

2008 Greenwich Bay Watershed Bacteria Data: Enterococci

A number of groups of bacteria species are used to indicate the presence of human sewage and associated pathogens, or disease causing organisms. In Rhode Island the two groups monitored in order to protect human health are fecal coliforms and enterococci. The USEPA has identified enterococci as better indicators of increased risks of contracting gastrointestinal illnesses from water contact than the fecal coliforms. Therefore the Rhode Island Department of Health (RIHealth) adopted single-value enterococci standards for licensed swimming beaches in 2004, and the Rhode Island Department of Environmental Management (RIDEM) adopted both single sample and geometric mean enterococci standards for contact recreation in all waters (fresh and salt). In addition, as required under the National Shellfish Sanitation Program and as an indicator of overall water quality, RIDEM continues to assess fecal coliform levels, particularly in marine waters or waters that discharge directly to marine waters.

URI Watershed Watch uses the USEPA approved membrane filtration method with mTEC media for analyzing fecal coliform, and for several years used a USEPA approved membrane filtration method with mE media on primarily salt water samples for enterococci. In order to produce the most relevant data for our community as possible, in 2006 Watershed Watch began using the RIHealth preferred IDEXX method for analyzing enterococci on all waters, and is also now a State certified laboratory. Watershed Watch data is intended for screening purposes only, but is very valuable for targeting areas of concerns and for tracking potential sources of bacterial contamination. Samples may have been collected over a period of days for each collection period, so may reflect dry versus wet weather or rain event values. Please contact Watershed Watch for specific sample dates.

Any result above the state standard is considered unsafe, and swimmers should refrain from swimming until results return to acceptable levels, or at least for several days after heavy rain.

RI Department of Health standards for recreational contact (i.e. swimming):

Fresh Waters - Single sample not to exceed 61 enterococci per 100 mL.

Marine Waters - Single sample not to exceed 104 enterococci per 100 mL.

RI Department of Environmental Management Enterococci Standards:

Non-designated Bathing Beach (Fresh) Waters Geometric Mean Density - Not to exceed 54 enterococci per 100 mL.

Designated Bathing Beach (Fresh) Waters Geometric Mean Density - Not to exceed 33 enterococci per 100 mL.

Marine Waters Geometric Mean Density - Not to exceed 35 enterococci per 100 mL.

Greenwich Bay Tributaries Enterococci Data (see "Tidal Rivers" data for GB trib. fecal coliform data)

	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	GeoMean
Freshwater Tributary Monitoring Site	-----	Most Probable Number of Enterococci per 100 mL					-----
GB #1 - Maskerchugg @ Rt 1	133.6	29	37.6	42.5	-	-	49.9
GB #2 - Burger King	976.8	53.8	75.2	161.6	-	-	159.0
GB #3 - Rte 115 pipe	1297.6	134	330	95.9	-	-	272
GB #4 - Mill Creek	58.6	42.4	1046.2	159.6	-	-	142.7
GB #5 - Health Center (Headwaters)	303	1841.6	2419.6	866.4	-	-	1040
GB #6 - Tuscatucket Brk	315.2	721.8	> 2419.6	57.4	-	-	425
GB #7 - Southern Crk	155.2	238	1203.3	1158.8	-	-	476.4
In Bay Marine Monitoring Sites	-----	Most Probable Number of Enterococci per 100 mL					-----
GrBay #1 - Middle Ground Buoy	no sample	< 10	10	10	-	-	<10
GrBay #2 - Sally Rock	no sample	< 10	10	< 10	-	-	<10
GrBay #3 - The Brothers	no sample	< 10	53	< 10	-	-	<10
GrBay #4 - Greenwich Bay Marina	< 10	20	< 10	20	-	-	<10
GrBay #6 - Ponaug Marina	53	20	945	537	-	-	152.3
GrBay #8 - Little Rhody Boat Club	10	10	10	10	-	-	10
GrBay #9 - Warwick Cove Marina	< 10	< 10	53	10	-	-	<10
GrBay #11 - Mouth Greenwich Cove	no sample	10	99	< 10	-	-	10
GrBay #12 - Harborside	no sample	< 10	< 10	< 10	-	-	<10
GrBay #13 - EG Town Dock	no sample	10	< 10	10	-	-	<10