

2006 Parameter Data: Total Phosphorus in River, Brook and Tributary Sites

In fresh water lakes, ponds, reservoirs and streams, phosphorus is the nutrient that has the most influence on plant growth. Just parts per billion (ppb) increases are needed to stimulate the growth of algae. Measurement of total phosphorus includes readily available dissolved phosphorus, as well as particulate phosphorus and organic forms of phosphorus such as that making up algae. Phosphorus readily binds to sediments, so elevated total phosphorus levels in streams are often caused by sediment laden stormwater runoff and resuspension of river sediments due to increased streamflows often associated with storms. Because phosphorus bound to sediments can be released back into the water column if there is no oxygen, such as can occur in the bottom waters of a lake, the Council for Environmental Quality recommends that river total phosphorus not exceed 50 ppb where it discharges into a lake, pond or reservoir, and not exceed 100 ppb anywhere on its length.

Watershed	LOCATION	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	MEAN
Code	RIVERS	-- (ug/l or ppb) --						
CE	Bailey's Brook	44	-	30	32	40	45	38
NA	Buckeye Brook #1 @ Novelty Rd	45	20	8	28	31	16	25
NA	Buckeye Brook #2 @ Lockwood Brk	17	19	54	42	21	81	39
NA	Buckeye Brook #3 @ Warner Brook	36	21	61	30	15	77	40
NA	Buckeye Brook #4 @ Mill Cove	19	15	50	31	28	52	33
WD	Falls River D - Step Stone Falls	33	95	98	52	47	53	63
WD	Falls River C - Austin Farm Rd.	24	64	34	30	28	62	40
WD	Falls River B - Sand Banks	33	73	29	24	16	38	36
WD	Falls River A - Twin Bridges	29	50	90	25	16	35	41
TH	Moosup River - Upstream	22	43	67	27	10	21	32
TH	Moosup River A - Fairbanks	12	32	18	23	11	15	19
TH	Moosup River B - Trestle Trail	10	20	11	16	7	12	13
M	Moshassuck River - Collyer Field	27	32	73	56	521	230	157
PE	NR 01- Gilbert Stuart	13	15	201	17	7	-	51
PE	NR 02 - Upper Pond 0.5M	8	15	25	37	22	-	21
PE	NR 02 - Upper Pond 3.0M	24	26	39	39	21	-	30
PE	NR 03 - Lower Pond A 0.5M	12	23	16	37	27	-	23
PE	NR 03 - Lower Pond A 3.0M	16	25	28	31	21	-	24
PE	NR 04 - Lower Pond B 0.5M	16	25	24	37	22	-	25
PE	NR 04 - Lower Pond B 3.0M	35	24	35	45	23	-	32
PE	NR 05 - Lacey Bridge	21	16	37	43	24	-	28
PE	NR 06 - Mettatuxet Beach	17	22	36	44	14	-	27
PE	NR 07 - End of Narrows	18	25	49	-	18	-	28
PE	NR 08 - Middlebridge	24	33	55	59	15	-	37
PE	NR 09 - Pettaquamscutt	-	-	-	-	-	-	-
PE	NR 10 - Sprague Bridge	28	56	71	49	32	-	47
PE	NR 11 - Mettatuxet Brook	-	27	75	28	17	-	37
PE	NR 12 - Mumford Brook	18	10	33	27	27	-	23
PE	NR 13 - Near Lakeside Dr	-	-	-	-	23	12	18
PE	NR 14 - Lakeside Drive outfall	-	-	-	-	26	12	19
PE	NR 15 - Crooked Brook Farm	37	200	158	94	54	86	105
PE	NR 16 - Crooked Brook School	33	67	142	DRY	204	47	99

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Narrow River sites #2 - #9 are estuarine sites that are more strongly influenced by nitrogen than phosphorus

Watershed	LOCATION	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	MEAN
Code	RIVERS (continued)	-- (ug/l or ppb) --						
WD	Pawcatuck R - Bradford 0.5M	31	42	-	105	71	-	62
WD	Pawcatuck R - Avondale 0.5M	28	38	124	71	127	38	71
WD	Pawcatuck R - Avondale 3.0M	30	28	75	67	38	39	46
WD	Queen River @ Sand Bridge (TNC)	11	13	13	18	7	8	12
WD	Queen River @ Locke Brk	6	13	33	13	5	26	16
WD	Queen River @ Sherman Brk	5	7	21	12	5	14	11
H	Saw Mill Inlet (Sandhill Brook)	-	-	29	23	21	17	23
WD	Shickasheen @ Rte 2	10	26	101	148	154	-	88
WD	Shickasheen @ Miskiania Road	12	16	11	24	17	-	16
WD	Shickasheen @ Barber Pond Outlet	14	17	14	23	14	-	16
WD	Shickasheen @ Rte 138	10	21	17	25	22	-	19
WD	Shunock River @ Hewitt	13	-	24	-	-	26	21
WO	Woonasquatucket R. @ Cricket Park	32	26	32	49	23	15	30
WO	Woonasquatucket River @ Donigian	48	42	24	43	20	25	34

Watershed	LOCATION	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	MEAN
Code	TRIBUTARIES	-- (ug/l or ppb) --						
WD	Asseconk Swamp	28	-	41	-	-	39	36
WD	Barber - Mud Brook	27	46	26	14	14	-	25
A	Belleville @ RR Xing	29	-	23	28	38	211	66
A	Belleville @ Sluiceway	9	-	10	11	8	22	12
PE	Carr Inlet (NK)	21	-	13	-	-	15	16
WO	Georgiaville @ Capron Pond	5	-	20	-	-	10	12
WO	Georgeville @ Harris	ND	-	15	-	-	5	7
GB	Greenwich Bay - 01 (Maskerchugg River)	17	16	23	52	7	76	32
GB	Greenwich Bay - 02 (Gorton Pond outflow)	26	17	13	827	12	35	155
GB	Greenwich Bay - 03 (Hardig @ Rte 115)	19	13	14	22	8	34	18
GB	Greenwich Bay - 04 (Mill Creek)	17	10	17	14	ND	99	27
GB	Greenwich Bay - 05 (Hardig @ Health Ctr)	7	11	88	13	10	82	35
GB	Greenwich Bay - 06 (Tuscatucket Brk)	29	8	29	13	18	36	22
GB	Greenwich Bay - 07 (Southern Creek)	17	26	138	38	ND	107	55
NA	Nanaqua. Trib @ Quaket Brorok	24	-	217	-	-	30	90
NA	Nanaqua. Trib @ Sin & Flesh Brk	20	-	71	-	-	23	38
NA	Nanaqua. Trib @ White Wine Brk	11	-	105	-	-	16	44
WD	Pasquisett Tributary	ND	-	38	-	-	24	21

ND = No Detect; Limit of Detection = 4 ppb
 Mean calculated using half the limit of detection (2 ppb) for ND

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Watershed	LOCATION	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	MEAN
Code	TRIBUTARIES (continued)	-- (ug/l or ppb) --						
A	Secret - Oak Hill Brook West	7	-	7	-	-	7	7
A	Secret - Oak Hill Brook East	9	-	14	-	-	9	11
A	Secret - Shore Dr.	12	-	18	-	-	nated by s	15
WO	Slack's Tributary #1 / A	-	-	139	-	-	-	-
WO	Slack's Tributary #2 / B	-	-	21	-	-	-	-
WO	Slack's Tributary #3 / C	-	-	19	-	-	-	-
WO	Slack's Tributary #4 / D	-	-	105	-	-	-	-
B	Smith & Sayles @ Keech Brook	-	-	-	-	-	-	-
B	Smith & Sayles @ Balcom Brk	-	-	-	-	-	-	-
B	Smith & Sayles @ O'Donnel Brk	-	-	-	-	-	-	-
TA	Staf Inlet - Downstream	-	300	481	-	-	-	391
TA	Stafford - NE Cove	-	28	25	32	-	34	30
WD	Watchaug - Perry Healy	5	-	44	-	-	10	20
WO	Waterman @ Rte 44	7	-	ND	-	-	14	8
WO	Waterman @ Saw Mill	11	-	10	-	-	22	14
WO	Waterman @ Golf Course	9	-	ND	-	-	21	11
WO	Waterman @ Aldrich	10	-	ND	-	-	114	42
WD	White Brook Pond Inlet	30	-	40	47	-	58	44

Watershed	LOCATION	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	MEAN
Code	WPWA - TRIBUTARIES	-- (ug/l or ppb) --						
WD	Chipuxet River @ Rte 138	57	30	51	24	30	17	35
WD	Glen Rock Brook	16	ND	28	14	10	26	16
WD	Pawcatuck R @ Biscuit City Rd	-	-	68	35	23	21	37
WD	Pawcatuck R @ Burdickville Rd	22	36	104	73	85	-	64
WD	Pawcatuck R @ Chase Hill Rd.	32	38	-	97	87	-	64
WD	P'tuck below Kenyon Ind.	37	73	267	228	188	97	148
WD	Pawcatuck R @ Rte 91	51	48	135	76	145	96	92
WD	Pawcatuck R below Bradford (DA)	31	-	43	113	136	-	81
WD	Queen River @ Mail Rd	14	18	18	19	8	31	18
WD	Queen River @ Rte 102	9	9	22	21	11	14	14
WD	Usquepaugh River @ Rte 2	15	13	26	35	34	15	23

ND = No Detect; Limit of Detection = 4 ppb
 Mean calculated using half the limit of detection (2 ppb) for ND

Council for Environmental Quality recommendation:
 Maximum of 50 ppb total phosphorus where a river enters a lake.
 Maximum of 100 ppb total phosphorus instream.