Lower Mokelumne River Project

FERC Project No. 2916

Technical Work Group (TWG) Meetings
Water Resources
September 3, 2025

EBMUD

Kleinschmidt

AGENDA

- **Welcome and Introductions**
- **Early Engagement & Schedule Recap**
- **Review Preliminary Draft Study Plans**
- **Review TWG member comments and questions**
- **Action Items, Schedule and Next Steps**

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Welcome & Introductions

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Lower Mokelumne Relicensing Team

Project Management Team

Priya Jain

Brad Ledesma

Joe Tam

Karen Donovan

Resource Leads

Ana Ulloa
Ben Bray
Casey Del Real
Casey Leblanc
Chandra Johannesson
Chris Potter
Deirdre Mena
Eric Toth
Ginger Chen
Jason Zhou
Sami Harper
Thom Hardie

Consultant Team

Kleinschmidt
Shannon Luoma

Fatima Oswald

Olivia Smith

Vanessa Martinez

Craig Addley

Facilitator
Marie Rainwater

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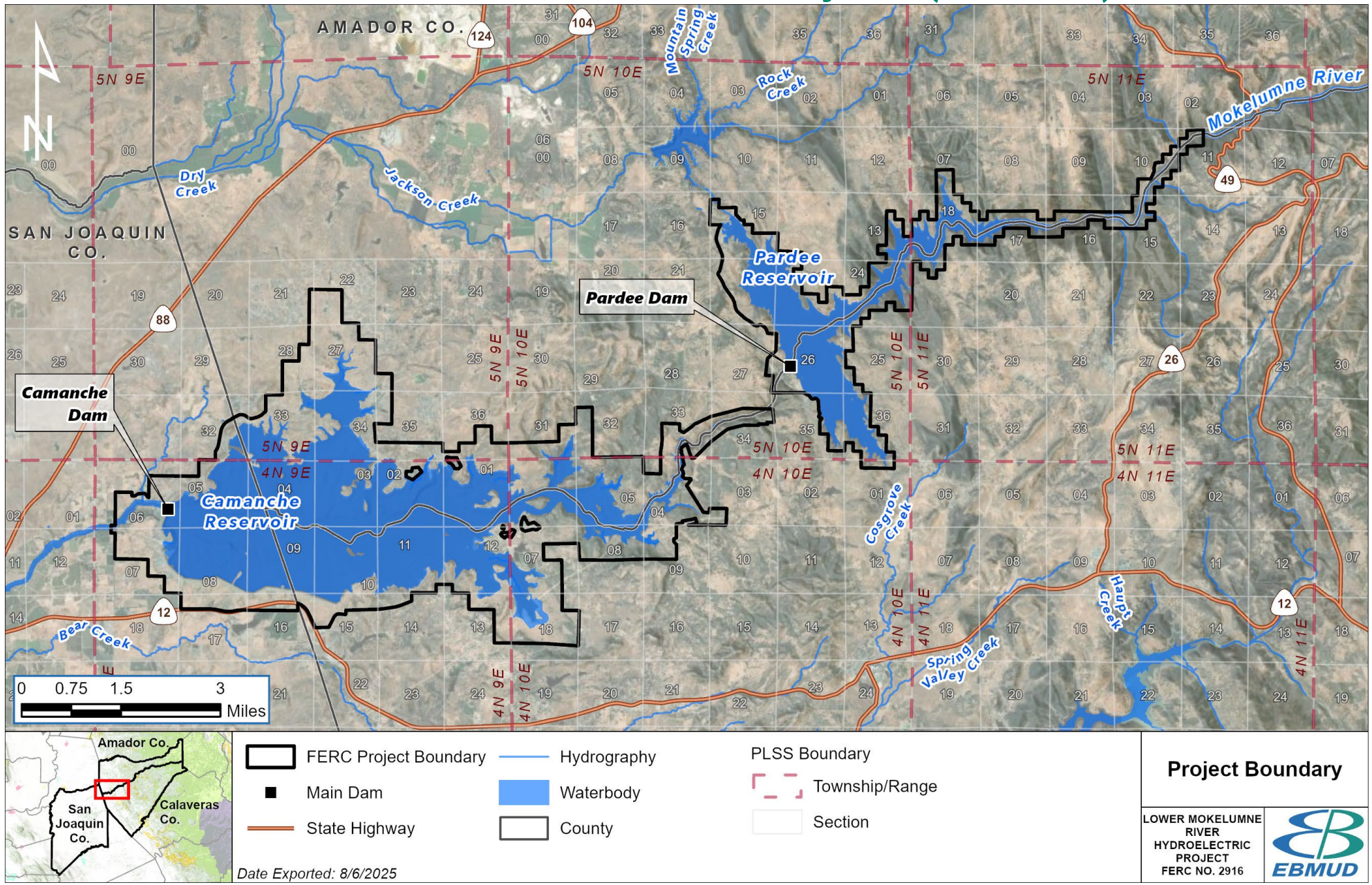
Meeting Purpose and Objectives

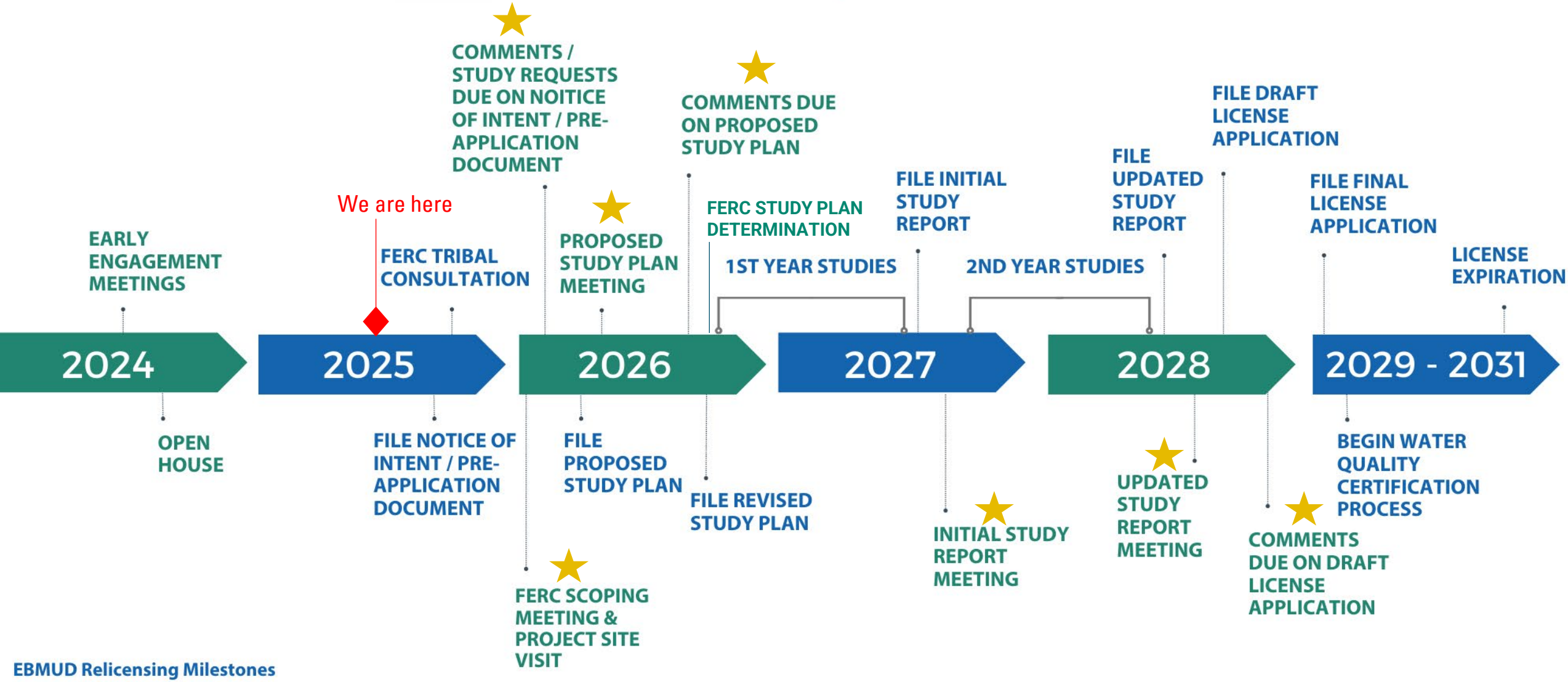
- Review relicensing participants interests and objectives, as EBMUD prepares draft study plans for inclusion in the PAD
- Review preliminary draft study plans
- Review TWG Comments/Questions

Lower Mokelumne River Project (P-2916)



RELICENSING SCHEDULE

Lower Mokelumne River Project, FERC No. 2916



EBMUD Relicensing Milestones

Interested Parties Involvement Opportunities

Comment Opportunities (not all are shown)

Proposed Water Resource Studies

Proposed Studies:

1. Water Quality Study
2. Hydrology and Operations Modeling Study
3. Water Temperature Study

General Water Resource Studies – Comments

General Comments and Questions from CDFW:

1. It is the understanding of CDFW staff that the Lower Mokelumne Project (Project) has obligations under the Healthy Rivers and Landscapes (HRL) Program. How will the Water Resources Study Plans (Plans) incorporate these into the study design?

- *The HRL is still being finalized. The study plans will incorporate all flow obligations.*

2. What is the format of the HRL Program as it applies to the Project area? Does the HRL have separate plans for which the Project is one or is there one overarching plan implemented separately?

- *There is one overarching plan - the Bay Delta Plan - which is still being finalized and, includes the HRL. The Mokelumne Watershed would be part of the HRL.*

3. Will the variable elevation intake tower and thermal curtain options intended for temperature control presented at the recent MRTAC meeting be incorporated into the Plans and if so, what will be the metrics used and how will they be analyzed?

- *The results of the proposed study plans (e.g., egg survival) will be used to define specific objectives to improve downstream salmon health. If improvements are necessary, various alternatives would be evaluated for meeting those objectives, including infrastructure options (e.g., outlet tower at Camanche).*

Draft Study – Water Quality Study

Goals & Objectives:

- Characterize existing project water quality of Project reservoirs and Project-affected river reaches
    - Collect water quality data to supplement existing information as needed
- Assess water quality conditions in relation to the objectives/criteria of the Basin Plan (CRWQCB 2019) and other water quality standards.

Geographic Scope:

- The Mokelumne River inflow to Pardee Reservoir, through the outflow of Camanche Reservoir downstream to the Woodbridge Irrigation District Dam (WIDD).

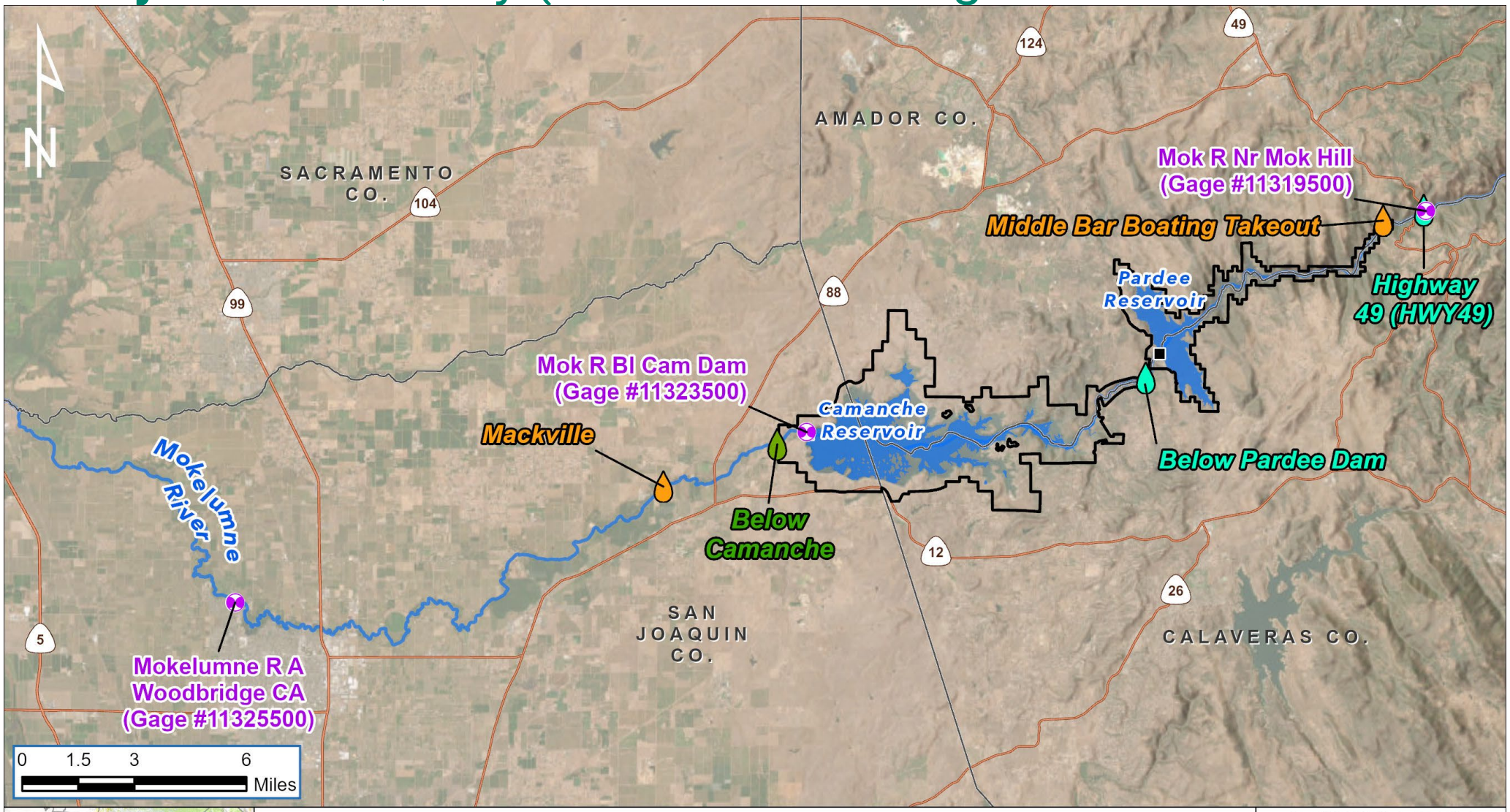
Draft Study – Water Quality Study

Methodology:

Spring/Fall in-situ water quality measurements; seasonal water quality grab sampling; reservoir/lake profiles; laboratory analysis and reporting.

- Water Quality Sampling Locations
- Spring/Fall In-situ Field Measurements
  - River Reaches
  - Reservoirs
- Spring/Fall Water Quality Grab Samples
- Bacterial Sampling
- Laboratory Analysis
- Additional Sampling (if needed)
- Reporting

Draft Study–Water Quality (In-Situ Monitoring Stations and Stream Gages)



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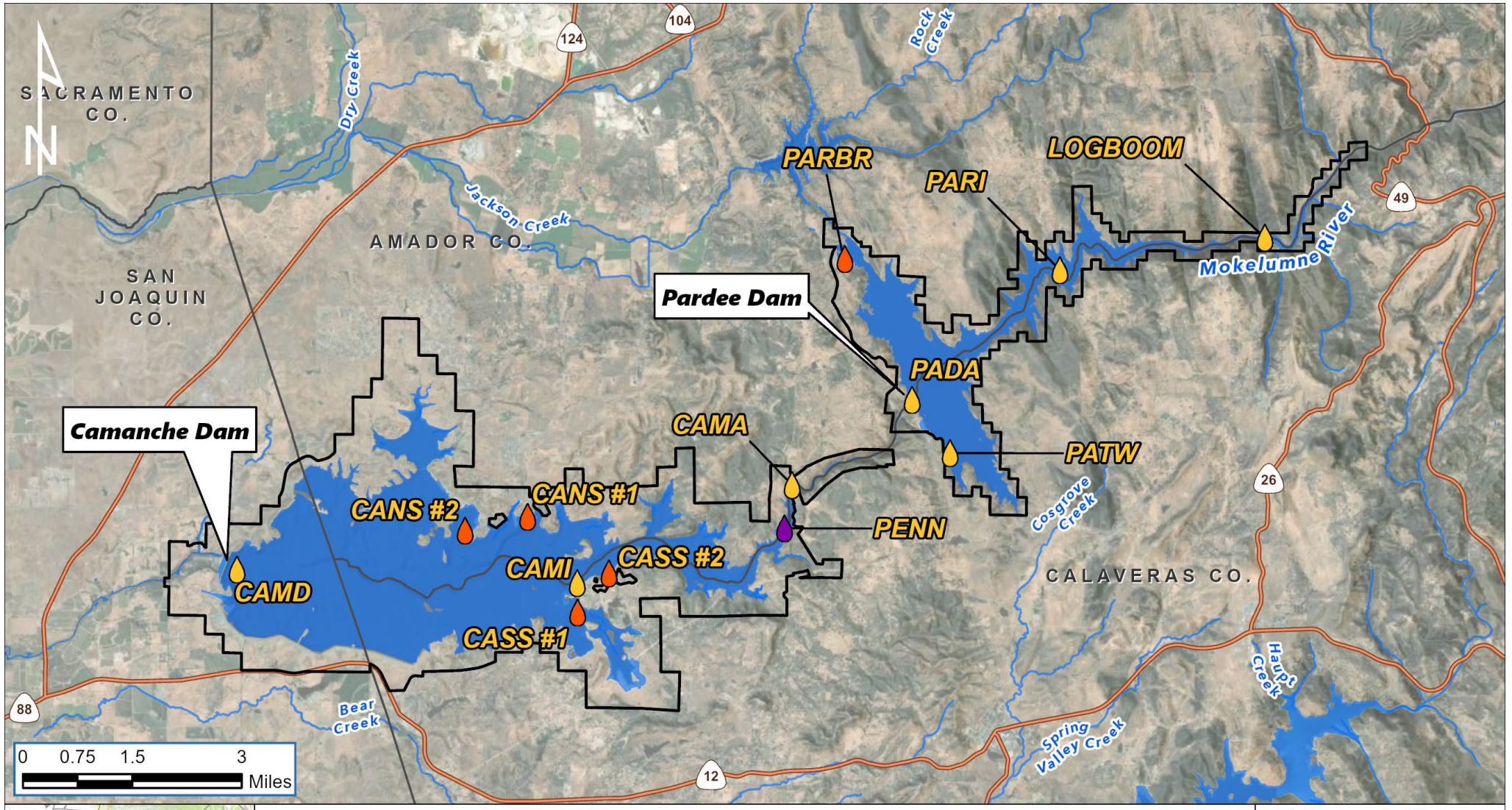
Draft Study–Water Quality (Reservoir Monitoring Stations)



Draft Study – Water Quality Study

Comments and Questions from CDFW:

CDFW staff recommend that there are sufficient dissolved oxygen and temperature monitoring stations in the lower Mokelumne River to help establish temperature dependent egg mortality modeling. CDFW staff are available to consult with EBMUD staff to determine appropriate locations for monitoring stations to meet these modeling goals.

- *EBMUD is in the process of drafting an egg mortality study which will be included in the PAD where agencies can review and provide comments during the formal comment period.*

Q&A, Clarifications, and Feedback

Draft Study – Hydrology and Operations Modeling Study

Goals & Objectives:

- Model the existing Project hydrology and other potential hydrology scenarios
- Perform a hydrologic alteration analysis
- Conduct a high flow frequency analysis for hydrology scenarios

Geographic Scope:

- The Mokelumne River inflow to Pardee Reservoir, through the outflow of Camanche Reservoir downstream to the Woodbridge Irrigation District Dam (WIDD).

Draft Study – Hydrology and Operations Modeling Study

Methodology:

- Hydrology Model Development
- Hydrologic Alteration Analysis
- High Flow Frequency Analysis
- Reporting

Draft Study – Hydrology and Operations Modeling Study

Comments from CDFW:

"Model the existing Project hydrology and other potential hydrology scenarios"

Section 3.0, Bullet #1: This bullet should be modified to include not just additional hydrology scenarios, but also the ability to model additional operational scenarios that relicensing participants request. This may be what you intended already in that bullet, but because the study plan does include looking at potential future climate change scenarios, it should be specified that the study plan will include both.

- *Noted, this bullet will be updated to include relevant additional operational scenarios.*

"Use the 2000-2024 period of record (POR) for hydrological modeling based on data availability (historical gage data)."

Section 7.1, Bullet #2: If available, the hydrology modeled in this project should include a longer period of record. Using at least 30 years of hydrologic record is pretty standard for FERC relicensing's. CDFW staff agree that the period from 2000-2024 does include several periods of drought and also very high flow years, and is a useful time series for comparison, but because we want to use this to consider range of variability that may be observed, a longer record is better. If there is a reason to include a shorter record, we can discuss this in the stakeholder meetings.

- *EBMUD has digital hydrology and meteorological data back to 1997 and can extend the hydrologic record (1997-2024).*

Q&A, Clarifications, and Feedback

Draft Study – Water Temperature Study

Goals & Objectives:

- Review existing water temperature model applications for Pardee and Camanche reservoirs
- Use water temperature models of the existing Project operations and other potential scenarios that accurately represent water temperature under existing climate conditions and future climate change conditions.
- Compare the existing Project operations water temperature and other potential scenario water temperature model results using existing climate conditions and future climate change conditions.

Geographic Scope:

- The Mokelumne River inflow to Pardee Reservoir, through the outflow of Camanche Reservoir downstream to the Woodbridge Irrigation District Dam (WIDD).

Draft Study – Water Temperature Study

Methodology:

- Water Temperature Model Review
- Compile Existing Data
- Water Temperature Modeling and Analysis
- Reporting

Draft Study – Water Temperature Study

Comments and Questions from CDFW:

"Flood frequency information data developed by the U.S. Army Corps of Engineers (USACE) (USACE 1981)."

Section 6.0, Bullet #3: As stated above in our comments on the hydrology modeling (comment #2), if available, the hydrology modeled in this project should include a longer period of record.

- *EBMUD has digital hydrology and meteorological data back to 1997 and can extend the hydrologic record (1997-2024).*

The study goals and objectives should be expanded to include not just assessment of alternative scenario operations, but additional alternative infrastructure components to better access cold water available in the Project.

- *The results of the proposed study plans (e.g., egg survival) will be used to define specific objectives to improve downstream salmon health. If improvements are necessary to achieve objectives, various alternatives would be evaluated for meeting those objectives, including infrastructure options (e.g., outlet tower at Camanche).*

Q&A, Clarifications, and Feedback

Action Items & Next Steps

EBMUD

Next Steps

By September 10 – Relicensing Team will distribute meeting materials to attendees

October 2025 – EBMUD submittal of Pre-Application Document (PAD)

Stay Informed

- Lower Mokelumne Website: EBMUD.com/MokRelicense
- Email: MokRelicense@ebmud.com
- Eric Toth, EBMUD: 510-287-0277
- FERC e-Subscription (docket number “P-2916”) at www.ferc.gov
  - Formal Relicensing begins October 2025 with EBMUD submittal of the Pre-Application Document (PAD)