

BOLINAS COMMUNITY PUBLIC UTILITY DISTRICT

BCPUD

BOX 390 270 ELM ROAD BOLINAS CALIFORNIA 94924

415 868 1224



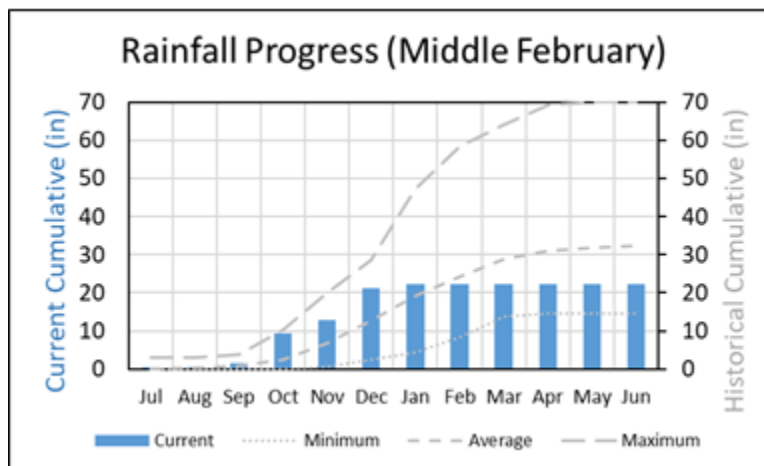
MEMORANDUM

TO: Board of Directors
FROM: Jennifer Blackman
RE: Update on Water Supply
DATE: February 14, 2022

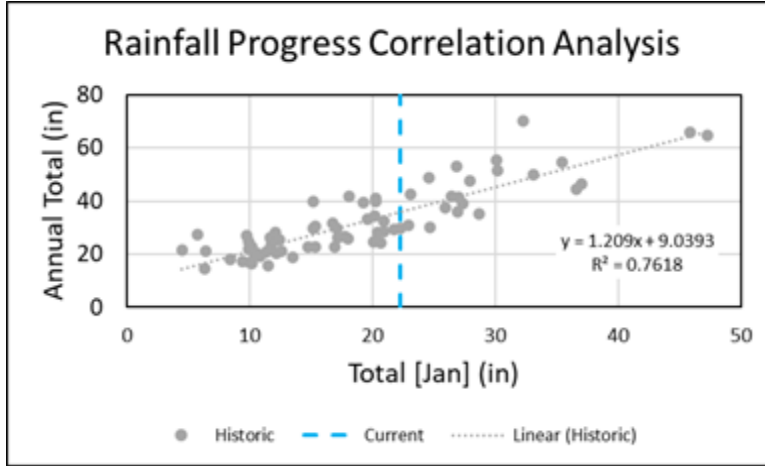
This memorandum provides a summary of the status of the District's water supply and related data and projections since the last memorandum to the Board dated January 18, 2022.

- Rainfall:** Unfortunately, the district has received only 0.02 inches of rain (which fell on January 20, 2022) since my last memo to the Board dated January 18, 2022, bringing our year-to-date total to 22.23 inches of rain. Last year, as of February 16, 2021, the district had received only 13.2 inches of rain, so rainfall to-date remains well above last year's rainfall. However, as of the preparation of this memo, there is no significant rain predicted in the 10-day forecast. A persistent ridge of high pressure has settled in, preventing storm events over the Pacific from reaching the district (and most of the rest of California).

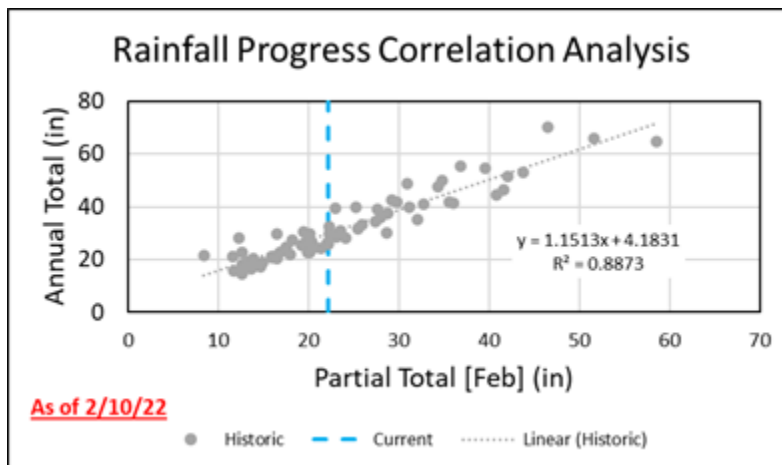
As depicted in the graph below, if the district does not receive any meaningful rain by the end of February, the cumulative precipitation to-date will be below average (whereas the district was slightly above-average as of last month).



As for what the current rainfall total suggests for the full rain year total, the range of potential outcomes (based on data from prior years in the available historical record) as of the end of January 2022 remains relatively uncertain (see graph on top of next page).

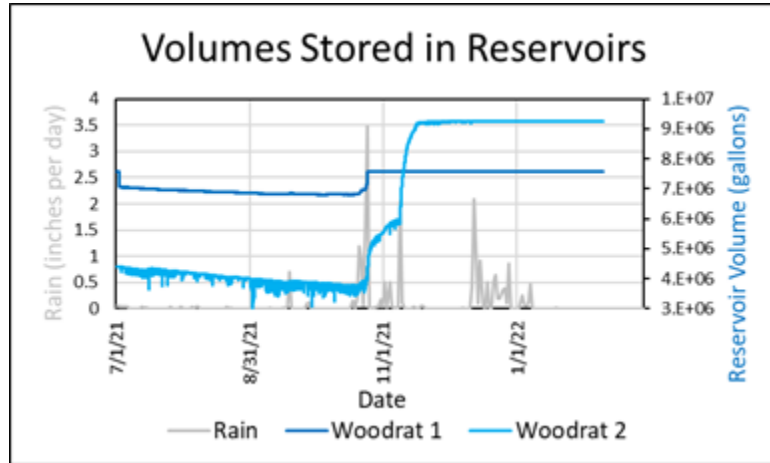


The next graph correlates the rainfall progress for February (assuming no more rain this month) with total annual rainfall for the available historical record (preceding 68 years). During that time, the district has experienced 35 other years where the rainfall received was 22.23 inches or less as of the end of February. Those rain years generally turned out to be somewhat drier than normal years with a minimum total rainfall received of 14.49 inches, a maximum of 30.52 inches, an average of 22.65 inches and a line of best fit projection of 29.78. These statistics suggest there is potential for the 2021-22 year to be a below average rainfall year.



- 2. Water Production and Consumption:** From January 15, 2022 – February 14, 2022, water *production* averaged 59,100 GPD, or approximately 100 GPD per connection. Water *consumption* during this same timeframe averaged 61,079 GPD, which is 103 GPD per connection. Note: water consumption was higher than water production because the treatment plant was off-line for three days during this period due to repair work. Note further that for the week of February 8 – February 14 (during unseasonably warm weather), consumption jumped up to an average daily use of 65,484, or 112 GPD per connection. On February 13th, water consumption was 80,942 gallons across the district, or 138 GPD per connection.

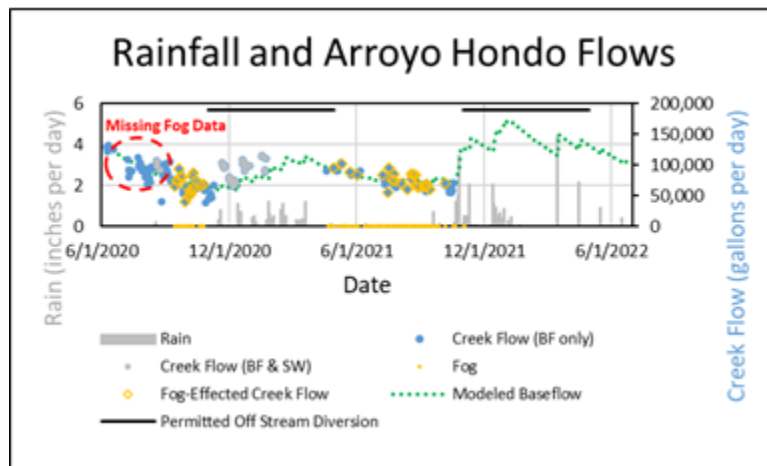
3. Water in Storage:



The updated graph above depicts the volumes of water stored in each of the district’s reservoirs (Woodrat 1 and Woodrat 2) from July 1, 2021 through mid-February 2022, with the rain events also shown. Our stored usable water supply in the two reservoirs as of February 10, 2022 (combined), plus the amount of treated water in storage, is estimated to be 16,273,954 gallons (100% of capacity), a significant improvement from last year at this time, when the reservoirs were at less than 60% capacity

4. Updated Models:

The next two graphs are the district’s base flow (BF) recession model for the Arroyo Hondo Creek, updated to depict predictions about creek flows for the remainder of the rain year.¹ The first graph shows actual conditions through February 10, 2022 and assumes no more rain for this month; this graph then *assumes average monthly rainfall for Bolinas for March – June 2022*. An additional somewhat pessimistic assumption is that there will be no fog during the spring. If the district does receive average rainfall in March - June, the model predicts that creek flows will be approximately 115,000 GPD by June 1, 2022, whereas flows were 83,000 GPD on June 1, 2021.



¹ It has not been possible for staff to collect actual creek flow data per our existing methods since the October rains when the gate at the lower diversion point was raised in anticipation of the “atmospheric river” rain storm. As such, staff is using this model to assess creek base flow response to rains, but we currently are unable to check the model against actual flow data. Staff is working to develop a means by which to measure creek flows at the upper diversion point.

The second graph shows actual conditions through February 10th and assumes no more rainfall this month, but it then *assumes the same amount of rainfall we received last year for March – June 2022 and no fog in the spring*. If that lower amount of rainfall occurs, the model predicts creekflows on June 1, 2022 at about the same level as last year (albeit slightly better at approximately 87,000 GPD).

