



# Staff Report

For the Board of Directors Meeting of April 28, 2021

**TO:** Board of Directors  
**FROM:** Chip Close, Water Operations Manager  
**DATE:** March 20, 2021  
**SUBJECT:** Water Supply Update / Drought Declaration

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## **OPERATIONS**

### **RECOMMENDATION:**

Receive an update on current and forecasted water supply conditions and adopt Resolution No. 2021-11 (Declaring a Drought Within the District's Service Boundary, and Adopting Stage I Drought Contingency Plan Procedures), declaring a Stage 1 Drought per the Districts Water Shortage Contingency Plan.

### **BACKGROUND:**

During the March 10, 2021 Board of Directors meeting, staff provided an overview of District water supply projections based upon current conditions. At the time, forecasted supply for April 1 was 261,800 acre feet (AF) supporting a normal start of the irrigation season.

Since the March 10<sup>th</sup> meeting, hydrologic conditions have continued to track well below average and the results of the April 1 snow survey have triggered concern. Staff has re-run the water supply forecast and is concerned that carryover storage volumes at the end of irrigation season will fall to low levels. The detailed water supply portfolio is as follows:

District reservoir storage as of April 14 is 189,929 AF, which is 82% of average for this time of year. The forecasted April – July runoff from the Department of Water Resources for the Yuba River basin has been adjusted down from 68% to 51% of average and correlates to approximately 55,100 AF in watershed runoff. The reduced statewide projections are supported by our own April snow survey results concluding a snowpack at 72% of average. Lastly, PG&E has indicated that 22,580 AF may be available for purchase per our Coordinated Operating Agreement; however, the District's 2021 Budget does not contain funds to support a purchase.

Given the lack of funding, Staff has completed the water availability analysis without PG&E water.

When taken in total, the water supply information above indicates a forecasted available water supply of 237,600 AF. This is 24,000 AF less than the March 10 projection of 261,800 AF. In addition, dry conditions combined with warm temperatures have created abnormally high water demands for the start of irrigation season. Canal flows are already at mid-summer levels, and water orders continue to increase. Staff is forecasting that the higher than normal demand, in combination with a reduction of runoff, will lead to a marked drop in carryover storage at the end of irrigation season.

With this in mind, Staff is recommending declaration of drought with implementation of Stage I of the Water Shortage Contingency Plan to emphasize conservation and to protect carryover water supplies for the 2022 water season.

**BUDGETARY IMPACT:**

Stage 1 of the Water Shortage Contingency Plan requests voluntary reductions of 10%. Stage 1 does not include mandatory rate increases; therefore, reductions in volumetric sales may result in a corresponding reduction of revenue.

Attachments (2):

- Resolution #2021-11 (Declaring a Drought Within the District's Service Boundary, and Adopting Stage I Drought Contingency Plan Procedures)
- Water Supply PowerPoint



**RESOLUTION NO. 2021-11**  
OF THE BOARD OF DIRECTORS OF THE NEVADA IRRIGATION DISTRICT

**DECLARING A DROUGHT WITHIN THE DISTRICT'S SERVICE BOUNDARY,  
AND ADOPTING STAGE I DROUGHT CONTINGENCY PLAN PROCEDURES**

**WHEREAS**, Nevada Irrigation District (NID) provides water for residential, commercial, industrial, agricultural, municipal, environmental, fire protection and prevention purposes as well as other beneficial uses of water; and

**WHEREAS**, the current water year has resulted in drought conditions throughout the region, with precipitation being 54% or worse as compared to normal; and

**WHEREAS**, in the event of a shortage of water, the District is authorized, under Division 11 of the California Water Code, the District's rules and regulations, and other applicable laws, including and section 375 of the California Water code, to adopt such regulations and restrictions on water delivery to conserve the water supply for the protection of public health and safety; and

**WHEREAS**, the 2020 water year was the start of multi-year dry conditions with precipitation at 70% of average, combined with early runoff, created increased withdrawals from storage, reducing end of year carryover storage to below average amounts which continued into 2021, and

**WHEREAS**, on March 10, 2021, the District's Board of Directors declared a water surplus given the District's then-existing water supply conditions, including actual storage conditions, snowpack, and forecasted precipitation and runoff; and

**WHEREAS**, since March 10, 2021, water supply conditions have significantly deteriorated such that surplus water conditions no longer exist in the District, including a reduction in overall water supply of 24, 000 acre feet due to lack of precipitation, increased water demands due to unusually hot and dry conditions, and forecasted carryover storage to drop to levels not seen since 2001, and

**WHEREAS**, on April 21, 2021 Governor Gavin Newsom issued a State of Emergency Proclamation, stating that "much of the West is experiencing severe to exceptional

drought and California is in a second consecutive year of dry conditions, resulting in drought or near-drought throughout many portions of the State” and “drought conditions vary across the State and some watersheds...are extremely dry and are facing substantial water supply and ecosystem challenge”; and

**WHEREAS**, following notice and public hearing, the District adopted its Ag Water Management Plan on April 14, 2021 which includes the Drought Contingency Plan; and

**WHEREAS**, as a result of the current drought prevailing within the District's boundaries, and based on the snowpack in the District's watershed being approximately 72% of the April 1<sup>st</sup> average, the District forecasts that its water supplies, without undertaking drought reduction and mitigation efforts, will drop to low levels; and

**WHEREAS**, persistent drought conditions have negatively impacted, and continue to threaten, the District's recreational facilities, resulting in a decline in usage and resultant revenues needed to operate and maintain its recreational programs and facilities; and

**WHEREAS**, to assure continued supply of water for public health and safety, including domestic, irrigation, sanitation, environmental and fire prevention and suppression uses during this drought, it is necessary to impose restrictions relating to water delivery to the District's customers as specified in the Drought Contingency Plan; and

**WHEREAS**, such conservation measures must be imposed to ensure that NID has sufficient end-of-year reserves of water (carryover) in storage to protect its capacity to continue delivering water to all beneficial uses in the succeeding year should the current drought conditions continue.

**NOW, THEREFORE, BE IT RESOLVED AND PROCLAIMED** by the Board of Directors of the Nevada Irrigation District that for reasons set forth herein, a local drought emergency now exists throughout the District's service area, which includes portions of Nevada County, Placer County, and Yuba County.

**BE IT FURTHER RESOLVED** that in order to conserve supplies, including carryover storage, required for various beneficial uses of water, and to preserve the health and safety of the customers of the District, there is hereby declared a condition of drought necessitating the implementation of Stage I of the District's Drought Contingency Plan.

**BE IT FURTHER RESOLVED** that the Interim General Manager is authorized to identify additional operational actions and request additional conservation measures as determined necessary to meet the needs of public health and safety. Additional conservation measures, as imposed, shall be specifically described and communicated to all customers through one or more of the following: newspaper, public posting, and website and reported to the Board of Directors at the next available board meeting.

**BE IT FURTHER RESOLVED** that the target minimum carryover storage to be preserved for the 2022 water year shall be >110,000 acre feet for end of month October storage.

**BE IT FURTHER RESOLVED** that water use for domestic, municipal and industrial purposes by all District customers including wholesale customers shall observe the water use practices established in the Districts Drought Contingency Plan Stage I.

**BE IT FURTHER RESOLVED** that irrigation water customers shall be subject to the following reduction measures as established in Stage I of the District's Drought Contingency Plan. Staff shall utilize the methods below to equitably reduce irrigation water deliveries in order to conserve supply, including maintenance of adequate carryover storage, as necessary for public health and safety:

- (a) All District irrigation water customers are strongly encouraged to implement irrigation efficiency practices.
- (b) New and increased irrigation water sales to in-District customers shall be subject to review and approval by Staff to confirm that the order is limited to the smallest amount of water necessary for the customer's beneficial use.
- (c) Outside District sales shall only be made to existing customers at current quantities and shall be subject to restriction or interruption at any time as needed to prevent harm or shortages to in-District customers and to ensure the District achieves its carryover storage target.
- (d) No new or increased water sales to outside District customers will be permitted.
- (e) Customers who request a reduction, or who voluntarily forego water delivery during the 2021 irrigation season will not lose their priority of service for 2022 allocations.
- (f) Availability of fall and new winter water sales will be at the discretion of the Interim General Manager based on storage carryover targets.

\* \* \* \* \*

**PASSED AND ADOPTED** by the Board of Directors of Nevada Irrigation District at a meeting duly called and held within the District on the 28th day of April 2021 by the following roll call vote:

**AYES:** Directors:

**NOES:** Directors:

**ABSENT:** Directors:

**ABSTAINS:** Directors:

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President of the Board of Directors

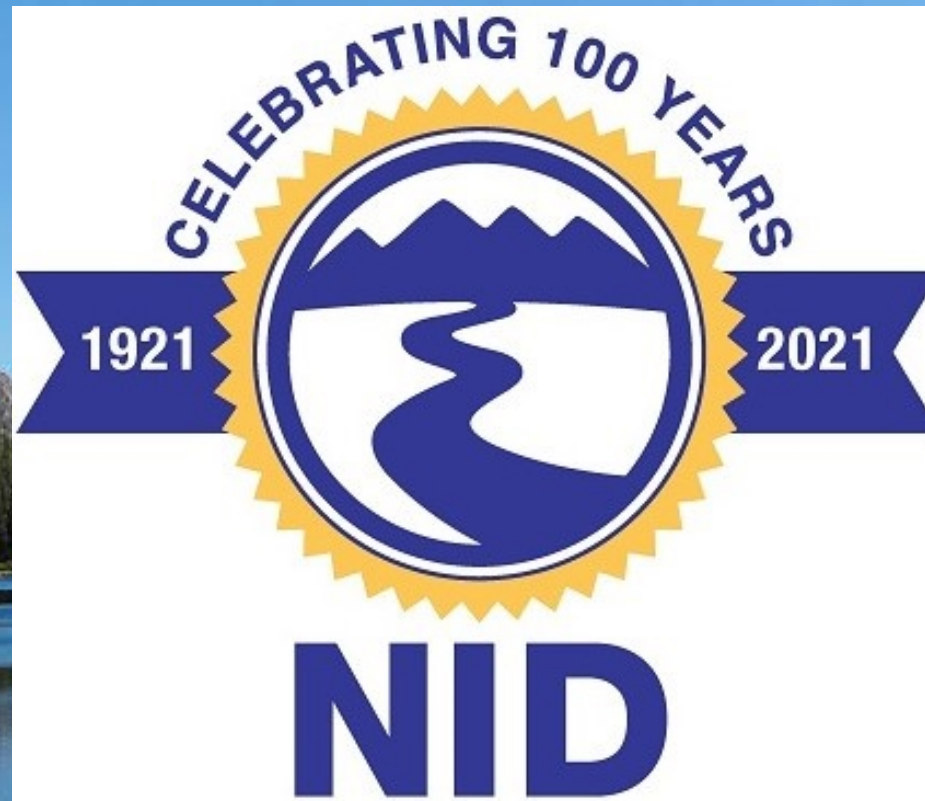
**Attest:**

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Secretary to the Board of Directors

# NID Water Supply Update

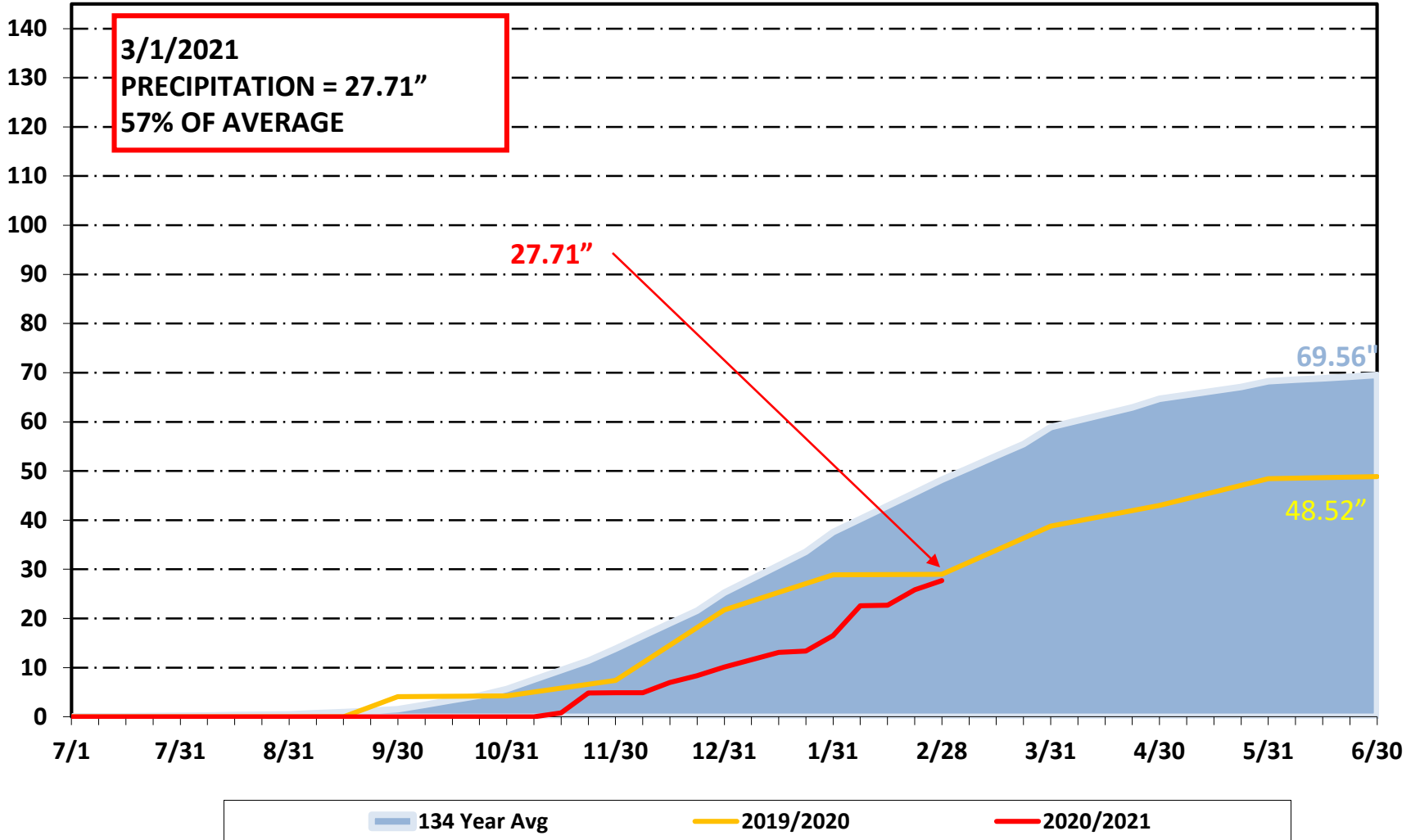
## April 28, 2021



*Proudly serving portions of Nevada, Placer, and Yuba Counties*

# BOWMAN LAKE PRECIPITATION

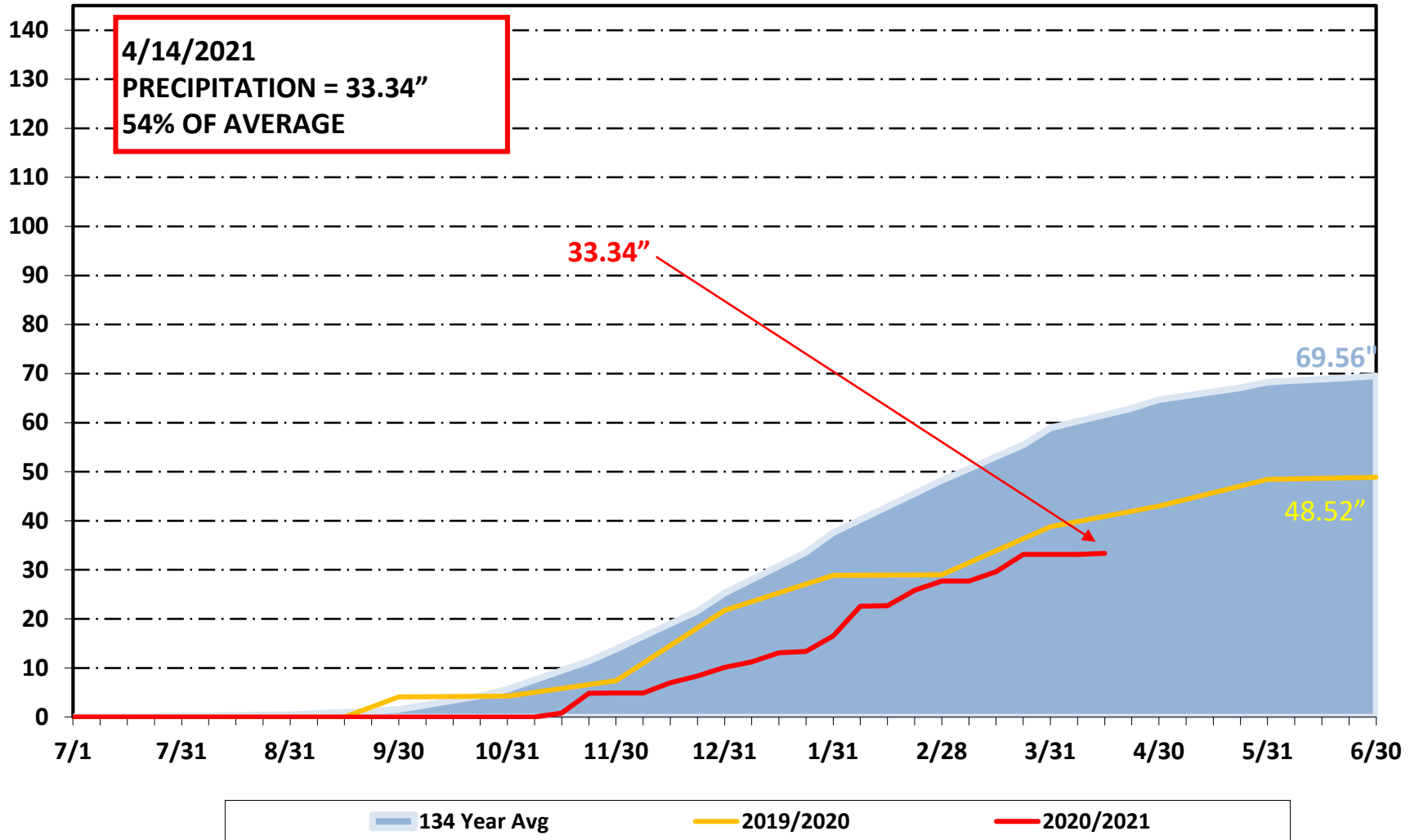
INCHES



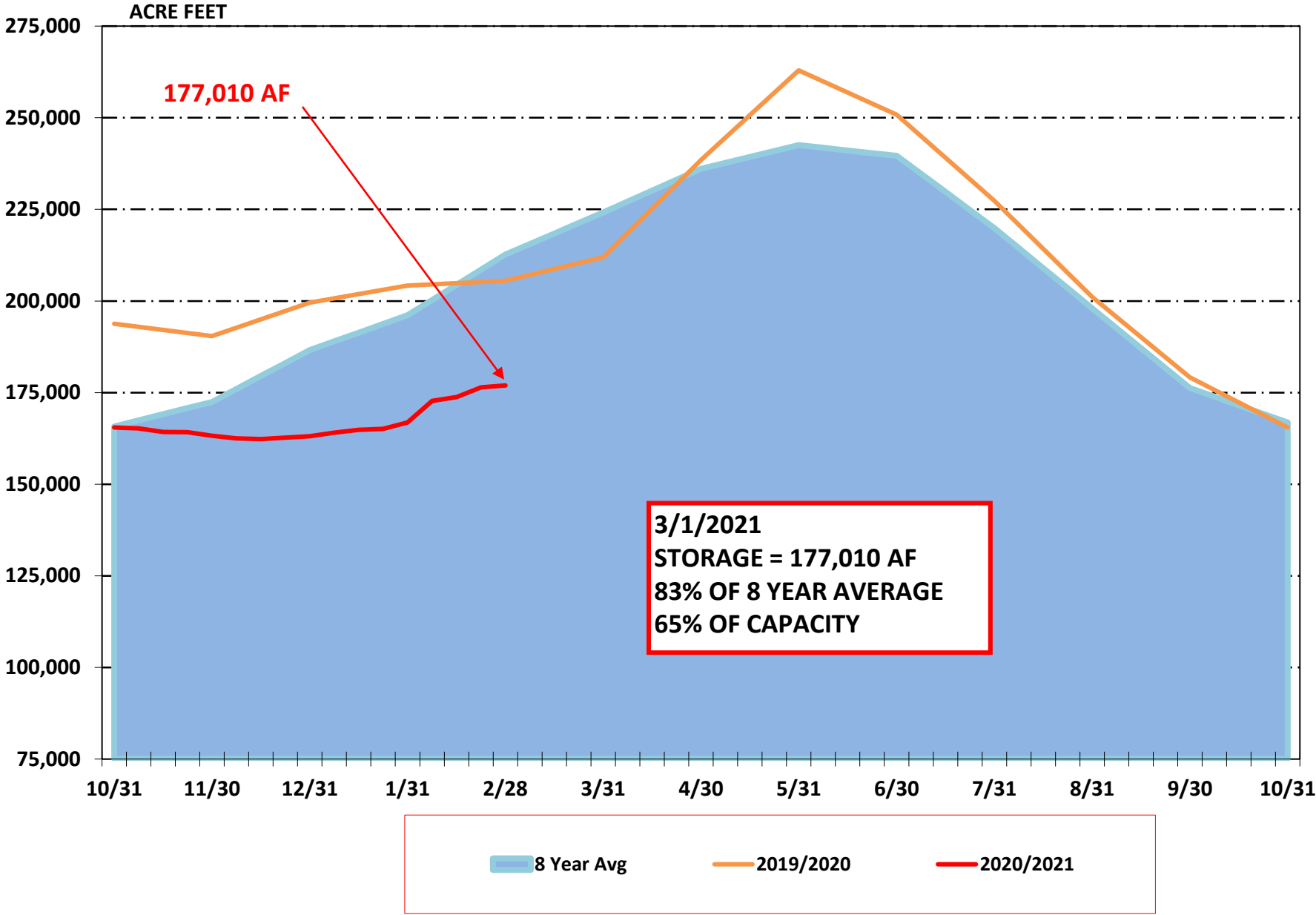


# BOWMAN LAKE PRECIPITATION

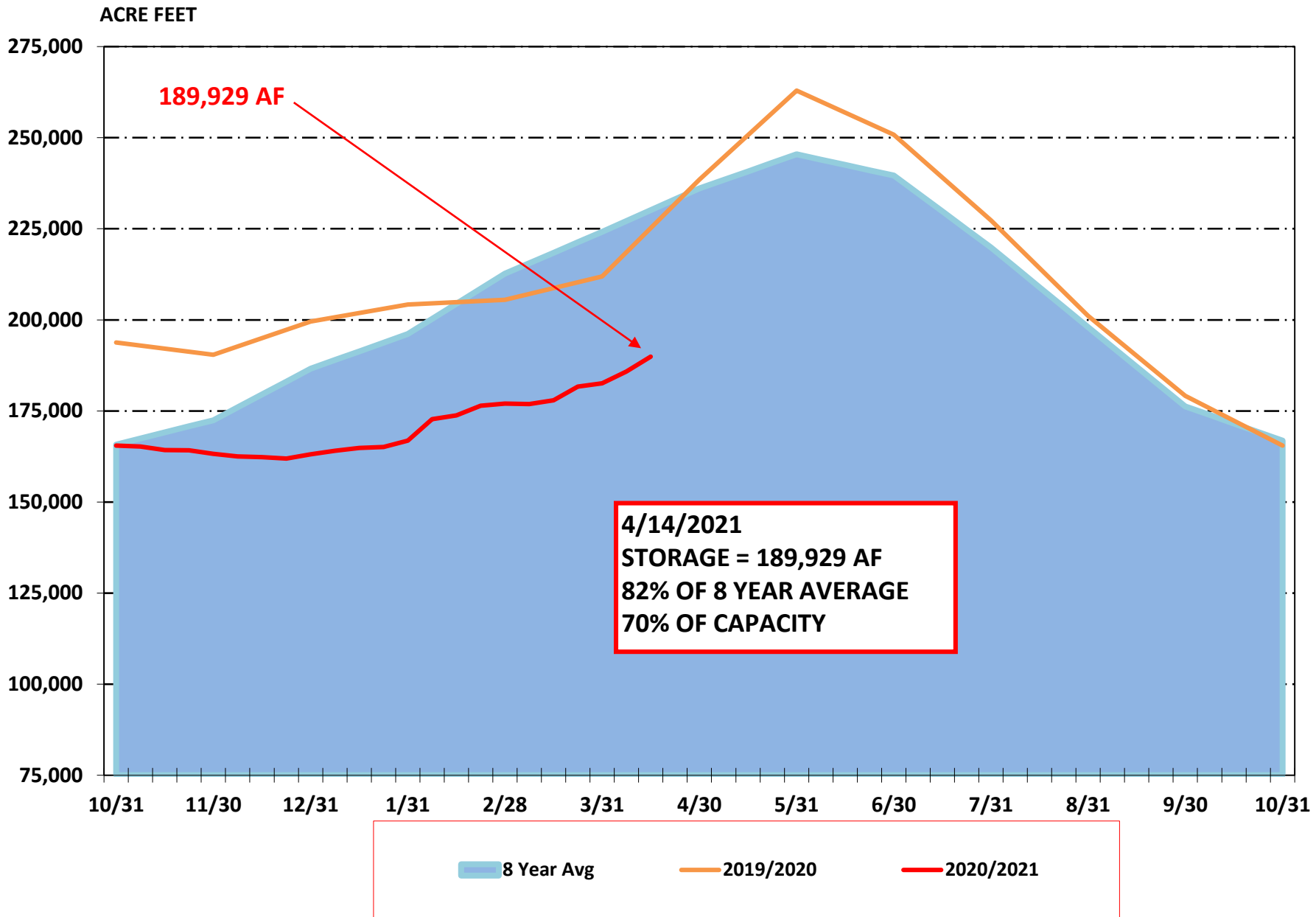
INCHES



# NID RESERVOIR STORAGE

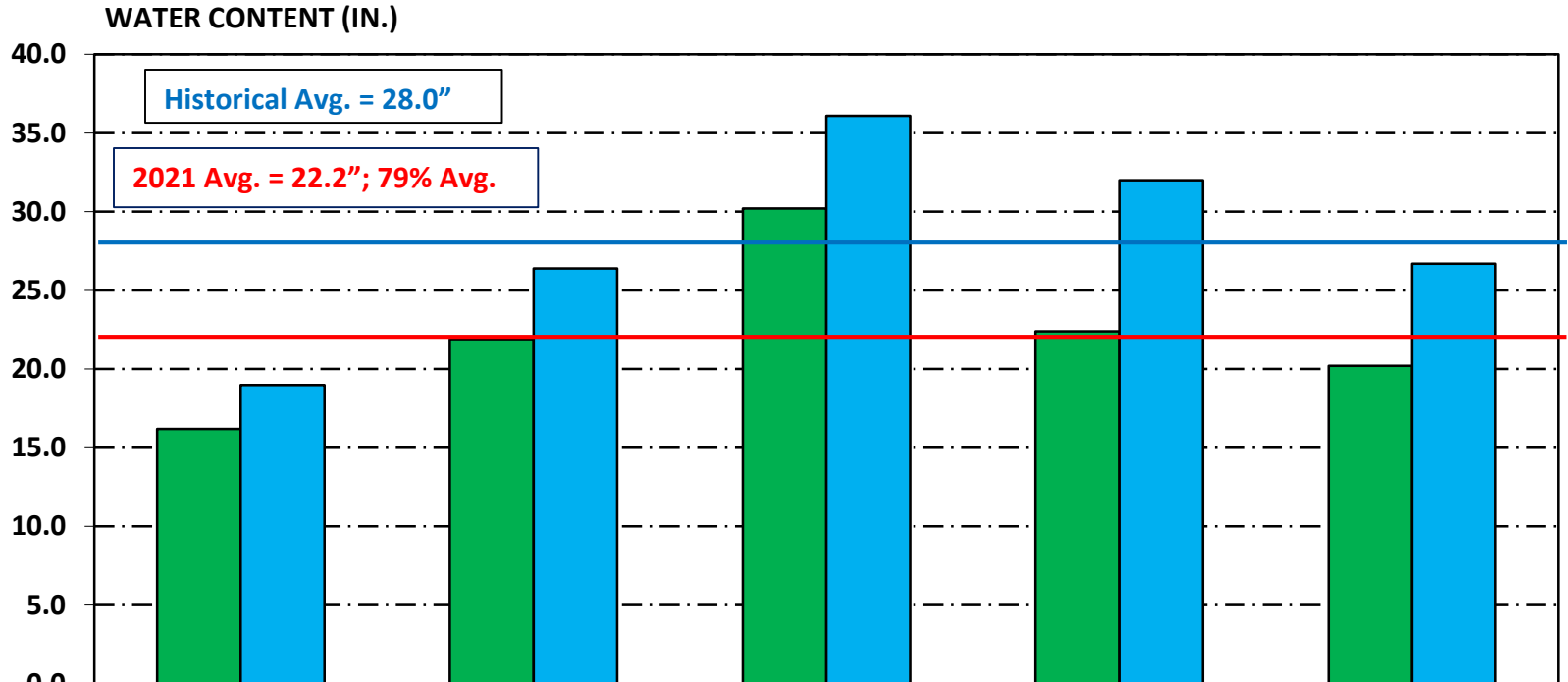


# NID RESERVOIR STORAGE



# NID SNOW SURVEY

## MARCH 1, 2021

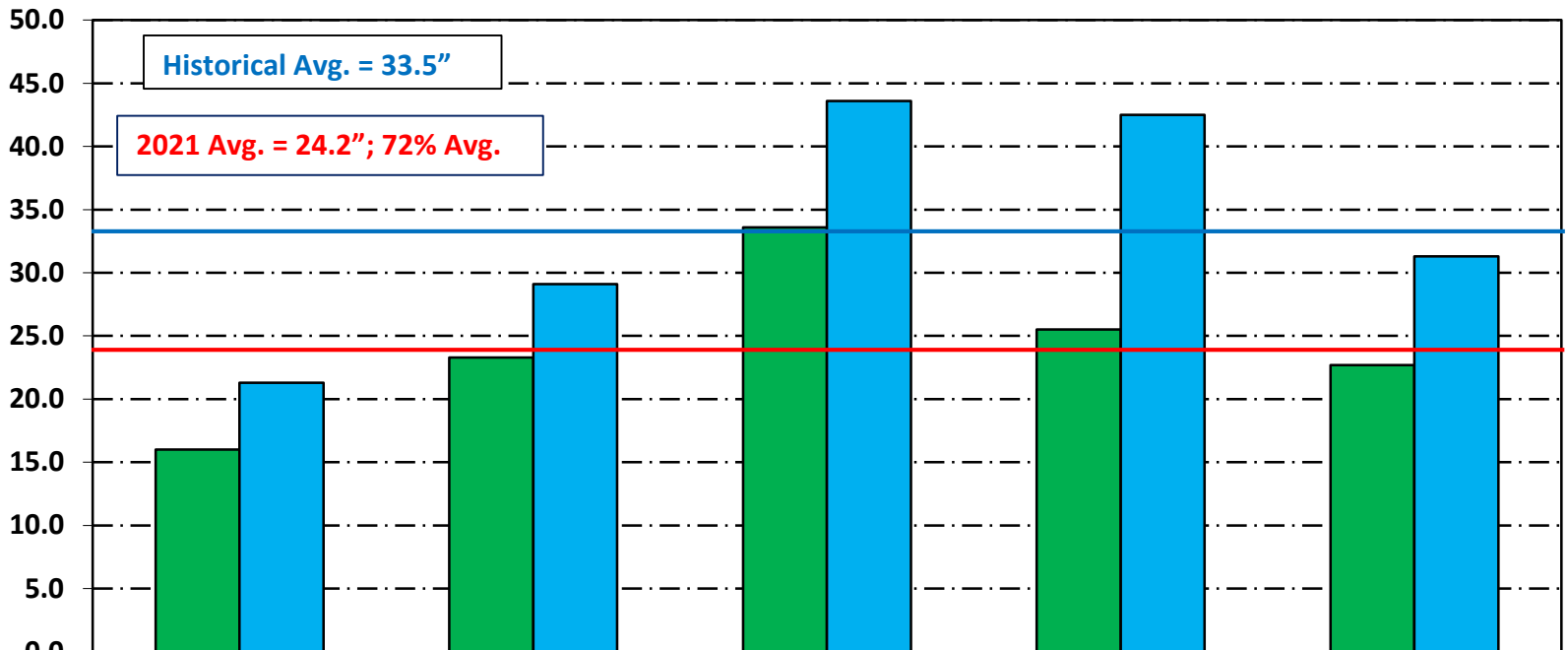


	BOWMAN LK. (est.)	FINDLEY PK. (est.)	ENGLISH MTN. (est.)	WEBBER PEAK	WEBBER LAKE
<span style="color: green;">■</span> 2021	16.2	21.9	30.2	22.4	20.2
<span style="color: blue;">■</span> AVERAGE	19	26.4	36.1	32	26.7

# NID SNOW SURVEY

## APRIL 1, 2021

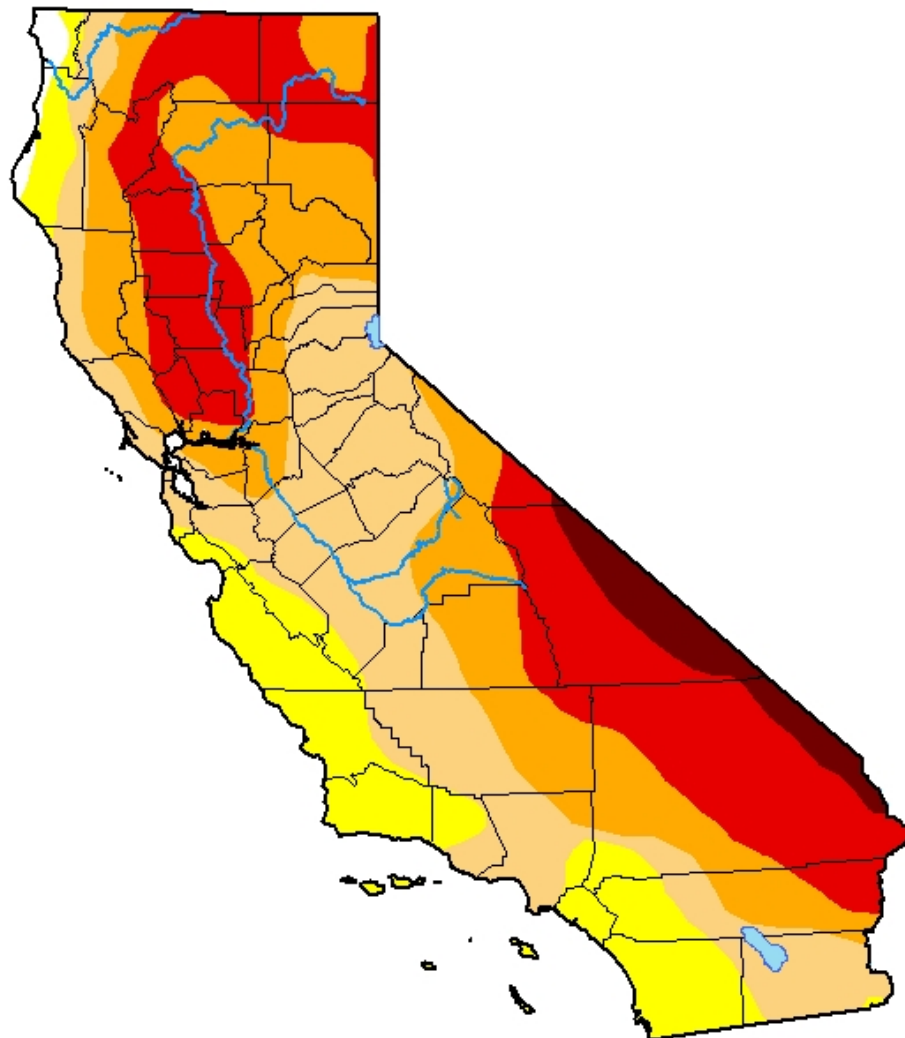
WATER CONTENT (IN.)









	BOWMAN LK. (est.)	FINDLEY PK. (est.)	ENGLISH MTN. (est.)	WEBBER PEAK	WEBBER LAKE
<span style="color: green;">■</span> 2021	16	23.3	33.6	25.5	22.7
<span style="color: blue;">■</span> AVERAGE	21.3	29.1	43.6	42.5	31.3

# U.S. Drought Monitor California

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



### Intensity:

-  None
-  D0 Abnormally Dry
-  D1 Moderate Drought
-  D2 Severe Drought
-  D3 Extreme Drought
-  D4 Exceptional Drought

*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:

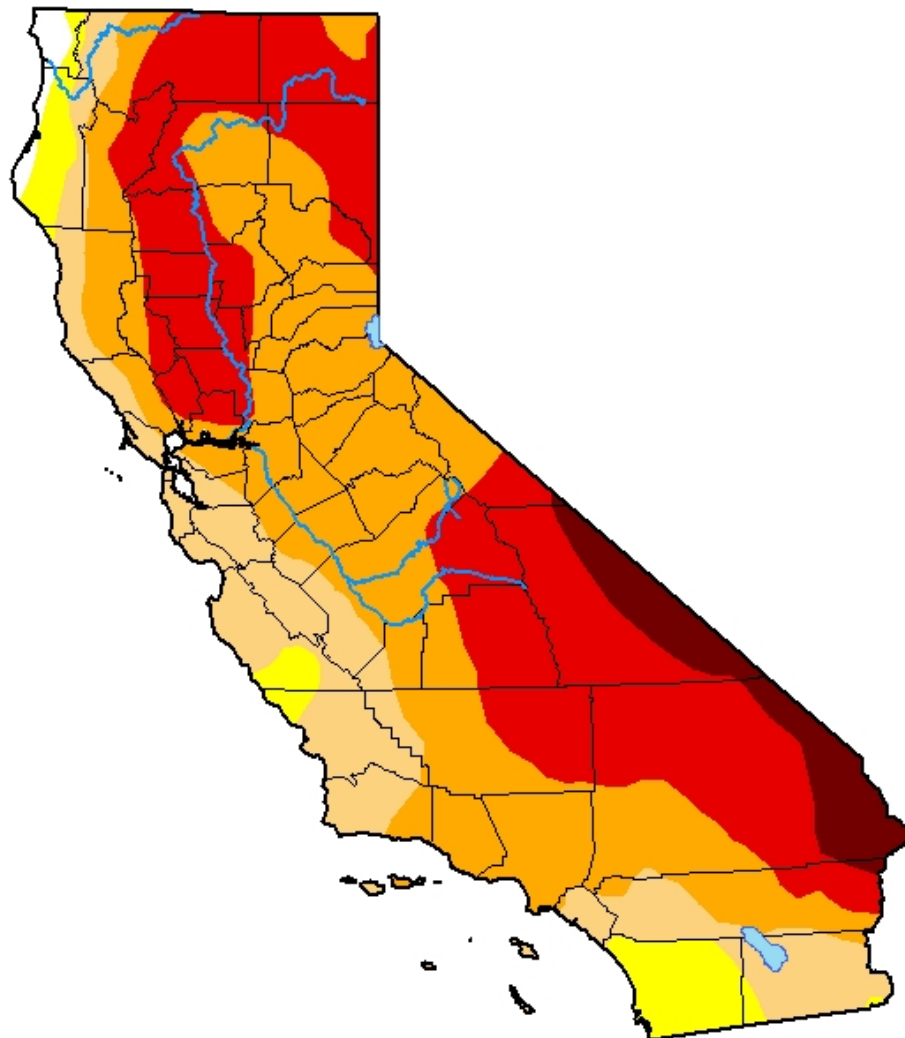
David Miskus  
NOAA/NWS/NCEP/CPC



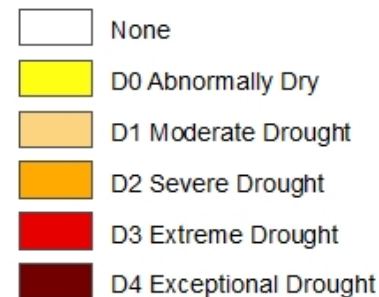
[droughtmonitor.unl.edu](https://droughtmonitor.unl.edu)

# U.S. Drought Monitor California

**April 13, 2021**  
(Released Thursday, Apr. 15, 2021)  
Valid 8 a.m. EDT



### Intensity:



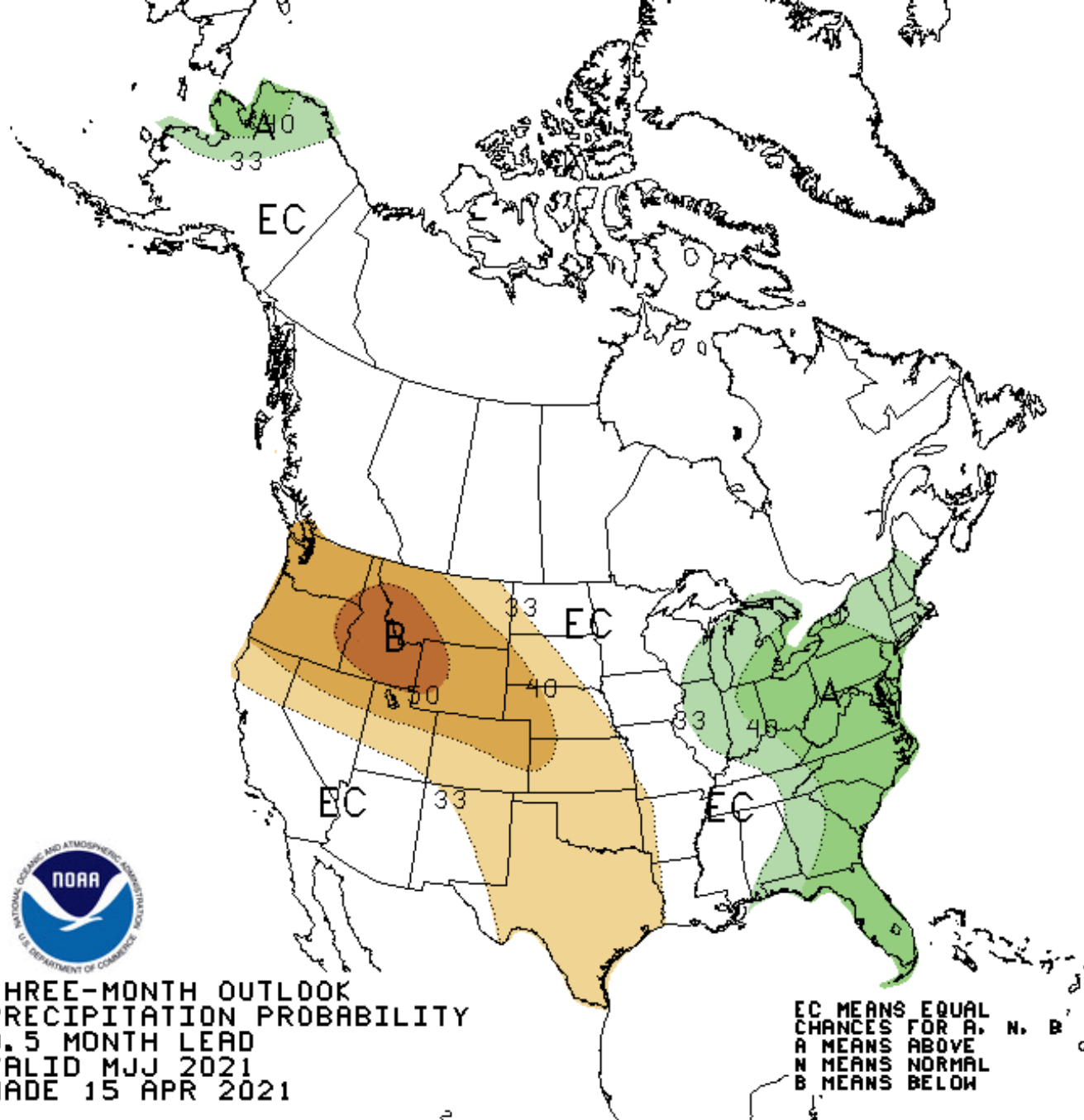
*The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. For more information on the Drought Monitor, go to <https://droughtmonitor.unl.edu/About.aspx>*

### Author:

Deborah Bathke  
National Drought Mitigation Center

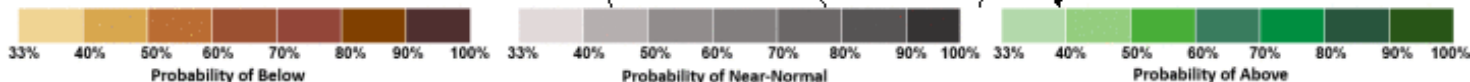


[droughtmonitor.unl.edu](https://droughtmonitor.unl.edu)



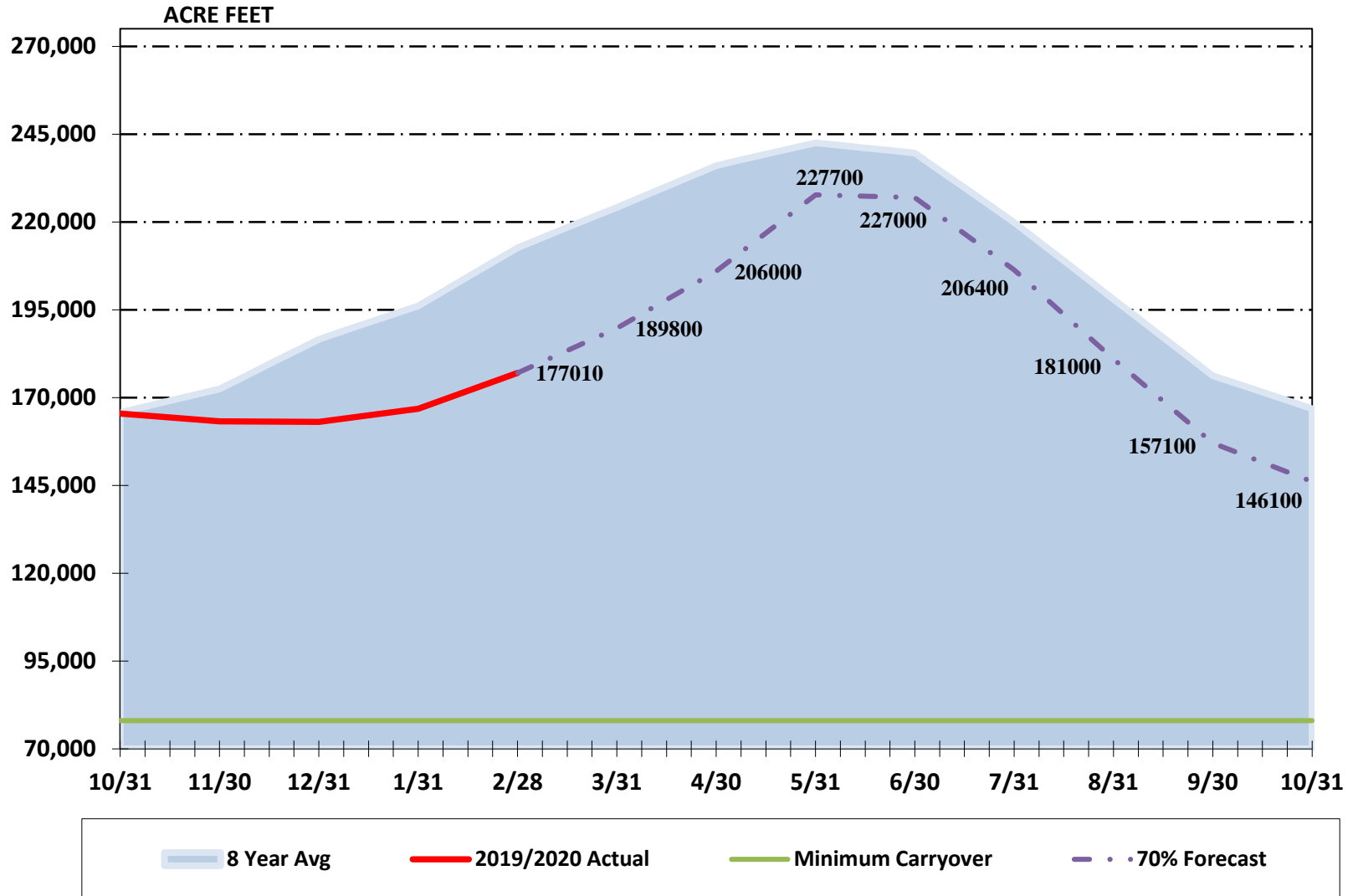
**THREE-MONTH OUTLOOK  
 PRECIPITATION PROBABILITY  
 0.5 MONTH LEAD  
 VALID MJJ 2021  
 MADE 15 APR 2021**

**EC MEANS EQUAL  
 CHANCES FOR A, N, B  
 A MEANS ABOVE  
 N MEANS NORMAL  
 B MEANS BELOW**

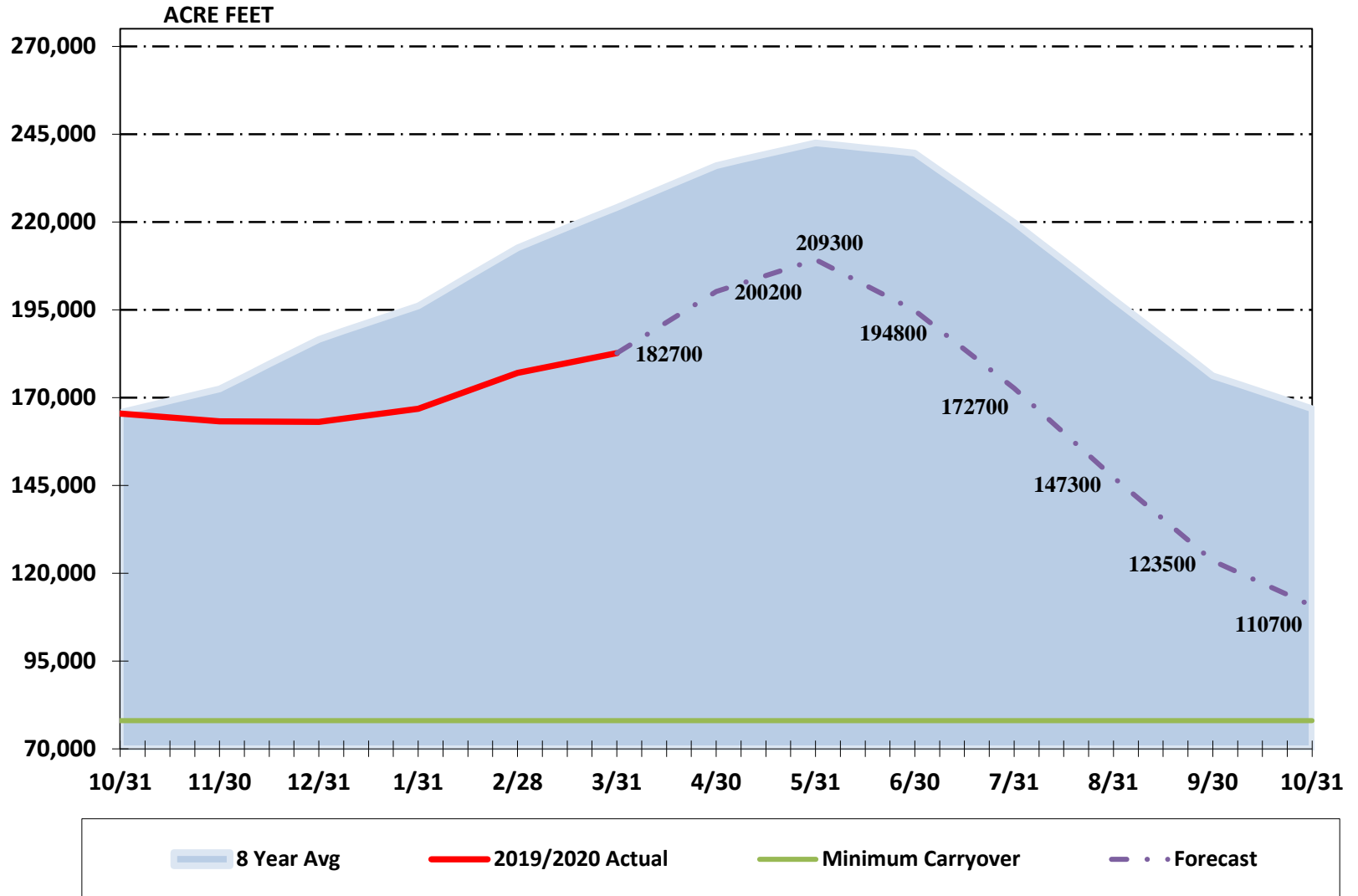




# 2021 STORAGE FORECAST



# 2021 STORAGE FORECAST



# Summary

- NID Water Supply Trending Drier
  - Precipitation well below average in March and April
  - April 1 snow survey result only 72% of average
  - April 1, water supply dropped from 261,800 to 237,600
  - High winds and above average temps dried watershed
  - As a result of the above; irrigation season startup demands are at mid summer levels
  - High demands are affecting end of year carryover
- Staff is recommending implementation of Stage 1 Water Shortage Contingency Plan to preserve carryover storage for 2022

## Stage 1 – 10% Supply Shortage

Forecast April 1 Available Supply: 234,999 to 211,500 AF

Actions include normal rules and regulations plus those listed below

Treated Water and Municipal Water Customers - Actions to Reduce Demand up to 10 Percent

- Communicate conservation regulations as identified in Section 3.05 of District Rules and Regulations.
- Encourage customers to limit outdoor irrigation to every other day.
- Request fire department limit practices drills and hydrant flow testing.

Ag Water Customers - Actions to Reduce Demand up to 10 Percent

- Allow Ag customers to voluntarily reduce purchase allotment for the year while reserving their right to return to their previous allotment in the following year if water supply is available.

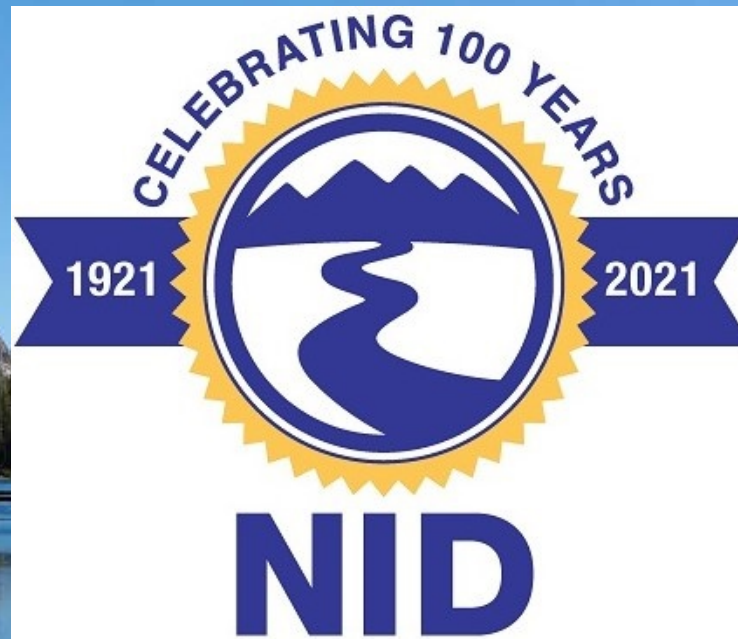
District Actions

- Declare no new or increased surplus water availability.
- Leak repair receives higher priority.
- Increase drought awareness through additional public outreach measures that notify public and customers for declared stage, requirements, and available conservation program support.
- Standard rates in effect.

Enforcement Measures

- Standard measures per District Rules and Regulations.

# Questions???



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