



# EXETER PUBLIC WORKS DEPARTMENT

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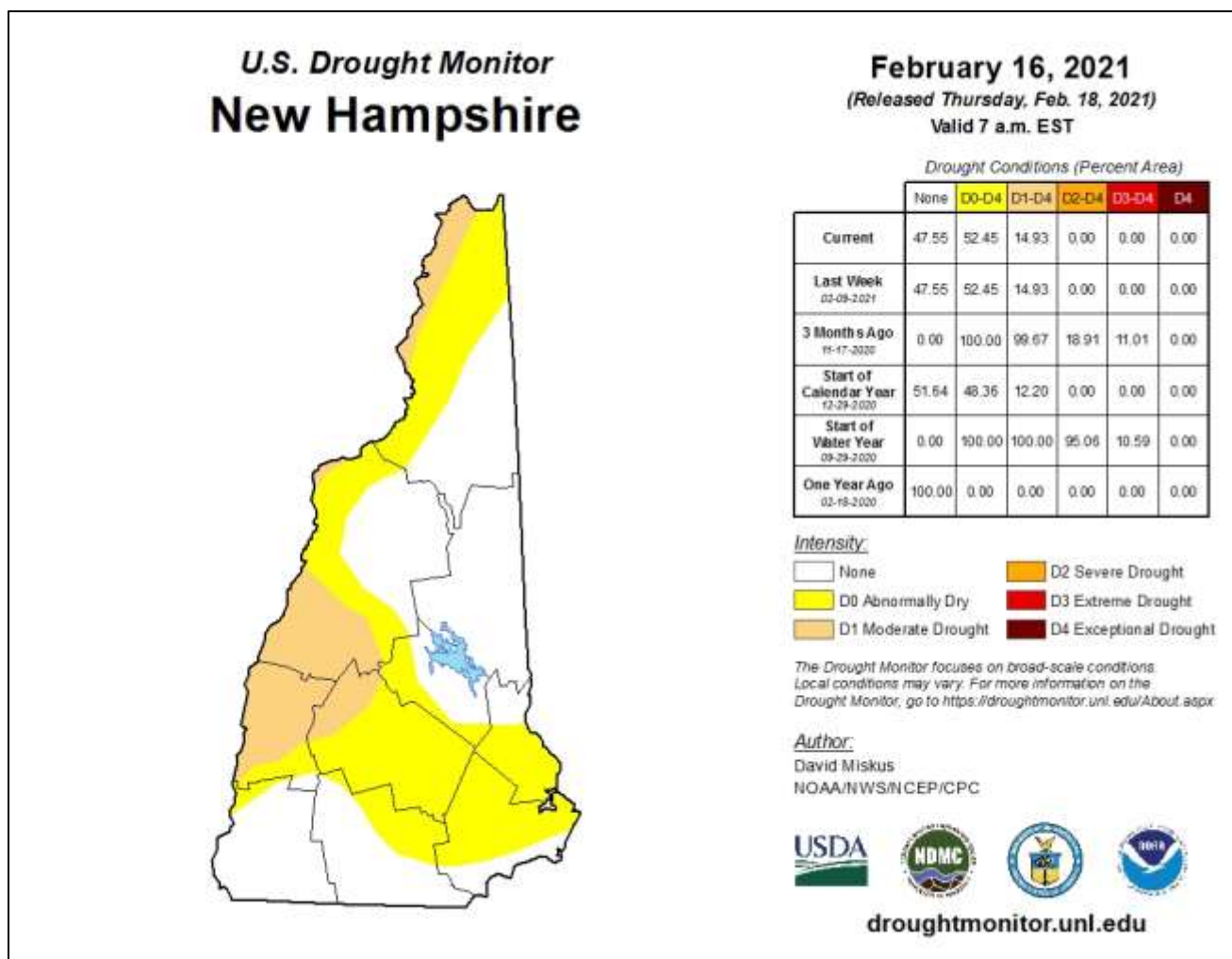
[www.exeternh.gov](http://www.exeternh.gov)

## MEMO

DATE: February 19, 2021  
TO: Melissa Roy, Interim Town Manager  
Exeter Select Board  
FROM: Jennifer R. Perry, P.E., Public Works Director  
RE: Water Resources Status Update & Recommended Water Use Restrictions

### New Hampshire Drought Conditions

The U.S. Drought Monitor dated February 16, 2021, indicates drought conditions throughout the Town of Exeter and the upper reaches of the Exeter River watershed continue to be **abnormally dry** (D0). The Exeter Select Board reduced outdoor watering restrictions to Level 2 on January 4, 2021, which allows landscape watering every other day and does not restrict other outdoor water uses. The Public Works Department recommends continuing the Level 2 restrictions.

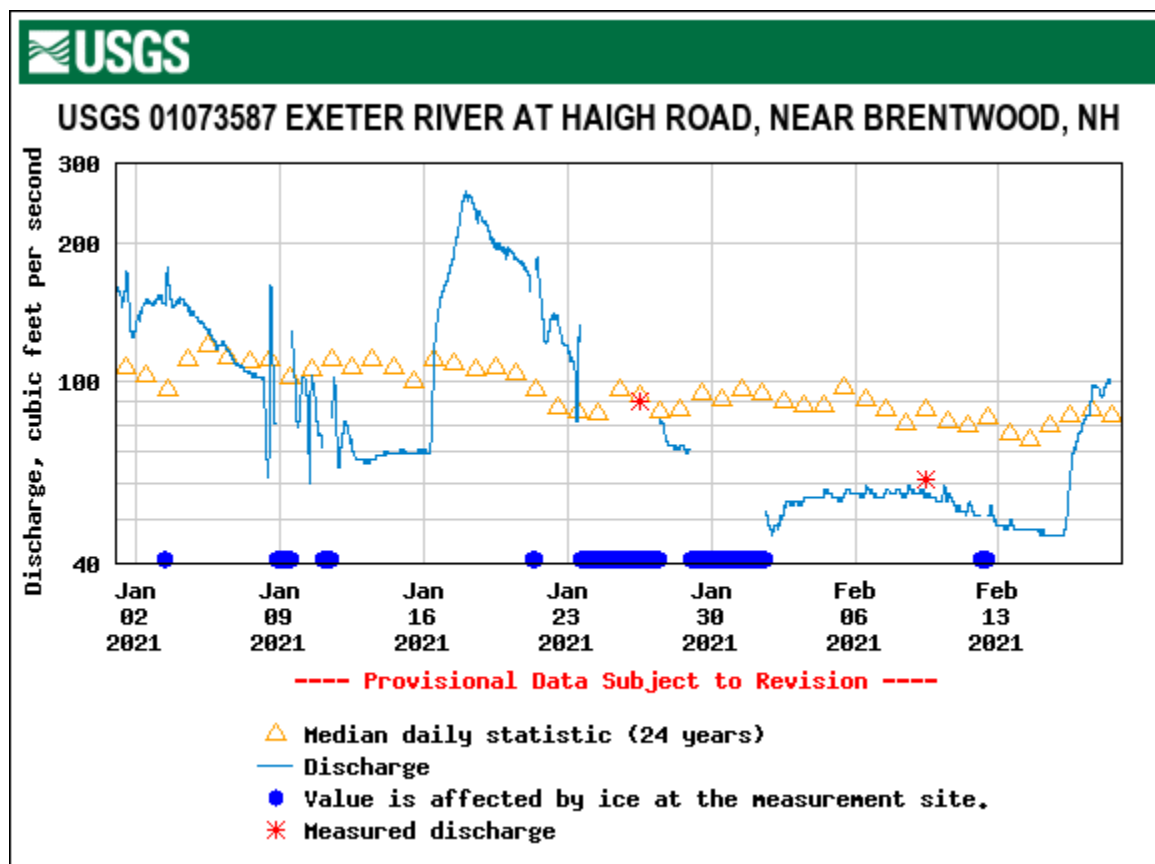


The U.S. Drought Monitor is jointly produced by National Drought Mitigation Center at University of Nebraska-Lincoln, U.S. Department of Agriculture, and National Oceanic and Atmospheric Administration. Map courtesy of NDMC.  
<https://droughtmonitor.unl.edu/CurrentMap/StateDroughtMonitor.aspx?NH>

### River Flow

Several significant rain events have occurred this year and increased flows in the Exeter River. The USGS stream flow gauge on the Exeter River at Haigh Road in Brentwood (drainage area 63.5 square miles) indicates current instantaneous discharge is 101 cubic feet per second (cfs) (at 10:15 am on 2/18/2021) which is below the mean. The minimum flow on this date was 37.8 cfs in 2002 and the maximum was 567 cfs in 2008. The water supply intake for the Town of Exeter is located several miles downstream, with a contributing watershed of 107 square miles. The flow rates at the intake location are estimated to be 1.69 times higher than at Haigh Road, or approximately 171 cfs (110 MGD).

Exeter River flow rates are **below normal** for this time of year.



<https://waterdata.usgs.gov/usa/nwis/uv?01073587>

### Groundwater Levels

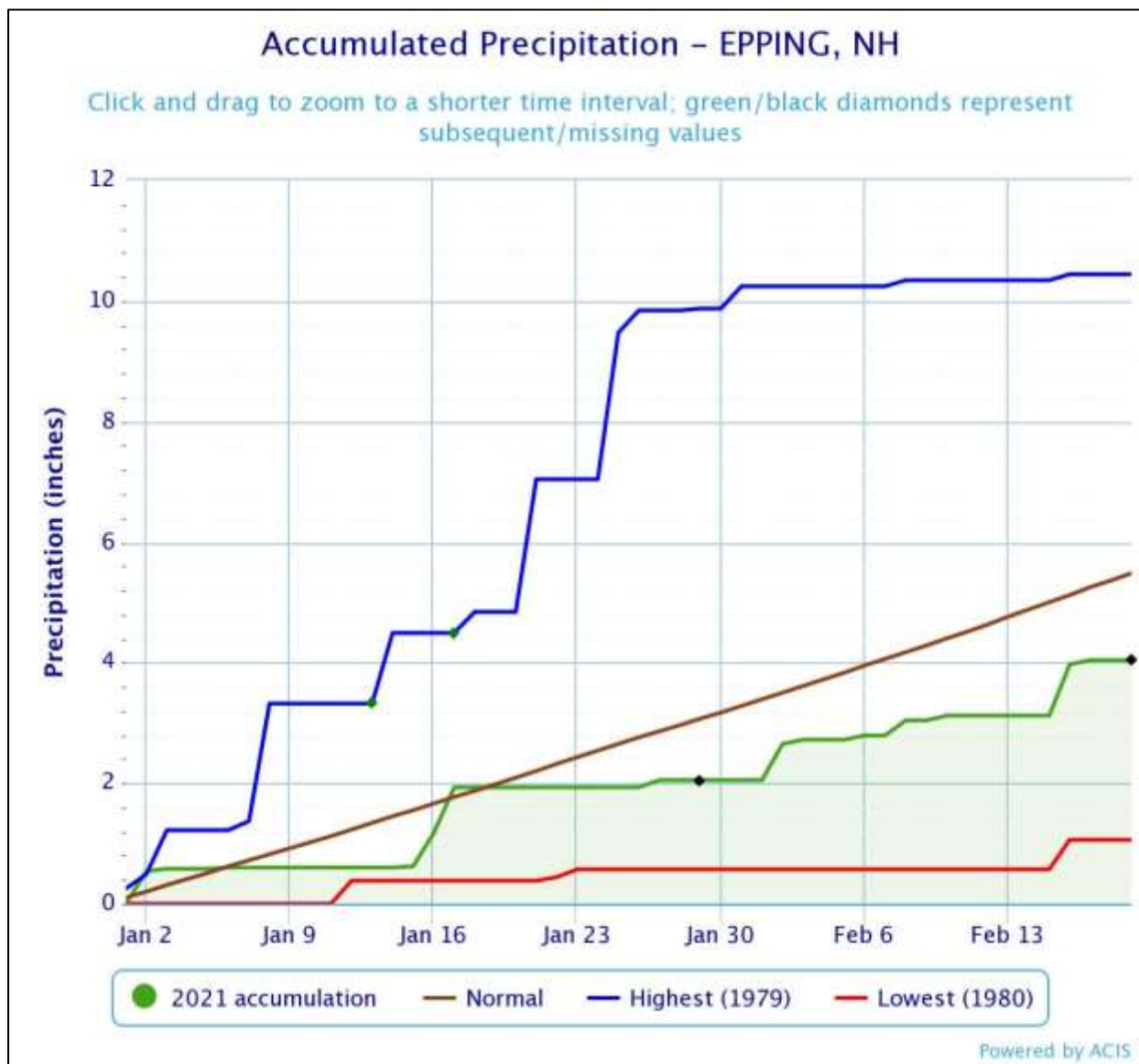
Groundwater levels for long-term monitoring wells in the region vary by location. The USGS wells in Epping, Concord and Nashua are experiencing normal to above average groundwater levels. The exceptions are below average levels in Deerfield (overburden), Franklin, Greenfield, and Ossipee, all of which had experienced a rise in groundwater levels since December.

Current groundwater levels are ranging from **below normal to above average**.

### Precipitation

Several significant precipitation events occurred in January and February. However, total precipitation received since January 1 through February 18 is 4.04 inches which is 1.44 inches below the mean of 5.48 inches (Source: National Weather Service NOWData for Epping, NH). Total annual precipitation averages 48.11 inches for this site (55 years of record).

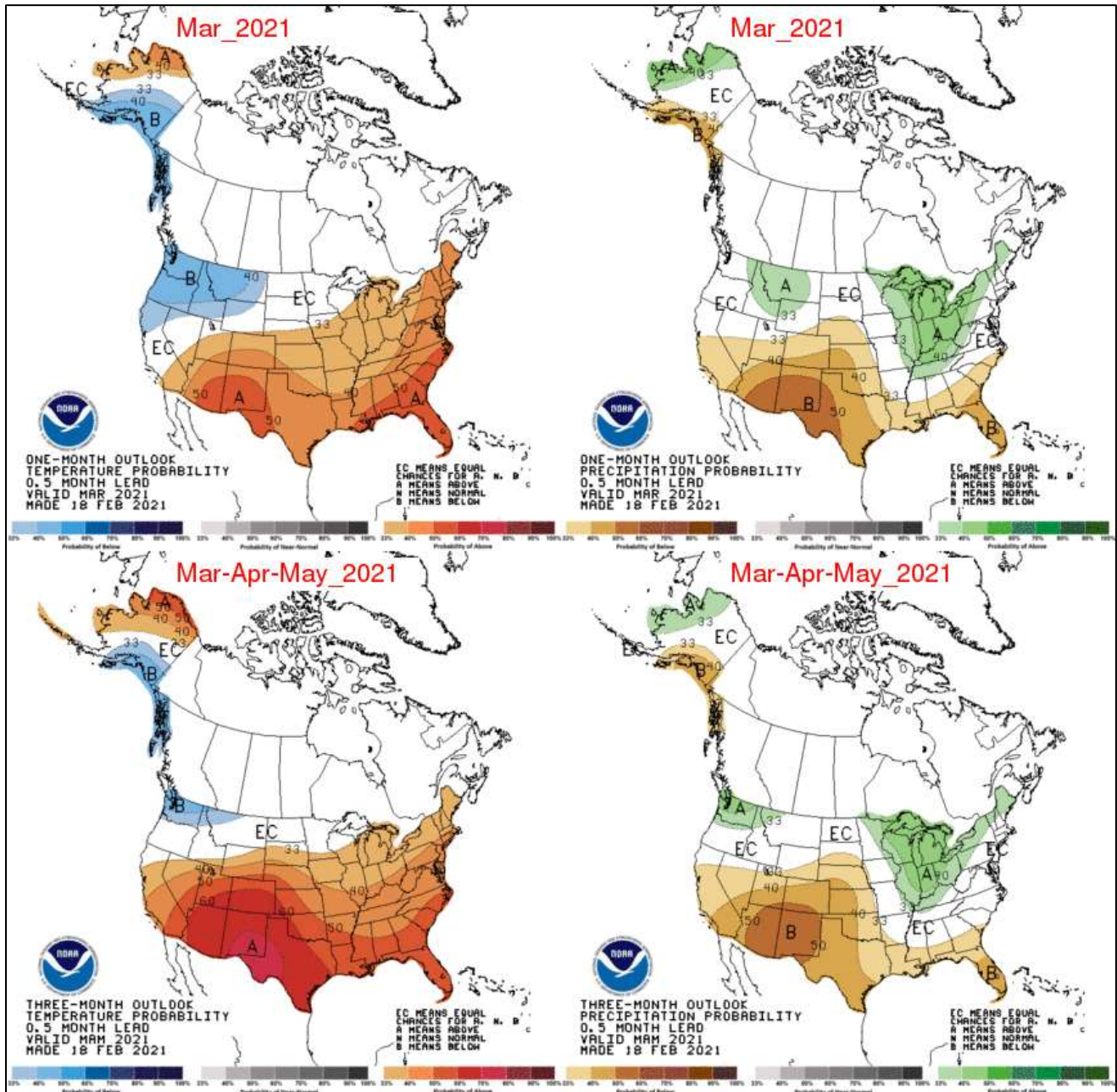
There is a **1.44 inch precipitation deficit** for the year; precipitation is **below normal** for the year.



NOAA/National Weather Service, Gray/Portland Office. NOWData for Epping, NH.

### Temperature and Precipitation Forecast

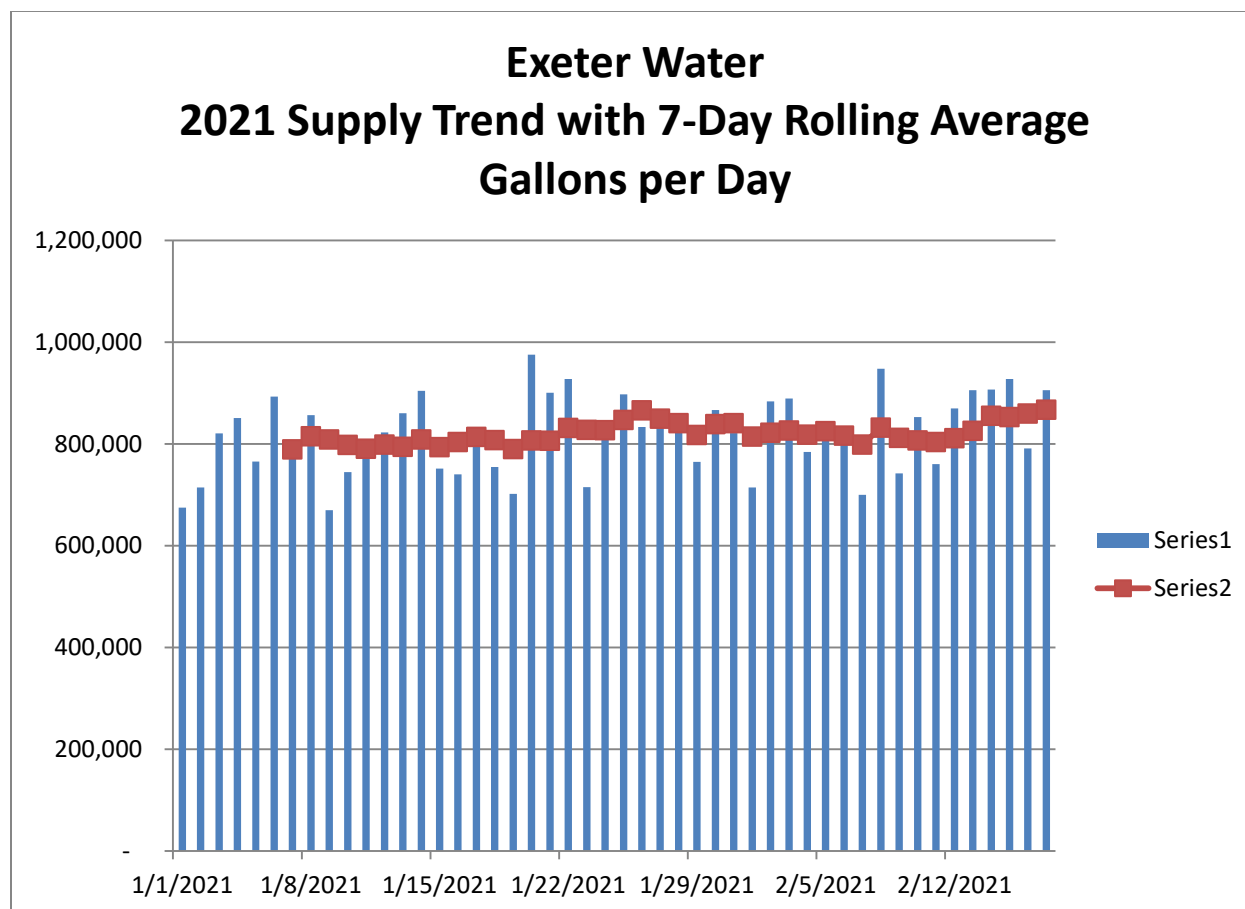
March and the 3 month outlook (March, April, May) **temperatures** are predicted to continue to be **above normal**. March precipitation and the three month outlook (March, April, May) indicates equal chances for above, normal or below normal precipitation for the New England region.



[http://www.cpc.ncep.noaa.gov/products/predictions/multi\\_season/13\\_seasonal\\_outlooks/color/churchill.php](http://www.cpc.ncep.noaa.gov/products/predictions/multi_season/13_seasonal_outlooks/color/churchill.php)  
[https://www.cpc.ncep.noaa.gov/products/predictions/multi\\_season/13\\_seasonal\\_outlooks/color/page2.gif](https://www.cpc.ncep.noaa.gov/products/predictions/multi_season/13_seasonal_outlooks/color/page2.gif)

### Exeter Water Supply

Water usage or demand in the Exeter public water system to date in 2021 is representative of non-summer non-irrigated flows. The seven day average on February 18 is 0.87 MGD. To date in 2021 the surface water treatment plant (SWTP) produced 28.3 MG, supplying 70% of demand. The groundwater treatment plant (GWTP) produced 11.9 MG, supplying 30% of demand.



### Summary

Exeter and the upper reaches of the Exeter River watershed remain abnormally dry (D0). Temperatures have been above average since May 2020 and are predicted to continue to be above average through May 2021. Although precipitation events occurred in January and February, precipitation is below normal with a 1.44 inch rainfall deficit for the year. Surface waters currently are below normal flow. Groundwater levels are recovering and ranging from below average to above average. Water usage has been typical for non-summer non-irrigated conditions at 0.87 MGD.

### Recommendations

We recommend continuing the Level 2 restrictions which allow landscape watering every other day and do not restrict other outdoor water uses. Water users are encouraged to continue to practice effective water conservation. For helpful tips on water use and conservation go to <https://www.epa.gov/watersense>.