

Introduction

There are inconsistencies within the Bourne Comprehensive Wastewater Management Plan (CWMP) Application that should be resolved before approval, or approval should be withheld. The comments herein are mainly intended to address the Plan's impact on residential properties in the Megansett-Squeteague watershed.

Conflict Regarding Stated Implementation Schedule

The Town of Bourne Selectboard has stated (public hearing, 7-Jan-2025) that this is a 20-year Plan that will "live and breathe" during its lifetime. However, Section 4.1, pg.9 states, "Given Bourne's preference for a decentralized-focused approach to alternatives, the watershed wide implementation will be based on the specifications of the MassDEP General Use Approved I/A onsite systems."

Table 7: Title 5 Default GUIA Implementation Timeline, on pg.12 of the Plan shows that, for properties in the Megansett-Squeteague Harbor and Phinney's Harbor watersheds, the Plans only has a 5-year horizon, not 20. Those properties are intended to implement GUIAs by mid-2030, losing the opportunity to take advantage of improved technologies or solution approaches that may become available for the remainder of the Town in the subsequent 15 years.

On the other hand, **Table 8: Watershed Permit Example GUIA Implementation Timeline**, (pg.13) would put these two embayments on the same footing as the remainder of the Town. However, "As of November 2024, the Select Board has not filed a Notice of Intent to pursue a Watershed Permit for either of... Megansett-Squeteague Harbor and Phinney's Harbor." (Section 1, pg.1)

I suggest that a watershed permit for both Harbors would ultimately yield better water quality results for them.

Conflicting Nitrogen-Reducing Need Assessments

According to the MEPA Application, Appendix 13, Phase I Needs Analysis, pg.46 states, "MassDEP released its Final 2018/2020 Integrated List of Waters (Integrated Report) in February 2022 and represents the most recent update on the status of Massachusetts' waters." Pg.48 goes on to say that Squeteague Harbor has yet to be assigned a Nutrient/Eutrophication TMDL by the MassDEP.

But pg. 50 of Appendix 13 states that a Total-Nitrogen TMDL has been assigned to the joint Megansett-Squeteague Harbor based on data from the Massachusetts Estuaries Project (MEP). Pg.53 goes on to say, "According to the [Cape Cod Commission] CCC's 2017 Watershed Report for Megansett Harbor, [there is] no need to reduce current loading to Megansett Harbor as the current watershed wastewater load is within the total watershed load. However, MEP's final TMDL study indicates otherwise." "There are variations of load between the MEP and [CCC], primarily due to differences in comparing older and newer databases." (pg.52)

How can this not be confusing? Buzzards Bay Coalition's State of the Bay Report 2022, pgs.2-3, contains a graphic entitled **How is Nitrogen Affecting Your Local Harbor or Cove?** In the graphic, Megansett Harbor is claimed to be tied for the 6th-healthiest, with a score of 83 out of 100, healthier

than any other Bourne embayment listed in the graphic. In fact, its score had significantly improved from 72 in 2015. Yet, Squeteague Harbor's score at 58 had changed little since 2015, which places it at 34th-healthiest for Nitrogen. (Still, both harbors are positioned in the **Fair->Excellent** portion of the graphic as opposed to **Poor->Fair**.)

How can any future solution approach be chosen, and proven successful, in the face of one single limit that is applied jointly to two harbors that have such a widely disparate impairment, and another limit (on Squeteague) that doesn't even exist yet? Meanwhile, without a Watershed Permit, the clock is ticking on the Default GUIA Implementation Timeline, despite lacking final resolution of these conflicts.

Pg.3 (and re-iterated on pg.59), "While Megansett-Squeteague Harbor has a TMDL, the percentage share of removal combined with the overall controllable wastewater load reduce the removal requirement to below 600 kg N/year. Therefore, we recommend maximizing stormwater and downstream best management practices at this time." **Why was this recommendation ignored?**

Viable Alternatives Were Not Analyzed

According to the MEPA Application, Appendix 14, Phase II Alternatives Analysis, **Table 2: Bourne Non-Traditional Alternatives Engineering Feasibility Analysis** on pg.14 presents the following Source Reduction technologies and their Expected Nitrogen Removal applicable to existing residential properties in the Megansett-Squeteague watershed:

- Decentralized Cluster Treatment System 43% to 70%
- Fertilizer Management 50%
- Innovative/Alternative (I/A) * 28% (* Requires a Responsible Mgmt Entity)
- Stormwater Best Management Practices 25% to 50%

Despite high Nitrogen removal potential, and high score against an evaluation criteria matrix in Appendix A of Phase II Alternatives Analysis, Fertilizer Management implementation and cost was not analyzed and presented as a viable alternative.

When CCC prepared its Draft 208 Plan Update in 2015, it drew this interesting Public Comment from the Association to Preserve Cape Cod (APCC):

"Overlooked low hanging fruit: Cesspools are one of the easy targets largely overlooked by the [Draft 208 Plan Update]. Anecdotal information primarily from engineers points out that many properties have escaped from Title 5 inspection under current regulations. It is our understanding that municipal records make it difficult to determine the exact number of properties that may be relying on cesspools. According to testimony during 208 public hearings, it was common practice in the past to build cesspools (particularly those in close proximity to coastal embayments and ponds) with a direct hydraulic connection to groundwater, thus making these systems 'maintenance-free.' Obviously, if true, this means raw septage is reaching these embayments and ponds."

Possibly this low-hanging fruit is also being overlooked by the Bourne CWMP.

Current Nitrogen-Reducing GUIA Implementation Not a Proven Solution

MEPA Application, Appendix 14, Alternatives Analysis, pg.19, presents **Table 5: Megansett-Squeteague Conventional I/A Alternative** which claims to calculate the annual GUIA Nitrogen loading and removal if installed on the properties listed in the Megansett-Squeteague Harbor section of Appendix C, Alternative Parcel Tables. *Each residential property is assigned exactly the same GUIA loading regardless of its occupancy circumstances.* I can find no explanation in the document to explain why the same value was used or how that value was determined.

This identity seems to fly in the face of typical coastal community property usage. There is a significant share of properties that will be heavily used (with significant septic loading) from May through September, with little or no occupancy (and loading) the remainder of the year. There will be a significant share of year-round residents, single individuals and couples, whose second or third bedrooms are rarely used.

It is pointless to modify the septic systems of properties that are sources of relatively meagre annual loading and expect those modifications to solve the Nitrogen loading problem. **Proof of success requires a more detailed accounting of the true mix of loading at the level of specific properties before any multi-million-dollar solution is undertaken.** This is as true for a wastewater treatment facility (WWTF) solution as it is for the individual-property GUIA approach.

Furthermore, according to **Table 22: GUIA Operation, Monitoring, and Maintenance Cost Estimate** on pg.40 of the Plan, the GUIA approach requires individual property owners to spend about \$2,000 annually to maintain and power their GUIA equipment. Many seasonal properties will likely be deemed by their owners as “not contributing to the problem” and will suffer from lax upkeep. **Is this a viable solution if it depends upon hundreds of owners “doing the right thing” every year?**

When CCC prepared its Draft 208 Plan Update in 2015, it drew some rather pointed Public Comments. I am providing excerpts from the Buzzards Bay Coalition’s comment which might also be pertinent to the Bourne CWMP:

- MassDEP should require nitrogen reducing septic systems within 500 feet of all nitrogen impaired waterbodies.
- MassDEP should amend Title 5 to reduce the standard for nitrogen reducing septic systems from 19mg/L to 10mg/L. [The Bourne CWMP assumes 19mg/L is sufficient.]
- Successful implementation of the Draft 208 Plan Update relies on the issuance of strong watershed permits and regulations as well as adaptive management with performance thresholds.
- Traditional sewers, whether cluster or centralized, can solve the nitrogen pollution problem. Sewer systems can achieve a 100% reduction in nutrients within a watershed when the wastewater is treated to a high degree and discharged outside the watershed. **Unlike many of the non-traditional technologies discussed in the Draft 208 Plan Update, sewerage is a reliable, proven technology with long and predictable lifecycles and is likely the most affordable and effective solution for densely developed areas.**