• Lieutenant Collins
• Supervisor Connelly
• Supervisor Conant
• Secretary Crowfoot
• Chief Deputy Director Curry
• Supervisor Flores
• Supervisor Fuhrer
• Assemblyman Gallagher
• Supervisor Kimmelshue

• Deputy Licon
• Captain Million
• Director Nemeth
• Senator Nielsen
• Councilmember Pittman
• Mayor Reynolds
• Lieutenant Stokes
• Superintendent Teague
• Supervisor Vasquez
• Commissioner Widener
ITEM 1
WELCOME AND INTRODUCTIONS
<table>
<thead>
<tr>
<th>Item</th>
<th>Item Description</th>
<th>Meeting</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>Report out how instrumentation performed and was managed during winter operations.</td>
<td>Mtg 2 11/2019</td>
<td>Ongoing.</td>
</tr>
<tr>
<td>3</td>
<td>Invite State Water Contractors to future meeting(s)</td>
<td>Mtg 2 11/2019</td>
<td>Completed.</td>
</tr>
<tr>
<td>Item</td>
<td>Follow-up on the status of Federal Emergency Management Agency (FEMA) reimbursement for spillway reconstruction.</td>
<td>Meeting</td>
<td>Status</td>
</tr>
<tr>
<td>------</td>
<td>-------------------------------------------------------------------------------------------------</td>
<td>---------</td>
<td>--------</td>
</tr>
<tr>
<td>6</td>
<td>Mtg 3 02/2020</td>
<td>Ongoing.</td>
<td></td>
</tr>
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</table>

<table>
<thead>
<tr>
<th>Item</th>
<th>Discussion to help state agencies and local partners address homelessness concern around Feather River.</th>
<th>Meeting</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>7</td>
<td>Mtg 3 02/2020</td>
<td>For future Commission consideration.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Item</th>
<th>DWR updates on debris and storm inflows.</th>
<th>Meeting</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>8</td>
<td>Mtg 5 11/2020</td>
<td>DWR monitoring, will notify Commission as needed.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Item</th>
<th>Agendize discussion on lessons learned from 1986 and 1987 water events.</th>
<th>Meeting</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>9</td>
<td>Mtg 6 2/19/21</td>
<td>On track. Update at Q4 2021 meeting.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Item</th>
<th>DWR to respond to Commissioner question regarding what constitutes “failure”.</th>
<th>Meeting</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Item</td>
<td>Request to develop single tracking log cataloging ongoing or future safety projects.</td>
<td>Meeting</td>
<td>Status</td>
</tr>
<tr>
<td>------</td>
<td>---------------------------------------------------------------------------------</td>
<td>---------</td>
<td>--------</td>
</tr>
<tr>
<td></td>
<td>Mtg 7 5/28/21</td>
<td></td>
<td>Ongoing. Will address during annual dam safety and project updates.</td>
</tr>
<tr>
<td>12</td>
<td>Continue to discuss Risk Assessment and hear from outside experts.</td>
<td>Mtg 7 5/28/21</td>
<td>Ongoing.</td>
</tr>
<tr>
<td>16</td>
<td>Recreation expansion project updates, including Bidwell Ramp.</td>
<td>Mtg 8 8/27/21</td>
<td>Update planned for 2022.</td>
</tr>
</tbody>
</table>
# Commission Roadmap

## Public Meeting: (March 18, 2022) Partnerships

<table>
<thead>
<tr>
<th>Topics</th>
<th>Status Updates</th>
</tr>
</thead>
<tbody>
<tr>
<td>• FERC Relicensing</td>
<td>Commission Report</td>
</tr>
<tr>
<td>• Public Safety Partnerships: Evacuation Routes, Inundation Maps</td>
<td></td>
</tr>
</tbody>
</table>

## Public Meeting: (TBD 2022) Facilities and Safety

<table>
<thead>
<tr>
<th>Topics</th>
<th>Status Updates</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Dam Safety</td>
<td>Commission Report</td>
</tr>
<tr>
<td>• Facilities Annual Maintenance Plan</td>
<td></td>
</tr>
<tr>
<td>• Sutter Butte Flood Control Agency (SBFCA)</td>
<td></td>
</tr>
</tbody>
</table>
Commission Report Development Timeline

- Review timeline for Report development (Aug 2021) COMPLETE
- High-Level Report Outline (December 2021)
- Present Detailed Report Outline (Q1 2022)
- Version 1 Draft Report (Q2 2022)
- Version 2 Draft Report (Q3 2022)
- Present Final Report (Q4 2022)
Commission Report Outline

Introduction

- Commission Background
  - Feb. 2017 spillway incident
  - SB 955 legislation (Nielsen/Gallagher)
  - Forum for input and information—non-regulatory body

- Commission Purpose
  - Serve as a representative to the public for the purposes of providing public input and receiving information from the dam operator.
  - Act as a unified voice from the communities surrounding Oroville Dam to provide public feedback, advice, and best practices to the dam operator.
  - Publish a report at least once every three years

- Report and Content Mandated by SB 955
  - “Publish a report at least once every three years”
Commission Report Outline

Executive Summary
- Overview of public meetings
- Overview of presentation topics
- Commission actions to-date

Content
- Overview of ongoing maintenance & improvements
- Register of communications from State agencies and other parties
- Notice of upcoming plans for dam and dam complex
- Overview of flood management projects
- Public safety progress: facility security, evacuation routes, inundation maps, etc.
Commission Report Outline

Conclusion
  ▪ Accomplishments to-date
  ▪ Forward-looking

Commissioner Signatures Page

Appendix
  ▪ Public meeting summaries
  ▪ Referenced presentations
  ▪ Requests and communications to the Commission
ITEM 3
JOINT OPERATIONS CENTER TOUR RECAP
Joint Operations Center Tour (Nov. 1, 2021) Recap

Oroville Dam Citizens Advisory Commission Meeting #9
December 3, 2021

Tour Attendees

Oroville Citizens Advisory Commission Members

- Sen. Jim Nielsen
- Asm. James Gallagher
- Lt. Steve Collins (Butte Co.)
- Matt Teague (State Parks)
- Supervisor Bill Connelly (Butte Co.)
- Supervisor Tod Kimmelshue (Butte Co.)

Agencies Represented

- National Weather Service
- US Army Corps of Engineers
- California Office of Emergency Services
- CA Natural Resources Agency
- CA Dept. of Water Resources (Exec, State Water Project and Flood Management)

Topics Covered

State-Federal Flood Operations Center

• Pre-Season Coordination Meetings
• General Forecasting Procedures
• Real-Time Coordination & Operations
• Long-Term Reservoir Control Manual Updates
• Data Networks & Gauging
• Public Notification of Forecasts & Inundation Maps

State Water Project and Central Valley Project - Project Operations Centers

• Overview of the Projects Physical Layout
• Staffing Requirements & 24/7 Operations
• Scheduling and Use of Real-Time Information
• Coordination w/ Flood Operations Center, companion Project, & local water management entities
ITEM 4
WINTER OPERATIONS PLAN
Lake Oroville Winter Operations

Oroville Citizen’s Advisory Commission Meeting

December 3, 2021

John Leahigh
SWP Water Operations Executive Manager
Winter Operations Overview

- Water Year 2021 Recap
- Flood Pool Requirements
  - Enhanced Flood Pool
- Water Year 2022 Outlook
Water Year 2021 Re-Cap and Current Conditions

• Drought conditions persisted from WY 2020 to WY 2021
  o Northern Sierra Basin – 3rd driest on record
  o Record warm temperatures in Northern Sierra Basin
  o Reduced runoff efficiency in the Feather River Watershed

• Extreme soil moisture deficit

• Historical Low point for Lake Oroville at 787 TAF (9/30/2021)

• Series of Storms late October/early November
  o Nearly 50% of WY 2021 precipitation totals occurred in a 24-hour period
  o Modest gains in Lake Oroville ~260 TAF due to dry soil conditions
  o Soil moisture has improved, but not a drought buster
  o Lake Oroville storage remains at ~30% of capacity
USACE 1970 Flood Pool
Enhanced Flood Pool Post-2017
Lake Oroville Storage
October 1, 2021 to September 30, 2022

When the actual storage (blue line) is greater than the flood regulation rules storage (red line), Lake Oroville is encroached and is providing intended flood protection by buffering the effects of heavy runoff from the Feather River basin. During encroachment, Oroville releases are governed by U.S. Army Corps of Engineers rules (WCM 1970).

Capacity = 3.54 maf

Updated through 11/28/2021
Winter Temperature and Precipitation Outlook

Seasonal Precipitation Outlook
Valid: Dec-Jan-Feb 2021-22
Issued: November 18, 2021

Seasonal Temperature Outlook
Valid: Dec-Jan-Feb 2021-22
Issued: November 18, 2021
ITEMS 5
DOWNSTREAM FLOOD MANAGEMENT AND PREPAREDNESS
Downstream Flood Management and Preparedness

Oroville Dam Citizens Advisory Commission Meeting #9
December 3, 2021

Image: Feather River above confluence with Yuba River.
Outline of Today’s Topics

• Flood Risk Management Programs Portfolio
• Emergency Coordination
• Central Valley Flood Protection Plan
• Flood Risk Reduction Projects
• Floodplain Management
• Residual Risk Concept
Flood Risk Management Program Portfolio

- Central Valley Flood Protection Planning
- Regional Flood Management Planning
- Delta Planning
- Systemwide Environment Support
- Statewide Flood Management Planning
- FloodMAR
- Hazard Mitigation Planning

- Flood Insurance
- Flood Easements and Land Acquisitions
- Floodplain Mitigation Planning
- City and County Local Assistance
- Community Assistance and Policy Advisement
- Floodplain Management Policies

- Floodplain Risk Assessment and Risk Maps
- Public Education and Awareness
- Floodplain Management Protection and Risk Awareness
- Headwaters to Floodplains

- Reservoir Operations and River Forecasting
- Flood Emergency Preparedness and Operations
- Hydro-Climate Data Collection and Precipitation/Runoff Forecasting
- Real-Time Flood Conditions, Status, and Warnings

- Environmental Permitting for O&M
- Levee Tree Assessment
- Delta Levee Subventions*
- Flood Maintenance Assistance Program*

- Flood System Repair Project*
- Rural Levee Repair*
- Small Erosion Repair Program*
- Channel Operations and Maintenance
- Emergency Repair Program*
Flood Emergency Coordination

State-Federal Flood Operations Center (FOC) provides:
• Situational awareness
• Technical & direct assistance
• Conduit for federal assistance via PL 84-99

FOC does NOT:
• Declare emergencies
• Order evacuations
• Repair levees

SEMS Structure

Emergencies start and end at the local level
FOC Emergency Coordination Services

• Data sharing programs examples
  – California Data Exchange Center
  – Flood Emergency Information Exchange
  – Forecast-Informed Reservoir Operations

• Coordination examples
  – Preseason meetings
  – Directory of flood officials
  – Providing stockpiled supplies
  – Emergency response training
Central Valley Flood Protection Plan

- Descriptive, not decisional
- Not a funding or permitting decision for specific projects
- Prioritizes the State's investment in flood management over the next three decades
- Promotes multi-benefit projects
- Integrates and improves ecosystem functions associated with flood risk reduction projects
System-wide Improvements

The CVFPP included State-led system-wide improvements (such as the Yolo Bypass shown to the right), which:

- Provide broad region-scale benefits,
- Help address regional climate change resiliency,
- Are designed to eliminate downstream backwater induced effects but starting with capacity improvements to in downstream areas, &
- Include ecosystem enhancements to assist with regional conservation targets (also established in the CVFPP Conservation Strategy).
Ongoing Urban Flood Improvement Projects
### Urban Flood Projects Overview

<table>
<thead>
<tr>
<th>Project</th>
<th>Project Cost</th>
<th>State Share</th>
<th>Miles of Levee</th>
<th>People w/ Increased Protection</th>
<th>Assets w/ Increased Protection (millions)</th>
<th>Acres w/ Increased Protection</th>
<th>Acres Acquired in Fee or Easement</th>
<th>Acres of New Habitat</th>
<th>Percent Constr. Complete</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sutter Basin</td>
<td>$441,784,137</td>
<td>$289,678,589</td>
<td>40</td>
<td>95,000</td>
<td>$6,900</td>
<td>208,000</td>
<td>2,196</td>
<td>150</td>
<td>100%</td>
</tr>
<tr>
<td>Yuba Basin</td>
<td>$316,055,800</td>
<td>$230,870,000</td>
<td>29</td>
<td>40,000</td>
<td>$1,400</td>
<td>20,000</td>
<td>2,240</td>
<td>650</td>
<td>100%</td>
</tr>
<tr>
<td>Marysville Ring Levee</td>
<td>$158,000,000</td>
<td>$10,320,000</td>
<td>5</td>
<td>12,000</td>
<td>$100</td>
<td>1,500</td>
<td>170</td>
<td>50</td>
<td>65%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>$915,839,937</strong></td>
<td><strong>$530,868,589</strong></td>
<td><strong>74</strong></td>
<td><strong>147,000</strong></td>
<td><strong>$8,400</strong></td>
<td><strong>229,500</strong></td>
<td><strong>4,606</strong></td>
<td><strong>850</strong></td>
<td></td>
</tr>
</tbody>
</table>
Small Community Flood Risk Reduction Program Background

- Program created within DWR following the adoption of the 2012 Central Valley Flood Protection Plan

- Described approaches for protecting small communities in Section 3.3 (page 3-9) via:
  - System improvements
  - Adjacent urban improvements
  - New state funded small community program

- $50M of Proposition 1E funds set aside to initiate the program in 2015; completely committed
Current Implementation Status

- Phase 1 Studies:
  - 13 of 35 studies completed, 9 scheduled for completion in 2021 and remaining to complete by January 2023

- Phase 2 Design & Construction:
  - Scheduled for completion before March 2023

- No Current Funding for Future Solicitation
Examples of Rural Programs

- **Storm Damage DWR Emergency Repair (SDDER)**
  - **Objective:** Address 2017 flood damages where PL 84-99 was not available.
  - **Years active:** 2017 – Present (4 years, estimated completion 2023)
  - **Funding amount committed:** Approximately $140M
  - **Number of projects:** 76 total (60 completed)
  - **Types of projects:** Erosion, seepage, and stability repairs

- **Flood System Repair Project (FSRP)**
  - **Objective:** Address critical rural levee repairs and provide all-weather access to ensure effective emergency response and manage residual flood risk.
  - **Years active:** 2013 – Present (8 years)
  - **Funding amount committed (State-share):** Approximately $90M
  - **Number of projects:** 43 total (27 completed)
  - **Types of projects:** Access roads, erosion repairs, seepage berms, slurry walls, and flood control structures repairs.
# Floodplain Management and the National Flood Insurance Program Alignment

<table>
<thead>
<tr>
<th>DWR Floodplain Management Key Activities</th>
<th>NFIP Key Activities</th>
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<tbody>
<tr>
<td>Risk Assessment</td>
<td>✓</td>
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<tr>
<td>Risk Awareness</td>
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<tr>
<td>Financial Assistance</td>
<td>✓</td>
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<tr>
<td>Flood Planning</td>
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</table>

<table>
<thead>
<tr>
<th>Mapping</th>
<th>Regulation</th>
<th>Insurance</th>
<th>Mitigation</th>
</tr>
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<tbody>
<tr>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>✓</td>
<td>✓</td>
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<tr>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td></td>
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</tbody>
</table>
Residual Flood Risk Management

USACE and DWR always message:

- Flood management acknowledge that there will always be residual flood risk.
- A comprehensive approach be taken at the Federal, State, and local levels to manage different aspects of this risk.
Final Thoughts

• The portfolio of flood management programs addresses comprehensive flood management needs

• Residual risk will always remain, but the key is to understand this residual risk and be prepared through maintenance, floodplain management, and emergency response

• Central Valley Flood Protection Plan (CVFPP) is updated every 5-years for the State’s blueprint for protecting the Central Valley from flood risk

• Partnerships are paramount in advancing flood protection in the Feather-Yuba watershed
ITEMS 6
WATER CONTROL MANUAL UPDATE
OROVILLE DAM WCM AND
NEW BULLARDS BAR DAM WCM
UPDATE PROGRESS REPORT

Joe Forbis, PE
Chief, Water Management Section
Sacramento District
U.S. Army Corps of Engineers
03 December 2021
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
  • Section 7 projects
  • Special acts of Congress
  • FERC conditions
  • Other agreements
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...

- USACE is also responsible for prescribing flood control and navigation regulations and guidance at non-USACE projects
  - Section 7 projects
  - Special acts of Congress
  - FERC conditions
  - Other agreements
## SIMPLIFIED WCM UPDATE PROCESS

<table>
<thead>
<tr>
<th>Stage</th>
<th>Year 1</th>
<th>Year 2</th>
<th>Year 3</th>
<th>Year 4</th>
<th>Year 5</th>
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<tbody>
<tr>
<td>PMP</td>
<td></td>
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<tr>
<td>Public/Stakeholder Outreach</td>
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<td></td>
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<tr>
<td>Hydrology</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Existing Conditions</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Project Alternatives Identification</td>
<td></td>
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<tr>
<td>Environmental Effects Analysis</td>
<td></td>
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<tr>
<td>Reviews/Documentation</td>
<td></td>
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<tr>
<td>Final Review and Approval</td>
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</tbody>
</table>
## FIRO-WCM Alignment Schedule

<table>
<thead>
<tr>
<th>Year</th>
<th>FIRO</th>
<th>WCM</th>
</tr>
</thead>
</table>
| 2019 | - Organize steering committee  
- Develop Forecast-Informed Reservoir Operations (FIRO) workplan outline  
- Hold planning workshop | Grosville and New Bullards Bar Dams WCM Update Project began in March 2020 |
| 2020 | - Develop workplan  
- Identify gaps  
- Develop plan to fill gaps  
- Scope preliminary technical studies and FIRO alternatives | Begin partner collaboration  
- Develop project management plan  
- Develop data management plan  
- Develop hydrologic engineering management plan  
- Prepare provisional hydrology |
| 2021 | - Finalize workplan  
- Scope viability assessment  
- Conduct technical studies  
- Form workgroups  
- Identify and assess FIRO options to inform WCM updates | Review of existing products  
- Prepare additional hydrology  
- Prepare baseline flood models  
- Begin engineering report preparation  
- Begin NEPA/CEQA documentation preparation  
- Develop and screen alternatives |
| 2022 | - Evaluate FIRO operational alternatives  
- Develop hydrologic engineering management plan  
- Continue research for forecast improvements | Configure environmental models  
- Define environmental study area and impact thresholds  
- Continue development and screening of alternatives |
| 2023 | - Finalize viability assessment and preferred FIRO alternative  
- Incorporate in WCM updates | Select candidate alternatives for continued evaluation  
- Refined alternatives  
- Perform environmental effects analysis  
- Initiate USACE review process |
| 2024 | | Complete environmental effects analysis  
- Complete engineering reports  
- Complete NEPA/CEQA documentation  
- Integrate water control plans into WCMs  
- Complete USACE review  
- Approve and implement WCM updates |

### WCM Phases
- **WCM Phase I - Baseline**
- **WCM Phase II - Formulation**
- **WCM Phase III - Evaluation**
- **WCM Phase IV - Reviews and Alternative Refinement**
PHASE 1 – BASELINE STATUS

<table>
<thead>
<tr>
<th>Task</th>
</tr>
</thead>
<tbody>
<tr>
<td>Develop project management plan</td>
</tr>
<tr>
<td>Develop data management plan</td>
</tr>
<tr>
<td>Implement data management plan</td>
</tr>
<tr>
<td>Develop Oroville WCM outline</td>
</tr>
<tr>
<td>Develop NBB WCM outline</td>
</tr>
<tr>
<td>Develop master manual outline</td>
</tr>
<tr>
<td>Develop hydrologic engineering management plan</td>
</tr>
<tr>
<td>Review/update ORO annual max volume-frequency curves</td>
</tr>
<tr>
<td>Review/update ORO monthly inflow volume-frequency curves</td>
</tr>
<tr>
<td>Review/update NBB annual max volume-frequency curves</td>
</tr>
<tr>
<td>Review/update NBB monthly inflow volume-frequency curves</td>
</tr>
<tr>
<td>Develop/resim NBB monthly inflow volume-frequency curves</td>
</tr>
<tr>
<td>Update HEC-HMS model of Yuba-Feather system (optional)</td>
</tr>
<tr>
<td>Develop event inflow timeseries required for HEC-ResSim model</td>
</tr>
<tr>
<td>Develop POR inflow timeseries required for HEC-ResSim model</td>
</tr>
<tr>
<td>Apply climate change projections to Yuba-Feather hydrology</td>
</tr>
<tr>
<td>Assess hydrologic uncertainty</td>
</tr>
<tr>
<td>Review/update New Bullards Bar PMF (optional)</td>
</tr>
<tr>
<td>Review/update Oroville PMF (optional)</td>
</tr>
<tr>
<td>Paleoflood study of Yuba-Feather system (optional)</td>
</tr>
<tr>
<td>Rainfall frequency study of Yuba-Feather system (optional)</td>
</tr>
<tr>
<td>Evaluate Yuba-Feather system channel capacity (optional)</td>
</tr>
<tr>
<td>Evaluate forecaster skill of hindcast ensembles</td>
</tr>
</tbody>
</table>

- PMP
- DMP
- HEMP
- Hydrology –
  - NBB Hydrology Update - Provisional
  - Regional Consistency Analysis
- Reviewing PMF for both projects
- ResSIM model review for analysis
<table>
<thead>
<tr>
<th>Number</th>
<th>Task Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Define flood operation objectives and performance metrics</td>
</tr>
<tr>
<td>2.</td>
<td>Define alternative development strategy</td>
</tr>
<tr>
<td>3.</td>
<td>Define existing condition to compare with alternatives</td>
</tr>
<tr>
<td>4.</td>
<td>Prepare hydrology</td>
</tr>
<tr>
<td>5.</td>
<td>Develop models and tools</td>
</tr>
<tr>
<td>6.</td>
<td>Conduct basic performance evaluation</td>
</tr>
<tr>
<td>7.</td>
<td>Develop system operations for promising alternatives</td>
</tr>
<tr>
<td>8.</td>
<td>Conduct additional evaluation of promising alternatives</td>
</tr>
<tr>
<td>9.</td>
<td>Identify recommended/selected alternatives</td>
</tr>
</tbody>
</table>

**NEXUS** - Efforts can complement each other while progressing independently.
1. DEFINE FLOOD OPERATION OBJECTIVES AND PERFORMANCE METRICS

**FIRO**
Initial list completed for draft work plan. Shared with WCM team.

**WCM**
Currently defining for HEMP with input from dam owners. Can compare to FIRO list.

**FIRO**
Can adopt USACE’s completed list or revise as appropriate.

**NEXUS - FIRO and WCM objectives and metrics are synced. Any differences are deliberate.**
2. DEFINE ALTERNATIVE DEVELOPMENT STRATEGY

**WCM**

a) Identify "knowns" for USACE in terms of developing alternative strategies: e.g., allocated flood control space can’t change, likely a type of guide curve operation (though not absolute).

b) Review FIRO alternatives developed for ORO CNA and NBB feasibility study. These are Folsom-like alternatives or have elements of a Folsom-like strategy.

c) Decide whether to:
   - Adopt existing alternatives, and/or
   - Build upon existing alternatives, and/or
   - Develop other alternatives

**FIRO**

a) Review FIRO alternatives developed for ORO CNA and NBB feasibility study. These are Folsom-like alternatives or have elements of a Folsom-like strategy.

b) Can build on existing alternatives or develop other alternatives, especially with consideration of leveraging future forecast enhancements. For example, other alternatives could include greater use of forecast ensemble as input to the operation, use of forecasts with longer lead times, or definition of "FIRO space" (i.e., Mendocino-like or a new type of strategy).

**NEXUS – WCM and FIRO can share strategies and leverage any opportunities for coordinated evaluation.**
TASK 3 – DEFINE EXISTING CONDITIONS TO COMPARE WITH ALTERNATIVES

3. DEFINE EXISTING CONDITION TO COMPARE WITH ALTERNATIVES

FIRO
Generally defined in work plan for flood operation.

WCM
Currently defining in HEMP. Will define considering performance metrics.

NEXUS - FIRO and WCM teams can work together to develop a specific, consistent definition(s).
4. PREPARE HYDROLOGY

**WCM**

a) Review hydrology prepared for CNA, CVFPP, and other previous studies.

b) Prepare coordinated flood and period-of-record hydrology for Yuba-Feather system. Coordinate with CNRFC to obtain hindcast ensembles.

c) Complete review and approval of hydrology.

**FIRO**

a) Use existing hydrology “off the shelf” for alternative evaluation. Coordinate with CNRFC to obtain hindcast ensembles.

b) If available at time of alternative evaluation, USACE-approved hydrology could be used.

**NEXUS - WCM can provide USACE-approved hydrology for use by FIRO, if needed.**
• Refining provisional annual frequency curves → Used to evaluate flood operation.

• Will refine seasonal frequency curves and examine regional consistency → Used to evaluate drawdown and refill portion of WCDs

• Will review historical data at headwater reservoirs
• Environmental Modeling Plan Kick-off Meetings with YWA and DWR occurred in October

• Schedule workshops with upstream and downstream stakeholders for operational constraints research
  • First in mid-December 2021
OTHER TASKS

- FIRO PVA Workgroups populated with USACE representatives
- Leadership Alignment group continuing to hold meetings
- FIRO Agenda Item in WCM Planning Meetings
- FIRO/WCM Item Updates in F-CO quarterly meetings
- NBB ARC Spillway integration in FIRO and WCM Update
ITEM 7
PUBLIC COMMENT

The Oroville Dam Citizens Advisory Commission will now take public comment.

We appreciate your input.
ITEM 8
ADJOURN

Thank you all for joining us today, our next Oroville Dam Citizens Advisory Commission meeting will be on March 18, 2022.