
City of Portsmouth

Department of Public Works



October 8, 2019

Portsmouth Water Supply Status Report

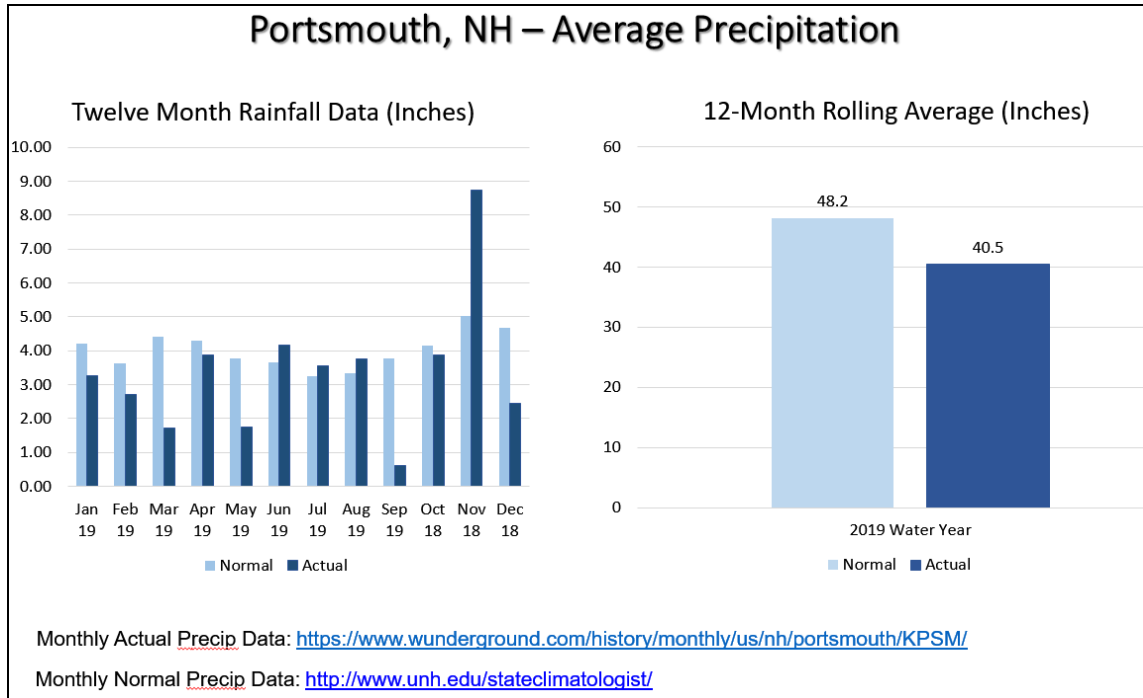
The month of September 2019 was the fourth driest month in 20 years here in Portsmouth. Fortunately, not all the months in 2019 have been this dry and the Portsmouth and Pease Tradeport drinking water systems are currently able to meet this demand with our existing sources of supply, however, the continued loss of the Haven Well has warranted the need for Portsmouth Water to supplement the Pease International Tradeport water system with. Once the new Pease water treatment facility is on line in a couple of summers we anticipate no longer having the need to utilize Portsmouth water to supplement that system.

Precipitation Status and Water Year Totals

The Portsmouth area received approximately 0.6 inches of precipitation in September 2019. This is well below normal and as previously stated, was the fourth driest month in 20 years. The current 12-month rolling average precipitation totals 40.5 inches, which is below normal. However, with earlier rainfall events this year they were mostly long duration events rather than brief showers, which allowed the water to soak into the ground and recharge our water sources.

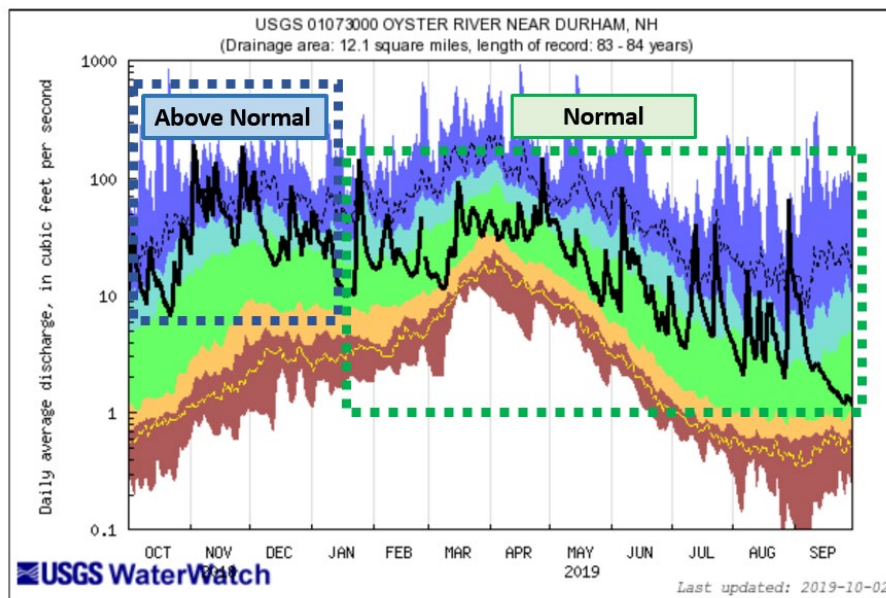
September marks the end of the 2019 "Water Year." A water year is a term commonly used in hydrology to describe a time period of 12 months for which precipitation totals are measured. Its beginning differs from the calendar year because part of the precipitation that falls in late autumn and winter is not generally taken up by growing plants and it also accumulates as snow in the winter and does not drain until the following spring or summer's snowmelt. The United States Geological Survey defines it as the period between October 1st of one year and September 30th of the next.

The following graphs show the 2019 Water Year monthly precipitation amounts and overall precipitation for the year:



Reservoir Levels and Flow

The current river flow, according to the gauged Oyster River which we use to assess the flow into the Bellamy Reservoir, is above normal for this time of year per the following USGS graphic:



Explanation - Percentile classes					
lowest-10th percentile	5	10-24	25-75	76-90	95 90th percentile - highest
Much below Normal	Below normal	Normal	Above normal	Much above normal	Flow

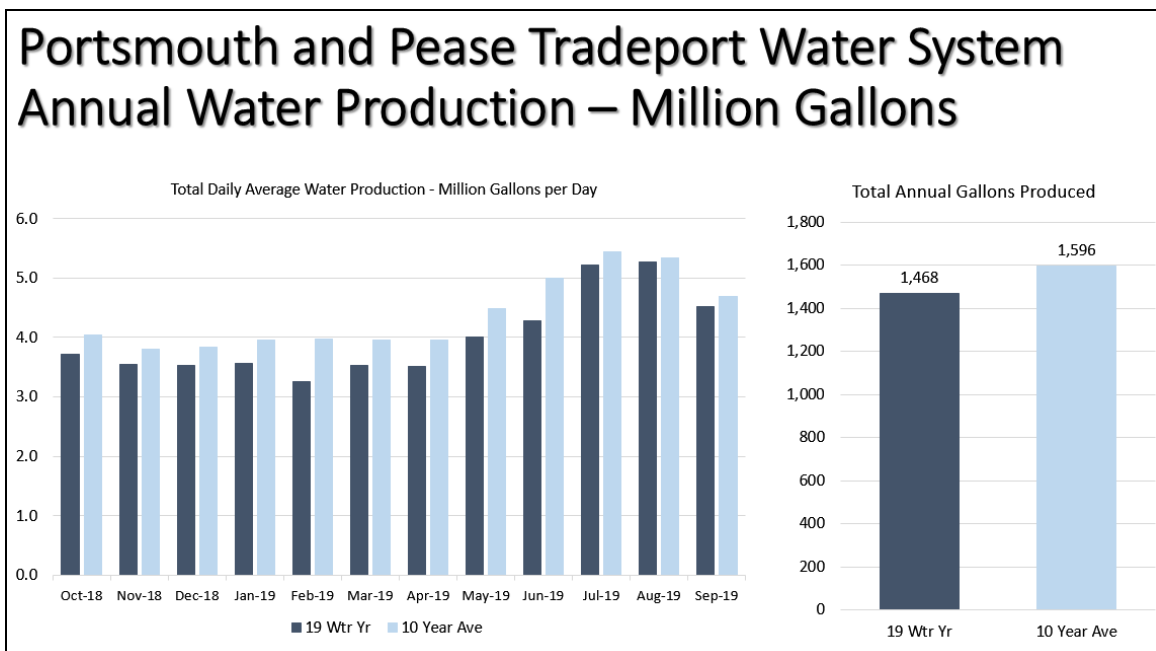
As shown by the above graphic, the precipitation received in the 2019 Water Year happened in a manner that kept streamflows at or above normal for the year. Accordingly, the Bellamy Reservoir water levels were near normal this time year. However, due to the dry month of September they are trending to below normal status.

Groundwater Levels and Status

Groundwater levels in most of our water sources continue to be better than normal. Through optimization of our use of surface water our operators have decreased the average daily use from our wells. This has allowed well levels to be maintained in a sustainable manner and more water availability for the system to meet peak demand. Each well has a continuous water level meter and the water pumped is also metered. This allows system operators the capability of assessing groundwater level trends and we are able to determine overall source of supply capability.

Water Production

The 2019 Water Year experienced lower water supply needs than the 10-year average. Some of this can be attributed to a wet spring and fair weather in the early summer. However, through diligent management of the water distribution system and service pipes we have been able to identify and fix a number of leaking pipes. The reduction of water lost in these pipes has reduced the overall water demand in the system. In fact, for the 2019 Water Year, we produced 8 percent less water than the 10-year average. We are planning to continually inspect our system for additional leaks. With 200 plus miles of water pipelines this is a lot of effort. The following graphics show the monthly and annual trends in water supply production for the Portsmouth and Pease Tradeport water systems:



Water Efficiency Rebates

Through vigilant monitoring and operational changes, the Portsmouth water system supplies continue to meet the demands of our customers. However, we continue to ask our water customers to please use water wisely, minimize waste, and incorporate water efficient fixtures and appliances whenever possible.

The City also continues to offer water efficiency rebates of \$100 per low flow toilet and \$150 for the purchase of a high efficiency washing machine. These are available to all residential customers, including multi-family customers. To date, nearly 1,000 rebates have been issued. Additional information on this program can be obtained from the City's water billing department or from the City's website:

<https://www.cityofportsmouth.com/publicworks/water-efficiency-rebate-program>

Further Updates and Information

This information will be distributed electronically on the City of Portsmouth's website in the Department of Public Works > Operations > Water section. If anyone needs additional information or has questions contact Al Pratt, Water Supply Operations Manager at 520-0622 or Brian Goetz, Deputy Director of Public Works at 766-1420.