NEW BULLARDS BAR DAM - OROVILLE DAM WCM UPDATES

Informational Meeting

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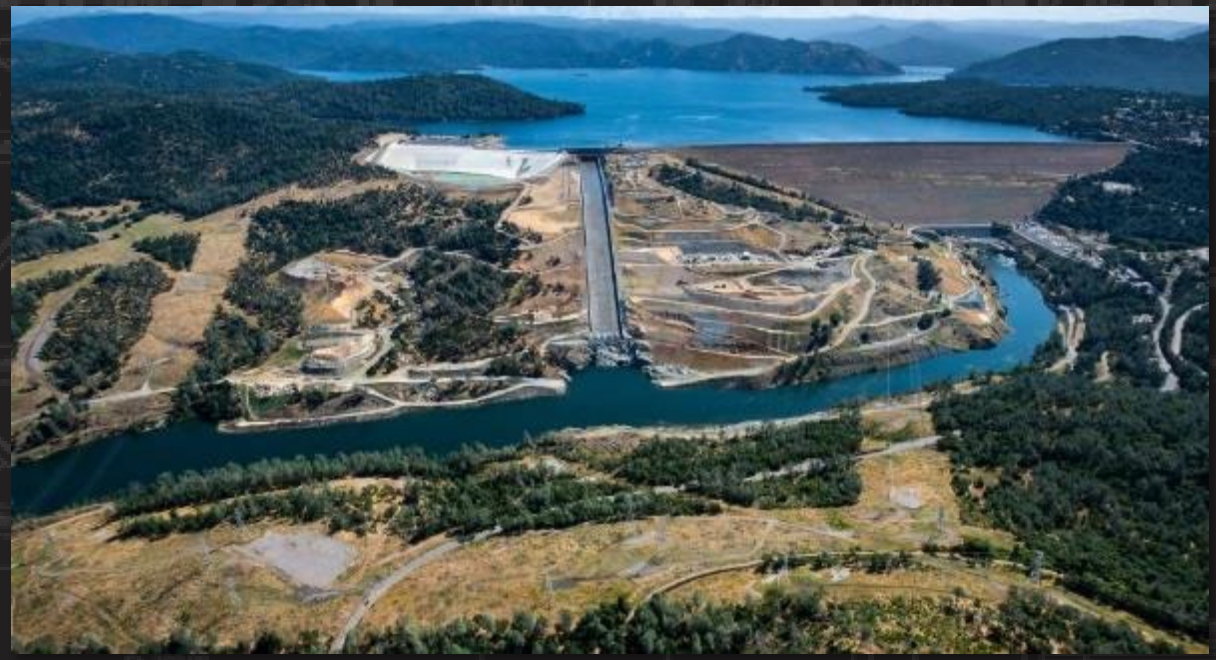

Date: 15 OCT 2024

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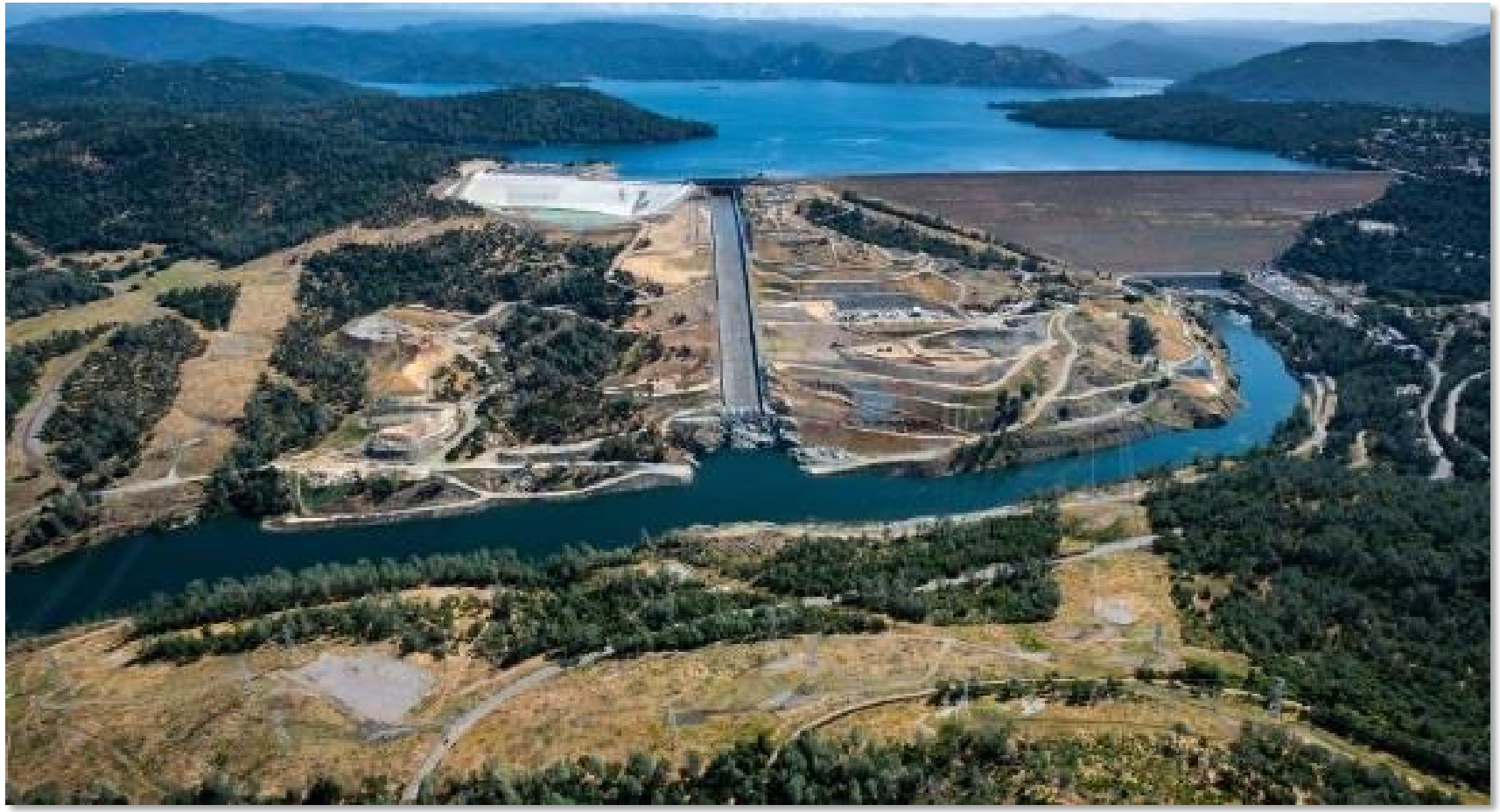
AGENDA

1. Meeting Purpose
2. Overview
3. Yuba-Feather System
4. Simplified WCM Update Process
5. Key Issues
6. Purpose and Need
7. Next Steps
8. Questions



01 Meeting Purpose

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MEETING PURPOSE

Inform the community and agencies about the Proposed Project

Inform the community and agencies about the NEPA process and scope

Inform the community and agencies about next steps and future opportunities for input

02 Overview

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USACE WATER MANAGEMENT

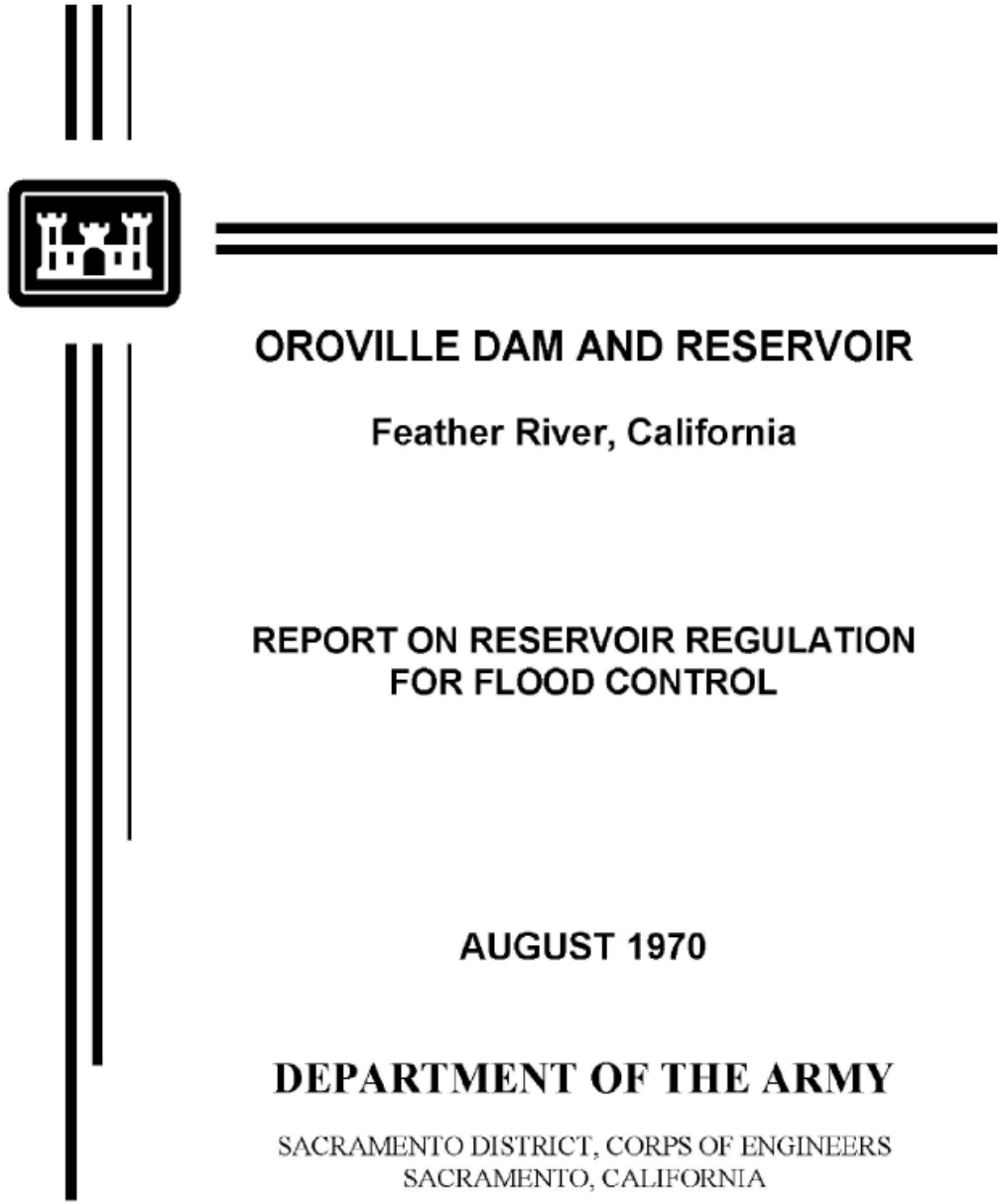
Basic objectives of water control management

- Operate to authorized purposes and laws
- Maintain structural and operational integrity
- Avoid risk to public health and safety, life, and property

USACE is responsible for water control management at USACE-owned projects

USACE is also responsible for prescribing flood control and navigation regulations and guidance at non-USACE projects

- Dams owned and operated in non-flood space by other entity
- Special acts of Congress
- FERC conditions
- Other agreements



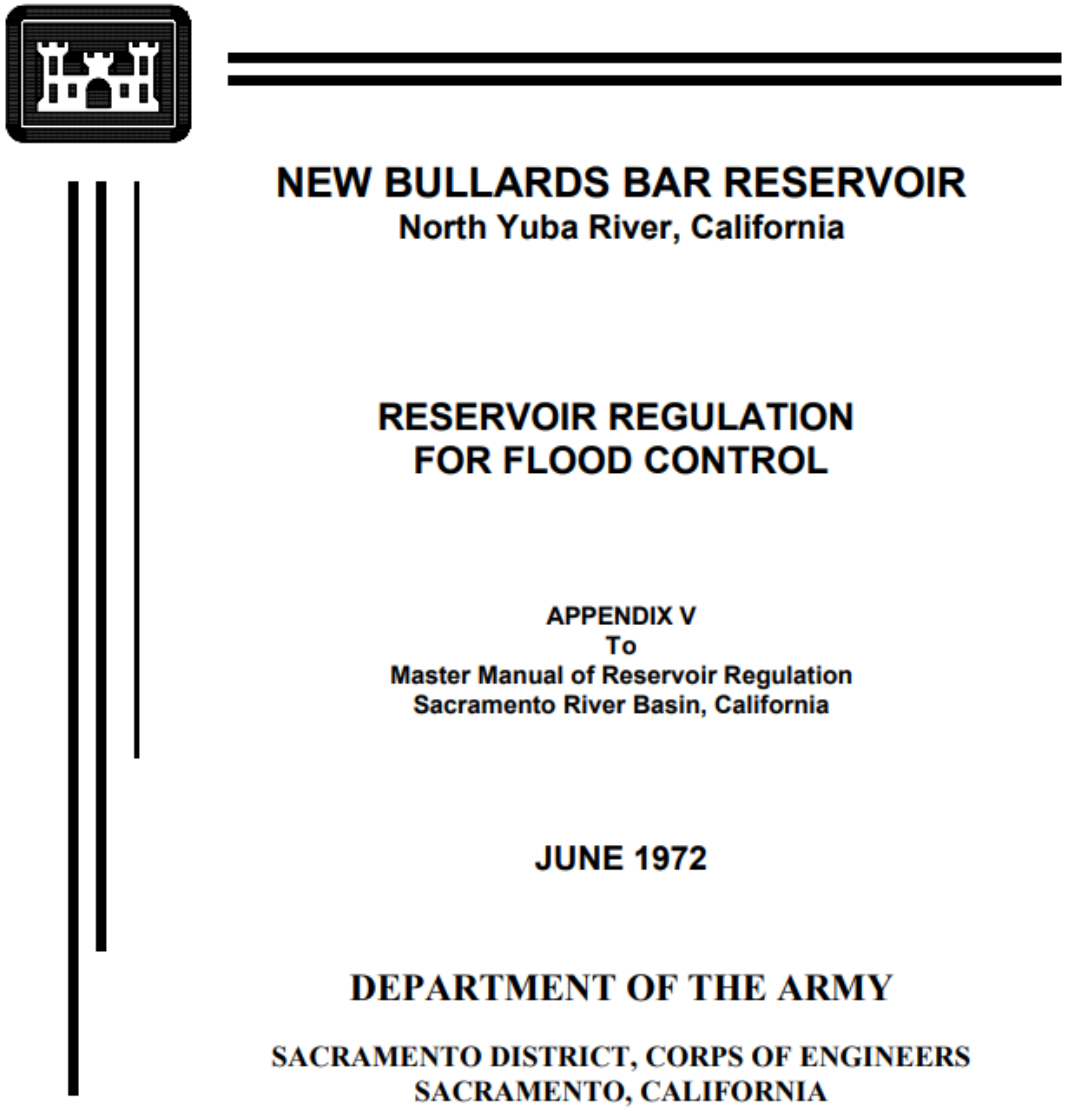
WCM TERMINOLOGY

A water control manual includes

- Description and history of the project
- Information about the watershed
- **Water control plan** (operations plan)

The water control plan describes how the project is to be operated to meet its authorized purposes

– Graphical representation of WCP is the water control diagram
– The water control diagram shows the flood control space and release requirements, based on the time of year and state of the watershed



NEW BULLARDS BAR RESERVOIR
North Yuba River, California

RESERVOIR REGULATION
FOR FLOOD CONTROL

APPENDIX V
To
Master Manual of Reservoir Regulation
Sacramento River Basin, California

JUNE 1972

DEPARTMENT OF THE ARMY

SACRAMENTO DISTRICT, CORPS OF ENGINEERS
SACRAMENTO, CALIFORNIA

WCM UPDATE JUSTIFICATION

Water control manual should be reviewed regularly and updated when information is outdated

- Administrative
  - Points of contact
  - Activity/developments in watershed
  - Hydrologic data to add to period-of-record analyses
  - Updates to USACE standards
- Comprehensive
  - Revisions to water control plan

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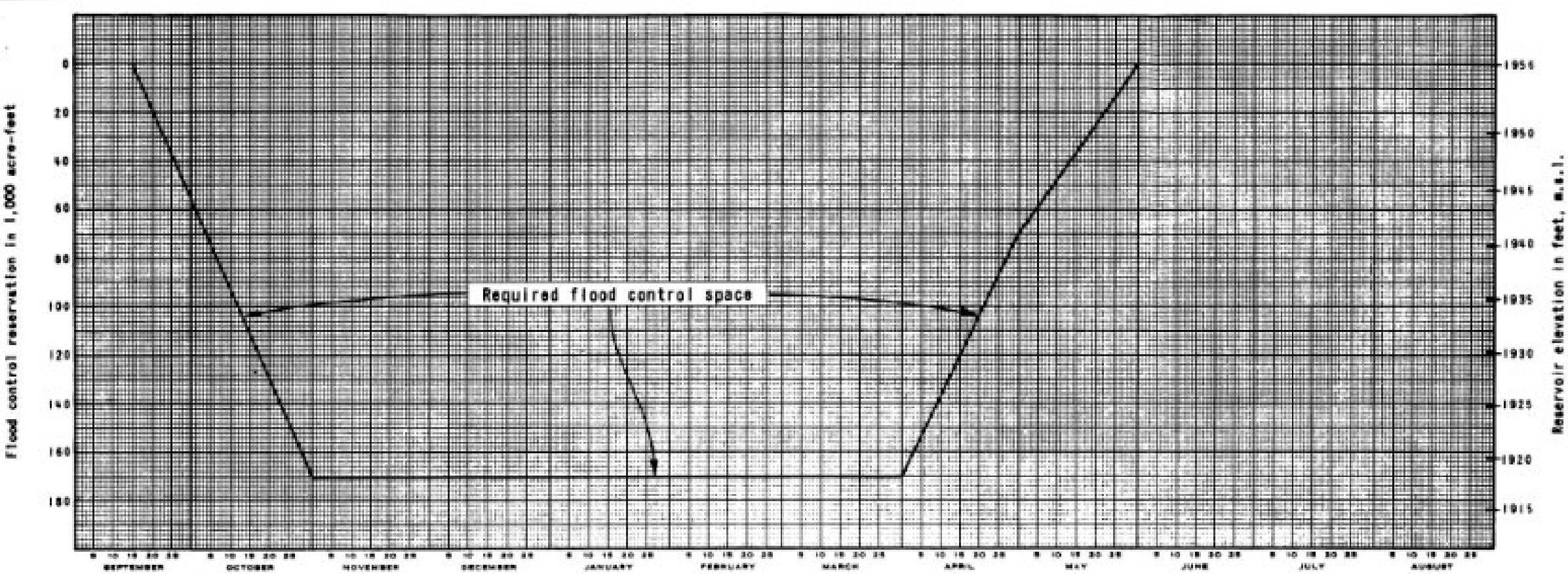
NEW BULLARDS BAR - 1972 WCM OPERATION



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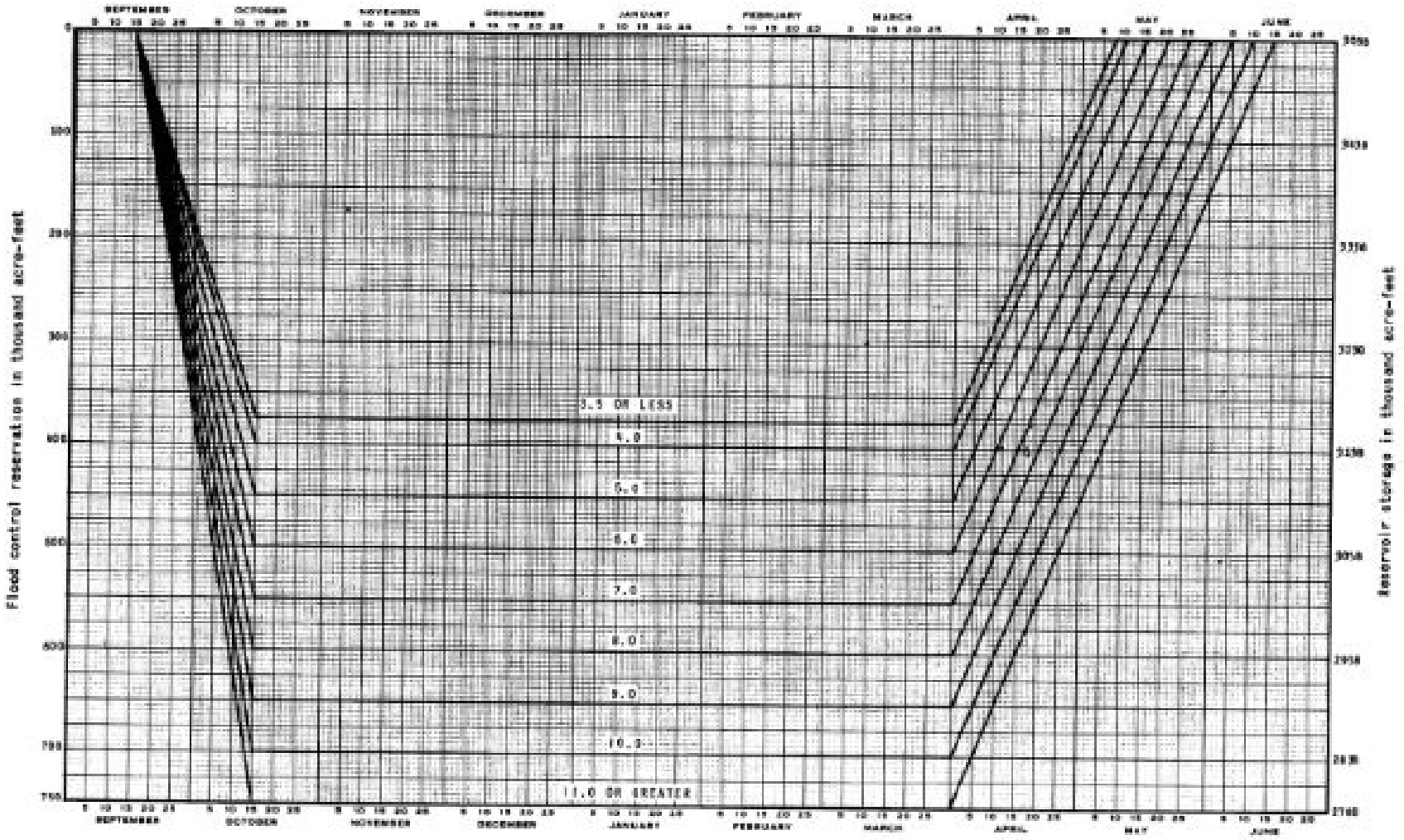
OROVILLE – 1970 WCM OPERATION



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EXISTING WCM OPERATIONS

- At New Bullards Bar, the **flood space requirement (allowed storage) varies only based on the day of the year.**

- At Oroville, the **flood space requirement (allowed storage) is calculated based on the observed precipitation**, the previous day's requirement, and the day of the year.

- At Oroville and New Bullards Bar, **release decisions are based on observed inflow**. Inflow must meet certain thresholds and the reservoir must be full to its allowed storage (or encroached into the flood space) to make flood releases.

- Flood release decisions at Oroville and New Bullards Bar consider a common downstream objective (flows at the Yuba-Feather confluence) but the **manuals do not specify that coordination must occur**. The decision at each reservoir is not directly tied to the decision at the other reservoir.

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FORECAST INFORMED RESERVOIR OPERATIONS (FIRO)

FIRO Definition:
*A reservoir operations strategy that better informs decisions to retain or release water by integrating **additional flexibility** in operation policies and rules with enhanced monitoring and improved weather and hydrological forecasts*

With FIRO, forecast information can be used to compute:

1. The amount of space to keep empty to prepare for future inflows, and
2. The magnitude of releases that are needed (or not needed) when encroached in this space.

Goals of FIRO are to **improve flood risk management and increase water conservation**

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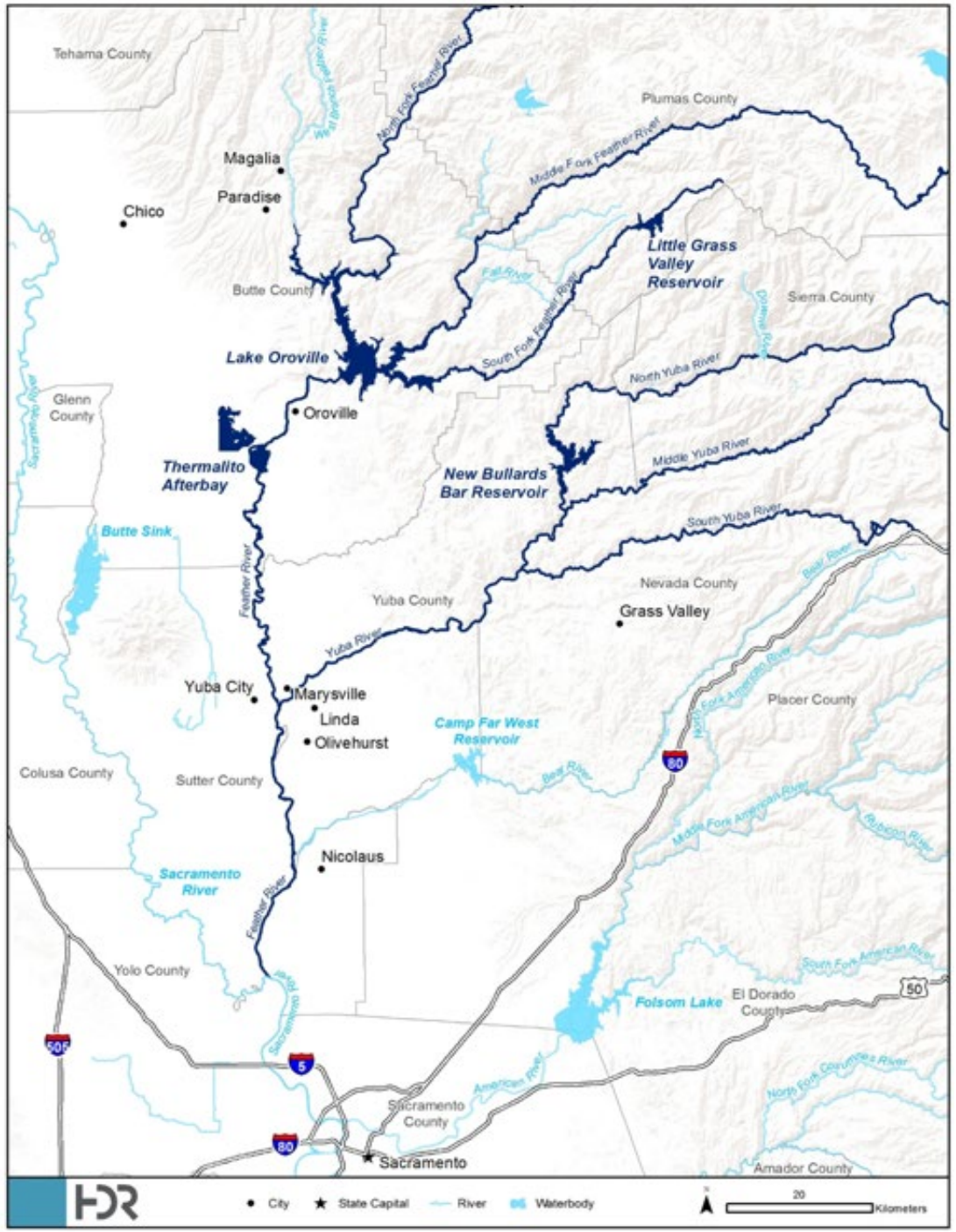
YUBA-FEATHER FIRO PILOT PROGRAM

Yuba Water Agency and DWR are working with the U.C. San Diego, Scripps Institution of Oceanography, Center for Western Water and Weather Extremes (CW3E) to evaluate the viability of FIRO in the Yuba-Feather System.

This parallel research effort is being coordinated with the Oroville and New Bullards Bar WCM Updates. More information is available on the CW3E website: https://cw3e.ucsd.edu/firo_yuba_feather

03 Yuba-Feather System



YUBA-FEATHER SYSTEM

- Watershed area of 5,890 sq mi with elevations up to 9,300 ft
- Two multi-purpose reservoirs operated as a system for flood control
- Coordinated operation objective: avoid exceeding objective flow at Yuba-Feather confluence and downstream
- Additional dam was planned but never built, storage capacity reflected in WCMs

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OROVILLE DAM

- Tallest earth-fill dam in the U.S.
- 3.42 million ac-ft of storage, including 750,000 ac-ft for flood control
- Key facility of the California State Water Project, which supplies water to nearly 27 million Californians and 750,000 acres of farmland
- Gated and emergency spillways recovered after 2017 incident

Source: CA DWR

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NEW BULLARDS BAR DAM

- Concrete arch dam with a crest length of 2,323 ft
- Capacity of nearly 1 million ac-ft of water, including 170,000 ac-ft for flood control
- Other project purposes include water supply power generation, recreation, and conservation
- New secondary spillway design is complete

Source: CA DWR

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OPPORTUNITIES

Source: CA DWR

- Modernize reservoir operation
- Reflect current/planned state of the physical system
- Consider resiliency to climate change
- Build off previous and concurrent efforts, including the FIRO Pilot Program and F-CO Program
- Work collaboratively with stakeholders to ensure the projects continue to meet the current and future needs of the communities they serve

04 Simplified WCM Update Process

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STATUS OF ENVIRONMENTAL TASKS FOR WCM UPDATES

You are here →

1.	Environmental Compliance Management Plan	✓
2.	Environmental Modeling Plan	✓
3.	Develop No-Action and Future without Project base condition	✓
4.	Modeling to support initial environmental analyses and alternatives screening	🕒
5.	NEPA Scoping and Initial Stakeholder Coordination	○
6.	Draft WCM Document	○
7.	Draft NEPA Document	○
8.	Public Draft Review	○
9.	Final NEPA Document and WCM Update	○
10.	USACE Approval and Record of Decision	○

✓ Completed 🕒 In Progress ○ Not Started

05 Key Issues

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KEY ISSUES

The following resources have been identified as potentially affected by flood risk management storage and operations:

- Soils and erosion
- Hydrology and flood risk management
- Water quality
- Fisheries and other aquatic species (including protected species)
- Vegetation and wildlife (including protected species)
- Cultural and tribal resources
- Water quantity, supply, and delivery
- Hydropower production and distribution
- Recreation
- Land use and aesthetics
- Socioeconomics and environmental justice

06 Purpose and Need

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PURPOSE AND NEED

1. Modernize operations to reduce flood risk, based on updated observed conditions and improved technological and scientific capabilities since the 1970s, when the Water Control Manuals were adopted.
2. Develop a flexible operational flow regime that provides a viable and adaptable operational program, avoids physically altering the reservoir or infrastructure, avoids reducing water supply, and is aligned with the operational flow regime of [other reservoir].
3. Maintain and sustain habitat conditions for fisheries and Endangered Species Act (ESA)-listed species.
4. Maintain conservation space, as managed by [Water Agency], and variable flood space, as managed by the U.S. Army Corps of Engineers (USACE), within the reservoir to accomplish the missions of both USACE and the [Water Agency].
5. Operate to Emergency Spillway Release Diagram (ESRD), for dam safety, when inflows and pool elevations require higher releases, while still reducing the overall flow that otherwise would have been caused by a flood event.
6. Operate within objective flows in accordance with flood conditions not requiring the ESRD and to meet minimum release requirements and temperature requirements for low-flow or non-flood conditions.
7. Avoid increased long-term maintenance commitments.

07 Next Steps

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STATUS OF ENVIRONMENTAL TASKS FOR WCM UPDATES

You are here →

1. Environmental Compliance Management Plan	✓
2. Environmental Modeling Plan	✓
3. Develop No-Action and Future without Project base condition	✓
4. Modeling to support initial environmental analyses and alternatives screening	◷
5. NEPA Scoping and Initial Stakeholder Coordination	○
6. Draft WCM Document	○
7. Draft NEPA Document	○
8. Public Draft Review	○
9. Final NEPA Document and WCM Update	○
10. USACE Approval and Record of Decision	○

✓ Completed ◷ In Progress ○ Not Started

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NEXT STEPS: NEPA PROCESS AND TIMELINE

Public Scoping Period
- Spring 2025

Draft WCM Update/Draft NEPA Document
- December 2025

Public Review Period
- EA – 30 days
- EIS – 45 days

Final NEPA Document
- TBD

- **NEPA Lead Agency**: *USACE, Sacramento District*
- **Cooperating Agencies**: *TBD*
- **CEQA:** *Not expected*

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FOR ADDITIONAL INFORMATION

For additional information on the New Bullards Bar and Oroville Dams Water Control Manual Updates, visit the project web page by using this QR code.

Email us questions or comments at
NBB-Oroville-WCMupdates@usace.army.mil