

City of Portsmouth

Department of Public Works



August 16, 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

Odd/Even Water Use Restrictions

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

Based on current supply and demand conditions, mandatory Odd/Even Water Restrictions are in effect:

i. Restrict irrigation water use as follows:

- a. Odd-numbered days** – Outdoor watering allowed between midnight and 10:00 AM;
- b. Even-numbered days** – No Outdoor watering allowed.

Water use restrictions are requested at this time due to the continued severe drought conditions on the Seacoast and water system demands that are higher than normal for this time of year. As the accompanying information shows, the recent weather conditions continue to be very dry. This has caused lower than typical reservoir levels, stream flow, and in some locations below average groundwater levels.

Additional information and tips regarding water efficiency can be accessed at the cityofportsmouth.com website or by calling the water/snow ban hotline at: 603-766-7669

Current Customer Water Demand

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

Water demand is considered **High** 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
June 2016	5.62	5.07
July 2016	6.10	5.49

Average daily water demand was 6.10 million gallons per day (MGD) in July, which is considerably higher than the ten-year mean July demand of 5.49.

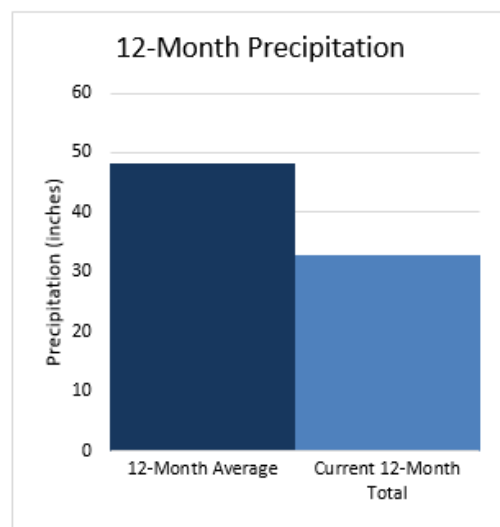
Precipitation Status

Precipitation
Above Average
Average
Below Average
Dry
Very Dry
Drought

Portsmouth received 3.00 inches of precipitation in July. This is 0.5 inches less than the historic July average. This was the tenth consecutive month with less than average precipitation. So far in August, Portsmouth has received only an inch of precipitation.

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 34.70 inches which is 13.5 inches below normal, or just 72% of the normal annual amount.

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



Groundwater Levels

Groundwater Levels
Above Average
Average
Below Average
Low
Very Low
Drought

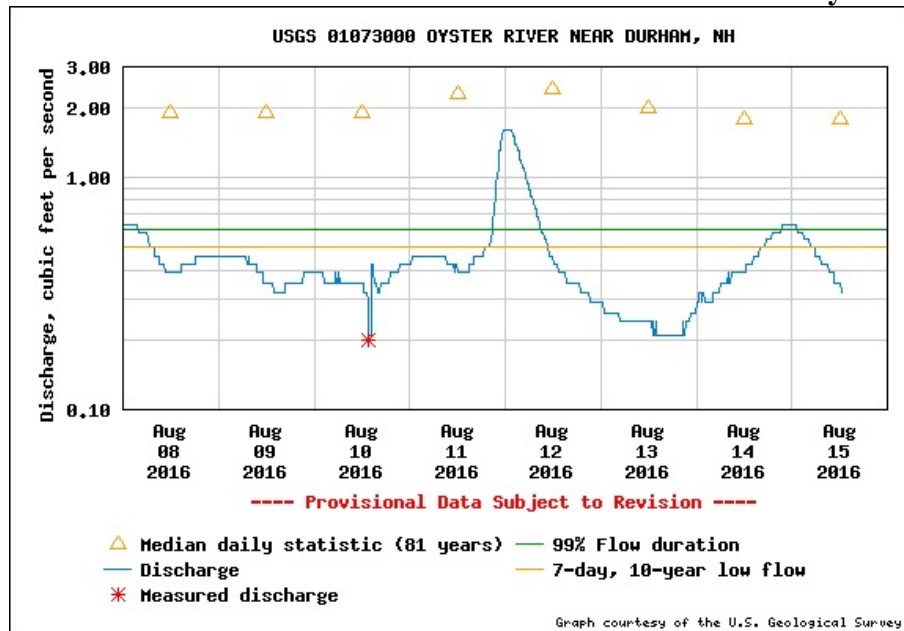
Currently the groundwater levels considered **Average** as most of the water levels in the supply wells are within the range of levels that typically occur in the month of July. By increasing our winter and early spring withdrawal from the Bellamy Reservoir, we have reserved our groundwater supply sources 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 monthly mean stream flow in the Oyster River at the USGS gauge was approximately 1.0 cfs. This is 6 cfs lower than the 30-year July mean flow rate. At this time the current river flow rates are considered **Very Low**



Oyster River USGS Stream Flow Gauge with yellow line showing historic low water level

Reservoir Level

Reservoir Level
Above Average
Average
Below Average
Low
Very Low
Drought

The current stage of the reservoir is considered **Low** 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. Currently the reservoir level is 2.1 feet below the spillway.

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. 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 Manager at 520-0622