2007 Nitrate + nitrite nitrogen Data - Greenwich Bay Watershed - Tributaries and In Bay Sites

In most estuaries nitrogen (N) is the primary nutrient controlling or limiting algal growth. Ammonium-nitrogen is the preferred form of N for algae and plant growth. It can adhere to soils and sediment, but when dissolved oxygen (DO) is available, bacteria quickly oxidize ammonium-N to nitrate + nitrite N through a process known as nitrification. Nitrate+nitrite N is readily used by algae and plants, and excessive concentrations can result in algal blooms. Because nitrate+nitrite N is so easily used by algae, most estuarine sites monitored by URI Watershed Watch have low or no detectable levels of nitrate-nitrogen. Higher levels in marine waters suggest either algal productivity being limited by other conditions (temperature, lack of light or phosphorus, etc.) or excessive nitrogen inputs. Nitrate+nitrite N levels above 1000 ppb indicate human impact of some sort; from home or agricultural fertilizers, human or animal waste.

Watershed	LOCATION	Sample Depth (m)	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	MEAN
Code	TRIBUTARIES		- - (ug/l or ppb) - -						
GB	Greenwich Bay - 01 (Maskerchugg River)	0.2	840	840	800	1260	1570	920	**1038**
GB	Greenwich Bay - 02 (Gorton Pond outflow)	0.2	1170	910	430	350	220	440	**587**
GB	Greenwich Bay - 03 (Hardig @ Rte 115)	0.2	1170	1270	930	950	700	360	**897**
GB	Greenwich Bay - 04 (Mill Creek)	0.2	2910	2200	1950	2100	1240	1600	**2000**
GB	Greenwich Bay - 05 (Hardig @ Health Ctr)	0.2	-	1580	1060	-	-	-	**1320**
GB	Greenwich Bay - 06 (Tuscatucket Brk)	0.2	2930	2300	1550	1810	1140	1420	**1858**
GB	Greenwich Bay - 07 (Southern Creek)	0.2	4090	4430	4130	4390	2250	1940	**3538**

Watershed	LOCATION	Sample Depth (m)	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	MEAN
Code			- - (ug/l or ppb) - -						
NA	Greenwich Bay #1 - Middle Ground Buoy	1	ND	ND	30	30	70	90	**40**
NA	Greenwich Bay #1 - Middle Ground Buoy	DEEP	ND	ND	30	50	60	100	**43**
NA	Greenwich Bay #2 - Sally Rock	1	ND	ND	30	ND	60	90	**35**
NA	Greenwich Bay #2 - Sally Rock	DEEP	ND	ND	30	60	60	100	**45**
NA	Greenwich Bay #3 - The Brothers	1	-	ND	30	ND	40	90	**36**
NA	Greenwich Bay #3 - The Brothers	DEEP	-	ND	30	ND	60	90	**40**
NA	Greenwich Bay #4 - Greenwich Bay Marina	0.5	60	ND	30	40	40	110	**48**
NA	Greenwich Bay #4 - Greenwich Bay Marina	DEEP	70	ND	40	40	40	100	**50**
NA	Greenwich Bay #6 - Ponaug Marina	0.5	480	ND	120	70	210	270	**193**
NA	Greenwich Bay #8 - Little Rhody Boat Club	0.5	ND	-	30	-	-	-	**20**
NA	Greenwich Bay #9 - Warwick Cove Marina	0.5	ND	ND	40	30	50	80	**37**
NA	Greenwich Bay #11 - Mouth Greenwich Cove	0.5	ND	ND	30	30	40	90	**35**
NA	Greenwich Bay #11 - Mouth Greenwich Cove	DEEP	ND	ND	30	30	50	100	**38**
NA	Greenwich Bay #12 - Harborside	0.5	ND	ND	30	50	60	100	**43**
NA	Greenwich Bay #13 - EG Town Dock	0.5	-	ND	30	50	70	110	**54**

ND = No Detect; Limit of Detection = 30 ppb; Mean calculated using half the limit of detection (15 ppb) for ND