

2005 Bacteria Data - Rivers

URI Watershed Watch uses the USEPA approved membrane filtration method with mTEC media for analyzing fecal coliform bacteria, species that can indicate the presence of human sewage and associated pathogens, or disease causing organisms. For the past several years URI Watershed Watch has been splitting primarily marine site samples to analyze enterococci values using the USEPA approved membrane filtration method with mE media. Enterococci are a different group of bacteria species which have been identified as better indicators of increased risks of contracting gastrointestinal illnesses than the fecal coliforms as a group.

As of 2004, the Rhode Island Department of Health adopted standards for licensed swimming beaches based on enterococci. Rhode Island Department of Environmental Management water quality standards still consider fecal coliform as indicators of overall water quality. Watershed Watch currently analyzes enterococci using the USEPA membrane filtration method.

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 sample event, so may reflect dry versus wet weather or rain event values. Please contact Watershed Watch for specific sample dates.

Bacteria results are summarized using a geometric mean rather than an arithmetic mean (or straight average.) This is done because bacteria results can vary from 10 to 10,000 fold over a given period in response to local or short-term contaminations (i.e. bird feces or stormwater.) The geometric mean dampens that, and gives a better picture of overall contaminations.

A record breaking rain event resulted in unusually high bacteria in October.

Watershed code	MONITORING LOCATION	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	GEOMEAN
<b>- - Number of Fecal coliform colony forming units per 100 mL - -</b>								
CE	Bailey's Brook	34	-	92	760	-	220	<b>151</b>
NA	Buckeye @ Novelty Rd	50	lab error	1180	760	720	6640	<b>735</b>
NA	Buckeye @ Lockwood Brk	186	lab error	1640	1320	3000	6600	<b>1515</b>
NA	Buckeye @ Warner Rd	88	lab error	1000	1320	700	16600	<b>1062</b>
NA	Buckeye @ Mill Cove	154	lab error	3000	1560	1260	5000	<b>1353</b>
WD	Falls River A - Twin Bridges	13	lab error	108	40	84	84	<b>52</b>
WD	Falls River B - Sand Banks	7	lab error	156	100	82	72	<b>58</b>
WD	Falls River C - Austin Farm	14	lab error	2	120	48	100	<b>28</b>
WD	Falls River D - Step Stone	12	lab error	6	62	1000	44	<b>46</b>
GB	GB #1 - Maskerchugg River	35	58	194	340	108	420	<b>135</b>
GB	GB #2 - Burger King	28	lab error	1000	840	320	1550	<b>411</b>
GB	GB #3 - Pipe @ Rte 115	92	lab error	560	92	140	1500	<b>251</b>
GB	GB #4 - Mill Creek	12	lab error	1200	400	660	9000	<b>509</b>
GB	GB #5 - Hardig Brook - Upstream	18	lab error	1000	4080	240	11550	<b>727</b>
GB	GB #6 - Tuscatucket Brook	10	lab error	100	4	6	4	<b>10</b>
GB	GB #7 - Southern Creek	16	lab error	1840	332	120	91000	<b>639</b>
WD	Locv – Brushy Brk @ Sawmill Rd.	2	-	110	-	-	-	<b>15</b>
WD	Locv – Brushy Brk @ Woody Hill Rd.	< 2	-	104	-	-	-	<b>10</b>
WD	Locv – Moscow Brk @ Sawmill Rd	< 2	-	18	-	-	-	<b>4</b>
TH	Moosup River Upstream	27	lab error	68	52	4080	2100	<b>241</b>
TH	Moosup River - Fairbanks Bridge	4	lab error	480	102	16	50	<b>44</b>
TH	Moosup River - Trestle Trail	96	lab error	46	84	54	50	<b>63</b>
M	Moshassuck River - Collyer Field	420	lab error	840	-	1100	61000	<b>2206</b>

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- - Number of Fecal coliform colony forming units per 100 mL - -								
PE	NR 01- Gilbert Stuart	16	lab error	32	14	60	-	<b>26</b>
PE	NR 02 - Upper Pond *	5	lab error	30	16	14	-	<b>14</b>
PE	NR 03 - Lower Pond A *	1	lab error	44	20	4	-	<b>8</b>
PE	NR 04 - Lower Pond B *	1	lab error	30	2	2	-	<b>3</b>
PE	NR 05 - Lacey Bridge *	1	8	142	18	8	-	<b>11</b>
PE	NR 06 - Mettatuxet Beach *	5	-	102	-	8	-	<b>16</b>
PE	NR 07 - End of Narrows *	8	lab error	114	30	14	-	<b>25</b>
PE	NR 08 - Middlebridge *	14	lab error	190	70	50	-	<b>55</b>
PE	NR 09 - Pettaquamscutt	9	-	300	8	-	-	<b>28</b>
PE	NR 10 - Sprague Bridge *	6	lab error	216	30	22	-	<b>30</b>
PE	NR 11 - Mettatuxet Brook	30	-	180	2800	520	-	<b>298</b>
PE	NR 12 - Mumford Brook	480	6000	94000	18000	13800	-	<b>9237</b>
PE	NR 13 - Near Lakeside Rd. *	-	-	40	24	10	-	<b>21</b>
PE	NR 14 - Lakeside Outfall	-	-	600	68	740	-	<b>311</b>
PE	NR 15 - Crooked Brook @ Farm	4	lab error	Dry	Dry	Dry	4720	<b>137</b>
PE	NR 16 - Crooked Brook @ School	< 2	lab error	Dry	Dry	Dry	4580	<b>68</b>
WD	Pawcatuck River - Avondale *	23	lab error	22	10	78	4360	<b>70</b>
WD	Pawcatuck River - Bradford	-	-	-	-	-	-	<b>-</b>
WD	Queen River @ Sand Bridge (TNC)	4	150	362	190	150	640	<b>126</b>
WD	Queen River @ Brownell's	12	lab error	126	110	-	-	<b>55</b>
WD	Queen River @ Locke Brk	-	lab error	16	2	6	4580	<b>31</b>
WD	Queen River @ Sherman Brk	18	lab error	364	64	58	3120	<b>150</b>
H	Saw Mill Pond Tributary	78	-	-	194	-	7000	<b>473</b>
WD	Shickasheen Brook @ Rte 2	8	20	Dry	Dry	Dry	-	<b>13</b>
WD	Shickasheen Brook @ Miskiania Road	4	< 2	-	134	-	-	<b>23</b>
WD	Shickasheen Brook @ Potter Road	8	-	540	18	44	420	<b>68</b>
WD	Shickasheen Brk @ Barber Pond outle	-	20	-	< 2	-	-	<b>20</b>
WO	Woonasquatucket R @ Cricket Park	-	-	1960	52	44	280	<b>188</b>
WO	Woonasquatucket R @ Donigian Park	-	lab error	1680	180	380	4120	<b>829</b>

\* = Marine water site. Enterococci data may be available on the next page.

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

Fresh Waters - Not to exceed 200 fecal coliform per 100 mL.

Marine Waters - Not to exceed 50 fecal coliform per 100 mL.

Marine Waters Shellfishing - Not to exceed 14 fecal coliform per 100 mL.

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-- Number of Enterococci colony forming units per 100 mL --								
PE	NR 01- Gilbert Stuart	16	lab error	32	-	3200	-	118
PE	NR 02 - Upper Pond	5	lab error	30	40	36	-	22
PE	NR 03 - Lower Pond A	1	lab error	44	18	< 2	-	5
PE	NR 04 - Lower Pond B	1	lab error	30	< 2	2	-	3
PE	NR 05 - Lacey Bridge	1	8	142	6	12	-	10
PE	NR 06 - Mettatumet Beach	5	-	102	-	8	-	16
PE	NR 07 - End of Narrows	8	lab error	114	< 2	2	-	7
PE	NR 08 - Middlebridge	14	lab error	190	58	18	-	41
PE	NR 09 - Pettaquamscutt	9	-	300	48	-	-	51
PE	NR 10 - Sprague Bridge	6	lab error	216	30	10	-	25
PE	NR 11 - Mettatumet Brook	30	-	180	1400	-	-	196
PE	NR 12 - Mumford Brook	480	60	94000	2400	10600	-	2331
PE	NR 13 - Near Lakeside Rd.	-	-	40	50	6	-	23
PE	NR 14 - Lakeside Outfall	-	-	600	64	6	-	61
PE	NR 15 - Crooked Brook @ Farm	4	lab error	Dry	Dry	Dry	-	-
PE	NR 16 - Crooked Brook @ School	< 2	lab error	Dry	Dry	Dry	-	-
WD	Pawcatuck River - Avondale	23	lab error	22	12	6	1000	33

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

Fresh Waters - Not to exceed 61 enterococci per 100 mL.

Marine Waters - Not to exceed 104 enterococci per 100 mL.

A factsheet describing how bacteria are monitored, what bacterial indicators are, where bacteria come from and how we can all help to reduce bacterial input into our local water resources is available at <http://www.uri.edu/ce/wq/ww/resources/Bacteria.pdf>

See the Rhode Island Department of Health beach monitoring website (<http://www.ribeaches.org/>) for additional information about beach monitoring and state standards.

The Rhode Island Department of Environmental Management website has information on State efforts to restore waters impaired by bacteria and other pollutants (<http://www.dem.ri.gov/programs/benviron/water/quality/index.htm>).

