BOLINAS COMMUNITY PUBLIC UTILITY DISTRICT

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MEMORANDUM

TO: Board of Directors

FROM: Jennifer Blackman JB

RE: Update on Water Supply

DATE: October 18, 2021

This memorandum provides a summary of the status of the District's water supply and current consumption data since the last memorandum to the Board dated September 15, 2021.

1. Water Supply: From September 14, 2021 – October 15, 2021, diversions from the Arroyo Hondo Creek to the Woodrat Water Treatment Plant averaged 53,695 gallons per day (GPD), which was 12,270 GPD less than the average diversions to the plant the prior month (65,965 GPD). No water was diverted from the Woodrat reservoirs to meet demand during this time.

2. Rainfall: The district's rainfall thus far for the 2021-22 rain year (July 1, 2021 – June 30, 2022), through October 15, 2021 is 1.52 inches. The persistent marine layer in July and August, the relatively cool temperatures and the shorter days have resulted in highly beneficial impacts on both Arroyo Hondo Creek flow and evaporation/seepage from storage (particularly as compared to last year, when it was much less foggy during the summer and much warmer in September and October).

3. Water in Storage: Our stored usable water supply in the Woodrat reservoirs as of October 15, 2021, (combined), plus the amount of treated water in storage, is estimated to be 8,885,601 gallons, a decline of 396,903 gallons in storage as compared to the 9,282,504 gallons of water in storage on September 6, 2021 due to evaporation and seepage.

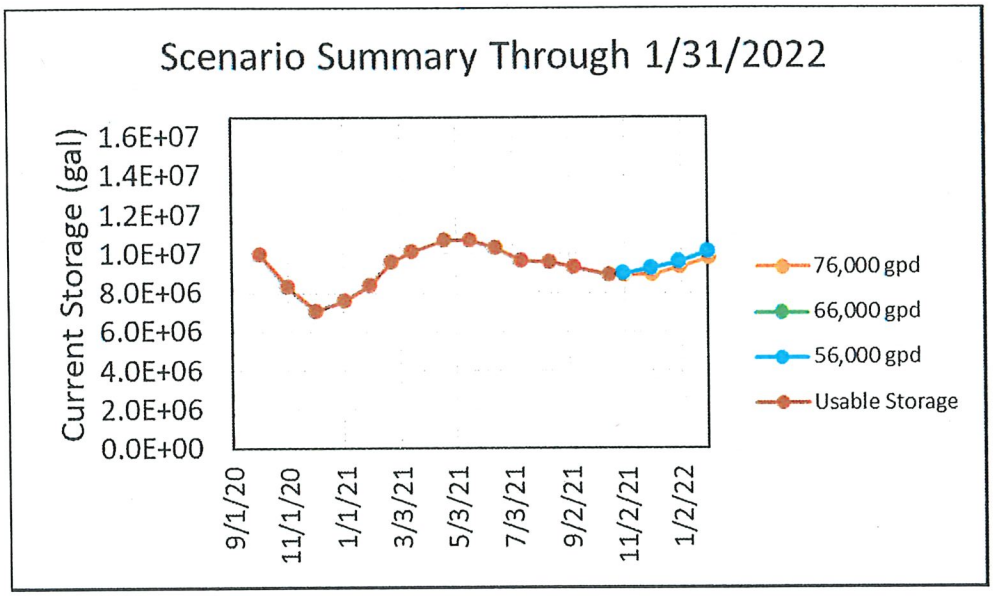
4. Water Consumption. From September 14, 2021 – October 15, 2021 water *production* averaged 51,367 GPD, or 88 GPD per connection. Water *consumption* during this same timeframe averaged 51,724 GPD, which also is 88 GPD per connection. This data indicates that there is virtually no "unaccounted for water loss" (i.e., leaks) in the system right now.

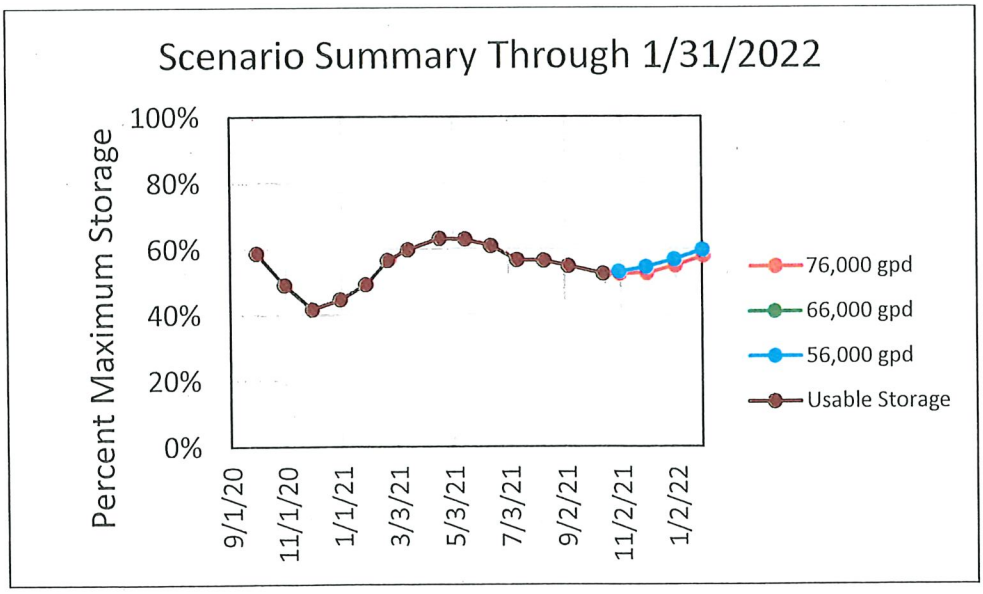
5. Updated Models: ***Note: The models in this memo assume the Hypothetical Minimum Rainfall Scenario i.e., that the district will receive rainfall approximately equivalent to the 2020-21 rain year, or 9.9 inches of rainfall, between October 2021 and January 2022.***

The graphs below are updated Scenario Summaries reflecting the actual water storage data recorded as of October 15, 2021 (brown line with the fourteen dots) and the "fork" of projections as to how much stored water the district will have available through January 31, 2022 based on differing rates of overall community water consumption ***and*** (1) assumed (but hypothetical) receipt of 9.9 inches of rain during October 2021 through January 2022 and (2) updated projections to the Arroyo Hondo Creek base flow recession model, including the beneficial impact of fog.

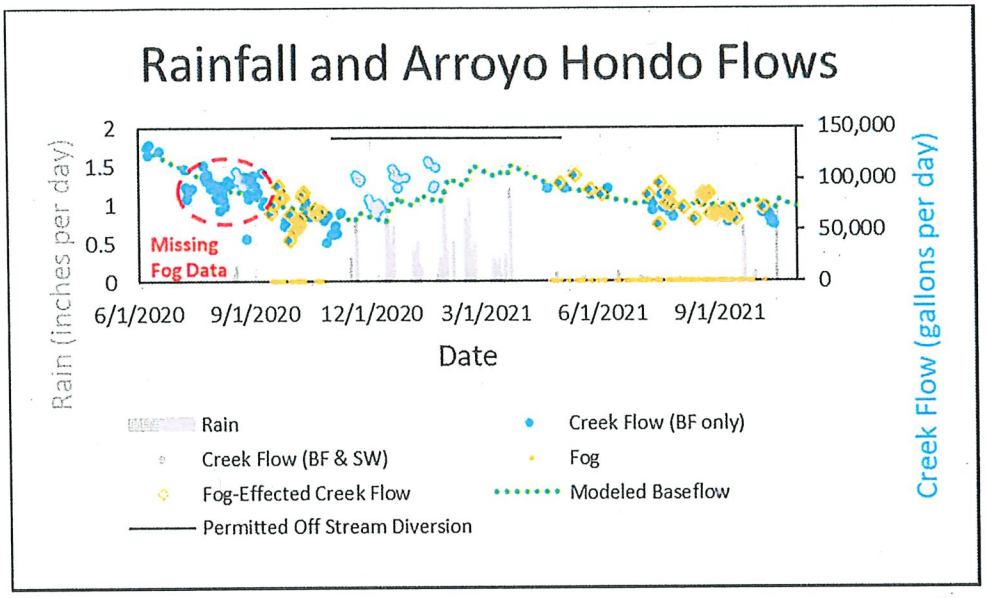
The most recent seven-day running average community consumption is approximately 53,000 GPD, placing the district slightly above the blue line. These graphs now projects that if (1) consumption stays between current levels and below the ration trigger of 66,000 GPD, (2) the 9.9

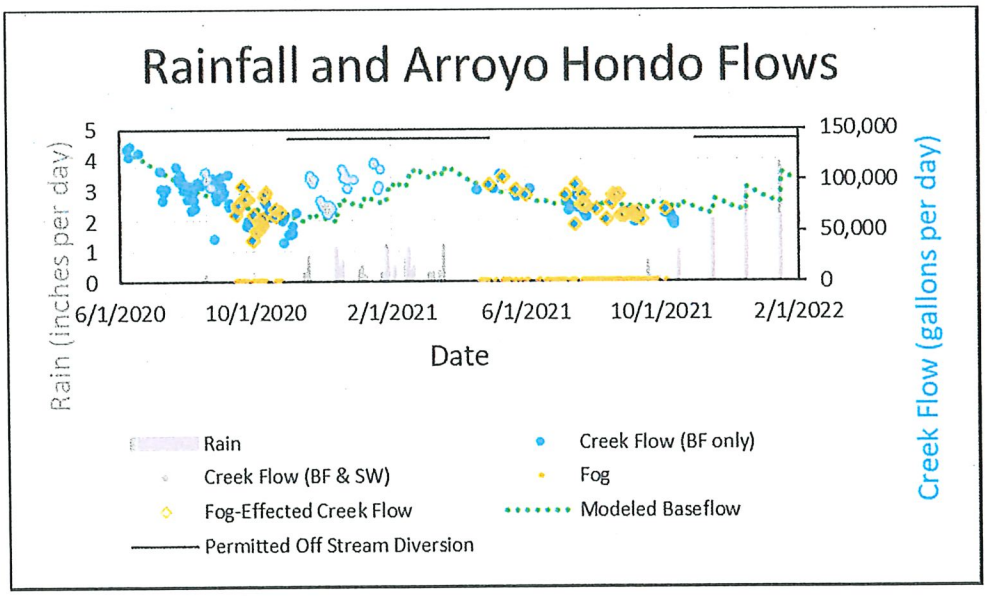
inches of hypothetical rainfall occurs by January 31, 2022, and (3) the fog gives way to the more typical warm and sunny Fall weather, the district will have just over 10 million gallons of water in storage through January 2022 (blue dots on right side of graph boxes), or approximately 58-60 percent of capacity, which is a decline from the storage predicted last month due to the loss in storage from September 6th – October 15th. Although the district is heading into the mid-Fall with slightly less water in storage than this time last year, the rate of decline in storage is predicted to be far shallower if current consumption patterns hold, because the district is able to meet demand via the Arroyo Hondo Creek (and not diverting from storage). As a reminder, last year at this time, consumption was averaging approximately 86,000 GPD and the district was diverting from storage to meet demand. The scenarios below predict the district will end the calendar year in a better position than last year in terms of storage, even though we had a second and more severe year of drought. Conservation really helps!





The next two graphs are of the district's base flow (BF) recession model for the Arroyo Hondo creek, updated to reflect the effect of data collected by the district re: the fog/marine layer[1] (in addition to updates discussed in previous memoranda to the Board).[2] The first graph shows conditions through October 15, 2021, and the second projects creek flows through February 1, 2022, assuming the fog will give way to the more typically sunny and warm Fall weather the district generally experiences. The total creek flow is less than it was at this time last year, but more stable over time (i.e., not as steep of a decline over time), which likely is the result of (1) the groundwater system starting less full and draining at a lower rate and (2) more fog (as best we can tell with spotty data). And, of course, the daily demand is far lower than it was this time last year, and generally less than the current creek flow, as a result of conservation measures. The model currently projects that flows in the creek will be increasing over the next few months due to the beneficial impact of assumed rainfall.





[1] Please note the area of "missing fog data" in red on the top graph. District staff only began specifically tracking fog in September 2020.

[2] This updated base flow recession model reflects total creek flow. The seepage past the gate based on repeated flow measurements during August – October has averaged approximately 3 gpm. Given the relatively de minimis amount of seepage, recoverable base flow is not separately depicted.