



| 2018 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                | March     | April  | May   | June  | July  | August    | Sept.     | Oct.      | Nov.  | AVG** |
| 1  | TNT-01            | Taunton R. Br, Center St., Berkley*         | snow      | 0.036  | 0.051 | 0.113 | 0.111 | 0.135     | 0.180     | 0.072     | 0.051 | 0.110 |
| 2  | TNT-02            | Taunton R. Br, Plain St., Taunton*          | cancelled | 0.028  | 0.056 | 0.114 | 0.157 | 0.119     | 0.055     | 0.058     | 0.054 | 0.093 |
| 3  | BED-01/TNT-03     | Taunton R., Rt 18, Bedford St., Bridgewater | cancelled | 0.026  | 0.055 | 0.069 | 0.094 | 0.048     | 0.048     | 0.067     | 0.050 | 0.063 |
| 4  | CHE-01/TNT-04     | Taunton R. Br, Cherry St., Bridgewater      | cancelled | 0.033  | 0.064 | 0.086 | 0.100 | 0.067     | 0.064     | 0.075     | 0.048 | 0.076 |
| 5  | ASO-01            | Assonet R. Bridge, Rt 79                    | cancelled | 0.015  | 0.032 | 0.038 | 0.054 | no sample | 0.072     | 0.053     | 0.024 | 0.050 |
| 6  | SEG               | Segregansett R. Br, Brook St. Dighton       | cancelled | 0.013  | 0.034 | 0.037 | 0.139 | 0.065     | 0.060     | 0.034     | 0.020 | 0.061 |
| 7  | BER-01            | Chuckamucksett Brk. Br, Berkley St.         | cancelled | 0.066  | 0.050 | 0.022 | 0.064 | no sample | no sample | 0.082     | 0.101 | 0.054 |
| 8  | TMR-01            | Three Mile R. Br, Rt 138, Somerset Ave.     | cancelled | 0.023  | 0.032 | 0.058 | 0.137 | 0.043     | 0.036     | 0.045     | 0.026 | 0.058 |
| 9  | TMR-02            | Three Mile R. Br, Rt 44, Cohannet St.       | cancelled | 0.015  | 0.032 | 0.036 | 0.039 | 0.034     | 0.032     | 0.034     | 0.024 | 0.035 |
| 10   | TMR-03            | Three Mile R. Br, Crane St., Norton         | cancelled | 0.014  | 0.030 | 0.027 | 0.034 | 0.031     | 0.030     | 0.030     | 0.019 | 0.030 |
| 11   | MIL-01            | Mill R., Ingell St., Taunton                | cancelled | 0.015  | 0.026 | 0.062 | 0.092 | 0.043     | 0.038     | 0.033     | 0.035 | 0.049 |
| 12   | MIL-02            | Mill R., Washington St., Taunton            | cancelled | 0.014  | 0.023 | 0.033 | 0.037 | 0.029     | 0.035     | 0.034     | 0.035 | 0.032 |
| 13   | MIL-03            | Mill R., Whittendon St., Taunton            | cancelled | 0.011  | 0.028 | 0.033 | 0.033 | 0.019     | 0.032     | 0.033     | 0.036 | 0.030 |
| 14   | FORGE             | Forge R. Br, Rt 44, Raynham                 | cancelled | 0.021  | 0.043 | 0.057 | 0.077 | 0.052     | 0.066     | 0.061     | 0.049 | 0.059 |
| 15   | COT-01            | Cotley R., Middleboro Ave, Taunton          | cancelled | 0.015  | 0.021 | 0.022 | 0.024 | 0.028     | 0.032     | 0.020     | 0.038 | 0.025 |
| 16   | FBR-01            | Furnace Brk., River St., E. Taunton         | cancelled | 0.016  | 0.019 | 0.021 | 0.024 | 0.034     | 0.050     | 0.031     | 0.022 | 0.030 |
| 17   | TBR-01            | Tomson Brk., Highstone St., E. Taunton      | cancelled | 0.011  | 0.028 | 0.018 | 0.026 | 0.097     | 0.049     | 0.054     | 0.013 | 0.045 |
| 18   | TWH-01            | Town R., Br, Hayward St., Bridgewater       | cancelled | 0.028  | 0.068 | 0.079 | 0.165 | 0.083     | 0.113     | 0.073     | 0.035 | 0.097 |
| 19   | MAT-01            | Matfield R., Br, High St., Bridgewater      | cancelled | 0.036  | 0.055 | 0.075 | 0.079 | 0.057     | 0.074     | 0.072     | 0.060 | 0.069 |
| 20   | NEM-01            | Nemasket R., Murdock St., Middleboro        | cancelled | 0.018  | 0.038 | 0.043 | 0.039 | 0.049     | 0.027     | no sample | 0.040 | 0.039 |
|  |                   |   |           | **AVG is for the water quality months of May through October (season AVG)        |       |       |       |           |           |           |       |       |
|  |                   | * Tidal Class SB                            |           | NPDES permits use TP monthly average not seasonal average for compliance.        |       |       |       |           |           |           |       |       |
|  |                   |   |           | Based on observation and photos TRWA considers season AVG $\geq 0.05$ a concern. |       |       |       |           |           |           |       |       |
| 21   | Duplicate Samples |   |           |  |       |       |       |           |           |           |       |       |
| March  | snow              |   | cancelled |  |       |       |       |           |           |           |       |       |
| April  | BER-01            | Chuckamucksett Brk. Br, Berkley St.         |           | 0.031  |       |       |       |           |           |           |       |       |
| May  | FORGE             | Forge R. Br, Rt 44, Raynham                 |           |  | 0.048 |       |       |           |           |           |       |       |
| June   | TNT-02            | Taunton R. Br, Plain St., Taunton           |           |  |       | 0.129 |       |           |           |           |       |       |
| July   | TNT-01            | Taunton R. Br, Center St., Berkley          |           |  |       |       | 0.104 |           |           |           |       |       |
| August   | CHE-01/TNT-04     | Taunton R. Br, Cherry St., Bridgewater      |           |  |       |       |       | 0.070     |           |           |       |       |
| Sept.  | BED-01/TNT-03     | Taunton R., Rt 18, Bedford St., Bridgewater |           |  |       |       |       |           | 0.045     |           |       |       |
| Oct.   | MAT-01            | Matfield R., Br, High St., Bridgewater      |           |  |       |       |       |           |           | 0.072     |       |       |
| Nov.   | TWH-01            | Town R., Br, Hayward St., Bridgewater       |           |  |       |       |       |           |           |           | 0.036 |       |



| 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="http://savethetaunton.org/wp/wp-content/uploads/2018/01/TRWA-Sampling-SOP-1-19-2018.pdf">http://savethetaunton.org/wp/wp-content/uploads/2018/01/TRWA-Sampling-SOP-1-19-2018.pdf</a>   |  |  |  |  |                                |  |  |  |  |
| Sampling Locations Map May Be Found At:   |  |  |  |  |                                |  |  |  |  |
| <a href="https://www.google.com/maps/d/edit?mid=zhnldTn8bGeU.kyo7mqZ3YFQ&amp;usp=sharing">https://www.google.com/maps/d/edit?mid=zhnldTn8bGeU.kyo7mqZ3YFQ&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 Nitrogen</u> = <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</b> are <b>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>Feca Coliform</b>  |  |  |  |  |                                |  |  |  |  |
| The Water Quality Target Value used for Fecal Coliform is <b>400 colonies/100 ml</b> (the former MA Water Quality Standard).  |  |  |  |  |                                |  |  |  |  |
| Fecal Coliform is an indicator of potential presence of disease causing organisms present in a waterbody.   |  |  |  |  |                                |  |  |  |  |