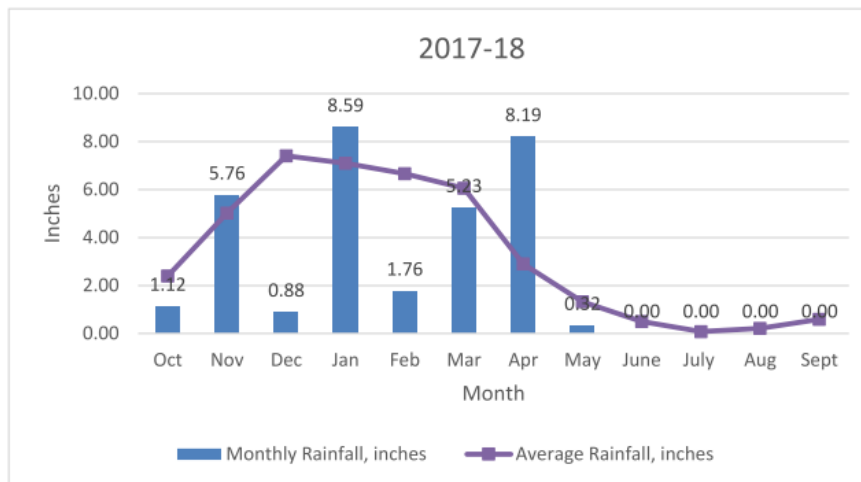


Memo

To: MCCSD Board of Directors
From: District Superintendent
cc: Jim Jackson
Date: September 17, 2018
Re: September 2018 Groundwater Management Report

The 2017-18 Rain Year

October 1, 2017 was the beginning of the 2017-18 rain year. Average precipitation in September is 0.59 inches, and no measurable has been measured so far. The District's total rainfall for this rain year is 31.85 inches. The cumulative average rainfall at the end of September is normally 40.23 inches. This is 79.2% of average annual rainfall (Tab1-2). October 1, 2018 is the start of the new 2018-19 rain year.



	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	0.32	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	31.85	31.85	31.85	31.85	31.85
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: 31.85
29 yr Annual Average Rain: 40.23
Percent of Annual Rainfall: 79.2%

Table 1

DAILY TOTAL RAINFALL												
2017-18										<i>Elevation 72 Feet</i>		
										<i>Latitude 39.306°</i>		
Data From : Community Service District							10AM		<i>Longitude -123.800°</i>			
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	0.11				
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		0.11				
25		0.97	0.03	0.39	0.21			0.1				
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	0.32	0.00	0.00	0.00	0.00
Count	2	12	3	10	6	14	7	3	0	0	0	0
Max	1.06	0.97	0.47	2.04	1.04	0.97	3.83	0.11	0.00	0.00	0.00	0.00
Rainy Days	57							Water year Total Rainfall				31.85
Maximum Daily Rainfall				3.83								

Table 2 2017-18 Rainfall Record

2017-18 Rainfall Evaluations

The District was in a No Water Shortage Condition from January 25, 2016 to May 29, 2018. The Board declare a Stage 1 Water Shortage at the May 29, 2018 due to below normal rainfall.

August 31, 2018 Depth-to-Water Evaluation

On August 31, the District evaluated drought conditions based on Depth-to-Water (DTW) in the District’s drought monitoring wells (Table 3).

Typically, no significant rainfall occurs during the period from May 31 to August 31; therefore, depth-to-groundwater levels are considered as the primary tool for groundwater supply evaluation for the end of summer. Depth-to-groundwater levels are defined for five indicator wells that will be used as the primary basis for declaration of a potential water supply shortage during the summer months, based on model results and historic data. Because a range of conditions may occur based on this analysis, the average condition should be considered as the indicator of the water shortage condition, in which a majority of wells (Table 3) fall within the depth-to-water criteria for a particular stage (different wells may sometimes indicate different stages).

	No Water Shortage	Stage 1	Stage 2	Stage 3	Stage 4	
Well 139						Aug 31
August	<18'	18'-22'	22'-26'	26'-34'	>34'	19.91'
November or December	<15'	15'-19'	19'-23'	23'-29'	>29'	
Well 25						
August	<38'	38'-40'	40'-44'	44'-50'	>50'	36.48'
November or December	<35'	35'-37'	37'-41'	41'-47'	>47'	
Well 134A						
August	<17'	17'-19'	19'-23'	23'-30'	>30'	15.28'
November or December	<14'	14'-16'	16'-20'	20'-27'	>27'	
Well 134B						
August	<17'	17'-19'	19'-23'	23'-30'	>30'	15.85'
November or December	<13'	13'-15'	15'-19'	19'-25'	>25'	
Well 136						
August	<14'	14'-16'	16'-20'	20'-24'	>24'	14.37'
November or December	<14'	14'-16'	16'-20'	20'-24'	>24'	
						20.39' AV
						No WS

Average DTW on August 21 was 20.04'—**No Water Shortage**
 Average DTW on August 31 was 20.39'— **No Water Shortage**

Table 3 August 31, 2018 Water Shortage Evaluation

DTW <20.8 feet on August 31st is considered a No Water Shortage Condition in the District. DTW on August 31, 2018 was 20.39 feet. The Superintendent’s recommendation is for the Board to declare a No Water Shortage Condition in Mendocino. A No Water Shortage Condition Resolution is attached for Board consideration.

September Depth-to-Water (DTW)

The average DTW measurements District-wide in the 24 monitoring wells on September 17, 2018 was 18.12 ft. (Figure 2& 3).

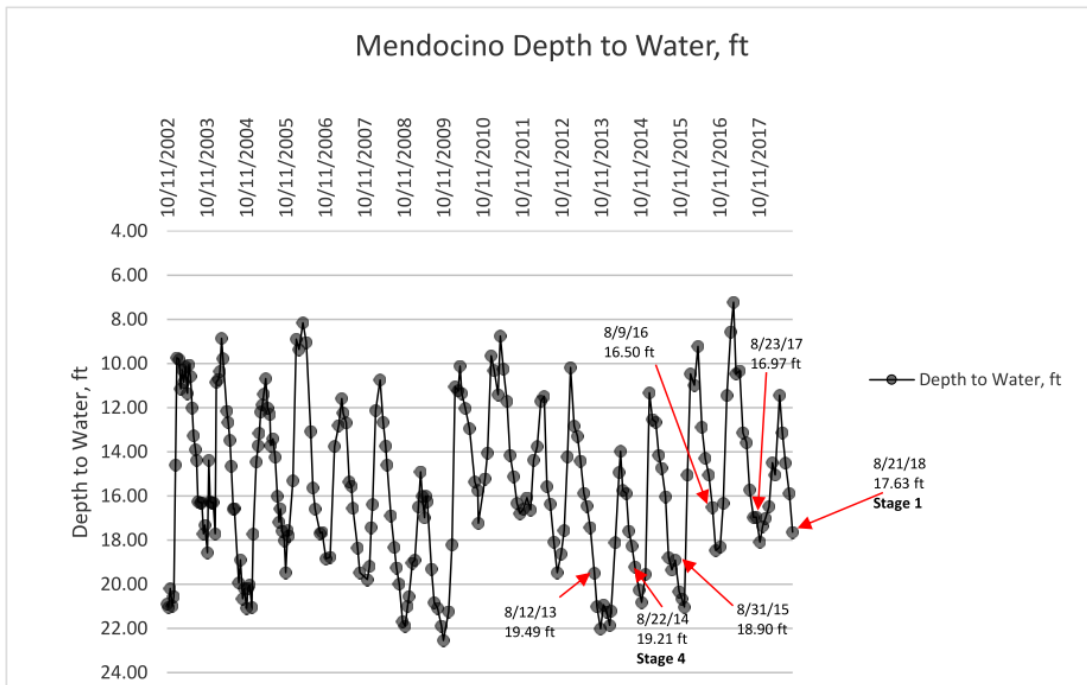


Figure 2 August 2018 DTW Chart

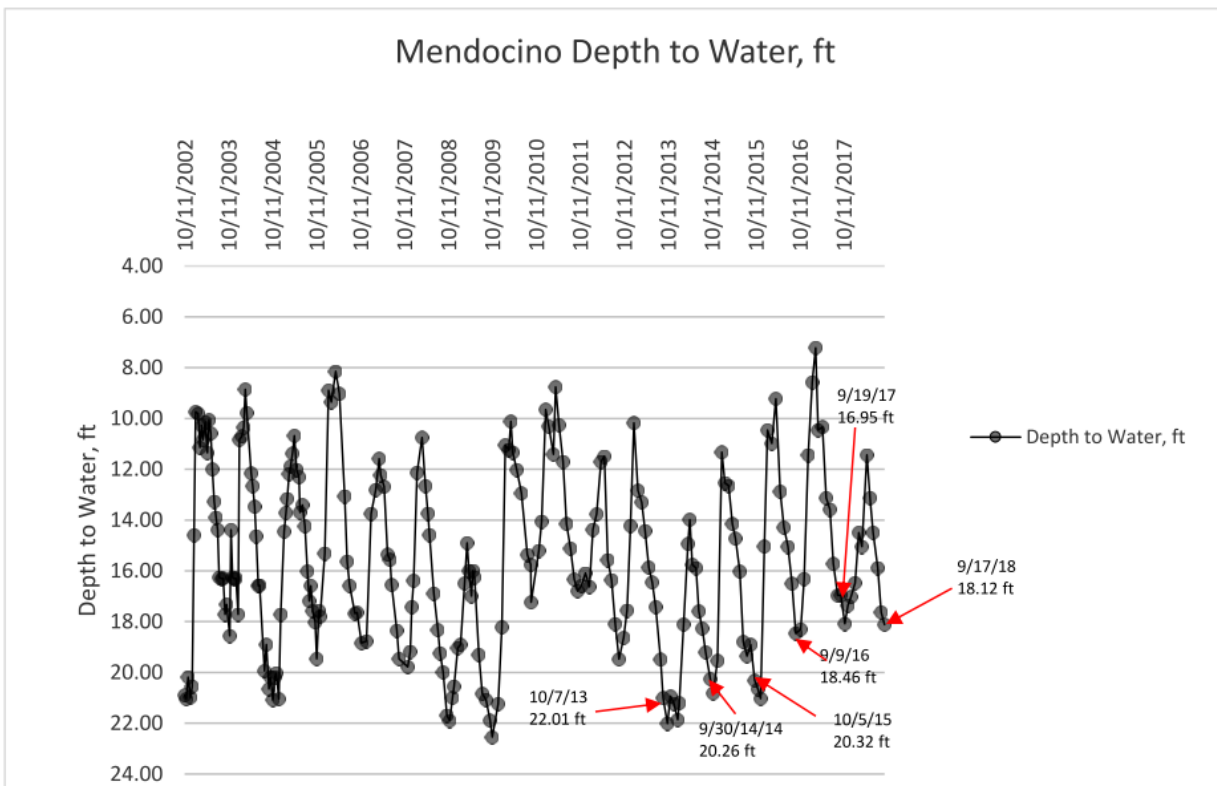


Figure 3 September 2018 DTW Chart