

**INFLOWS TO LAKE MASSAPOAG 2023: Phosphorus, E. Coli, Nutrients**

**RAIN EVENT SAMPLING (except 6/25 testing after hand pulling fanwort)**

									Phosp
Phosphorus (mg/L)	6/13/2023	6/20/2023*	6/27/2023	7/17/2023	8/31/2023	9/26/2023	10/23/2023	Average	% high
Lagoon	0.085	0.028	0.015	0.024				0.038	25%
Lagoon Inflow						0.027		0.027	
Everwood Dock	0.016	<.010						0.016	
Canoe River			0.030			0.022		0.026	
Fletcher's Cove		0.028*	0.015					0.015	
140 East Foxboro		0.015	0.057	0.049	0.039	0.052		0.042	40%
Opp 123 Beach St			0.085	0.021	0.100	0.107		0.078	75%
Wetland/SHS		0.067	0.152	0.045	0.097	0.094		0.091	80%
Sucker Brook			0.031	0.033	0.022	0.028		0.029	
Longmeadow			0.030			0.025	0.022	0.026	
Landfill Drain S			0.039		0.013		0.025	0.026	
Landfill Drain N			0.027				0.015	0.021	
Opp 3 Capen Hill			0.048		0.052	0.191	0.046	0.084	50%
240 Massapoag			0.076		0.025	0.124	0.051	0.069	75%
308 Massapoag						0.048	0.022	0.035	
Massapoag/Morse			0.037		0.016		0.045	0.033	
Rain past 48 hours (inches)	0.3	2.4	.5	3.0	.8	1.0	1.0		

Source: Town of Sharon Lake Committee, G&L Labs.

High Phosphorus > .05 mg/l. (inflows):

Notes: Hand-pulling in lagoon 6/12-6/15, Fletchers Cove July various dates through 7/19. \*P measured in Fletchers Cove on 6/25.

Rain: Approx. figures from Wunderground Norwood Airport, Blue Hill Observatory Milton, and/or Sharon reported.

**RAIN EVENT SAMPLING**

									E coli
E. coli (cfu/100 ml)			6/27/2023	7/17/2023	8/31/2023	9/25/2023		Average	% high
Lagoon			<10*	1400				700	50%
Lagoon Inflow									
Everwood Dock									
Canoe River			<10*					<10*	
Fletcher's Cove			55					55	
140 East Foxboro			50	500				275	50%
Opp 123 Beach St			310	100				205	50%
Wetland/SHS			180	1100				640	50%
Sucker Brook			2600	1800	260	330		1248	100%
Longmeadow			3100		60			1580	50%
Landfill Drain S			460					460	100%
Landfill Drain N			470					470	100%
Opp 3 Capen Hill					10			10	
Rain past 48 hours (inches)	0.3	2.4	.5	3.0	.8	1.0			

Source: Town of Sharon Lake Committee, G&L Labs.

High E. coli > 235 cfu/100 ml. (beaches):

Rain: Approx. figures from Wunderground Norwood Airport, Blue Hill Observatory Milton, and/or Sharon reported.

\* 6/29/2023

Sucker Brook									E/P
Addl. Indicators	5/11/2023	6/8/2023	7/13/2023	8/10/2023	9/14/2023	9/18/2023*	10/12/2023	Average	% high
E. coli (MPN/CFU/100 ml)	148	122	169	109				137	
Total Phosphorus (mg/L)	0.028	0.023	0.048	0.048				0.037	
PO4-P*orthophosphate									
Total Nitrogen*									
NH3-N* (N, ammonia)						0.110		0.110	
Chlorophyll a (ug/L)	0.800	2.39	0.2	0.338				0.932	
Phaeophytin									

Source: Neponset River Watershed Association, Community Watershed Monitoring Network (CWMN)

\* Collected by LMAC, analyzed by G&L

\* Collected once over six months, site rotates

Key: E. coli > 235 cfu/100 ml.

Phosphorus > .05 mg/l (inflow)

Chlorophyll a: Oligotrophic = <2, Mesotrophic = 2-5, Eutrophic = 6-40.

E. Coli vs. Enterococci		
	7/17/2023	7/17/2023
	E. coli CFU	Enterococci
Sucker Brook	1800	910
Community Center Beach	200	70
Camp Wonderland Beach	30	70
Between Sucker Br & CCB		
Rain past 48 hours (inches)	3.0	3.0
Analyzed by: G&L Labs		

Key: E. coli >235 cfu/100 ml.

Enterococci >140 cfu/100 ml.

Phosphorus above/below	Total P (mg/L)	Ortho P (mg/L)
EutroSORB socks	7/27/2023	8/31/2023
Lagoon	0.034	< .010*
Lagoon Inflow	0.045	< .010*
Canoe River		0.013*
Canoe River Inflow		0.014*

**INFLOWS TO LAKE MASSAPOAG 2022: Phosphorus, E. Coli, Nutrients**

Phosphorus (mg/L)	rain event post 2-day rain						10/31/2022	Phosp % high
	5/23/2022	6/27/2022	7/25/2022	8/22/2022	9/7/2022	9/26/2022		
Lagoon Inflow	0.350	0.024	0.038	1.150	0.229	0.019	0.021	43%
Canoe River	0.049	0.110	0.400		0.050	0.040	0.024	50%
Fletcher's Cove	0.022	0.010	0.019	0.010	0.027	0.015	0.010	0%
140 East Foxboro	0.133	0.132		0.607	0.131	0.123	0.044	83%
Opp 123 Beach St	0.726	0.157			0.049	0.026	0.035	40%
Wetland/SHS	0.545				0.066	0.069	0.061	100%
Sucker Brook	0.019	0.021	0.032	0.141	0.030	0.012	0.015	14%
Longmeadow	0.032			0.689			0.016	33%
Landfill Drain S	0.021	0.019	0.035		0.032	0.043	0.038	0%
Landfill Drain N	0.021				0.016	0.035	0.010	0%
308 Massapoag					0.041	0.089		50%

High Phosphorus > .05 mg/l. (inflows):

Source: Town of Sharon Lake Committee, G&L Labs, sampling by Conservation Department  
8/22 rain event sample inside lagoon, no flow, sample murky

See Hot Spot tab

E. coli (cfu/100 ml)	rain event post 2-day rain SuckerBr only						10/31/2022	Total Nitrogen E coli % high
	6/27/2022	7/25/2022	8/22/2022	9/7/2022	10/6/2022			
Lagoon Inflow	10	40	1700	4100		0.65	50%	
Canoe River	710	28		2300		1.62	67%	
Fletcher's Cove	45	12	90	20			0%	
140 East Foxboro	<10		2800	760		1.75	67%	
Opp 123 Beach St	<10			360			50%	
Wetland/SHS				1900		2.18	100%	
Sucker Brook	410	260	>8000	6100	1733	0.81	100%	
Longmeadow			340				100%	
Landfill Drain S	<10	<5		640			33%	
Landfill Drain N				280			100%	
308 Massapoag				760			100%	

Source: Town of Sharon Board of Health, G&L Labs, sampling by Conservation Dept.  
8/22 rain event sample inside lagoon, no flow, sample murky

Sucker Brook								E/P
<b>Addl. Indicators</b>	5/12/2022	6/9/2022	7/14/2022	8/11/2022	9/8/2022	10/6/2022	10/13/2022	% high
E. coli	< 10	717	933	187	3870	1733	74	67%
Total Phosphorus	0.0495	0.0456	0.0571	0.012	0.0354	0.078	0.079	50%
PO4-P*orthophosphate	0.00747	(holding time)	(holding time)		(holding time)	NA	(holding time)	
Total Nitrogen*	0.747	exceed 180%)	exceed 117%)		exceed 146%)	NA	exceed 125%)	
NH3-N* (N, ammonia)	0.0518					NA		
Chlorophyll a	0.683	0.424	1.03	0.477	0.19	NA	1.070	
Phaeophytin	0.829	1.04	1.51	0.899	0.29	NA	1.230	

Source: Neponset River Watershed Association, Community Watershed Monitoring Network (CWMN) Hot Spot Survey 10/6/22:

\* Collected once over six months, site rotates

\*High E. coli at 10/12 sites

Key: E. coli > 235 cfu/100 ml.

\*High P at 2/12 sites

Phosphorus > .05 mg/l (inflow)

Chlorophyll a: Oligotrophic = <2, Mesotrophic = 2-5, Eutrophic = 6-40.

#### Comparison Prior Year Tests - From IEP, Inc. Report (1984)

Sucker Brook							
<b>Addl. Indicators</b>	Mar	Apr	May	June	July	Sept	Nov
E. coli	< 5	< 5	5	375	10	10	< 10
Total Phosphorus	0.06	0.03	0.02	0.01	0.03	0.02	0.02
PO4-P orthophosphate							
Kjeldahl Nitrogen	0.05	0.97	0.78	0.94	0.25	0.41	0.62
NH3-N (N, ammonia)	0.33	0.45	0.39	0.22	0.04	0.15	0.38
Nitrate	0.70	0.30	0.20	0.00	0.40	0.01	0.66

Key: E. coli > 235

Phosphorus > .05 (inflow)

Source: 1981 MDWPC 1981 and IEP, 1981-82 Data from IEP, Inc. Report (1984).

"The MWDC has assigned a status of mesotrophic, or intermediate, to Lake Massapoag." IEP 1984 p. 62

"Without... strategies designed to curb nutrient input, Lake Massapoag will clearly be classified a eutrophic waterbody by the year 2000." IEP, 1984, p. 100.

[https://www.townofsharon.net/sites/g/files/vyhlf3801f/uploads/diagnostic\\_feasibility\\_study\\_lake\\_massapoag\\_sharon\\_mass\\_1984.pdf](https://www.townofsharon.net/sites/g/files/vyhlf3801f/uploads/diagnostic_feasibility_study_lake_massapoag_sharon_mass_1984.pdf)

Comparison Prior Year Tests - From IEP, Inc. Report (1984 )

Phosphorus (mg/L)	Phosphorus at Inflows (mg/L)							Percent High E. Coli or Total Coliform		
	Mar	Apr	May	June	July	Sept	Nov	E. coli (cfu/100 ml)	E. coli	Coliform
Lagoon Inflow		0.03	0.04			0.03	0.08			
Canoe River	0.05	0.02	0.04	0.07			0.02			14%
Fletcher's Cove								10%		46%
140 East Foxboro										
Opp 123 Beach St								22%		34%
Wetland/SHS										
Sucker Brook	0.06	0.03	0.02	0.01	0.03	0.02	0.02	38%		28%
Longmeadow										
Landfill Drain S								24%		36%
Landfill Drain N								32%		66%

Source: 1981 MDWPC 1981 and IEP, 1981-82 Data from IEP, Inc. Report (1984). Source: Early 1980s BOH Data, IEP, Inc.

Comparison Prior Year Tests - From IEP, Inc. Report (1984 )

Sucker Brook							
Add. Indicators	Mar	Apr	May	June	July	Sept	Nov
E. coli	< 5	< 5	5	375	10	10	< 10
Total Phosphorus	0.06	0.03	0.02	0.01	0.03	0.02	0.02
PO4-P orthophosphate							
Kjeldahl Nitrogen	0.05	0.97	0.78	0.94	0.25	0.41	0.62
NH3-N (N, ammonia)	0.33	0.45	0.39	0.22	0.04	0.15	0.38
Nitrate	0.70	0.30	0.20	0.00	0.40	0.01	0.66

Key: E. coli > 235      Phosphorus > .05 (inflow)

Source: 1981 MDWPC 1981 and IEP, 1981-82 Data from IEP, Inc. Report (1984).

"The MWDC has assigned a status of mesotrophic, or intermediate, to Lake Massapoag." IEP 1984 p. 62

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