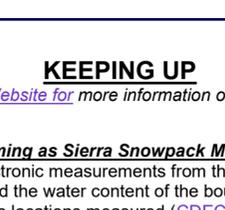


CALENDAR ALERTS

- May 9th-12th** - ACWA Spring [Conference](#), Monterey
 - **May 11th** - DWR meeting on [Oroville repairs](#), Masonic, 1110 W. East Ave, Chico
 - May 12th** - Deadline to apply for [BIMID Manager](#) position
 - **May 15th** - DWR meeting on [Oroville repairs](#), Library, 828 I St, Sacramento
 - **May 18th** - Sac Valley Landowners Assoc dinner, Granzella's, Williams, 6:00 pm, \$40
 - May 19th** - CVFPP [workshop](#), 915-I St, Sacramento, immediately following CVFPP meeting
 - June 2nd** - CVFPP [workshop](#), 1110 Capitol Ave., West Sacramento, 10:00 am-2:00 pm
 - June 9th** - CVFPP [workshop](#), 915-I St, Sacramento, immediately following CVFPP meeting
 - ** June 20-22** -CA [Water Summit](#): Water Infrastructure Investment, Sacramento
 - ** Aug. 14th** -Deadline to [apply](#) for Water Storage Investment Program funding
- ** = New Calendar Alert**

FEATURED ASSOCIATE MEMBER



Thank you to Laresen Wurzel & Associates for their "Silver Level" Sponsorship at our Annual Flood Forum

KEEPING UP

****Check [CCVFCA Website](#) for more information on topics in Flood Flash**

Threat of More Flood Damage Looming as Sierra Snowpack Melts

Flooding in spring and summer? Electronic measurements from the final [snow survey](#) for the water year [conducted by DWR](#) on May 1st showed the water content of the bountiful snowpack is between 180-200% of the long term average at the various locations measured ([CDEC](#)). These readings will help hydrologists [forecast runoff](#) into rivers and reservoirs, however the rivers may start swelling too fast each time daily temperatures soar into the 90s.

This scenario is hard to believe after several years of drought, but the threat of more levee damage this summer is real nonetheless with another 3-5 inches of snow falling on May 6th. Although Central Valley and Delta levees performed well during the series of unrelenting winter storms in January and February, they experienced damage that has not all been repaired yet and the high water levels continue [stressing the performance](#) of these levees. Oversaturated at this point, many levees are experiencing seepage and erosion, which will be exacerbated by increased flows from snowmelt runoff.

Consequently, many water managers remain on high alert and ready for more floodfighting because Mother Nature keeps bring more atmospheric waves of rain and snow to the Central Valley and Sierras in April and May.

With [reservoirs already full](#) and releasing in accordance with flood safety operating requirements, flood control managers continue to monitor the flood-flow capacity in river channels and evaluating the ability of levees to withstand the sustained flows and high water elevations through summer.

DWR is already facing challenges of managing water levels at [Oroville](#) due to the need to reduce releases while initiating repairs of the main spillway; and the heavy runoff from snow melt means DWR will also be busy [managing in-flow](#) to reservoirs that are already at their maximum storage capacity from the Tuolumne down to the Kings Rivers through summer.

The undammed Merced River which runs through the Yosemite Valley already rose above [flood stage](#) and resulted in [park flooding](#), but not significant [damage](#) on May 4th. As a safety precaution, park officials have closed the Merced River for [rafting and swimming](#) for the next several weeks and Sacramento County has issued warnings about the dangers that high flows on the American River pose to boaters and other recreational users. Park closures and water rescues have already occurred on the [Mokelumne River](#) system while flows on the [Stanislaus River](#) have doubled as water is released at New Melones Reservoir; and the [San Joaquin River](#) and its tributaries continue to have [high water levels](#) that are expected to last through June. Even [Lake Tahoe](#) has been filled to the brim, requiring increased releases through the Tahoe City Dam with warnings issued for the [Truckee River](#) which has already experienced [closure of bike paths](#) and other tourist areas adjacent to the river.

In anticipation of potential flooding from heavy spring and summer snowmelt runoff, Nevada, [Governor Sandoval](#) started convening state agencies in March to prepare for emergency response and repairs if more flooding does occur. In contrast, most of California's emergency response agencies have focused their attention and resources on repairing the Oroville spillways, leaving most of the responsibility for levee repairs and costs to local flood control agencies.

Governor Brown Appoints New DWR Chief Deputy

Michelle Banonis, the former Bay Delta Office Area Manager, CA WaterFix Program Manager, and Supervisor of the San Joaquin River Restoration Program for the U.S. Bureau of Reclamation was recently [appointed by Governor Brown](#) as Chief Deputy Director at the CA Department of Water Resources. Her appointment does not require Senate confirmation.

California Water Lobbyist Appointed as Deputy Secretary for U.S. Interior Agency

President Trump [nominated the top lobbyist](#) for Westlands Water District (WWD), David Longly Bernhardt, to serve as Deputy to U.S. Interior Secretary Ryan Zinke. He recently sued the Interior Department to finalize a settlement agreement with WWD, but is required by Executive Order and federal ethics laws to recuse himself from any matters involving former clients. In addition to his most recent experience as chair of the natural resource practice at Brownstein Hyatt Farber Schreck law firm, he [previously served](#) as solicitor, deputy solicitor, deputy chief of staff, and counselor to Interior Secretary Norton during the George W. Bush Administration.

Oroville Update

Open, close. Open, close. Repair activities at Oroville Reservoir are complicated by [reoperation](#) of the spillway for flood safety each time Mother Nature delivers more rain and snow to the watershed. DWR must therefore monitor reservoir levels closely during repair of [main spillway](#) to prevent [inflows exceeding outflows](#) and schedule [safety releases](#) to avoid another overtopping situation at the emergency spillway while [repairs](#) are being performed.

Lately, DWR has been taking heat from [elected officials](#), [environmental groups](#), and local residents [criticizing state officials](#) for throwing a cloak of [secrecy](#) over the details behind the spillway failure and future repairs by [blocking public access](#) to technical documents, critique of how DWR handled the crisis, and evaluations of the damaged spillway by engineering experts. Bill Croyle, Acting Director of DWR, heard an earful from local residents and elected officials when he attended a [Butte County](#) Board of Supervisors on April 9th to listen to presentation by county staff on the history of the dam and current [relicensing](#) process based on a local perspective. DWR's credibility is at risk as local residents and elected officials express frustration and [lack of trust](#) based on the department's [actions during](#) the incident and perceived [missteps](#) since then; resulting in local legislators [demanding answers](#) and [transparency](#) from DWR moving forward.

Acting Director Croyle defended the need to keep some portions of sensitive documents secret for security reasons in his announcement of a [new recovery plan](#), but indicated the department may be willing to release [redacted copies](#) of safety and progress reports to the public after conferring with Butte County Sheriff Kory Honea. In late April, two redacted [consultant memos](#) were released.

In the meantime, three construction firms submitted [bids](#) to perform the spillway repairs, which were [all above](#) the \$220 million costs estimated by DWR. Kiewit Corp. of Omaha, Nebraska has the [winning bid](#) and will receive \$275 million to complete the project within two years. Legislators at a recent [legislative oversight hearing](#) asked DWR and Natural Resources Agency representatives questions about [who pays](#) for the repair price tag, including [inquiries about cost](#) and whether new [spillway will be ready](#) by November 1st. Assemblyman James Gallagher took particular issue with an assertion by Acting Director Croyle at the hearing that the [emergency spillway worked](#).

In subsequent reviews of DWR's repair plans, Chico State engineering professor [Steffen Mehi](#) agreed with DWR consultants' analysis that achieving spillway stability may be all that can be achieved by November 1st, with permanent repairs likely to take another year.

[Structural flaws](#) associated with the original design and construction, as well as ongoing maintenance, of the main spillway were noted in review of technical documents by Eldridge M. Moores, a professor emeritus at U.C. Davis with expertise in tectonic movements. In addition, an independent analysis by Robert Bea, a member of the National Academy of Engineering and co-founder of the Center for Catastrophic Risk Management at U.C. Berkeley, provides an [assessment of the causes](#) of the spillway damage that resulted in the evacuation of about 188,000 people below the dam. [His findings](#) are based on reviewing original design drawings, annual inspection reports, and photos of the structure before and after the damage first appeared; and identifies specific [design deficiencies](#), as well as construction and [maintenance shortcomings](#), such as inoperable drains, as the reasons why the spillway began crumbling in February.

An April 7, 2017 [internal analysis](#) conducted by the U.S. Army Corps of Engineers' (USACE) risk management center also points to problems with the drainage system underneath the spillway, erodible foundation soils, and multiple repairs of smaller cracks over the years as the cause of the collapse in February. Experts have also been convened by the Federal Energy Regulation Commission (FERC) to start an [independent review](#) of the spillway emergency that occurred in February, but their findings will not be made available to the public.

Graduate students at U.C. Irvine Department of Civil and Environmental Engineering also released maps they prepared from a flood simulation model that estimates the [inundation areas](#) downstream of Oroville Dam if the emergency spillway had also collapsed. The study and resulting maps is intended to demonstrate the capabilities of available technologies for flood safety planning, but is not sufficient to guide actual evacuations.

DWR representatives recently faced large [frustrated crowds](#) at the first five of seven [public meetings](#) held in [Gridley](#), Marysville, [Oroville](#), and Yuba City as part of the department's effort to improve outreach and communication with communities and residents below the dam regarding repairs of the flood control spillways. Complaints about DWR's handling of the crisis, and [many questions](#) about issues such as safety risk posed by ["green spot"](#) on the wall of the dam and who is paying for repairs were preceded by comments by [local elected officials](#) and an apology from DWR representatives for the disruption caused by evacuation orders. The last two meetings are in Chico and Sacramento. [Each meeting](#) starts with an information session at 5:30 p.m., presentation at 6:30 p.m., and ends with a question and answer period.

DWR has also provided regular [updates](#) on activities ([4/17/17](#), [4/21/17](#), [4/20/17](#)) such as [controlled blasting](#) along the [spillway](#) for four to [six weeks](#) and moving of [nearby power lines](#); and been busy developing other informational products for public to access including a new "Oroville Spillway Incident" [website](#) for those interested in more information about the initial damage and evacuations, as well as future repairs.

More recent updates include an announcement that DWR will once again need to release water for flood safety, which will [increase Feather River flows](#) from approximately 7,750 cfs to 30,000 cfs and the awarding of [\\$3 million](#) to the City of Oroville from the state's Supplemental Benefits Fund created pursuant to FERC relicensing settlement agreements to support recreation, tourism, and related economic development projects.

Finally, [legislation](#) introduced by Assemblyman Gallagher to address dam inspections (AB 1270), enhance criminal penalties for looting during emergency evacuations (AB 1595), and to expedite emergency levee repairs through a CEQA exemption (AB 1273) are all progressing through the committee hearing process. An additional budget request by Assemblyman Gallagher for an annual appropriation of \$100 million for levee repairs and maintenance is scheduled for discussion in the Assembly Budget Subcommittee on Resources this week.

IN THE NEWS

(Clicking the links will take you to news organization websites, where you can read the full stories. CCVFCA is not responsible for content on these external sites.)

- [Jerry Brown's administration blocks public review of Oroville Dam records](#) - Sacramento Bee
- [Big L.A. water agency antes up for a share of Reservoir's Sites Reservoir](#) - Western Farm Press
- [Oroville Dam: Leader, local give DWR director an earful](#) - Mercury News
- [Geologist: Oroville Dam structurally flawed as storm brings new flood risk](#) - Breitbart
- [Operators ready reservoirs to hold large snowpack](#) - Ag Alert
- [Swollen streams continue to flood farmland](#) - Ag Alert
- [Lake Oroville level rising, close to where DWR said main spillway might be used](#) - Oroville MR
- [Water releases into Sacramento River set to increase with April flow](#) - KRCC TV
- [Lawmakers Outraged Over Secrecy, Governor Defends State's Handling Of Oroville Dam Spillway Emergency](#) - CBS Sacramento
- [Spillway flows to resume Friday morning](#) - Oroville MR
- [Independent review of Oroville Dam emergency to begin](#) - KRCC TV
- [California officials want \\$100B for dams, roads and water from Trump. Will they get it?](#) - Desert Sun
- [Scientists link California droughts and floods to distinctive atmospheric waves](#) - NOAA
- [THIS JUST IN ... Northern Sierra Precipitation Sets Water Year Record](#) - Maven's Notebook
- [California state water managers will resume releasing water down a ...](#) - Business Insider
- [After 63 feet of snow, Northern California mountains break record for ...](#) - Washington Post
- [DWR to Reopen Crippled Oroville Dam Spillway as Repair Work Continues](#) - Fox 40
- [Oroville Dam document secrecy frustrating lawmakers](#) - Mercury News
- [Independent forensics team conducts investigation at Oroville Dam](#)—KRCC
- [State hits wettest year on record in High Sierra](#) - Delta Confluence
- [Sandoval Holds Meeting To Plan For Possible Flooding](#) - KTVN
- [Scientist Use California Flooded Rice Fields to Raise Juvenile Salmon](#) - NBC Bay Area
- [Close to Home: How local salmon are tied to Central Valley flood decisions](#) - Press Democrat
- [San Joaquin rain stations seeing 3rd-wettest year on record](#) - Merced Sun-Star
- [THIS JUST IN ... DWR Opens Bids for Oroville Spillway Repair](#) - Maven's Notebook
- [Explainer: The 8 Stations in the Northern Sierra 8-Station Index](#) - KQED
- [Bids for Oroville Dam repairs top state estimates; \\$275.4 million the lowest](#) - Sacramento Bee
- [Dear California water officials: After Oroville Dam scare, why should we trust you?](#) - Sacramento Bee
- [More rainstorms prompt the reopening of the damaged Oroville Spillway](#) - LA Times
- [Northern California feels new record for wettest year](#) - Fingix Valley
- [Company that made Folsom Dam safer lands job of fixing Oroville Dam](#) - Sacramento Bee
- [Water flowing down damaged main spillway at Oroville Dam](#) - Oroville MR
- [Serious design, construction and maintenance defects doomed Oroville Dam, report says](#) - LA Times
- [DWR announces community informational meetings](#) - Oroville MR
- [Unofficial map shows potential flooding from spillway failure](#) - Appeal-Democrat
- [THE WISE USE OF THE FLOODPLAIN IN THE SACRAMENTO VALLEY](#) - SAN FRANCISCO CHRONICLE
- [Serious design, construction and maintenance defects doomed ...](#) - Merced Sun-Star
- [Documents shed light of officials' actions during dam crisis](#) - US News
- [Opening The Damaged Oroville Dam To Sustain Storm Water From ...](#) - Science Times
- [Expert Performed autopsy on Oroville Spillway collapse. Here's what he found.](#) - Sacramento Bee
- [Oroville Dam managers made missteps in handling crisis, AP reports](#) - ABC 30
- [Dam managers made missteps in handling crisis](#) - Capital Press
- [Consumes River provides model for Floodplain Restoration in California](#) - News Deeply
- [Report: Flaws in Design, Building and Upkeep Led to Oroville Spillway Failure](#) - KQED
- [Groups demand transparency on Oroville Dam spillway repairs](#) - Sacramento Bee
- [Our View: Metropolitan's help could bring political support for Sites](#) - Appeal-Democrat
- [OROVILLE DAM: DWR Update on Oroville Spillway Repair Activities](#) - Maven's Notebook
- [Blasting to be used around Oroville Dam Spillway](#) - Chico ER
- [Coalition Asks Feds to Lift Secrecy Shrouding Oroville Spillway Project](#) - KQED
- [What went wrong at Oroville? Congressional Democrats demand answers](#) - Sacramento Bee
- [DWR continues recovery efforts, blasts slopes near spillway](#) - Appeal-Democrat
- [Truckee River out of Lake Tahoe has strongest flows since 2006, prompting...](#) - Sacramento Bee
- [City of Lodi shoring up Mokelumne River levee against increased erosion](#) - Lodi News-Sentinel
- [Oroville Dam: Blasting to be used around Oroville Dam spillway](#) - Mercury News
- [Mountain Town News: Will Donner Pass set new record for precipitation column?](#) - Summit Daily
- [Water under Oroville spillway probably caused February collapse, state consultant says](#) - LA Times
- [State officials release reports on Oroville Dam after criticism](#) - ABC 10
- [Fixing Oroville Dam will cost hundreds of millions. Who should pay the bill?](#) - Sacramento Bee
- [State kept these Oroville Dam documents secret at first. Now they've partially ...](#) - Sacramento Bee
- [DWR, independent commissions working at "rapid pace" to repair spillway](#) - KRCC
- [Water agency to hold community meetings on Oroville Dam project](#) - Capital Press
- [Editorial: Oroville is a model of how not to deal with a flood emergency](#) - Mercury News
- [DWR Provides Update on Lake Oroville Spillway Repair Work](#) - Maven's Notebook
- [California Water Chief: Oroville Emergency Spillway Worked](#) - US News
- [Fixed before next big rains? Lawmakers quiz water officials on Oroville Dam repair](#) - Sacramento Bee
- [Months After Oroville Spillway Emergency, Lawmakers Aim to Prevent Similar Crisis](#) - Fox 40
- [Oroville Dam secrecy helps further erode trust of big state project](#) - Sacramento Bee
- [What went wrong at Oroville Dam? Analyst points to drainage, problematic soils](#) - Sacramento Bee
- [Oroville Dam Breach? DWR Investigating Leaking - Hasn't Revealed ...](#) - Catholic Online
- [Atmospheric Rivers hit California](#) - California Ag Today
- [Rice farmer expresses confidence in Sites Reservoir](#) - Daily Democrat
- [Lake Tahoe filled to the brim for first time in years \(video\)](#) - Summit Daily
- [Delta levee and ratepayer protection bill pass first hurdle](#) - Mercury News
- [Power industry consultant proposes dual design Oroville Dam spillway](#) - Oroville MR
- [Experts review DWR secret memos](#) - Chico ER
- [After the storms a fresh look at the work of setback levees](#) - Chico ER
- [Series of DWR community forums begins in Gridley](#) - KRCC
- [What experts found in DWR secret memos](#) - Record Bee
- [California Senate Passes Bill That Would Boost Stormwater Capture Projects](#) - Capital Radio
- [San Jose City Council, and water district to has out solutions following flood](#) - Mercury News
- [Another giant California dam has downstream residents worried](#) - Sacramento Bee
- [Sites JPA approves deal with Social water district](#) - Appeal-Democrat
- [Too much water for farmers affects production](#) - Appeal-Democrat
- [Heat wave melting record snowpack in Northern California](#) - Sacramento Bee
- [Sierra snowpack is huge and melting fast – what that means for spring flooding](#) - Sacramento Bee
- [DWR Oroville Dam meetings Tuesday and Thursday in Oroville, spillway flow shut-off](#) - Chico ER
- [Record amount of snow pack melting quickly into Merced River, officials say](#) - Merced Sun-Star
- [Final California Snow Survey of 2017 Finds Water-Rich Snowpack](#) - Sierra Sun Times
- [Break in CA Levee System Could Contaminate Bay Area Drinking Water Supply](#) - NBC Bay Area
- [Opinion: Water district seeking flood protection funding](#) - Mercury News
- [Editorial: Politicians public must demand answers on Oroville Dam](#) - East Bay Times
- [Developer to assist city on flood protection](#) - Mercury News
- ["We are very, very sorry." State water officials face frustrated Oroville crowd](#) - Sacramento Bee
- [Meeting with DWR lasted for over 4 hours](#) - Gridley Herald
- [Oroville residents do not mince words on state handling of emergency spillway](#) - Capital Radio
- [Levee breaks, river closure latest fallout from flooding](#) - Daily Republic
- [Central California town in trouble if Sierra Snow melts too fast](#) - LA Times
- [Melting snow causes minor flooding of Yosemite's Merced River](#) - San Francisco Chronicle
- [Switch in spillway repairs – starting from the bottom up, literally](#) - Oroville MR
- [Oroville Dam leaking? 50yr proof of 'through dam' leakage? Will the Dam Breach?](#) - Catholic Online
- [Oroville Dam to release more water starting Wednesday](#) - KRCC
- [Massive snowmelt makes Zion canyons, local rivers dangerous](#) - The OCR
- [Capturing stormwater a necessity](#) - Daily Democrat
- [Get ready for lots of water](#) - Manteca Bulletin