

2006 Parameter Data: Ammonium-nitrogen, River, Brook and Tributary Sites

Ammonium-nitrogen the most reactive form of nitrogen present in aquatic systems, and is the preferred form for algae and plant growth. It can adhere to soils and sediment, but when dissolved oxygen (DO) is readily available, bacteria quickly oxidize ammonium-N to nitrate-N through a process known as nitrification. Other types of bacteria produce ammonia as they decompose dead plant and animal matter – indirectly reducing dissolved oxygen concentrations. At higher temperatures and pH (a measurement of “acidity”) ammonium forms ammonium hydroxide, which is extremely toxic to fish and aquatic life. Waters with low DO and high ammonium hydroxide levels (typically hundreds of parts per billion (ppb) the units URI Watershed Watch reports measurements in) are more toxic than waters with low DO alone. While most sites monitored by URI Watershed Watch have low or no detectable levels of ammonium-nitrogen, many of our deep lakes had periods of quite ammonium-N levels from mid-summer until de-stratification in the fall, usually late September. In addition, high levels of ammonium-nitrogen in surface waters may indicate sewage outfalls, failed septic systems or eutrophication.

Watershed	LOCATION	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	MEAN
Code	RIVERS	-- (ug/l or ppb) --						
CE	Bailey's Brook	ND	-	40	ND	70	50	38
NA	Buckeye Brook #1 @ Novelty Rd	340	250	100	70	130	410	217
NA	Buckeye Brook #2 @ Lockwood Brk	470	180	210	210	370	100	257
NA	Buckeye Brook #3 @ Warner Brook	170	60	80	70	200	150	122
NA	Buckeye Brook #4 @ Mill Cove	420	100	60	110	160	330	197
WD	Falls River D - Step Stone Falls	ND	70	40	30	ND	40	35
WD	Falls River C - Austin Farm Rd.	ND	ND	ND	30	ND	60	25
WD	Falls River B - Sand Banks	ND	ND	ND	40	40	40	28
WD	Falls River A - Twin Bridges	ND	ND	ND	110	50	50	43
TH	Moosup River - Upstream	ND	ND	80	50	ND	50	38
TH	Moosup River A - Fairbanks	ND	ND	40	ND	ND	50	25
TH	Moosup River B - Trestle Trail	ND	ND	ND	ND	ND	40	19
M	Moshassuck River - Collyer Field	90	150	210	230	170	110	160
PE	NR 01- Gilbert Stuart	ND	50	50	70	50	-	47
PE	NR 02 - Upper Pond 0.5M	60	60	40	60	400	-	124
PE	NR 02 - Upper Pond 3.0M	130	90	110	70	260	-	132
PE	NR 03 - Lower Pond A 0.5M	50	110	40	60	230	-	98
PE	NR 03 - Lower Pond A 3.0M	80	120	70	90	290	-	130
PE	NR 04 - Lower Pond B 0.5M	70	80	60	160	240	-	122
PE	NR 04 - Lower Pond B 3.0M	90	90	60	50	250	-	108
PE	NR 05 - Lacey Bridge	60	50	50	50	240	-	90
PE	NR 06 - Mettatuxet Beach	50	60	40	50	260	-	92
PE	NR 07 - End of Narrows	60	100	40	-	250	-	113
PE	NR 08 - Middlebridge	110	90	70	60	320	-	130
PE	NR 09 - Pettaquamscutt	-	-	-	-	-	-	-
PE	NR 10 - Sprague Bridge	110	70	60	90	310	-	128
PE	NR 11 - Mettatuxet Brook	-	50	90	30	40	-	53
PE	NR 12 - Mumford Brook	40	50	70	-	70	-	58
PE	NR 13 - Near Lakeside Dr	-	-	-	-	ND	60	38
PE	NR 14 - Lakeside Drive outfall	-	-	-	-	250	ND	133

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Watershed	LOCATION	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	MEAN
Code	RIVERS (continued)	-- (ug/l or ppb) --						
PE	NR 15 - Crooked Brook Farm	40	50	100	560	40	ND	134
PE	NR 16 - Crooked Brook School	ND	100	140	-	80	ND	70
WD	Pawcatuck R - Bradford 0.5M	60	130	50	90	400	170	150
WD	Pawcatuck R - Avondale 0.5M	60	150	80	110	420	260	180
WD	Pawcatuck R - Avondale 3.0M	60	50	-	40	50	-	50
WD	Queen River @ Sand Bridge (TNC)	ND	ND	50	30	ND	50	29
WD	Queen River @ Locke Brk	30	40	110	ND	ND	30	40
WD	Queen River @ Sherman Brk	ND	ND	40	40	ND	ND	23
H	Saw Mill Inlet (Sandhill Brook)	-	-	70	50	50	50	55
WD	Shickasheen @ Rte 2	30	50	150	230	50	ND	88
WD	Shickasheen @ Miskiania Road	50	ND	ND	30	40	ND	28
WD	Shickasheen @ Barber Pond Outlet	50	ND	60	-	ND	40	36
WD	Shickasheen @ Rte 138	50	50	50	40	40	ND	41
WO	Woonasquatucket R. @ Cricket Park	30	80	80	100	50	ND	59
WO	Woonasquatucket River @ Donigian	50	110	40	50	50	ND	53
NA	Wickford Cove	-	60	150	200	340	-	188

Watershed	LOCATION	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	MEAN
Code	TRIBUTARIES	-- (ug/l or ppb) --						
WD	Asseconk Swamp	ND	-	80	-	-	ND	37
WD	Barber - Mud Brook	50	ND	60	60	40	ND	40
A	Belleville @ RR Xing	ND	-	50	30	40	ND	30
A	Belleville @ Sluiceway	90	-	80	50	40	50	62
PE	Carr Inlet (NK)	ND	-	40	-	-	40	32
WO	Georgiaville @ Capron Pond	40	-	50	-	-	50	47
WO	Georgeville @ Harris	ND	-	50	-	-	50	38
GB	Greenwich Bay - 01 (Maskerchugg River)	50	70	90	30	120	70	72
GB	Greenwich Bay - 02 (Gorton Pond outflow)	70	90	80	90	80	90	83
GB	Greenwich Bay - 03 (Hardig @ Rte 115)	60	60	70	50	50	70	60
GB	Greenwich Bay - 04 (Mill Creek)	80	70	50	50	40	60	58
GB	Greenwich Bay - 05 (Hardig @ Health Ctr)	40	50	-	30	ND	30	33
GB	Greenwich Bay - 06 (Tuscatucket Brk)	380	200	130	290	130	40	195
GB	Greenwich Bay - 07 (Southern Creek)	380	210	100	120	-	100	182
NA	Nanaqua. Trib @ Quaket Brrok	ND	-	180	-	-	ND	70
NA	Nanaqua. Trib @ Sin & Flesh Brk	ND	-	70	-	-	ND	43
NA	Nanaqua. Trib @ White Wine Brk	ND	-	ND	-	-	ND	ND
WD	Pasquisett Tributary	ND	-	70	-	-	70	52

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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	40	-	40	-	-	ND	32
A	Secret - Oak Hill Brook East	30	-	50	-	-	ND	32
A	Secret - Shore Dr.	70	-	60	-	-	40	57
WD	Shunock River @ Hewitt	ND	-	50	-	-	ND	27
WO	Slack's Tributary #1 / A	-	-	170	-	-	-	-
WO	Slack's Tributary #2 / B	-	-	ND	-	-	-	-
WO	Slack's Tributary #3 / C	-	-	ND	-	-	-	-
WO	Slack's Tributary #4 / D	-	-	ND	-	-	-	-
B	Smith & Sayles @ Keech Brook	-	-	-	-	-	-	-
B	Smith & Sayles @ Balcom Brk	-	-	-	-	-	-	-
B	Smith & Sayles @ O'Donnel Brk	-	-	-	-	-	-	-
TA	Staf Inlet - Downstream	-	160	160	-	-	-	160
TA	Stafford - NE Cove	-	ND	ND	70	-	-	33
WD	Watchaug - Perry Healy	ND	-	40	-	-	ND	23
WO	Waterman @ Rte 44	ND	-	ND	-	-	40	23
WO	Waterman @ Saw Mill	ND	-	50	-	-	ND	27
WO	Waterman @ Golf Course	ND	-	40	-	-	ND	23
WO	Waterman @ Aldrich	ND	-	ND	-	-	ND	ND
WD	White Brook Pond Inlet	50	-	-	90	-	130	90

Watershed	LOCATION	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	MEAN
Code	WPWA - TRIBUTARIES	-- (ug/l or ppb) --						
WD	Chipuxet River @ Rte 138	40	ND	80	40	ND	60	42
WD	Glen Rock Brook	30	ND	40	40	ND	ND	26
WD	Pawcatuck R @ Biscuit City Rd	-	-	60	40	-	ND	38
WD	Pawcatuck R @ Burdickville Rd	30	80	50	40	ND	-	43
WD	Pawcatuck R @ Chase Hill Rd.	50	80	-	60	40	-	58
WD	P'tuck below Kenyon Ind.	60	150	100	60	100	-	94
WD	Pawcatuck R @ Rte 91	-	100	50	40	40	50	56
WD	Pawcatuck R below Bradford (DA)	40	-	90	40	50	-	55
WD	Queen River @ Mail Rd	ND	50	ND	40	ND	ND	25
WD	Queen River @ Rte 102	ND	50	50	30	ND	ND	29
WD	Usquepaugh River @ Rte 2	30	ND	ND	ND	40	40	26

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