

Taunton River Estuary TN Loading, TN and TP Limits, and Permit Reissuance Status							7/15/2024			
WWTF	Design Q (MGD)	TN Limit lbs/d (mg/L)	Est. Load lbs/day*	Expiration Prev. Per.	End of Public Notice	Reissuance Date	Time Reissuance Overdue	Months Since Pub. Not. End	TP Limit mg/L**	
Brockton	18	450 (3)***	361	5/11/2010	4/20/2015	1/11/2017	6 years, 8 months	1 year, 8 months	0.101	
Taunton	8.4	210 (3)	189	3/27/2006	6/17/2013	4/10/2015	9 years (appealed*)	1 year, 9 months	none	
Somerset	4.2	175 (5)	158	9/30/2008	2/5/2024	6/1/2024	15 years, 9 months	4 months	none	
Mansfield/Norton/Foxboro	3.14	131 (5)	98	9/30/2008	3/29/2013	9/11/2014	6 years	1 year, 6 months	0.17	
Middleborough	2.16	90 (5)	74	11/3/2008	11/16/2013	5/5/2014	5 years, 6 months	6 months	0.15	
Bridgewater	1.44	60 (5)	52	12/30/2008	9/8/2014	9/30/2016	7 years, 9 months**	2 years	0.2	
		*** () Wasteload allocation TN limitations in mg/l.					* Taunton lost EAB appeal 5/3/2016 on all grounds			
Smaller Facilities (at current loads)		46				requirements of permit are in effect as of 7/01/2016.				
						** Bridgewater appealed 11/17/2016 (10 days late).				
						Appeal voluntarily dismissed 4/07/2017.				
						Bridgewater and EPA reached a settlement.				
						Permit in effect on 5/1/2017, 5 yr TN and 10 yr TP sched.				
						* Taunton lost First Circuit Court appeal 7/09/2018.				
Fall River****	30.9	1289 (5)	1160.1	12/7/2005	4/16/2024	Not Reissued	18 years, 8 months	3 months	none	
* Estuary Load based on plants discharging at 90% of flow limit during summer and an attenuation factor from 83 to 96% for all plants except Taunton, Somerset and Fall River which discharge directly to the estuary with no attenuation reduction.										
**EPA Gold Book Total Phosphorus freshwater instream criterion is 0.100 mg/L. No TP limit for Taunton, Somerset and Fall River which discharge to tidal waters.										
***Nominal concentrations (3 and 5 mg/L) were used to calculate mass (lbs/day) limit at design flow. The permits have a mass lbs/day limit only.										
At the <u>projected 0.9% of design summer flow</u> the concentration limits are: 3.33 mg/L and 5.55 mg/L.										
At <u>typical summer seasonal low flows of 70% of design flow</u> the concentration limits are: 4.28 mg/L and 7.14 mg/L										
**** Fall River lower down stream in the estuary has more tidal dilution but also has the largest wastewater flow (3.7 times Taunton's effluent discharge).										
Consequently, it should construct a WWTP upgrade employing treatment similar to Taunton and Brockton despite its higher limits.										
Despite its nominally higher nitrogen limit basis (5 vs 3 mg/l) Fall River should install 4 phase Bardenpho treatment the same as Taunton and Brockton so any level of needed treatment may be obtained in the future because of its large size (30.9 MGD).										
EPA has cited an "adaptive management" approach to the Fall River and Somerset permits. "EPA highlights that adaptive management is beneficial because it allows for expeditious application of nitrogen reductions in the short term (in this, case down to 5 mg/l) and the potential for further reductions in the long-term down to 3 mg/l) as necessary based on observed water quality impacts."										
Typically the difference between meeting a summer TN limit of 3 vs 5 mg/l for a plant with the right technology is adding a relatively inexpensive carbon source like methanol to improve biological nitrogen removal efficiency.										
Fall River should continue combined sewer overflow (CSO) abatement to eventually eliminate untreated wastewater discharges.										