

2007 Total-nitrogen Data - Greenwich Bay Watershed Sites

Nitrogen is an important nutrient for plant and algae growth, but excess concentrations can cause cultural eutrophication, particularly in estuarine or marine systems. In saltwater, nitrogen is typically the nutrient that limits plant and algae growth, known as the limiting nutrient. However, in waters with high concentrations of phosphorus, the usual limiting nutrient in freshwater, nitrogen plays a more important role in eutrophication. When eutrophication occurs, algal and plant growth is over stimulated, water clarity is decreased, deep waters become depleted of dissolved oxygen, and fish and shellfish death may result. Precipitation, agricultural, lawn and garden fertilizer, animal wastes, and human waste from sewage treatment plants or septic systems are sources of nitrogen. Measurements of total nitrogen include all forms of dissolved and particulate nitrogen, i.e., nitrate-nitrogen, ammonium-nitrogen, and also organic forms of nitrogen.

Watershed	LOCATION	Sample	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	MEAN
code		Depth (m)	-- (ug/l or ppb) --						
GB	Greenwich Bay - 01 (Maskerchugg River)	0.2	1100	1090	1120	1500	1630	1130	1262
GB	Greenwich Bay - 02 (Gorton Pond outflow)	0.2	1570	1140	780	710	610	680	915
GB	Greenwich Bay - 03 (Hardig @ Rte 115)	0.2	1280	1250	1100	1150	980	600	1060
GB	Greenwich Bay - 04 (Mill Creek)	0.2	2540	-	1830	2290	1080	1430	1834
GB	Greenwich Bay - 05 (Hardig @ Health Ctr)	0.2	-	1700	1120	-	-	-	1410
GB	Greenwich Bay - 06 (Tuscatucket Brk)	0.2	2930	2260	1920	2240	1230	1550	2022
GB	Greenwich Bay - 07 (Southern Creek)	0.2	4040	4300	4150	4440	2440	1790	3527

Watershed	LOCATION	Sample	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	MEAN
code		Depth (m)	-- (ug/l or ppb) --						
NA	Greenwich Bay #1 - Middle Ground Buoy	1	660	650	460	570	540	600	580
NA	Greenwich Bay #1 - Middle Ground Buoy	DEEP	780	710	790	800	770	920	795
NA	Greenwich Bay #2 - Sally Rock	1	660	520	510	520	570	600	563
NA	Greenwich Bay #2 - Sally Rock	DEEP	780	760	800	930	1120	820	868
NA	Greenwich Bay #3 - The Brothers	1	-	610	480	550	610	610	572
NA	Greenwich Bay #3 - The Brothers	DEEP	-	560	510	540	-	810	605
NA	Greenwich Bay #4 - Greenwich Bay Marina	0.5	450	640	780	860	970	640	723
NA	Greenwich Bay #4 - Greenwich Bay Marina	DEEP	590	870	970	960	810	880	847
NA	Greenwich Bay #6 - Ponaug Marina	0.5	1080	1950	700	960	1020	820	1088
NA	Greenwich Bay #8 - Little Rhody Boat Club	0.5	780	-	690	-	-	-	735
NA	Greenwich Bay #9 - Warwick Cove Marina	0.5	670	580	630	730	590	740	657
NA	Greenwich Bay #11 - Mouth Greenwich Cove	0.5	810	600	530	660	720	650	662
NA	Greenwich Bay #11 - Mouth Greenwich Cove	DEEP	860	760	690	1020	710	1130	862
NA	Greenwich Bay #12 - Harborside	0.5	770	570	490	760	700	1130	737
NA	Greenwich Bay #13 - EG Town Dock	0.5	-	1050	780	790	710	950	856

In estuarine systems, levels below 350 ppb are characteristic of low nutrient waters, while values above 700 ppb indicate nitrogen enrichment