



June 2, 2016

Portsmouth Water Supply Status Report

Overview

The following Portsmouth Water Supply Status Report provides the Portsmouth Water customers an assessment of the current water supply conditions. This report is distributed routinely via the City of Portsmouth's website at:

www.Cityofportsmouth.com/publicworks - water

Water Conservation Status

Customer Water Restrictions
N/A
None
Voluntary Measures
Odd/Even Watering
Two-days/Week Watering
No Outdoor Use

Based on current water supply conditions, there are **no water use restrictions** at this time.

The demand for water is typical for this time of year, though usage has increased since last month due to irrigation demands. Groundwater levels in our production wells are within normal ranges for this time of year. Surface water conditions are below average relative to the past 30-year record of May streamflow.

At this time water supply resources are adequate and water demand can be met without use restrictions. However; if the precipitation deficit and current low flow and stage conditions in surface water sources continues, customers may be requested to restrict water use in the coming summer months.

The City of Portsmouth continues to encourage awareness of water use and the implementation of water efficiency measures. Information and tips regarding water efficiency can be accessed at the following website links:

<http://www.portsmouthwastewater.com/watersense.html>

<http://www.epa.gov/watersense/>

Current Customer Water Demand

Current Water Demand
Below Normal
Normal
Above Normal
High
Very High
Historic High

Water demand is considered **Normal** at this time.

Customer water demand is a factor in the supply status assessment that is measured by the amount of water delivered through the water system. This factor reflects customer usage and variations caused by daily, weekly and seasonal changes in business, residential and irrigation demands.

Month	Current Demand (Million Gallons per Day (MGD))	Average Demand (ten-year average (MGD))
January 2016	3.97	4.16
February 2016	4.07	4.17
March 2016	4.09	4.18
April 2016	4.21	4.19
May 2016	4.77	4.73

Average daily water demand was 4.77 million gallons per day (MGD) in May, which is slightly higher than the ten-year mean May demand of 4.73.

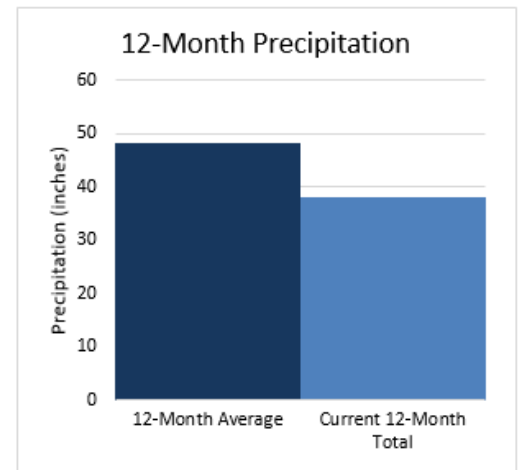
Precipitation Status

Precipitation
Above Average
Average
Below Average
Dry
Very Dry
Drought

Total May precipitation in Portsmouth was 1.61 inches, which is 2.12 inches less than the historic May average. Despite there being 12 days with recorded precipitation, the overall precipitation was far below normal. The precipitation events were mostly minor yielding less than 0.10 inch each. The two largest storms each yielded 0.44 inches of rain over the first week of May.

In order to assess annual precipitation conditions, total precipitation over a rolling 12-month period is compared to the normal annual precipitation of 48.19 inches. As the accompanying graphic shows, precipitation over the past 12-months equals 38.02 inches which is 10.17 inches below normal, 79% of the normal annual amount.

Due to these conditions, the precipitation status is currently considered **Dry**.



Groundwater Levels

Groundwater Levels
Above Average
Average
Below Average
Low
Very Low
Drought

Currently the groundwater levels considered **average** as they are within the range of levels that typically occur in the month of May. By increasing our winter and early spring withdrawal from the Bellamy Reservoir, we have reserved our groundwater supply sources for greater use during high demand periods over the summer.

Overall conditions of aquifer water levels are assessed with respect to water levels that are continuously monitored in the Portsmouth Water Supply wells. Based on historic water-level data, average water levels have been identified for a representative well in each well-field area for each month of the year. Assessments of the aquifer levels are made relative to average levels, historic low levels, and available drawdown in the wells.

River Flow

River Flow
Above Average
Average
Below Average
Low
Very Low
Drought

Portsmouth Water System operators track the USGS stream flow gauges in the Oyster River and Lamprey River to assess flow conditions. The mean stream flow in the Oyster River at the USGS gauge was 9.22 cfs in May. This is 17.0 cfs (35%) lower than the 30-year May mean flow rate. The mean stream flow in the Lamprey River at the USGS gauge was 120.3 cfs, which is 242 cfs (33%) lower than the 30-year May mean flow rate.

At this time the current river flow rates are considered **Low** for this assessment. This condition affects the recharge of the Bellamy Reservoir, thus is a consideration in planning for summer withdrawals from our surface water supply.

Reservoir Level

Reservoir Level
Above Average
Average
Below Average
Low
Very Low
Drought

The current stage of the reservoir is considered **Below Average** for this time of year.

As the surface water source for the Madbury Water Treatment Facility, the Bellamy Reservoir is monitored to assess and predict the overall amount of water available for the Treatment Facility. Reservoir water levels are compared to typical monthly levels to assess the reservoir conditions.

The Bellamy Reservoir ceased flowing over the spillway during the last week of May. This typically occurs at the end of June or early July. This is a result of the ongoing deficit in precipitation. Generally, recharge to the reservoir can occur with storm events that produce substantial runoff from the 22 square mile watershed.

Water Supply Capability

Water Supply Capability
Above Normal
Normal
Below Normal
Restrictions Necessary
Additional Restrictions Necessary
Emergency

Water Supply Capability is a measure used to identify any issues with the Portsmouth Water Supply System that would result in a limitation to the amount of water that could be supplied. These could be lack of supply, issues with source water quality, or mechanical failures of system components.

The loss of the Haven Well as a water source (which contributed approximately 10% of the water system's overall capability) has reduced the amount of water that can be provided to the system. Currently the pump in the Collins Well has been removed for maintenance and improvements are being made to the well building. The Collins Well is anticipated to be back on-line the second week of June. At this time the water supply capability is considered **Below Normal**.

Further Updates and Information

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

Water Supply Status

Portsmouth Water Division

June 1, 2016

Precipitation	Groundwater Levels	River Flow	Reservoir Level	Water Supply Capability	Current Water Demand	Customer Water Restrictions
Above Average	Above Average	Above Average	Above Average	Above Normal	Below Normal	N/A
Average	Average	Average	Average	Normal	Normal	None
Below Average	Below Average	Below Average	Below Average	Below Normal	Above Normal	Voluntary Measures
Dry	Low	Low	Low	Restrictions Necessary	High	Odd/Even Watering
Very Dry	Very Low	Very Low	Very Low	Additional Restrictions Necessary	Very High	Two-days/Week Watering
Drought	Drought	Drought	Drought	Emergency	Historic High	No Outdoor Use