

2022 TRWA Sampling Results for Nitrate (mg/l)			TARGET FOR CONCERN - GREATER THAN 0.4 MG/L							
Sample	Site No.	River & Location Description	April	May	June	July	August	Sept.	Oct.	AVG**
1	TNT-01	Taunton R. Br, Center St., Berkley	0.34	0.33	0.57	0.15				0.35
2	TNT-02	Taunton R. Br, Plain St., Taunton	0.30	0.33	0.42	0.60				0.45
3	BED-01/TNT-03	Taunton R., Rt 18, Bedford St., Bridgewater	0.30	0.31	0.53	0.85				0.56
4	CHE-01/TNT-04	Taunton R. Br, Cherry St., Bridgewater	0.49	0.75	0.82	1.68				1.08
5	ASO-01	Assonet R. Bridge, Rt 79	0.05	0.06	0.13	0.05				0.08
6	SEG	Segregansett R. Br, Brook St. Dighton	0.18	0.21	0.22	0.10				0.17
7	BER-01	Chuckamucksett Brk. Br, Berkley St.	0.62	0.87	0.57	0.44				0.62
8	TMR-01	Three Mile R. Br, Rt 138, Somerset Ave.	0.31	0.37	0.40	0.54				0.44
9	TMR-02	Three Mile R. Br, Rt 44, Cohannet St.	0.30	0.36	0.45	0.44				0.41
10	TMR-03	Three Mile R. Br, Crane St., Norton	0.26	0.25	0.25	0.21				0.24
11	MIL-01	Mill R., Ingell St., Taunton	0.20	0.17	0.15	0.50				0.27
12	MIL-02	Mill R., Washington St., Taunton	0.20	0.15	0.18	0.37				0.23
13	MIL-03	Mill R., Whittendon St., Taunton	0.18	0.12	0.15	0.22				0.16
14	FORGE	Forge R. Br, Rt 44, Raynham	0.25	0.28	0.39	0.51				0.40
15	COT-01	Cotley R., Middleboro Ave, Taunton	0.15	0.20	0.24	0.41				0.28
16	FBR-01	Furnace Brk., River St., E. Taunton	0.94	0.38	0.33	0.42				0.38
17	TBR-01	Tomson Brk., Highstone St., E. Taunton	0.21	0.10	0.26	0.10				0.15
18	TWH-01	Town R., Br, Hayward St., Bridgewater	0.21	0.35	0.55	4.28				1.73
19	MAT-01	Matfield R., Br, High St., Bridgewater	0.66	0.83	0.81	1.62				1.09
20	NEM-01	Nemasket R., Murdock St., Middleboro	0.10	0.12	0.18	0.29				0.19
Month	Site No.	Duplicate and Blank Locations by Month	DUP #	Duplicate Results	BL #	Blank Results	** Avg is for the water quality months of May through October used in NPDES permit TN limitation averaging.			
April	COT-01	Cotley R., Middleboro Ave, Taunton	DUP 1	0.15	BL 1	<0.0500				
	BER-01	Chuckamucksett Brk. Br, Berkley St.	DUP 2	0.61	BL 2	<0.0500				
May	FBR-01	Furnace Brk., River St., E. Taunton	DUP 1	0.39	BL 1	<0.0500				
	TMR-02	Three Mile R. Br, Rt 44, Cohannet St.	DUP 2	0.34	BL 2	<0.0500				
June	TNT-02	Taunton R. Br, Plain St., Taunton	DUP 1	0.41	BL 1	<0.0500				
	ASO-01	Assonet R. Bridge, Rt 79	DUP 2	0.07	BL 2	<0.0500				
July	BED-01/TNT-03	Taunton R., Rt 18, Bedford St., Bridgewater	DUP 1	0.87	BL 1	<0.0500				
	SEG	Segregansett R. Br, Brook St. Dighton	DUP 2	0.08	BL 2	<0.0500				
August	TNT-02	Taunton R. Br, Plain St., Taunton	DUP 1		BL 1					
	MAT-01	Matfield R., Br, High St., Bridgewater	DUP 2		BL 2					
Sept.	COT-01	Cotley R., Middleboro Ave, Taunton	DUP 1		BL 1					
	MIL-01	Mill R., Ingell St., Taunton	DUP 2		BL 2					
Oct.	NEM-01	Nemasket R., Murdock St., Middleboro	DUP 1		BL 1					
	TMR-02	Three Mile R. Br, Rt 44, Cohannet St.	DUP 2		BL 2					

2022 TRWA Sampling Results for Total Phosphorus (mg/l)			TARGET FOR CONCERN - GREATER THAN 0.100 mg/l							
Sample	Site No.	River & Location Description	April	May	June	July	August	Sept.	Oct.	AVG**
1	TNT-01	Taunton R. Br, Center St., Berkley	0.052	0.053	0.134	0.142				0.110
2	TNT-02	Taunton R. Br, Plain St., Taunton	0.034	0.039	0.081	0.199				0.106
3	BED-01/TNT-03	Taunton R., Rt 18, Bedford St., Bridgewater	0.040	0.041	0.112	0.071				0.075
4	CHE-01/TNT-04	Taunton R. Br, Cherry St., Bridgewater	0.051	0.053	0.115	0.082				0.083
5	ASO-01	Assonet R. Bridge, Rt 79	0.019	0.019	0.050	0.120				0.063
6	SEG	Segregansett R. Br, Brook St. Dighton	0.022	0.030	0.049	0.058				0.046
7	BER-01	Chuckamucksett Brk. Br, Berkley St.	0.022	0.016	0.145	0.125				0.095
8	TMR-01	Three Mile R. Br, Rt 138, Somerset Ave.	0.023	0.023	0.038	0.183				0.082
9	TMR-02	Three Mile R. Br, Rt 44, Cohannet St.	0.024	0.028	0.044	0.040				0.037
10	TMR-03	Three Mile R. Br, Crane St., Norton	0.023	0.023	0.037	0.055				0.039
11	MIL-01	Mill R., Ingell St., Taunton	0.023	0.030	0.033	0.130				0.064
12	MIL-02	Mill R., Washington St., Taunton	0.015	0.021	0.030	0.038				0.030
13	MIL-03	Mill R., Whittendon St., Taunton	0.018	0.030	0.021	0.028				0.026
14	FORGE	Forge R. Br, Rt 44, Raynham	0.031	0.036	0.090	0.078				0.068
15	COT-01	Cotley R., Middleboro Ave, Taunton	0.015	0.014	0.028	0.023				0.022
16	FBR-01	Furnace Brk., River St., E. Taunton	0.027	0.015	0.035	0.046				0.032
17	TBR-01	Tomson Brk., Highstone St., E. Taunton	0.020	0.028	0.049	0.052				0.043
18	TWH-01	Town R., Br, Hayward St., Bridgewater	0.041	0.056	0.107	0.157				0.107
19	MAT-01	Matfield R., Br, High St., Bridgewater	0.045	0.061	0.105	0.072				0.079
20	NEM-01	Nemasket R., Murdock St., Middleboro	0.033	0.032	0.052	0.037				0.040
		<b>Duplicate and Blank Locations by Month</b>		<b>Duplicate Results</b>	<b>Blank Results</b>		** Avg is for the water quality months			
April	COT-01	Cotley R., Middleboro Ave, Taunton	DUP 1	0.013	BL 1	<0.0106	of May through October (season AVG).			
	BER-01	Chuckamucksett Brk. Br, Berkley St.	DUP 2	0.022	BL 2	<0.0106	NPDES permits use TP mo. avg. limits.			
May	FBR-01	Furnace Brk., River St., E. Taunton	DUP 1	0.021	BL 1	<0.0106	Based on observations TRWA considers			
	TMR-02	Three Mile R. Br, Rt 44, Cohannet St.	DUP 2	0.028	BL 2	<0.0106	a season AVG <b>≥ 0.05 mg/l is concern.</b>			
June	TNT-02	Taunton R. Br, Plain St., Taunton	DUP 1	0.077	BL 1	0.0223				
	ASO-01	Assonet R. Bridge, Rt 79	DUP 2	0.046	BL 2	<0.0106				
July	BED-01/TNT-03	Taunton R., Rt 18, Bedford St., Bridgewater	DUP 1	0.0733	BL 1	0.0469				
	SEG	Segregansett R. Br, Brook St. Dighton	DUP 2	0.0627	BL 2	<0.0106				
August	TNT-02	Taunton R. Br, Plain St., Taunton	DUP 1		BL 1					
	MAT-01	Matfield R., Br, High St., Bridgewater	DUP 2		BL 2					
Sept.	COT-01	Cotley R., Middleboro Ave, Taunton	DUP 1		BL 1					
	MIL-01	Mill R., Ingell St., Taunton	DUP 2		BL 2					
Oct.	NEM-01	Nemasket R., Murdock St., Middleboro	DUP 1		BL 1					
	TMR-02	Three Mile R. Br, Rt 44, Cohannet St.	DUP 2		BL 2					

2022 TRWA Sampling Results for Enterococci (colonies/100 ml)			TARGET FOR CONCERN - GREATER THAN 61 COLONIES/100 ML							
Sample	Site No.	River & Location Description	April	May	June	July	August	Sept.	Oct.	GEO MEAN May to Oct.
1	TNT-01	Taunton R. Br, Center St., Berkley	10	10	560	10				38
2	TNT-02	Taunton R. Br, Plain St., Taunton	20	20	160	10				32
3	BED-01/TNT-03	Taunton R., Rt 18, Bedford St., Bridgewater	10	10	30	10				14
4	CHE-01/TNT-04	Taunton R. Br, Cherry St., Bridgewater	-	20	150	20				39
5	ASO-01	Assonet R. Bridge, Rt 79	10	10	100	10				22
6	SEG	Segregansett R. Br, Brook St. Dighton	10	10	540	10				38
7	BER-01	Chuckamucksett Brk. Br, Berkley St.	10	10	650	10				40
8	TMR-01	Three Mile R. Br, Rt 138, Somerset Ave.	20	10	160	10				25
9	TMR-02	Three Mile R. Br, Rt 44, Cohannet St.	10	40	120	10				36
10	TMR-03	Three Mile R. Br, Crane St., Norton	10	20	160	90				66
11	MIL-01	Mill R., Ingell St., Taunton	20	30	360	30				69
12	MIL-02	Mill R., Washington St., Taunton	10	10	350	230				93
13	MIL-03	Mill R., Whittendon St., Taunton	20	40	120	210				100
14	FORGE	Forge R. Br, Rt 44, Raynham	30	1270	210	50				237
15	COT-01	Cotley R., Middleboro Ave, Taunton	10	30	230	10				41
16	FBR-01	Furnace Brk., River St., E. Taunton	10	30	90	10				30
17	TBR-01	Tomson Brk., Highstone St., E. Taunton	40	10	160	40				40
18	TWH-01	Town R., Br, Hayward St., Bridgewater	80	30		20				24
19	MAT-01	Matfield R., Br, High St., Bridgewater	30	10	220	40				44
20	NEM-01	Nemasket R., Murdock St., Middleboro	10	10	140	10				24
		<b>Duplicate and Blank Locations by Month</b>		<b>Duplicate Results</b>	<b>Blank Results</b>		** Geometric Mean for the six months			
April	COT-01	Cotley R., Middleboro Ave, Taunton	DUP 1	<10	BL 1	<10	from May to Oct. should not exceed			
	BER-01	Chuckamucksett Brk. Br, Berkley St.	DUP 2	<10	BL 2	<10	33 colonies per 100 ml.			
May	FBR-01	Furnace Brk., River St., E. Taunton	DUP 1	30	BL 1	<10				
	TMR-02	Three Mile R. Br, Rt 44, Cohannet St.	DUP 2	40	BL 2	<10				
June	TNT-02	Taunton R. Br, Plain St., Taunton	DUP 1	180	BL 1	<10				
	ASO-01	Assonet R. Bridge, Rt 79	DUP 2	240	BL 2	<10				
July	BED-01/TNT-03	Taunton R., Rt 18, Bedford St., Bridgewater	DUP 1	10	BL 1	<10				
	SEG	Segregansett R. Br, Brook St. Dighton	DUP 2	10	BL 2	<10				
August	TNT-02	Taunton R. Br, Plain St., Taunton	DUP 1		BL 1					
	MAT-01	Matfield R., Br, High St., Bridgewater	DUP 2		BL 2					
Sept.	COT-01	Cotley R., Middleboro Ave, Taunton	DUP 1		BL 1					
	MIL-01	Mill R., Ingell St., Taunton	DUP 2		BL 2					
Oct.	NEM-01	Nemasket R., Murdock St., Middleboro	DUP 1		BL 1					
	TMR-02	Three Mile R. Br, Rt 44, Cohannet St.	DUP 2		BL 2					

Sample Analysis, Collection Method - Standard Operating Procedures (SOP) and Instream Target Values									
Samples Are Analyzed by:									
Microbac, Dayville, CT					A MassDEP Certified Laboratory				
<a href="https://www.microbac.com/our-laboratories/dayville-connecticut/#services">https://www.microbac.com/our-laboratories/dayville-connecticut/#services</a>									
Samples Are Collected by Trained TRWA Volunteers Using An SOP Jointly Developed by TRWA and Veolia North America:									
<a href="https://savethetaunton.org/wp-content/uploads/2021/06/TRWA-Sampling-SOP-6-14-2021.pdf">https://savethetaunton.org/wp-content/uploads/2021/06/TRWA-Sampling-SOP-6-14-2021.pdf</a>									
Sampling Locations Map May Be Found At:									
<a href="https://www.google.com/maps/d/edit?mid=zhnldTn8bGeU.kyo7mqjZ3YFQ&amp;usp=sharing">https://www.google.com/maps/d/edit?mid=zhnldTn8bGeU.kyo7mqjZ3YFQ&amp;usp=sharing</a>									
Water Quality Protection <b>Instream Target Values:</b>									
<b>Nitrate</b>									
Water Quality Target Values for Nitrogen are expressed as <u>Total</u> Nitrogen = <b>Nitrate</b> + Organic Nitrogen + Ammonia + Nitrite									
Like most environmental groups TRWA measures only <b>Nitrate</b> because of its low cost (\$12 / sample) and low reporting level (0.05 mg/l). The MassDEP in a large number of TMDLs for estuaries has recommended <u>TN</u> values between 0.39 to 0.5 mg/l for estuaries <u>without eel grass</u> in good to fair condition. The Cape Cod Commission recommends values 0.34 to 0.39 while the Buzzards Bay Project/ Massachusetts Coastal Zone Management recommends 0.39 to 0.44 mg/l. After consultation with MassDEP and Rhode Island DEM (downstream state) EPA selected a TN target estuary value of 0.45 mg/l as a medium target for the Taunton River.									
Because Nitrate is <u>only a portion of Total Nitrogen</u> we consider <b>Nitrate values &gt; 0.4 mg/l high for both the tidal portion of the estuary below Route 24 at the Raynham/Taunton Bridge and above because of transport concerns to the salt waters of the estuary.</b>									
<b>Total Phosphorus</b>									
The Water Quality Target Values for <b>Total Phosphorus are 0.100 mg/l for freshwaters</b> in free flowing streams and 0.050 mg/l in lakes, ponds, impoundments and streams tributary to them. These Targets are from the EPA Suggested Criteria for Water sometimes called the Gold Book.									
Based on observation and photos of the shallow effluent dominated freshwaters of the watershed TRWA considers <b>average TP greater than 0.05 mg/l</b> a value for concern in addition to <b>single month samples &gt; 0.100 mg/l.</b>									
<b>Bacteria - Enterococci</b>									
The Water Quality Target Value used for <b>enterococci is 61 colonies per 100 ml as a single sample maximum (SSM) and 33 colonies as geometric mean of all samples taken in the most recent six months.</b> These targets are from the MA Water Quality Standards 314 CMR for Class B waters.									
For Class SB waters the criteria are: SSM - 104 colonies/100 ml and Geo Mean for the last 6 months of samples - 35 colonies/100 ml.									
TRWA sampling locations TNT-01 and TNT-02 are in SB waters all others are in Class B waters.									