MENDOCINO COUNTY INLAND WATER AND POWER COMMISSION

WORKSHOP

AGENDA AND PRESENTERS

- A. Context: PG&E and the Federal Energy Regulatory Commission (FERC)
- B. The Water Diversion Agreement
- C. Overview of the New Eel Russian Facility (NERF)
- D. Options under consideration for additional storage in the Russian River watershed
- E. IWPC next steps: Storage alternatives formulation and ranking

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A. CONTEXT: PG&E AND THE FEDERAL ENERGY REGULATORY COMMISSION

- PG&E operates the Potter Valley Project (PVP) which moves water from the Eel River Watershed to the Russian River Watershed. All of that water has historically flowed in the Russian and was available for use.
- PG&E has decided to stop operating the PVP because it is cost inefficient and after failing to find someone to purchase the PVP with its license, it has informed FERC that it intends to surrender the license and decommission the PVP, which includes removing the dams.
- PG&E submitted its application to FERC in July. That application includes a regional success: the concept that Russian River interests will continue to divert water through the New Eel-Russian Facility (NERF).
- FERC has noticed PG&E's application and requested comments and any interventions by December 1, 2025 at 2:00 pm.

B. THE WATER DIVERSION AGREEMENT

- The WDA was needed to remove opposition to continued Russian River diversion and to satisfy PG&E that it could include the NERF in its application.
- On February 7, 2025, we executed an MOU to get agreement on the essential terms with potential opposition prior to PG&E's public draft of its application.
- Following the MOU we negotiated and executed a WDA on July 16, 2025, to document agreement between the two basins as to how the diversion would work.
- The WDA can be downloaded from https://www.eelrussianauthority.org/reports.

C. OVERVIEW OF THE NEW EEL RUSSIAN FACILITY (NERF)

- With the removal of the PVP dams, the gravity-fed diversion will no longer work. Instead, a new diversion structure is required.
- NERF development was led by Sonoma Water, supported by IWPC and funded in part by DWR and USBR grants
- NERF design and construction will be in close coordination with PG&E's removal of Cape Horn Dam (CHD)
- NERF is being designed to allow pumping from approximately 10 cfs up to 300 cfs, when water is available
- Pumping rules vary by season, and include a floor (minimum bypass) then increased pumping allowed as Eel River flow increase

NEW EEL RUSSIAN FACILITY DIVERSION RULES

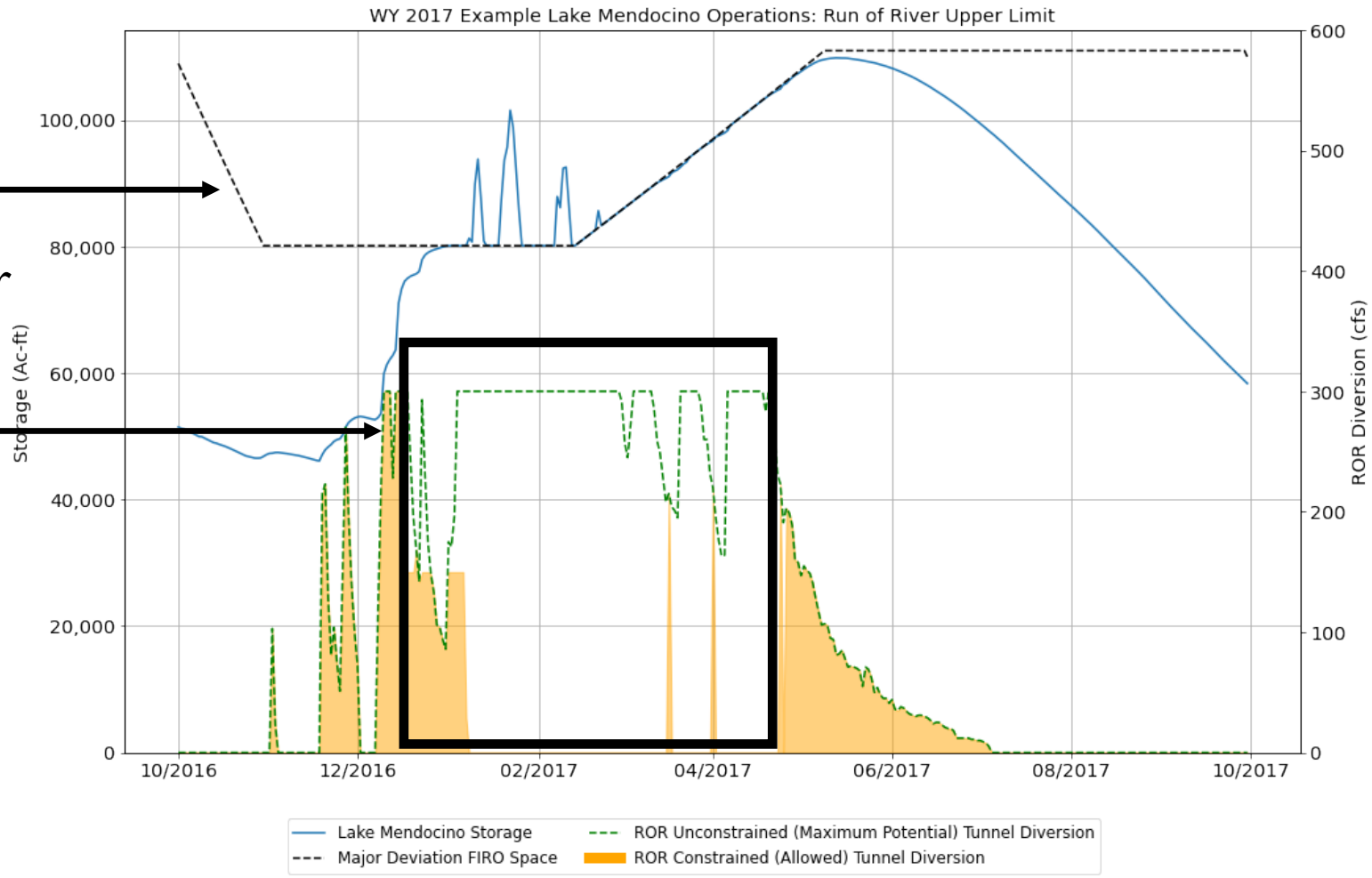
	Fall Flows*	Winter Flows	Spring Flows	Summer Flows
Date Range:	Oct 1 – Dec 31	Jan 1 – Feb 29	Mar 1 – May 31	Jun 1 – Sep 30
Floor:	300 cfs	250 cfs	125 cfs	35 cfs
Maximum Diversion Rate:	20%	30%	20%	20%
Ramping Rates	To protect floor, NERF hits Maximum Diversion Rate (20%) When Eel River flow is 375 cfs	To protect floor, NERF hits Maximum Diversion Rate (30%) When Eel River flow is 357 cfs	To protect floor, NERF hits Maximum Diversion Rate (20%) when Eel River flow is 156 cfs	To protect floor, NERF hits Maximum Diversion Rate (20%) when Eel River flow is 43.75 cfs
Maximum Diversion Capacity	300 cfs	300 cfs	300 cfs	300 cfs

Lake Mendocino Storage and Water Supply Storage Limit

- Water above dashed line is released to maintain flood storage space
- NERF will not divert Eel River flow when Lake Mendocino storage is above dashed line (storage limit)

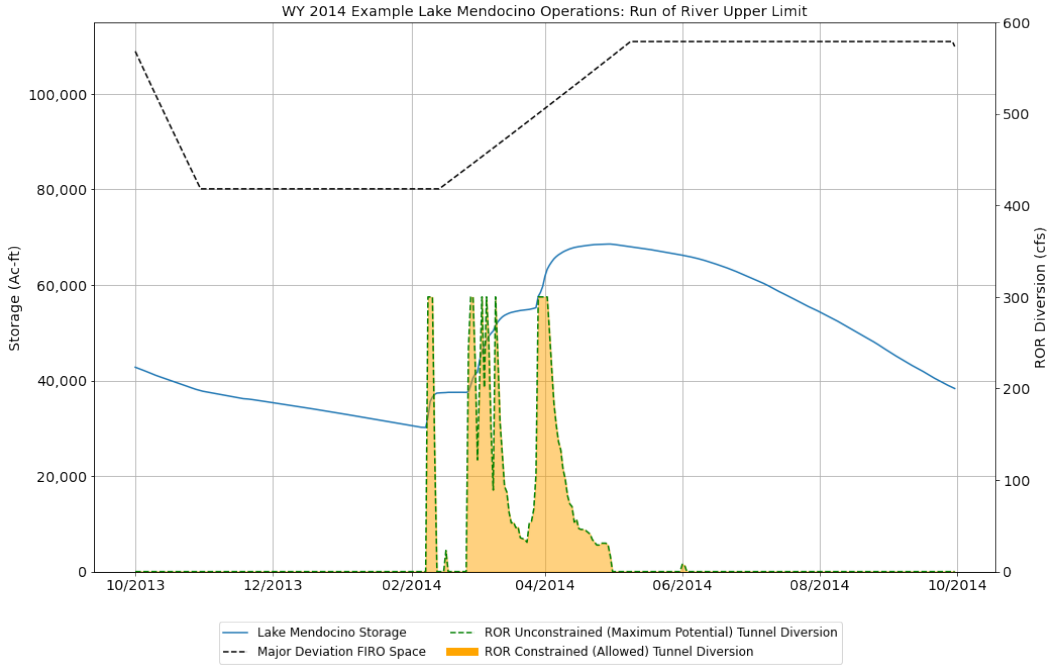
NERF Diversions:

- Volume Allowed by Diversion Rules ~ max 86,400 ac-ft
- Volume Stored Based on Flood Storage Limitations ~ 24,500 ac-ft

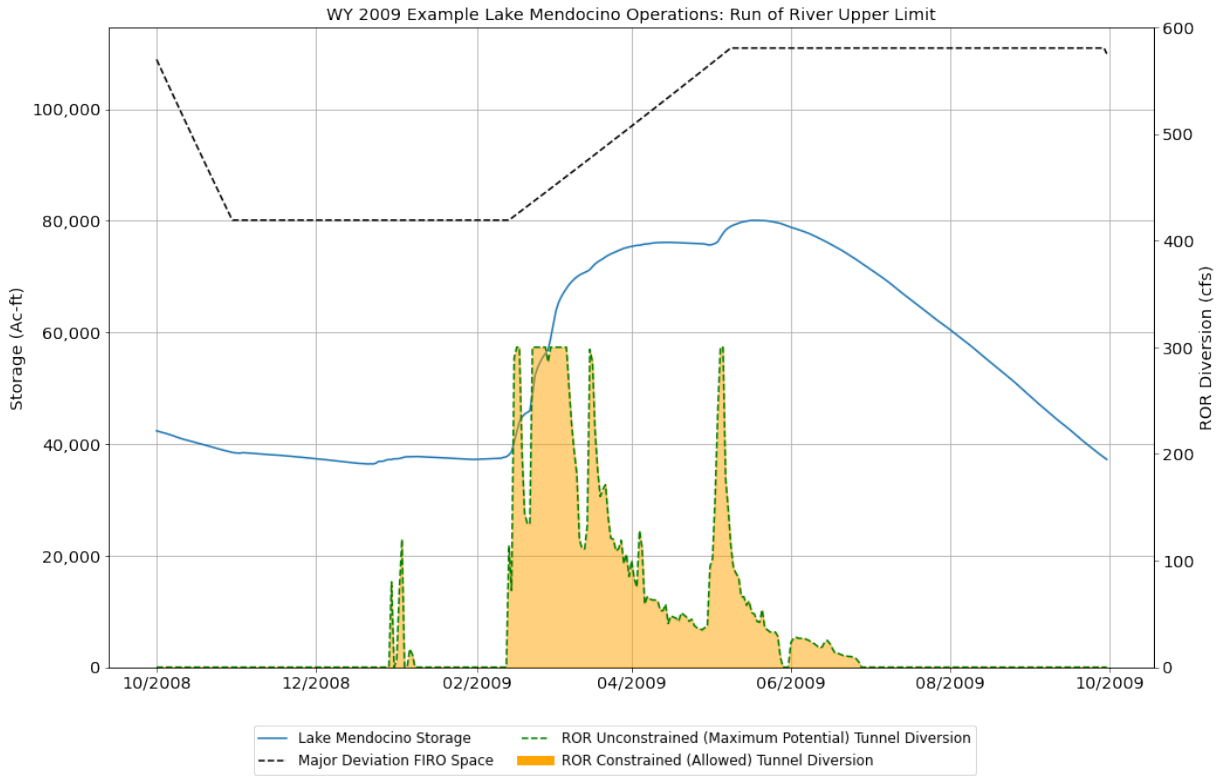


Wet Year Example (2017)

Dry Year Example (2014)

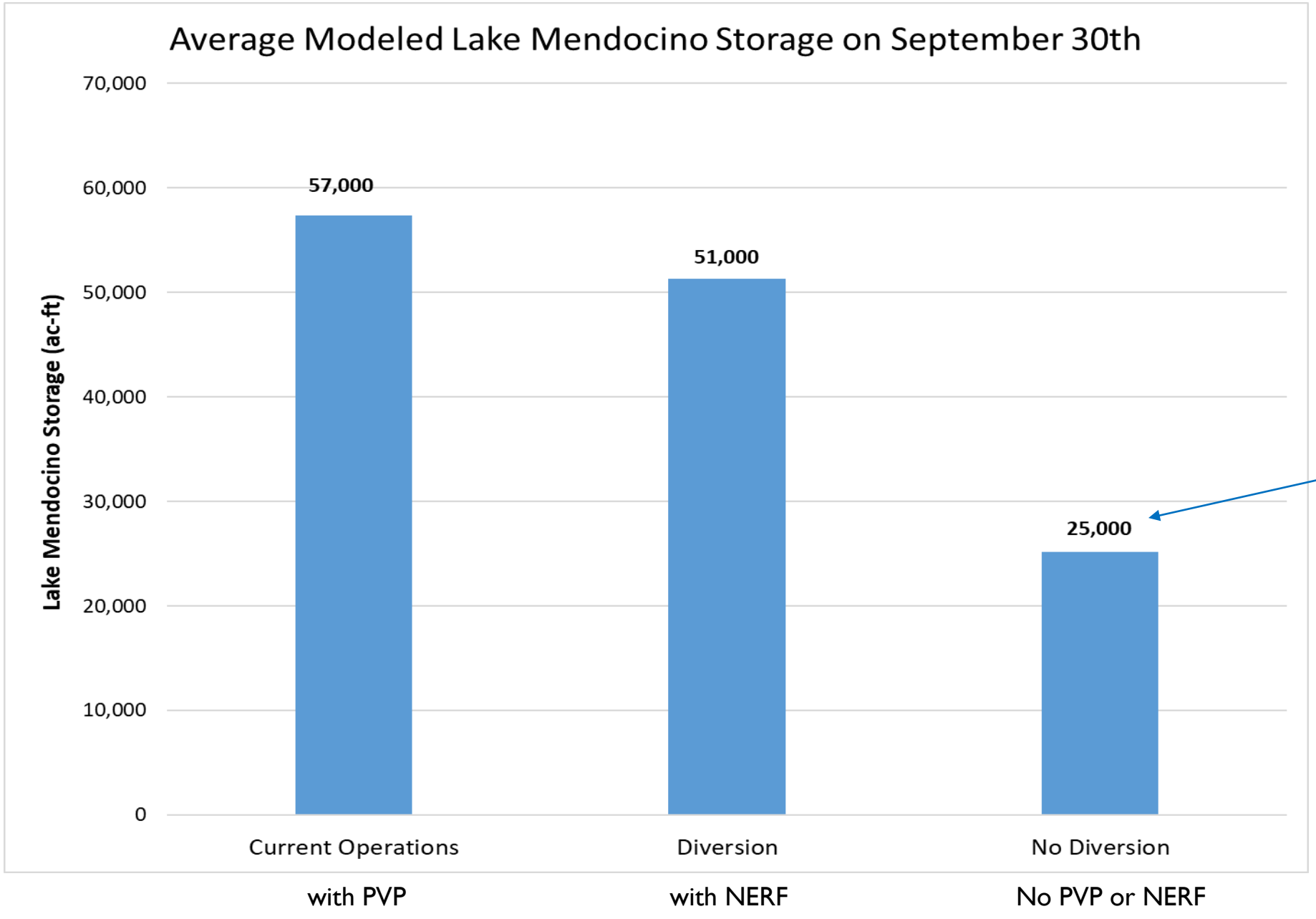


Average Year Example (2009)



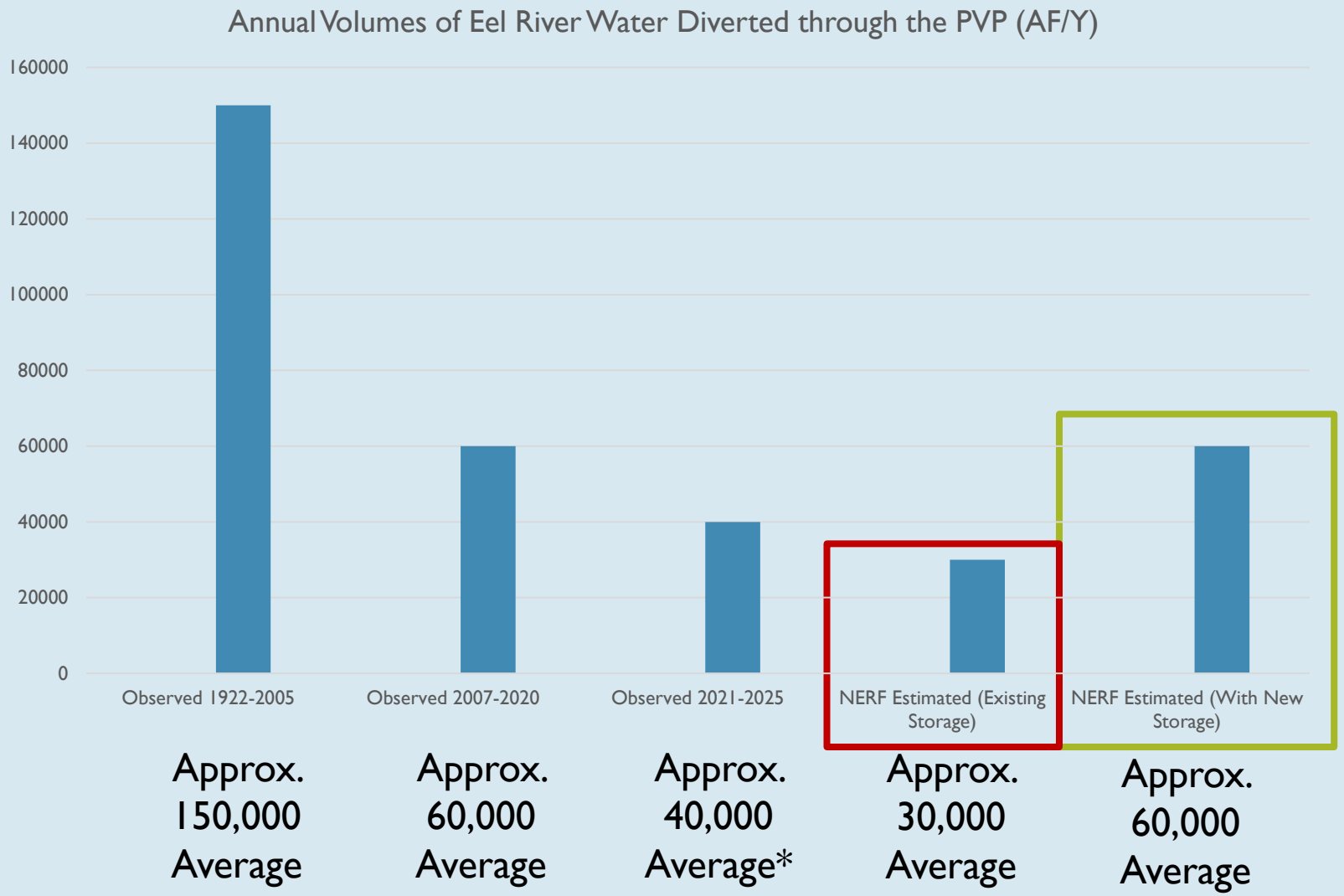
All NERF Diversions under WDA (net of Potter Valley storage) can be stored in Lake Mendocino as currently operated in these example years:

- Dry Year (2014): 18,200 ac-ft
- Average year (2009): 29,500 ac-ft



- 25,000 acre-feet on September 30 would be tie for the lowest reservoir level on record, other than the droughts of 1977 and 2021.
- In the few years in which the reservoir was drained to that level, it was always in December (not September).

TUNNEL DIVERSION VOLUMES AND PROPOSED FUTURE DIVERSION

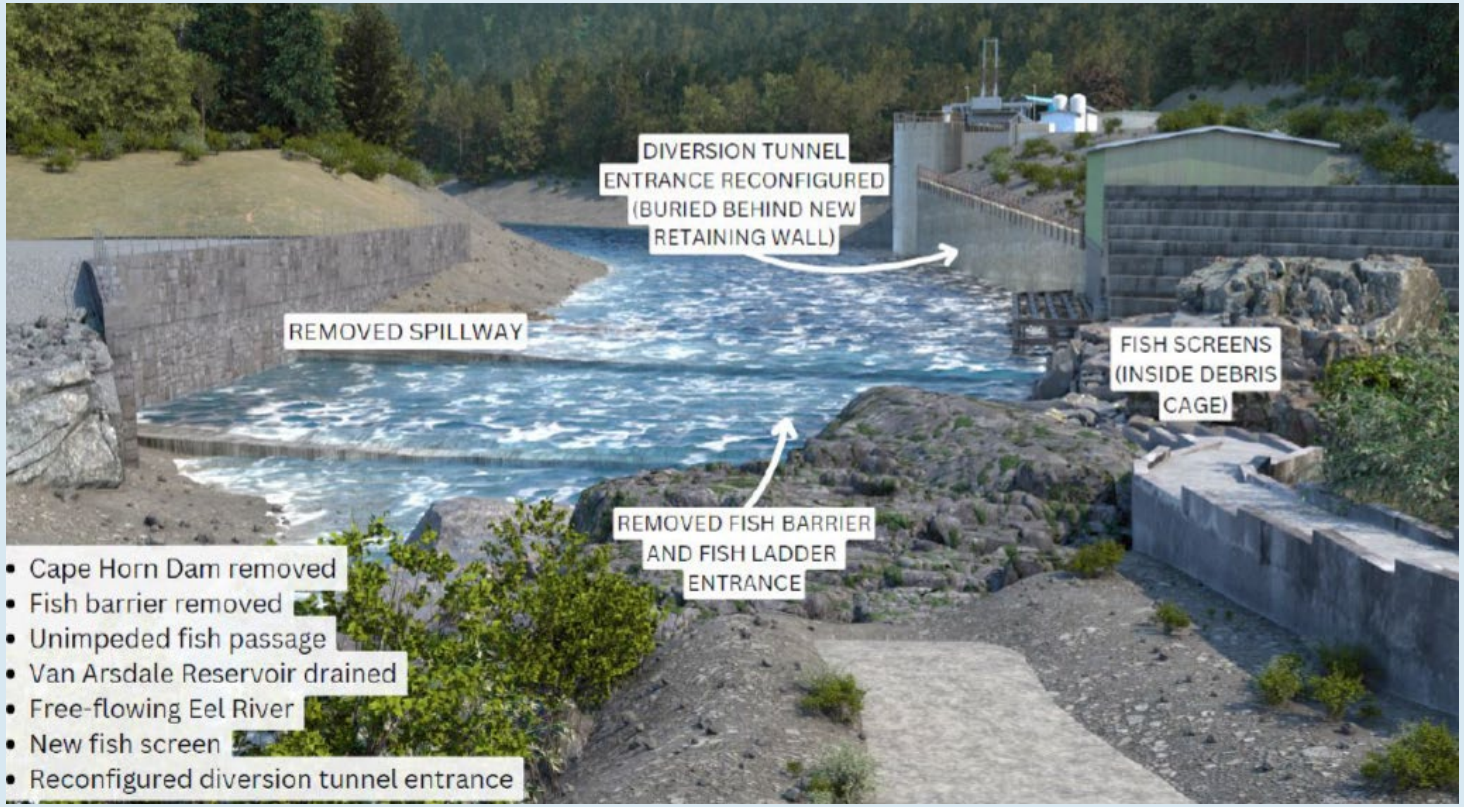


- NOTE that diversions were significantly reduced ***before*** PG&E elected to decommission the PVP.
- The green box shows diversions allowed under WDA criteria, assuming adequate storage.
- The red box shows diversions constrained by limited winter storage.
- This demonstrates the need for more storage.

*Varies depending upon timing of variance implementation by PG&E/FERC

NEW EEL-RUSSIAN FACILITY CEQA PROCESS

- Close coordination with ERPA member agencies, State Water Board and other agencies to complete studies on schedule, keeping pace with PG&E license surrender environmental review
- Timeline approximately 24 months once initiated



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NERF NEXT STEPS; DRIVEN BY DECOMMISSIONING

- PG&E License Surrender Application filed with FERC on July 25, 2025
- FERC set deadline of December 1, 2025 for comments and intervention on PG&E application
- 2025-2030
  - Continued efforts on storage (see below)
  - ERPA Revenue Strategy
  - ERPA to continue NERF design; PG&E to prepare project design
  - ERPA CA Environmental Quality Act (CEQA) for NERF
  - FERC prepares NEPA document for PG&E License Surrender
  - State Water Board CEQA for PG&E Clean Water Act Compliance; U.S. Army Corps Of Engineers NEPA for PG&E and ERPA Clean Water Act Compliance; National Marine Fisheries Service (NMFS) Biological Opinions for PG&E dam removal and NERF construction
  - FERC surrender order
- Potentially starting in 2031
  - ERPA and PG&E Final Engineering, Permits, Bidding, Contracting
  - NERF Construction & PG&E Dam Removal
  - PG&E implements required restoration per FERC order

D. OPTIONS UNDER CONSIDERATION FOR ADDITIONAL STORAGE IN THE RUSSIAN RIVER WATERSHED

- USACE study of Lake Mendocino (with potential pipeline for delivery to Potter Valley) – being studied
- Tributary storage – concept study completed
- Lower Valley on-stream storage – concept study completed
- In-valley pond storage – concept study completed
- Conjunctive use – concept study completed
- Pump back from Lake Mendocino – concept study completed

USACE STUDY LAKE MENDOCINO STUDY

USACE PROJECT DELIVERY PROCESS

Feasibility Study

- USACE produces a feasibility study and associated NEPA document.
- Phase concludes with a Chief's Report which recommends a project to Congress
- Congressional approval is required for construction.

Anticipated Duration:
3 to 5 years

Preconstruction Engineering and Design

- USACE initiates engineering and design while waiting for Congressional approval.
- Design activities subject to receipt of appropriations.
- Requires non-Federal sponsor and an executed Design Agreement.

Anticipated Duration:
2 to 3 years

Construction

- USACE oversees project construction through one or more construction contracts.
- Requires Congressional authority and "new start" appropriations.
- Requires non-Federal sponsor and an executed Project Partnership Agreement (PPA).

Anticipated Duration:
4 to 8 years

Operations and Maintenance

- USACE or non-Federal sponsor assumes O&M responsibility after construction.
- USACE retains O&M responsibility for navigation and multi-purpose dams.
- Other project types are transferred to non-Federal sponsor for O&M responsibility.

Anticipated Duration:
N/A

USACE STUDY PROGRESS

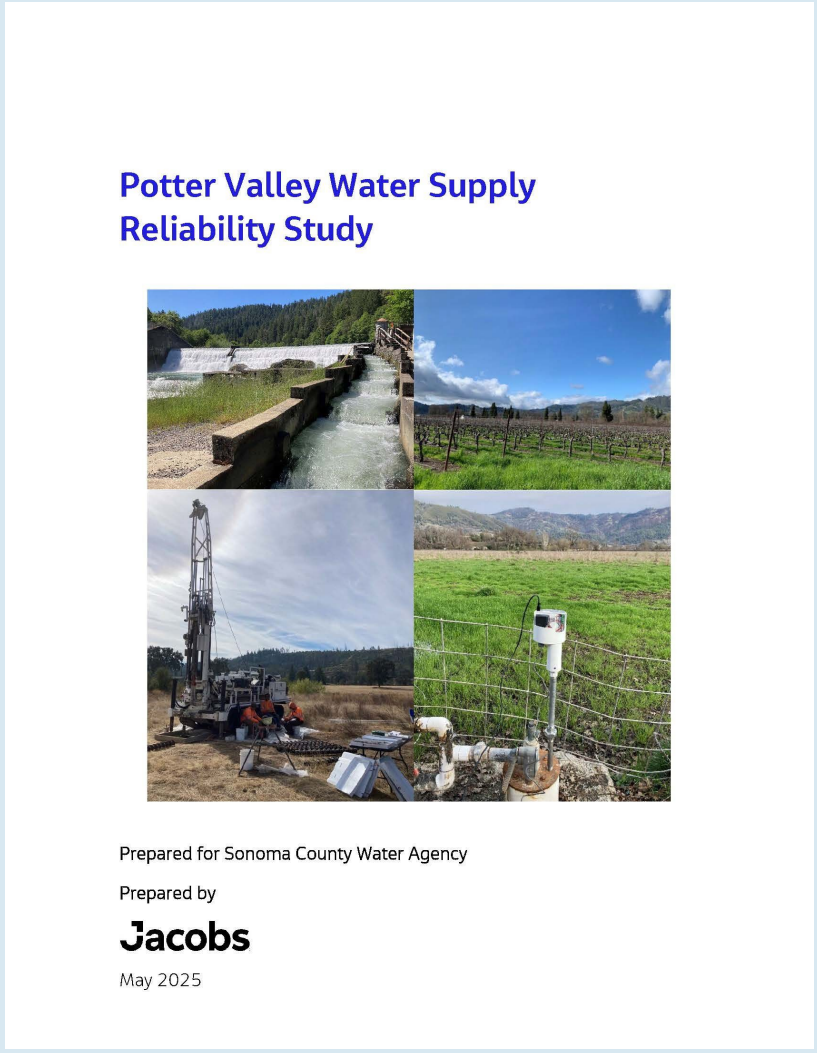
- **Progress**:
  - Initial Federal funding received in FY 2024
  - Lytton Rancheria agreed to serve as joint non-Federal sponsor in February 2025
  - Local Agreement executed w/ Lytton Rancheria in March 2025
  - Feasibility Cost-Sharing Agreement (FCSA) executed in March 2025
  - Schedule Planning Charrette w/ USACE for June / July 2025
  - Advance scoping w/ USACE
    - Strong orientation toward new water storage including (and beyond) Coyote Valley Dam
    - Independent validation / expansion of technical work commissioned by IWPC
    - Define initial work product non-Federal sponsors can use to determine continued participation
- **Currently on hold as a result of the Federal shutdown and Administration priorities**

USACE STORAGE PROJECT PROS AND CONS

- Pros:
  - Federal nexus, if identified, could bring federal funding participation
- Cons:
  - Modest to no local control of timing of study

OPTIONS FOR STORAGE OR WATER SUPPLY UPSTREAM OF LAKE MENDOCINO

- Several options addressed by Jacobs (2025), and previously by McMillen (2021)
- Options include:
  - Tributary storage
  - Lower Valley on-stream storage
  - In-valley pond storage
  - Conjunctive use
  - Pump back from Lake Mendocino
- Also, all options required consideration of demand reduction and efficiency improvements



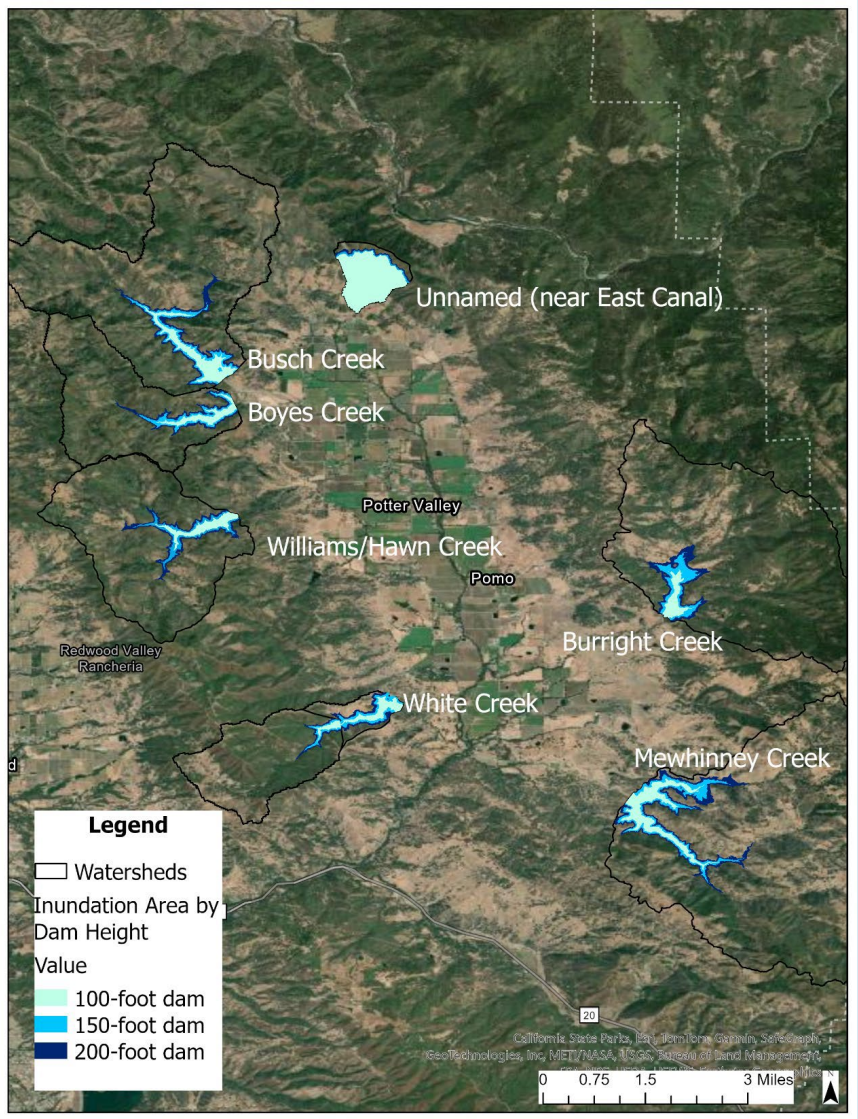
TRIBUTARY STORAGE

- 7 major tributaries evaluated, largest three were selected
- Each simulation utilized historical hydrologic conditions between 1911 and 2022 and annual water supply demands on the order of 6,000 acre-feet in Potter Valley typically occurring between March through October each year.

Name	Dam Height (feet)	Dam Length (feet)	Storage Capacity (AF)	Inundation Area (acres)	Distance to Powerhouse (miles)	Natural Runoff (AFY) [a]
Busch	100 to 200	1,400 to 2,100	4,900 to 25,200	117 to 302	1.6	6,100
Williams/Hawn	100 to 200	850 to 1,500	2,400 to 14,700	62 to 195	1.7	5,400
Mewhinney [b]	100 to 200	800 to 2,200	2,700 to 20,200	76 to 304	7.7	10,900

[a] 1910 to 2022 average based on PVIFM model results

[b] Requires a pump-back system and saddle dam



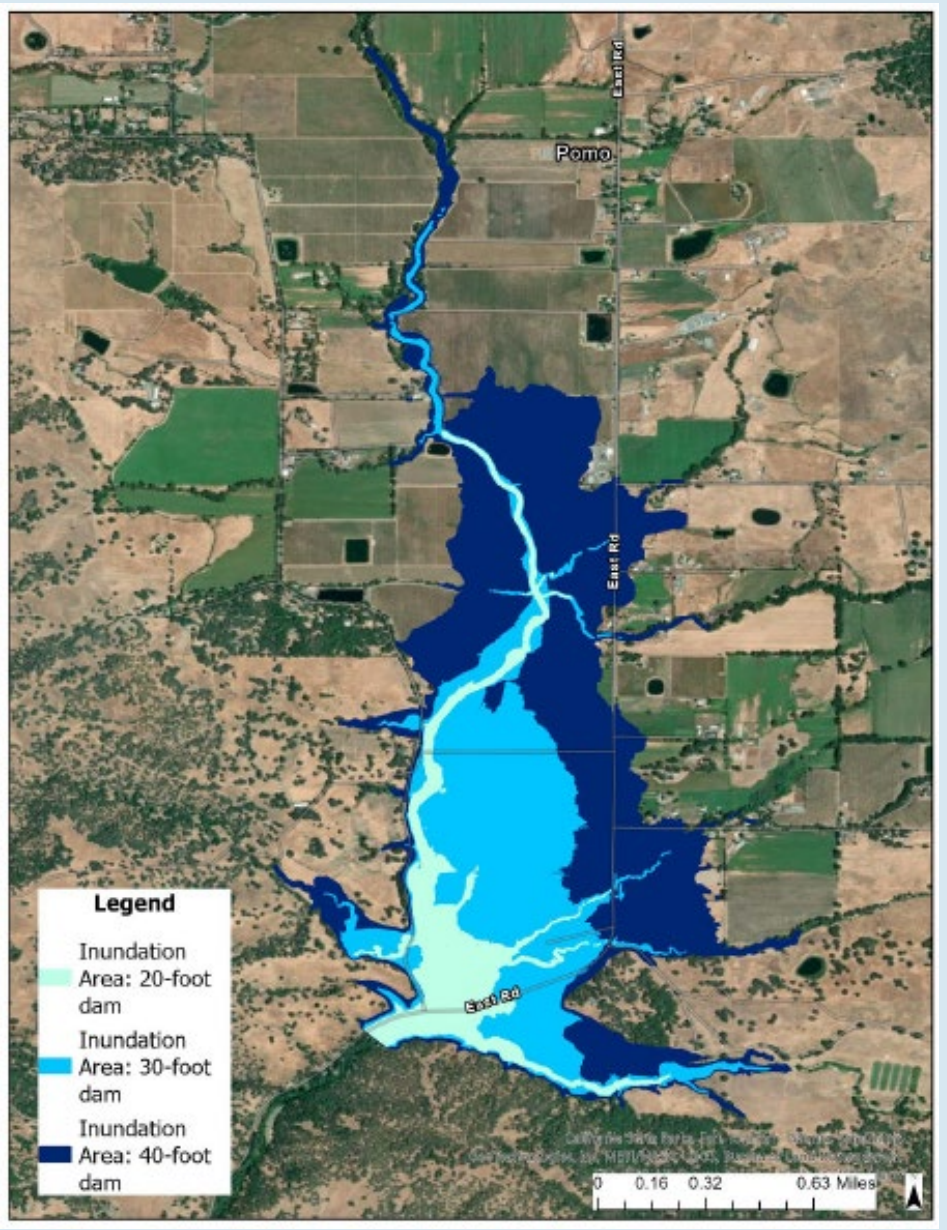
TRIBUTARY STORAGE
POTENTIAL COSTS, PROS & CONS

- Costs:
  - Preliminary capital estimate of $125M to $250M, plus costs of piping for fill and distribution
- Pros
  - Potential for pressure fill from NERF, then gravity delivery to downstream
  - Could be larger than PVID needs, so this would provide potential regional storage for other downstream users
  - Supplemental to Lake Mendocino study, and on separate timeline than USACE work
- Cons
  - Likely expensive on an acre-foot basis
  - Complex to permit and potential water rights issues

LOWER VALLEY ON-STREAM STORAGE

- Jacobs evaluated 20, 30, and 40 ft dam heights

Dam Height (feet)	Dam Length (feet)	Storage Capacity (AF)	Inundation Area (acres)	Distance to Powerhouse (miles)
20	360	620	62	6.5
30	420	5,600	280	6.5
40	480	19,300	640	6.5

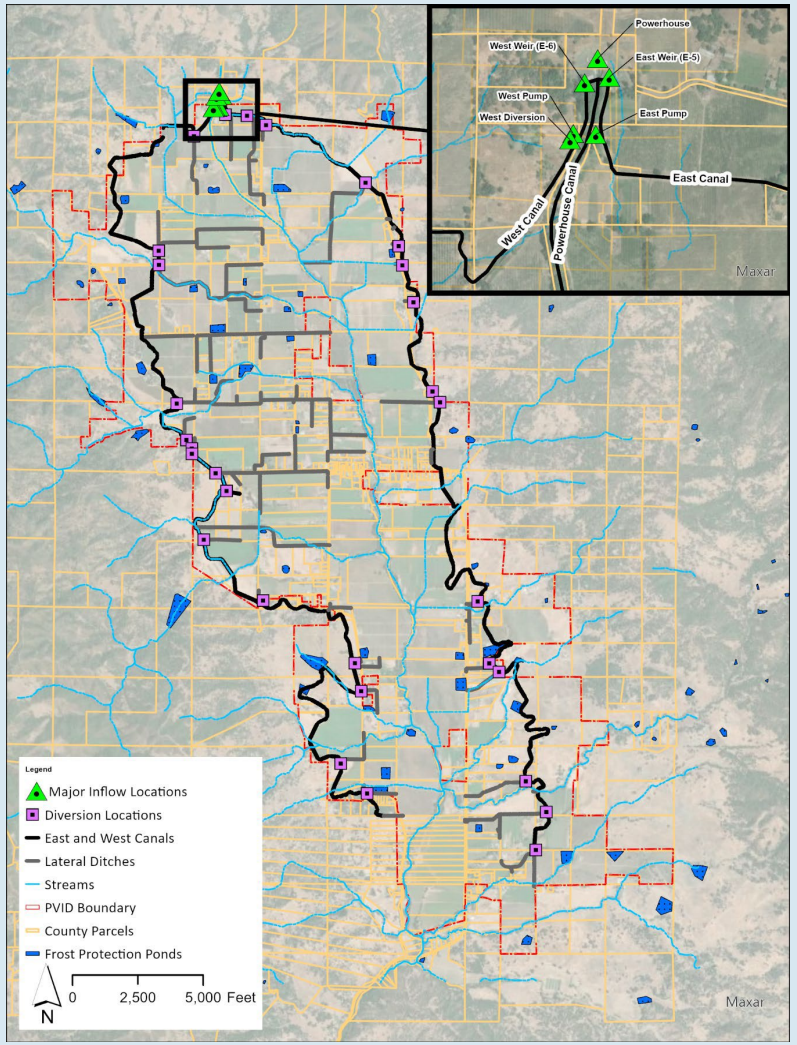


LOWER VALLEY ON-STREAM STORAGE POTENTIAL COSTS, PROS & CONS

- Costs:
  - Preliminary capital estimate of $115M to $220M, plus cost of pressure distribution upstream of dam
- Pros
  - Gravity fill, including NERF and in-valley runoff sources
  - Could be larger than PVID needs, so could potentially provide regional storage for other downstream users
  - Supplemental to Lake Mendocino, and on separate timeline than USACE work
- Cons
  - Likely expensive on a per acre-foot basis
  - Complex to permit; land taking; potential water rights issues; potential water quality concerns

POTTER VALLEY POND STORAGE

- Expand existing surface pond network
- Assumes 5,000 AF of pond storage, 10 ft berm and 8 ft storage
- 625 total acres required; current ponds total 125 acres
- Either smaller disbursed ponds throughout valley, or centralized ponds
- Ponds at head of valley (near NERF outlet works) could provide gravity flow throughout valley

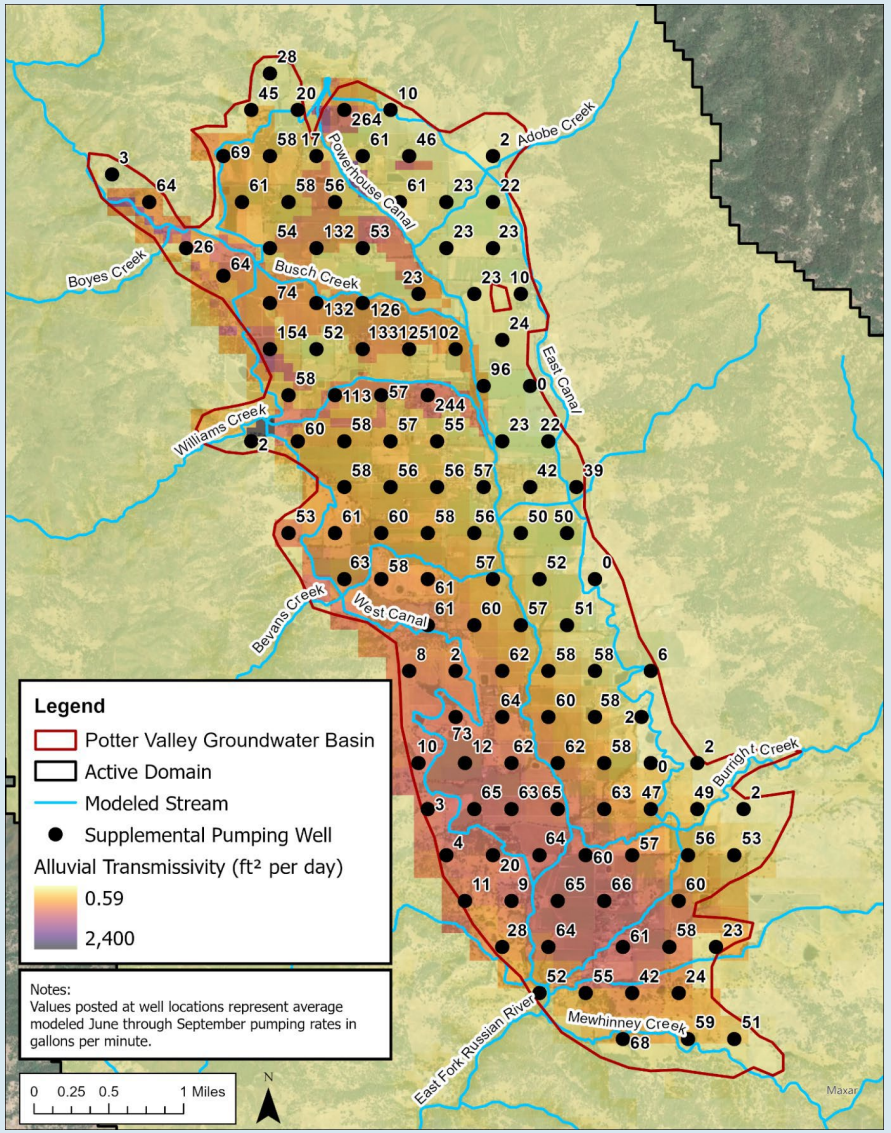


POTTER VALLEY POND STORAGE POTENTIAL COSTS, PROS & CONS

- Costs:
  - Preliminary capital estimate of $15M to $28M, plus cost of distribution system(s) for fill and drain
- Pros
  - Scalable and potentially lower cost alternative than others
  - Could be sized for PVID needs only, or PVID plus other downstream needs
  - Supplemental to Lake Mendocino, and on separate timeline than USACE work
  - Could be developed centralized/collective, or disbursed/individual
- Cons
  - Land utilization issues, both footprint and suitability (permeability)
  - How to manage for broad benefit

POTTER VALLEY CONJUNCTIVE USE ALTERNATIVES

- Supplemental groundwater pumping, potentially supplemented by managed aquifer recharge (MAR) by surface flooding.
- Concept based on 124 wells disbursed throughout the valley; field work required to further refine locations and yields.
- Potential yield of 3,500 acre-feet per year.
- Other conjunctive use projects should be explored in the Ukiah Valley and elsewhere.



CONJUNCTIVE USE
POTENTIAL COSTS, PROS & CONS

- Costs:
  - Preliminary capital estimate of $19M to $22M, plus costs of network piping for interconnection
- Pros
  - Scalable, cheaper than some alternatives
  - Supplemental to Lake Mendocino, and on separate timeline than USACE work
- Cons
  - Much additional work to prove out
  - Potentially limited to approximately 3,500 acre-feet per year

POTTER VALLEY PUMP BACK FROM LAKE MENDOCINO

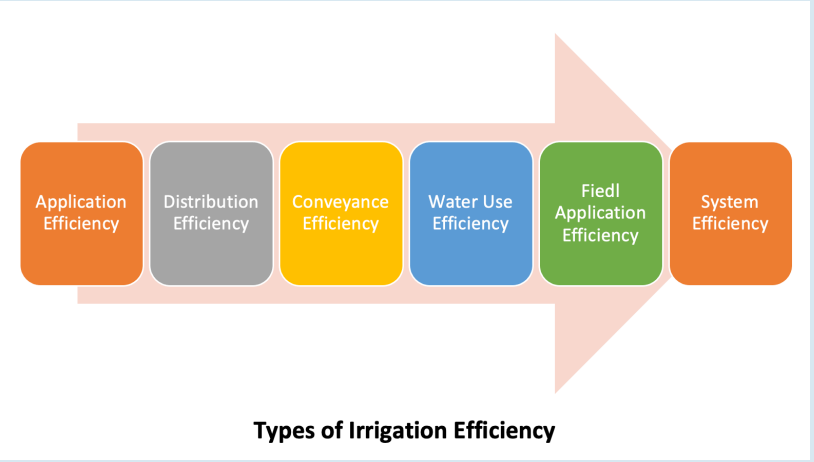
- 10+ mile pipeline, pump station in Lake Mendocino
- Can be designed for 10,000 AF yr
- Current Lake Mendocino storage is fully subscribed and used, so it will require Lake Mendocino storage expansion or negotiation of existing water rights

PUMP BACK FROM LAKE MENDOCINO POTENTIAL COSTS, PROS & CONS

- Costs:
  - Preliminary capital estimate of $100M+
- Pros
  - Can meet full demand
- Cons
  - More potential if Lake Mendocino is expanded; far less potential if not
  - Utilizes Lake Mendocino: Water rights issues (Lake Mendocino fully subscribed now)

SYSTEM IMPROVEMENTS COMMON FOR ALL ALTERNATIVES

- On-farm demand management and irrigation delivery system efficiency improvements are required with any storage projects throughout the region
- Water will be much more expensive, so likely irrigation practices and crop selection will change accordingly
- Water delivery efficiency measures such as piping or lining will reduce losses; some storage options will require piping for filling or delivery to storage



Types of Irrigation Efficiency

SYSTEM IMPROVEMENTS COMMON POTENTIAL COSTS, PROS & CONS

- Costs:
  - Preliminary capital estimate: minimal to $10M +, depending on scope (does not include individual on-farm improvements)
- Pros
  - The combination of demand management and efficiency will reduce demand and associated costs
- Cons
  - Some costs will impact individual landowners and farmers disproportionally
  - Despite demand management and efficiency improvements, NERF and storage expenditures will also be required

E. IWPC NEXT STEPS: STORAGE ALTERNATIVES FORMULATION AND RANKING

- Additional investigation is needed for all alternatives
- Time and funding are limited, so ranking and prioritization are needed
- For example, a viable path forward might include:
  1. Continue working with USACE on Lake Mendocino study (which maximizes regional storage) with regular check-ins;
  2. Select one surface storage option for investigation; and
  3. Pursue pond storage plus conjunctive use alternative as the lowest cost alternative

FOR MORE INFORMATION:

Mendocino County Inland Water and Power Commission
https://mendoiwpc.com/

Eel Russian Project Authority
https://www.eelrussianauthority.org/

Sonoma County Water Agency
https://www.sonomawater.org/pvp

THANK YOU FOR ATTENDING

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