MFN Regional Water Pollution Control Facility
(formerly Mansfield Water Pollution Abatement Facility)
Response to Comments

On July 1, 2013, the U.S. Environmental Protection Agency (EPA) and the Massachusetts Department of Environmental Protection (MassDEP) public noticed a Draft Permit (MA0101702) for the Mansfield Water Pollution Abatement Facility.

EPA received comments from the Town of Mansfield, the Town of Norton, and the Nature Conservancy. The following are responses to all significant comments received and descriptions of any changes made to the public-noticed permit as a result of those comments, and a description of other changes made to the Final Permit.

On July 23, 2014, EPA received notice from Lee Azinheira, the Town of Mansfield Director of Public Works and Executive Director of the newly established MFN Regional Wastewater District, that as of July 1, 2014 responsibility for the Mansfield WPAF and the referenced NPDES permit were transferred to the MFN Regional Wastewater District. Pursuant to 40 CFR § 122.61 the permit has been transferred to the MFN Regional Wastewater District and the Final Permit has been modified accordingly. The Town of Mansfield is now a co-permittee on the Final Permit with respect to the collection system it owns and operates. The comments and responses below continue to use the designation "Mansfield WPAF" consistent with the text of the Draft Permit and comment letters; that terminology includes the successor MFN Regional Water Pollution Control Facility as appropriate.

A. The Town of Mansfield submitted comments by letter dated November 7, 2013.

Comment A.1. The allowable TN mass load to the Taunton River estuary is the basis of the TN limit. This being the case, no concentration limit should be required. Mass loads are the basis of the nitrogen limits developed by EPA, per the Fact Sheet, and mass limits would allow the Mansfield WPAF to operate in a less costly manner during low flow periods. Therefore, we ask that the TN concentration limit be deleted from the permit.

> **Response A.1.** EPA agrees that the water quality analysis is based on mass loads to the estuary that have been translated into concentration-based permit limits. In general the use of concentration-based permit limits provides a clear target for facility design and operation, ensures that the underlying assumptions of the water quality analysis are met, and provides a better measure of operational control of the facility. Mass load-based WLAs and TMDLs in Massachusetts have generally been implemented through concentration-based limits. See, e.g., *Total Maximum Daily Load (TMDL) for Nutrients in the Upper/Middle Charles River* at 92 (http://www.mass.gov/eea/docs/dep/water/resources/n-thru-y/ucharles.pdf). This practice is consistent with EPA's regulations, which provide that "All pollutants limited in permits shall have limitations, standards or prohibitions expressed in terms of mass . . ." and that "Pollutants limited in terms of mass additionally may

be limited in terms of other units of measurement, and the permit shall require the permittee to comply with both limitations." 40 CFR 122.45(f)(1) and (2).

Concentration based limits are not mandated under EPA's regulations, and mass-only limits have been implemented in certain state-delegated NPDES programs, particularly those involving watershed-wide loading analyses of nitrogen load reductions. For example, the Long Island Sound TMDL nitrogen load allocations (see NYSDEC and CTDEP, *A Total Maximum Daily Load Analysis to Achieve Water Quality Standards for Dissolved Oxygen in Long Island Sound* (December 2001)) have been implemented in Connecticut through a mass load-based *General Permit for Nitrogen Discharges* from POTWs. This approach facilitates the trading of nitrogen load credits under Connecticut's Nitrogen Credit Exchange. See http://www.ct.gov/deep/cwp/view.asp?A=2719&Q=325572. Similarly in the Chesapeake Bay Watershed, EPA encouraged a permitting approach based on annual mass loads and promoted watershed permits and trading programs. See Chesapeake Bay Program, *NPDES Permitting Approach for Discharges of Nutrients in the Chesapeake Bay Watershed (*December 2004). Load based permit limits facilitate trading programs.

In this case, there have been no proposals from permitted entities for trading of load allocations, and Massachusetts does not have a clear framework for trading permitted loads. However, EPA agrees that mass-only limits are sufficient in this case to meet the water quality requirements described in the Fact Sheet, and will provide some flexibility to the facility to operate in a more cost-efficient manner even in the absence of trading. Therefore EPA has eliminated the concentration limit for Total Nitrogen from the Final Permit.

Comment A.2. Page 4 includes <u>average monthly</u> effluent concentration and mass limits for total nitrogen (TN) in the period from May 1 to October 1. At the November 29, 2012 meeting, EPA indicated that the new TN limit would be a <u>seasonal average</u>. Monthly average limits are more restrictive than seasonal averages, and there does not appear to be any justification provided requiring average monthly limits. In fact, the Fact Sheet provides the justification for the new TN limit, and it repeatedly refers to "average summer load" or "seasonal average" in the discussion of allowable loads to the Taunton River estuary. The first mention of "average monthly" is on Page 31 of the Fact Sheet, and no justification for average monthly limits for the smaller dischargers to the Taunton River estuary, rather than the seasonal average limit indicated for the larger dischargers, is presented. Therefore, we ask that the permit include a seasonal average TN limit instead of an average monthly limit.

Response A.2. EPA recognizes that monthly average limits are more restrictive than seasonal averages. However, while the analysis that forms the basis of the permit limits is based on seasonal average loads, EPA's permitting regulations specifically require that permit limits for POTWs be expressed as monthly average and weekly average "unless impracticable." Therefore it is not the case that EPA must provide "justification" for including average monthly limits for

smaller dischargers to the Taunton River estuary; rather, EPA must justify any decision to base permit limits on longer averaging periods.

The standard for determining whether longer term averaging period are permissible for nutrient limits is discussed in an EPA memorandum concerning nutrient limits to protect Chesapeake Bay, wherein EPA approved a proposal to include permit limits based on annual averages rather than monthly averages. The approval memorandum recognized that the Chesapeake Bay may not be unique, and that

> [t]he establishment of an annual limit with a similar finding of "impracticability" pursuant to 40 CFR 122.45(d) may be appropriate for the implementation of nutrient criteria in other watersheds when: attainment of the criteria is dependent on long-term average loadings rather than short-term maximum loadings; the circumstances match those outlined in this memo for Chesapeake Bay and its tidal tributaries; annual limits are technically supportable with robust data and modeling as they are in the Chesapeake Bay context; and appropriate safeguards to protect all other applicable water quality standards are employed.

Hanlon, J.A., *MEMORANDUM: Annual Permit Limits for Nitrogen and Phosphorus for Permits Designed to Protect Chesapeake Bay and its tidal tributaries from Excess Nutrient Loading under the National Pollutant Discharge Elimination System* (EPA, 2004) ("Hanlon Memo"). The circumstances identified in support of annual limits included: "the exposure period of concern for nutrients loadings to Chesapeake Bay and its tidal tributaries is very long; the area of concern is far-field (as opposed to the immediate vicinity of the discharge); and the average pollutant load rather than the maximum pollutant load is of concern." The EPA memorandum also noted the variability of nutrient treatment systems on an annual basis, stating

> the efficiency of treatment of nutrients by biological nutrient removal is highly sensitive to ambient temperature and is not effective at lower temperatures. Thus, the effluent loading of nutrients is not constant due to seasonal temperature fluctuations in northern climates. Even a simple steady-state model for permit development such as dividing the annual limit by 12 and establishing that value as the monthly limit is therefore, not appropriate. Such a limit does not account for seasonal fluctuations in effluent loading.

Hanlon Memo at 5. There are a number of similarities between the circumstances identified in Chesapeake Bay and those underlying the limits here, in that the area of concern is "far-field (as opposed to the immediate vicinity of the discharge)" and EPA's load analysis is based on an average pollutant load (here seasonal rather than annual) rather than the maximum pollutant load. On the other hand, EPA's basis for concluding that the exposure period of concern for pollutants is

very long is not as robust in this analysis as it was in Chesapeake Bay; as noted in the Memorandum there was very detailed modeling in Chesapeake Bay that demonstrated that there was no benefit to monthly average as opposed to annual average limits:

> The complex movement of water within Chesapeake Bay and its tidal tributaries, particularly the density-driven vertical estuarine stratification, is simulated with a Chesapeake Bay hydrodynamic model of more than 13,000 cells. The Water Quality Model is linked to the hydrodynamic model and uses complex nonlinear equations describing 26 variables of relevance to the simulation of dissolved oxygen, water clarity and chlorophyll a. Coupled with the Water Quality Model are simulations of settling organic material into and upon the sediments and its subsequent decay and flux of inorganic nutrients from the sediment, as well as a coupled simulation of underwater Bay grasses in the shallows.
>
> The Water Quality Model was used to examine the differences between a constant monthly load and a variable monthly load, but each at the same annual load levels. For nitrogen, the constant monthly discharge estimate is based on a scenario that assumes the level of point source loads based on a constant 5 mg/1 discharge applied against point source flow. The variable load scenario is based on the records of 54 sewage treatment plants (STPs) that discharge to Chesapeake Bay that have complete monthly records. The Total Nitrogen average concentration for each month was calculated and then converted to a concentration that would be at the same annual loads as the constant 5 mg/l case, but still preserve the observed monthly variations. Monthly changes in flow were also taken into account. The variation in monthly concentrations varied from a low of 3.76 mg/l in August to a high of 8.46 mg/l in January. The derived monthly variation equivalent on an annual basis to the constant 5 mg/l monthly loads was applied to all point source dischargers in the Chesapeake Bay watershed. Water quality results of the two scenarios were indistinguishable, no difference was seen in the achievement of Chesapeake Bay water quality criteria. A similar analysis was performed for phosphorus and the same conclusion was reached.

Hanlon Memo at 3 n.4 and 5. In addition, the seasonal variability of treatment plant performance cited in the Memorandum is mitigated in this case by the use of a seasonal limit, which is only in effect May through October. While there is still some variability in treatment performance within that time period, EPA has generally found facilities to be able to achieve 5mg/l on a seasonal basis.

Given these factors, EPA cannot conclude at this time that the use of monthly average limits is "impracticable" under 40 CFR 122.45(d). The monthly average limit is maintained in the Final Permit.

EPA notes that the November 29, 2012 meeting referenced in the comment was a pre-draft informational meeting. As EPA was at all times aware of the restrictions on longer term averaging periods, it appears that there was some miscommunication; EPA disagrees that any firm statements regarding "seasonal" as opposed to "average monthly" limits were made. It also should be noted that EPA clearly stated at that meeting that the prospective limits being discussed were preliminary and subject to change prior to the issuance of the Draft Permit.

Comment A.3. The draft permit contains average weekly concentration and mass limits for BOD5 and TSS in the period from November through April 30. The average weekly concentration limits for these two parameters are greater than the average monthly limits (45 mg/l vs. 30 mg/l), but the average monthly mass limit of 786 lbs/day is not increased proportionally for the average weekly limit. To be consistent with the concentration limits, the average weekly mass limit should be 1178 lbs/day. This appears to be a clerical error, and the intent is acknowledged in Table 2 of the Fact Sheet. Please correct this error.

Response A.3. EPA apologizes for the clerical error and has corrected the average weekly mass limit in the Final Permit.

Comment A.4. The draft permit contains revised disinfection limits. At the November 29, 2012 meeting EPA indicated that it was possible to include a transition period in the permit so that plant staff could phase in the new procedures necessary to test for E. coli, but there is no indication of this transition period in the draft permit.

Response A.4. EPA agrees that a transition period is appropriate to allow for an orderly implementation of the new procedures, and the Final Permit includes a one year transition period. During the transition period the fecal coliform limits will be in effect, and concurrent testing for fecal coliform and E. coli will be conducted. The new E. coli permit limits will go into effect one year from the permit effective date. The change has been made in footnote 6 of the Final Permit.

Comment A.5. Footnote No. 7 (page 6 of 20) requires an alarm system for indicating a service interruption or malfunction of the chlorination and dechlorination systems. It appears that this would require the Town to procure and install an automatic in-situ total residual chlorine (TRC) monitoring system, because there is no such system currently installed at the plant. The plant's current systems have been operated problem-free and with constant compliance with the plant's TRC limit, and therefore we ask that the requirement for in-situ system be deleted. If not deleted, the permit must include a schedule compliance period that will allow the Town to procure, install and startup the system.

Response A.5. The requirement in Footnote 7 of the Draft Permit for the incorporation of an alarm system into the chlorination and dechlorination systems is being included in all NPDES permits issued to POTWs in Massachusetts that

use chlorination for disinfection of their effluent, regardless of their compliance history and the age of the system(s). For clarification, EPA is not requiring that the Town install any type of continuous residual chlorine analyzer for the monitoring and recording of the chlorine concentration in the effluent, before and after disinfection. Rather, the intent of this requirement is to ensure that facilities with chlorination and/or dechlorination systems have an alarm system installed solely for the purpose of alerting WWTP personnel in the event of a malfunction and/or interruption of the chemical dosing systems (i.e., for detecting a failure of the chemical delivery system) which could potentially affect the amount of chlorination and/or dechlorination chemicals added to the effluent. This requirement shall remain in the final permit.

Nonetheless, EPA agrees that a transition period is appropriate to allow the Town to procure, install and startup the system, and the Final Permit includes a one year transition period. The monitoring system requirement will go into effect one year from the permit effective date and the Final Permit has been revised to indicate the one year deadline.

Comment A.6. Footnote No. 9 (page 7 of 20) requires that in the period from November through April, the plant should be operated to reduce nitrogen to the "maximum extent possible". Other than the clarification regarding supplemental carbon use, it is not clear what would constitute compliance (or non-compliance) with this permit requirement. As an example, what if the plant schedules maintenance on a tank outside the permit season from May – October, and therefore is not operating "all available treatment equipment."? Would that constitute a permit violation? Please provide further clarification regarding permit compliance/non-compliance and necessary maintenance regarding this footnote.

Response A.6. EPA agrees that maintenance tasks may require that certain equipment and tanks be taken off-line for periods of time and that in those cases the equipment undergoing maintenance would not be considered "available" for purposes of footnote 9 of the permit. This would apply to any period of necessary maintenance, and is limited to the period of time necessary for such maintenance to be performed.

Comment A.7. The draft permit (Page 17) includes a compliance schedule for complying with the TN and TP limits. The milestone duration for the construction phase (54-36=18 months) is inadequate given the complexity of the anticipated work and the sequencing required to keep the current plant in operation while constructing the improvements. A duration of 30-months is appropriate for the construction phase; please modify the compliance schedule accordingly.

Response to Comment A.7. EPA recognizes that the anticipated construction work is complex and that the entire construction schedule may extend longer than 18 months. However, EPA notes that the other schedule milestones are intentionally generous (two years for design and three years to initiate construction) and the Town could certainly initiate construction sooner in order to

have a longer time period. In addition, the permit does not require full completion of all facility upgrades, but only those improvements necessary to achieve the permit limits. Appropriate construction sequencing to prioritize the nutrient removal components can assist in meeting the milestones. In any case, it is EPA's general position that a five year time frame is sufficient for planning, engineering and construction, and EPA does not extend construction schedules beyond 5 years in the absence of unusual circumstances. *See* EPA, *Combined Sewer Overflows Guidance for Financial Capability Assessment and Schedule Development* (1997).

However in order to provide the Town with maximum flexibility EPA has eliminated the requirement of "substantial completion" within 54 months, while the requirement that permit limits go into effect five years from effective date remains in the Final Permit. EPA usually includes a "substantial completion" milestone prior to the scheduled effective date of the permit to allow for a period of time for startup and testing. As this permit is expected to become effective in the fall, however, eliminating this milestone will avoid the permittee being constrained to complete those upgrades midwinter when biological nutrient systems may not be effectively operated in any case, while still having the opportunity for a period of testing and operational experience prior to the permit limits coming into effect.

EPA further notes that a 30 month construction schedule could be achieved by moving up the milestones for design and/or initiation of construction. As the permittee could implement that change on its own consistent with the permit requirements, EPA has not made that change in the Final Permit so as to allow the town maximum flexibility consistent with the permit requirements. EPA encourages the Town to establish a design and construction schedule that meets its needs consistent with the permit requirements.

Comment A.8. Page 10 on Fact Sheet Attachment B indicates that with different assumptions in the presented attenuation analysis, the Mansfield WPAF TN limit would vary from 3 to 7 mg/l. From the perspective of necessary capital improvements and the cost and sustainability of plant operation (including chemical and energy consumption), this range is not "relatively small" as indicated in the text. This range represents a very significant variation in plant requirements and reinforces the importance of developing limits based on a rigorous, thorough analysis. Please consider and address the assumptions made.

Response A.8. EPA acknowledges that the range of 3 to 7 mg/l represents a significant difference in cost and plant operations, although the entire range continues to represent a similarly large scale reduction in nitrogen discharges from this facility from current concentrations of approximately 19 mg/l. EPA agrees that a rigorous and thorough analysis is important for this facility and others in the watershed and disagrees with the suggestion that the existence of a recognized range of uncertainty, all of which requires substantial reduction in

pollutant discharge, is any indication that the analysis is something other than rigorous and thorough. With respect to the attenuation analysis, EPA conducted a season of field work to establish an attenuation rate for nitrogen in this watershed rather than relying on regional or literature values, and applied an attenuation figure that was site specific and data-based, and not unreasonably imprecise in comparison to attenuation figures presented in literature sources.[1] Therefore, and in the absence of any specific criticisms of the attenuation analysis aside from a desire for greater precision, EPA continues to believe that the attenuation analysis represents the best available information for assessment of nitrogen loads.

Comment A.9. Fact Sheet Page 23 indicates that the USGS LOADEST analysis was done for the period 2004-2005. Since that time, the Brockton AWRF has undergone a nutrient-removal upgrade and is discharging considerably less nitrogen that at the time this 2004-2005 data was collected. Is the use of the 2004-2005 data appropriate? The analysis should be based on recent data given the significant work in the watershed. The analysis presented in the Fact Sheet used 1303 lb/d as the nitrogen load from the Brockton WWTF in 2004-05, but the Fact Sheet indicates that in 2012 the Brockton WWTF discharged only 572 lb/day. A comparison of the Sonde data provided from 2005 and 2010 could indicate that *chlor a* has been significantly reduced. So perhaps the problems have diminished, and a reduction in TN from Mansfield is no longer required. Please update the analysis based on recent data.

Response to Comment A.9. The USGS LOADEST and other elements of EPA's analysis were based on 2004-05 data because that is the time period for which a comprehensive dataset is available. The Mount Hope Bay Monitoring Program of 2004-06[2] included monthly or more frequent sampling at 22 sites across Mount Hope Bay and the Taunton River Estuary, as well as of the freshwater inputs from the Taunton, Three Mile, Assonet, Segregansett, Quequechan and Cole Rivers. An extensive array of parameters were monitored and reported, including Total Nitrogen, Ammonia-N, Nitrate and Nitrite, Dissolved Inorganic Nitrogen, Dissolved Organic Nitrogen and Total Organic Nitrogen, Chlorophyll-a, Dissolved Oxygen concentration and percent saturation, Total Suspended Solids, Salinity, Secchi Depth, Orthophosphate and Total Organic Carbon. More recent data is much more limited. There is continuing water quality information through 2011-12 from a single site in Mount Hope Bay that includes datasonde DO, Chlorophyll and Salinity data along with monthly sampling data, and the Narragansett Bay Commission has conducted monitoring of a site at the Berkley Bridge on the Taunton River (within the estuarine portion

[1] For example, the regional regression model presented in Moore et al., *Estimation of Total Nitrogen and Phosphorus in New England Streams Using Statistically Referenced Regression Models*, USGS SIR-2004-5012, provided an in-stream loss variable of 0.78 d^{-1} with a standard error of 0.49; this results in a range of predicted sewer loads in the Matfield River downstream of Brockton from 90,000 to 794,000 kg/yr (mean 230,000). *See* dataviewer and data links at http://vt.water.usgs.gov/projects/sparrow/index.htm

[2] 2006 was not included in the load analysis due to the extreme wet weather in spring of that year that was inconsistent with the steady state analysis; see Fact Sheet at 23 n.7.

of the river), although that monitoring did not include TN until 2013 (prior to 2013 were analyzed for Total Dissolved Nitrogen species only).[3]

In this context the 2004-05 period is used as a baseline for analysis, and projections concerning the impact of load reductions are made based on the analysis of the comprehensive dataset. This is the process used to determine permit limits (i.e. identifying a threshold allowable nitrogen concentration and determining the load reductions necessary to achieve that concentration), so projection of the impacts of nitrogen load reductions to future conditions was an essential part of EPA's analysis. To the extent more recent data is available, it can be used for comparison to the baseline analysis, with appropriate caution to ensure that the data is comparable and that the inherent variability of conditions being measured is taken into account.

Thus, in the Fact Sheet EPA noted that there had been some reductions in nitrogen load, specifically in connection with the upgrade to the Brockton AWRF, but that the reduction was not expected to be sufficient to resolve the water quality issues and that 2010 datasonde data from Mount Hope Bay indeed showed continued high chlorophyll and low DO consistent with continuing nitrogen impacts. To more specifically quantify that analysis, the City of Brockton's upgrade to its treatment plant, completed in 2010, has resulted in a significant decrease in total nitrogen loads of about 700 lb/d as of 2010. The total reduction in WWTP loads to the Taunton River Estuary has been approximately 25%, although the reduction in total TN load (including nonpoint sources) is less (about 17%). EPA's load reduction analysis, in comparison, indicates that a 51% decrease in total loads is necessary in order for water quality standards to be met in the estuary. Therefore, the Brockton load reduction, while commendable, is not expected to be sufficient to address eutrophication impacts downstream, and the limited available data, although located in Mount Hope Bay (datasonde), indicates continuing water quality issues consistent with EPA's conclusions.

Other recent data, not discussed in the Fact Sheet, is also consistent with EPA's analysis. Datasonde data for 2011 has been published and indicates continued elevated chlorophyll-a concentrations, corresponding periods of supersaturated DO at the surface, persistent bottom DO concentrations below 5 mg/l and frequent excursions below 3 mg/l. *See* Figure 9. This is consistent with EPA's determination that nitrogen reductions to date are not sufficient to resolve water quality issues.

[3] This latter dataset was not discussed in the Fact Sheet for this permit but was brought to EPA's attention by the City of Taunton in its comments on the draft Taunton WWTP permit.

Figure 9a. Surface Chlorophyll and DO percent at MHB sonde, 2011

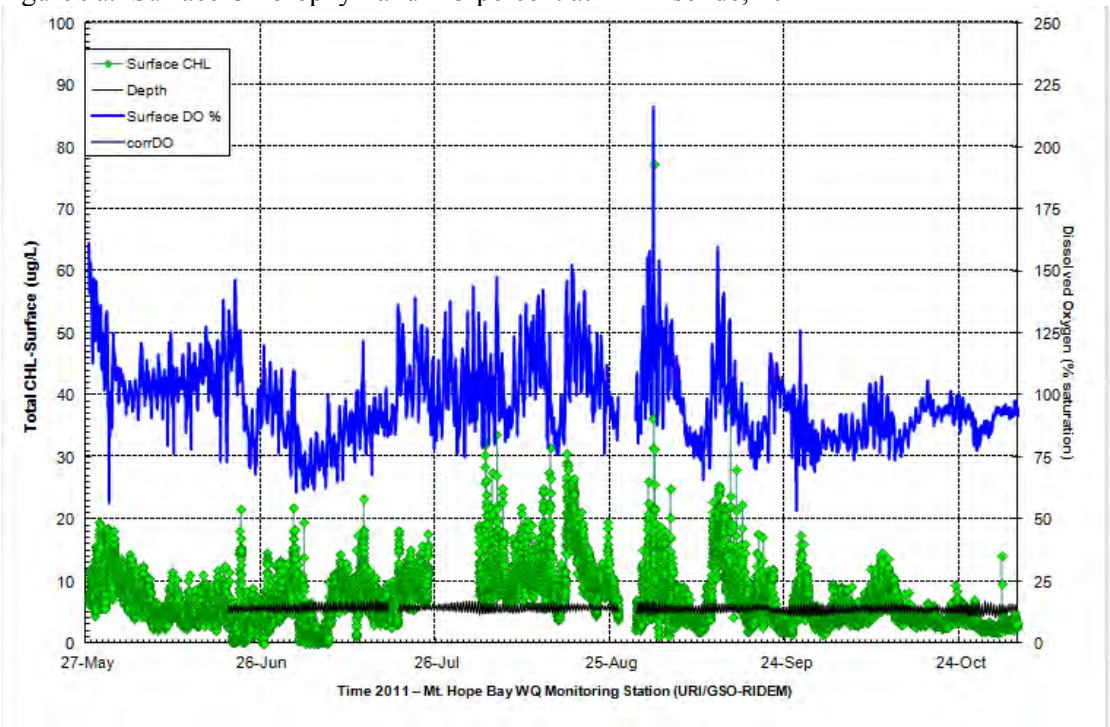


Chart by URI/GSO-RIDEM. Chart and data available at www.dem.ri.gov/bart

Figure 9b. DO concentration at surface and bottom, MHB sonde, 2011

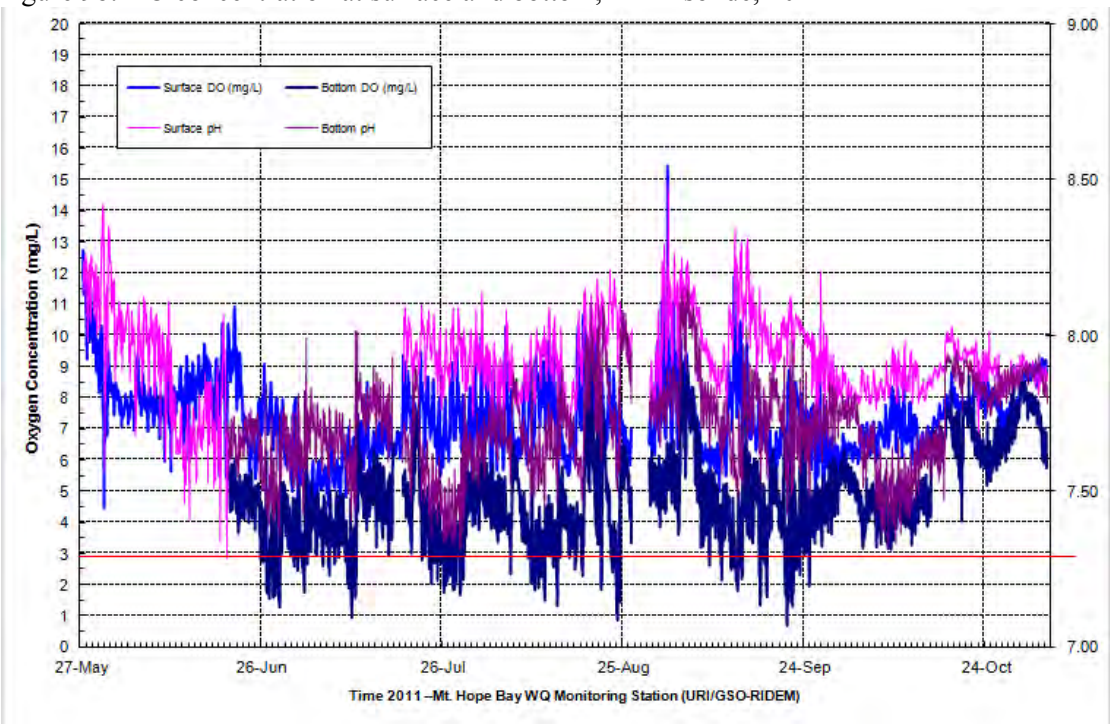


Chart by URI/GSO-RIDEM. Chart and data available at www.dem.ri.gov/bart

Other recent data is not directly comparable to EPA's analysis, but was examined to the extent possible for consistency with EPA's analysis. NBC monitoring of the Taunton

River began in 2006 and was limited to Total Dissolved Nitrogen (TDN) parameters until 2013. The results for TDN are not expected to be directly comparable to TN analyses, but to exhibit similar trends. A review of NBC monitoring from 2006 to 2013 indicates that those data appear consistent with a reduction in total Taunton River loads, although the variability of the data makes statistically significant results elusive. Figure 9c shows TDN concentrations over time along with a MS Excel-generated trendline; a slight decline is indicated but with extremely low statistical significance.

Figure 9c. NBC Taunton River monitoring, all TDN datapoints 2006-13

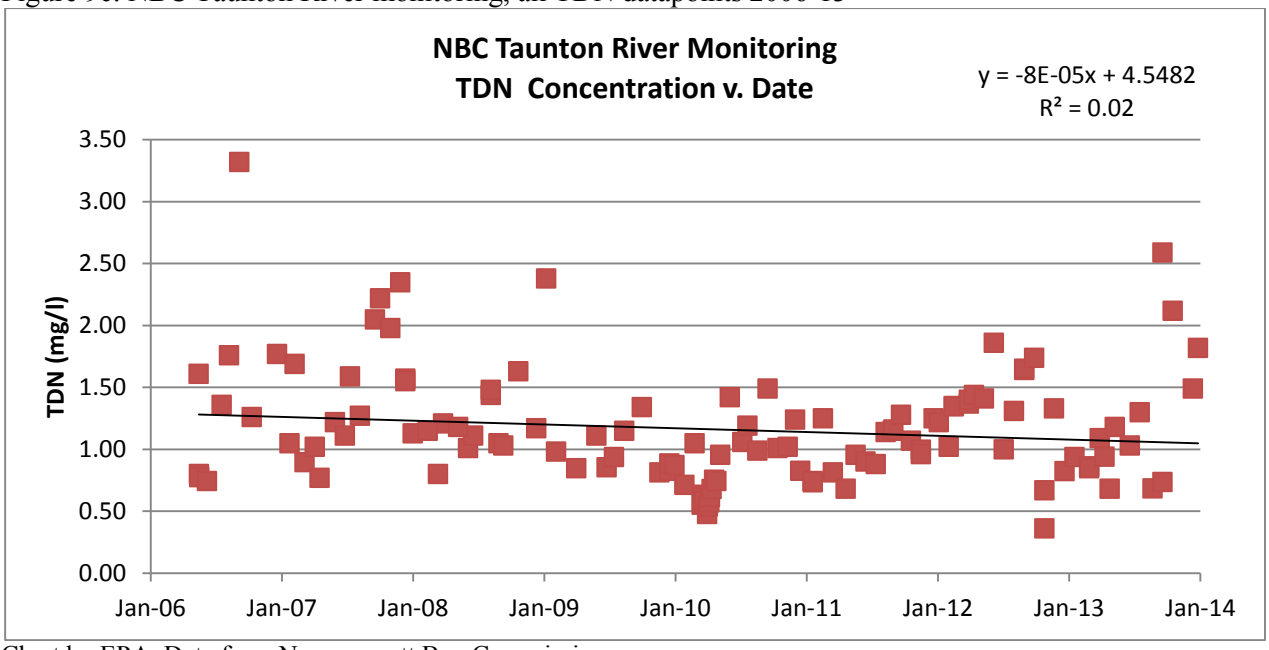


Chart by EPA. Data from Narragansett Bay Commission, http://snapshot.narrabay.com/app/MonitoringInitiatives/NutrientMonitoring

EPA then looked at a subset of the NBC data where WWTP nitrogen reductions would be expected to have the most impact in order to assess whether the load reduction is discernible in the data. WWTP reductions are likely to be most pronounced in low flow conditions and during warm weather when biological treatment processes are most effective. Therefore, a comparison of warm weather low flow[4] data between the periods 2006-09 and 2010-13 is presented in Figure 9d below. The median TDN concentration in the 2010-2013 period is 1.125 mg/l, 23% less than the 1.46 mg/l median in 2006-09. This is reasonably consistent with the scale of reduction predicted in EPA's analysis, as the reduction seen in low flow conditions should be greater than the reduction in total loads (calculated by EPA as 17%) but somewhat less than the reduction in point source loads alone from Brockton's upgrade (30%). The NBC monitoring does not include any eutrophication indicators in the Taunton River Estuary or Mount Hope Bay, so their data cannot be used for assessment of the response of this system to the load reduction.

[4] Here low flow is defined as less than 200 cfs at the USGS Bridgewater gage; this represents conditions where Brockton AWRF effluent is approximately 10% or more of Taunton River flow at Bridgewater.

Figure 9d. NBC Taunton River monitoring at low flows, 2006-13

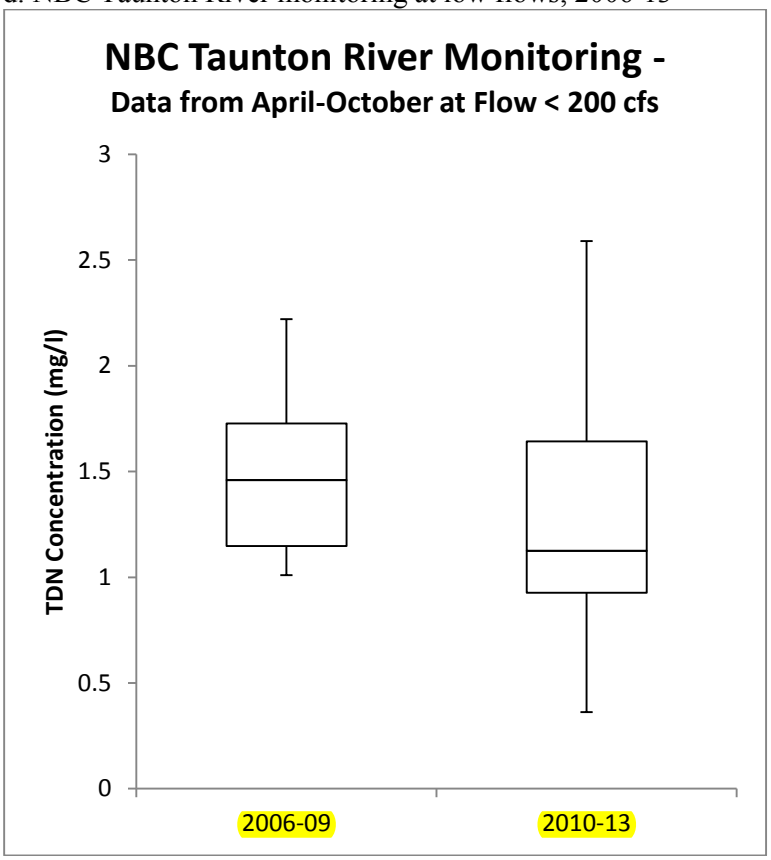


Chart by EPA. Data from Narragansett Bay Commission, http://snapshot.narrabay.com/app/MonitoringInitiatives/NutrientMonitoring

Second, unpublished monitoring data collected by the University of Rhode Island Graduate School of Oceanography (URI-GSO) at a single site in Mount Hope Bay includes measurements of Total Nitrogen that are significantly lower than those measured in the SMAST 2004-06 monitoring program used by EPA for the single year of overlapping data at nearby sites (2006 – SMAST average 0.58 mg/l; URI-GSO average 0.35 mg/l), with lower TN concentrations continuing in more recent URI-GSO data. See Figure 9e below. On their face these data do appear inconsistent with the data relied upon by EPA. The difference may be partly explained by the fact that the locations of the monitoring sites are not exactly the same, and they were collected under differing tidal conditions (the SMAST data at mid ebb tide, when concentrations are expected to be highest, versus URI data collected under a range of tidal conditions), although it is not clear that those differences would explain such a large difference in TN concentrations. The differing data does not, however, indicate a change in conditions between 2004-6 and the present; URI reported concentrations have been generally consistent over the 2006-2011 time period and were lower than the SMAST data in the overlapping year.

Figure 9e. Comparison of SMAST (2004-05) and URI-GSO (2006-11) data

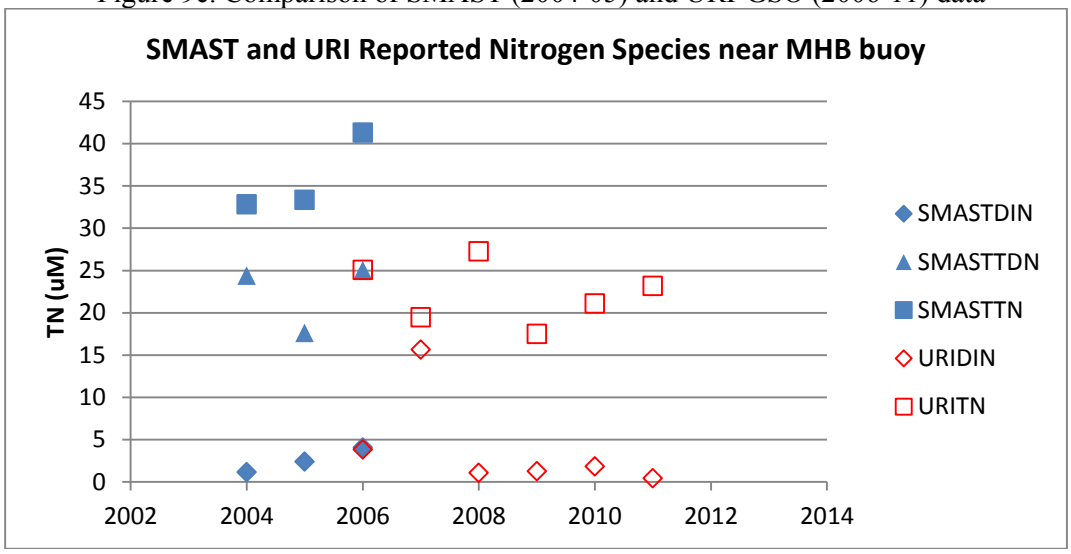


Chart by EPA. SMAST data from SMAST, *Summary of Water Quality Monitoring Program for the Mount Hope Bay Embayment System (2004 – 2006)* (2007) ; URI-GSO data tables from personal communication, Professor Candace Oviatt (see also Krumholz, *Spatial and Temporal Patterns in Nutrient Standing Stock and Mass-Balance in Response to Load Reductions in a Temperate Estuary* (2012); Decautis and Pryor, *Nutrient Conditions in Narragansett Bay & Numeric Nutrient Criteria Development Strategies for Rhode Island Estuarine Waters (Draft)* at 35 (2011)).

EPA has concerns about the comparability of these data. Not only are results inconsistent for the one overlapping year, but the low TN concentrations reported by URI-GSO in some time periods appear simply implausible. For example, TN concentrations were recorded as averaging 0.22 mg/l TN in June-September 2009, a period in which average chlorophyll concentrations measured at the datasonde were 13 ug/l. However analysis of Narragansett Bay data has indicated that particulate organic nitrogen (PON) concentrations, a subset of TN, are generally 20 to 50 times the chlorophyll concentration. Decautis and Pryor, 2011 at 25. The expected PON in 2009 therefore would be a minimum of 0.26 mg/l – higher than the reported TN concentration even without accounting for dissolved organic nitrogen or inorganic components. *Id*. The data appears more consistent with an exclusion of certain nitrogen species, and in fact the URI data closely matches the total dissolved nitrogen reported by SMAST in the overlapping year (as well as having similar DIN results).

EPA notes that if the TN concentrations report by URI-GSO were representative of the Bay, the persistence of elevated chlorophyll-a concentrations and dissolved oxygen violations as shown by other data would indicate that target TN concentrations should be set lower than the 0.45 mg/l identified by EPA in this permit proceeding. However given the data comparability concerns described above, and the consistent procedures used in the comprehensive dataset that underlies EPA's analysis, EPA is not revising its determination based on these data. EPA encourages further monitoring and particular attention to the intercomparability of datasets among different researchers.

Comment A.10. Fact Sheet Page 29 indicates that an assumed summer flow of 90% of design flow was used. The actual plant flow records are available from each plant in the Taunton River basin and we suggest that these should be used in the analysis. Note that the Mansfield WPAF's summer flow is closer to 80% of the annual average flow and this should be considered in the analysis.

> **Response A.10.** EPA disagrees with the suggestion. The 90% value was used as a projection of summer flow under future conditions where the facility is operating at design flow on an annual average basis. It was not used to characterize past or current flow patterns. While the facility historically may be closer to 80% of annual average during the summer, the town is engaged in a continuing process to address infiltration and inflow in its collection system. I/I reductions would be expected to reduce wet weather flows to the treatment plant and thus reduce the difference between summer and annual flows. If load allocations are based on historic figures, improvements to I/I would provide room for additional sanitary flow and related nutrient loads that are not accounted for in the analysis, and therefore would not be sufficiently protective under projected future conditions.

Comment A.11. Fact Sheet Page 30 indicates that the other facilities' nitrogen limits may differ from those presented in Table 10. How can a TN limit be set based on this table, which is a basin-wide allocation, if the values in the table may change?

> **Response to Comment A.11.** The specific reference in the Fact Sheet is to the fact that there are a number of alternative allocations of the allowable load to the Taunton River Estuary that would meet water quality requirements, and new information provided in connection with individual permit issuances could result in modifications of the allocation within the general framework of the total allowable load. This has already occurred between the Taunton and Mansfield draft permit issuances, as discussed in Response to Comment A.12. Nonetheless EPA emphasizes that as this allocation is being implemented through individual permits rather than through a separate Wasteload Allocation or TMDL, it is essential that individual permittees be provided with a meaningful opportunity to comment on their allocation and permit limits. While EPA does not expect major changes in the allocation as the individual permit issuances go forward, EPA is considering any additional information provided by individual facilities and other commenters, whether it is specific to the individual facility (e.g. site specific information on plant capacity, attenuation, or other factors) or on the allocation as a whole.

Comment A.12. Note that the Fact Sheet attached to the courtesy draft for Mansfield is not consistent with the Fact Sheet attached to the recently advertised Taunton WWTF draft permit in regards to establishing the basis for the TN limit. There are many text variations, and importantly the draft Taunton WWTF permit anticipates assigning the Mansfield WPAF at 5.5 mg/l TN limit. Why are the fact sheets inconsistent and why

didn't the Mansfield WPAD draft NPDES permit include a 5.5 mg/l TN as previously indicated in the Taunton draft NPDES permit?

> **Response A.12.** As stated in the draft Taunton WWTF permit Fact Sheet, the allocation presented therein was one of a number of possible allocations of load among the multiple facilities discharging in the Taunton River watershed. That Fact Sheet specifically stated that the actual permit limits for individual facilities other than the Taunton WWTF were not being decided in the Taunton WWTF proceeding and would be determined in connection with the individual permit reissuances for each facility.
>
> As the comment states, one possible allocation of loads among contributing facilities would result in a permit limit of 5.5. mg/l TN for the Mansfield WPAF, if the Somerset WWTF were assigned a permit limit of 3.0 mg/l. Upon further consideration of the appropriate allocation, EPA took note of the fact that 3 mg/l represents the limit of technology for nitrogen removal and can represent a significant challenge to achieve on a consistent basis. In contrast 5.0 mg/l has been recognized by EPA as representing a technology threshold achievable with a number of biological nutrient removal technologies, with a slightly higher 5.5 mg/l target representing opportunity for greater operational flexibility. In that context EPA determined that the required pollutant reduction would be more readily and consistently achieved by requiring Mansfield to achieve the 5 mg/l technology threshold, with Somerset's limit at a less stringent level than the current limit of technology.

Comment A.13. The calculations for the phosphorus limit do not appear to be correct. First, the formula as shown on page 33 of the Fact Sheet is in error – the last plus sign in the numerator should be a minus sign. Secondly, when corrected for this fact, the calculation results in a value of 0.17 mg/l, not 0.15 mg/l. If the Wheaton College flow is included, the value rises to 0.18 mg/l. All values in the permit that reflect this error should be corrected, including the mass based limits.

> **Response to Comment A.13.** EPA agrees that there is an error in the calculation of the phosphorus limit and that the result of that equation should be 0.17 mg/l rather than 0.15 mg/l. With respect to Wheaton College's flow, the current flow from Wheaton College is already part of the 7Q10 streamflow in the equation; while under design flow conditions the flow would be slightly higher the effect is small (a change of about 0.002 mg/l in the calculated effluent limit). The Final Permit therefore includes a corrected permit limit of 0.17 mg/l, which a corresponding mass limit of 4.45 lb/day.
>
> EPA notes that the calculation is dependent upon the concentration in the Three Mile River upstream of the discharge, but that there is no upstream monitoring data available. Therefore data from upstream tributaries were used, and adjusted to reflect the upstream wastewater load from Wheaton College. EPA believes these assumptions regarding upstream concentrations are reasonably conservative

and reflect reasonable projections of growth in upstream loads. However EPA will continue to reassess available data on upstream concentrations in the Three Mile River in future permit reissuances and will make necessary changes warranted by the data, including more stringent permit limits on Wheaton College if appropriate (assuming Wheaton College does not tie into the regional facility).

Comment A.14. Note that Table 3 is inconsistent with footnote 18 of the Fact Sheet that indicates that the allowable phosphorus load would increase to 4.1 pounds per day if Wheaton College connects to the system. But both values are in error based on Comment No. 13 above. Please address.

Response A.14. EPA is not clear where the figures are "inconsistent" as both Fact Sheet footnote 18 and Table 3 contain the 4.1 lb/day figure. As set forth in Response A.13. the permit limit for phosphorus is revised to 0.17 mg/l; this would result in a 4.6 lb/day load limit should Wheaton College connect to the system and terminate its discharge.

Comment A.15. Page 3 lists a flow limit of 3.14 mgd on a rolling annual average basis. At a November 29, 2012 meeting to discuss the pending draft permit, EPA indicated that when/if the 0.12 mgd permitted flow from Wheaton College is connected to the Mansfield system, a permit modification would be required (and would be permissible) to increase the allowable flow to 3.26 mgd. At that time, the mass limits associated with this permitted flow rate should also be increased proportionally. The fact sheet (page 6, second paragraph) acknowledges that the flow increase would be allowable, and Table 3 indicates that the allowable mass loads would also be increased proportionally. Please confirm.

Response A.15. Yes, at such time that Wheaton College is connected to the Mansfield system and terminates its discharge, a permit modification will be required and would be permissible to increase the allowable flow to 3.26 mgd, and the mass limits would also be increased proportionally as set forth in Revised Fact Sheet Table 3 above. EPA would consider this a "material and substantial alteration or addition to the permitted facility or activity" under 40 CFR 122.62(a)(1) that would justify a modification.

EPA notes that should such a tie-in fail to occur within the five year term of this permit but take place after this permit expires, a new permit reissuance will be required to implement the addition of the Wheaton College flow to the permit flow and mass limits.

Comment A.16. Page 3 of the Fact Sheet indicates that the Three Mile River has been identified (on the 303d list) as impaired due to pathogens, but not nutrients. That being the case, why are the Mansfield WPAF phosphorus limits being made more stringent? Page 32 of the Fact Sheet says "EPA is not aware of any assessments of eutrophication indicators or conditions downstream of the Mansfield WPAF since implementation of the permit limit . . . . EPA has calculated a new limit for this Draft Permit designed to meet

water quality standards in the Three Mile River." However, this appears to conflict with the 2012 303d list that includes no indication that the Three Mile River is impaired due to nutrients. We also note that the Fact Sheet states on Page 18 that in the Taunton River "molar N/P ratios are consistent with nitrogen limitation". Please address.

Response A.16. The setting of permit limits in NPDES permits is not dependent on 303(d) listing determinations. This is necessary as the standard for imposition of a water quality-based permit limit under 40 CFR 122.44(d) (a permit limit is necessary if a discharge of pollutant "causes, has reasonable potential to cause, or contributes") is different from that under the 303(d) list which is dependent on documented evidence of existing use impairments, generally based on limited sampling data. As different standards apply to permit and 303(d) list determinations, there is no "conflict" between the permit limit and the lack of a nutrient impairment listing. However EPA notes that the state's Water Quality Assessment Report for the Three Mile River identified the Aquatic Life Use in this segment with an "Alert Status" based in part on phosphorus concentrations. (*2001 Taunton River Water Quality Assessment Report* at 162-63; this is the most recent water quality assessment report and the basis for the 303(d) listing determinations in this watershed). This indicates the state's concern with the potential for phosphorus-related water quality impairments in this segment, consistent with EPA's "reasonable potential" finding.

Having found that "reasonable potential" exists, EPA is obligated to impose a permit limit that will "ensure that discharges do not cause or contribute to violations of water quality standards." 40 CFR 122.44(d) The more stringent phosphorus limit in the Draft Permit is based on a threshold phosphorus concentration of 100 ug/l in the receiving water, calculated under 7Q10 conditions pursuant to the Massachusetts Surface Water Quality Standards. This is an appropriate basis for determination of a water quality-based limit and replaces the less stringent limit than the 0.2 mg/l in the prior permit, which was based on "highest and best practical treatment" under 314 CMR 404(3) rather than a water quality-based calculation.

The reference to "nitrogen limitation" on page 18 is related to conditions in the estuarine portion of the Taunton River. The freshwater portions of the Taunton River (approximately upstream of Weir Village in Taunton) are not nitrogen-limited.

Comment A.17. Page 4 of the Fact Sheet refers to the anti-backsliding requirements of CWA 402(o) and 40 CFR §122.44(l). If a true TMDL of this estuary system is ever done in the future and the resulting waste load allocations are higher than what the results of analysis presented in the Fact Sheet, will it be possible to increase the Mansfield WPAF permit limits?

Response to Comment A.17. The permittee is correct that any change in permit limits to limits that are less stringent than those in this Final Permit would have to

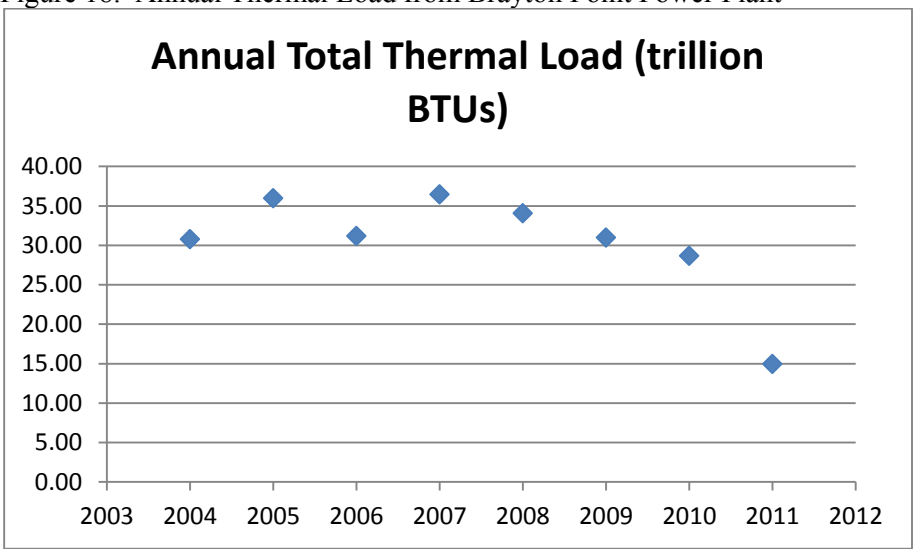
comply with the anti-backsliding requirements of CWA 402(o) and 40 CFR 122.44(l). The anti-backsliding requirements do not represent an absolute bar to less stringent permit limits, but have some exceptions. This includes an exception for new information under CWA § 402(o)(2)(B)(i) ("Information is available which was not available at time of permit issuance (other than revised regulations, guidance or test methods), and which would have justified a less stringent limitation at the time of permit issuance."). This exception is subject to the limitation that water quality-based effluent limitations may not be made less stringent based on "any revised waste load allocation or any alternative grounds for translating water quality standards into effluent limitations" except where the revised allocation "results in a decrease in the amount of pollutants discharged" and is "not a result of a discharge eliminating or substantially reducing its discharge of pollutants due to compliance with [the CWA] or for reasons otherwise unrelated to water quality."

EPA cannot in this Response address all possible circumstances of a hypothetical future development, so it cannot provide a firm answer as to how a TMDL would be implemented in the effected permits with respect to antibacksliding requirements. However, EPA notes that given the requirement that any revision "result in a decrease in the amount of pollutants," and the general reading of antidegradation requirements in Massachusetts to require facilities to achieve permit limits at least as stringent as their past performance (see Fact Sheet copper discussion), EPA expects that once the facility upgrade is completed and the facility is achieving the permit limit, no change to a less stringent limit would be approved.

Comment A.18. Page 15 of the Fact Sheet references the Brayton Point Power Plant and "temperature impairments", which may have influenced water quality in Massachusetts with incoming tides. Our understanding is that only recently has the plant stopped discharging high temperature water into the Bay – perhaps this is the difference in chlor a measured by the NBC sondes between 2005 and 2010. Has this reduced impact been considered?

Response A.18. Differences in Mount Hope Bay conditions between 2005 and 2010 would not be explained by changes in thermal loads from Brayton Point Power Plant, as the major recent reduction in thermal loads did not take place until 2011. Figure 18 below shows the annual thermal load from 2004 through 2011 as summarized by the facility; 2010 thermal loads are similar to those in preceding years.

Figure 18. Annual Thermal Load from Brayton Point Power Plant



Dominion Brayton Point Station Hydrographical and Biological Monitoring Program 2011 Annual Report at 1-12.

Thermal loads were reduced as of 2011, and EPA did consider the possibility of reduced eutrophication impacts due to changes in thermal loads. While in theory higher temperatures could have some impact on algal dynamics, there is no indication of a significant effect in Mount Hope Bay and impact on chlorophyll is not among the water quality factors considered significant in the Brayton Point permitting proceedings. Sonde data from 2011 shows continued eutrophication indicators including elevated chlorophyll concentrations, corresponding periods of supersaturated DO at the surface, persistent bottom DO concentrations below 5 mg/l and frequent excursions below 3 mg/l. See Figure 9a and b. The available data does not support the theory of a "reduced impact" as suggested in the comment.

Comment A.19. Page 30, Table 9 of the Fact Sheet indicates that the % load delivered to the estuary from the various treatment plants ranges from 83% to 96%. This implies a level of accuracy that doesn't exist based on the analysis approach and the assumptions used. How would the imprecision inherent in the analysis impact the eventual permit limits?

Response A.19. The Fact Sheet reference to the range of load delivery factors refers to the range of delivery factors applied to the different facilities based on the distance in river miles of attenuating stream. Thus the range is not intended as a measure of accuracy but as a reflection of the different level of attenuation of discharges that are different distances from the estuary. EPA does not believe the Fact Sheet "implies" a level of accuracy for the specific delivery factors that does not exist; the basis for the attenuation figures is set forth in great detail in Attachment B to the Fact Sheet, which addresses both the uncertainty and the impact of imprecision on the eventual permit limits. Indeed the permittee

commented on the range of permit limits in Comment A.8. See Response A.8. for further discussion of the impact of uncertainly on permit limits.

Comment A.20. Fact Sheet Page 40, Paragraph 2, refers to a "previous draft permit". We are not aware of any previous drafts for this permit cycle. Please clarify this reference.

Response A.20. EPA apologizes for the error in references on Page 40 which applied to the Taunton WWTP; the reference to a "previous draft permit" should have been deleted. The Fact Sheet is a final document and not subject to correction but EPA notes the error for the record.

Comment A.21. Fact Sheet Page 40, Paragraph 3, mistakenly refers to the Taunton WWTF. Please correct.

Response A.21. See Response A.20.

Comment A.22. Note that the Outfall 001 location shown in Figure 1 is incorrect; the discharge is from the southwest corner of the site.

Response A.22. A corrected Figure 1 is included as an attachment to this Response to Comments.

B. The Nature Conservancy submitted comments by letter dated August 27, 2013.

The Nature Conservancy is an international, nonprofit conservation organization. Our mission is to conserve the lands and waters on which all life depends. Our work is carried out in all 50 states and over 30 countries, and is supported by over 36,000 members in Massachusetts and Rhode Island and over one million members worldwide. The Conservancy works globally on freshwater and coastal science and management to help government agencies, water management agencies, industry, scientists, and other non-governmental organizations around the world to improve ecosystem health and implement sustainable solutions.

The Taunton River is the longest free flowing coastal river in New England, with tidal influence reaching nearly 20 miles inland from Narragansett Bay. This extent of tidal influence maintains large, high quality, and globally rare brackish and freshwater tidal marshes. The river supports populations of environmentally-sensitive species such as river otters and freshwater mussels; three globally rare species of plants and two globally rare fish, bridle shiner and Atlantic sturgeon, inhabit the watershed. The Taunton River provides important habitat for one of the largest spawning populations of river herring in New England and populations of other fish that play a critical role in supporting marine food webs. The River was designated Wild and Scenic in 2009, to protect six outstanding resource values: agriculture, ecology and biodiversity, estuary, fisheries, history and archaeology, and recreation.

Nutrient pollution from upstream wastewater is widely recognized as a major source of impairment for Narragansett Bay and other estuaries throughout the region. The Conservancy is committed to efforts to reduce reactive nitrogen levels in this region because of persistent problems related to excessive nitrogen including widespread algal blooms causing shellfish harvest closures, low dissolved oxygen levels, and loss of eelgrass.

From Nantucket Sound to Block Island Sound to Great South Bay, NY, The Nature Conservancy is investing in estuarine restoration focused on salt marsh, seagrass, oysters, bay scallops, hard clams, and diadromous fish habitat. However, monitoring and research have shown that to be truly effective at scale, restoration success requires improved water quality to support a diversity and abundance of native species and habitats. Limiting nitrogen from wastewater treatment facilities is a high priority for the Conservancy in our efforts to improve water quality and thus ecosystem health in the region's estuaries.

The Nature Conservancy supports the draft NPDES permit, and we agree with EPA that these limits are necessary to achieve water quality standards in the Three Mile River and downstream waterways, and that the limits are justified by the best available science. Requiring the Mansfield facility and other dischargers to meet these new limits will help to protect and improve water quality in the Taunton River watershed and associated estuary. We view this permit as a key piece of a comprehensive and watershed-wide approach to restoring the environmental conditions of the Taunton River estuary.

While the Conservancy strongly supports the 5.0 mg/l total nitrogen seasonal limit described in the draft permit as a step towards improving water quality, a stricter seasonal limit of 3.0 mg/l total nitrogen, reached over time, may be necessary to meet water quality standards. As the draft permit describes, recent monitoring by the University of Massachusetts School for Marine Science and Technology (SMAST) has shown elevated total nitrogen concentrations in the Taunton River Estuary and Mount Hope Bay. SMAST and Narragansett Bay Water Quality Network monitoring data have also shown other indicators of eutrophic condition, including low dissolved oxygen and elevated chlorophyll-a concentrations. Based on these data, EPA has concluded that excess nitrogen in the Taunton River Estuary and Mount Hope Bay has reached the level of a violation of state water quality standards for nutrients and aesthetics, and has subsequently determined a nitrogen limit is necessary to meet water quality requirements. The Mansfield facility currently constitutes 7% of the total watershed nitrogen load; a 51% reduction in nitrogen from the watershed, allocated among several sources, is needed. We agree that a numerical limit on total nitrogen should be included in the permit, and commend the use of recent local data to determine the limit. However, this limit is based on assumptions regarding future reductions in nonpoint source pollution and other point source reductions, in-stream nitrogen attenuation, and dilution within the estuary. To reach water quality conditions that will support historic eelgrass habitat and the general ecological health of Mount Hope Bay, the Conservancy recommends consideration of a 3.0 mg/l season nitrogen limit. The Nature Conservancy is also supportive of other source reductions and limits needed to reach the overall required load reduction, including reductions in nonpoint source pollution.

The Conservancy is supportive of measures to protect and restore the water balance in the Taunton River watershed, consistent with goals of the 2008/2011 Taunton River Watershed Study and the 2004 Massachusetts Water Policy. We encourage careful consideration of flow limits for wastewater treatment plants in the watershed, to restore water balance and promote groundwater recharge, as well as to maintain consistency with anti-degradation regulations to prevent increased discharge of pollutants to already impaired waters. Therefore, we support maintaining the current flow limit of 3.14 MGD for the Mansfield facility.

In coalition with associations representing municipalities and water suppliers, The Nature Conservancy has supported public policy and funding for municipal infrastructure related to water quality including leading the legislative advocacy efforts to create a $20 million loan fund for dam removal and repair and advocating for capital funding legislation to implement the recommendations of the Water Infrastructure Financing Commission. The Conservancy will continue to help ensure public funding and incentives are available to help communities protect clean water to benefit people and the environment.

> **Response B.** EPA acknowledges the Nature Conservancy's support for the draft NPDES permit and agrees that nitrogen limits on this facility and others in the watershed are essential for restoring this estuarine ecosystem.
>
> With respect to the recommendation that EPA consider a 3.0 mg/l nitrogen limit, EPA notes that it did consider a range of permit limits for this facility and that 3 mg/l is within the range of uncertainty of EPA's analysis (as are higher limits, e.g. 7 mg/l). It is EPA's technical judgment that the best available information supports a 5 mg/l permit limit for this facility and that the unavoidable presence of some uncertainty in the analysis does not necessitate the imposition of a limit of technology permit limit on this facility. The projected future nonpoint source and other point source reductions are achievable through ongoing permit reissuance (WWTPs and MS4 permits), atmospheric nitrogen reductions (see Chesapeake Bay TMDL Appendix L), and trends in agricultural land uses in the watersheds, although EPA agrees that continuing monitoring and analysis will be needed to assess both load reductions and the response of the estuary to the reduction in nitrogen loads. If additional monitoring and analysis indicate the need for further reductions in nitrogen loads, including if nonpoint source reductions are not achieved, lower limits may be needed in future permit reissuances.
>
> EPA acknowledges the Conservancy's support for maintaining the current flow limit of 3.14 MGD for the Mansfield facility. EPA notes that it does not understand this comment as an objection to EPA's approach to the tie-in of Wheaton College (adding the permitted Wheaton College flow to Mansfield for a total permitted flow of 3.26 MGD), which will not result in an increase in total permitted flow to the watershed and will provide improved treatment for Wheaton College flow. To the extent that the Conservancy is objecting to the treatment of Wheaton College, EPA disagrees with the comment. EPA notes that the Town of

Mansfield has not requested a flow increase and is planning to accommodate its future wastewater disposal needs through groundwater discharge, an approach EPA has supported.

C. The Town of Norton submitted comments by letter dated August 28, 2013.

Comment C.1. The Town of Norton, as a Co-Permittee under Parts 1.B and part 1.C. of the draft NPDES permit for the Town of Mansfield Water Pollution Abatement Facility wants to reaffirm and support the comments made in the August 27, 2013 letter from the Town of Mansfield to your office concerning the Draft Permit.

Response to Comment C.1. EPA acknowledges the Town of Norton's support for the comments from the Town of Mansfield. See Responses A.1 through A.22 for specific responses to those comments.

Comment C.2. In addition, we want to let you know that Norton's discussion with representatives of Wheaton College are progressing toward the College connecting to the Mansfield Sewer System as discussed in Paragraphs 13 through 15 of the Mansfield comment letter. With regard to Paragraph 15, in the Mansfield letter, we want to verify that the mass loads will be increased proportionally based on the Wheaton permitted discharge and not the lesser flow proportional (3.26/3.14) increment.

Response C.2. EPA does not understand the distinction being made by the Town of Norton between "proportionally based on the Wheaton permitted discharge" and "the lesser flow proportional (3.26/3.14) increment." In EPA's view there are two basic approaches to the calculation of mass limits: (i) an additive approach that adds Wheaton College's mass limits to those of the Mansfield WPAF, and (ii) a proportional approach whereby the Wheaton College permitted flow is added to that of the Mansfield WPAF, with the mass limits increased proportional to the flow increase. EPA's approach is a proportional one; the revised mass limits are calculated using the same concentration limit but with a flow of 3.26 mgd instead of 3.14 mgd. This is the same as scaling the mass loads up by a factor of 3.26/3.14. The resulting permit limits are set forth in the Fact Sheet Table 3. Response A.15 confirms EPA's intent to modify the permit to reflect these changes upon tie-in and termination of Wheaton College's flow to the Mansfield WPAF.

Comment C.3. The only other issue that we wish to call your attention to at this time is the correct address for the Norton Water and Sewer Department, which is now located at 166 John Scott Boulevard in Norton.

Response to Comment C.3. The address for the Norton Water and Sewer Department has been updated in the Final Permit and EPA's files.

Other Changes to the Final Permit

EPA has become aware that the requirement to submit reports as electronic attachments to DMRs using NetDMR has created confusion as to report due dates, as report due dates generally differ from the DMR due date (the 15th of each month) and NetDMR does not allow submission of a report without a concurrently submitted DMR. Therefore, to assist in electronic reporting, EPA has added language to the Final Permit (Section I.G.1.a) stating that such reports shall be considered timely so long as they are electronically submitted with the next DMR due following the report due date specified in the permit.

Figure 1 - Corrected. Location Map
Mansfield WPAF
NPDES No. MA0101702

N
W E
S

820 410 0 820 Feet

Mansfield WPAF