Water Supply & Fisheries Working Group
June 21, 2023

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Deputy Chief Engineer
Sonoma County Water Agency

Russian River Reservoirs

Dual Purpose Facilities

- Flood Protection (ACOE)
- Water Supply (SCWA)
- Operations Dictated by Storage Levels Relative to "Rule Curve"

Lake Mendocino (Coyote Valley Dam)

Flood Control Pool: 48,100 AF

Water Supply Pool:

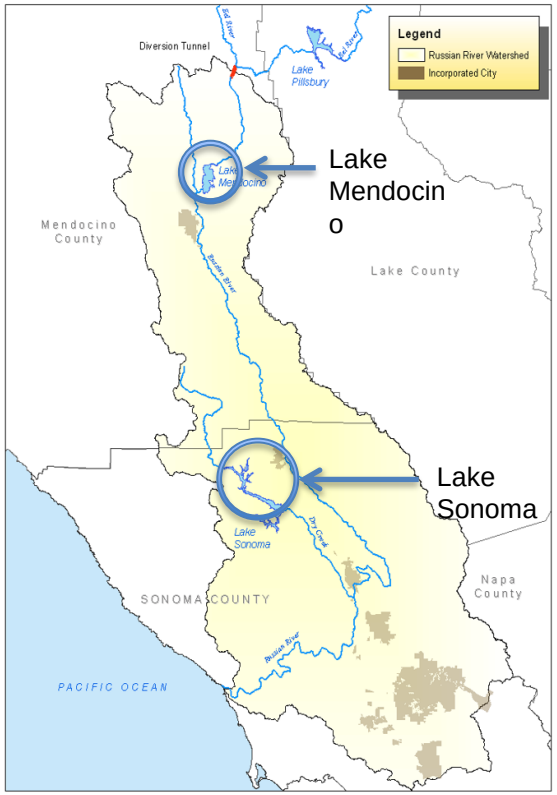
Nov. – March 68,400 AF

May – October 111,000 AF

Lake Sonoma (Warm Springs Dam)

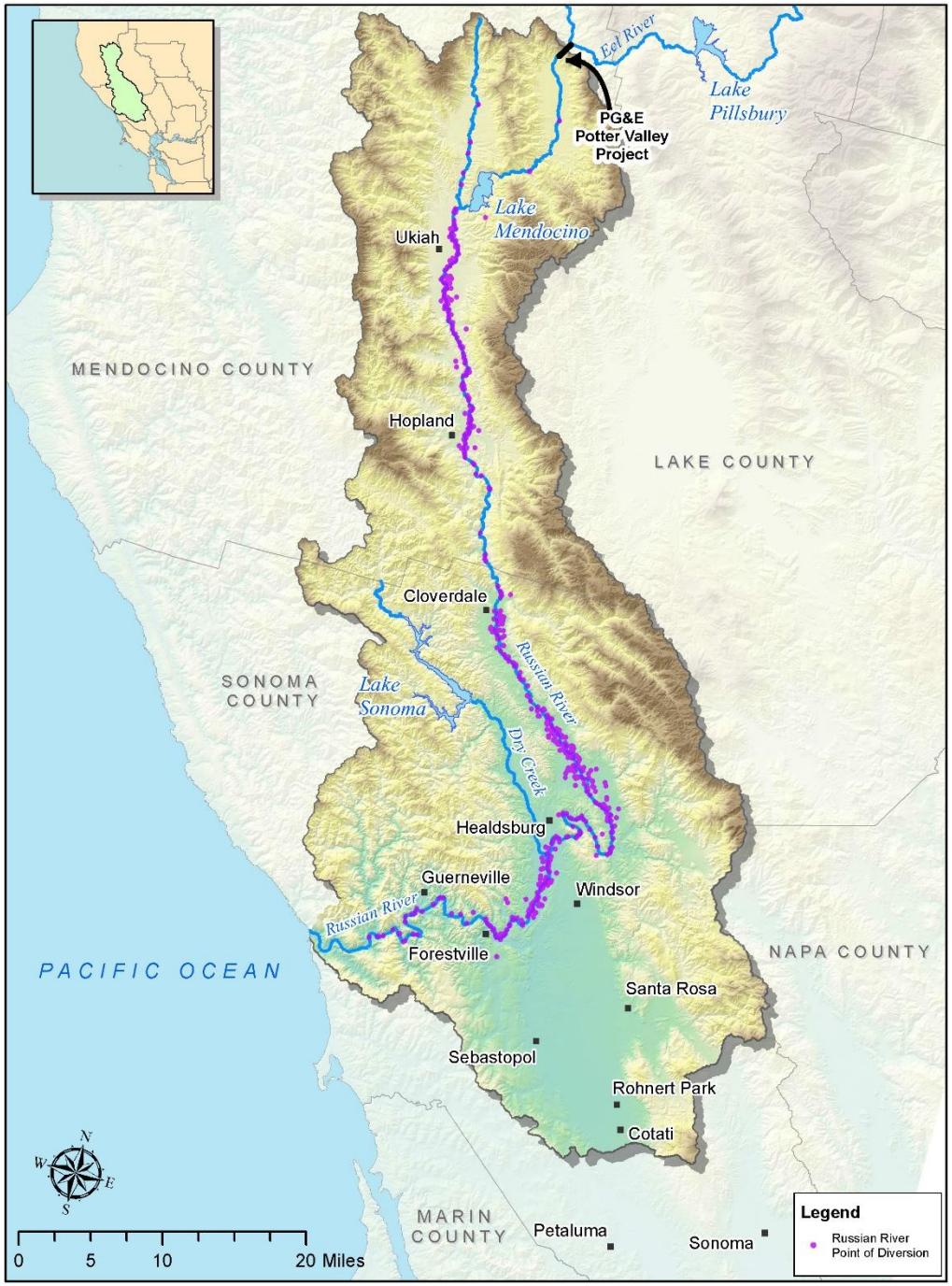
Flood Control Pool:136,000 AF

Water Supply Pool: 245,000 AF

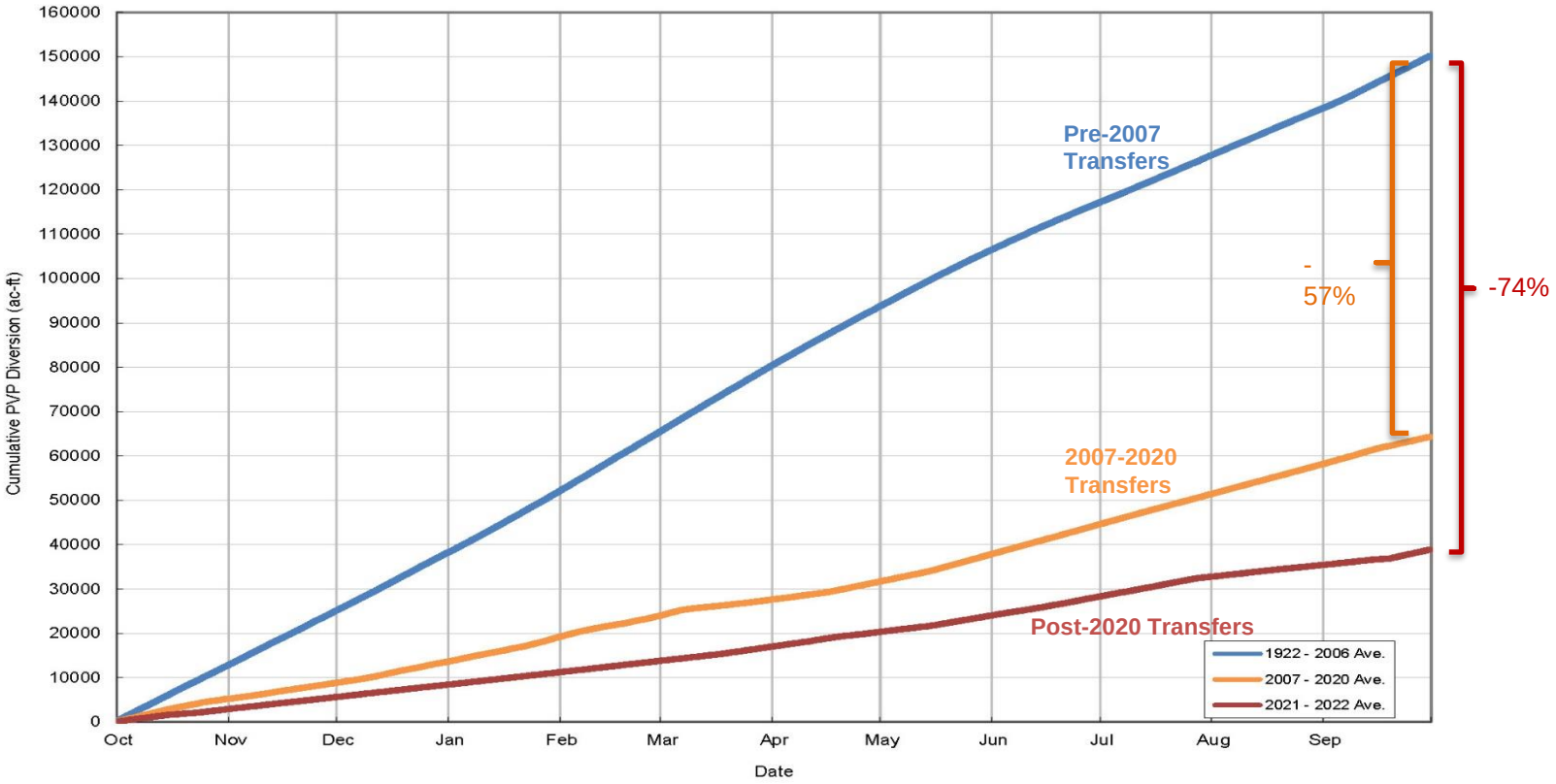


Priority Analysis of Lake Mendocino Releases

	Downstream Water Rights by Priority	Pass-throuh, Natural Flow	Pass-through, Import Water (PVP)	Storage Releass (Project Water)	Notes
(a)	Riparian	1			
(b)	Pre-1914	2	1		
(c)	Pre-1949 (Post-1914)	3	2		
(d)	Sonoma Water Permit 12947A	4	3	1	SW has lower priority than (e) and (f) of project water if export out of Russian River watershed
(e)	Mendocino RRFCWCID License 13898	4	3	1	
(f)	Post-1949 Mainstem, Sonoma County	5	4	2	Have access to Sonoma County 10k-afa Reservation
(g)	Post-1949 Mainstem, Mendocino County	5	4		

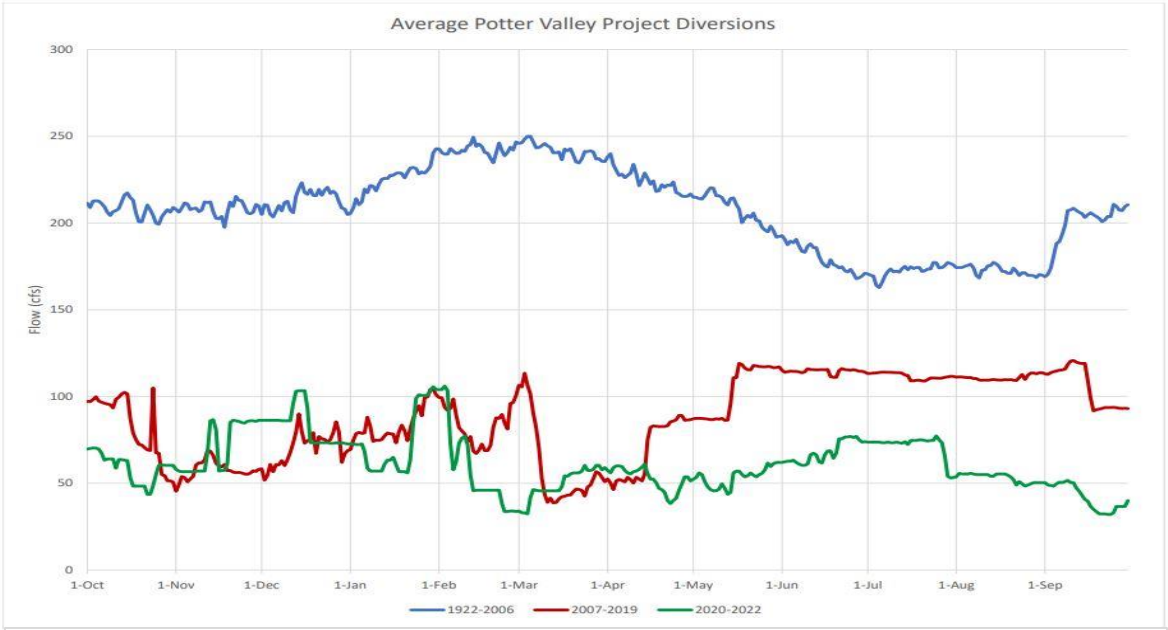

Eel River
Lake Pillsbury
PG&E Potter Valley Project
Lake Mendocino
Ukiah
MENDOCINO COUNTY
Hopland
LAKE COUNTY
Cloverdale
Russian River
SONOMA COUNTY
Lake Sonoma
Dry Creek
Healdsburg
Guerneville
Windsor
Russian River
Forestville
NAPA COUNTY
PACIFIC OCEAN
Santa Rosa
Sebastopol
Rohnert Park
Cotati
MARIN COUNTY
Petaluma
Sonoma
N
W
E
S
0
5
10
20 Miles
Legend
Russian River Point of Diversion

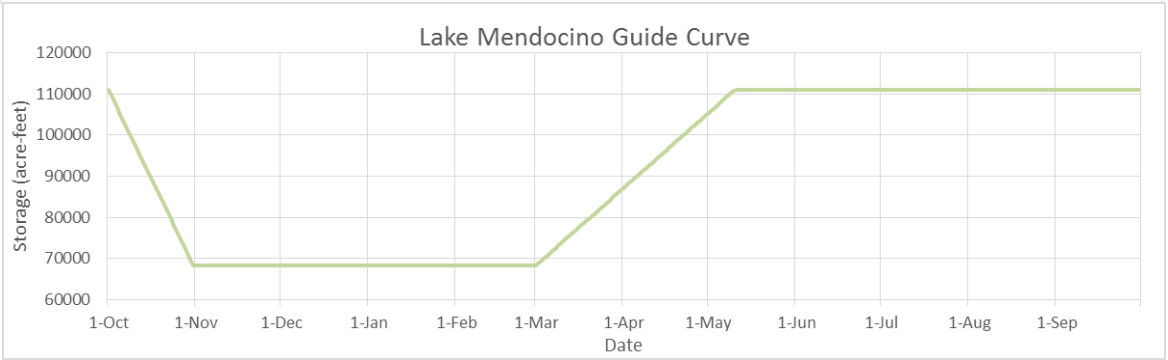
Reduced Potter Valley Project Diversions



Month (Oct-Sep)

Reduced Potter Valley Project Diversions





POTTER VALLEY PROJECT HUFFMAN AD-HOC COMMITTEE WATER SUPPLY WORKING GROUP

RESULTS OF INITIAL WATER SUPPLY MODELING FOR POTTER VALLEY PROJECT AND RUSSIAN RIVER ALTERNATIVES

Prepared by the Water Supply Modeling Subgroup:

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Andres Ticlavilca (NMFS)

Prepared for: Water Supply Working Group May 22, 2019
Updated February 20, 2022

Water Supply Scenarios

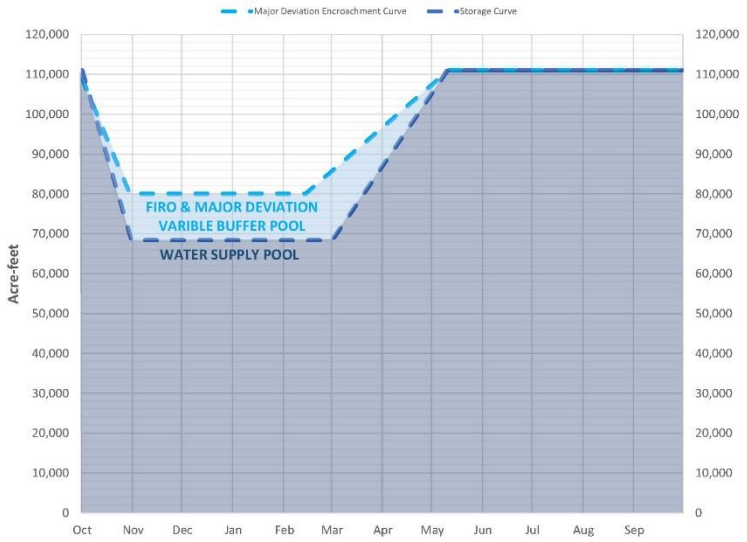
- Scenario 1
  - Project Decommissioned
  - Russian River flows based on Fish Flow Project
  - Lake Mendocino Operations based on FIRO
- Scenario 2
  - Scott Dam Removed
  - Seasonal PVP Diversions
  - Russian River flows based on Fish Flow Project
  - Lake Mendocino Operations based on FIRO

		Russian River & Lake Mendocino Alternatives		
Modeling Scenarios		Current Operations	Lake Mendocino FIRO (Hybrid) with Fish Flow EIR Operations[5]	Raise Coyote Valley Dam[6]
Potter Valley Project Alternatives	Current Operations[1]	Baseline: Existing Climate (n=1) Baseline FC: Future Climate (n=4)		
	PVP Revised Operations[2]	Scenario 4: Existing Climate (n=1)	Scenario 4B: Existing Climate (n=1)	
	Run-of-the-River[3]		Scenario 2: Existing Climate (n=1) Scenario 2FC: Future Climate (n=4)	
	PVP Decommission[4]	Scenario 1: Existing Climate (n=1)	Scenario 3: Existing Climate (n=1)	Scenario 5: Preliminary analysis, Existing Climate

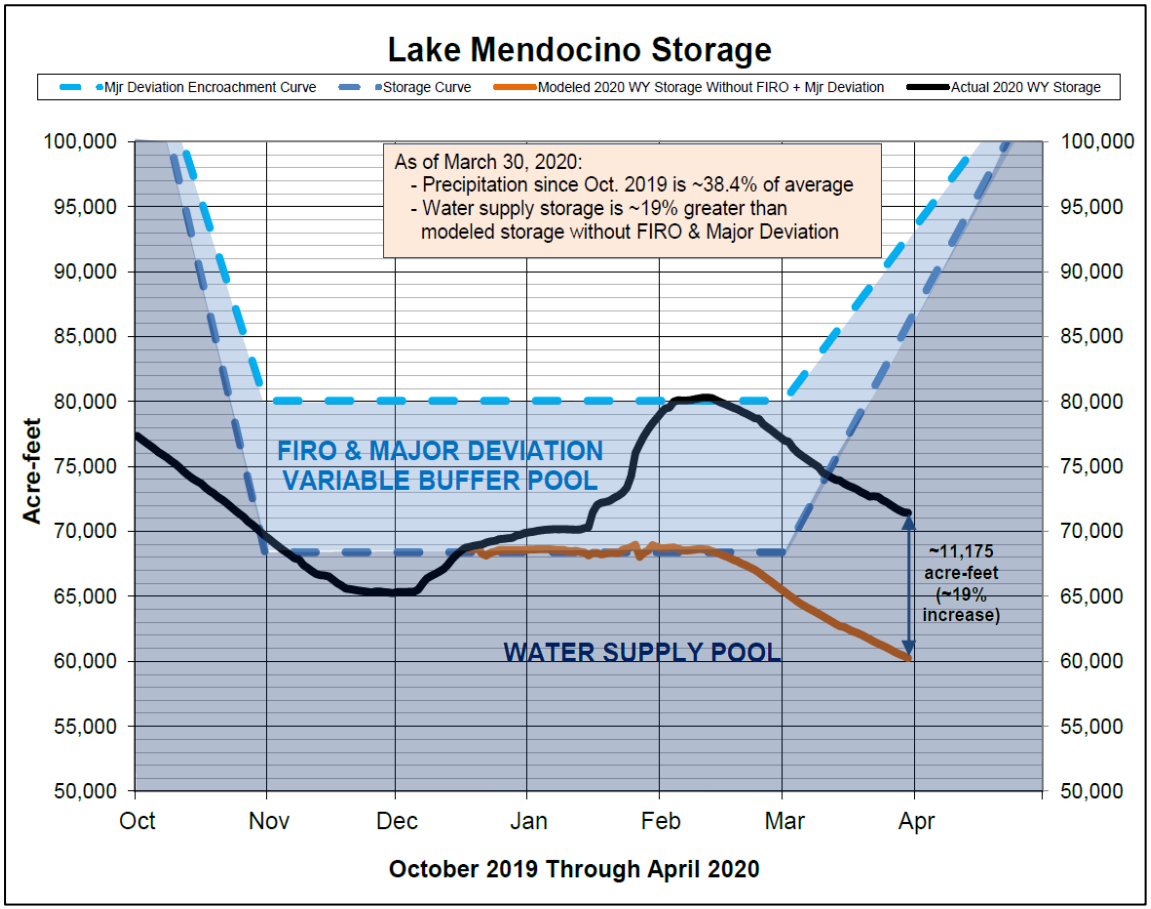
Run of the River Inter-Basin Transfer

Huffman Ad Hoc Modeling Assumptions

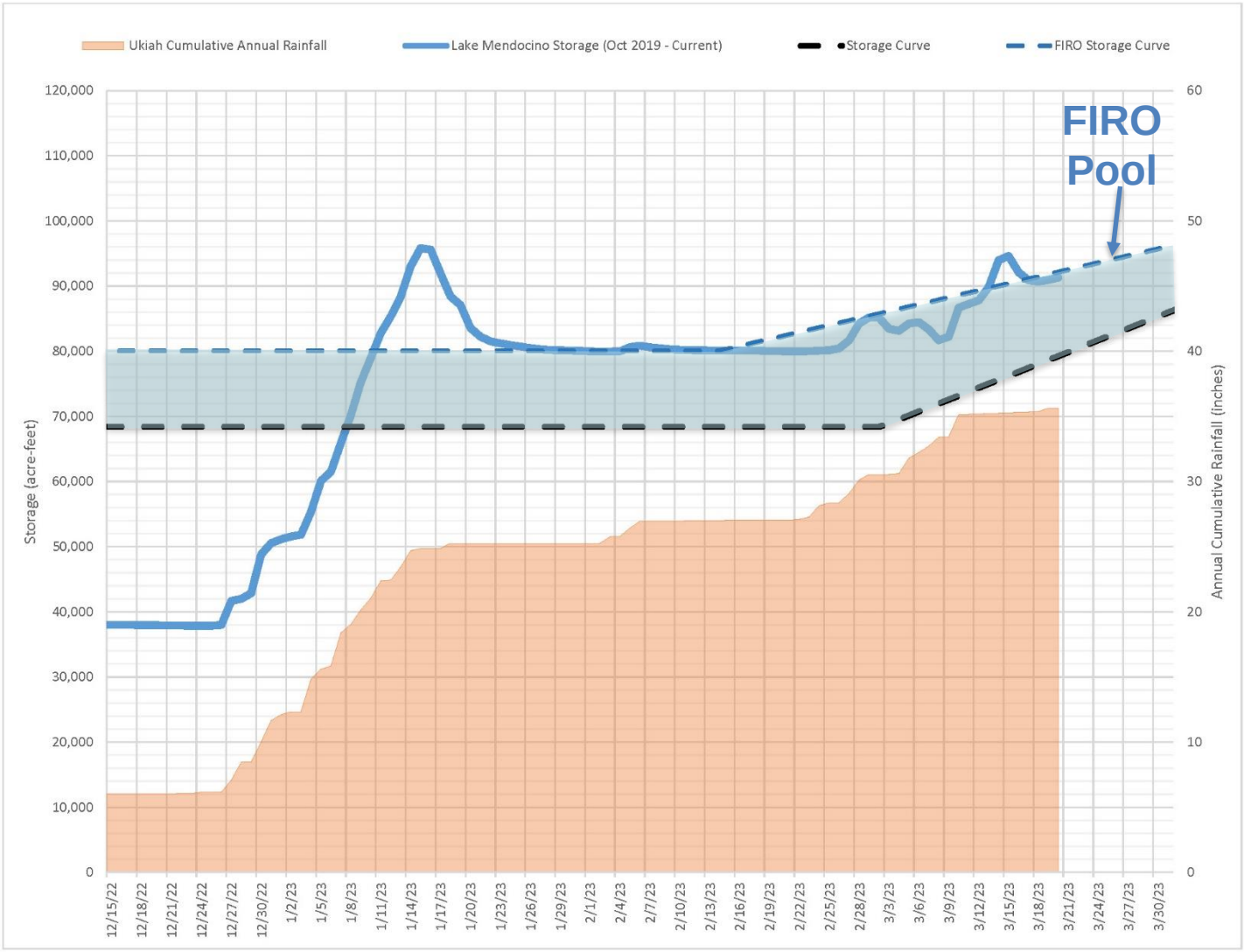
- Eel River imports can occur when 2002, PVP BO RPAs are being met
- Forecast Informed Reservoir Operations at Lake Mendocino
- SWRCB has issued and order approving Sonoma Water's change petitions associated with the Fish Habitat Flows and Water Rights Project



Lake Mendocino – Major Deviation WY 2020



Lake Mendocino Storage 12/15/2022 - 03/31/2023



PVP Decommissioned, No Inter-basin Transfer

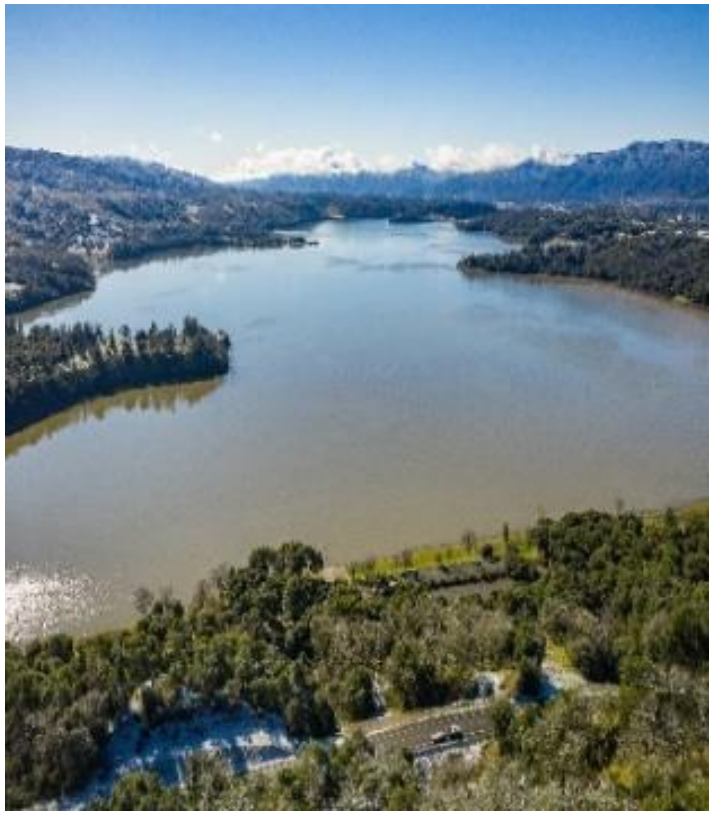
Key Modeling Results

- Average annual inflow 97,200 AF, approximately 44 percent less than baseline
- Average low storage level 12,100 AF, approximately 73 percent lower than baseline
- Number of years Lake Mendocino drains 53, approximately 5,200 percent more than baseline
- Average June – Sept. flows at Cloverdale 110 cfs, approximately 27 percent less than baseline

Inter-basin Transfer with Run of the River

Key Modeling Results

- Average annual inflow 179,000 AF, approximately the same as baseline
- Average low storage level 45,100 AF, approximately the same as baseline
- Number of years Lake Mendocino drains 1, same as baseline
- Average June – Sept. flows at Cloverdale 130 cfs, approximately107 percent less than baseline (this is a result of the reduced minimum instream flows under the Fish Flow Project)



Summary