Lower Mokelumne River Project

FERC Project No. 2916

Technical Work Group (TWG) Meetings
Wildlife, Botanical, and Rare/Threatened/Endangered Resources
July 31, 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

EBMUD

Welcome & Introductions

EBMUD

Lower Mokelumne Relicensing Team

Project Management Team

Priya Jain

Brad Ledesma

Joe Tam

Sabrina Cheng

Karen Donovan

Resource Leads

Michelle Workman

Casey Del Real

James Jones

Consultant Team

Kleinschmidt
Shannon Luoma

Fatima Oswald

Olivia Smith

JNA
Janelle Nolan
Robyn Smith

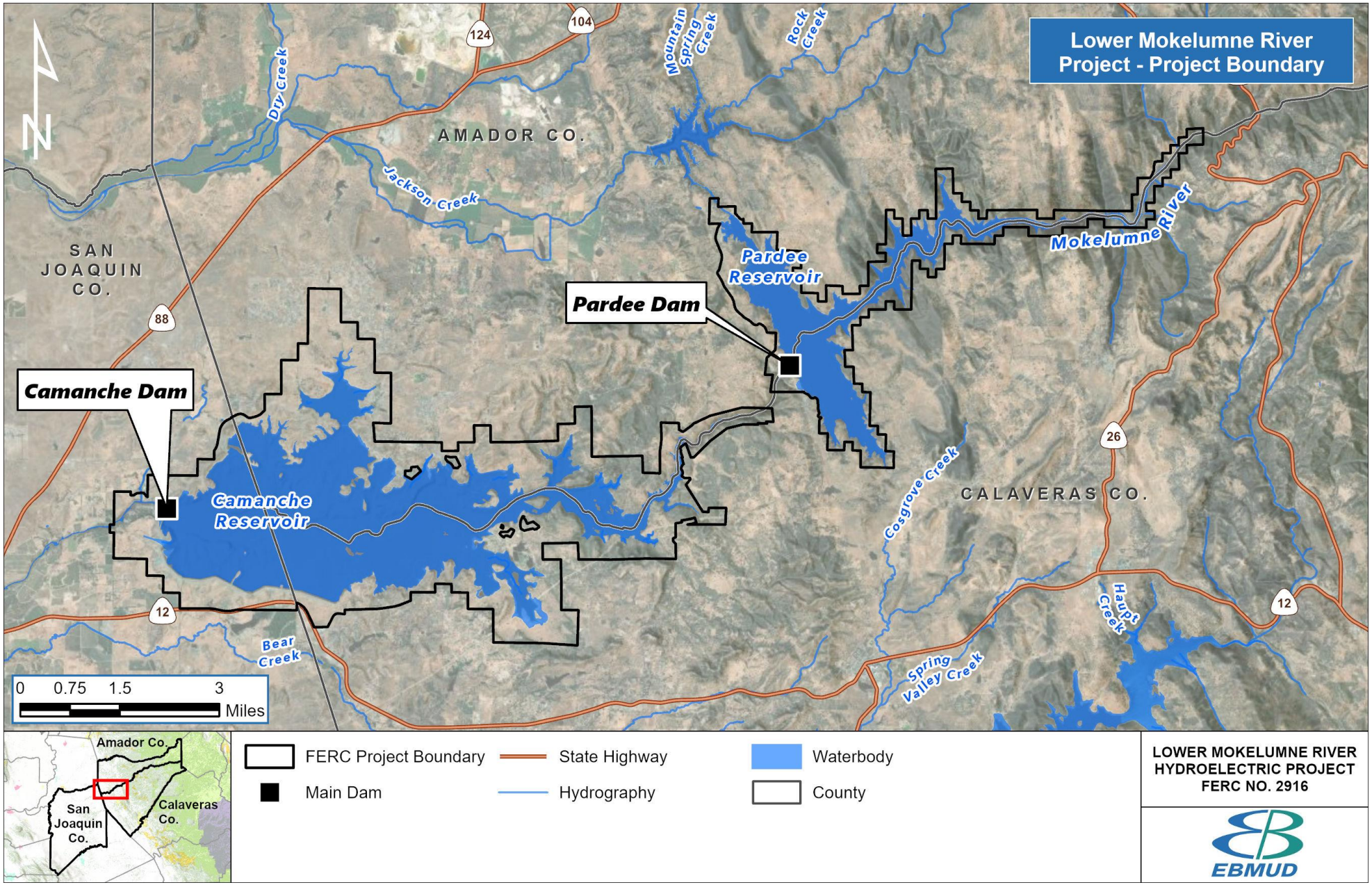
Facilitator
Marie Rainwater

EBMUD

Meeting Purpose and Objectives

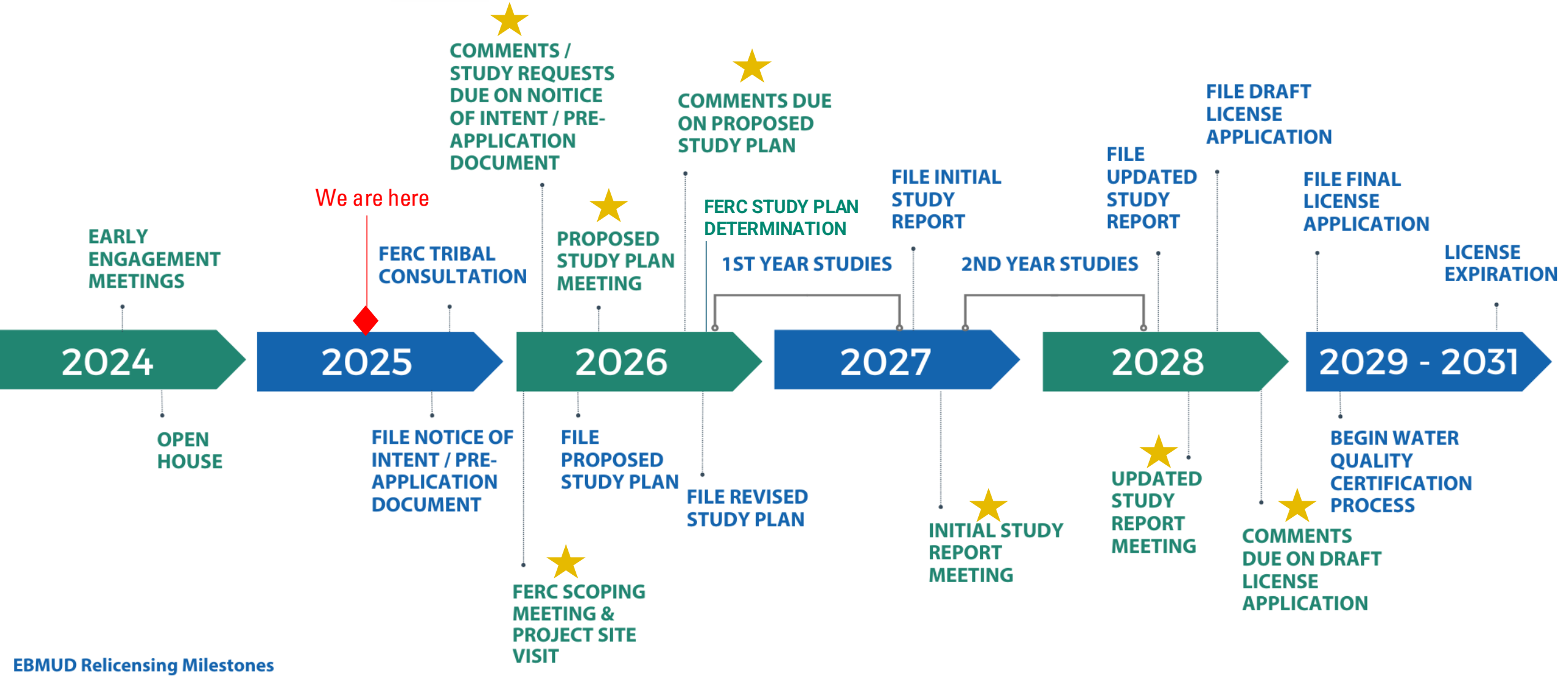
- Review preliminary draft study plans
- Review TWG Comments/Questions

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)

Potential Study – Botanical Resources Study

Goals & Objectives

- Document California Wildlife Habitat Relationship (CWHR) habitats and sensitive natural communities adjacent to Project facilities.
- Document special-status plant, lichen, and moss populations adjacent to Project facilities.
- Document NNIPs adjacent to Project facilities.

Geographic Scope:

- CWHR Habitats and Sensitive Natural Communities: 1 mile of the FERC Project Boundary

- Special-Status Plants and Non-Native Invasive Plants: For the purposes of the special-status plants and NNIP studies, the study area includes lands within the FERC Project boundary where operations and/or maintenance activities are conducted, plus a protective buffer.

Potential Study – Botanical Resources Study Area (SSP and NNIP)

Project Facility Type	Survey Area
Dams, Dikes, and Spillways	
Pardee Dam	100 feet
Pardee South Spillway	100 feet
Jackson Creek Dike and Spillway	100 feet
West End Dike	100 feet
Camanche Dam	100 feet
Camanche Spillway	100 feet
Dikes 1 – 6	100 feet
Penstocks	
Pardee Penstock	15 feet on either side
Camanche Penstock	15 feet on either side
Powerhouses and Switchyards	
Pardee Powerhouse and Switchyard	15 feet around the perimeter fence
Camanche Powerhouse and Switchyard	15 feet around the perimeter fence
Powerlines and Communication Lines	
XXX	30 feet on either side
Ancillary and Support Facilities	
XXX	15 feet around the perimeter
Stream Gages	
XX	10 feet around gages
Project Access Roads	
XXX	20 feet on either side
Project Trails	
XXX	15 feet on either side
Project Recreation Facilities	
Pardee Recreation Area	150 feet around recreation facilities
Camanche North Shore Recreation Area	150 feet around recreation facilities
Camanche South Shore Recreation Area	150 feet around recreation facilities
Camanche Hills Hunting Preserve	150 feet around recreation facilities
Mokelumne River Fish Hatchery	150 feet around hatchery and associated facilities
Mokelumne Day Use Area	150 feet around recreation facilities

Potential Study – Botanical Resources Study

Potential Methodology: CWHR Habitats and Sensitive Natural Communities:

- Develop habitat maps based on CWHR descriptions.
- Verify accuracy of data and update habitats using recent aerial photos.
- Conduct ground-truthing of habitats surrounding Project facilities concentrating on areas where concerns about habitat identification and boundaries arise.
- Develop a GIS map of habitats and sensitive natural communities and overlay information on Project facilities.

Potential Study – Botanical Resources Study

Potential Methodology Special-status Plants:

- Identify and map known occurrences of special-status plants within the study area.
- Develop list of species potentially occurring in the Project area based on literature review and agency consultation.
- Conduct focused surveys according to the *Protocols for Surveying and Evaluation Impacts to Special Status native Plant Populations and Sensitive Natural Communities* (CDFW 2018).
  - Timing of surveys will be verified based on reference population monitoring.
- Develop GIS Map of special-status plant populations and overlay information on Project facilities.
- Prepare CNDDB forms for all populations identified.

Potential Study – Botanical Resources Study

Potential Methodology Non-Native Invasive Plants (NNIPs):

- Identify and map known occurrences of NNIPs within the study area.
- Develop list of priority NNIPs in consultation with agencies.
- Conduct focused NNIP surveys in conjunction with special-status plant surveys.
- Develop GIS Map of NNIPs and overlay information on Project facilities.

Comments Received: Botanical Resources Study

- **No comments received on Botanical Resources Study**

Potential Study – Wildlife Resources Study

Goals & Objectives:

- Identify special-status wildlife species potentially occurring in CWHR habitats documented as part of Botanical Resources Study Plan.
- Map potential habitat for monarch butterfly (i.e., milkweed) in conjunction with special-status plant surveys completed as part of the Botanical Resources Study Plan.
- Document bat roosts present on Project facilities and identify bat species present.

Potential Study – Wildlife Resources Study

Geographic Scope:

- For identification of special-status species potentially occurring in CWHR habitats, the study area is 1 mile around the FERC Project boundary.

- For wildlife reconnaissance surveys, the study area is the area where operations and/or maintenance occurs around Project facilities, plus a protective buffer.

- For monarch butterfly habitat surveys, the study area is lands within the FERC Project boundary where operations and/or maintenance activities are conducted, plus a protective buffer. Milkweed host plants (*Asclepias* spp.) will be documented in conjunction with special-status plant surveys conducted under the Botanical Resource TSP.

- For special-status bat roost surveys, the study area is Project facilities.

- For wildlife mortality, the study area is Project facilities.

- For deer migration routes and important areas, the study area is 1 mile around the FERC Project boundary

Potential Study – Wildlife Resources Study

Potential Methodology Special-status Wildlife Surveys

- Identify and map known occurrences of special-status wildlife in the study area.
- Identify special-status wildlife species potentially occurring in CWHR habitats mapped as part of the Botanical Resources Study Plan.
- Conduct wildlife reconnaissance survey in conjunction with special-status plant surveys.
- Prepare CNDDB forms for special-status species observed.
- Record incidental observations of special-status wildlife during all field surveys conducted in support of relicensing.

Potential Study – Wildlife Resources Study

Potential Methodology Monarch Butterfly Habitat**:**

- Document the location of monarch butterfly habitat (i.e., milkweed) in conjunction with special-status plant surveys conducted as part of the Botanical Resources Study Plan.
- Develop a map and table identifying the location of milkweed in the study area and overlay on Project facilities.

Potential Study – Wildlife Resources Study

Potential Methodology (cont.):

Special-status Bat Roost Surveys

Facility Assessment

- Conduct initial desktop assessment of Project facilities to determine their potential to support bat roosts.
- Conduct preliminary visual assessment of Project facilities during wildlife reconnaissance surveys to determine the potential to support bat roosts.
- Develop list of Project facilities potentially supporting bat roosts (by facility type).

Roost Survey

- Conduct visual roost survey at Project facilities identified as potentially supporting roosting bats.
- If bat roosts are present but the species cannot be determined visually, collect guano for DNA sampling.
- Develop a map and table documenting the location of bat roosts and species present.

Potential Study – Wildlife Resources Study

Potential Methodology (cont.):

Special-status Bat Roost Surveys

Guano DNA Sampling

- Collect DNA samples at roost sites where fresh guano is available and bat species cannot be determined visually during roost survey.
- Compare DNA sequences to species-specific genetic markers developed by Walker et al. 2016 and further verify by comparison to samples at the National Center of Biotechnology Information DNA Sequence Database.
- Develop a map and table identifying the location of guano DNA sampling and species present.

Comments Received: Wildlife Resources Study

Comments from CDFW:

- **CDFW staff recommend the use of trail cameras in addition to the wildlife transect surveys proposed by EBMUD. Trail cameras are an effective and low-effort method that can be used to complement data gathered during transect surveys and can also be used to record nocturnal wildlife activity that may be otherwise missed.**
    - *EBMUD would like to further discuss CDFW's concerns and target resources.*
- **CDFW staff recommend setting up a short preliminary meeting with our wildlife specialists to discuss the potential for Project operations, facilities, and maintenance activities to affect wildlife migration, daily movement, or feeding.**
    - *EBMUD would be happy to set up a meeting with the CDFW wildlife specialists to discuss potential Project effects on wildlife migration, daily movements, and feeding.*

Comments Received: Wildlife Resources Study

Comments from CDFW:

- **For the same reasons described in our trail camera recommendation, CDFW staff recommend the use of audio recording devices and bird call identification software to complement the avian survey methods described in the draft study plan.**
    - *EBMUD is not proposing to use audio recording devices. Information on avian resources known or potentially occurring in the Project area will be obtained from extensive ongoing surveys and monitoring, habitat mapping, and reconnaissance surveys.*

Potential Study – Wetlands, Riparian, and Littoral Habitat Study

Goals & Objectives:

- Document Waters of the U.S./State and riparian habitats adjacent to Project facilities and Project-affected reaches.
- Determine the relationship between riparian habitats and flow conditions in Project-affected reaches.

Geographic Scope:

- For documentation of Waters of the U.S./State the survey area is lands within the FERC Project boundary where operations and/or maintenance activities are conducted, plus a protective buffer.
- For documentation of riparian habitats, the survey area is Project-affected reaches and riparian cross-section locations.
- For the relationship between riparian habitats and flow conditions the study area is riparian cross-section locations on Project-affected stream reaches.

Potential Study – Wetlands, Riparian, and Littoral Habitat Study

Potential Methodology:

Preliminary Mapping of Jurisdictional Waters of the U.S./State and Riparian Habitat

- Develop preliminary maps of jurisdictional Waters of the U.S./State and riparian habitat based on NWI mapping.
- Verify the accuracy of data and update information using recent aerial photos.

Ground-truthing/Field Verification

Jurisdictional Waters of the U.S./State

- Conduct ground-truthing concentrating in areas where questions on classification or boundaries arise from review of aerial photographs.
- Develop GIS map of and overlay information Project facilities.

Potential Study – Wetlands, Riparian, and Littoral Habitat Study

Potential Methodology (cont.):

Ground-truthing Field Verification

Riparian

- Map the extent of riparian habitat along Project-affected reaches using a combination of high-resolution aerial imagery and field observation at riparian cross-sections.
- Develop a GIS map of riparian habitat along Project-affected reaches.

Characterize Relationship of Riparian to Flow Conditions

- Establish cross-sections at representative location along Project-affected reaches:
  - Characterize riparian and substrate along the length of each cross-section.
  - Develop stage-discharge relationships over a range of flows (high to low).
- Develop a summary of the relationship between existing inundation characteristics and the distribution of dominant riparian species in Project-affected reaches.
- Compare and contrast existing Project and without Project hydrology in relation to riparian recruitment and maintenance in Project-affected reaches.

Comments Received: Wetlands, Riparian, and Littoral Habitat Study

- **No comments received on Wetlands, Riparian, and Littoral Habitat Study**

Action Items & Next Steps

EBMUD

Next Steps

By August 6 – Relicensing Team will distribute meeting materials to attendees

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

Stay Informed

- Lower Mokelumne Website: EBMUD.com/MokRelicense
- Email: MokRelicense@ebmud.com
- Jason Zhou, EBMUD: 510-287-0263
- 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)