

## 2007 Parameter Data: Dissolved Phosphorus at Greenwich Bay Watershed Sites

In most estuaries nitrogen is the primary nutrient that controls algal growth. However like nitrogen, phosphorus is also essential for life, and thus in salt water environments phosphorus levels must be considered in relationship to nitrogen levels. In estuaries the recommended level of total phosphorus is 10 to 100 ppb with 100 to 1000 ppb of total nitrogen (a 10:1 ratio of nitrogen to phosphorus). Under these conditions, most algal blooms may be avoided. To maintain those ratios, instream total phosphorus should not exceed 100 ppb. Like nitrogen, phosphorus also occurs in the total form which includes phosphorus bound in particulate matter and the soluble or dissolved form which is readily used by algae. High levels of dissolved phosphorus are an indication of excess phosphorus (over enrichment) and/or limitation by nitrogen.

Watershed	LOCATION	Sample	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	MEAN
		Depth (m)							
<b>Code</b>	<b>TRIBUTARIES</b>		<b>-- (ug/l or ppb) --</b>						
GB	Greenwich Bay - 01 (Maskerchugg River)	0.2	7	4	4	8	19	ND	7
GB	Greenwich Bay - 02 (Gorton Pond outflow)	0.2	8	7	10	13	24	5	11
GB	Greenwich Bay - 03 (Hardig @ Rte 115)	0.2	6	9	9	11	24	8	11
GB	Greenwich Bay - 04 (Mill Creek)	0.2	16	17	11	18	21	3	14
GB	Greenwich Bay - 05 (Hardig @ Health Ctr)	0.2	-	11	8	-	-	-	10
GB	Greenwich Bay - 06 (Tuscatucket Brk)	0.2	173	-	12	15	22	8	46
GB	Greenwich Bay - 07 (Southern Creek)	0.2	173	17	11	10	30	15	43

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			Depth (m)							
				<b>-- (ug/l or ppb) --</b>						
NA		Greenwich Bay #1 - Middle Ground Buoy	1	8	19	54	63	66	40	42
NA		Greenwich Bay #1 - Middle Ground Buoy	DEEP	10	19	47	-	-	40	29
NA		Greenwich Bay #2 - Sally Rock	1	9	16	57	53	-	37	34
NA		Greenwich Bay #2 - Sally Rock	DEEP	9	30	65	-	-	37	35
NA		Greenwich Bay #3 - The Brothers	1	-	20	67	42	44	32	41
NA		Greenwich Bay #3 - The Brothers	DEEP	-	27	76	46	40	32	44
NA		Greenwich Bay #4 - Greenwich Bay Marina	0.5	663	25	102	82	63	35	162
NA		Greenwich Bay #4 - Greenwich Bay Marina	DEEP	305	33	73	88	63	42	101
NA		Greenwich Bay #6 - Ponaug Marina	0.5	22	16	33	65	43	26	34
NA		Greenwich Bay #8 - Little Rhody Boat Club	0.5	8	-	59	-	-	-	34
NA		Greenwich Bay #9 - Warwick Cove Marina	0.5	8	25	90	74	-	41	48
NA		Greenwich Bay #11 - Mouth of Greenwich Cove	0.5	8	26	92	80	49	35	48
NA		Greenwich Bay #11 - Mouth of Greenwich Cove	DEEP	9	27	90	65	-	29	44
NA		Greenwich Bay #12 - Harborside	0.5	8	35	122	79	-	32	55
NA		Greenwich Bay #13 - EG Town Dock	0.5	-	34	124	83	47	43	66

Recommended level of phosphorus in estuaries is 10 to 100 ppb.