

**Meeting Summary**  
**Oroville Dam Citizens Advisory Commission**  
**Meeting #18: December 6, 2024**  
**10:00 a.m.– Noon**  
**Virtual Meeting**

This summary provides an overview of the December 6, 2024, Oroville Dam Citizens Advisory Commission (OCAC) 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. Related materials, including the slide deck and a video recording, are available on the [OCAC Website](#).

**Meeting Agenda**

- Welcome and Introductions
- Winter Outlook and Operations
- Oroville Emergency Response Exercises
- Water Control Manual Update
- How the WCM Relates to Public Safety Downstream
- Public Comment and Questions
- Adjournment

**Action Items**

Discrete action items:

- Consider future Commissioner tour of Feather River floating classrooms
- Communicate USACE Water Control Manual engagement opportunities in Oroville newsletter

To add as future agenda topics:

- How to address the Oroville levee concerns (e.g., responsibility, reliability, possible remedies); how levee will be considered as part of the WCM update
- Treatment of snowmelt in WCM update

To be marked as resolved in the action item tracker:

- Lessons learned from the 1986 and 1997 flood events
  - This topic was resolved as complete during the October 10, 2024, ad hoc meeting with downstream commissioners.

**Rollcall**

As mandated by the requirements set forth in Senate Bill 955 (2018, Nielsen), the Commission comprises representatives from the following agencies and public bodies. Attendance at Meeting 18 on December 6, 2024, is noted in the table below.

<b>Agency or Public Body</b>	<b>Commissioner (or Alternate)</b>	<b>Attendance</b>
California Natural Resources Agency	(Chair) Secretary Wade Crowfoot	Yes
California State Senate	Senator Brian Dahle (represented by Bruce Ross)	Yes
California State Assembly	(Vice Chair) Assemblymember James Gallagher (represented by Juleah Cordi)	Yes

<b>Agency or Public Body</b>	<b>Commissioner (or Alternate)</b>	<b>Attendance</b>
Department of Parks and Recreation (DPR)	Director Armando Quintero (represented by Superintendent Matt Teague)	Yes
Department of Water Resources (DWR)	Director Karla Nemeth (represented by Deputy Director John Yarborough)	Yes
California Governor's Office of Emergency Services (Cal OES)	Chief Deputy Director Nancy Ward (represented by Deputy Director Nate Ortiz)	Yes
Oroville City Council	Mayor David Pittman	Yes
Oroville City Council	Vice Mayor Eric Smith	No
Butte County Board of Supervisors	Supervisor Tod Kimmelshue	Yes
Butte County Board of Supervisors	Supervisor Bill Connelly	Yes
Representative on behalf of Butte County Board of Supervisors	Robert Bateman	Yes
Yuba County Board of Supervisors	Supervisor Seth Fuhrer	No
Yuba Office of Emergency Services	OES Manager Oscar Marin	No
Sutter County Board of Supervisors	Supervisor Mat Conant	No
Sutter County Board of Supervisors	Supervisor Nick Micheli	No
California Highway Patrol	Lieutenant Commander Marc Stokes	Yes
Butte County Sheriff's Office	Lieutenant James Beller	Yes
Yuba County Sheriff's Office	Operations Captain Nathan Lybarger	No
Sutter County Sheriff's Office	Deputy Andre Licon	No

### **Welcome and Opening Remarks**

Secretary Wade Crowfoot started the meeting by acknowledging the recent school shooting in Oroville where two children were wounded, offering condolences to the students, faculty, staff, and families of the Feather River Adventist School and greater Butte County. Oroville Mayor David Pittman shared that there would be a public candlelight vigil to be held at the school in the evening to honor the students whose lives were affected.

Secretary Crowfoot welcomed Commissioners, presenters, and the public to the eighteenth meeting of the Oroville Dam Citizens Advisory Commission (OCAC). He thanked Commissioners for their continued involvement and leadership in the Commission, welcomed new Commissioner Lieutenant James Beller from the Butte County Sheriff's Office, and reminded everyone about his staff's intent to start preparation of the second Tri-Annual OCAC Legislative Report (released every three years), which will cover Commission meetings held since fall 2022.

Department of Water Resources (DWR) State Water Project (SWP) Deputy Director John Yarbrough gave a report on behalf of Director Karla Nemeth, describing the DWR's ongoing work and planning. He noted the recent November storm that offered relief after a dry summer and fall, raising Lake Oroville approximately 30 feet. Mr. Yarbrough emphasized the importance of improving their ability to plan operations around large weather events like that in November. He cited the collaboration on Forecast Informed Reservoir Operations (FIRO) with Scripps, Yuba Water Agency, the U.S. Army Corps of Engineers (USACE) and NOAA as a key tool through which enhanced forecasting will allow them to manage existing reservoirs under more extreme conditions for more benefits, including public safety.

He shared DWR's goals for the Water Control Manual Update: using the best available science, enhancing coordination among agencies, minimizing emergency spillway use, and removing references to the unfinished Marysville Dam. Mr. Yarbrough requested commissioners' feedback regarding how DWR's goals align with their perspectives to ensure a unified approach moving forward.

Secretary Crowfoot thanked Mr. Yarbrough for articulating DWR's goals and concurred with the remarks, noting that the Commission serves as an important forum for USACE updates. He invited other Commissioners for comments and updates.

Supervisor Bill Connelly acknowledged the impactful work of the first responders to the school shooting incident. He also requested the Oroville "Orphan Levee" topic be added to the agenda at a future Commission meeting.

Mayor David Pittman shared that he has participated in DWR's floating classroom on the Feather River, which offers valuable educational experiences for residents, particularly about the river's importance to salmon and other species. He encouraged commissioners to participate in a future tour, noting that even as a long-time resident, he had gained a new appreciation for the river's ecological significance. Secretary Wade Crowfoot acknowledged the compliment and suggested that this floating classroom experience could become an optional tour for commissioners.

Before transitioning to the main presentations, Secretary Crowfoot reminded commissioners that the Action Item Tracker will be updated and asked for their feedback on the accountability tool.

### **Winter Outlook and Operations**

Mike Anderson, DWR's State Climatologist, began with an overview of the past water year (October 1<sup>st</sup> – September 30<sup>th</sup>) and what to expect for the current water year:

- Water Year (WY) 2024 ended near average, with notable extremes such as Southern California's January and February weather and a March blizzard that contributed 25% of the seasonal snowpack in just a few days.
- For WY 2025, although La Niña conditions are expected, they have not fully materialized. The atmospheric circulation (a strong, high-pressure system somewhere in the Pacific) could lead to a dry start to what is normally the wettest time of the year.
- Snowpack development has been limited due to high freezing elevations. This year's weather proved unpredictable with "punctuated wet extremes," which may lead to an average precipitation total without significant snowpack development. The lack of snow accumulation could have implications for water supply and fire risk, especially as the dry conditions could lead to rapid drying and increased fire potential.

Secretary Crowfoot asked about Oroville Reservoir's current capacity to handle large storm events. Mr. Yarbrough confirmed that there is ample space in the reservoir now, but as storms approach, DWR will carefully monitor the situation and release water as necessary. The Secretary emphasized the importance of communication with the community through newsletters to keep residents informed of reservoir levels and storm impacts.

Molly White, the Assistant Division Manager in DWR SWP's Division of Operations and Maintenance, reported on the flood control operations for the State Water Project:

- During much of winter and early spring 2024, the flood control space in the reservoir was used to manage inflows and hold water before making controlled releases into the Feather River. DWR coordinated these actions with USACE.
- DWR continues implementation of an enhanced flood pool, a practice they started about five years ago.
- On July 1, 2024, DWR updated their storage data based on new bathymetry completed for Lake Oroville. Therefore, their figures reflect a drop in storage and overall storage capacity on that date. DWR coordinated the adjustments with the Corps, which were reflected in the Corps' systems on October 1.
- Currently, the Oroville storage is at approximately 1.9 million acre-feet, which is 108% of the historical average, a substantial increase from the same time in 2023. This volume is largely due November storms, which brought substantial inflows and boosted both lake storage and soil moisture.
- Precipitation and snowpack in the Northern Sierras is currently average, and with the wettest months ahead, DWR is planning for the possibility of both extreme wet and dry conditions. Current releases to the Feather River were at a minimum of 1,750 cfs, focusing on conserving storage. The enhanced flood pool will also be in effect for the coming season.

Bruce Ross, representing Senator Dahle, asked for clarification on the flood capacity lines shown in the presentation deck. Molly White explained where the upper and lower bounds are in the USACE's regulated flood pool as well as where the enhanced flood pool is located in the image..

Supervisor Connelly noted how outdated the existing Water Control Manual is and thanked the DWR team for making adjustments such as the enhanced flood pool that are responsive to changes in the system resulting from climate change.

### **Oroville Emergency Response Exercises**

David Gordon, Principal Engineer in DWR SWP Executive Office, presented an overview of the SWP emergency preparedness program:

- Established in 2020 in response to various incidents within the Project and external challenges, the program's vision is to build a resilient SWP with a foundational culture of preparedness to support continuous improvement and a maintained state of readiness.
- The program covers all phases of emergency management to enhance the ability to effectively handle emergencies: preparedness, response, recovery, and mitigation.
- SWP staff participate in various emergency preparedness exercises, seminars and trainings, some of these include external emergency management partners to ensure everyone is familiar with the facilities and emergency response roles.

DWR conducted emergency management exercises in summer 2024 with 129 participants across state and local agencies, including several members of the OCAC. Mr. Gordon described the role of the tabletop and functional exercises:

- A tabletop exercise was an internal meeting designed to test staff responses and internal roles during a simulated emergency.
- A functional exercise was a more robust, external simulation that involved various agencies working together, testing their roles in incident command, emergency operations, and unified command.
- The exercises are critical not only for testing readiness but also for fostering relationships and understanding the roles of different organizations involved in emergencies, such as evacuation coordination, where multiple agencies need to collaborate. Increasing the frequency of such exercises and continuing to build strong partnerships between DWR and external agencies will ensure the effectiveness of the emergency preparedness program in the future.

Lieutenant Jim Beller described his positive experience participating in the tabletop exercise and noted that it helped him and his colleagues feel prepared for local emergency situations like the Park Fire Burn Scar and planning for a potential flood. Secretary Crowfoot thanked Lieutenant Beller for the feedback and noted that DWR welcomes participation at these emergency preparedness training exercises from its local emergency response partners.

### **Water Control Manual Update**

Jennifer Fromm, Chief of the Water Management Section for the USACE Sacramento District, provided an update on the process to update USACE's New Bullards Bar & Oroville Dams Water Control Manuals.

Ms. Fromm started by providing context on USACE's role and the purpose and content of water control manuals:

- USACE is responsible for water control management at facilities they own. The federal agency is also responsible for prescribing flood control and navigation regulations for non-USACE projects, including dams owned and operated by other agencies like DWR.
- Water control management objectives include operating to authorized purposes and laws, maintaining structural and operational integrity, and avoiding risk to public health and safety, life, and property.
- Water control manuals generally contain the description and history of the project, information about the watershed, and the water control plan. The Water Control Plan describes how the project is operated to meet its authorized purposes, and includes aspects like the water control diagram, minimum flow requirements, and storage and release protocols for reservoirs.
- There are two types of manual updates: administrative and comprehensive. Administrative updates include changes to hydrology data, project details, or templates, while comprehensive updates also include revisions to the water control plan itself.

The Water Control Manual update process typically takes one to five years.

- The process begins with creating a project management plan, which includes the Hydrologic Engineering Management Plan outlining necessary engineering analyses.
- Public and stakeholder outreach is integral to keep everyone informed and provide avenues for questions and feedback throughout the process.

- Revising hydrology is a key step in the update process. USACE last updated the New Bullards Bar & Oroville Dams Water Control Manuals in 1970, necessitating the incorporation of a more recent period of record as part of this update. The process begins with modeling historical reservoir operations, which are used to reflect existing conditions and establish new baseline environmental conditions.
- The next step is identifying potential changes to reservoir operations, including evaluation of impacts to the reservoir itself and downstream, including effects on resources like recreation, erosion, and fisheries. These new or revised operations may then become “alternatives.”
- The next step is to review and update critical documents, such as the water control diagram and NEPA documents. Specific reviews are necessary to ensure the document meets approval requirements.
- Once these reviews are completed, the manual undergoes policy and legal reviews before final approval by the USACE’s Division Commander.

Ms. Fromm described the "Forecast Informed Reservoir Operations" (FIRO) pilot program, which aims to improve flood risk management and increase water conservation by using enhanced monitoring and improved weather and hydrological forecasts. This program is currently being researched by the Corps alongside several other agencies, including DWR, Yuba Water Agency and UC San Diego's Scripps Institution of Oceanography. She emphasized that while that pilot study is going on in parallel with the Water Control Manual update and may inform the content of the Manual, the efforts are separate.

Looking forward, the next steps in the Manual Update process schedule include public scoping in Spring 2025 and the draft review of the Water Control Manual and NEPA documents in December 2025. These documents will be made available for public feedback, with meetings planned to gather concerns and questions about specific locations in the watershed. There will be multiple opportunities for engagement, and the public can contact USACE with questions through various channels that were outlined in the presentation.

Secretary Crowfoot thanked Ms. Fromm for effectively explaining the complex process of updating the Water Control Manual. He highlighted the importance of public engagement and asked Ms. Fromm to share public involvement opportunities in the upcoming year and mentioned that DWR can promote them through their electronic newsletter.

Supervisor Connelly asked if the Water Control Manual is a "living document" that could be modified after its release. Ms. Fromm clarified that while certain elements, like contact lists, can be updated, any changes to the operations would require a new version of the manual.

Ms. Fromm communicated that funding for updates appears to be available, as Congress is supportive of WCM revisions. Updates are typically expected every 10 years.

Bruce Ross asked about potential changes to operations at major facilities like Oroville due to factors like climate change. Ms. Fromm explained that the flood space at Oroville will remain unchanged, but the way it is utilized could evolve because of new approaches the USACE is exploring, such as FIRO.

Supervisor Kimmelshue commented on the importance of flood safety as a driving priority for the Water Control Manual. Ms. Fromm reassured him that public safety and flood control operations would remain top priorities in the manual updates.

Secretary Crowfoot concluded by acknowledging the significance of understanding the impacts of extreme weather events, as climate change increases the intensity of both storms and dry periods.

### **How the Water Control Manual Relates to Public Safety Downstream**

Commissioner Bateman and Matt Mentink, a member of the Oroville Dam Comprehensive Needs Assessment Ad Hoc Group, gave a presentation on behalf of the Feather River Recovery Alliance on how the Water Control Manual (WCM) relates to public safety, including perspectives on public safety-focused objectives for the Manual update.

Commissioner Bateman provided background on Feather River Recovery Alliance (FRRA) activities:

- A group of people in Oroville created the FRRA after incidents in Oroville in 1997 and 2017 forced week-long shutdowns at a manufacturing company Commissioner Bateman had founded. The FRRA submitted a petition with 6,500 signatures to the Federal Energy Regulatory Commission (FERC) to hold DWR accountable for their impacts.
- Butte County Supervisor Connelly and his predecessor, the UC Berkeley Center for Catastrophic Risk Management, and local representatives have all supported the FRRA.
- The FRRA's involvement with the Water Control Manual evolved naturally. In the last year, the group submitted questions to USACE twice. The FRRA also participated in a series of meetings with DWR focused on public safety and the WCM. Mr. Bateman noted that the responses and the meeting with DWR were very informative.
- The FRRA conducted background research on the City of Oroville levee: the levee was originally created by dredgings from the river in the early 20<sup>th</sup> century, and its condition has not undergone recent evaluation. Mr. Bateman questioned whether it should be used as the main channel for water release from the dam without evaluation and suggested that the Water Control Manual revisions should include reevaluation of the levee. Mr. Bateman stated that boils in levee were observed in 1986 and 1997 when dam releases exceeded 100,000 cubic feet per second (cfs). Mr. Bateman stated that the boils have not been closely investigated or repaired.

Commissioner Bateman noted that there are projects on the docket that are taking longer to progress than expected. If there will be benefits resulting from the WCM updates, the FRRA wishes that they be split between increasing safety and increasing the water storage supply. He encouraged people to contact him if they want to get involved in FRRA efforts as they are seeking additional support from the local community and interested agencies.

Mr. Mentink began by explaining that the Comprehensive Needs Assessment (CNA) was a three-year process that examined the dam's infrastructure and management via five interdependent tasks examining:

- Forecast Informed Reservoir Operations (FIRO) operation improvement;
- Floodgate reliability assessment;
- Dam embankment reliability assessment;
- Instrumentation and piezometer monitoring; and
- Evaluation of a low-water outlet, which was recommended in several of the suggested plans.

Mr. Mentink focused his presentation on the Yuba-Feather Forecast Informed Reservoir Operations Preliminary Viability Assessment Report (FIRO PVA), drafted by engineers and

released in December 2022. The primary objectives of FIRO are to reduce flood risk, improve flood safety, and achieve incidental water supply benefits where possible. Mr. Mentink provided his perspectives on the 450-page Preliminary Report content with a focus on downstream concerns.

Mr. Mentink highlighted several parts of the FIRO PVA report's analysis and explained his perspective, including:

- Key episodes in the history of flooding and water management in the Yuba-Feather watersheds. Mr. Mentink shared his own assessment of how the unbuilt Marysville Dam, as well as other anticipated but unrealized contributions to the SWP water supply, impacted flood safety and water supply decision-making at Oroville.
- The analysis of how Yuba Water Agency's low level outlet could be operated to reduce water levels on the downstream levee system.
- His interest in operational approaches that could be evaluated to collectively provide the functional equivalent of the 260,000 acre feet of storage that would have been provided by a Marysville Reservoir.
- A brief description of the Soil Wetness Index and its use in the 1970 Water Control Manual. Mr. Mentink shared his concerns that the wetness index does not consider snow accumulation. He stated that none of the alternatives in the FIRO PVA report look at historic snowpack and its water equivalency to fluctuate the flood pool.
- A journal article by the Center for Western Weather and Water Extremes titled "Extreme Runoff Generation From Atmospheric River Driven Snowmelt During the 2017 Oroville Dam Spillways Incident." Mr. Mentink described how the article analyzed the contribution of snow melt to the total runoff that entered Oroville Lake in 2017 storm events. Mr. Mentink described the runoff analysis and the connection to the FIRO PVA, which he thinks does not adequately address the increase in snowmelt runoff.
- The FIRO PVA's assessment of Oroville Lake inflow forecasts vs actual observations during the 1997 storm events.
- An image analyzing the 1986 storm event from FIRO PVA. Mr. Mentink noted that the image shows various the 1986 event scaled at 110-percent and the graphs show modeled flows at and below Oroville using various forecasting and operational assumptions.
- The Yuba Water Agency's annual economic benefits analysis of utilizing a new alternative spillway at New Bullards Bar Reservoir.
- Mr. Mentink's own analysis of the water supply annual benefits that a new Water Control Manual could produce based on some results of water supply gains that the FIRO PVA demonstrates.

Mr. Mentink voiced appreciation for the closing recommendations of the report which suggested a need to address inconsistencies and gaps in the data being used.

Secretary Crowfoot thanked Mr. Mentink and the Feather River Recovery Alliance for the presentation of very complex information. He looks forward to the Alliance's participation in the Water Control Manual scoping session in March 2025.

Secretary Crowfoot thanked Assembly Member Gallagher for leading the passage of the legislation that formed this committee.

Secretary Crowfoot opened the floor for questions.

Commissioner Bateman commented that the two critical points for future flood prevention and management are the treatment of snow melt and levee preparedness.

Assembly Member Gallagher also thanked Commissioner Bateman and Mr. Mentink for the presentation and the work that is being done to achieve public safety objectives. Secretary Crowfoot thanked the Assembly Member for his partnership as he has been involved in the Commission from the start.

### **Meeting 19 Agenda**

Secretary Crowfoot relayed that CNRA will circulate the Action Item Tracker and proposed agenda for Meeting 19 by December 20. He invited suggestions for agenda items.

He also noted that the Commission is approaching the drafting period for the second triannual report to the Legislature, to be completed by the end of 2025. Secretary Crowfoot said that we will be working with Assembly Member Gallagher's office along with Senator Megan Dahle's office.

### **Public Comment**

Secretary Crowfoot invited the public to provide comments and questions.

#### *Comment One:*

Richard Thompson said that he owns and operates a business out of two buildings in downtown Oroville that are within 200 feet of the levee. Mr. Thompson hopes that with USACE involved, there will be a levee evaluation conducted. He remarked that it has been historically difficult to secure financing for a proper evaluation from an engineering perspective, but the USACE seems to have the resources to complete an evaluation. Mr. Thompson hopes to see the results of this evaluation in the final report.

Ms. Fromm recommended that Mr. Thompson email his question to the email alias she shared earlier in the presentation to receive a response from the subject matter expert on her team.

Secretary Crowfoot noted that this topic was referenced earlier in the meeting by Supervisor Connelly. He suggested that Kearns & West note the need for a future discussion on levee responsibility and how it fits into the Water Control Manual update.

Bruce Ross added that the Central Valley Flood Protection Board (CVFPB) would be a resource worth exploring. Secretary Crowfoot responded that the CVFPB has presented at previous Citizens Advisory Commission meetings, but there is also a unique challenge around the jurisdiction of this levee as this levee is not owned and maintained by the State.

Laura Hollander, Deputy Director of Flood Management and Dam Safety at DWR, volunteered to return at an upcoming meeting to further examine the topic of levee evaluation. She confirmed that there has not been state or federal involvement, except for funding provided to the City of Oroville in 2011 for a preliminary levee investigation. She mentioned discussions between DWR and the Army Corps about incorporating the Oroville Dam levee into the National Levee Safety Program.

*Comment Two:*

Michael Bessette, Sutter Butte Flood Control Agency, reported that he participated in a meeting between DWR, Commissioner Bateman, and Supervisor Connelly. During discussions about the levee, Mike Mierzwa, DWR, offered to contact USACE to request a safety inspection through its national inspection program. Mr. Bessette noted that he worked with the City of Oroville staff and City Administrator to submit a request for inspection through the program, which USACE accepted on December 6, for a 2025 inspection that can help identify levee deficiencies and next steps.

*Comment Three:*

Ron Stork, Oroville Dam Comprehensive Needs Assessment Ad Hoc Committee, commented that known deficiencies in the levee system have not always resulted in any significant or expected changes in flood operations. He cited the Feather River levee break in 1997 as an example. This levee had been assessed to be able to handle 80% of maximum flow, however, it failed at 100% flow. Following the disaster, there were no changes made to the WCM or in operations to reduce the objective release of the project and the flow down the floodway. Mr. Stork also noted instances of excessive flood waters in Folsom Dam after plans for constructing the Auburn Dam fell through. Mr. Stork said that there needs to be public recognition as well as changes in operations to reflect known levee deficiencies.

**Adjournment**

Secretary Crowfoot adjourned the meeting by thanking the public, the presenters, and commissioners for their engagement at OCAC Meeting 18.

The next Commission meeting is scheduled for Friday, March 7, 2025, from 10 a.m. to noon. Staff are still determining if it will be a virtual or hybrid meeting. The agenda will be available to preview online in advance of the meeting.