2006 Parameter Data: Ammonium-nitrogen in Lakes, Ponds, and Reservoirs

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 code	LOCATION	Sample Depth (m)	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	MEAN
			- - (ug/l or ppb) - -						
WD	ALTON POND	1	40	-	80	-	-	-	**60**
S	ASA POND	1	120	-	120	-	-	-	**120**
WD	BARBER POND	1	ND	-	50	-	-	70	**45**
WD	BARBER POND	4.5	ND	-	470	-	-	-	**243**
A	BELLEVILLE POND - LOWER	1	210	-	50	-	-	-	**130**
A	BELLEVILLE POND - UPPER	0.5	-	40	70	-	-	-	**55**
PA	BLACKAMORE POND	1	160	-	50	-	-	80	**97**
TH	BLUE LAKE	1	40	-	140	-	-	ND	**65**
WD	BOONE LAKE	1	30	-	80	-	-	40	**50**
WD	BOONE LAKE	5	ND	-	190	-	-	40	**82**
TH	BOWDISH RESERVOIR	1	40	-	ND	-	ND	-	**23**
WD	BROWNING MILL POND	1	40	-	ND	-	-	ND	**23**
TH	CARBUNCLE POND	1	30	-	40	ND	-	80	**41**
TH	CARBUNCLE POND	6.5	70	-	260	310	-	100	**185**
PE	CARR POND (NK)	1	70	-	ND	-	-	100	**62**
PE	CARR POND (NK)	4.5	120	-	570	-	-	130	**273**
PA	CARR POND (WG)	1	50	-	ND	-	-	60	**42**
PA	CARR POND (WG)	9	70	-	80	-	-	300	**150**
TH	CLARKVILLE POND	1	30	-	ND	-	-	60	**35**
CW	DEEP POND	1	ND	-	70	-	-	120	**68**
CW	DEEP POND	5	ND	-	70	30	-	40	**39**
PA	FENNER POND	1	100	-	ND	-	-	140	**85**
PA	FLAT RIVER RESERVOIR	1	50	-	70	-	-	70	**63**
PA	FLAT RIVER RESERVOIR	7	90	-	100	-	-	120	**103**
WO	GEORGIAVILLE POND	1	30	-	ND	-	-	50	**32**
WO	GEORGIAVILLE POND	6	60	-	350	-	-	130	**180**
NA	GORTON POND	1	-	-	40	30	-	140	**70**
NA	GORTON POND	10	-	-	900	870	-	1690	**1153**
WO	HAWKINS POND	1	60	-	ND	-	-	50	**42**

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Watershed code	LOCATION	Sample Depth (m)	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	MEAN
			- - (ug/l or ppb) - -						
WD	HUNDRED ACRE POND	1	ND	-	ND	-	-	260	**97**
WD	HUNDRED ACRE POND	6	100	-	150	-	-	260	**170**
S	INDIAN LAKE	1	ND	-	ND	-	-	40	23.33333
B	KEECH POND	1	-	ND	ND	-	-	60	**30**
CE	LILY POND	1	30	-	40	-	-	-	**35**
PA	LITTLE POND	1	70	-	90	ND	-	150	**81**
PA	LITTLE POND	5	70	-	90	280	-	140	**145**
WD	LOCUSTVILLE POND	1	ND	-	ND	-	-	ND	**ND**
S	LONG POND (SK)	1	50	-	50	-	-	100	**67**
S	LONG POND (SK)	7	-	-	-	-	-	-	
WD	MEADOWBROOK POND	1	ND	-	ND	-	-	60	**30**
NA	MELVILLE P - UPPER	1	90	-	ND	-	-	80	**62**
PA	MESHANICUT POND	0.5	90	-	ND	-	-	70	**58**
PA	MISHNOCK LAKE	1	110	-	60	60	-	130	**90**
PA	MISHNOCK LAKE	4	110	-	700	360	-	170	**335**
SK	NANAQUAKET POND	1	80	-	80	-	-	320	**160**
PA	OAK SWAMP RES.	1	140	-	ND	-	-	-	**78**
B	PASCOAG RESERVOIR	1	40	-	40	-	-	40	**40**
B	PASCOAG RESERVOIR	4	40	-	ND	-	-	ND	**23**
WD	PASQUISETT POND	1	40	-	80	-	-	ND	**45**
PA	PONAGANSETT RESERVOIR	1	30	-	ND	100	-	60	**51**
PA	PONAGANSETT RESERVOIR	9	70	-	120	70	-	170	**108**
NA	PRINCE'S POND	1	180	-	70	-	-	130	**127**
NA	PRINCE'S POND	3	420	-	1130	-	-	1120	**890**
PA	PRINTWORKS POND		290	-	40	-	-	260	**197**
WD	(Glen Rock Res.)	1	ND	-	ND	-	-	50	**33**
PA	RANDALL POND	1	130	-	ND	-	-	130	**92**
PA	SAND POND	1	40	-	ND	70	-	210	**84**
PA	SAND POND	7	1330	-	3180	4090	-	2320	**2730**
S	SAUGATUCKET POND	1	90	-	320	-	-	310	**240**
CW	SCHOOLHOUSE POND - LOW	1	20	-	40	-	-	150	**70**
CW	SCHOOLHOUSE POND - LOW	6+	50	-	70	-	-	-	**60**
CW	SCHOOLHOUSE POND - UPP	1	20	-	ND	-	-	ND	**17**
CW	SCHOOLHOUSE POND - UPP	6+	30	-	50	-	-	-	**40**
B	SCOTT POND	1	170	-	120	-	-	350	**213**
B	SCOTT POND	9	230	-	1600	-	-	-	**915**
A	SECRET LAKE	1	80	-	90	-	-	90	**87**

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Watershed code	LOCATION	Sample Depth (m)	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	MEAN
			- - (ug/l or ppb) - -						
S	SILVER LAKE	1	30	-	40	-	-	90	**53**
S	SILVER LAKE	7	80	-	110	-	-	110	100
PE	SILVER SPRING LAKE	1	80	-	190	-	-	90	120
WO	SLACK'S RESERVOIR	1	-	-	730	-	-	250	**490**
WO	SLACK'S RESERVOIR	4	-	-	775	-	-	-	**-**
TE	SLATER POND	1	ND	-	80	-	-	150	**82**
B	SLATERSVILLE RESERVOIR	1	-	ND	ND	-	-	80	**37**
B	SLATERSVILLE RESERVOIR	5.5	-	160	610	-	-	120	**297**
WD	SPALDING POND	1	ND	-	60	-	-	40	**38**
PA	SPECTACLE POND	1	90	-	ND	-	-	230	**112**
B	SPRING GROVE POND	1	50	-	ND	-	-	ND	**27**
B	SPRING LAKE	1	ND	-	ND	-	-	ND	**ND**
B	SPRING LAKE	5	30	-	40	-	-	50	**40**
TA	STAFFORD POND	1	-	ND	ND	90	-	60	**45**
TA	STAFFORD POND	7	-	50	200	70	-	40	**90**
B	TARKILN POND	1	ND	-	-	-	-	-	**-**
PA	TIOGUE LAKE	1	90	-	ND	-	-	80	**62**
WD	TUCKER POND	1	ND	-	-	80	-	70	**55**
WD	TUCKER POND	7.5	170	-	-	610	-	290	**357**
PA	UPPER DAM POND	1	180	-	ND	-	-	70	**88**
B	VALLEY FALLS POND	0.5	80	-	ND	-	-	160	**85**
NA	WARWICK POND	1	-	-	ND	-	-	550	**283**
NA	WARWICK POND	5.5	120	-	1840	-	-	520	**827**
WD	WATCHAUG POND	1	ND	-	40	ND	-	80	**38**
WD	WATCHAUG POND	10	30	-	80	ND	-	60	**46**
WO	WATERMAN RESERVOIR	1	70	-	40	-	-	ND	**42**
NA	WESQUAGE POND	1	ND	-	40	-	-	ND	**23**
WD	WHITE BROOK POND	1	120	-	270	150	-	230	**193**
WD	WINCHECK POND	1	90	-	-	-	-	-	**-**
WD	WINCHECK POND	5	120	-	-	-	-	-	**-**
WO	WOONASQUA - STUMP	1	-	ND	50	-	-	60	**42**
WD	WORDEN POND	1	40	-	40	-	-	50	**43**
WD	WYASSUP LAKE	1	ND	-	180	-	-	ND	**70**
WD	WYOMING POND	1	-	-	80	-	-	-	**-**
WD	YAWGOO POND	1	ND	ND	60	30	80	40	**40**
WD	YAWGOO POND	10	30	180	150	375	-	100	**167**

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