

2021 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					0.28	0.42	0.32	0.34	
2	TNT-02	Taunton R. Br, Plain St., Taunton					0.25	0.30	0.27	0.27	
3	BED-01/TNT-03	Taunton R., Rt 18, Bedford St., Bridgewater					0.28	0.34	0.31	0.31	
4	CHE-01/TNT-04	Taunton R. Br, Cherry St., Bridgewater					0.42	0.56	0.42	0.46	
5	ASO-01	Assonet R. Bridge, Rt 79					0.05	0.08	0.05	0.06	
6	SEG	Segregansett R. Br, Brook St. Dighton					0.25	0.31	0.20	0.25	
7	BER-01	Chuckamucksett Brk. Br, Berkley St.					0.60	0.03	0.78	0.47	
8	TMR-01	Three Mile R. Br, Rt 138, Somerset Ave.					0.24	0.39	0.23	0.28	
9	TMR-02	Three Mile R. Br, Rt 44, Cohannet St.	NOT SAMPLED DUE TO PANDEMIC					0.23	0.36	0.22	0.27
10	TMR-03	Three Mile R. Br, Crane St., Norton					0.21	0.26	0.05	0.17	
11	MIL-01	Mill R., Ingell St., Taunton					0.07	0.15	0.09	0.11	
12	MIL-02	Mill R., Washington St., Taunton					0.06	0.13	0.08	0.09	
13	MIL-03	Mill R., Whittendon St., Taunton					0.05	0.10	0.06	0.07	
14	FORGE	Forge R. Br, Rt 44, Raynham					0.18	0.26	0.15	0.20	
15	COT-01	Cotley R., Middleboro Ave, Taunton					0.14	0.08	0.08	0.10	
16	FBR-01	Furnace Brk., River St., E. Taunton					0.21	0.09	0.42	0.24	
17	TBR-01	Tomson Brk., Highstone St., E. Taunton					0.05	0.07	0.10	0.07	
18	TWH-01	Town R., Br, Hayward St., Bridgewater					0.17	0.40	0.13	0.23	
19	MAT-01	Matfield R., Br, High St., Bridgewater					1.05	0.84	0.07	0.65	
20	NEM-01	Nemasket R., Murdock St., Middleboro					0.22	0.08	0.06	0.12	
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		BL 1						
	BER-01	Chuckamucksett Brk. Br, Berkley St.	DUP 2		BL 2						
May	FBR-01	Furnace Brk., River St., E. Taunton	DUP 1		BL 1						
	TMR-02	Three Mile R. Br, Rt 44, Cohannet St.	DUP 2		BL 2						
June	TNT-02	Taunton R. Br, Plain St., Taunton	DUP 1		BL 1						
	ASO-01	Assonet R. Bridge, Rt 79	DUP 2		BL 2						
July	BED-01/TNT-03	Taunton R., Rt 18, Bedford St., Bridgewater	DUP 1		BL 1						
	SEG	Segregansett R. Br, Brook St. Dighton	DUP 2		BL 2						
August	TNT-02	Taunton R. Br, Plain St., Taunton	DUP 1	0.23	BL 1	0.05					
	MAT-01	Matfield R., Br, High St., Bridgewater	DUP 2	0.85	BL 2	0.06					
Sept.	COT-01	Cotley R., Middleboro Ave, Taunton	DUP 1	0.21	BL 1	0.05					
	MIL-01	Mill R., Ingell St., Taunton	DUP 2	0.15	BL 2	0.05					
Oct.	NEM-01	Nemasket R., Murdock St., Middleboro	DUP 1	0.05	BL 1	0.05					
	TMR-02	Three Mile R. Br, Rt 44, Cohannet St.	DUP 2	0.14	BL 2	0.05					

2021 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					0.140	0.085	0.104	0.110	
2	TNT-02	Taunton R. Br, Plain St., Taunton					0.090	0.067	0.069	0.075	
3	BED-01/TNT-03	Taunton R., Rt 18, Bedford St., Bridgewater					0.092	0.071	0.063	0.075	
4	CHE-01/TNT-04	Taunton R. Br, Cherry St., Bridgewater					0.103	0.079	0.077	0.086	
5	ASO-01	Assonet R. Bridge, Rt 79					0.062	0.050	0.045	0.052	
6	SEG	Segregansett R. Br, Brook St. Dighton					0.038	0.039	0.034	0.037	
7	BER-01	Chuckamucksett Brk. Br, Berkley St.					0.057	0.031	0.027	0.038	
8	TMR-01	Three Mile R. Br, Rt 138, Somerset Ave.					0.049	0.039	0.036	0.041	
9	TMR-02	Three Mile R. Br, Rt 44, Cohannet St.					0.050	0.036	0.037	0.041	
10	TMR-03	Three Mile R. Br, Crane St., Norton					0.041	0.034	0.030	0.035	
11	MIL-01	Mill R., Ingell St., Taunton					0.039	0.034	0.093	0.055	
12	MIL-02	Mill R., Washington St., Taunton					0.036	0.045	0.035	0.039	
13	MIL-03	Mill R., Whittendon St., Taunton					0.048	0.039	0.030	0.039	
14	FORGE	Forge R. Br, Rt 44, Raynham					0.096	0.081	0.074	0.084	
15	COT-01	Cotley R., Middleboro Ave, Taunton					0.031	0.027	0.021	0.026	
16	FBR-01	Furnace Brk., River St., E. Taunton					0.096	0.024	0.030	0.050	
17	TBR-01	Tomson Brk., Highstone St., E. Taunton					0.034	0.063	0.041	0.046	
18	TWH-01	Town R., Br, Hayward St., Bridgewater					0.124	0.105	0.073	0.101	
19	MAT-01	Matfield R., Br, High St., Bridgewater					0.260	0.070	0.096	0.142	
20	NEM-01	Nemasket R., Murdock St., Middleboro					0.067	0.054	0.032	0.051	
		Duplicate and Blank Locations by Month		Duplicate Results		Blank Results		** Avg is for the water quality months			
April	COT-01	Cotley R., Middleboro Ave, Taunton	DUP 1			BL 1		of May through October (season AVG).			
	BER-01	Chuckamucksett Brk. Br, Berkley St.	DUP 2			BL 2		NPDES permits use TP mo. avg. limits.			
May	FBR-01	Furnace Brk., River St., E. Taunton	DUP 1			BL 1		Based on observations TRWA considers			
	TMR-02	Three Mile R. Br, Rt 44, Cohannet St.	DUP 2			BL 2		a season AVG ≥ 0.05 mg/l is concern.			
June	TNT-02	Taunton R. Br, Plain St., Taunton	DUP 1			BL 1					
	ASO-01	Assonet R. Bridge, Rt 79	DUP 2			BL 2					
July	BED-01/TNT-03	Taunton R., Rt 18, Bedford St., Bridgewater	DUP 1			BL 1					
	SEG	Segregansett R. Br, Brook St. Dighton	DUP 2			BL 2					
August	TNT-02	Taunton R. Br, Plain St., Taunton	DUP 1	0.089		BL 1	0.011				
	MAT-01	Matfield R., Br, High St., Bridgewater	DUP 2	0.372		BL 2	0.012				
Sept.	COT-01	Cotley R., Middleboro Ave, Taunton	DUP 1	0.023		BL 1	0.011				
	MIL-01	Mill R., Ingell St., Taunton	DUP 2	0.044		BL 2	0.011				
Oct.	NEM-01	Nemasket R., Murdock St., Middleboro	DUP 1	0.033		BL 1	0.013				
	TMR-02	Three Mile R. Br, Rt 44, Cohannet St.	DUP 2	0.027		BL 2	0.013				

2021 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					140	276	128	170
2	TNT-02	Taunton R. Br, Plain St., Taunton					150	138	70	113
3	BED-01/TNT-03	Taunton R., Rt 18, Bedford St., Bridgewater					230	133	47	113
4	CHE-01/TNT-04	Taunton R. Br, Cherry St., Bridgewater					350	184	91	180
5	ASO-01	Assonet R. Bridge, Rt 79					460	291	57	197
6	SEG	Segregansett R. Br, Brook St. Dighton					230	210	21	101
7	BER-01	Chuckamucksett Brk. Br, Berkley St.					1880	770	68	462
8	TMR-01	Three Mile R. Br, Rt 138, Somerset Ave.					120	96	25	66
9	TMR-02	Three Mile R. Br, Rt 44, Cohannet St.					180	93	45	91
10	TMR-03	Three Mile R. Br, Crane St., Norton					240	210	1	37
11	MIL-01	Mill R., Ingell St., Taunton					250	194	47	132
12	MIL-02	Mill R., Washington St., Taunton					290	210	108	187
13	MIL-03	Mill R., Whittendon St., Taunton					360	99	19	87
14	FORGE	Forge R. Br, Rt 44, Raynham					500	613	345	473
15	COT-01	Cotley R., Middleboro Ave, Taunton					560	214	108	235
16	FBR-01	Furnace Brk., River St., E. Taunton					140	186	116	145
17	TBR-01	Tomson Brk., Highstone St., E. Taunton					170	435	82	182
18	TWH-01	Town R., Br, Hayward St., Bridgewater					540	411	166	333
19	MAT-01	Matfield R., Br, High St., Bridgewater					260	308	173	240
20	NEM-01	Nemasket R., Murdock St., Middleboro					170	172	38	104
		Duplicate and Blank Locations by Month		Duplicate Results	Blank Results		** Geometric Mean for the six months			
April	COT-01	Cotley R., Middleboro Ave, Taunton	DUP 1			BL 1				from May to Oct. should not exceed
	BER-01	Chuckamucksett Brk. Br, Berkley St.	DUP 2			BL 2				33 colonies per 100 ml.
May	FBR-01	Furnace Brk., River St., E. Taunton	DUP 1			BL 1				
	TMR-02	Three Mile R. Br, Rt 44, Cohannet St.	DUP 2			BL 2				
June	TNT-02	Taunton R. Br, Plain St., Taunton	DUP 1			BL 1				
	ASO-01	Assonet R. Bridge, Rt 79	DUP 2			BL 2				
July	BED-01/TNT-03	Taunton R., Rt 18, Bedford St., Bridgewater	DUP 1			BL 1				
	SEG	Segregansett R. Br, Brook St. Dighton	DUP 2			BL 2				
August	TNT-02	Taunton R. Br, Plain St., Taunton	DUP 1	250		BL 1	< 10			
	MAT-01	Matfield R., Br, High St., Bridgewater	DUP 2	280		BL 2	< 10			
Sept.	COT-01	Cotley R., Middleboro Ave, Taunton	DUP 1	132		BL 1	< 1			
	MIL-01	Mill R., Ingell St., Taunton	DUP 2	150		BL 2	< 1			
Oct.	NEM-01	Nemasket R., Murdock St., Middleboro	DUP 1	36		BL 1	<1			
	TMR-02	Three Mile R. Br, Rt 44, Cohannet St.	DUP 2	49		BL 2	<1			

Sample Analysis, Collection Method - Standard Operating Procedures (SOP) and Instream Target Values									
Samples Are Analyzed by:									
Microbac, Dayville, CT					A MassDEP Certified Laboratory				
https://www.microbac.com/our-laboratories/dayville-connecticut/#services									
Samples Are Collected by Trained TRWA Volunteers Using An SOP Jointly Developed by TRWA and Veolia North America:									
https://savethetaunton.org/wp-content/uploads/2021/06/TRWA-Sampling-SOP-6-14-2021.pdf									
Sampling Locations Map May Be Found At:									
https://www.google.com/maps/d/edit?mid=zhnldTn8bGeU.kyo7mqjZ3YFQ&usp=sharing									
Water Quality Protection Instream Target Values:									
Nitrate									
Water Quality Target Values for Nitrogen are expressed as <u>Total</u> Nitrogen = Nitrate + Organic Nitrogen + Ammonia + Nitrite									
Like most environmental groups TRWA measures only Nitrate 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 Nitrate values > 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.									
Total Phosphorus									
The Water Quality Target Values for Total Phosphorus are 0.100 mg/l for freshwaters 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 average TP greater than 0.05 mg/l a value for concern in addition to single month samples > 0.100 mg/l.									
Bacteria - Enterococci									
The Water Quality Target Value used for 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. 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.									