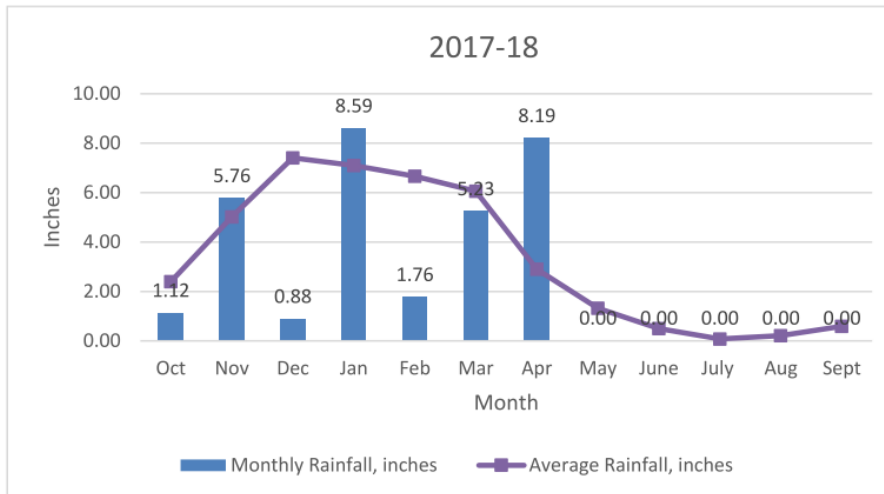


Memo

To: MCCSD Board of Directors
From: District Superintendent
cc: Jim Jackson
Date: May 21, 2018
Re: May 2018 Groundwater Management Report

The 2017-18 Rain Year

October 1, 2017 was the beginning of the 2017-18 rain year. Average precipitation in May is 1.32 inches. By May 21, 2018, Mendocino received 31.53 inches of rainfall for the year. The cumulative average rainfall at the end of May is normally 38.84 inches. On May 21, 2018, the District had 78.4% of total average annual precipitation (Tab1-2).



	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept
2017-18 Rainfall	1.12	5.76	0.88	8.59	1.76	5.23	8.19	0.00	0.00	0.00	0.00	0.00
2017-18 Cumulative	1.12	6.88	7.76	16.35	18.11	23.34	31.53	31.53				
Average Monthly	2.40	5.01	7.41	7.10	6.66	6.05	2.90	1.32	0.50	0.08	0.21	0.59
Av.Cumulative	2.40	7.41	14.82	21.91	28.57	34.63	37.52	38.84	39.35	39.42	39.63	40.23

2017-18 Rainfall to Date: 31.53
29 yr Annual Average Rain: 40.23
Percent of Annual Rainfall: 78.4%

Table 1

DAILY TOTAL RAINFALL												
2017-18										Elevation 72 Feet		
										Latitude 39.306°		
Data From : Commumnty Service District								10AM		Longitude -123.800°		
Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1												
2		0.26	0.38			0.32						
3						0.51						
4				0.61		0.12						
5		0.35					3.83					
6							2.51					
7				0.57		0.18						
8		0.68		1.82		0.04						
9		0.54		0.03								
10												
11					0.12		0.62					
12		0.13				0.82						
13						0.23						
14		0.19				0.26						
15		0.62		0.62		0.97	0.56					
16							0.31					
17				0.59	0.06							
18				0.35	0.20							
19	1.06	0.72	0.47									
20		0.54				0.42						
21	0.06			2.04		0.38						
22					0.13	0.06						
23		0.13				0.63						
24				1.57		0.29						
25		0.97	0.03	0.39	0.21							
26		0.63										
27							0.11					
28					1.04							
29							0.25					
30												
31												
Sum	1.12	5.76	0.88	8.59	1.76	5.23	8.19	0.00	0.00	0.00	0.00	0.00
Count	2	12	3	10	6	14	7	0	0	0	0	0
Max	1.06	0.97	0.47	2.04	1.04	0.97	3.83	0.00	0.00	0.00	0.00	0.00
Rainy Days	54							Water year Total Rainfall				31.53
Maximum Daily Rainfall				3.83								

Table 2 2017-18 Rainfall Record

2017-18 Rainfall Evaluations

The District has been in a No Water Shortage Condition since January 26, 2016. At the end of May, 2018, District rainfall was 31.53 inches, which is 81% of normal for this time of year.

Four stages of water shortage are recognized in the Water Shortage Contingency Plan (WSCP):

1. Mild Drought (alert)
2. Moderate Drought (warning)
3. Severe Drought (emergency)
4. Historic Drought (crisis)

A mild Stage 1 Water Shortage means that rainfall is 75-82.5% of normal. The District has received 81% of normal. 81% of normal rainfall (31.53 inches) fits the criteria for declaring a Stage 1 Water Shortage for the May evaluation:

Stage 1—29-32” and 10-20” since February 1

There has been 15.18 inches of rainfall since February 1, 2018 and 31.53 inches of precipitation at the end of May, which means Mendocino is in a mild drought. Based on Table 3 of the WSCP, the District is in a Stage 1 Water Shortage.

The Superintendent’s drought stage recommendation is for the Board to declare a Stage 1 Water Shortage (see Table 3 & 4). Staff has prepared Resolution 2019-255 for Board consideration.

Table 3: Water Shortage Stage Criteria

Water Shortage Stage	Severity	Rainfall	Expected Recurrence	Evaluation Date/ Cumulative Rainfall Total		
				Jan. 31	March 31	May 31
1 Alert	mild	75% to 82.5% of normal	±5 years	14-19”	29-32” and <7” since Feb 1	32-35” and <12” since Feb 1
					26-29” and 7-18” since Feb 1	29-32” and 10-20” since Feb 1
					22-26” and >18” since Feb 1	24-29” and >20” since Feb 1
2 Warning	moderate	60% to 75% of normal	±8 years	10-14”	26-29” and <7” since Feb 1	29-32” and <10” since Feb 1
					22-26” and 7-18” since February 1	24-29” and 10-20” since February 1
					16-22” and >18” since Feb 1	20-24” and >20” since Feb 1
3 Emergency	severe	50% to 60% of normal	±15 years	8-10”	22-26” and <7” since Feb 1	24-29” and <10” since Feb 1
					16-22” and 7-18” since Feb 1	20-24” and 10-20” since Feb 1
4 Crisis	historic	less than 50% of normal	±50 years	<8”	16-22” and <7” since Feb 1	20-24” and <10” since Feb 1
					<16”	<20

*Rainfall measured from October 1.

Water Shortage Evaluation January 31, May 31, & May 31 by Rainfall Records, inches

Date	No Water shortage	Stage 1		Stage 2		Stage 3		Stage 4	
		14-19"	16.35	10-14"	8-10"	<8"	16-22" and <7" since Feb 1	<8"	
Jan 31	>19	29-32" and <7" since Feb 1		26-29" and <7" since Feb 1	22-26" and <7" since Feb 1	23.34	16-22" and <7" since Feb 1		
Mar 31	>26, 29, or >32	26-29" and 7-18" since Feb 1		22-26" and 7-18" since Feb 1	16-22" and 7-18" since Feb 1		<16		
May 31	>29, >32 or >35	22-26" and >18" since Feb 1		16-22" and >18" since Feb 1					
		32-35" and <12" since Feb 1		29-32" and <10" since Feb 1	24-29" and <10" since Feb 1		20-24" and <10" since Feb 1		
		29-32" and 10-20" since Feb 1	31.53	24-29" and 10-20" since February 1	20-24" and 10-20" since Feb 1		<20		
		24-29" and >20" since Feb 1		20-24" and >20" since Feb 1					

Table 4 May drought evaluation indicates Mendocino is in a Stage 1 Water Shortage

Stage 1 Water Use Restriction

District property owners are requested to voluntarily reduce groundwater extraction by 10%. Water use restrictions include voluntary water conservation and prohibition on hose washing driveways, sidewalks, and other paved surfaces. Restaurants are asked to put out water conservation information cards, which are available at the District office.

Water Shortage Stage/ Condition	Customer Responsibilities	Water District Activities	Penalties
<p>1. Conservation Alert:</p> <p>Mild shortage. (22.5-25% below normal rainfall) Frequent condition after March 1 due to lack of inter-annual (carryover) storage.</p>	<ul style="list-style-type: none"> ➤ Voluntary water conservation ➤ Prohibition of water waste (hose washing driveways, parking area, walkways or other paved surface, except as is required for sanitary purposes) ➤ Display of conservation information by hotels and restaurants 	<ul style="list-style-type: none"> ➤ Ongoing public information campaign, media outreach ➤ Request voluntary water conservation with 10% use reduction 	<ul style="list-style-type: none"> ➤ Warning letter on need for water conservation ➤ Possible penalties on blatant water wastage after first warning

Table 5 Stage 1 Water Shortage Water Use Restrictions

Depth-To-Water (DTW)

The DTW measurements in the District’s 24 monitoring wells on May 18, 2018 was 13.54 ft. Above average rainfall in April helped to significantly recharge the local aquifer (Figure 1 & 2).

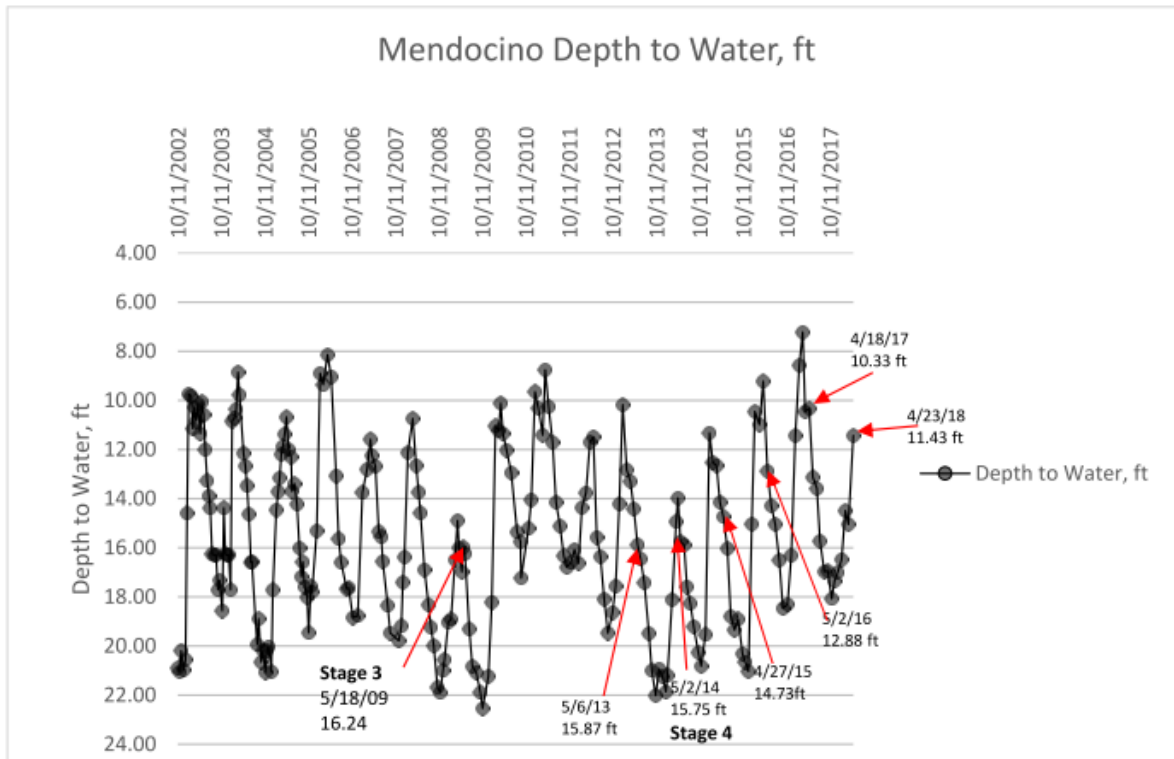


Figure 1 April 2018 DTW Chart

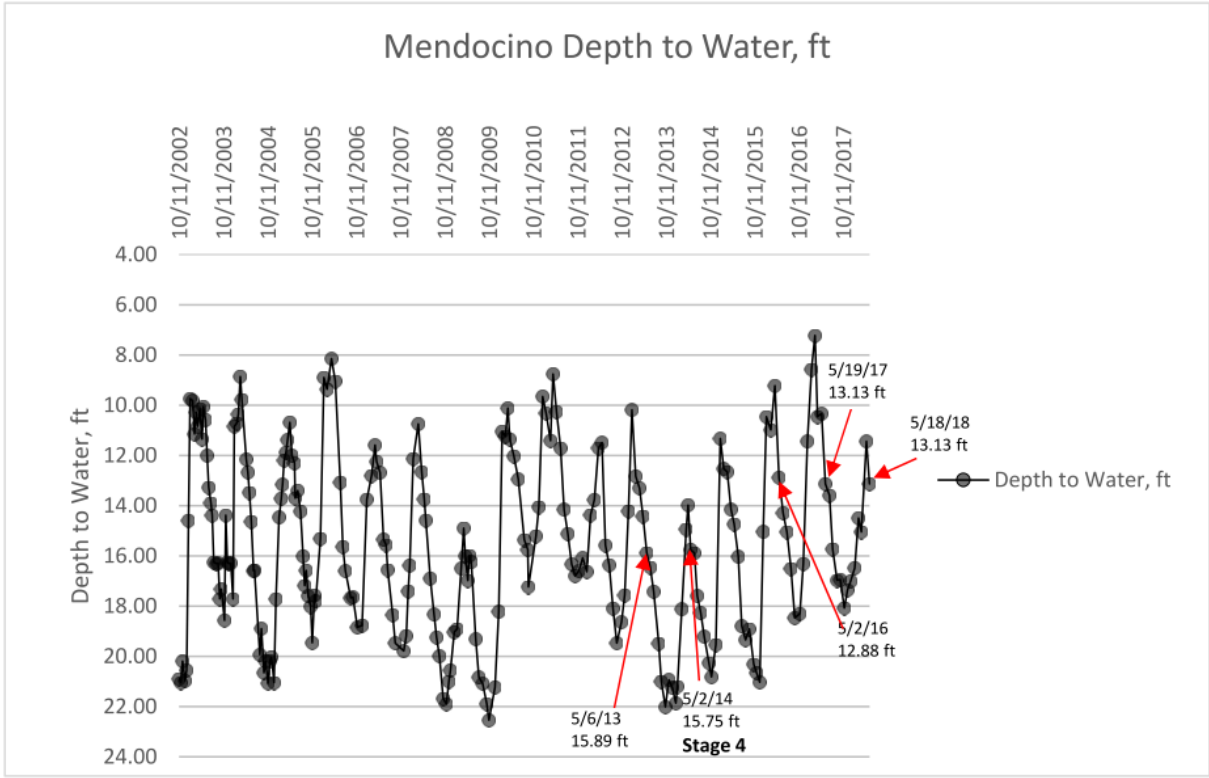


Figure 2 May 2018 DTW Chart