Finance Committee Packet
Meeting of October 18, 2022

MEMORANDUM

TO: Berkshire Regional Retirement Board

FROM: John W. Parsons, Esq., Executive Director

RE: Appropriation for Fiscal Year 2023

DATE: November 30, 2021

Required Fiscal Year 2023 Appropriation: **$12,498,000**

This Commission is hereby furnishing you with the amount to be appropriated for your retirement system for Fiscal Year 2023 which commences July 1, 2022.

Attached please find summary information based on the present funding schedule for your system and the portion of the Fiscal Year 2023 appropriation to be paid by each of the governmental units within your system.

If your System has a valuation currently in progress, you may submit a revised funding schedule to PERAC upon its completion. The current schedule is due to be updated by Fiscal Year 2024.

If you have any questions, please contact PERAC's Actuary, John Boorack, at (617) 666-4446 Extension 935.

JWP/jfb
Attachments

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Berkshire Regional Retirement Board

Projected Appropriations

Fiscal Year 2023 - July 1, 2022 to June 30, 2023

Aggregate amount of appropriation: **$12,498,000**

Fiscal Year	Estimated Cost of Benefits	Funding Schedule (Excluding ERI)	ERI	Total Appropriation	Pension Fund Allocation	Pension Reserve Fund Allocation	Transfer From PRF to PF
FY 2023	$14,397,103	$12,498,000	$0	$12,498,000	$12,498,000	$0	$1,899,103
FY 2024	$15,127,724	$13,373,000	$0	$13,373,000	$13,373,000	$0	$1,754,724
FY 2025	$15,895,452	$14,309,000	$0	$14,309,000	$14,309,000	$0	$1,586,452
FY 2026	$16,702,173	$15,311,000	$0	$15,311,000	$15,311,000	$0	$1,391,173
FY 2027	$17,549,868	$16,383,000	$0	$16,383,000	$16,383,000	$0	$1,166,868

The Total Appropriation column shown above is in accordance with your current funding schedule and the scheduled payment date(s) in that schedule. Whenever payments are made after the scheduled date(s), the total appropriation should be revised to reflect interest at the rate assumed in the most recent actuarial valuation. Payments should be made before the end of the fiscal year.

For illustration, we have shown the amount to be transferred from the Pension Reserve Fund to the Pension Fund to meet the estimated Cost of Benefits for each year. If there are sufficient assets in the Pension Fund to meet the Cost of Benefits, this transfer is optional.

Berkshire Regional Retirement System FY23 Appropriation by Governmental Unit

Aggregate amount for appropriation for the Pension Fund:	$12,498,000
Aggregate amount for appropriation for the Pension Reserve Fund:	$0
Aggregate additional appropriation for the E.R.I.:	$0

UNIT	PEN.FND. APP %	PENSION FUND APPROP.	PENSION RES. FUND APPROP.	ADD'L. APP. FOR E.R.I.	TOTAL APPROP.
Town of Alford	0.44%	54,991	0		54,991
Town of Becket	2.31%	288,704	0		288,704
Berk Cnty Mosq. Cont.	0.12%	14,998	0		14,998
Berk Hills Reg Sch. Dis.	7.90%	987,342	0		987,342
Berk Cnty Reg Hous Auth	1.55%	193,719	0		193,719
Cen Berk Reg School Dis	5.81%	726,134	0		726,134
Town of Cheshire	1.18%	147,476	0		147,476
Town of Clarksburg	1.80%	224,964	0		224,964
County of Berkshire	0.00%	0	0		0
Town of Dalton	4.14%	517,417	0		517,417
Dalton Fire District	0.80%	99,984	0		99,984
Dalton Housing Auth	0.19%	23,746	0		23,746
Dist Dept of Veteran Serv	0.11%	13,748	0		13,748
Town of Egremont	1.72%	214,966	0		214,966
Farmington Reg Sch Dis	1.19%	148,726	0		148,726
Town of Florida	1.12%	139,978	0		139,978
Town of Great Barrington	8.33%	1,041,083	0		1,041,083
Great Barrington Fire Dist.	0.55%	68,739	0		68,739
Town of Hancock	0.13%	16,247	0		16,247
Town of Hinsdale	1.45%	181,221	0		181,221
Lanesboro Vil. Fire &Wat.	0.22%	27,496	0		27,496
Town of Lanesborough	2.17%	271,207	0		271,207
Town of Lee (incl. schools)	9.75%	1,218,555	0		1,218,555
Lee Housing Authority	0.22%	27,496	0		27,496
Town of Lenox (incl. schools)	10.42%	1,302,293	0		1,302,293
Lenox Housing Authority	0.28%	34,994	0		34,994
Town of Monterey	1.09%	136,228	0		136,228
Mnt. Greylock School Dist.	6.02%	752,380	0		752,380
Mount Washington	0.23%	28,745	0		28,745
Town of New Ashford	0.00%	0	0		0
Town of New Marlborough	1.47%	183,721	0		183,721
Town of Otis	1.70%	212,466	0		212,466
Town of Peru	0.43%	53,741	0		53,741
Town of Richmond	1.87%	233,713	0		233,713

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Berkshire Regional Retirement System FY23 Appropriation by Governmental Unit

Aggregate amount for appropriation for the Pension Fund:	$12,498,000
Aggregate amount for appropriation for the Pension Reserve Fund:	$0
Aggregate additional appropriation for the E.R.I.:	$0

Town of Sandisfield	0.99%	123,730	0		123,730
Town of Savoy	0.45%	56,241	0		56,241
Town of Sheffield	2.36%	294,953	0		294,953
So Berk Reg Sch Dist	4.58%	572,408	0		572,408
Town of Stockbridge	3.44%	429,931	0		429,931
Stockbridge Housing Auth	0.21%	26,246	0		26,246
Town of Tyringham	0.63%	78,737	0		78,737
Town of Washington	0.33%	41,243	0		41,243
Town of West Stockbridge	1.35%	168,723	0		168,723
Town of Williamstown	8.34%	1,042,333	0		1,042,333
Williamstown Fire Dist	0.18%	22,496	0		22,496
Town of Windsor	0.43%	53,741	0		53,741
TOTAL	100.00%	12,498,000	0	0	12,498,000

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2. EXECUTIVE SUMMARY *(continued)*

B | COMPARISON WITH PRIOR VALUATION

The last full valuation was performed by PERAC as of January 1, 2019. The investment return assumption was decreased from 7.0% to 6.75% effective with this valuation. We maintained the base mortality assumption determined from our local system retiree mortality analysis completed in 2019, but updated the mortality improvement scale (see Part C). Other assumptions are based on our Local Experience Study Analysis issued in 2002 with a subsequent adjustment to the salary increase assumption. Below we have shown a comparison of the results between the two valuations.

	1/1/21	1/1/19	Increase/ (Decrease)	% Increase/ (Decrease)
Total Normal Cost	$8,766,377	$7,731,769	$1,034,608	13.4%
Expected Employee Contributions	4,583,409	4,135,574	447,835	10.8%
Net Normal Cost	$4,182,968	$3,596,195	$586,773	16.3%
Actuarial Liability				
Actives	$139,460,375	$130,600,167	$8,860,208	6.8%
Retirees and Inactives	183,762,478	160,298,894	23,463,584	14.6%
Total	$323,222,853	$290,899,061	$32,323,792	11.1%
Assets	282,589,130	243,644,680	38,944,450	16.0%
Unfunded Actuarial Liability	$40,633,723	$47,254,381	($6,620,658)	(14.0%)
Funded Ratio	87.4%	83.8%	3.6%	

5. GASB INFORMATION

The actuarial information required by Governmental Accounting Standards Board (GASB) Statement Nos. 67 and 68 replaced the information required by Statement Nos. 25 and 27.

The information required by GASB 67 (plan) is to be reported and measured as of December 31 each year.

The information required by GASB 68 (employer) is to be reported as of the end of the fiscal year (June 30 for cities and towns). We are allowed to select a measurement date at any date during the fiscal year. We have selected a measurement date of December 31 which is consistent with GASB 67.

We have not provided any GASB 67 or 68 exhibits in this valuation report. We have provided the disclosure exhibits under separate cover.

Although GASB 25 no longer applies, we are including the schedule of funding progress previously required by the Statement to provide historical context.

Schedule of Funding Progress

Actuarial Valuation Date	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL)* (b)	Unfunded AAL (UAAL) (b-a)	Funded Ratio (a/b)	Covered Payroll (c)	UAAL as a % of Cov. Payroll ((b-a)/c)
1/1/2021	$282,589,130	$323,222,853	$40,633,723	87.4%	$51,363,313	79.1%
1/1/2019	$243,644,680	$290,899,061	$47,254,381	83.8%	$47,202,931	100.1%
1/1/2017	$214,133,210	$258,608,965	$44,475,755	82.8%	$43,687,436	101.8%
1/1/2015	$186,822,143	$227,361,343	$40,539,200	82.2%	$42,306,759	95.8%
1/1/2013	$155,094,412	$199,926,528	$44,832,116	77.6%	$40,294,434	111.3%

**excludes State reimbursed COLA*

Berkshire County Retirement System

Net of Fees Returns as of June 30, 2022

	MKT $	%	Month	QTR	FY '22	Calendar YTD	1 Year	3 Year	5 Year	10 Year	Inception
BERKSHIRE COUNTY RETIREMENT SYSTEM	**312,782,247**	**100%**	**-3.94**	**-8.58**	**-3.74**	**-10.74**	**-3.74**	**8.31**	**8.03**	**8.68**	**8.14**
CAPITAL FUND	312,782,247	100%	-3.94	-8.58	-3.75	-10.74	-3.75	8.31	8.03	8.68	
IMPLEMENTATION BENCHMARK (using short term private equity benchmark)			*-3.52*	*-7.69*	*-3.47*	*-9.24*	*-3.47*	*8.29*	*8.16*	*8.50*	
TOTAL CORE BENCHMARK (using long term private equity benchmark)			*-3.20*	*-7.02*	*-4.90*	*-8.96*	*-4.90*	*6.02*	*6.55*	*7.41*	

Inception date: April 1, 1998

Financial Highlights

- The System's total net position restricted for pensions was $358,899,910 at December 31, 2021, a change of $56,552,869, or 18.70%, over the prior year. This change is primarily due to investment gains during the year.
- Employer and employee contributions to the plan were $17,511,167, which represents a $1,131,973 change over the prior year. The employer share of contributions represents 64.91% of the total contributions made to the System.
- Benefits paid to plan participants changed by $1,314,414 or 7.83%, totaling $18,111,367. At December 31, 2021, there were 854 retirees and beneficiaries in receipt of pension benefits, as further discussed on page 10.
- The System's funded ratio (based on the System's GASB 68 valuation) as of the January 1, 2021 actuarial valuation was 107.00%.

Financial Statement Analysis

The following is a summary of financial statement data for the current and prior fiscal year:

FIDUCIARY NET POSITION

	2021	2020
Assets		
Cash and receivables	$ 4,845,827	$ 11,560,695
Investments	354,326,322	290,918,307
Total Assets	359,172,149	302,479,002
Liabilities		
Accounts payable	272,239	131,961
Net Position		
Restricted for pensions	$ 358,899,910	$ 302,347,041

The System's total assets as of December 31, 2021 were $359,172,149 and were mostly comprised of cash and investments. Total assets increased by $56,693,147, or 18.74%, from the prior year primarily due to an increase in investment value.

CHANGES IN FIDUCIARY NET POSITION

	2021	2020
Additions		
Contributions	$ 17,994,645	$ 16,879,981
Investment income, net	58,435,211	31,531,596
Total Additions	76,429,856	48,411,577
Deductions		
Benefit payments	18,111,367	16,796,953
Other	1,765,620	1,281,059
Total Deductions	19,876,987	18,078,012
Changes in Net Position	56,552,869	30,333,565
Net Position Restricted for Pensions		
Beginning of Year	302,347,041	272,013,476
End of Year	$ 358,899,910	$ 302,347,041

The amount needed to finance benefits is accumulated through the collection of employers' and employee's contributions, reimbursements from the Commonwealth of Massachusetts for pre-1998 COLA and through earnings on investments. Contributions and net investment income for calendar year 2021 resulted in a net gain of $76,429,856. Employers' contributions increased by $765,000, or 7.01% in calendar year 2021. The System had net investment income of $58,435,211 versus $31,531,596 in 2020, primarily due to investments performing more favorably in 2021.

The primary deductions of the System include the payment of pension benefits to participants and beneficiaries, refunds and transfers of member contributions, reimbursement payments in accordance with Massachusetts General Law, Chapter 32, Section 3(8)c, more commonly referred to as 3(8)c reimbursements, and the costs of administering the System. Total deductions for calendar year 2021 were $19,876,987, which represents a change of $1,798,975, or 9.95%, over deductions of $18,078,012 in calendar year 2020. The payment of pension benefits changed by $1,314,414 or 7.83% over the previous year.

Return on Investment and Funding

The Berkshire County Retirement System Board continuously monitors investment performance at its monthly meetings. The money-weighted rate of return of the System investments, as of December 31, 2021, was 19.90%.

BERSKHIRE COUNTY RETIREMENT SYSTEM

Schedule of Employer Allocations

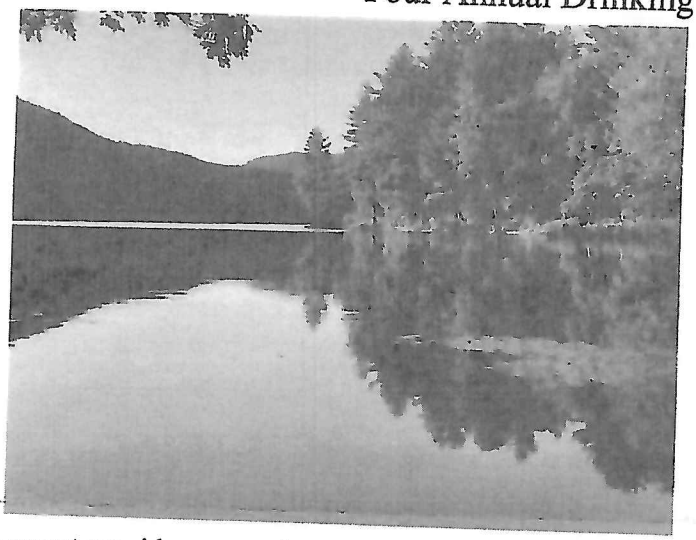
Employer	FY 2022 Actual Employer Contributions	Allocation Percentage
Berkshire County Mosquito Control	13,896	0.12%
Berkshire County Regional Housing Authority	165,596	1.43%
Berkshire Hills Regional School District	904,406	7.81%
Central Berkshire Regional School District	694,806	6.00%
Dalton Fire District	89,167	0.77%
Dalton Housing Authority	22,002	0.19%
District Department of Veteran Services	12,738	0.11%
Farmington River School District	148,225	1.28%
Great Barrington Fire District	63,691	0.55%
Lanesboro Village Fire & Water	25,476	0.22%
Lee Housing Authority	23,160	0.20%
Lenox Housing Authority	32,424	0.28%
Mount Greylock School District	658,908	5.69%
Mount Washington	26,634	0.23%
South Berkshire Regional School District	514,156	4.44%
Stockbridge Housing Authority	26,634	0.23%
Town of Alford	44,004	0.38%
Town of Becket	253,604	2.19%
Town of Cheshire	134,329	1.16%
Town of Clarksburg	162,121	1.40%
Town of Dalton	528,053	4.56%
Town of Egremont	206,126	1.78%
Town of Florida	147,067	1.27%
Town of Great Barrington	993,573	8.58%
Town of Hancock	16,212	0.14%
Town of Hinsdale	158,647	1.37%
Town of Lanesborough	250,130	2.16%
Town of Lee (including schools)	1,158,010	10.00%
Town of Lenox (including schools)	1,205,488	10.41%
Town of Monterey	128,539	1.11%
Town of New Marlborough	163,279	1.41%
Town of Otis	201,494	1.74%
Town of Peru	45,162	0.39%
Town of Richmond	222,338	1.92%
Town of Sandisfield	98,431	0.85%
Town of Savoy	60,217	0.52%
Town of Sheffield	261,710	2.26%
Town of Stockbridge	416,884	3.60%
Town of Tyringham	75,271	0.65%
Town of Washington	31,266	0.27%
Town of West Stockbridge	154,015	1.33%
Town of Williamstown	971,570	8.39%
Town of Windsor	48,637	0.42%
Williamstown Fire District	22,002	0.19%
Subtotal excluding ERI	11,580,098	100.00%
Town of Lanesborough	26,761	
Town of Lee (including schools)	8,757	
Town of New Marlborough	13,535	
Town of Williamstown	37,307	
Williamstown Fire District	13,542	
Total	$ 11,680,000	

See actuarial assumptions in the Berkshire County Retirement System's audited financial statements.

The remaining pages in the packet were submitted by Madonna Meagher

2021 Consumer Confidence Report

Your Annual Drinking Water Quality Information



Housatonic Water Works Company
Since 1897

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Massachusetts Department of Environmental Protection
Public Water Supply ID #1113003

This report provides a snapshot of the drinking water quality that was achieved last year. Included are details about where your water comes from, what it contains and how its quality compares to state and federal standards. We are committed to providing you with information because informed customers are our best allies.

PUBLIC WATER SYSTEM INFORMATION

Our water system is routinely inspected by the Massachusetts Department of Environmental Protection (MA DEP). MA DEP inspects our system for its technical, financial, and managerial capacity to provide safe drinking water to you. To ensure that we provide the highest quality of water available, your water system is operated by a Massachusetts certified operator who oversees the routine operations of our system. A treatment process that includes filtration and disinfection is also provided. Reservoir water is directed through slow sand filters and then a controlled amount of sodium hypochlorite is added and mixed in a contact time basin. This maze-like structure mixes the chlorinated water and provides treatment over time that helps ensure complete disinfection of the drinking water. The water is monitored by us and MassDEP to determine the effectiveness of existing water treatment and to check if any additional treatment is warranted. MassDEP conducts regular Sanitary Survey inspections on our water system every 3 years to assess and inspect our water system. Our last Sanitary Survey was conducted in September of 2020. As part of our ongoing commitment to you we make regular repairs to the system and address concerns of our customers and regulators.

YOUR DRINKING WATER SOURCE

Where Does My Drinking Water Come From?

Housatonic Water Works water comes from the surface water source, Long Pond Reservoir and is located southwest of the Village of Housatonic. Long Pond has a surface area of 115 acres and storage capacity of 263 million gallons. The source is designated by MA DEP Source Name and ID Source Number as: Long Pond [1113003-01S]. The water system supplies approximately 824 service connections and serves a population of approximately 1300 people. Great Barrington Fire District's Water system can be used in emergencies. The last Sanitary Survey was conducted in 2020.

How are These Sources Protected?

MassDEP has prepared a Source Water Assessment Program (SWAP) Report for the water supply sources serving this water system. The SWAP Report assesses the susceptibility of public water supplies. A susceptibility ranking of "moderate" was assigned to this system using the information collected during the assessment by MassDEP, which included the absence of hydrogeological barriers that can prevent potential contaminant migration from the surface. Typical agricultural, commercial, industrial, and residential land uses can contribute to contamination. The complete SWAP report is available by contacting the Water Department, or online at https://www.mass.gov/service-details/the-source-water-assessment-protection-swap-program. For more information you may also contact the MassDEP Western Region Office at (413) 755-2215.

Residents can help protect sources by:

- *practicing good septic system maintenance,*
- *supporting water supply protection initiatives at the next town meeting*
- *taking hazardous household chemicals to hazardous materials collection days,*
- *contacting the water department or Board of Health to volunteer for monitoring or education outreach to schools,*
- *Limiting pesticide and fertilizer use, etc.*

SUBSTANCES FOUND IN TAP WATER

Sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs and wells. As water travels over the surface of the land or through the ground, it dissolves naturally-occurring minerals, and in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activity. Contaminants that may be present in source water include.

Microbial contaminants - such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.
Inorganic contaminants - such as salts and metals, which can be naturally-occurring or result from urban stormwater runoff, industrial, or domestic wastewater discharges, oil and gas production, mining, and farming.
Pesticides and herbicides - which may come from a variety of sources such as agriculture, urban stormwater runoff, and residential uses.
Organic chemical contaminants - Including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff, and septic systems.
Radioactive contaminants - which can be naturally occurring or be the result of oil and gas production and mining activities.

COMPLIANCE WITH REGULATIONS

Does Drinking Water Meet Current Health Standards?

We are committed to providing you with the best water quality available. Last year we conducted hundreds of water tests for over 80 contaminants. While nearly all of these tests showed that our water quality meets or exceeds MassDEP and EPA standards, there were two instances of violations which are described below.

During our third quarterly test for Haloacetic Acids (HAA5) and Total Trihalomethanes (TTHM) taken on 8/9/21, it was determined that our levels were above the maximum contaminant level (MCL). MassDEP has set the MCL for HAA5 at 60ppb and the MCL for TTHM at 80ppb. Our results from the August 9, 2021 samples showed our HAA5 level at 103.1ppb and TTHM level at 97.9ppb.

During our third quarterly test for Haloacetic Acids (HAA5) taken on 11/10/21, it was determined that our level was again above the MCL, with a result of 77.3ppb. While this was an improvement on the previous result from the third quarter, it was still above the MassDEP maximum contaminant level of 60ppb.

The Company's engineers are preparing a report to address the HAA5 issue. Additional information will be posted on our website as it becomes available.

IMPORTANT DEFINITIONS

Maximum Contaminant Level (MCL) - The highest level of a contaminant that is allowed in drinking water. MCL's are set as close to the MCLG's as feasible using the best available treatment technology.

Maximum Contaminant Level Goal (MCLG) - The level of a contaminant in drinking water below which there is no known expected risk to health. MCLG's allow for a margin of safety.

Action Level (AL) - The concentration of a contaminant which, if exceeded triggers treatment or other requirements that a water system must follow.

90th Percentile - Out of every 10 homes sampled, 9 were at or below this level.

Treatment Technique (TT) - A required process intended to reduce the level of a contaminant in drinking water.

Secondary Maximum Contaminant Level (SMCL) – These standards are developed to protect aesthetic qualities of drinking water and are not health based.

Unregulated Contaminants – Contaminants for which EPA has not established drinking water standards. The purpose is to assist EPA in determining their occurrence in drinking water and whether future regulation is warranted.

Maximum Residual Disinfectant Level (MRDL) - The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.

Maximum Residual Disinfectant Level Goal (MRDLG) - The level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contamination.

Massachusetts Office of Research and Standards Guidelines (ORSG) - This is the concentration of a chemical in drinking water, at or below which, adverse health effects are unlikely to occur after chronic (lifetime) exposure.

WATER QUALITY TESTING RESULTS

The water quality tables show the most recent water quality testing results where levels were detected and compares those leve to standards set by the Environmental Protection Agency and Massachusetts Environmental Protection Agency.

MassDEP has reduced the monitoring requirements for Perchlorate, Inorganic Contaminants (IOCs), and Synthetic Organic Contaminants (SOCs), because the source is not at risk of contamination. The last sample was collected In 7/14/2021 for Perchlorate, 7/14/2021 for Inorganic Contaminants, and 6/1/2021 for SOCs, and all were found to meet all applicable US EPA and MassDEP standards. The water quality information presented in the table is from the most recent round of testing done in accordance with the regulations. All data shown was collected during the last calendar year unless otherwise noted in the table. With the exception of those compounds noted on the tables below, all other compounds reported undetectable levels. "Quarterly samples were collected on the following dates: 2/9/2021, 5/10/2021, 8/9/2021 & 11/10/2021

Regulated Contaminant	Date(s) Collected	Highest Result or Running Annual Average[2]	Range Detected	MCL	MCLG	Violation (Yes/No)	Possible Source(s) of Contamination
INORGANIC CONTAMINANTS							
Perchlorate (ppb)	*7/14/2021*	*0.1*	*N/A*	*2*	*N/A*	*No*	*Rocket propellants, fireworks, munitions, flares, blasting agents.*
DISINFECTANTS AND DISINFECTION BY-PRODUCTS							
Chlorine Residual (ppm)	*Daily*	*1.44[2]*	*0.96-1.90*	*4*	*4*	*No*	*Byproduct of drinking water chlorination*
Total Trihalomethanes (TTHMs) (ppb)	*Quarterly*	*66.5[2]*	*39.3-97.9*	*80*	*N/A*	*Yes**	*Byproduct of drinking water chlorination*
**While the average for the year did not exceed the MCL there was an individual MCL violation that was determined during August sampling Some people who drink water containing trihalomethanes in excess of the MCL over many years may experience problems with their liver, kidneys, or central nervous systems, and may have an increased risk of getting cancer.*							
Haloacetic Acids (HAA5) (ppb)	*Quarterly*	*73.5[2]*	*55.5-103.1*	*60*	*N/A*	*Yes*	*Byproduct of drinking water disinfection*
Some people who drink water containing haloacetic acids in excess of the MCL over many years may have an increased risk of getting cancer.							
Contaminant (units)	**Dates Collected**	**Result or Range Detected**	**Average Detected**	**SMCL**	**ORSG**	**Possible Source(s) of Contamination**	
UNREGULATED AND SECONDARY CONTAMINANTS							
Sodium (ppm)	*7/14/2021*	*8.85*	*N/A*	*N/A*	*20*	*Natural Sources, runoff from use of salt on roadways, byproduct of water treatment process.*	
Chloroform (ppb)	*Quarterly*	*36-91*	*61.4*	*N/A*	*70*	*Trihalomethane; by-product of drinking water chlorination*	
Some people who drink water containing chloroform at high concentrations for many years could experience liver and kidney problems and may have an increased risk of cancer.							
Bromodichloro-methane (ppb)	*Quarterly*	*3.3-6.9*	*5.125*	*N/A*	*N/A*	*Trihalomethane; by-product of drinking water chlorination*	
Some people who drink water containing bromodichloromethane at high concentrations for many years could experience liver and kidney problems.							

LEAD AND COPPER – Q2 () and Q4 ()						
Contaminant (units)	**Action Level**	**90th Percentile**	**Number of Sites Sampled**	**Number of sites above the Action Level**	**Possible Sources of Contamination**	**Violation (Yes/No)**
Lead (ppb)	*15*	*Q2 – 2.3 Q4 - <1*	*Q2 -20 Q4 - 20*	*Q2 – 1 Q4 - 0*	*Corrosion of household plumbing*	*No*
Copper (ppm)	*1.3*	*Q2 – 1.1 Q4 – 0.1*	*Q2 -20 Q4 - 20*	*Q2 – 1 Q4 - 0*	*Corrosion of household plumbing*	*No*

Turbidity	TT	Lowest monthly % of Samples	Highest Detected Daily Value	Violation	Possible Sources of Contamination
Daily Compliance (NTU)	*5*	*N/A*	*0.086*	*No*	*Soil Runoff*
Monthly Compliance*	*At least 95%*	*100%*	*N/A*	*No*	

Turbidity is a measure of the cloudiness of the water. We monitor it because it is a good indicator of water quality.

**Monthly turbidity compliance is related to a specific treatment technique (TT). Our system filters the water so at least 95% of our samples each month must be below the turbidity limits specified in the regulations.*

ppm = parts per million, or milligrams per liter (mg/l)
ppb = parts per billion, or micrograms per liter (ug/l)

N/A = Not Applicable
NTU = Nephelometric Turbidity Unit

HEALTH NOTES

In order to ensure that **tap water is safe to drink**, the Department of Environmental Protection (MassDEP) and U.S. Environmental Protection Agency (EPA) prescribe regulations that limit the amount of certain contaminants in water provided by public water systems. The Food and Drug Administration (FDA) and Massachusetts Department of Public Health (DPH) regulations establish limits for contaminants in bottled water that must provide the same protection for public health. All drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the Environmental Protection Agency Safe Drinking Water Hotline (800-426-4791).

Some people may be more vulnerable to contaminants in drinking water than the general population. **Immuno-compromised persons** such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and some infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. EPA/Centers for Disease Control and Prevention (CDC) guidelines on lowering the risk of infection by cryptosporidium and other microbial contaminants are available from the Safe Drinking Water Hotline (800)-426-4791.

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. Housatonic Water is responsible for providing high quality drinking water but cannot control the variety of materials used in plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking. If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline or at hrtp://www.epa.gov/safewater/lead.

Cross connections are potentially hazardous situations for public or private potable water supply and a source of potable water contamination. A cross connection is any potential or actual physical connection between potable water supply and any source through which it is possible to introduce any substance other than potable water into the water supply. Common cross connection scenarios are a garden hose whose spout is submerged in a bucket of soapy water or connected to a spray bottle of weed killer.

Cross connections between a potable water line and a non-potable water system or equipment have long been a concern of the Department of Environmental Protection (MA DEP). MA DEP established regulations to protect the public health of water consumers from contaminants due to back-flow events. The installation of back-flow prevention devices, such as a low-cost hose bib vacuum breaker, for all inside and outside hose connections is recommended. You can purchase this at a hardware store or plumbing supply store. This is a great way for you to help protect the water in your home as well as the drinking water system in your community. For additional information on cross connections and on the status of your water system's cross connection program, please contact Jim Mercer.

OPPORTUNITIES FOR PUBLIC PARTICIPATION

Housatonic Water Works sponsors bi-annual public information meetings and we encourage dialogue on water quality issues on an on-going basis. If you have any questions about the water you drink, please contact, Jim Mercer. For more information regarding our system, you may also visit the EPA website at: http://www.epa.gov/enviro/facts/sdwis/search.htm

This report is a compilation of best available data sources including: licensed operators' reports, water supply owner's coordination. MassDEP public records and EPA online records. The report represents an accurate account of your water quality to the best of our knowledge. Prepared by Housatonic Basin Sampling & Testing on behalf of your water supplier.

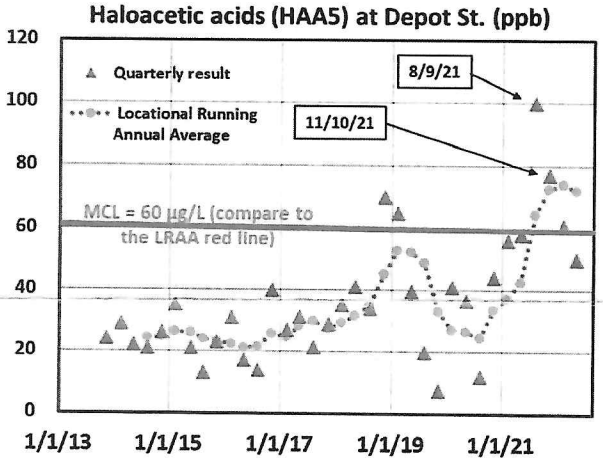
HOUSATONIC WATER WORKS COMPANY

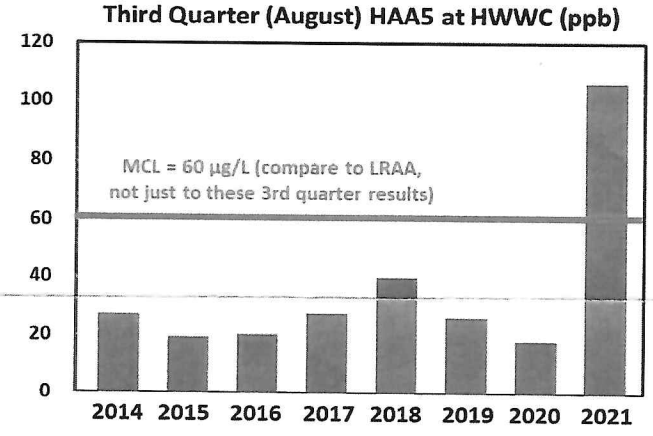
SINCE 1897

PRESS RELEASE
June 13, 2022

Housatonic Water Works Company, Inc. (HWWC) has announced in a letter to customers today the 2nd quarter 2022 monitoring results for disinfection byproducts in the treated drinking water supply.

- The May 2022 (2nd quarter) result for the DBP class of haloacetic acids (HAA5) was down to 50 µg/L (or parts per billion, ppb), well below last August's high of 103 ppb.
- The Massachusetts Department of Environmental Protection (MassDEP) has established a Maximum Contaminant Level (MCL) of 60 ppb for HAA5. Compliance the MCL is based on the calculated Locational Running Annual Average (LRAA).
- Including the May results, the LRAA for HAA5 is now 72 ppb (average of 103, 74, 61, and 50 ppb for the most recent August, November, February, and May results), still above the MCL of 60 ppb. This is the fourth consecutive quarter the MCL was exceeded going back to last August. This was expected given the atypically high result from 3rd quarter 2021, and that MCL compliance is based on an annual average.
- The next monitoring will be conducted in August 2022, and that result will replace the August 2021 result for calculating the LRAA. Given the trend of decreasing HAA5 since last August, the calculated LRAA is likely to be below the MCL when the August 2022 result is obtained.





HAA5 are disinfection byproducts (DBPs) that form when the chlorine disinfectant reacts with natural organic matter in the water. Per the MassDEP, people who drink water containing HAA5 in excess of the MCL over many years may have an increased risk of getting cancer.

HWWC has submitted to the MassDEP an evaluation of the cause of the relatively high HAA5 compounds found in August and November 2021. Those uncharacteristically high results (see above plots) were likely caused by historically heavy rainfall in July 2021.

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As shown in the table below, HAA5 levels vary seasonally, with HWWC's higher levels generally being in February (1st quarter) and lower levels in August (3rd quarter). That's part of why last August's high results were so unexpected.

Historical average HAA5 (2013 – 2021) vs. recent results (since August 2021) in µg/L (ppb)

Month	Recent result	Historical average	Recent difference from average	Recent sample date
August	103	22	+ 81	8/9/21
November	77	33	+ 44	11/10/21
February	61	40	+ 21	2/9/22
May	50	33	+ 17	5/11/22

The good news is that not only have the HAA5 sample results been decreasing since last August's atypically high value, but the difference compared to the historical average for their seasons continues to decrease, cutting in about half from August to November, then again in half from November to February, and then some more from February to May. This suggests the water is returning to its more normal state in terms of the potential for formation of HAAs. Several other water systems in western Massachusetts also had similar experiences, with abnormally high DBPs following the July 2021 rain, and then DBP concentrations subsequently decreasing over time and returning toward normal levels.

The sudden increase last August in HAA5 does not appear to be due to an increase in natural organic matter (as measured by total organic carbon (TOC) levels), a change in pH, or any other water quality characteristic for which there are data. The true cause is not known, and since that water is now gone it is not possible to identify and study the cause of that change in the water. And since TOC levels were not elevated last fall, removing additional TOC is not necessarily a guaranteed solution to the high HAAs.

HWWC's current slow sand filtration plant already does a very good job at removing natural organic matter, with TOC removals measured at 34% to 55%. The recent monitoring results from May showed a 44% decrease in TOC from the filters, going from 2.6 mg/L down to only 1.4 mg/L, which is a relatively low level. That is impressive for slow sand filters, which typically are expected to remove only ~15 to 20% of the TOC. Perhaps this success is partly due to the well-established age of the microbial population and HWWC's custom hydraulic rake filter cleaning system. Periodically cleaning the sand surface with water instead of physically removing the top layer of sand has allowed the sand to not be replaced in many years, providing better treatment while also saving customers money.

In response to the HAA5 results, HWWC has lowered the chlorine residual level while maintaining more than enough to exceed all disinfection requirements, and will be conducting increased monitoring TOC in both the source water and treated water. HWWC has also submitted to MassDEP a pilot study proposal for removing the manganese that causes the periodic colored-water episodes, and we are waiting on their approval. The pilot study is scheduled for this summer. The proposed chlorine oxidation/greensand filtration system would be added to the HWWC treatment plant after the existing slow sand filters. The proposed pilot study also includes an evaluation of factors affecting the formation of HAAs and how the proposed new treatment system would impact that.

IMPORTANT INFORMATION ABOUT YOUR DRINKING WATER

Haloacetic Acid 5 (HAA_5) MCL Violation at Housatonic Water Works Company

Our water system recently violated a drinking water standard. Although this incident was not an emergency, as our customers, you have a right to know what happened and what we have done to correct this situation.
We routinely monitor for the presence of drinking water contaminants. Testing results from the 2nd Quarter of 2022 show that our system exceeded the standard, or maximum contaminant level (MCL), for HAA_5. The standard for HAA_5 is 60 parts per billion (ppb). Compliance is determined by averaging all samples collected at each sampling location for the past 12 months (the Locational Running Annual Average). The level of HAA_5 averaged at our system's monitoring location for August 2021 through May 2022 was 72 ppb, with individual quarterly results ranging from 50 to 103 ppb. We also exceeded the MCL for HAA5 in August 2021, November 2021, and February 2021 as we reported to you previously.

What should I do?

- **There is nothing you need to do. You DO NOT need to boil your water or take other corrective actions.** If a situation arises where the water is no longer safe to drink, you will be notified within 24 hours.
- However, if you have a severely compromised immune system, have an infant, are pregnant, or are elderly, you may be at increased risk and should seek advice from your health care providers about drinking this water.
- Please see the link at https://www.mass.gov/service-details/haa5-in-drinking-water-information-for-consumers for a fact sheet on HAA5.

What does this mean?

This is not an emergency. If it had been an emergency, you would have been notified within 24 hours. HAA_5 are five haloacetic acid compounds which form when disinfectants react with natural organic matter in the water. *People who drink water containing haloacetic acids in excess of the MCL over many years may have an increased risk of getting cancer.*

What is being done?

Historically, HWWC did not have HAA5 MCL compliance issues prior to last summer. Although Quarter 4 2018 and Quarter 1 2019 location results were 70 ppb and 65 ppb, respectively, these did not result in a LRAA above the MCL. The HAA5 results from August 2021 were well above the average for that month (103 ppb vs. 25 ppb average since 2017), possibly a result of the historical record rains during July 2021 affecting the source water in Long Pond. Since then, the HAA5 levels have been lower, and the May 2022 result was 50 ppb.

The amount of disinfectant used impacts the formation of HAA_5, and there is a balance required between using chlorine to control pathogenic microorganisms and the undesirable byproducts of the chlorination process. In response to the HAA_5 levels observed, we have since reduced the chlorine dosing while maintaining more than enough chlorine residual to meet and exceed all disinfection requirements.

Please share this information with all the other people who drink this water, especially those who may not have received this notice directly (for example, people in apartments, nursing homes, schools, and businesses). You can do this by posting this notice in a public place or distributing copies by hand or mail.

For more information, please contact the Housatonic Water Works Company at 413-528-1780, housatonicwater@gmail.com, or write to us at 80 Maple Ave, Suite 1, Great Barrington, MA 01230. This notice is being sent to you by the Housatonic Water Works Company. PWS ID #1113003.

Date distributed: 6/23/2022

HOUSATONIC WATER WORKS COMPANY

SINCE 1897

August 1, 2022

Dear valued customer,

Seasonally-induced episodes of discolored water have created incredibly challenging times and we wish to thank our customers for their understanding and support. While the water is safe to drink, the color is concerning.

Why is the discoloration happening?

Our source is a surface water reservoir. As summer approaches, the surface water warms up, and this, along with new storm patterns affects the water's chemistry. Is this phenomenon related to climate change? It certainly is. Global warming is here.

Clean water is a fundamental environmental and societal necessity, but climate change and its effects have created very challenging circumstances for water utilities and we are not alone. Across the Northeast and in other Massachusetts towns including Webster, Shrewsbury, West Boylston, Hull, Norton, Hanover, North Reading, Scituate and Southbridge are among the other towns in Massachusetts that have been impacted by manganese. And while manganese is a natural-occurring mineral and can create discoloration in water, it is not a pathogen.

Unfortunately, there's no quick and easy fix for this problem due to approvals required by the Massachusetts Department of Environmental Protection (DEP); and Massachusetts Department of Public Utilities (DPU) – our regulators.

Our team of consultants have collected and analyzed volumes of data and developed a scientific-driven solution to address the manganese. These findings and improvement plans have been shared at several of our informational meetings. Now, we'd like to share our plans moving forward.

What can we do to fix it? What will it cost?

On May 20, 2022, we submitted a pilot proposal to DEP and received approval today to begin the study. Our engineers are confident that the greensand filtration system that they've proposed will solve the discolored water situation. Once we successfully complete the pilot study and get approval for the project, we'll petition the DPU for approval to finance the project.

The work is scheduled to take place during two phases. The first phase will focus on the Manganese and the second on public safety.

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Phase 1:

- installation of a new greensand filtration system
- construction of a 2,000 square-foot building to house the new system
- generator
- increase personnel to operate new treatment system
- collaborate with the Great Barrington Fire District (GBFD)
- create system resilience by establishing an interconnection with GBFD
- explore additional water sources

Phase 1 cost estimate $1.75-2.0M

Phase 2:

- update 2021 hydraulic study
- install new 200,000-gallon storage tank at elevated location on High Street
- address any potential remaining fire flow issues
- continued attrition replacement of piping and hydrants

Phase 2 cost estimate -- $2.0M

Providing our customers with safe and reliable water is expensive and implementing such an ambitious capital program to renew key components of our water production and distribution systems will cost at least $4.0 million.

So, what does this mean to the customer? It means that customers who currently pay the minimum $44.73 per month can now expect to pay an additional $45 per month. This will increase their annual charge from $537 to $1,020. Nearby Egremont has similar charges.

We sincerely hope you understand that our number one goal is to provide you with the safest water possible. We're living in challenging times and we all need to do our part to ensure that our water sources are efficient, reliable and well managed. It's a shared responsibility and one that we take very seriously.

Please contact us with questions and we will work to address your concerns as much as possible. We look forward to continuing to serve you and appreciate your cooperation while we update and renew our equipment and services.

Sincerely,

James J. Mercer
Treasurer

Massachusetts Department of Environmental Protection - Drinking Water Program

Secondary Contaminant Report

SEC

I. PWS INFORMATION: Please refer to your DEP Water Quality Sampling Schedule (WQSS) to help complete this form

PWS ID #: 1113003 **City / Town:** Gt. Barrington

PWS Name: Housatonic Water Works **PWS Class:** COM [X] NTNC [ ] TNC [ ]

DEP LOCATION (LOC) ID#	DEP Location Name	Sample Information	Date Collected	Collected By
	Park St Housing Authority	[ ] (M)ultiple [X] (S)ingle [ ] (R)aw [X] (F)inished	09/19/22	Tim Vreeland

Routine or Special Sample	Original, Resubmitted or Confirmation Report	If Resubmitted Report, list below	
		(1) Reason for Resubmission	(2) Collection Date of Original Sample
RS [X] SS	[ ] Original [ ] Resubmitted [ ] Confirmation	[ ] Resample [ ] Reanalysis [ ] Report Correction	

SAMPLE NOTES - (Such as, if a Manifold/Multiple sample, list the sources that were on-line during sample collection).

II. ANALYTICAL LABORATORY INFORMATION

Primary Lab MA Cert. #: M-MA1146 **Primary Lab Name:** Microbac Laboratories, Inc., Lee **Subcontract? (Y/N)** Y

Contaminant	Result	Result Qualifier	SMCL	Lab MDL	Lab MRL	Dilution Factor	Lab Method	Date Analyzed	Analysis Lab MA Cert. #	Analysis Lab Sample ID#
ALKALINITY (CACO3), TOTAL (mg CaCO3/L)	90.0		*None*	1.00	1.00	1.00	SM 2320 B-1997	09/22/2022	M-CT008	L2I0342-03
COLOR (CU)	ND	Y1	**15**	1	1	1.00	SM 2120 B-2001	09/20/2022	M-CT008	L2I0342-03
IRON (mg/L)	ND		**0.3**	0.00324	0.0500	1.00	EPA 200.7, Rv. 4.4 (1994)	09/23/2022	M-CT008	L2I0342-03
MANGANESE (mg/L)	0.0104		**0.05***	0.000255	0.00204	1.00	EPA 200.7, Rv. 4.4 (1994)	09/23/2022	M-CT008	L2I0342-03
TOTAL DISSOLVED SOLIDS (mg/L)	122		**500**	25.0	25.0	10.00	SM 2540 C-1997	09/23/2022	M-CT008	L2I0342-03

* EPA has established a lifetime Health Advisory (HA) for manganese at 0.3 mg/L and an acute HA at 1.0 mg/L.

Lab Analysis Comments	Result Qualifier	Result Qualifier Description
	Y1	Accreditation is not offered by the accrediting body for this analyte.

I certify under penalties of law that I am the person authorized to fill out this form and the information contained herein is true, accurate and complete to the best extent of my knowledge

Primary Lab Director Signature: B. Wahl

Date: 9/26/2022

In accordance with 310 CMR 22.15(2), if mailing paper reports, TWO copies of this report must be received by your MassDEP Regional Office no later than 10 days after the end of the month in which the results are received or no later than 10 days after the end of the monitoring period, whichever is sooner. Please note: Electronic reporting (eDEP) deadline is the same as above.

DEP REVIEW STATUS (Initial & Date) ☐ Accepted ☐ Disapproved	Review Comments		☐ WQTS Data Entered