2016 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.**	**Nov.**	**AVG****
1	TNT-01	Taunton R. Br, Center St., Berkley*	**0.78**	**0.65**	**0.76**	**1.1**	**0.63**	**1.2**	**1.7**	**1.2**	**1.01**
2	TNT-02	Taunton R. Br, Plain St., Taunton	**0.58**	**0.43**	**0.76**	**0.74**	**1.8**	**2.6**	**1**	**0.96**	**1.22**
3	BED-01/TNT-03	Taunton R., Rt 18, Bedford St., Bridgewater	**0.42**	**0.51**	**0.84**	**1.2**	**2.4**	**5.7**	**1.1**	**1.5**	**1.96**
4	CHE-01/TNT-04	Taunton R. Br, Cherry St., Bridgewater	**0.46**	**0.58**	**1.1**	**2**	**2.3**	**2.8**	**0.99**	**2.2**	**1.63**
5	ASO-01	Assonet R. Bridge, Rt 79	0.087	0.06	0.12	0.078	< 0.05	< 0.05	Missing	Missing	**0.09**
6	SEG	Segregansett R. Br, Brook St. Dighton	0.23	0.18	0.3	0.11	**0.46**	Missing	0.23	0.013	**0.26**
7	BER-01	Chuckamucksett Brk. Br, Berkley St.	**0.58**	**0.6**	**1.2**	**1.5**	**1.8**	**1.6**	**1.3**	**1.3**	**1.33**
8	TMR-01	Three Mile R. Br, Rt 138, Somerset Ave.	**0.45**	**0.76**	**1.3**	**1.6**	**2**	**2.8**	**4.7**	**3.2**	**2.19**
9	TMR-02	Three Mile R. Br, Rt 44, Cohannet St.	**0.76**	**0.73**	**1.6**	**2.5**	**7.3**	**8**	**7.4**	**3.6**	**4.59**
10	TMR-03	Three Mile R. Br, Crane St., Norton	0.36	0.3	0.28	0.37	0.38	**1**	**0.59**	**0.59**	**0.49**
11	MIL-01	Mill R., Ingell St., Taunton	0.26	0.16	0.17	0.28	**1.2**	**1.8**	**0.77**	0.15	**0.73**
12	MIL-02	Mill R., Washington St., Taunton	0.29	0.14	0.14	0.21	0.34	0.38	0.27	0.14	**0.25**
13	MIL-03	Mill R., Whittendon St., Taunton	0.28	0.13	0.1	0.088	0.16	0.21	0.13	Missing***	**0.14**
14	FORGE	Forge R. Br, Rt 44, Raynham	0.36	0.31	**0.53**	**0.65**	**0.8**	**0.86**	0.36	**0.53**	**0.59**
15	COT-01	Cotley R., Middleboro Ave, Taunton	0.2	0.11	0.26	0.25	0.15	0.14	0.25	0.11	**0.19**
16	FBR-01	Furnace Brk., River St., E. Taunton	0.27	0.28	0.33	0.38	**0.52**	**0.78**	0.27	0.27	**0.43**
17	TBR-01	Tomson Brk., Highstone St., E. Taunton	0.34	0.13	< 0.05	0.059	< 0.05	0.082	0.1	0.16	**0.09**
18	TWH-01	Town R., Br, Hayward St., Bridgewater	0.21	0.2	**0.79**	**3.5**	**7.6**	**13**	**2.6**	**4**	**4.62**
19	MAT-01	Matfield R., Br, High St., Bridgewater	**0.88**	**0.78**	**1.9**	**1.8**	**1.8**	**2**	**1.1**	**2**	**1.56**
				****AVG is for the water quality months of May through October**							
					used in NPDES permit total nitrogen limitation averaging.						
20	**Duplicate Samples**			*** Missing due to road construction/closure							
April	ASO-01	Assonet R. Bridge, Rt 79	0.14								
May	FORGE	Forge R. Br, Rt 44, Raynham		0.13							
June	TNT-02	Taunton R. Br, Plain St., Taunton			**0.73**						
July	TNT-01	Taunton R. Br, Center St., Berkley				**1.1**					
August	BED-01/TNT-03	Taunton R., Rt 18, Bedford St., Bridgewater					**2.5**				
Sept.	CHE-01/TNT-04	Taunton R. Br, Cherry St., Bridgewater						**2.8**			
Oct.	MAT-01	Matfield R., Br, High St., Bridgewater							**1.1**		
Nov.	TWH-01	Town R., Br, Hayward St., Bridgewater								**3.9**	

2016 TRWA Sampling Results for Total Phosphorus (mg/l)				TARGET FOR CONCERN - GREATER THAN 0.100 mg/l (IN FRESHWATERS)							
Sample	**Site No.**	**River & Location Description**	**April**	**May**	**June**	**July**	**August**	**Sept.**	**Oct.**	**Nov.**	**AVG****
1	TNT-01	Taunton R. Br, Center St., Berkley	0.21	0.062	0.1	**0.17**	**0.19**	**0.19**	**0.16**	**0.12**	**0.15**
2	TNT-02	Taunton R. Br, Plain St., Taunton	0.013	0.031	0.084	0.05	**0.2**	**0.31**	0.046	0.037	**0.12**
3	BED-01/TNT-03	Taunton R., Rt 18, Bedford St., Bridgewater	0.048	0.036	0.026	0.054	0.041	0.029	0.061	0.039	0.04
4	CHE-01/TNT-04	Taunton R. Br, Cherry St., Bridgewater	0.061	0.04	0.067	0.062	0.068	0.056	0.079	0.073	**0.06**
5	ASO-01	Assonet R. Bridge, Rt 79	<0.010	0.012	0.034	0.032	0.043	0.017	Missing	Missing	0.03
6	SEG	Segregansett R. Br, Brook St. Dighton	0.014	0.018	0.034	*	**0.17**	Missing	0.034	0.018	**0.06**
7	BER-01	Chuckamucksett Brk. Br, Berkley St.	0.014	0.011	0.064	0.027	**0.2**	**0.16**	0.032	0.044	**0.08**
8	TMR-01	Three Mile R. Br, Rt 138, Somerset Ave.	0.023	0.017	0.036	0.016	**0.24**	**0.29**	0.026	0.015	**0.10**
9	TMR-02	Three Mile R. Br, Rt 44, Cohannet St.	<0.010	0.015	0.041	0.018	0.027	0.01	0.02	0.018	0.02
10	TMR-03	Three Mile R. Br, Crane St., Norton	<0.010	0.018	0.038	0.021	0.063	0.018	0.017	0.017	0.03
11	MIL-01	Mill R., Ingell St., Taunton	0.013	0.027	0.028	0.022	0.043	0.067	0.044	0.02	0.04
12	MIL-02	Mill R., Washington St., Taunton	0.01	0.018	0.028	0.026	0.058	0.017	0.019	0.014	0.03
13	MIL-03	Mill R., Whittendon St., Taunton	0.011	0.012	0.034	0.016	0.035	0.014	0.011	Missing***	0.02
14	FORGE	Forge R. Br, Rt 44, Raynham	0.023	0.021	0.048	0.056	0.058	0.032	0.027	0.016	0.04
15	COT-01	Cotley R., Middleboro Ave, Taunton	<0.010	<0.010	0.041	0.027	0.033	0.01	0.018	<0.010	0.03
16	FBR-01	Furnace Brk., River St., E. Taunton	0.014	0.023	0.026	0.014	0.063	<0.010	0.015	<0.010	0.03
17	TBR-01	Tomson Brk., Highstone St., E. Taunton	0.01	0.018	0.042	0.044	0.076	0.036	0.035	0.037	0.04
18	TWH-01	Town R., Br, Hayward St., Bridgewater	0.028	0.03	0.1	0.069	**0.11**	**0.12**	**0.11**	**0.39**	**0.09**
19	MAT-01	Matfield R., Br, High St., Bridgewater	0.034	0.041	0.044	0.065	0.087	0.065	0.065	0.042	**0.06**
			* Tidal salene water Class SB combed salt and freshwater								
			****AVG is for the water quality months of May through October (season AVG)**								
			NPDES permits use TP monthly average not seasonal average for compliance.								
			Based on observation and photos TRWA considers season AVG ≥ 0.05 a concern.								
			*** Missing due to road construction/closure								
20	**Duplicate Samples**										
April	ASO-01	Assonet R. Bridge, Rt 79	< 0.010								
May	FORGE	Forge R. Br, Rt 44, Raynham		0.023							
June	TNT-02	Taunton R. Br, Plain St., Taunton			0.092						
July	TNT-01	Taunton R. Br, Center St., Berkley				**0.18**					
August	BED-01/TNT-03	Taunton R., Rt 18, Bedford St., Bridgewater					0.047				
Sept.	CHE-01/TNT-04	Taunton R. Br, Cherry St., Bridgewater						0.047			
Oct.	MAT-01	Matfield R., Br, High St., Bridgewater							0.065		
Nov.	TWH-01	Town R., Br, Hayward St., Bridgewater								**0.39**	

2016 TRWA Sampling Results for Fecal Coliform (colonies/100ml)				TARGET FOR CONCERN - GREATER THAN 400 colonies/100 ml						
Sample	**Site No.**	**River & Location Description**	**April**	**May**	**June**	**July**	**August**	**Sept.**	**Oct.**	**Nov.**
1	TNT-01	Taunton R. Br, Center St., Berkley	30	30	140	20	40	140	140	50
2	TNT-02	Taunton R. Br, Plain St., Taunton	10	30	< 10	70	340	120	300	Missing
3	BED-01/TNT-03	Taunton R., Rt 18, Bedford St., Bridgewater	40	30	30	130	280	30	40	10
4	CHE-01/TNT-04	Taunton R. Br, Cherry St., Bridgewater	60	30	110	190	**650**	20	**530**	10
5	ASO-01	Assonet R. Bridge, Rt 79	10	< 10	270	**1350**	50	110	Missing	Missing
6	SEG	Segregansett R. Br, Brook St. Dighton	10	10	80	180	**660**	Missing	**1110**	50
7	BER-01	Chuckamucksett Brk. Br, Berkley St.	< 10	30	90	**1200**	**530**	**530**	100	20
8	TMR-01	Three Mile R. Br, Rt 138, Somerset Ave.	70	10	70	**410**	**650**	180	270	40
9	TMR-02	Three Mile R. Br, Rt 44, Cohannet St.	30	30	40	20	310	150	**600**	50
10	TMR-03	Three Mile R. Br, Crane St., Norton	20	< 10	130	190	180	160	240	10
11	MIL-01	Mill R., Ingell St., Taunton	60	80	290	**630**	160	150	**1200**	650
12	MIL-02	Mill R., Washington St., Taunton	30	60	180	**490**	**750**	**490**	**450**	1060
13	MIL-03	Mill R., Whittendon St., Taunton	30	10	150	**840**	**820**	380	240	Missing***
14	FORGE	Forge R. Br, Rt 44, Raynham	10	60	160	240	**1870**	220	170	100
15	COT-01	Cotley R., Middleboro Ave, Taunton	30	10	10	40	90	60	360	90
16	FBR-01	Furnace Brk., River St., E. Taunton	< 10	50	130	130	310	**410**	150	10
17	TBR-01	Tomson Brk., Highstone St., E. Taunton	< 10	10	< 10	< 10	20	20	**770**	20
18	TWH-01	Town R., Br, Hayward St., Bridgewater	20	30	100	260	320	200	320	340
19	MAT-01	Matfield R., Br, High St., Bridgewater	**450**	140	100	160	290	140	< 10	80
			*** Missing due to road construction/closure							
20	**Duplicate Samples**									
April	ASO-01	Assonet R. Bridge, Rt 79	10							
May	FORGE	Forge R. Br, Rt 44, Raynham		50						
June	TNT-02	Taunton R. Br, Plain St., Taunton			50					
July	TNT-01	Taunton R. Br, Center St., Berkley				Missing				
August	BED-01/TNT-03	Taunton R., Rt 18, Bedford St., Bridgewater					120			
Sept.	CHE-01/TNT-04	Taunton R. Br, Cherry St., Bridgewater						20		
Oct.	MAT-01	Matfield R., Br, High St., Bridgewater							20	
Nov.	TWH-01	Town R., Br, Hayward St., Bridgewater								310

Sample Analysis, Collection Method - Standard Operating Procedures (SOP) and Instream Target Values

Samples Are Analyized 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

http://savethetaunton.org/wp/wp-content/uploads/2016/04/TRWA_Sampling_SOP_3-15-2016.pdf

Sampling Locations Map May Be Found At:

https://www.google.com/maps/d/edit?mid=zhnIdTn8bGeU.kyo7mjqZ3YFQ&usp=sharing

Water Quality Protection **Insteam Target Values**:

Nitrate

Water Quality Target Values for Nitrogen are expressed as Total Nitrogen = **Nitrate** + Organic Nitrogen + Ammonia + Nitrite

Like most ennironmental 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 TN values between 0.39 to 0.5 mg/l for estuaries without eel grass 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 only a portion of Total Nitrogen 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 obseration 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**.

Feca Coliform

The Water Quality Target Value used for Fecal Coliform is **400 colonies/100 ml** (the former MA Water Quality Standard).

Fecal Coliform is an indicator of potential presence of disease causing organisms present in a waterbody.