



Water Supply Update

Serving the Communities of Hingham, Hull, & North Cohasset

News and Notes

- This fall marks the second year in a row that Aquarion has flushed the entire distribution system. Flushing involves opening hydrants to allow relatively large volumes of water to move systematically through the company's distribution system, creating increased flow that scours the inner walls of the pipes helping to remove build-up of naturally occurring minerals and sediment. We strive to provide our customers with high quality water at all times, and distribution system flushing improves the quality of water we deliver to our customers by reducing the possibility of discolored water incidents that can sometimes occur during periods of high water demands, if there is a main break, or if a hydrant is opened to fight a fire.
- This winter, we will be expanding our valve maintenance program. The program consists of locating and exercising the valves and identifying ones in need of repair or replacement. In 2018, we added or replaced seven valves and repaired over a dozen without excavating.
- Design and permitting work on several water main projects planned for 2019 is nearly complete, including water main replacements on Beach Avenue, Maple Lane, Cadish Avenue, Hayes Road, Bradley Hill Road, Bremer Circle, and Forget Me Not Lane. Several of these water main replacement projects include the elimination of seasonal bleeders, which are used in the winter to prevent the pipes from freezing. Once completed, these projects will save almost 4 million gallons of water per year (~11,000 gpd on an average annual basis).
- The construction of new sludge conveyors at our treatment plant is nearly complete. These conveyors will replace old, inefficient equipment, and will also reduce chemical and operating costs related to the handling of sludge generated in the water treatment process. The sludge conveyors are scheduled to be operational by the end of the year.
- Another important capital project planned for 2019 includes the design of a new water storage tank in Hull, to be located at the site of our former Strawberry Hill Tank. The conceptual design includes a 500,000-gallon water storage tank approximately 130 feet tall. This tank will improve pressure and flows for our customers in Hull and eliminate the need of the Hull Booster Station. Design and permitting activities are expected to begin in early 2019.
- In addition to water main replacement and storage projects, we will also be undertaking an important water supply project at the Fulling Mill site in Hingham. Design plans have been approved by the Department of Environmental Protection to install a new vertical turbine pump at the Cistern well with a rated pumping capacity of 900 gallons per minute. This new pump will increase the pumping capacity and reliability of our water supply system.

Our customer water conservation program continues to be a great success. Since March 2017, we have completed the replacement of over 815 toilets with new water conservation units for over 481 customers. These upgrades have resulted in water conservation savings of approximately 12,400 gallons per day (approximately 4.53 million gallons per year)! If you have not already had the opportunity to sign up for our customer water conservation program, or tell others about it, please visit our website at www.aquarionwater.com/conservationoffers.

Water Resource Management

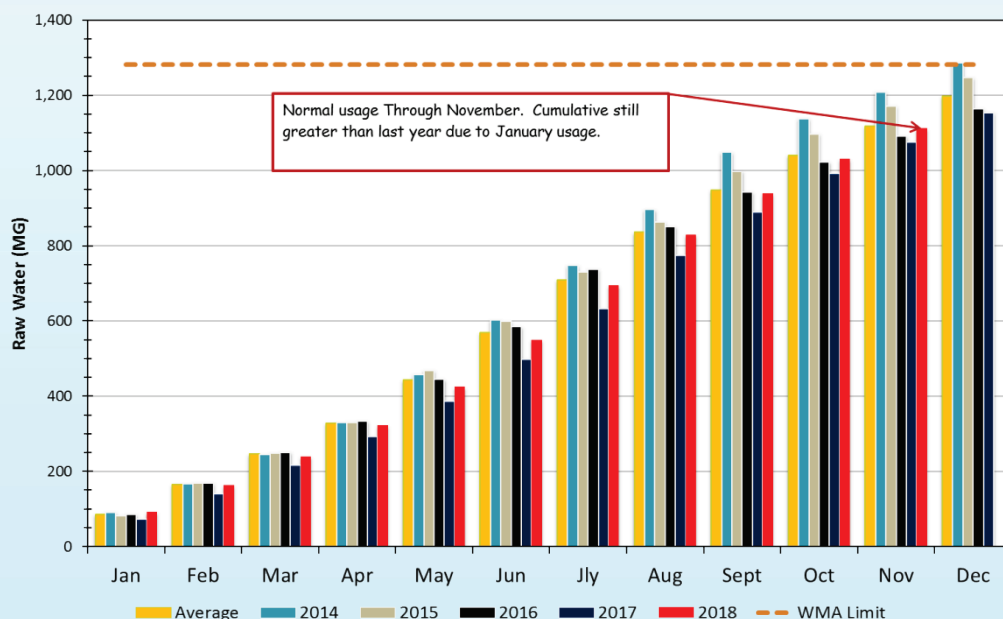
All of our sources are in excellent condition due to the abundance of precipitation this fall. Accord Pond was taken offline on October 14 and was at 100% capacity by the end of November. All of our wells were tested this November in preparation for our rehabilitation and cleaning activities planned and scheduled for this winter. In 2019, we plan to install a new 900 gallon per minute pump at our Fulling Mill Cistern water supply. The Fulling Mill Cistern is recharged from a 1,000-foot horizontal collection well, a diversion from Accord Brook and a diversion from Fulling Mill Brook.

Aquarion continues to evaluate the Fulling Mill resource area as a possible way to increase our withdrawals from existing sources. In 2019, we will be conducting computer modeling and meeting with various state regulatory officials to discuss our proposed approach to store water in our Fulling Mill resource area during the winter and spring then release it to a tributary that leads to the Weir River to augment stream flows in the summer.

Water Supply and Demand

Water demands for November 2018 were slightly greater than average for this time of year, primarily due to our distribution system flushing program. The average amount of water pumped from our sources to meet November demands was 2.72 million gallons per day (MGD). The cumulative average daily usage through November (3.33 MGD) is marginally greater (3%) than last year at this time, but the

**Aquarion Water Company, MA
Cumulative Monthly Raw Water Flows (Sum of Sources)
Hingham Water Treatment Plant**

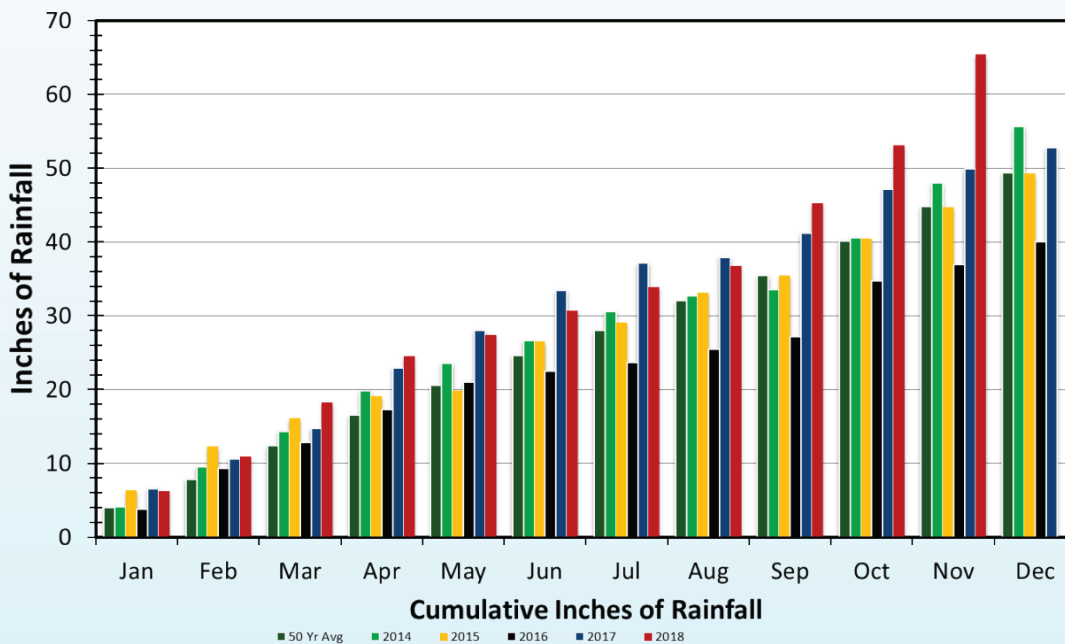


cumulative usage is less than average for this time of year. We anticipate that water demands will steadily decline through the winter and we are confident we will continue to meet the needs of our customers.

Weather Trends

The total recorded precipitation for November 2018 was 12.3 inches, which is 7.69 inches above the historic average precipitation for the month of November. Cumulative precipitation through the month of November is 65.38 inches, which is 20.58 inches above average. Recent precipitation has resulted in our aquifer remaining at above average groundwater levels for this time of year. In addition, the water level of Accord Pond is at 104% capacity, representing a usable volume of over 286 million gallons, which is above average for this time of year. Accord Pond is offline, and will likely remain offline until next spring.

**Aquarion Water Company, MA
Cumulative Monthly Rainfall
Hingham Water Treatment Plant**



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Aquarion Water Company, MA

Monthly Average Water Withdrawals (including Hingham, Hull, & N. Cohasset)

Month/Yr	2011 (MGD)	2012 (MGD)	2013 (MGD)	2014 (MGD)	2015 (MGD)	2016 (MGD)	2017 (MGD)	2018 (MGD)	Average (MGD)
January	3.19	2.75	2.78	2.62	2.65	2.77	2.34	2.98	2.73
February	3.08	2.62	2.72	2.60	3.08	2.87	2.43	2.54	2.77
March	2.84	2.69	2.61	2.57	2.60	2.65	2.44	2.48	2.63
April	2.88	3.20	2.42	2.76	2.73	2.74	2.57	2.75	2.76
May	3.47	3.73	3.21	4.06	4.41	3.59	3.04	3.30	3.64
June	4.35	3.49	3.94	4.75	4.34	4.66	3.73	4.16	4.18
July	4.87	4.06	4.63	4.64	4.23	4.94	4.31	4.67	4.53
August	3.87	3.14	4.34	4.79	4.32	3.67	4.57	4.36	4.10
September	2.89	2.81	4.03	5.09	4.51	3.05	3.84	3.65	3.75
October	3.01	2.35	3.57	2.89	3.21	2.59	3.35	2.96	3.00
November	2.70	2.48	2.93	2.36	2.46	2.29	3.22	2.72	2.63
December	2.73	2.59	2.66	2.46	2.46	2.33	2.54		2.54
Average (MGD)	3.32	2.99	3.33	3.47	3.42	3.18	3.16	3.33	3.27

MGD - Million Gallons per Day

* Includes Meter Corrections

Annual Water Management Act Registration Limit: 3.51 MGD

Aquarion Water Company, MA

Monthly Average Water Withdrawals (including Hingham, Hull, & N. Cohasset)

Month/Yr	2011 (MG)	2012 (MG)	2013 (MG)	2014 (MG)	2015 (MG)	2016 (MG)	2017 (MG)	2018 (MG)	Average (MG)
January	98.89	85.17	86.33	81.37	82.11	85.89	72.55	92.35	84.61
February	86.27	76.11	76.27	72.79	86.12	83.16	67.91	71.07	78.38
March	88.19	83.29	80.98	79.52	80.72	82.21	75.49	76.80	81.49
April	86.52	95.94	72.63	82.70	81.99	82.23	76.97	82.52	82.71
May	107.58	115.63	99.41	125.74	136.57	111.28	94.27	102.23	112.93
June	130.45	104.80	118.22	142.44	130.20	139.81	112.00	124.86	125.42
July	151.05	125.83	143.48	143.84	131.10	153.18	133.49	144.85	140.28
August	119.85	97.19	134.51	148.39	133.94	113.87	141.68	135.03	127.06
September	86.72	84.25	121.02	152.74	135.38	91.38	115.19	109.49	112.38
October	93.24	72.93	110.76	89.59	99.47	80.41	103.83	91.79	92.89
November	80.88	74.49	87.81	70.85	73.69	68.71	82.45	81.45	76.98
December	84.77	80.28	82.49	76.41	76.14	72.18	78.71		78.71
Total (MG)	1,214.42	1,095.91	1,213.91	1,266.36	1,247.43	1,164.31	1,154.57	1,112.44	1,200.39
Average (MGD)	3.32	2.99	3.33	3.47	3.42	3.18	3.16	3.33	3.28

MG - Million Gallons

MGD - Million Gallons per Day

* Includes meter corrections

**Aquarion Water Company, MA
 Monthly Water Supply Report
 Hingham/Hull/Cohasset**

Month
November

Year
2018

Monthly Supply Pumping Summary

Accord Pond	0.08	MG	0.1%
Scotland St Well #1	15.82	MG	19.4%
Scotland St Well #1A	5.64	MG	6.9%
Prospect St Well	7.62	MG	9.4%
Free St Well #2	0.71	MG	0.9%
Free St Well #2A	16.88	MG	20.7%
Free St Well #3	0.00	MG	0.0%
Free St Well #4	17.82	MG	21.9%
Free St Well #5	3.62	MG	4.4%
Fulling Mill Well #1	10.08	MG	12.4%
Fulling Mill Well #2	3.18	MG	3.9%
Fulling Mill Cistern	0.00	MG	0.0%
Downing St Well	0.00	MG	0.0%
	81.45	MG	100.0%
	2.72	MGD	

Accord Pond (last day of the month)

Water Elevation (Ft)	142.2
Usable Volume (MG)	286.0
Capacity (%)	104

MG - Million Gallons

MGD - Million Gallons Per Day

Statistics

Pumping

Maximum Day (MGD)	3.16
Date	11/28/18

Minimum Day (MGD)	2.34
Date	11/16/18

Year to Date

Maximum Day (MGD)	6.33
Date	07/04/18

Average Day (MGD)	3.33
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Temperature (°F)

Maximum	70.9
Date	11/01/18

Minimum	23.4
Date	11/23/18

Precipitation

Monthly Total (Inches)	12.30
Annual Total (Inches)	65.38