Photo credit:
@KingmondYoung

2024 Mokelumne River Salmon Return Update

Planning Committee

April 8, 2025

Michelle Workman, Manager of Fisheries and Wildlife

EBMUD

Agenda

2024 Salmon Returns

- River and Hatchery Returns
- Straying
- Returns to other rivers and status of the fishery
- Steelhead

Photo credit: @KingmondYoung

Next Steps

- Develop AI to streamline data collection
- Continue habitat restoration to support Healthy Rivers and Landscapes Program

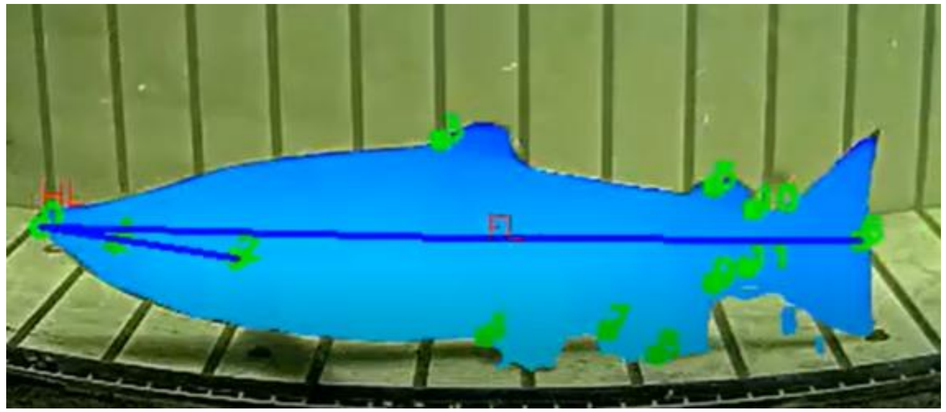
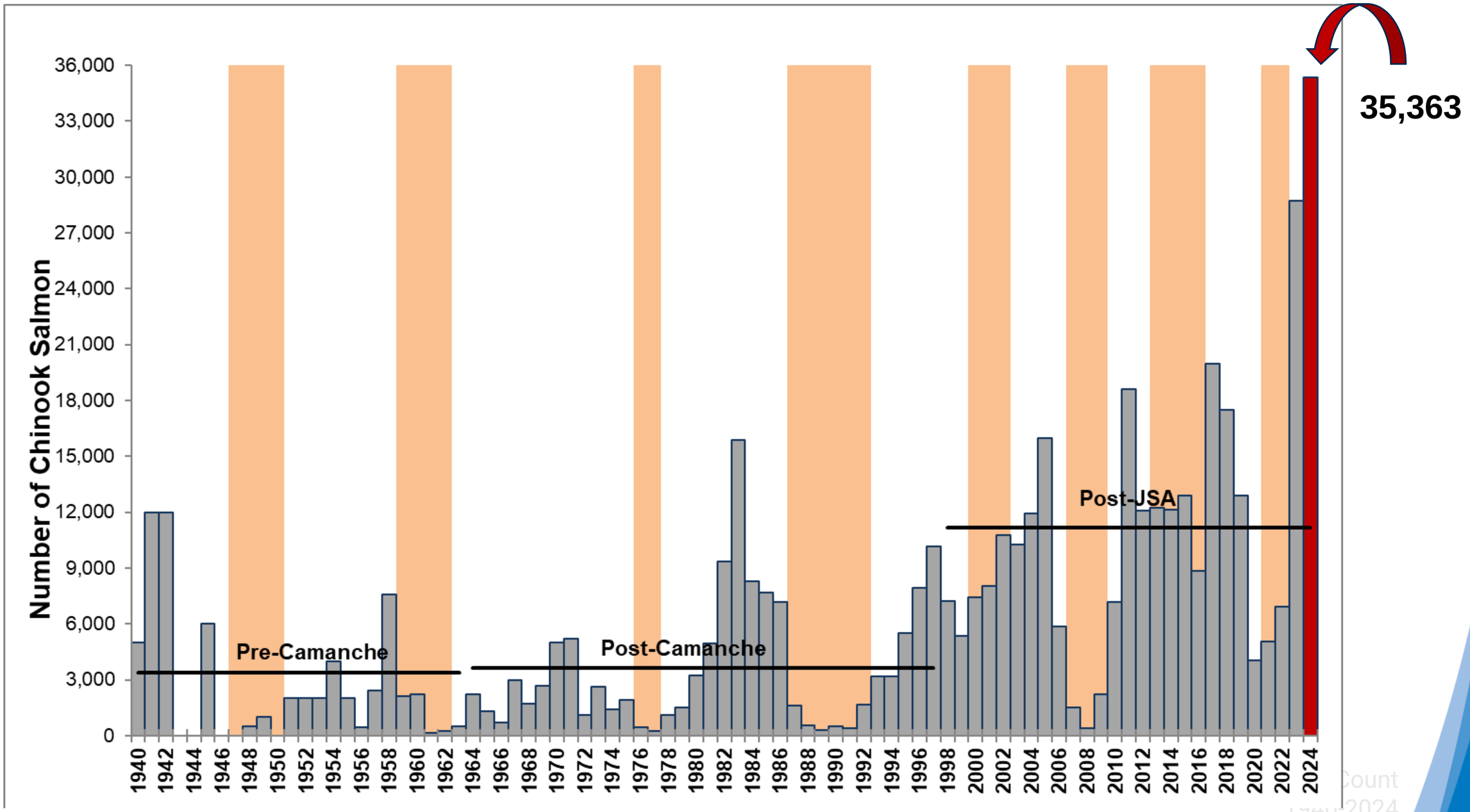


Photo credit: EBMUD staff photo

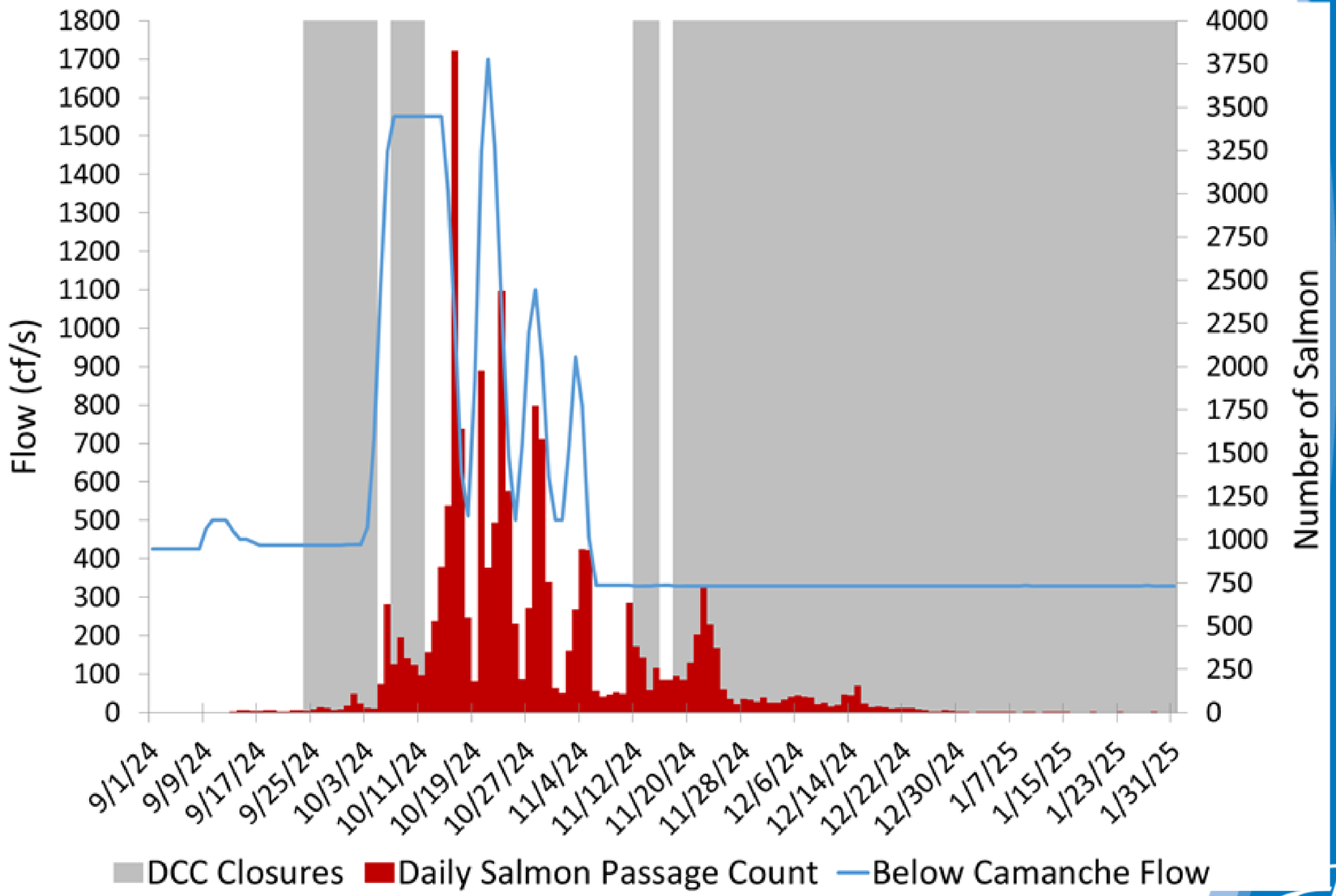
Historical Salmon Count 1940-2024



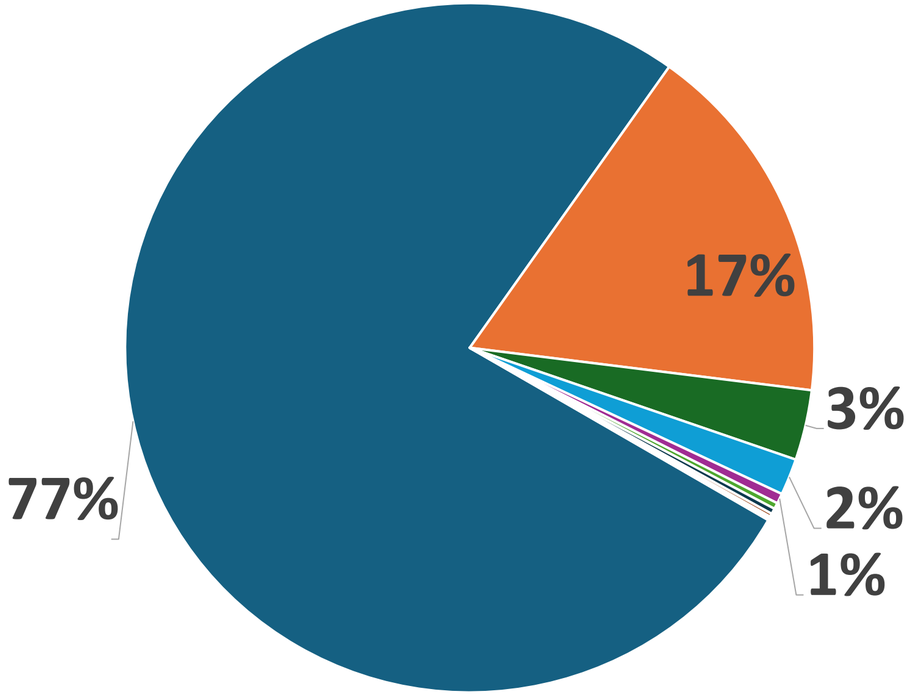
• Fall Pulse Flows and Delta Cross Channel Closures

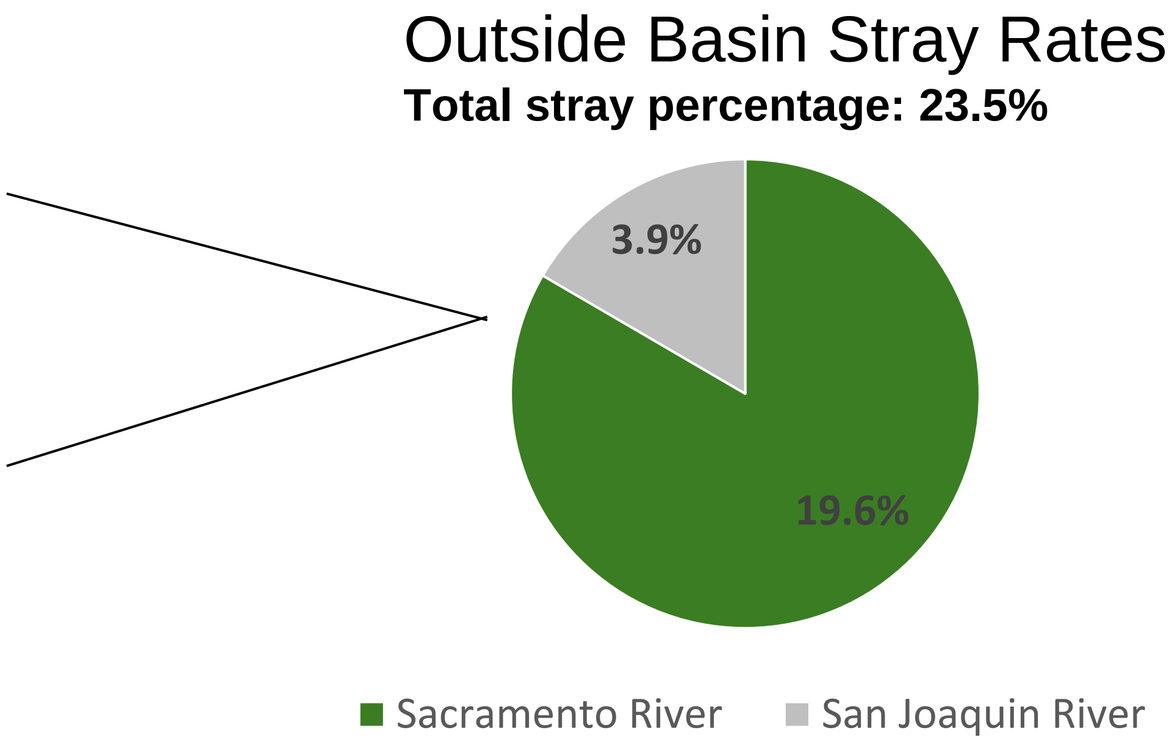
Key Takeaway:

- Four planned pulses in October
- Delta Cross Channel (DCC) was open most of the migration period due to Delta conditions



Mokelumne Hatchery Chinook Coded Wire Tag Recoveries*





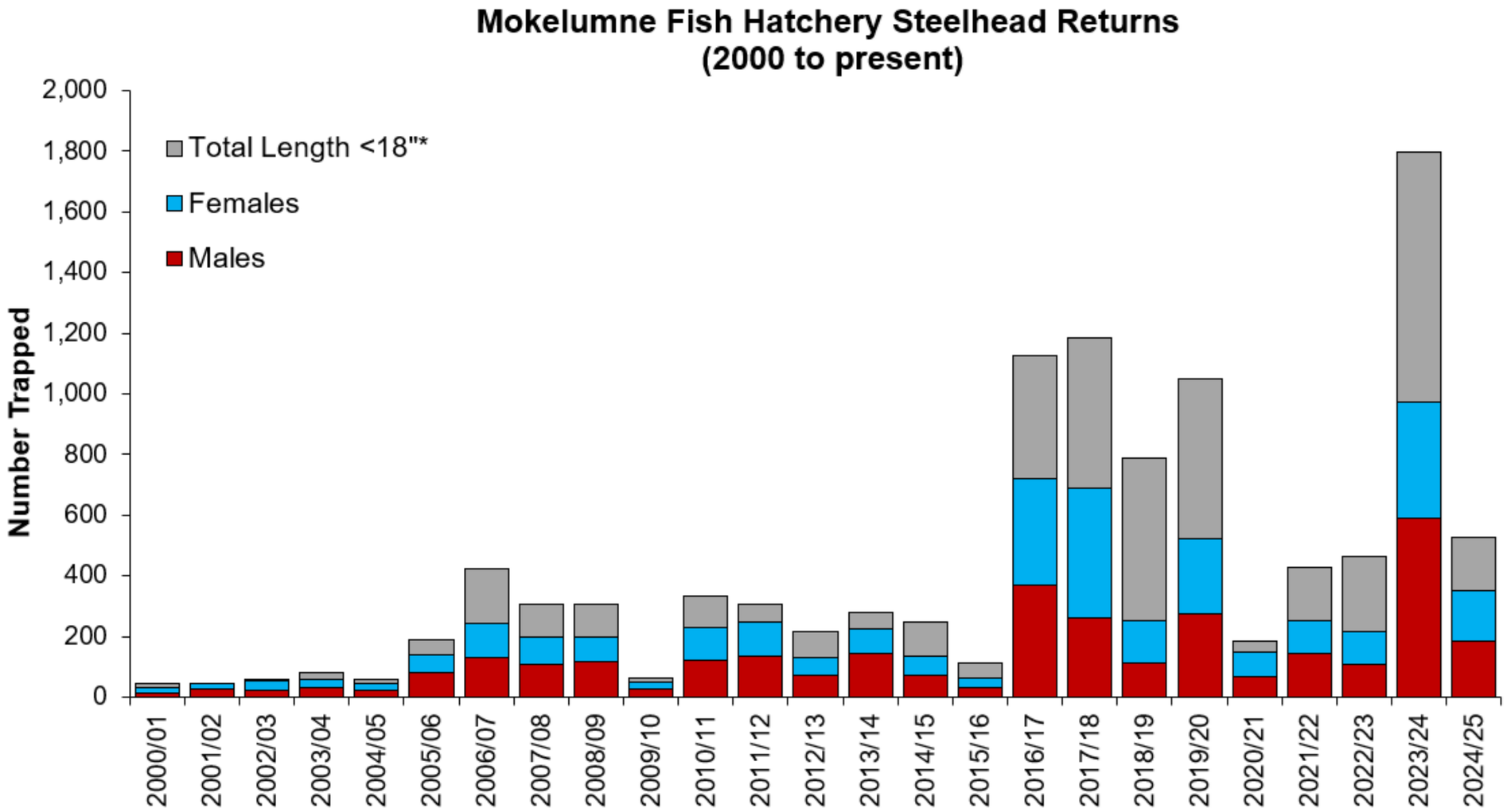
- Mokelumne River
- American River
- Stanislaus River
- Feather River
- Tuolumne River
- Battle Creek
- Yuba River
- Merced River
- Putah Creek
- Upper Sacramento River

* Data are preliminary and subject to change

Chinook Salmon – Temperature Challenges

- Cold water pool volumes were exhausted by end of October
- Mokelumne River temperatures were above optimal range for chinook salmon incubation
- Modeling has shown the likely cause was extreme high air temperatures in June and October impacting reservoir temperatures, and changes in operation would not have helped the outcome

Steelhead Annual Hatchery Trapping Summary

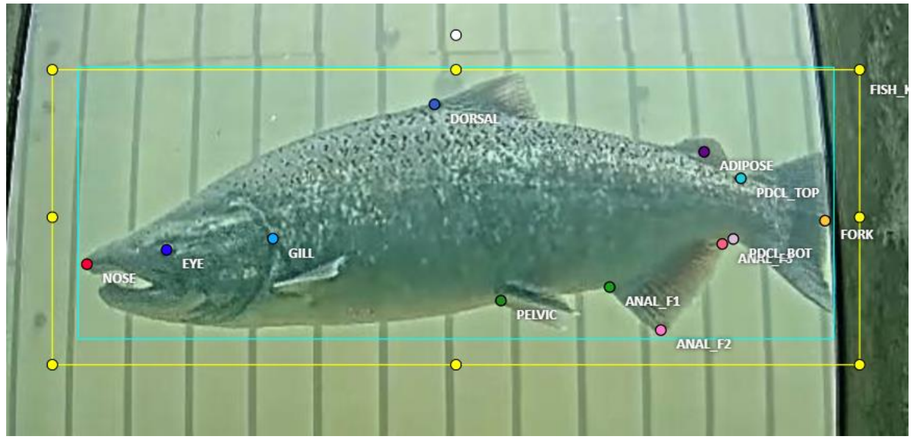


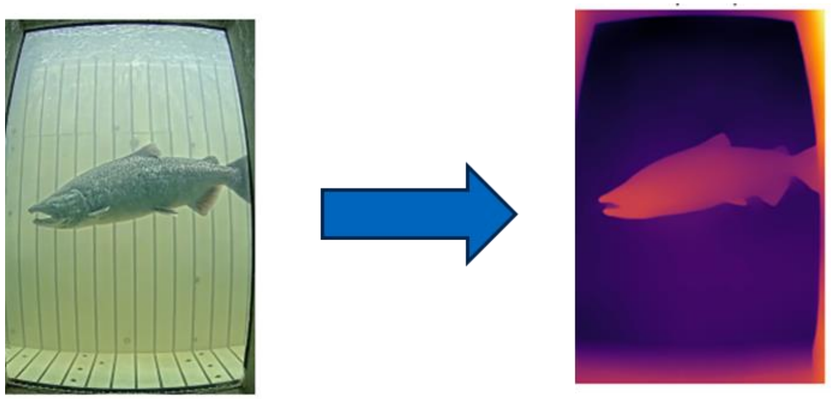
* Adults less than 18" enter the hatchery but are not considered adults, and are therefore not spawned

EBMUD

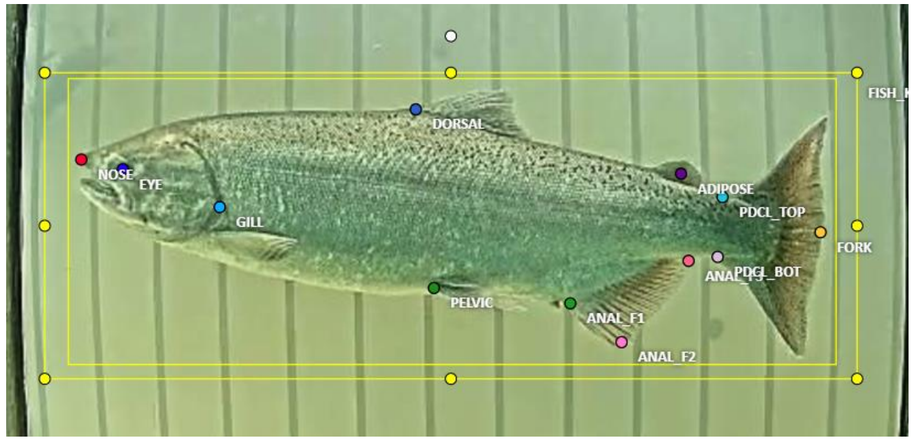
Innovation: Fish Passage Automation

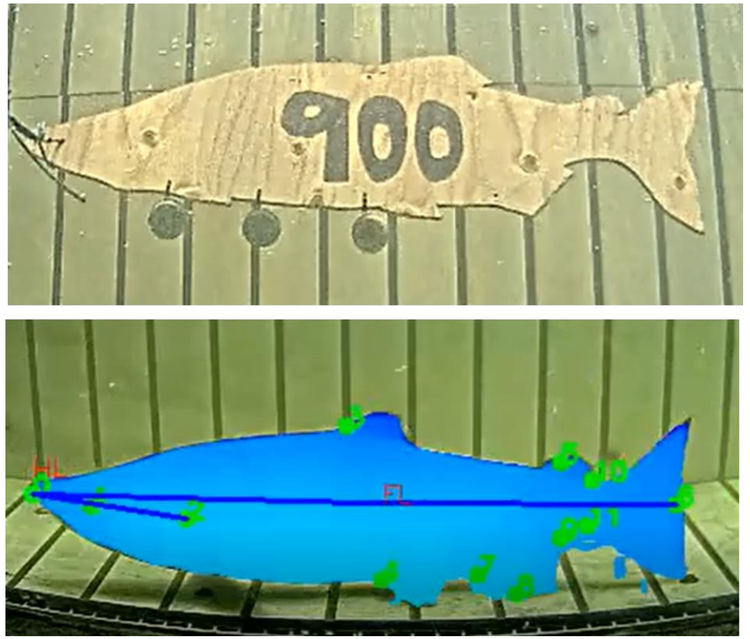
Male Chinook Salmon



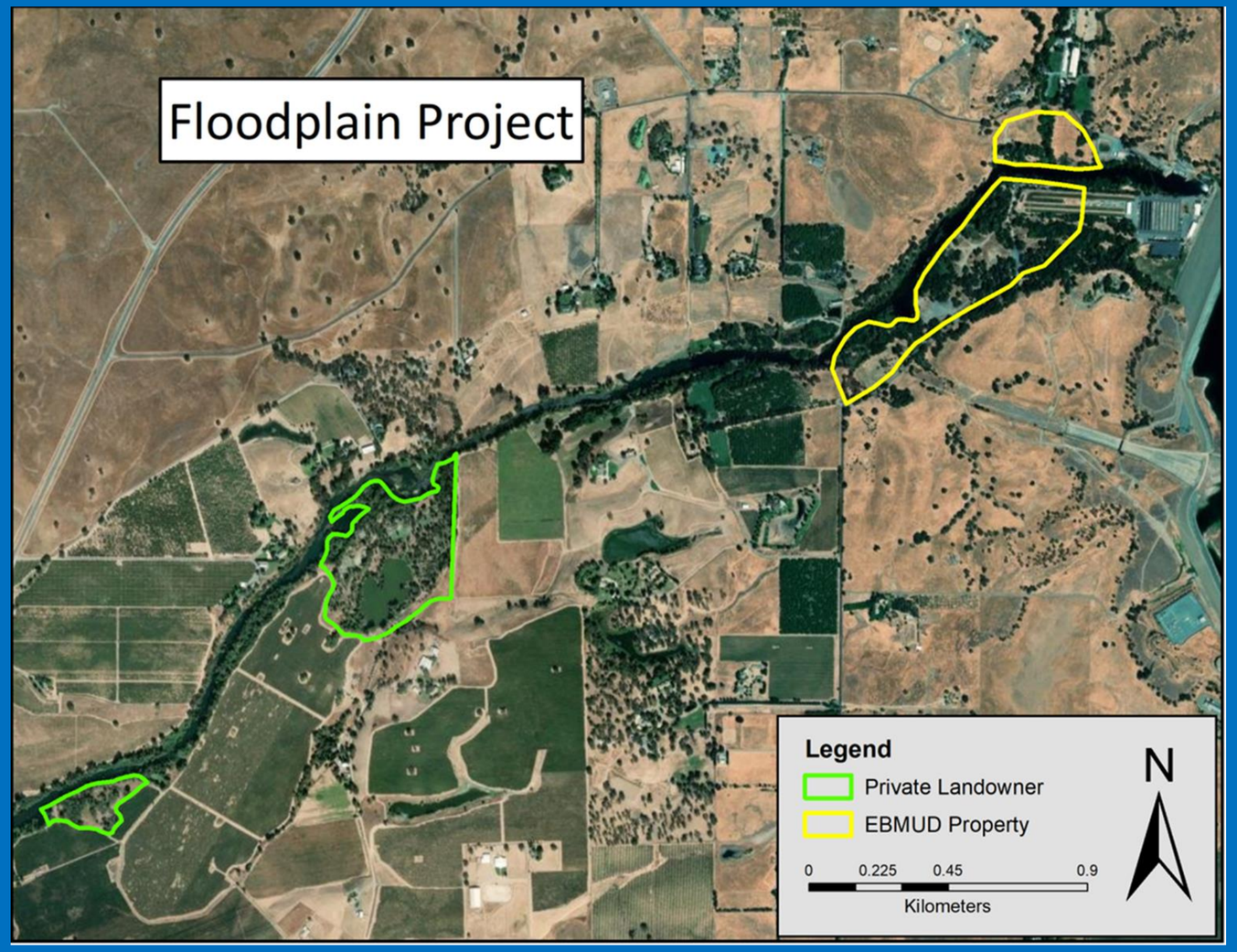


Female Chinook Salmon





Voluntary Agreement - Habitat Restoration



Next Steps

- Continue implementing best practices to improve juvenile survival
- Habitat Restoration projects will continue to move from planning to construction using grant funds

Questions

Upper Mokelumne River Water Authority Briefing

Planning Committee

April 8, 2025

Alice Towey, Environmental Affairs Officer

Agenda

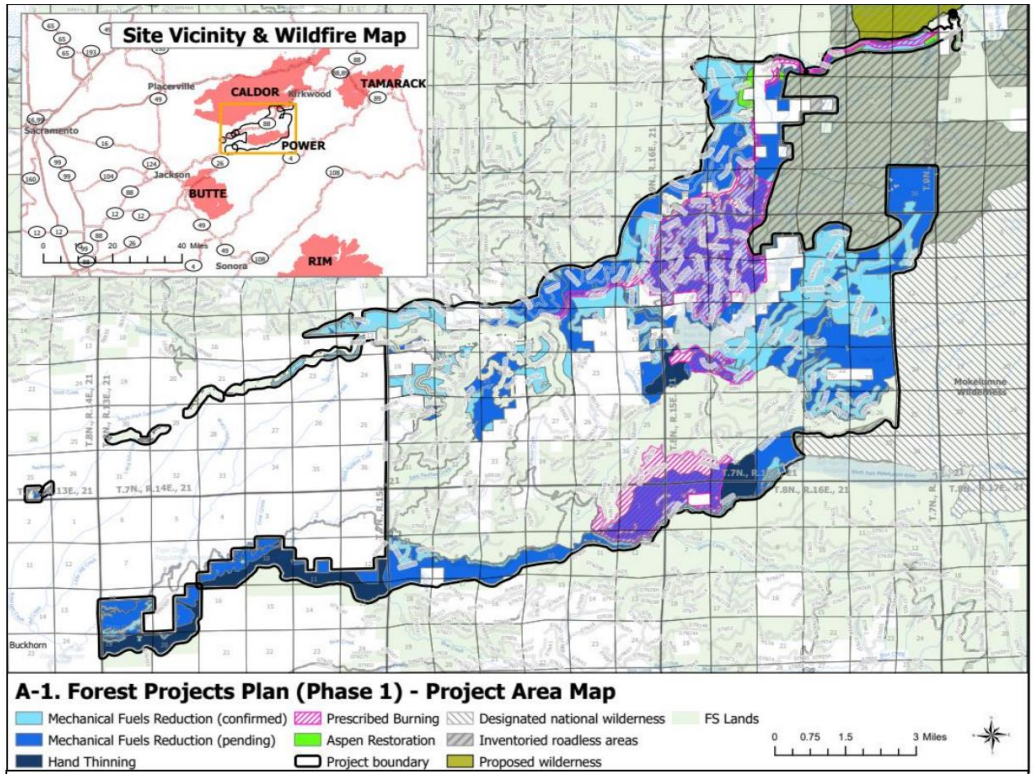
- Update on UMRWA Forest Health Program
- Funding Discussion
- EBMUD-Blue Forest Agreement
- Next Steps

Upper Mokelumne River watershed

UMRWA: Upper Mokelumne River Watershed Authority

Forest Health and Resilience Project, Phase 1

- Size: 26,000 acres
- Cost estimate: $63 million
- Plan is to complete by 2031
  - Aiming for 4,000 acres/year
  - Approximately 2,000 acres treated in 2024, but contractors are ramping up
- Over $16 million in state grant funding so far



Map of Forest Projects Plan Phase 1 in the El Dorado and Stanislaus National Forests.

Forest Health and Resilience Project, Phase 2

- Size: 225,000 acre landscape
  - Planning process to identify specific areas needing treatment
- Cost estimate: TBD, but likely greater than $100 million
- Amador-Calaveras Consensus Group (ACCG) helping to develop Phase 2 plan
- Admin Draft Environmental Impact Statement expected summer 2025

BurnBot remote controlled device performs fuel reduction work.

Funding Discussion

- October 4, 2024 UMRWA Board meeting discussion
- Proposal: fund forest health work via a new fee, based on $0.20 per connection for water agencies
- Several agencies expressed opposition
- Outcome: UMRWA staff will work with agency staff to seek a consensus proposal that is within the spirit of the JPA
  - Need to better understand Phase 2 costs, identify funding gap, then explore different funding mechanisms
  - Process will take additional study and time

Blue Forest

- Nonprofit conservation finance organization founded in 2015
- Finances forest health projects via “Forest Resilience Bond” (FRB)
- Agreement with UMRWA for bridge financing
  - $4 million interest free line of credit
- Discussions with EBMUD, other agencies regarding Mokelumne FRB
  - $600,000 from Pepsi and PG&E
  - Initial proposal for EBMUD: $2 million to $10 million over five years
- September 10, 2024 Planning Committee discussion
  - Agreed with staff recommendation not to move forward with initial proposal
  - Directed staff to continue discussions with Blue Forest

EBMUD-Blue Forest Proposal

- A pilot to study benefits of FRB
- EBMUD would contribute $50,000 to the FRB, plus up to $50,000 more to match contributions from other UMRWA members
- Goals of the pilot:
  - Incentivize participation by other UMRWA members for forest restoration work
  - See how much Blue Forest can leverage EBMUD's participation
  - Study potential benefits (water supply, carbon credits)

Forest restoration site in Pioneer, CA. 2023.

Next Steps

- Staff will bring Blue Forest agreement to the Board for consideration on April 22, 2025
- If approved, share information with UMRWA members at the April 25 UMRWA Board meeting
- Continue to work with Blue Forest to evaluate project benefits
- Ongoing discussions with UMRWA, other member agencies on costs and funding strategy

Questions and Discussion


Mokelumne watershed

Regulatory Compliance Semi-Annual Report

July through December 2024

Planning Committee

April 8, 2025

David Woodard, Manager of Regulatory Compliance

Agenda

- Environmental Compliance
- Workplace Safety and Health

Orinda Water Treatment Plant Acute Toxicity Investigation

- Beginning 2022, multiple failed bioassay tests
- Collaborated with San Francisco Bay Regional Water Quality Control Board on investigation
- Samples of effluent into creek always in compliance
- Source of toxicity found to be associated with the sampling apparatus
- Final investigation report and corrective actions completed, including new sampling location

Diablo Main Break

- On August 25, 2024, approximately 150,000 gallons discharged into Green Valley Creek
- Asbestos cement pipe installed 1960
- Aquatic and turbidity impacts to creek
- Appropriate regulatory notifications were made
- Additional leak detection installed for early leak detection
- Pipeline replacement priority raised in this area


Green Valley Creek

Lafayette Pipeline Break

- On December 17, 2024, approximately 8 million gallons discharged into Lafayette Creek
- Aquatic and turbidity impacts to creek
- Appropriate regulatory notifications made
- Repairs made to the pipeline and associated valve
- Repairs are expected to prevent a recurrence
- Report submitted to the San Francisco Bay Regional Water Quality Control Board

Lafayette Creek

Nitrogen Oxide Exceedance

- On December 18, 2024, an engine failed the Nitrogen Oxides quarterly emissions test
- Caused by incorrect adjustment in response to engine diagnostics and alarms
- Fuel/air ratio on the engine adjusted and returned to compliance the next day
- Additional troubleshooting equipment was purchased that should prevent future occurrences
- Exceedance was reported to the Bay Area Air Quality Management District
- Notice of Violation was issued on January 17, 2025

Lancha Plana Pond Embankment

- Northeast portion of Camanche Reservoir
- Low-pH and zinc from legacy mine on property
- Embankment damaged during storms of 2017 and 2023
- Repairs made in 2023 and fall of 2024
- Central Valley Regional Water Quality Control Board agreed with improvements


Damage to Pond


Repaired Lancha Plana Embankment

Lost Time Incident Rate

	LTIR
Strategic Plan Key Performance Indicator	≤ 3.0
LTIR as of December 31, 2024	2.39
When work-related COVID, cases are included	2.74

Cal/OSHA Inspection of Lafayette Aqueduct

- Cal/OSHA inspected site October 17, 2024
- Response to complaint alleging potential asbestos and lead exposure while performing repairs
- List of health and safety documents provided to Cal/OSHA per request on October 24, 2024

Questions?

Backflow Prevention Program Update

Planning Committee

April 8, 2025

Crystal Yezman, Manager of Maintenance and Construction

Overview

- Update on Compliance with new regulations for Cross-Connection Control
- Impacts to residential customers with wells and/or fire sprinklers
- Proposed Amendments to Section 26 – Protection of Public Water Supply
- Updates to Special Charges under Schedule C
- Next Steps

Backflow Prevention Background

- California's Safe Drinking Water Act requires the District to conduct hazard assessments and protect the water system from contamination due to backflow
- The District must track and ensure that all 18,800 backflow prevention assemblies (BPAs) are tested annually by a certified backflow tester

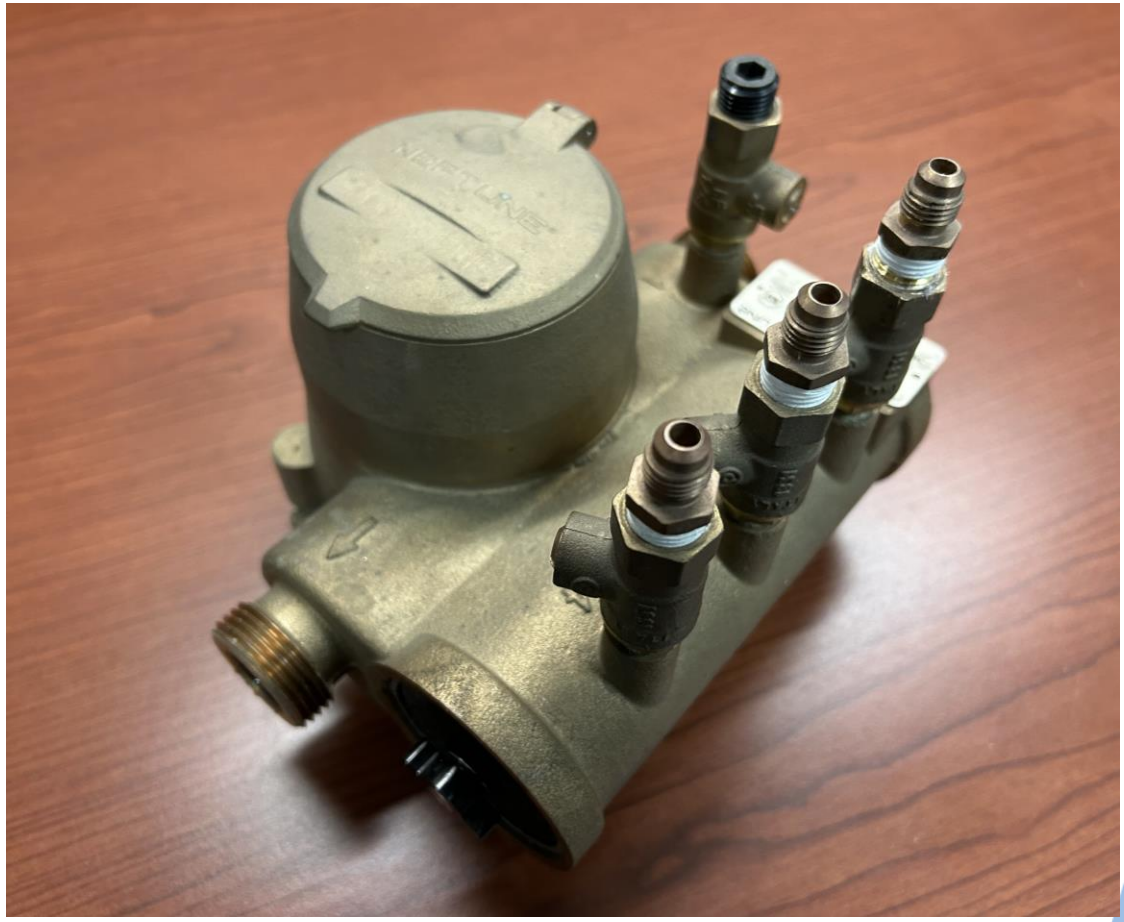
A backflow prevention assembly

New Regulations for Cross-Connection Control

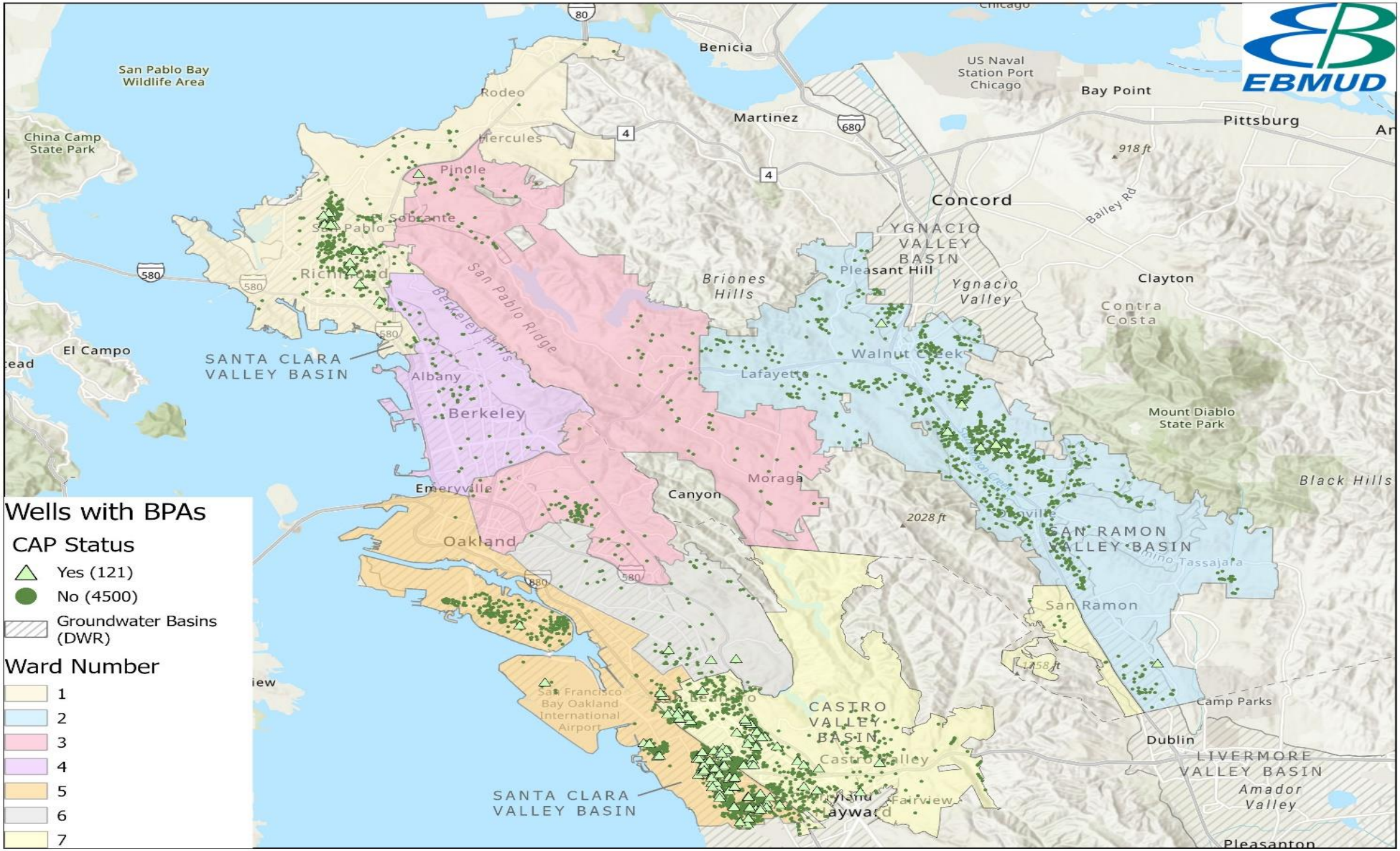
- Cross Connection Control Handbook (CCCPH) replaces Title 17 of Health Code for regulating backflow prevention
- CCCPH is more stringent than Title 17
- District must submit a Cross-Connection Control Plan to DDW by July 1, 2025
- District submitted a draft plan to DDW on February 21, 2025
- Awaiting comments from DDW

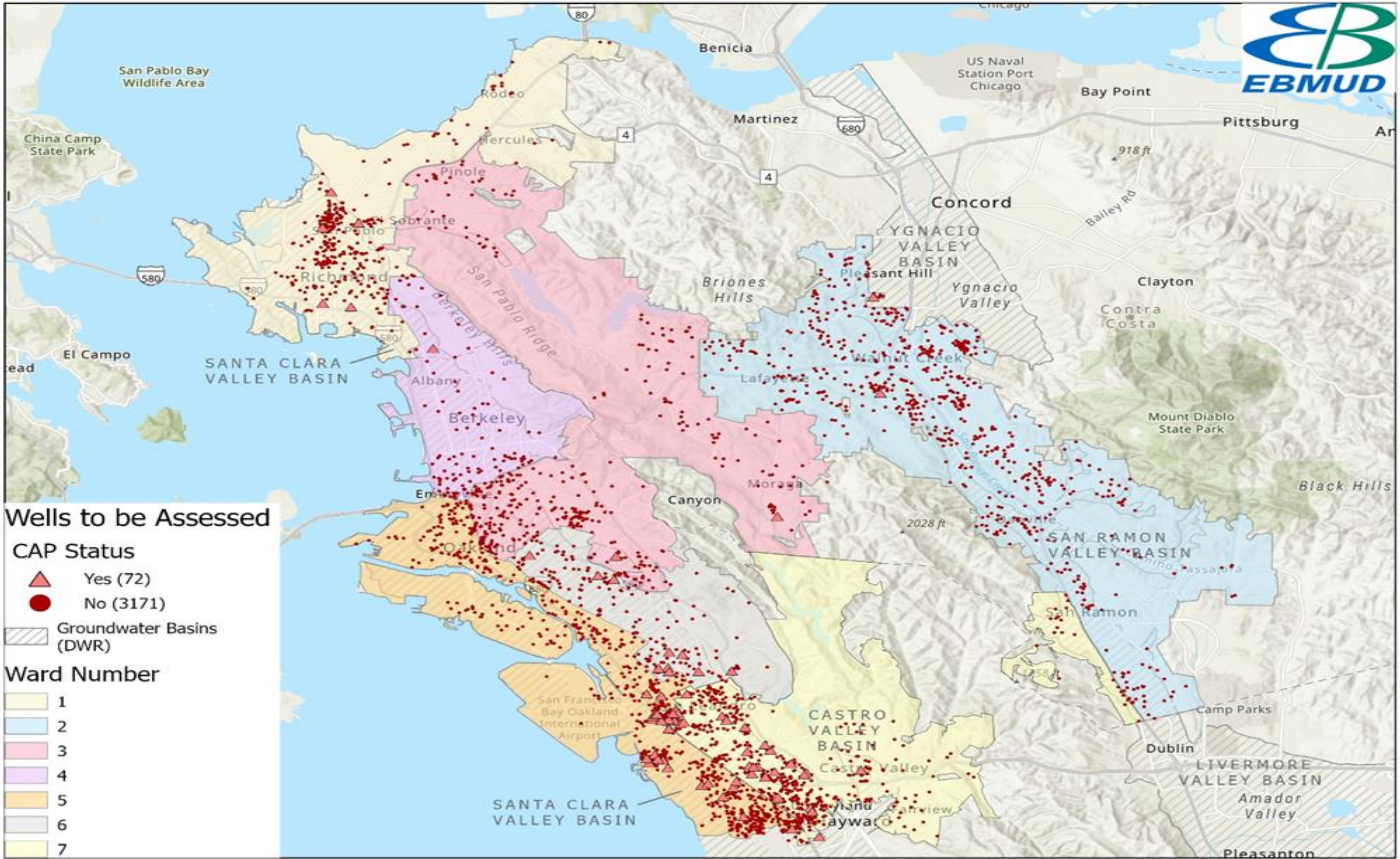
Residential Wells

- The District previously installed approximately 4,600 BPAs for residential customers with wells
- Combination meter/backflow assemblies or standalone double check assemblies are typically used
- CCCPH now requires a reduced pressure (RP) device
- Upgrades may be needed as existing backflow devices wear out



Residential combination meter/backflow device


Wells with BPAs
CAP Status
Yes (121)
No (4500)
Groundwater Basins (DWR)
Ward Number
1
2
3
4
5
6
7
SANTA CLARA VALLEY BASIN
YGNACIO VALLEY BASIN
SAN RAMON VALLEY BASIN
CASTRO VALLEY BASIN
LIVERMORE VALLEY BASIN
SANTA CLARA VALLEY BASIN
San Pablo Bay Wildlife Area
China Camp State Park
Benicia
US Naval Station Port Chicago
Bay Point
Pittsburg
Martinez
Rodeo
Hercules
Pinole
San Pablo
El Sobrante
Richmond
Concord
Pleasant Hill
Ygnacio Valley
Clayton
Contra Costa
Briones Hills
San Pablo Ridge
Berkeley Hills
Albany
Berkeley
Emeryville
Oakland
Walnut Creek
Lafayette
Moraga
Canyon
Mount Diablo State Park
Black Hills
San Ramon
Camp Parks
Dublin
Amador Valley
Pleasanton
San Francisco Bay Oakland International Airport
Castro Valley
Fairview
Hayward
El Campo
Bailey Rd
918 ft
2028 ft
1458 ft
EBMUD


Wells to be Assessed
CAP Status
Yes (72)
No (3171)
Groundwater Basins (DWR)
Ward Number
1
2
3
4
5
6
7
San Pablo Bay Wildlife Area
China Camp State Park
Benicia
US Naval Station Port Chicago
Bay Point
Pittsburg
Martinez
Concord
YGNACIO VALLEY BASIN
Pleasant Hill
Briones Hills
Ygnacio Valley
Clayton
Contra Costa
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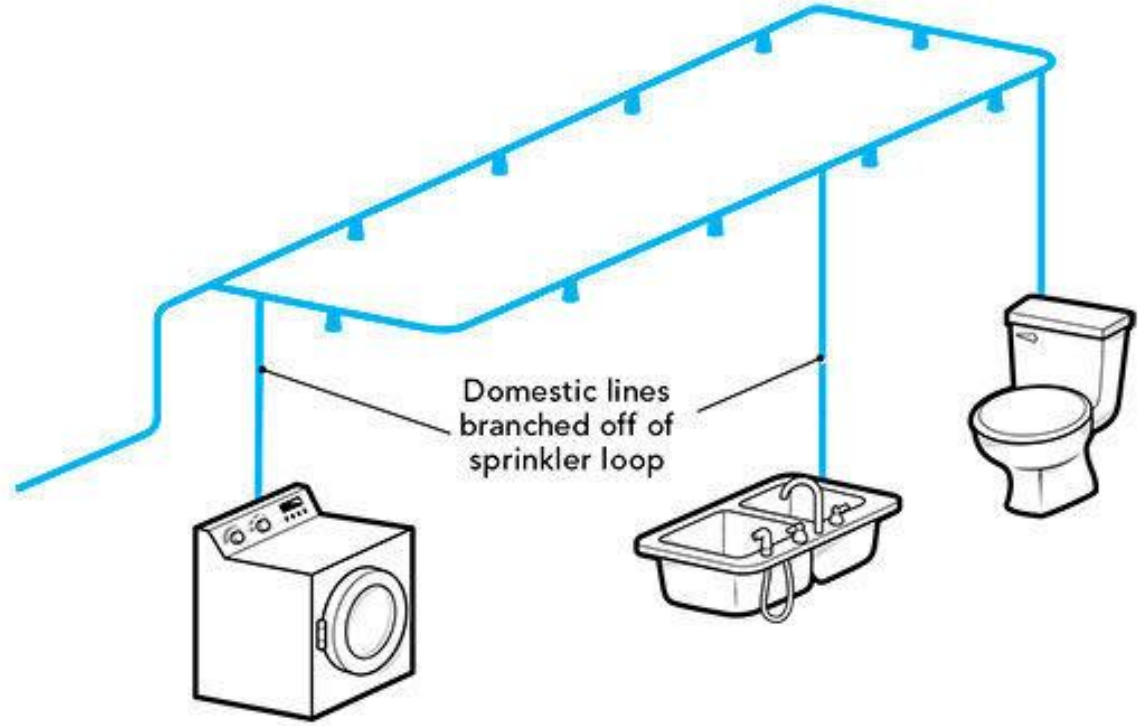
Black Hills
Rodeo
Hercules
Pinole
El Sobrante
San Pablo
Richmond
El Campo
SANTA CLARA VALLEY BASIN
Albany
Berkeley
San Pablo Ridge
Walnut Creek
Lafayette
Moraga
Canyon
SAN RAMON VALLEY BASIN
San Ramon
Oakland
CASTRO VALLEY BASIN
Castro Valley
Camp Parks
Dublin
LIVERMORE VALLEY BASIN
Amador Valley
Pleasanton
San Francisco Bay Oakland International Airport
Hayward
Fairview
Bailey Rd
918 ft
2028 ft

Residential Fire Sprinklers

- CCCPH requires backflow protection from residential fire sprinklers, which may contain stagnant water.
- District is working with local fire and building departments to promote installation of “passive protection” for future installations to reduce installation costs for consumers
- District is proposing that past installations with less stringent BPAs be approved as they were built to code at the time of installation (and risk/hazard is low)



Fire sprinkler example layout with passive purge from Fine Homebuilding

Proposed Amendments to Section 26 – Protection of Water Supply

- Per Section 26 of the District's Regulations Governing Water Service (Section 26)
  - Approximately 4,600 BPAs on residential services with wells are tested annually and maintained by the District
  - BPAs for accounts with residential wells are installed by the District
- On October 8, 2024, the Planning Committee agreed with staff's recommendation to revise Section 26 and assign costs for the installation and annual testing of residential BPAs to the customer

Hydrant Meters

New proposals

- New regulations require hydrant meters to use upgraded backflow device (RP)
- These are bulkier and more difficult to handle compared to existing check valves on hydrant meters
- District will mitigate impact on customers by utilizing 1-inch diameter devices wherever possible (instead of large 3-inch)
- For street equipment, use integrated on-board airgap instead of hydrant mounted RP
- Requires update to Schedule C rates

A hydrant meter with a backflow prevention assembly

Proposed Changes to Special Charges under Schedule C

- **Backflow Device Annual Certification Charge -** remove exemption for single family residences on annual certification charge. Expand the definition of hazard assessment to allow for charges to conduct “re-surveys” as required by new regulations.
- **Public Hydrant Meter Account Establishment Charges -** add a new line item for renting smaller 1-inch hydrant meters with BPA and separate charges for 3-inch hydrant meters with or without new BPA.

Next Steps

- Proposed changes to Section 26 and Schedule C will be included in the proposed Fiscal Year 2026 and Fiscal Year 2027 budgets
- On May 13, 2025, Board to consider setting a Public Hearing for June 10, 2025
- Receive and respond to DDW comments on the District's plan (fall 2025)
- Launch public outreach to notify impacted customers

Questions?