

MEETING SUMMARY
Oroville Dam Citizens Advisory Commission
Meeting 6: February 19, 2021
9:00 – 11:00 a.m.
Virtual Meeting via Zoom Webinar

This meeting summary provides an overview of the February 19, 2021 Oroville Dam Citizens Advisory Commission (CAC) meeting and focuses primarily on capturing the comments and questions posed by Commissioners and members of the public. It is organized by agenda topic to assist readers in cross-referencing the meeting materials. This document is not intended to serve as minutes of the meeting or a transcript of the discussion. A transcript and materials from the meeting are available on the Oroville Dam CAC website:

<https://resources.ca.gov/Initiatives/Oroville-Dam-Citizens-Advisory-Commission>

MEETING AGENDA

- Welcome and Introductions
- Commission Updates and Reporting
- Fire Modernization Program
- Winter Operations
- Downstream Flood Safety Partnership Presentation

ACTION ITEMS

- Offer new members, Kimmelshue, Fuhrer and Vasquez, a Commissioner orientation.
- Provide OCAC with an update on implementation and milestones in developing forecast-informed reservoir operations (FIRO) at the Oroville Dam.
- Post meeting prep materials and additional contact information on OCAC website.
- Agendize discussion on lessons learned from 1986 and 1987 water events.

AGENDA ITEM 1: Welcome and Introductions

Senator Jim Nielsen, who is the co-chair, opened the meeting by thanking Secretary Wade Crowfoot and Director Karla Nemeth for their support of the work of the Commission. He stated that he, as well as the citizens, greatly appreciate the Oroville Dam Citizens Advisory Commission.

Secretary Crowfoot then also welcomed the commissioners and members of the public to the meeting. He explained that this is the sixth meeting of the Commission and stressed with Senator Nielsen stated at the meeting's start: that this commission was created thanks to the leadership of the Senator and Assembly Member James Gallagher. The secretary stated that this is an important venue for the sharing of information and perspective related to the Oroville Dam from the dam operators, state agencies, local elected leaders and the public. He stressed that he feels encouraged by the work the Commission has accomplished and that although the virtual venue is not ideal, he is optimistic that by the end of the year the meetings will return to in-person in Oroville.

He provided an overview of the meeting's agenda with the major topics to be covered and explained that we've outlined major topics for the remaining three meetings of 2021. Secretary Crowfoot informed the Commission that they will receive a briefing during the meeting on the

new Action Item Tracker that has been developed in response to feedback that the Commission and the public although the meeting discussions have been robust, a tracking system to follow up on items discussed was needed. The meeting will also cover a Meeting Roadmap that contains future meeting topics and a discussion on the Commission’s reporting obligations.

The Secretary reported that Cal OES and DWR have received notification that FEMA has released an additional \$308 million in requested funds for the Oroville Dam spillways reconstruction and emergency response. These funds are in addition to the \$260 million that FEMA has already committed to for repairs to the lower portion of the main spillway and other work conducted in response to the emergency. FEMA also informed Cal OES and DWR that its initial determination is that the work on Oroville Dam’s emergency spillway is not eligible for funding under FEMA’s hazard mitigation grant program. DWR and Cal OES are working to develop an appeal to this initial determination.

Secretary Crowfoot welcomed the Commission’s three new members: Butte County Supervisor Tod Kimmelshue, Yuba County Supervisor Seth Fuhrer and Yuba County Supervisor Andy Vasquez. He offered them a new Commissioner orientation. He also acknowledged the contributions of Yuba County Supervisor Gary Bradford, Yuba County Supervisor Doug Lofton and Butte County Supervisor Steve Lambert. **[Action Item]**

Assembly Member Gallagher stressed that the Commission’s work is very important and that this is an important body.

Senator Nielsen thanked the members of the Commission for their involvement. He also acknowledged the Administration’s involvement and support under Secretary Crowfoot.

The Commission requested that one of the members volunteer to review the meeting summary to replace Supervisor Bradford. Supervisor Fuhrer volunteered.

The Secretary asked that during roll call that the members give a brief introduction because the Commission has multiple new members.

As mandated by the requirements set forth in Senate Bill 955 (2018, Nielsen), the Commission is comprised of representatives from the following agencies and public bodies. Attendance at the February 19, 2021 meeting is noted in the table below.

Agency or Public Body	Commissioner (or Alternate)	Present
California Natural Resources Agency	(Chair) Secretary Wade Crowfoot	x
California State Senate	(Vice Chair) Senator Jim Nielsen	x
California State Assembly	Assembly Member James Gallagher	x
Department of Parks and Recreation	Director Armando Quintero (represented by Matt Teague)	x
Department of Water Resources	Director Karla Nemeth	x
California Office of Emergency Services	Director Mark Ghilarducci (represented by Deputy Director Christina Curry)	x
Oroville City Council	Council Member David Pittman	x
Oroville City Council	Mayor Chuck Reynolds	
Butte County Board of Supervisors	Supervisor Tod Kimmelshue	x
Butte County Board of Supervisors	Supervisor Bill Connelly	x
Butte County Board of Supervisors	Genoa Widener	x

Yuba County Board of Supervisors	Supervisor Seth Fuhrer	x
Yuba County Board of Supervisors	Supervisor Andy Vasquez	x
Sutter County Board of Supervisors	Supervisor Mat Conant	
Sutter County Board of Supervisors	Supervisor Dan Flores	x
California Highway Patrol	Sergeant Larry Starkey (represented by Officer Joseph Stokes)	x
Butte County Sheriff's Office	Lieutenant Steve Collins	x
Yuba County Sheriff's Office	Captain Joe Million	x
Sutter County Sheriff's Office	Deputy Andre Licon	x

AGENDA ITEM 2: Commission Updates and Reporting

Kearns & West discussed the request from the November 2020 meeting that staff create an Action Item Tracker to provide greater transparency and ensure that the Commission is getting regular updates on projects, maintenance and other issues that have been discussed during prior meetings. This Action Item Tracker will be updated quarterly and posted online on the Commission's website.

Kearns & West also presented the Meeting Agenda Roadmap, which covers topics for the Commission's Q2 through Q4 meetings. The Meeting Agenda Roadmap is designed to provide the Commission and the public information about upcoming topics. It was explained that roadmap topics can be changed based on OCAC feedback. Each meeting will cover key topics and a status update. May's Q2 meeting will cover safety. August's Q3 meeting will cover infrastructure. December's Q4 meeting will cover winter operations.

Closed by reviewing what the Commission's reporting requirements under SB 955 (Nielsen). The Commission will release its first report in 2022 after three years of public meetings. This report will be discussed in upcoming meetings, including the creation of a subcommittee for this work.

AGENDA ITEM 3: Fire Modernization Program

Dave Duval, the Chief of the Division of Operation and Maintenance for the State Water Project (Department of Water Resources) presented on the State Water Project Fire Modernization Program. Duvall shared they hired consultants to evaluate and inspect each facility in the State Water Project and create core goals for the agency's fire modernization effort. He explained the fire and life safety upgrades have been completed at Thermalito and upgrades to the Hyatt Powerplant.

Senator Nielsen remarked that one of the main issues is the decades of neglect of the forest and that for many years, management of the forest and wildland was not prioritized. California is now paying the price for this neglect with catastrophic fires, erosion and runoff during the rainy season. The Senator commended the State for paying attention to forest management.

Secretary Crowfoot emphasized that there has been strong bipartisan leadership in the Legislature and the Governor to make investments to not only address fires but also reducing risk to help prevent catastrophic fire.

Duvall concluded by explaining that each year, the Oroville Filed Division works with the California Conservation Corps (CCC) and CalFire to go through the facility and adjacent lands to reduce brush.

Senator Nielsen reported that several years ago, money was allocated in the state budget to open a CCC camp in Butte County, which has been important as there has been less inmate staffing of fire crews.

Director Nemeth added to the discussion by stressing the fact that Oroville's operations are also important due to its role in the reliability of the overall energy grid. She emphasized that all of these facilities are interconnected. In addition, she pointed out how that Oroville's role is not just flood safety protection but also the public safety component that comes from being an energy generator.

Council Member Pittman brought forward two questions around DWR systems to operate radio, cell or other communication in an emergency, and emergency response facility location. Duval responded and explained that they work closely with CalFire. CalFire and the State Fire Marshall reviewed all of the plans for Hyatt and approved the upgrades. The communications system is what CalFire requires. He explained that they use coordinates with GPS for emergency response and acknowledged an address identifier is a good suggestion.

AGENDA ITEM 4: Winter Operations

John Leahigh, the lead water manager for the State Water Project, provided a brief update on hydrology and Lake Oroville's winter operations. He shared the status of the state's precipitation levels, which for Water Year 2020 was 50–70 percent of normal for most areas of Northern California. This was the 10th driest year on record. Water Year 2021 is not better than the prior year and for the first four months of the water year (October through January), it was the 8th. The difference for this water year is the snowpack levels, which are at 70 percent of normal. This is the driest start to a water year. He presented a chart depicting precipitation from the driest year on record, 1977 to the wettest year on record, 2017.

Leahigh stated that low precipitation in recent years has resulted in low storages at Oroville, that the lake is a bit over one-third of capacity and 54 percent of historical average. For surface storage, he explained, it is below 2014 and 2015, but stressed that there is greater snowpack this year compared to those years. The challenge is not too much water but not enough in terms of water management. The remaining rainy season, one third of the entire season, is forecast to be drier than normal.

Secretary Crowfoot stressed that agencies are preparing as we're in a period of multiple dry years developing drought-like conditions for an extended drought. He asked Leahigh if he expects that due to snowpack levels, will there be more runoff than in recent drought years.

Leahigh responded that he expects significantly better runoff compared to 2014-2015 when we had extreme low snowpack levels. This water year is 70 percent of normal snowpack so far.

Secretary Crowfoot stated that this presentation made the point that Oroville, as the State's largest reservoir, must be protected for flood safety but also critical water supply. He asked Leahigh what the precipitation report meant for the water that the State Water Project delivers to 27 million Californians and agricultural users.

Leahigh explained that the State Water Project contractors were notified on September 1 that their allocations would be 10 percent and with the subsequent dry conditions in the following months, that allocation has not changed. He also reported that it is highly likely that by the end of this year Oroville's water storages will be lower than last fall coming into this water year. This means, going into Water Year 2022, we will not be in as good of shape as we were going into Water Year 2021.

Director Nemeth asked about allocations for rice growers in the Feather River Watershed.

Leahigh reported that the State is on the threshold of not giving rice growers their full allocations. Estimates will be done in March and finalized in April with the snow survey to determine if the shortage criteria are met for those settlement contracts. However, per the contract, they will get at least 50 percent.

AGENDA ITEM 5: Downstream Flood Safety Partnership Presentation

Gary Lippner, Deputy Director of Flood Management and Flood Safety with DWR, introduced the presentation on downstream flood safety partnership for the Feather and Yuba rivers. The presentation, he explained, would focus on how flood management agencies work together to deliver flood risk reduction projects to prepare for flood emergencies for the operation and maintenance in flood planning and risk management planning.

John James, Water Operations Project Manager, with the Yuba Water Agency (YWA) provided commissioners with an overview of his agency's work. James provided a history of the agency and explained that the Bullards Bar Reservoir is the agency's primary asset. The facility provides flood protection, hydroelectric power generation as well as environmental benefits to downstream fisheries and recreation areas.

James explained improvements were made following the 1997 floods as well as the creation of the Yuba-Feather Forecast-Coordinated Program. The partnership includes:

- Yuba Water Agency;
- DWR;
- The US Army Corps of Engineers; and
- The National Weather Service.

James gave an overview of Forecast-Informed Reservoir Operations (FIRO) and shared the FIRO program is now partnering with the Scripps Institute of Oceanography Center for Western Weather Extremes (CW3E). Commissioners also watched a video from Scripps that explained atmospheric rivers.

James discussed how YWA and DWR are working with the US Army Corps of Engineers to update Water Control Manuals for New Bullards Bar and Lake Oroville as well as integrating FIRO. He explained New Bullards Bar has one spillway and the planned second one is estimated to cost \$225 million and is important with climate change causing more severe weather events.

Lippner concluded the presentation stressing how DWR supports the partnership on Forecast Coordinated Operations and Forecast Informed Reservoir Operations. He emphasized the importance of collaboration and coordination and highlighted the Yuba-Feather Working Group,

which has a mission to improve agency coordination and enhance operational capacity. This group comprises:

- Levee District 1;
- Maintenance Areas 3, 7, 16;
- Reclamation Districts 784, 817, 1001, 2013;
- Yuba Water Agency;
- Butte County OES;
- Sutter County OES;
- Yuba County OES;
- DWR;
- CalOES;
- National Weather Service; and
- U.S. Army Corps of Engineers.

Lippner reviewed other partnerships that are critical to flood protection including the Marysville Levee Commission, the Sutter Butte Flood Control Agency and the Three Rivers Levee Improvement Authority. He reported that over \$900 million has been collectively invested to improve flood protection for over 147,000 residents and protect billions of assets within the basins. He also outlined DWR's working relationships with other federal, State and local agencies as well as tribal representatives. He outlined program activities that DWR partners on including:

- US Army Corps of Engineers Levee Repairs;
- Small Communities Flood Risk Reduction Program;
- CalOES Local Hazard Mitigation Planning Support;
- FEMA's National Flood Insurance Program Communities Assistance Programs; and
- State and Federal Levee Discussions.

Assembly Member Gallagher asked for the latest on the implementation of FIRO at Oroville.

Secretary Crowfoot added that he was interested to learn about the barriers to implement FIRO as well as the timing.

Lippner responded that Oroville is in good shape in the coming months in terms of flood control storage. However, he explained there is some concern regarding fire burn scars.

Secretary Crowfoot asked Director Nemeth for her perspective on FIRO at Oroville.

Director Nemeth responded that they are working with Yuba Water Agency as well as engaging with the U.S. Army Corps of Engineers and working to update the Corps Water Control Manual. She explained that they are leading implementation in the Russian River Watershed with Lake Mendocino. She also explained how they are using the data collecting balloons during atmospheric rivers. This will help DWR work with the U.S. Army Corps of Engineers to operationalize the process.

John Leahigh explained that this is a multi-agency process with significant overlap between FIRO and the Water Control Manual Update. He stressed the relationship with Scripps as well as the U.S. Army Corps of Engineers' role. Currently they are aligning the two programs and by summer he expects that they will be able to deliver some strategies to the Corps by summer. This is also when DWR will begin a preliminary viability assessment, which will take a year, followed by the final viability assessment. He told the Secretary that they are encouraged with

the additional allocated funding for the federal part of the partnership. He stressed that this is a new process.

Secretary Crowfoot asked for milestone updates in the process of FIRO at Oroville. **[Action Item]**

John James was asked to respond to Director Nemeth on atmospheric river monitoring. He explained how Scripps launched weather balloons in Marysville and Bodega Bay during the January atmospheric river event. He also reported that the Atmospheric Rivers Recosigns Program flies over the Pacific Ocean and did almost 10 flights in five days dropping 100 sensors.

AGENDA ITEM 6: Public Comment

Following the presentation, Commissioners and members of the public provided feedback and asked questions in tandem. Remarks from members of the public are summarized and typically shared without attribution below; remarks from Commissioners are attributed and summarized below. For a full transcript of the exchanges, see transcription or recording of the meeting posted online.

The first comment during Meeting #6, from Friends of the River regarding a meeting with Director Nemeth. It was reported to the Commission that Friends of the River met with Director Nemeth and Mr. Craddock following Meeting #5 to discuss concerns regarding the Comprehensive Needs Assessment and its lack of focus on the flood control reservoir design flood meeting. They also discussed associated issues to the problem of maximum flood and facility improvements that might be necessary to meet that dam safety hydrologic event. Director Nemeth said at the end that she had some additional “homework” to do and that there would be additional follow-up conversations to address these issues.

Director Nemeth commented that she appreciates the report with the onus being on the Department. She highlighted that there needs to be an integrated approach at the Department with the various agencies the state water experts, etc. to ensure that they are addressing the maximum flood at the dam as well as in the downstream levee system. She called it a legacy challenge and noted that there is a mismatch and design capacity gap between the Oroville Dam and the downstream levees.

Supervisor Vasquez asked a follow up question when there were no additional public comments. He asked about downstream effect further down the system towards Sacramento and Stockton.

John James explained that while there is a high impact from atmospheric rivers in those areas, it is less than upstream in the Yuba-Feather Rivers system.

Director Nemeth suggested that Gary Lippner address coordination through the Joint Operations Center. She also stressed that the U.S. Army Corps of Engineers has made significant improvements to the Folsom Dam that address how watersheds are connected during intense storm events.

Lippner explained that while the impact lower in the Delta is less than up on the Feather and Yuba Rivers during an atmospheric river, there is still a great deal of coordination that occurs at every level. During high water events, this work is done at the Joint Operations Center and the

Flood Operations Center, which is where they coordinate with the U.S. Army Corps of Engineers. They work with the various water operators to ensure that water is metered through. He then gave an example from the high-water event of 2017 and the San Joaquin River. He said that the Flood Operations Center was active for over 150 days to move the flood flow of water through the river, which is a narrow one. This involved coordinating daily with operations as well as many reclamation districts.

Senator Nielsen made an observation: He stated that the success and partnership in this particular committee has some impact beyond the Commission. He explained that other agencies are seeing the Commission's work as a model on how to address challenges in other areas.

Question (Q): Having worked on the Water Project from the inception, I note that down by Taft, Buena Vista pumping Plant, Weeder Ridge, Windgap, Tehachapi, all within about of 40 miles one another, pumping waters 3,000 feet in the air to get it over the hill. I know back in the day, at one time, they were talking about building a nuclear powerplant and shunting power directly to those four operations, basically providing their own power. And I'm wondering if there's any thought in revisiting that avenue, because those four powerplants, or pumping plants I should say, consume multitudes of power, more than what the whole State Water Project generates, and with the increased population since then, reliance on, you know, solar and wind and all this stuff, we see what's going on in Texas, has there been any studies or any indication to possibly build a nuclear power plant? I know that's a cruel word now, but we have ships floating in around every port in the world now that have nuclear powerplants on them; nobody seems to be worried about that. I'm wondering if it's a feasible suggestion.

- Response (R) Director Nemeth, DWR: The State Water Project is not considering nuclear energy. I think that's not ultimately where the State is on new energy sources. However, we are working on a very intensive effort to develop alternative energy sources. The State Water Project is putting online a couple of significant solar projects that are meant to serve that part of our State Water Project service area. I do think that the State Water Project will be — is and will continue to be, especially from a planning function, more integrated into these overall grid reliability discussions where we can shed load, shed the power that we need during certain times of the day that make power available for other important uses. So, all of that, all of the work that we're doing on the State Water Project and the project's reliability is starting to integrate more fully energy grid reliability. But just for clarity, for nuclear — new nuclear energy is not part of that picture.

Question (Q): For our next meeting, I suggest we dive into the Part 12, which I think, according to Elizabeth Williamson, should be public now, soon or in time for the next meeting. So on those advanced agendas, I think, by putting those out and listed on the website with possible subcategories that fit into that, Commissioners could not only prepare advanced questions that would help guide the presentations. Today's presentation were full of valuable knowledge, but I don't know if they were guided by what Commissioners and citizens actually wanted to hear. So advanced questions would maybe steer those a little bit towards the Commission's interest. Along with that, Action Item No. 9 from the last meeting was to provide suggestions to the California Natural Resources on how to structure the CNA meetings to make them more useful as possible, and then Secretary Crowfoot suggested that DWR post background documents on the CAC website for easy access to allow Commissioners to prepare in advance for those meetings. So if we go into safety in the next meeting and one of the subtopics is Part 12, then maybe that is a document in which we can post in advance, people can read up on that, gear

their questions specifically and presentations would then be geared towards it. I think we'd make our meetings more productive. There would be more time at the end for public comment on the ones that got missed. This is a pretty short two-hour meeting in order to encompass everything that I think we wanted. How do we direct future advanced questions or how do we request future advanced materials.

Continued with the following comment on Water Management: Excellent work advancing forecasts, early releases by the second spillway up at Bullards. I hope Oroville also moves in that direction so that we can drop those river stages more than 2.5 feet. I was hoping something closer to four or five feet. Having stood on those levees and watch freeboard lap on top of the gravel road only to be followed by river slouching on the inside from saturation and quick down-ramping. I would like to hear more on river down-ramping. Both the '86 and '97 collapse did not happen at peak close. They happened two days after as the river naturally down-ramped from the middle and the south fork of the Yuba. Although, I think the operators kept their down-ramping within regulations of 10,000 cubic feet every two hours, the natural down-ramping that happened at Marysville due to the south and middle fork dropped that levee so fast that the saturated riverside started the initial levee collapse. I don't think we reverse engineered the events of '86 and '97 to include what can be done more to avoid the natural down-ramping and river slouching that may occur in future floods.

- Response (R) Secretary Crowfoot: Asked that it be noted there is follow up requested to track several items as well as that materials should be shared in advance of subsequent meeting so commissioners and the public have time to review them. The Secretary requested that it is made clear who people can contact with questions or suggestions for future meeting agenda topics as well as to request information. He also said that a future Commission meeting should include a discussion on lessons learned from water events in 1986 and 1987 as suggested by the prior public comment. **[Action Items]**

Question (Q): I know the Thermalito Powerplant has been down for about eight years, 150-megawatt capacity. With the rolling blackouts that we're having in the summertime, I know that you have a balancing act between providing water and providing power, and with the water situation in the lake drying up, what are you using as a criteria to fire those powerplants up? Because this last rolling blackout, you were just maintaining minimum river outlets there from the underground powerplant there in Oroville, and, Thermalito wasn't running.

- Response (R) Ted Craddock: we worked very closely last summer with CalESO to maximize generation at the State Water Project and reduce pumping load throughout the system to support the electric grid. Specific at Thermalito, as Dave Duval mentioned, the powerplant is now back and fully functional on commercial operation, which is good news. Over the summer what we did with the forecast for heat is lower the water levels in the after-bay so that we could maximize generation at both Hyatt and Thermalito Powerplant to support the state's electric grid. We are in close coordination with Cal ESO during those heat waves and continue to do that proactive planning as we look to the future.

AGENDA ITEM 7: Adjournment

Secretary closed the meeting by thanking the commissioners for their hard work. He said this is a good commission but that there is always room for improvement. He concluded by saying he looks forward to the work they will do together in the future. He also said that he expects that the Q2 meeting in May will be held virtually unless things change significantly.