

Staff Report

for the Board of Directors Meeting of March 10, 2021

TO: Board of Directors

FROM: Chip Close, Water Operations Manager

DATE: February 25, 2021

SUBJECT: Water Supply Update / Surplus Water Declaration

OPERATIONS

RECOMMENDATION:

Receive an update on current & forecasted water supply conditions and make a declaration of surplus water availability for the 2021 irrigation season.

BACKGROUND:

Prior to the start of irrigation season, the District reviews forecasted water availability for the coming summer months. The forecast includes current storage as well as anticipated snowpack run off based on snow survey data. The data analysis determines whether the District anticipates enough supply for full deliveries, or whether a water shortage contingency plan will be enacted.

Part of the summer water availability analysis includes a determination if surplus water supply is expected. In years where a surplus of water exists, the District, per CA Water Code Chapter 3.6 Section 383, can sell the surplus supply to customers outside the District's boundary. Historically, the District has provided surplus water service to roughly 35 local outside District customers in an annual contract. In addition, the City of Grass Valley and the City of Nevada City are outside District customers supplied via long-term surplus water supply agreements. (Per Board direction in 2005, the District will no longer accept new outside District customers, but will honor these existing accounts.)

The current and forecasted water supply portfolio is as follows:

District reservoir storage as of March 1st is 177,000 AF, which is 83% of average for this time of year. The forecasted April – July runoff from the Department of Water Resources for the Yuba River basin currently sits at 68% of average, which correlates to approximately 84,800 AF in expected NID watershed runoff. PG&E anticipates having water available to purchase per the Coordinated Operating

Agreement, but does not have an estimated amount at this time. Given the lack of specific PG&E numbers, Staff has performed the water availability analysis without it.

When taken in total, the water supply information above indicates a forecasted available water supply of 261,800 AF. This is in excess of the 235,700 AF necessary for a normal year as established in the Districts Drought Contingency Plan. The excess available supports a declaration of surplus for the 2021 irrigation season.

Although surplus exists, the dry conditions and the projection of below average carryover of 146,100 AF vs 166,700 AF at the end of water season mean that staff will be asking for increased conservation throughout the remainder of 2021.

The declaration of surplus water is in line with District Strategic Plan Goal number three: "Developing and managing our resources in a self-determining manner protects and provides for local control of our community's most valuable assets – a fairly priced and available water supply."

BUDGETARY IMPACT:

A declaration of available surplus will provide an increase in water sales revenue. The fee for outside District customer sales includes a 25% increase to offset the lack of tax revenue contributions from out of District parcels. The estimated revenue in water sales from surplus customers for the 2021 irrigation season is shown below:

Outside District Customers

16 Customers Fixed Fee Outside District	(16 X \$713.73) = \$11,419.68
17 Miners Inches @ Outside District Rate	(17 X \$420.61) = \$7,150.37
	<u>Total = \$18,570.05</u>

Outside District Municipal Customers

City of Grass Valley R/W Usage (Based on 2020 demand)
Base Rate + Per Acre Feet (\$713.73 + (\$370.99 X 842.25 AF) = \$313,180.06

City of Grass Valley T/W Usage (Based on 2020 demand)
Base Rate + Per Acre Feet (\$1,833.40 + (\$851.60 X 85.9 AF) = \$74,985.84

City of Nevada City R/W Usage (Based on 2020 demand)
Base Rate + Per Acre Feet (\$713.73 + (\$370.99 X 506.75 AF) = \$188,712.91
Total Municipal Sales = \$576,878.81

Total Estimated Surplus Sales (\$18,570.05 + \$576,878.81) = \$595,448.86

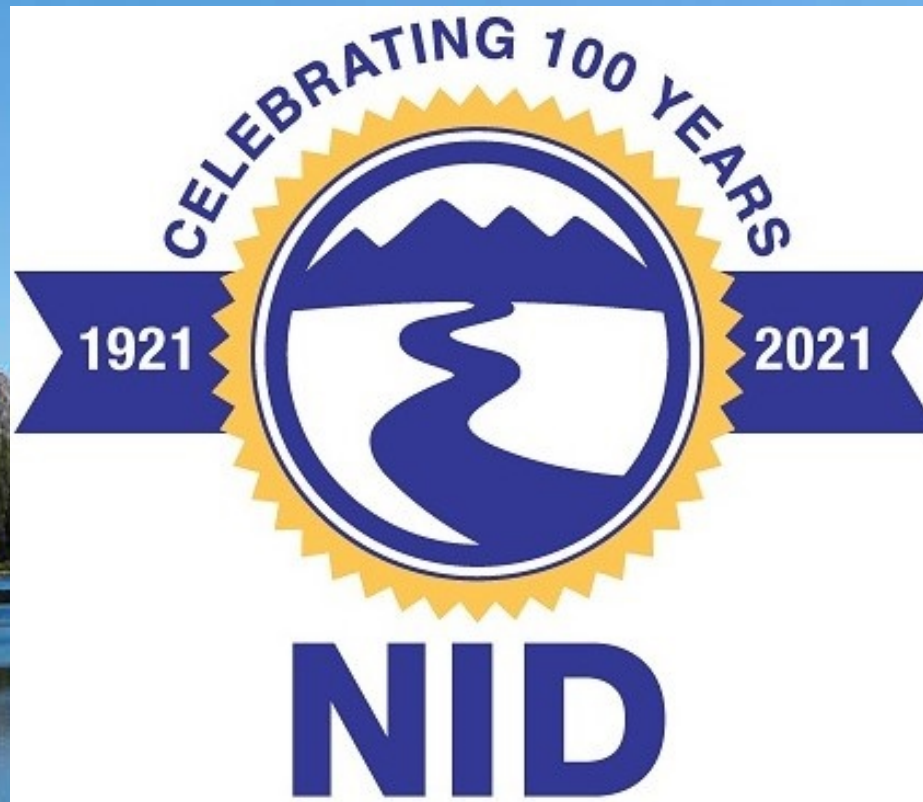
/ac

Attachment (1):

- Water Supply PowerPoint

NID Water Supply Update

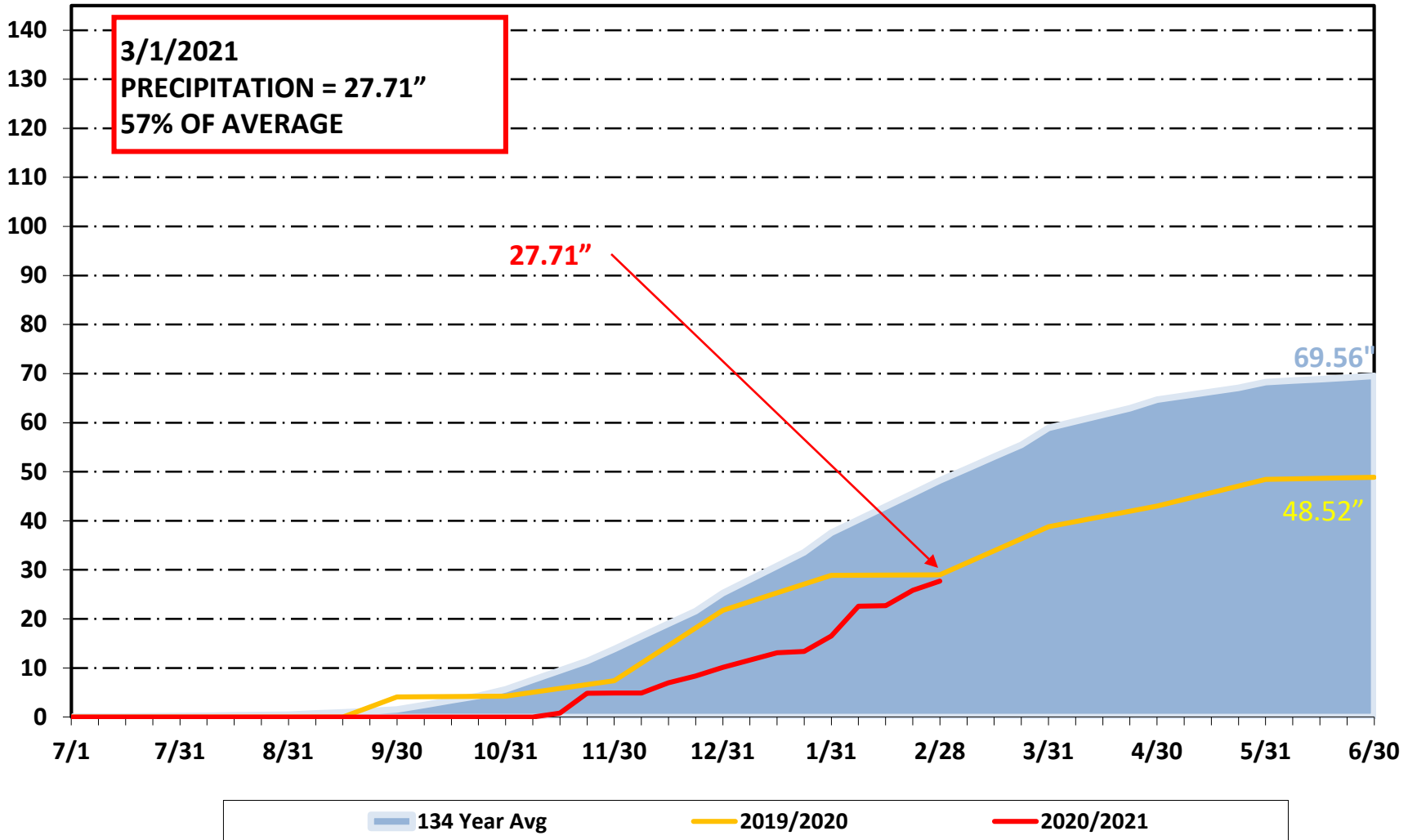
March 10, 2021



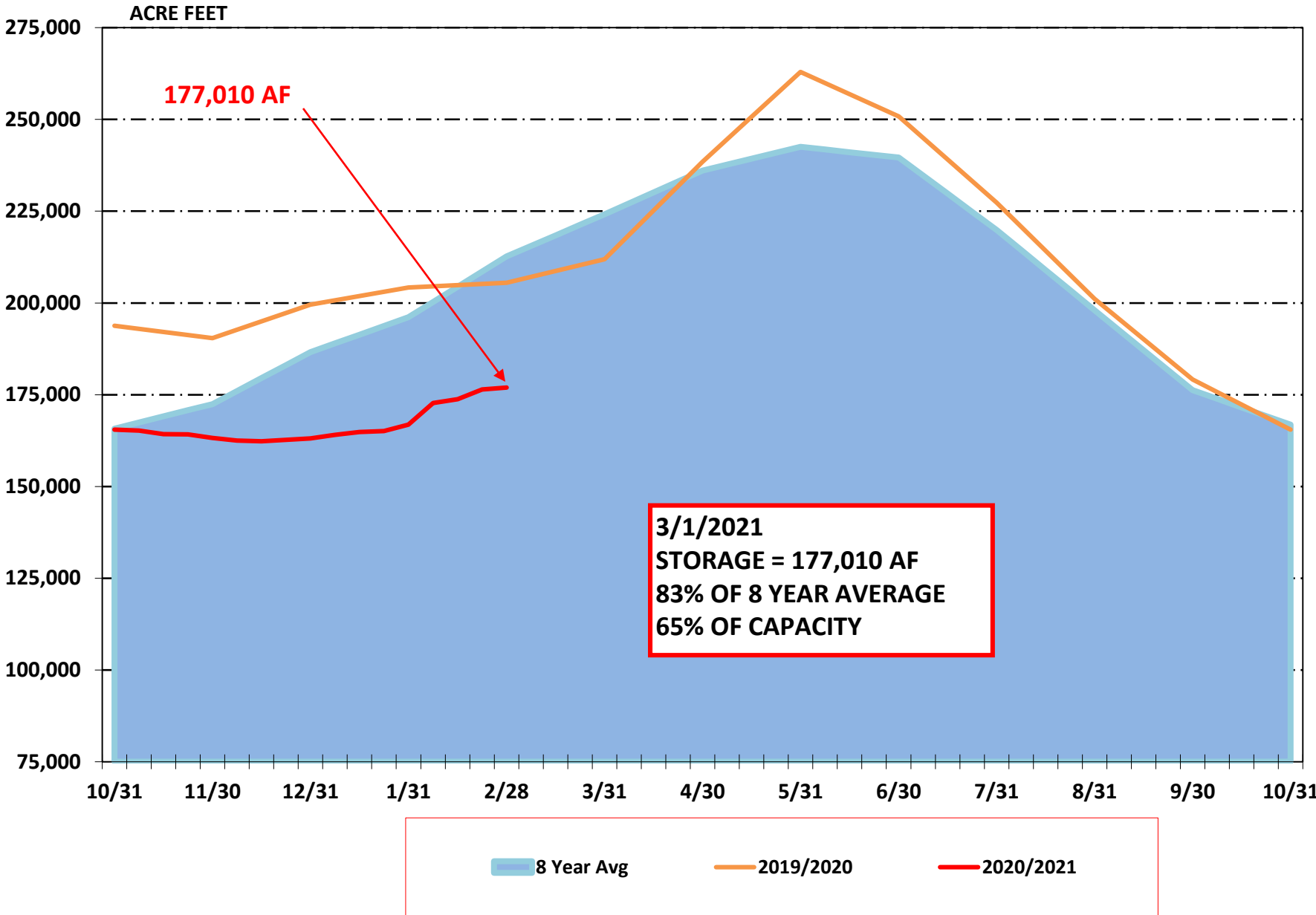
Proudly serving portions of Nevada, Placer, and Yuba Counties

BOWMAN LAKE PRECIPITATION

INCHES

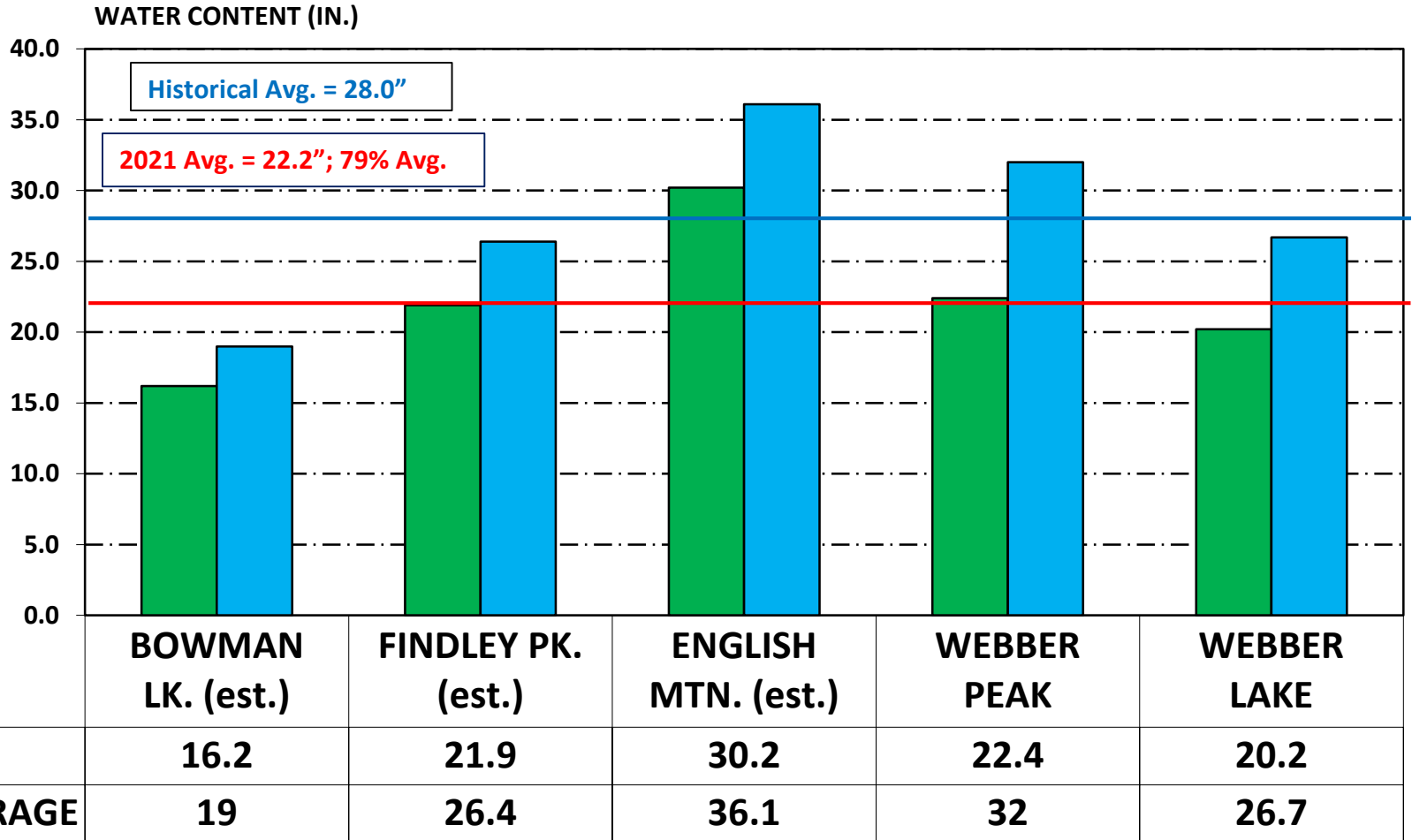


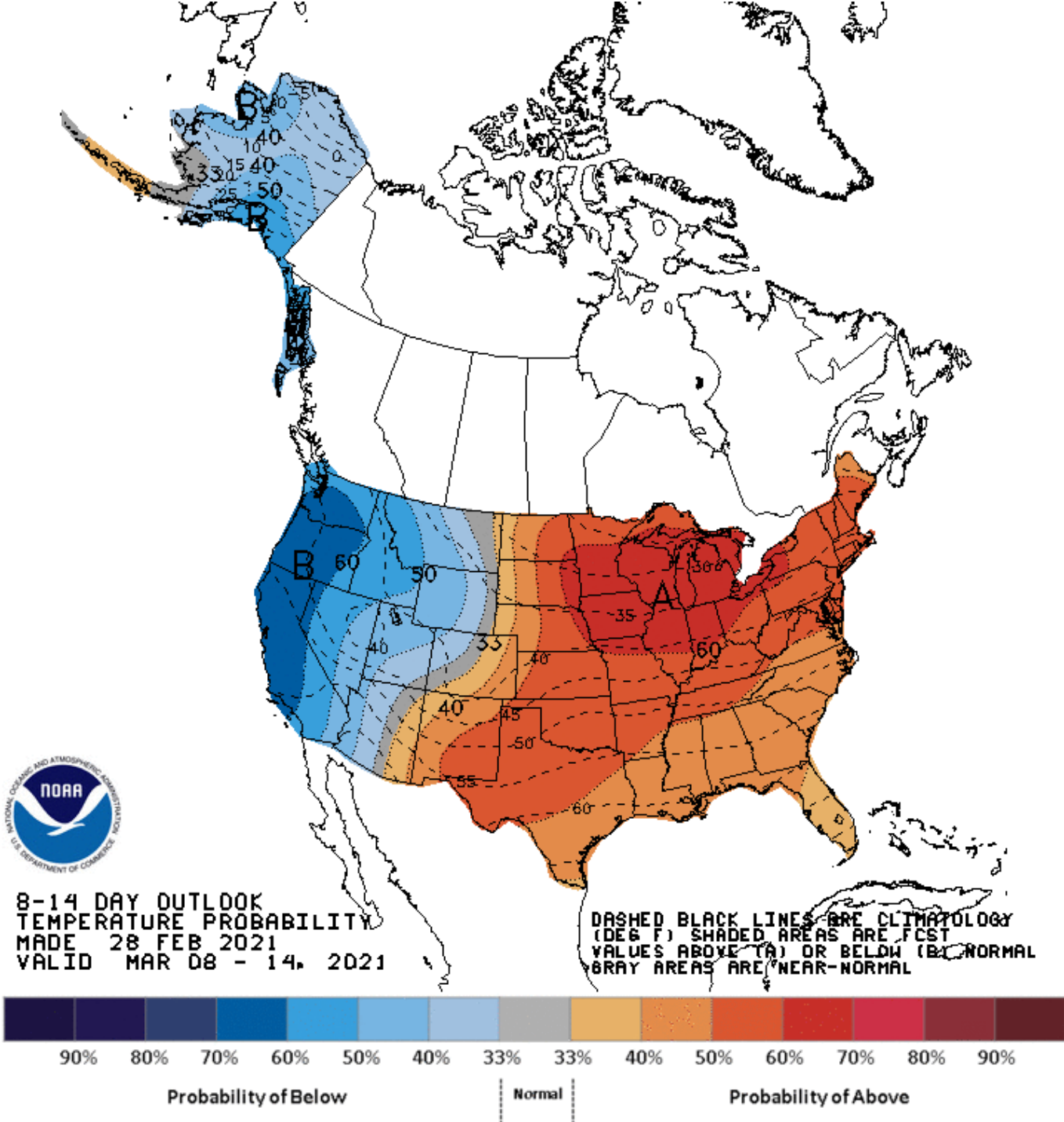
NID RESERVOIR STORAGE



NID SNOW SURVEY

MARCH 1, 2021

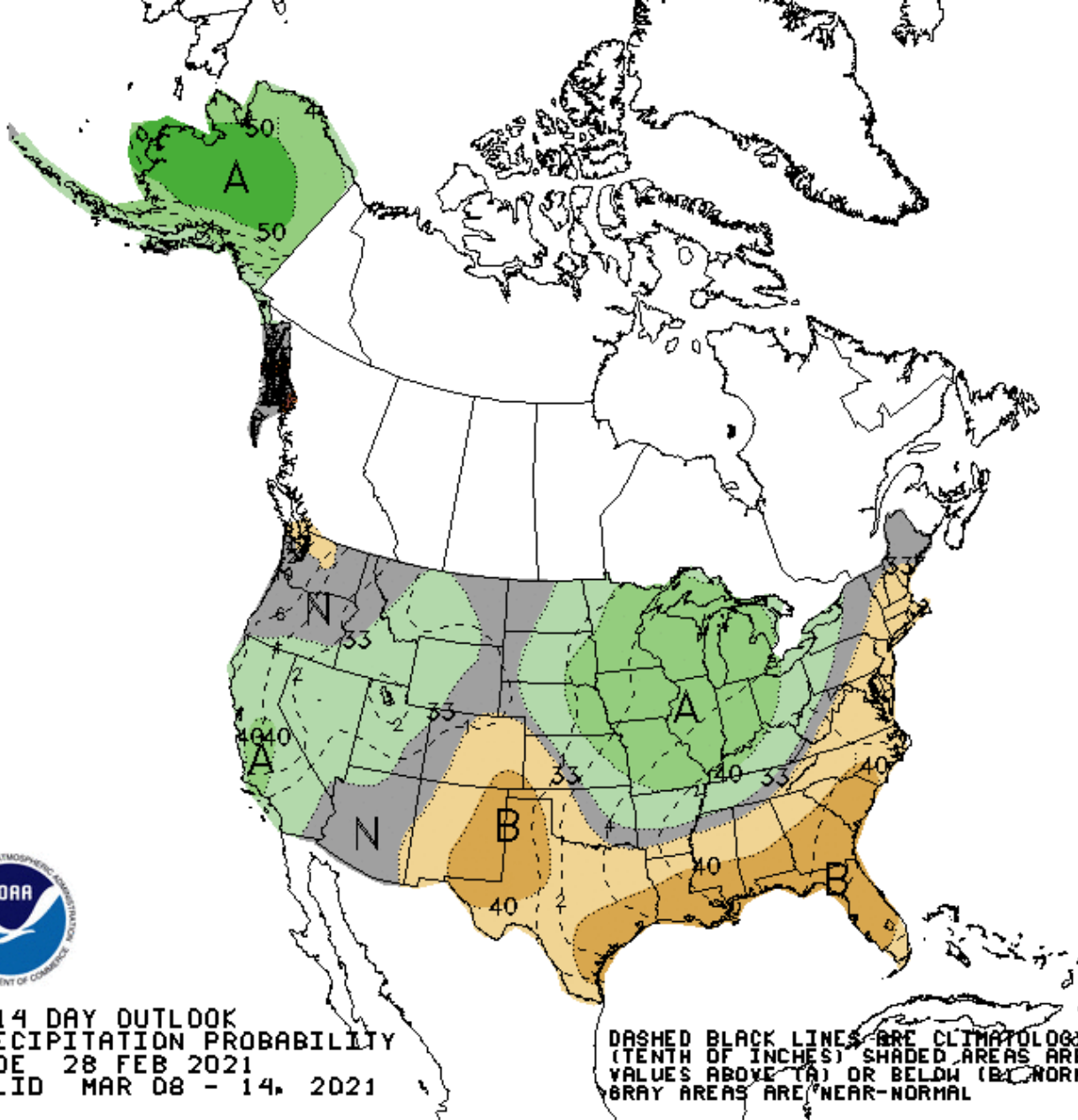
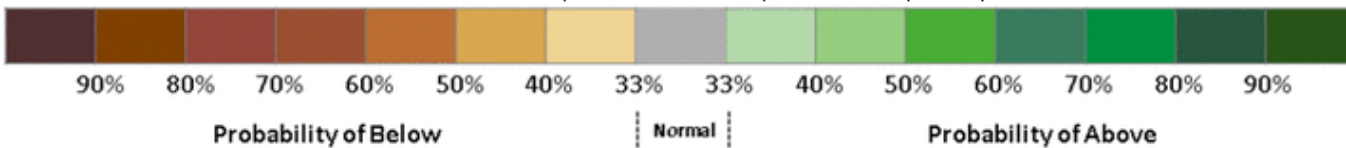






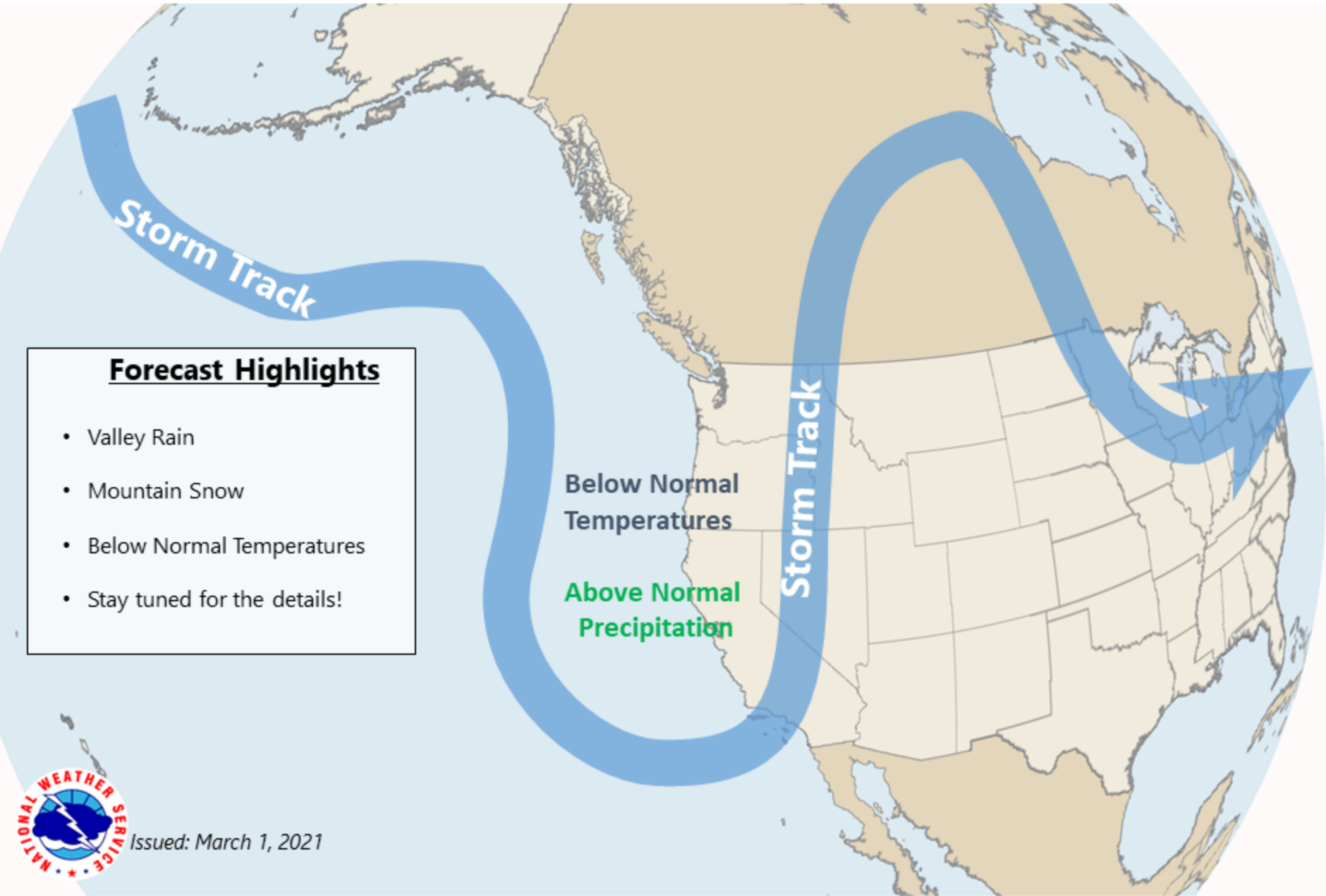
8-14 DAY OUTLOOK
PRECIPITATION PROBABILITY
MADE 28 FEB 2021
VALID MAR 08 - 14, 2021

DASHED BLACK LINES ARE CLIMATOLOGY
(TENTH OF INCHES) SHADED AREAS ARE FCS
VALUES ABOVE (A) OR BELOW (B) NORMAL
GRAY AREAS ARE "NEAR-NORMAL"



Wetter & Cooler Weather Pattern

March 6-10, 2021

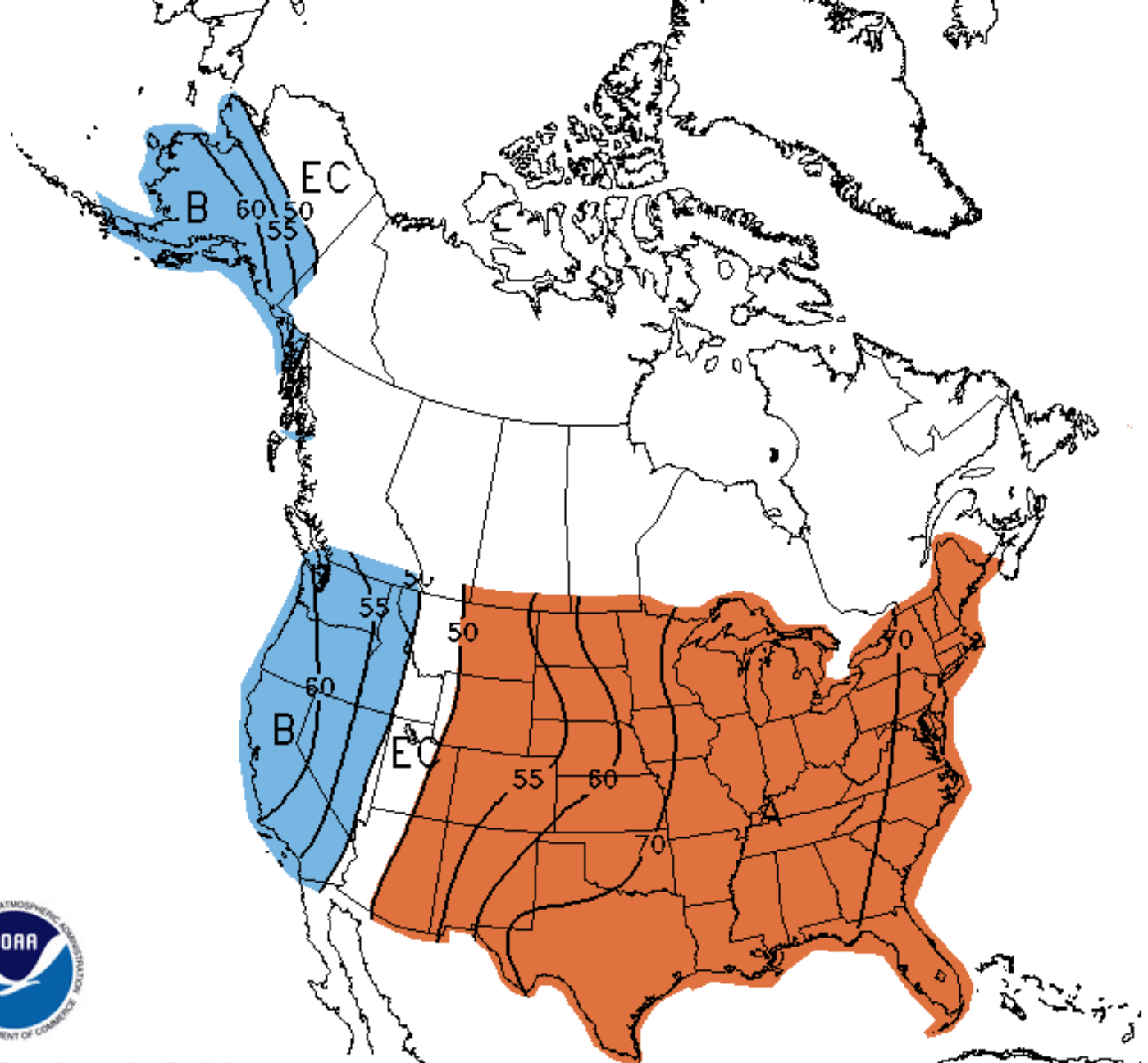


Forecast Highlights

- Valley Rain
- Mountain Snow
- Below Normal Temperatures
- Stay tuned for the details!

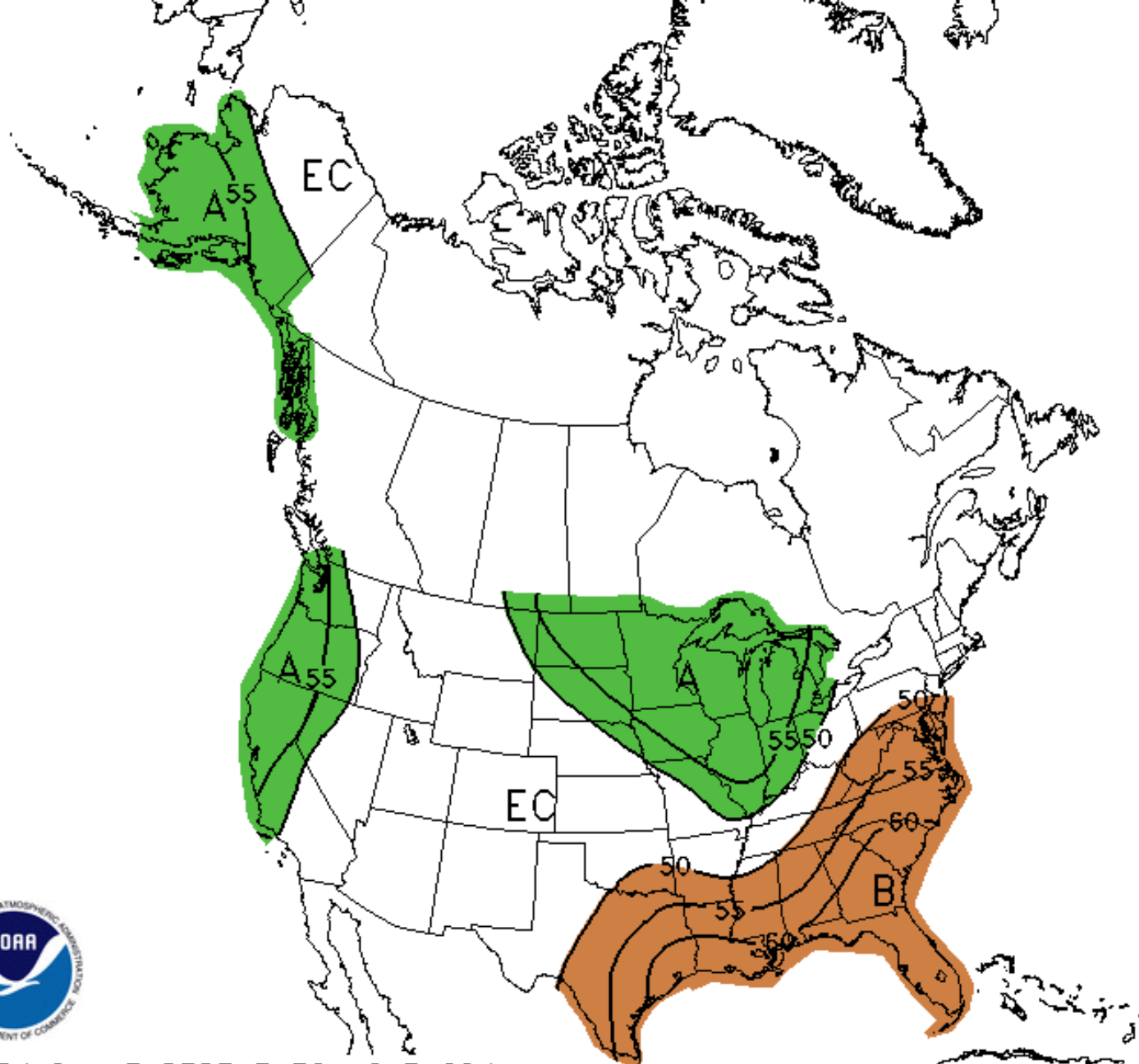


Issued: March 1, 2021



WEEK 3-4 OUTLOOK
 TEMPERATURE PROBABILITY
 MADE 26 FEB 2021
 VALID MAR 13 - 26, 2021

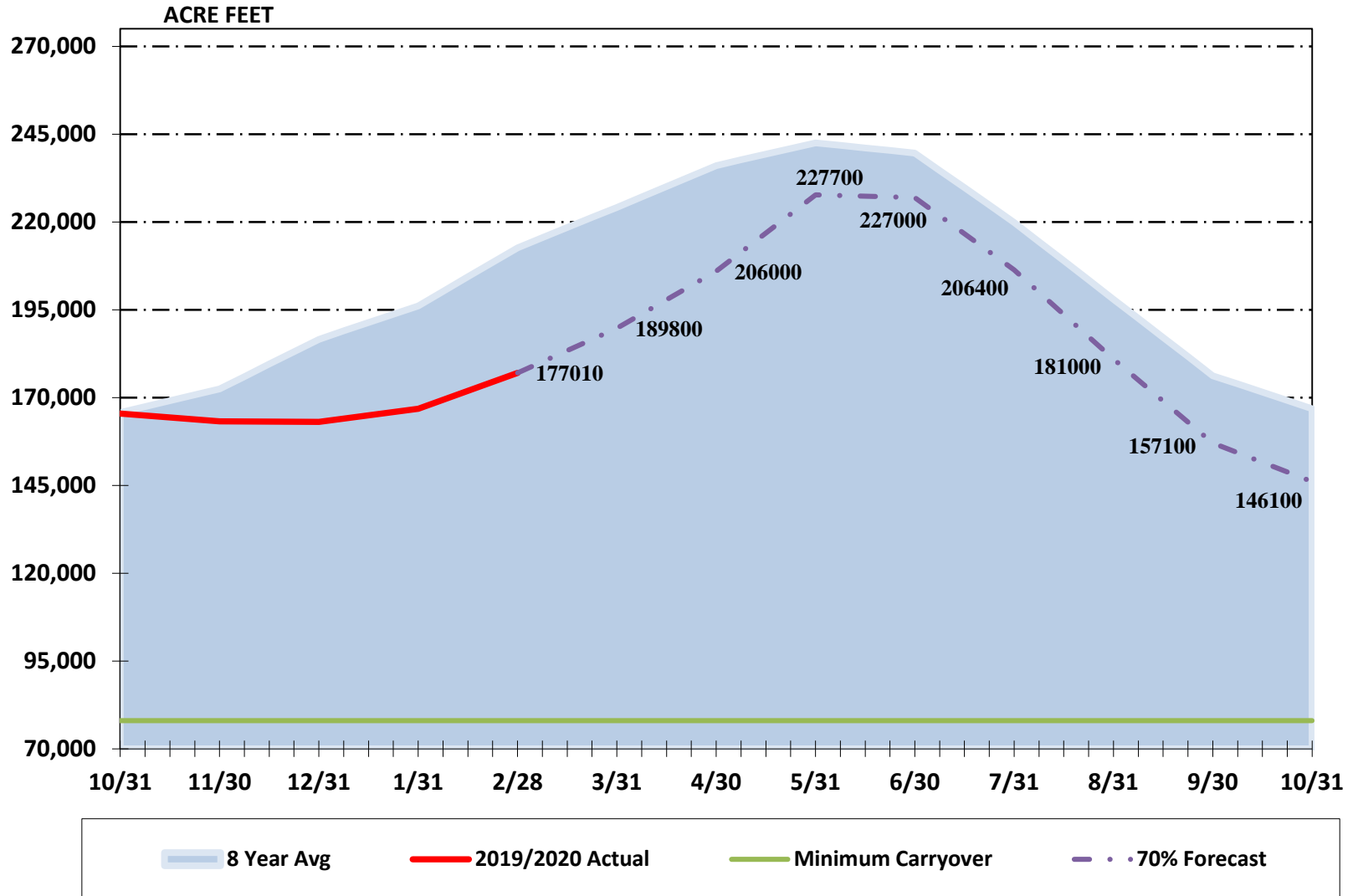
EC MEANS 50/50 CHANCES
 FOR ABOVE OR BELOW
 A MEANS ABOVE NORMAL
 B MEANS BELOW NORMAL



WEEK 3-4 EXPERIMENTAL OUTLOOK
PRECIPITATION PROBABILITY
 MADE 26 FEB 2021
 VALID MAR 13 - 26, 2021

EC MEANS 50/50 CHANCES
 FOR ABOVE OR BELOW
 A MEANS ABOVE NORMAL
 B MEANS BELOW NORMAL

2021 STORAGE FORECAST



Prepping for Dry Year Operations

- NID Operations

- Normal water year requires 235,700 ac/ft available
 - Currently @ 177,000
 - Snow surveys show 79% of average
 - DWR April – July runoff anticipates 68% of average runoff on Yuba River @ Smartsville gage (50% exceedance)
 - This correlates to an estimated 84,800 ac/ft in NID watershed runoff
 - Total available water supply is 261,800 ac/ft (normal year operations)
 - More winter to come
- Dry year actions
 - Shoulder season operations will not occur this year
 - Fall & Winter water will not be offered early
 - Will wait until September to determine availability
 - Will run canals tight with extra patrols and tail-water checks

Water Availability Guidance

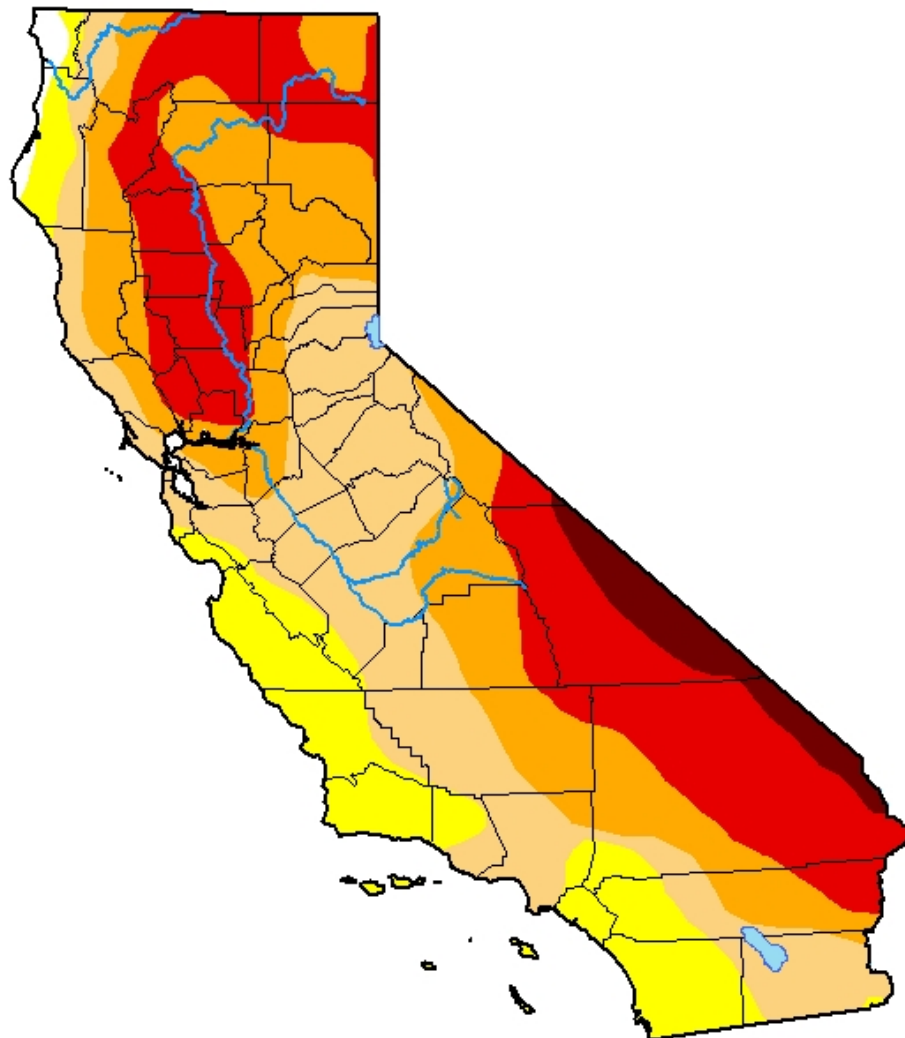
	Forecasted Available Supply April 1st	Demand Reduction Targets	Operational Changes	Rate Changes
Normal Operations	> 235,700	Encourage Conservation	Normal Operation	Standard Rates
Stage 1	235,700 to 205,700	10 – 20% Voluntary Usage Reduction	<ul style="list-style-type: none"> Leak repair receives higher priority Increase public outreach and drought awareness Target 75% of end of month October storage for carryover. 	Standard Rates
Stage 2	205,700 to 198,200	10 – 25% Mandatory Usage Reduction	<ul style="list-style-type: none"> Communicate mandatory reduction targets to retail customers Purchase of available Contract water to achieve a target carryover of 90,000 acre feet Distribution system flushing only for public health & safety Organize Drought Hardship Committee 	<ul style="list-style-type: none"> Implement Contract water purchase rates to reimburse the District for the costs associated with purchase of water above the 7,500 acre feet for normal operational needs. Charges to be reimbursed through the appropriate funding mechanisms. Water purchased will be utilized to meet carryover target.
Stage 3	198,200 to 175,700	25 - 40% Mandatory Usage Reduction	<ul style="list-style-type: none"> Purchase of available Contract water to achieve a target carryover of 80,000 acre feet 	<ul style="list-style-type: none"> Implement Contract water purchase rates Implement Conservation Rates as established in the Districts Rate Schedule
Stage 4	<175,700	> 40% Mandatory - Reductions - based on available allotment and target carryover.	<ul style="list-style-type: none"> Purchase full allotment of Contract water to achieve target carryover of 78,000 acre feet 	<ul style="list-style-type: none"> Implement Contract water purchase rates Implement Conservation Rates as established in the Districts Rate Schedule

Other Dry Year Challenges

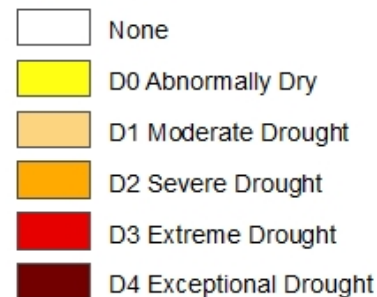
- Potential for State Actions
 - State may force drought actions based upon CVP & SWP Reservoirs
 - Last state drought actions were regardless of local reservoir conditions
 - State may require drought contingency plan activation
 - Could be a mandatory stage
 - Potential curtailment of water rights

U.S. Drought Monitor California

February 23, 2021
(Released Thursday, Feb. 25, 2021)
Valid 7 a.m. EST



Intensity:



The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. For more information on the Drought Monitor, go to <https://droughtmonitor.unl.edu/About.aspx>

Author:

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NOAA/NWS/NCEP/CPC



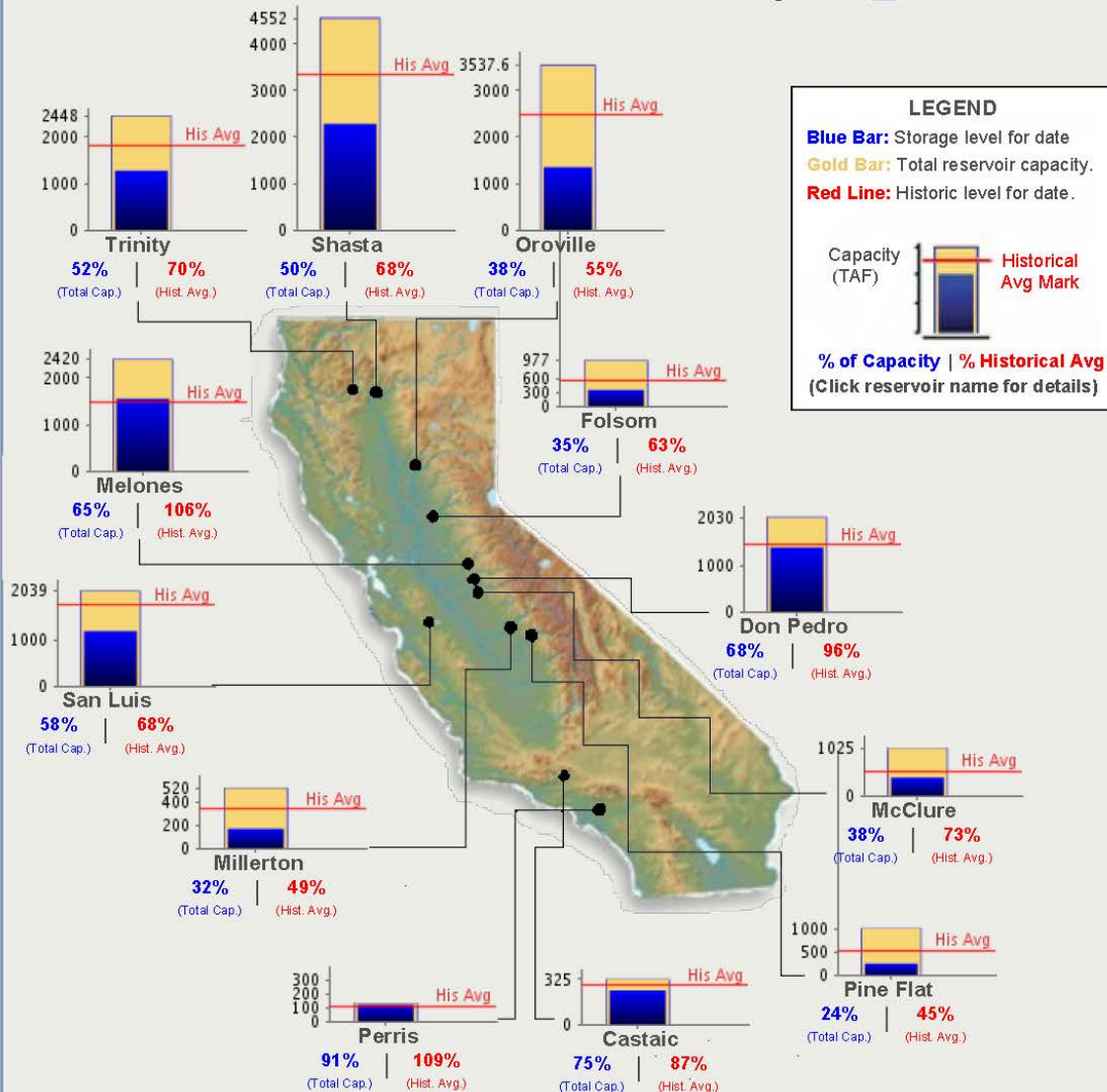
droughtmonitor.unl.edu

California Data Exchange Center - Reservoirs

CURRENT CONDITIONS FOR MAJOR RESERVOIRS: 01-MAR-2021

Data as of Midnight: 01-Mar-2021

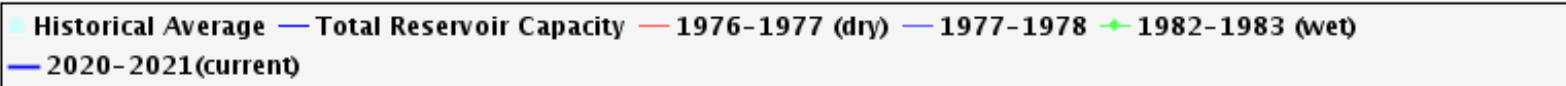
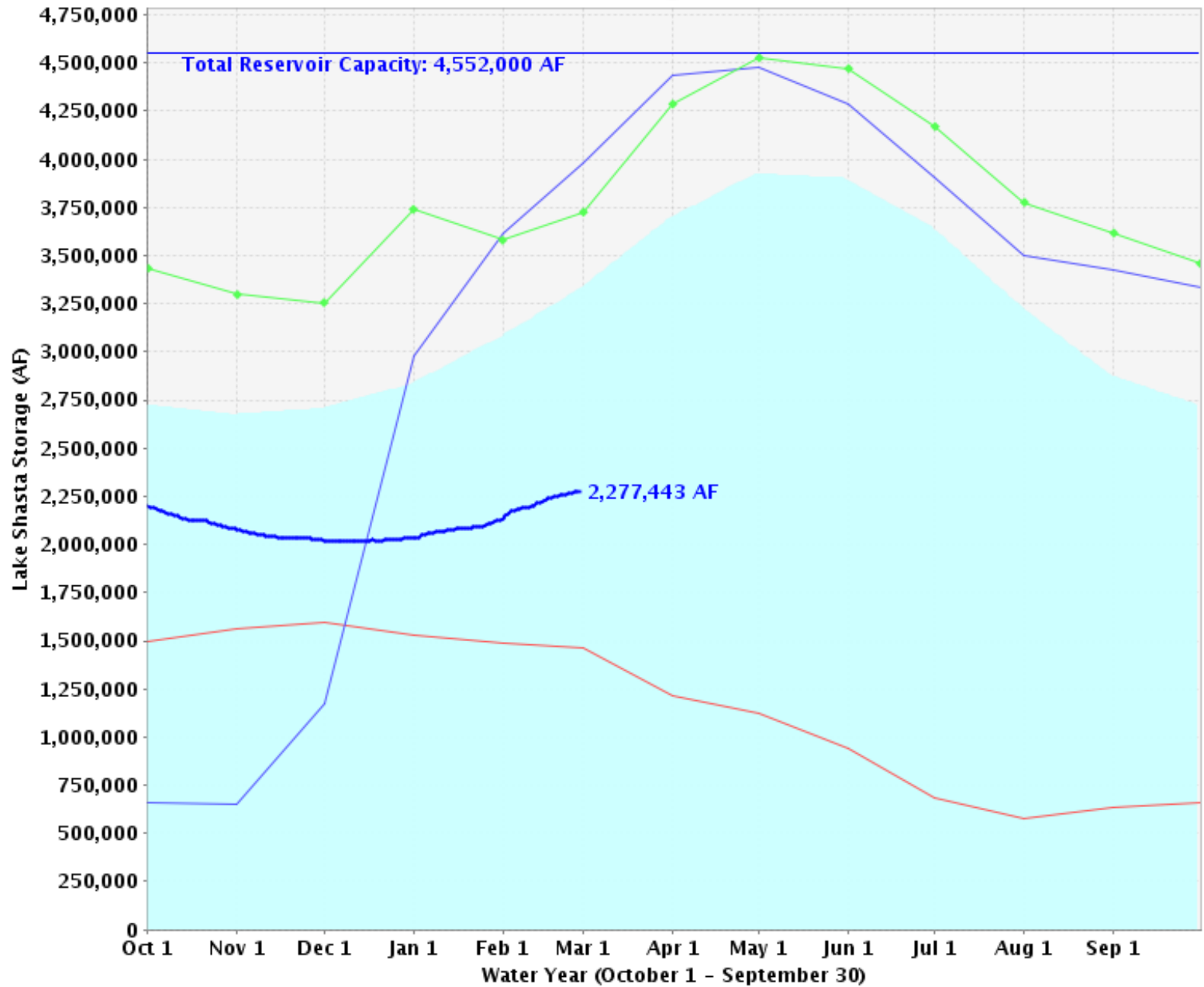
Change Date:



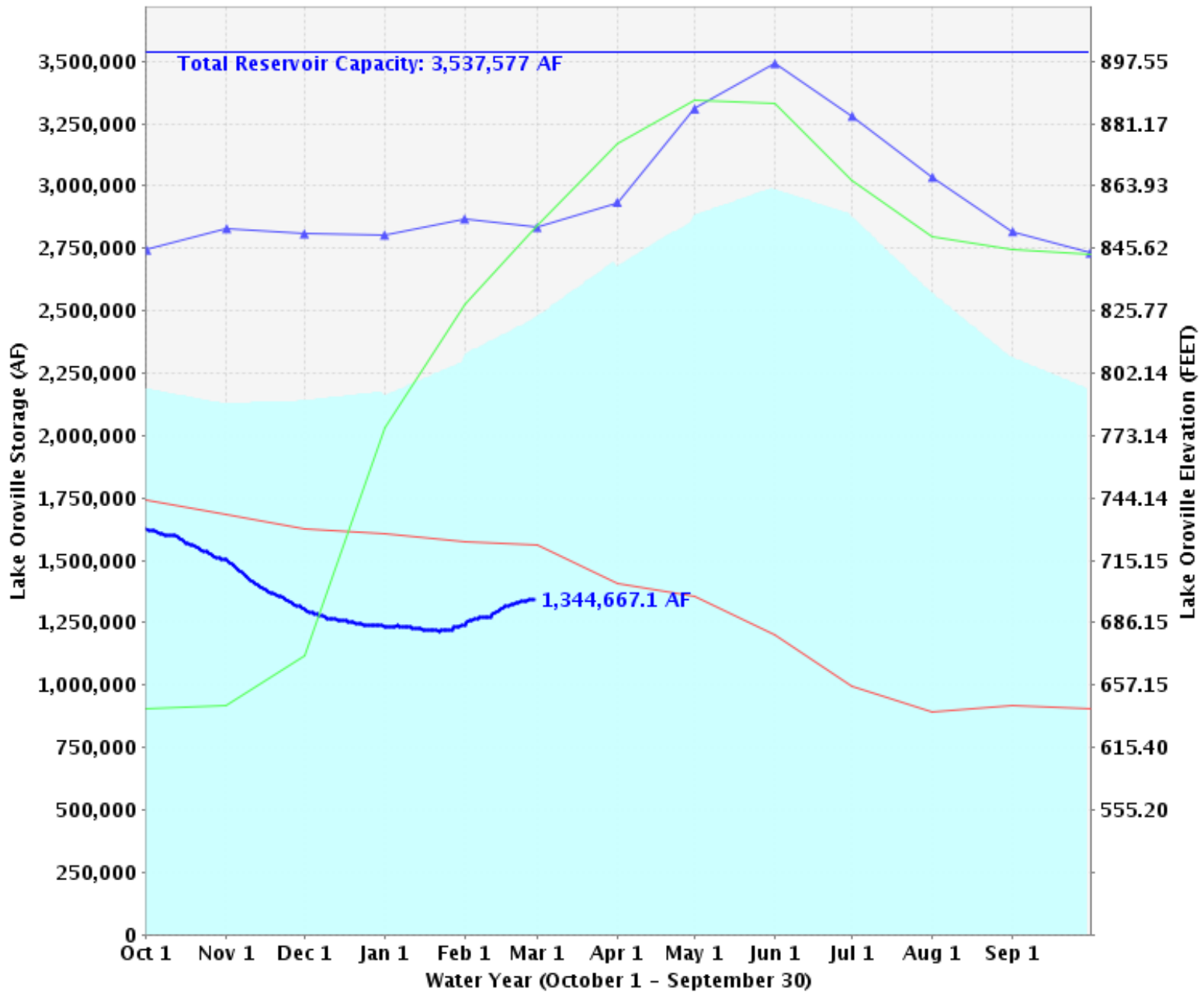
[Click for printable version of current data.](#)

Report Generated: 02-Mar-2021 8:57 AM

Lake Shasta Storage Levels

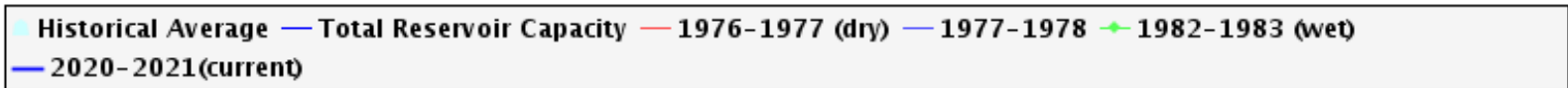
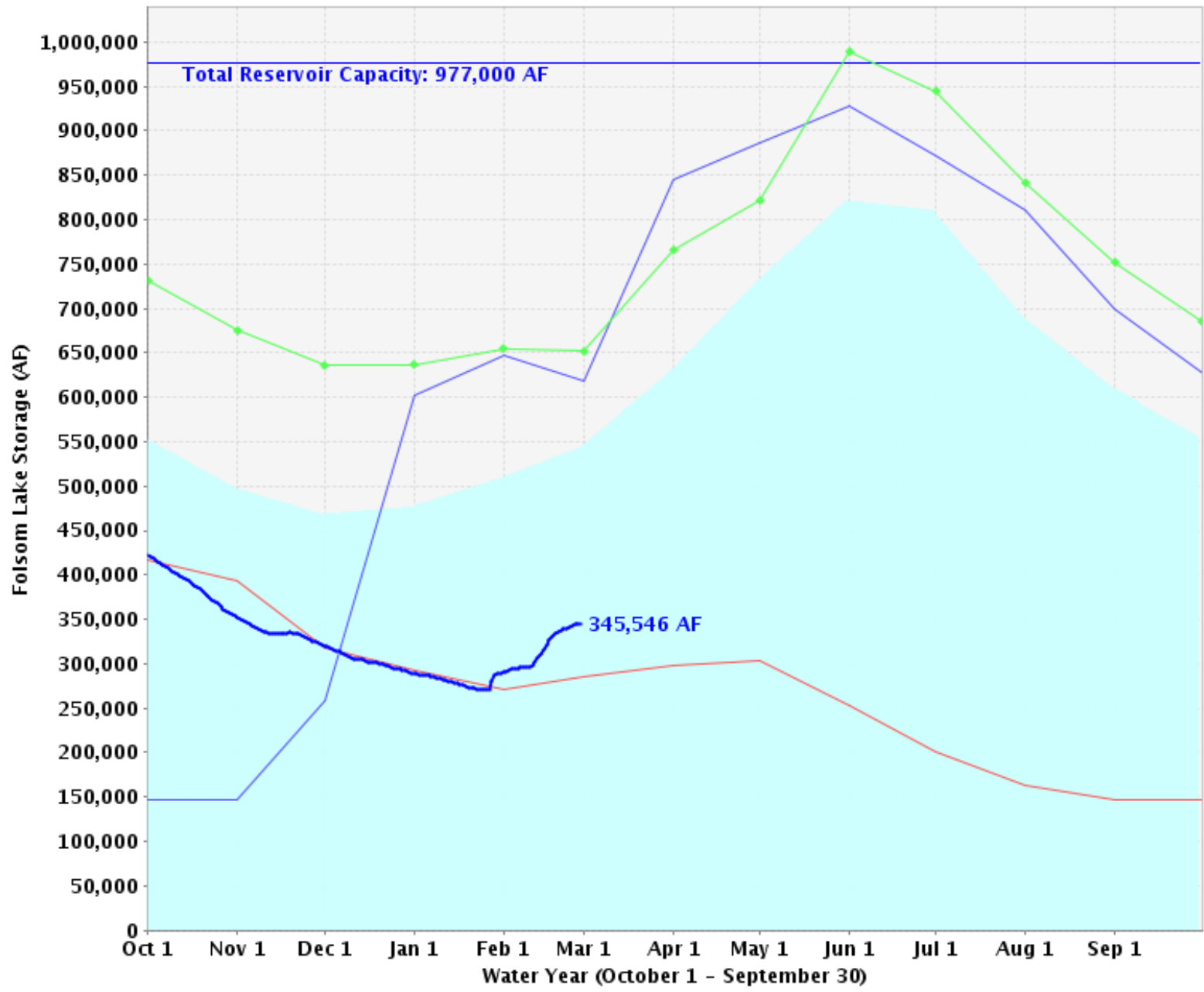


Lake Oroville Storage Levels

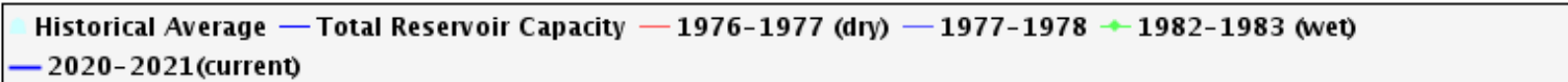
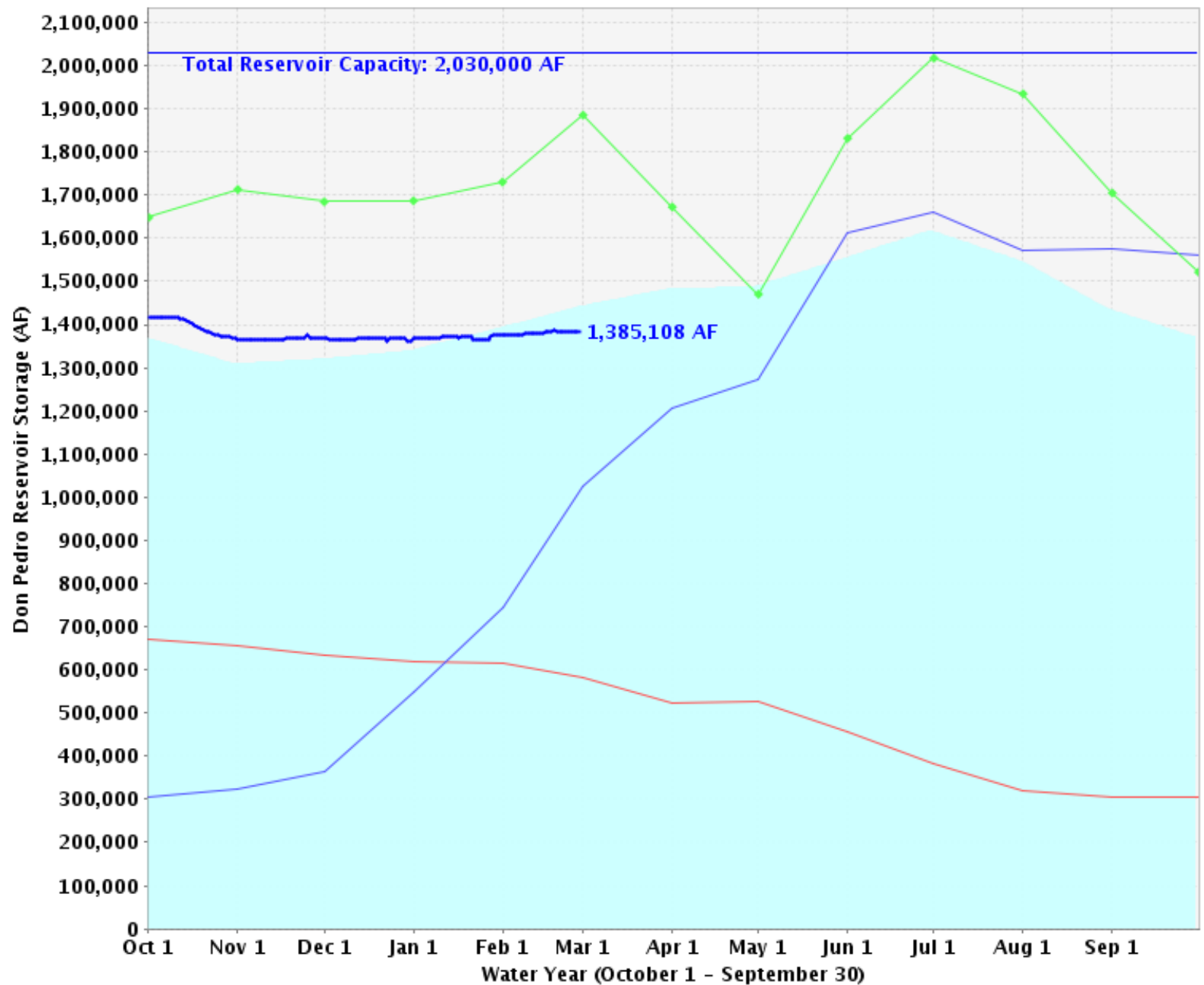


■ Historical Average
 — Total Reservoir Capacity
 — 1976-1977 (dry)
 ▲ 1982-1983 (wet)
 — 2020-2021 (current)
 — 1977-1978

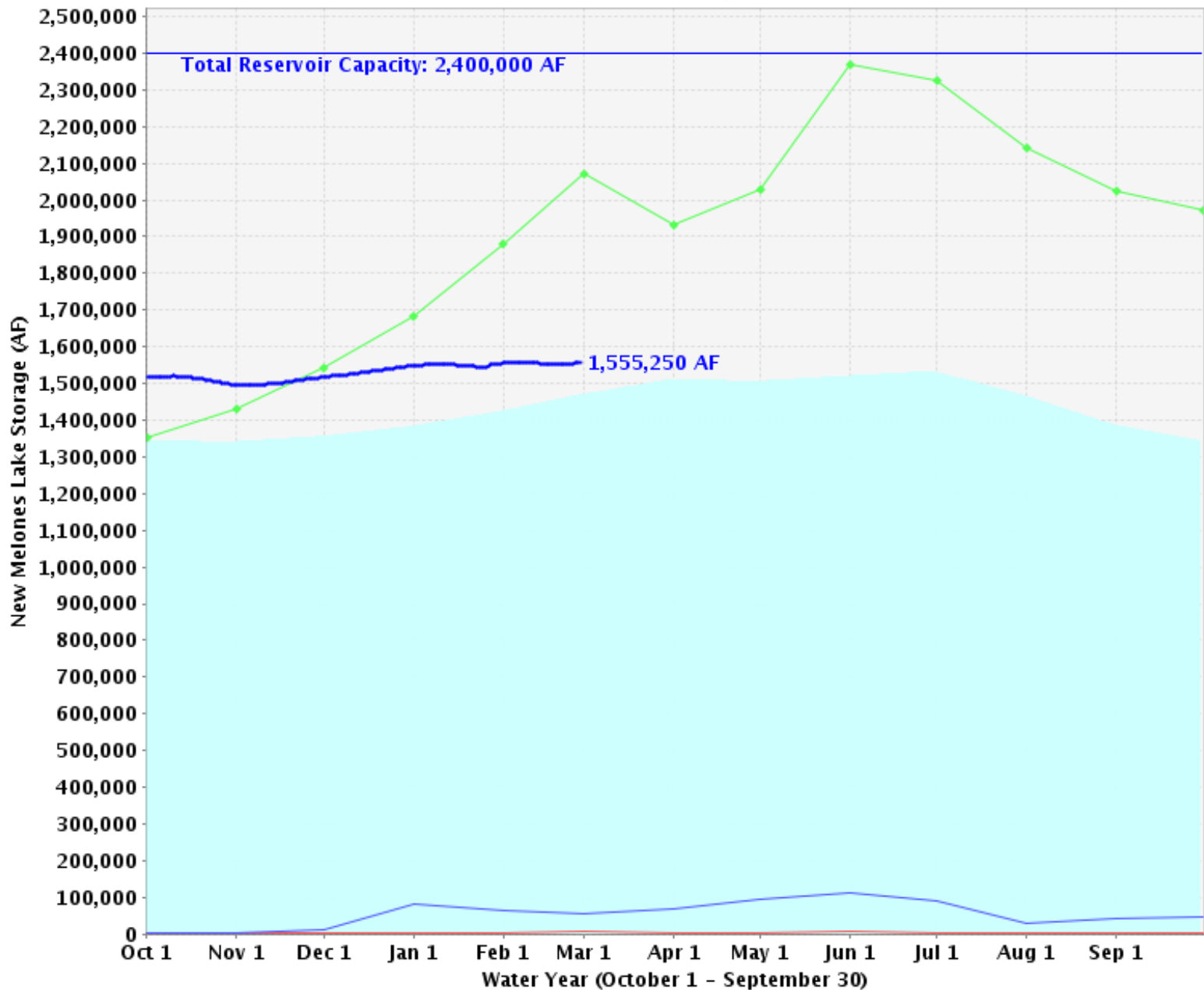
Folsom Lake Storage Levels



Don Pedro Reservoir Storage Levels

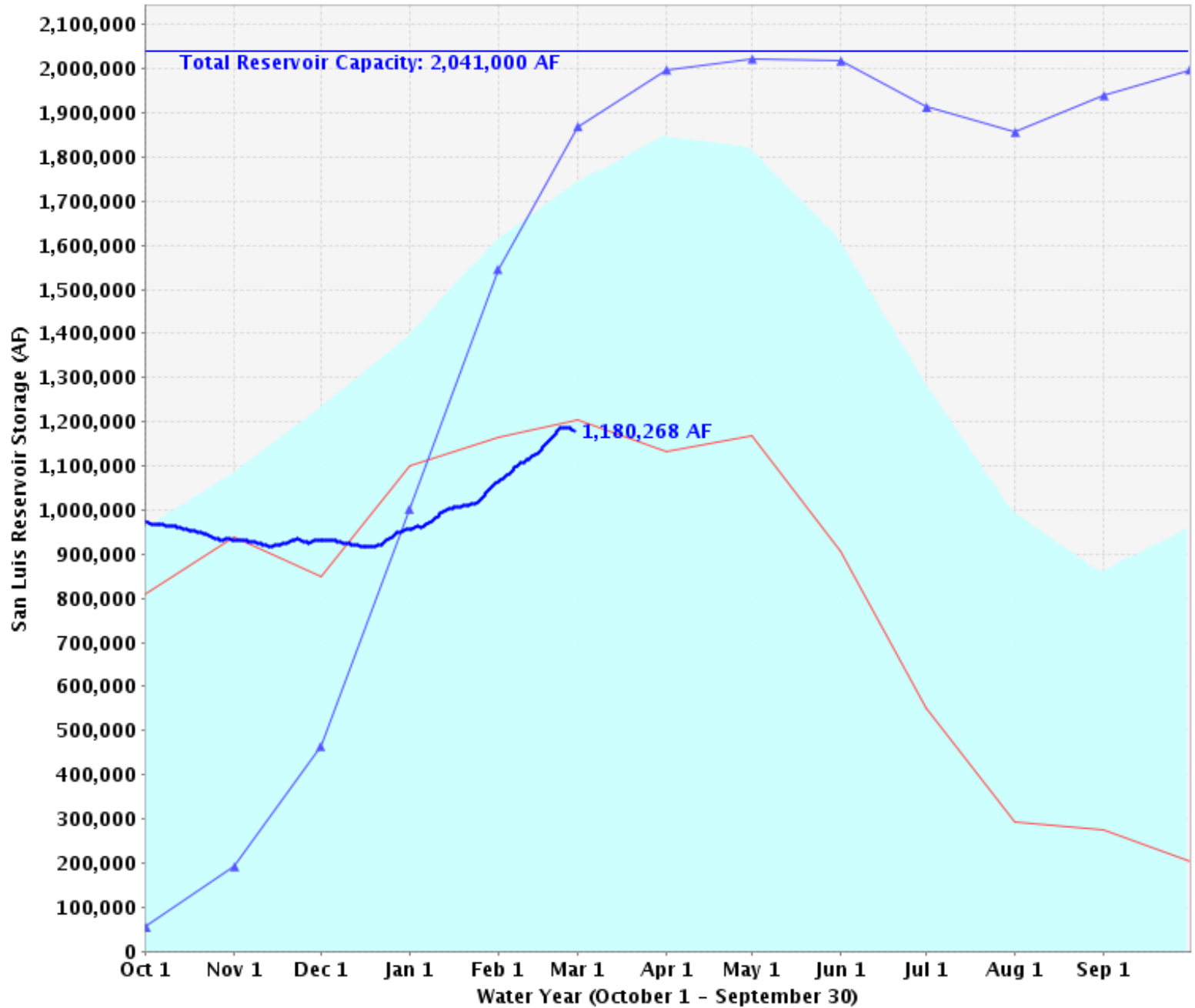


New Melones Lake Storage Levels



■ Historical Average
 — Total Reservoir Capacity
 — 1976-1977 (dry)
 — 1977-1978
 —◆ 1982-1983 (wet)
 — 2020-2021(current)

San Luis Reservoir Storage Levels

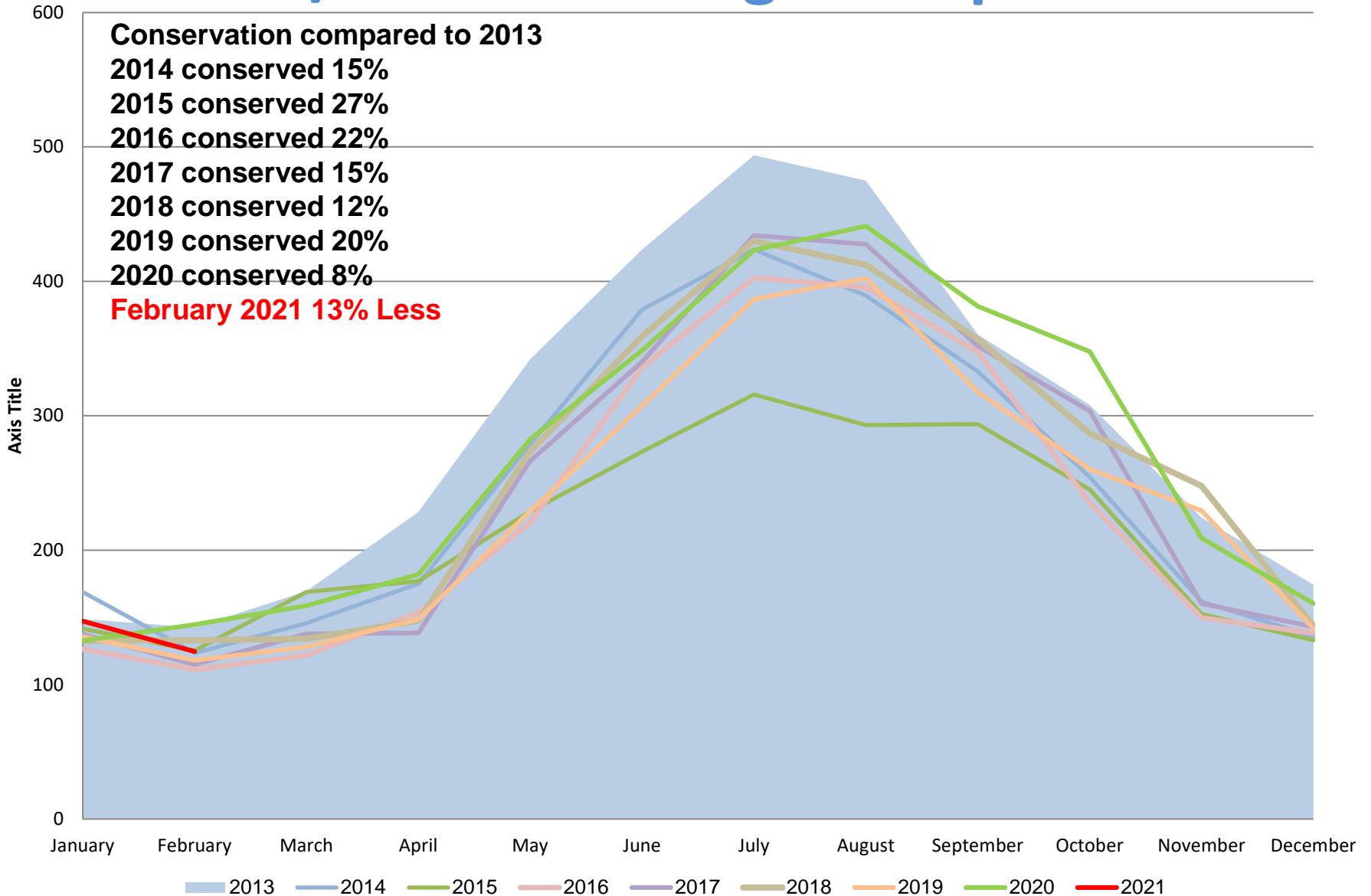


Historical Average — Total Reservoir Capacity — 1976-1977 (dry) — 1982-1983 (wet) — 2020-2021(current)

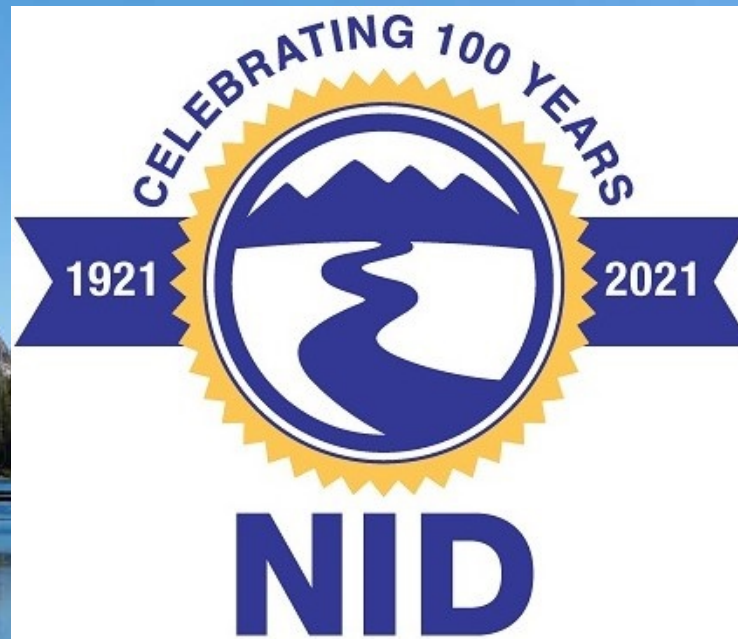
Summary

- NID Water Supply Below Average
 - Above threshold for any Drought Contingency Plan implementation
 - Total available water supply shows a small surplus
- Staff is recommending declaration of surplus for 2021 irrigation season
- NID Actions
 - Focus on efficiency and conservation
 - Will increase water patrols
 - Staff will monitor statewide actions
 - Board will be provided updates as conditions warrant/change

NID T/W Water Usage Comparison



Questions???



Proudly serving portions of Nevada, Placer, and Yuba Counties