, construction, operation, maintenance and funding, as outlined by the JPA.

Built in 1998, the off-stream reservoir's original capacity was 100,000 acre-feet until the first phase of expansion to hold 160,000 acre-feet of water was completed almost 10 years ago.

The ultimate goal is to expand the Los Vaqueros Reservoir to a new capacity of 275,000 acre-feet, as well as add new conveyance facilities that "will provide environmental, water supply reliability, operational flexibility, water quality and recreational benefits."

Zone 7 Board President Angela Ramirez Holmes said, "In addition to local storage, this regional partnership also has the benefit of emergency conveyance which is critical for when there are pumping restrictions in the Delta preventing Zone 7 from accessing State Water Project water. This alternative conveyance will increase the Tri-Valley water system's reliability."

John Coleman, director of Ward 2 for the East Bay Municipal Utility District and a Los Vaqueros JPA board member, called the future expansion "not only important for EBMUD, but for the Bay Area and the region as a whole."

"Along with efforts such as water conservation, water recycling, and supplemental supplies, EBMUD will continue to support mutually-beneficial regional reliability efforts to prepare for an uncertain future," Coleman said.

The partnership extends to Silicon Valley, where Valley Water Board Chair Tony Estremera said the agency is "proactively exploring ways to secure enough water to help all our communities in Santa Clara County weather droughts," and "looks forward to working with our JPA partners on this important project that could improve the reliability of our region's water supply."

The JPA's first public meeting will take place next month, when members "will bring perspectives from the agency or agencies they represent and work collaboratively to meet the needs of all agencies involved."

After securing the necessary permits, approvals and agreements, construction on the expansion project is scheduled to begin in winter 2023. A combination of funds including $470 million from Proposition 1 as well as federal and local partners will cover the project costs.

# # #

To learn more about the JPA, visit www.losvaquerosjpa.com.