

# Review and Response to Comments Received on Bantam Lake Watershed Project Documents

Final Report

December 13, 2021

**Water Planning and Management  
Bureau of Water Protection and Land Reuse  
Connecticut Department of Energy and Environmental Protection**



Connecticut Department of Energy and Environmental Protection, 79 Elm Street, Hartford, CT 06106

# Table of Contents

1	Introduction .....	3
2	The Bantam Lake Watershed Documents .....	3
3	Comments and Responses .....	4
3.1	Bantam Lake TMDL.....	4
3.1.1	Nutrient loading .....	4
3.1.2	Land use .....	7
3.1.3	Maps.....	7
3.1.4	Stormwater .....	8
3.1.5	Trophic state .....	9
3.1.6	Point sources.....	9
3.1.7	Decentralized Sewage Systems.....	9
3.1.8	Monitoring plan .....	10
3.1.9	Shoreline buffers.....	11
3.1.10	Existing local activities .....	11
3.2	Bantam Lake Watershed-based Plan.....	12
3.2.1	General.....	12
3.2.2	Monitoring sites .....	13
3.2.3	Structural BMPs .....	14
3.2.4	Shoreline buffers.....	15
3.3	Statewide Lake Nutrient TMDL Core Document.....	15
3.3.1	Stormwater .....	15
3.3.2	Funding sources .....	15
3.3.3	Shoreline buffers.....	16
3.3.4	Harmful algal blooms .....	16
3.3.5	Decentralized Sewage Systems.....	16
4	Conclusions .....	21
5	Appendix A: Copy of Notice .....	22
6	Appendix B: List of Commenters.....	23

# 1 Introduction

The Review and Response to Comment Received on Bantam Lake Watershed Documents is the culmination of the public process that the Connecticut Department of Energy and Environmental Protection (CT DEEP or the Department) initiated to review the Statewide Lake Nutrient TMDL Core Document, the Bantam Lake TMDL, and the Bantam Lake Watershed-Based Plan that were prepared with support from the United State Environmental Protection Agency (US EPA) to fulfill requirement of the Federal Clean Water Act (CWA) under sections 303(d) and 319.

The purpose of this report is to provide responses to those who provided comments on the documents and to identify subsequent revisions to the Statewide Lake Nutrient TMDL Core Document, Bantam Lake TMDL and watershed-based plan.

This Report is a representation of comments received as the result of the public review process. Throughout the Report, comments received from the public are identified and discussed. Some comments are paraphrased for brevity; however, every effort has been made to preserve the original intent of the comment. References to comments within this document include an identifying number found in Appendix B of this report, so that the reader may refer to the original text if desired.

The review process for these documents incorporated a public participation process. Steps and key dates within the public process are identified in Table 1.

**Table 1:** Public Notice Activity for Review of the Bantam Lake Watershed Documents

Date	Public Notice Activity
July 19, 2021	Public Notice of Intent to conduct a review of the Bantam Lake Watershed Project documents was published on the Department's public notice web site and emailed to municipal, environmental, and regulatory communities. It was also published in the following newspapers: The Day, New Haven Register, New London Day, Norwich Bulletin, Waterbury Republican American, Hartford Courant and Torrington Register Citizen (See Appendix A for Notice)
July 29, 2021	The Department held a public informational meeting.
July 19, 2021 – August 19, 2021	Comment Period

# 2 The Bantam Lake Watershed Documents

The documents included with this review consist of *the CT Statewide Lake Nutrient TMDL Core Document*, the *Bantam Lake TMDL*, and the *Bantam Lake Watershed-Based Plan*.

Under section 303(d) of the Federal CWA, waterbodies not meeting Water Quality Standards for one or more pollutants require the development of an action plan, such as a Total Maximum Daily Load (TMDL). The *CT Statewide Lake Nutrient TMDL Core Document* uses a watershed-based approach to improve water quality in lakes by evaluating nutrient loads to lakes and impoundments and providing

a framework that can be applied throughout the State to evaluate and develop implementation strategies to reduce excess nutrient loading within the watershed.

Bantam Lake is listed in the Connecticut Integrated Water Quality Report as impaired because of nutrients. To improve the water quality in the lake, CT DEEP developed a watershed specific Lake Nutrient TMDL to address the water quality impacts of the nutrients. In addition, under section 319 of the Federal CWA, CT DEEP developed an approach to provide a US EPA 9 Element Watershed Based Plan (WBP) as an add on to the Bantam Lake Appendix. These documents provide a detailed analysis and plan for Bantam Lake.

### 3 Comments and Responses

Comments received during the public notice period are presented below. See appendix B for list of commenters. Each comment is identified with a number to identify who provided the comment. A response from CT DEEP is provided for each comment. Comments are grouped by subject matter.

#### 3.1 Bantam Lake TMDL

##### 3.1.1 Nutrient loading

**A. We suggest a correction to page 9, paragraph 4.1 Permitted Wastewater Point Sources. The sentence reading "As reported, the WPCF was receiving wastewater from 658 connections with capacity for an additional 110 connections (Woodridge Lake Sewer District, 2016)" should be revised to read as follows: "As of this report date, the WPCF is receiving wastewater from 703 connections with capacity for an additional 164 connections or a total of 877 connections as reported in our Facilities Plan Summary Report dated May 9, 2016." <sup>1</sup>**

*Response: The text has been updated.*

**B. Can you please provide a sample of the source of your data and the calculation to arrive at the "Total Load" for total phosphorus for one of the years displayed in the table (Table 2). The table indicates that the total phosphorus delivered to Bantam Lake is the "Total Load" corrected for the "Attenuation Factor" which is presented as 265.9 kg/yr. How was that figure calculated using the ten years of data presented in Table 2 of Appendix 1? <sup>1</sup>**

*Response: Using the monitoring data submitted by Woodridge Lake Facility, we calculated the sum of TN and TP monthly loads for each year (2011-2020) during only the growing season (April through October). The total yearly load is then corrected for the attenuation factor. Any monitoring data that was not associated with a defined value (i.e., a value reported as "<" or ">") was not included in the total load calculations.*

**C. What is the source of the TMDL Load Reduction Targets for the Membrane Bioreactor System referenced in the May 9, Facilities Plan Summary Report? <sup>1</sup>**

*Response: Estimates were provided by DPC Engineering and the Woodridge Lake Facility in previous communications.*

- D. The WLSD staff and independent engineer have reviewed the data on page 32 in "Table 12: Proposed Effluent Loading from the Woodridge Lake WPCF from a proposed on-site new Membrane Bioreactor (MBR) System." Based on our review of the MBR design technical data and our plant's flow data, we concluded that the proposed loading chart is correct. <sup>1</sup>**

*Response: Thank you for doing a review and for your comment.*

- E. On page 33, Table 13 has been reviewed and we find that it accurately summarizes the calculations we reviewed and indicated that if a system were built at the Woodridge Lake WPCF, that result would be a reduction of 91.5% of total phosphorus and a 66.1% reduction of total nitrogen loading currently being produced by our facility. <sup>1</sup>**

*Response: Thank you for doing a review and for your comment.*

- F. Discussion/thoughts on why the substantive increase in phosphorus and nitrogen loading in 2020 (Table 2)? <sup>2</sup>**

*Response: We expect that due to the pandemic, some of the part-time people living around the lake became full-time people living around the lake which could cause the increased loading to the lake.*

- G. The 2007 to 2018 average chlorophyll-a concentration of 37µg/L seems high and inconsistent with the mesotrophic average nutrient levels and eutrophic Secchi transparency. What methods were used to measure chlorophyll-a, spectrometry, fluorometry, and surface scum sampled at 1 meter? Note the number of chlorophyll-a data (n=4) vs the number of nutrient and Secchi transparency data is (n=150, 132, and 182 for phosphorus, nitrogen, and Secchi). Also noted the Secchi transparency high in the range (4.2m) vs the chlorophyll-a low value in the range (27µg/L). Should be easy to maintain chlorophyll-a under 37µg/L if that is deemed the target maximum. <sup>2</sup>**

*Response: The current trophic level is determined using the water quality data currently available for Bantam Lake, which was collected by the Bantam Lake Protective Association. The sample size for each parameter was taken into consideration when determining the trophic level, since chlorophyll-a has fewer samples than total nitrogen, total phosphorus, and Secchi transparency we relied on the total nitrogen and total phosphorus data for evaluating the trophic level of the lake during the model calibration period. The projected coverage of macrophytes within the lake was also considered in identifying the current trophic state for Bantam Lake.*

- H. In Sec. 6.3, where TMDL targets are discussed, also discussed is a 4.5% probability of a HAB. Does the target factor in any mitigation of internal loading? <sup>2</sup>**

*Response: This probability is based on a calculation from the BATHTUB model results during the calibration period (2007-2016). The model accounts for all sources of loading to the lake, including internal loading, but the mitigation of the internal load is not considered at this time. There is a need to consider the natural internal load that will always be present and but we recommend addressing the watershed load first.*

**I. Is internal loading of legacy phosphorus part of the Load Allocation? See bottom of page 37. <sup>2</sup>**

*Response: Yes – over time the in-lake phosphorus has been building up. This is a source of internal loading that is included in the total Load Allocation (see table 13).*

**J. Top of page 36: “If WLS D were to eliminate its discharge from the Bantam Lake watershed, a potential increase in the Load Allocation for nonpoint TN sources of 20.3 kg/yr. for TP and TN sources of 335.7 kg/yr, the current allowable WLA for the facility, could be considered”. Is that correct? Also note that both kg/yr. and kg/yr are used. <sup>2</sup>**

*Response: Thank you. The text has been updated.*

**K. The WLS D staff and our independent engineer have reviewed the data in "Table 2: Recent total phosphorus and total nitrogen loading from Woodridge Lake WPCF." We found that for April through October, the loading calculations were less than 1% different from the figures represented in Table 2. We therefore agree that they represent a fair indication of the loading without any changes. <sup>2</sup>**

*Response: Thank you for doing a review and for your comment.*

**L. I have never found land use loading models to be accurate at predicting actual loading, and that is after taking real time inlet concentration data and mass loading and comparing it to what would be predicted by land-use runoff coefficients. I could not get the LLRM to work for me at another lake and I had a huge amount of real runoff storm and base flow data as well as in-lake data. <sup>7</sup>**

*Response: We appreciate your perspective on your experiences using the land use loading models and the LLRM. By running the LLRM alongside the BATHTUB model, we were able to calibrate and validate the paired models. In addition, the State of New Hampshire has had success using the LLRM for their lake TMDL's. We understand the implications of using models, and based on the resources available, we are confident in the results presented in the context of this watershed.*

**M. Can you point me toward documents and results from your use of the LLRM? <sup>7</sup>**

*Response: The documents can be found on the project website (<https://portal.ct.gov/DEEP/Water/Watershed-Management/Bantam-Lake-Watershed-Projects>) named “Bantam Lake Modeling Report”.*

### 3.1.2 Land use

- A. Under Land Use Trends it states Bantam Lake watershed has experienced a net increase in agricultural (11 acres) and developed (314 acres) land uses and decreased forested (242 acres) and wetland (83 acres) land uses (Figures 7, 8). Wouldn't the net increase equal the net decrease? <sup>2</sup>**

*Response: The net increase and net decrease both equal 325 acres.*

*Net increase: Agriculture (11 acres) + developed (314 acres) = 325 acres*

*Net decrease: Forested (242 acres) + wetland (83 acres) = 325 acres*

- B. Page 18 Riparian Buffer Zone Analysis & Figure 10: What is the proportion of each land use category within the 300-ft shoreline buffer on land that is Protected Open Space around Bantam Lake? What is proportion of shoreline that is currently listed as Protected Open Space around Bantam Lake? It is significantly greater than most other lakes in the state. <sup>3</sup>**

*Response: About 30% of the riparian zone for both the lake and streams is protected open space, while 57% of the riparian zone for the lake is protected open space. We do not currently have the data processed to answer whether it is significantly greater or less than most other lakes in CT, which is beyond the scope of these documents.*

### 3.1.3 Maps

- A. Under Land Use Trends it describes new development and references Figure 8. These areas are not clear on Figure 8. <sup>2</sup>**

*Response: Thank you for your feedback. The map has the most up to date information available at this time. To zoom in on these areas, please see the online map*

*([https://www.arcgis.com/home/webmap/viewer.html?url=https%3A%2F%2Fcteco.uconn.edu%2Fctraster%2Frest%2Fservices%2Flandcover%2FCTchangeFrom1985\\_2015%2FMapServer&source=sd](https://www.arcgis.com/home/webmap/viewer.html?url=https%3A%2F%2Fcteco.uconn.edu%2Fctraster%2Frest%2Fservices%2Flandcover%2FCTchangeFrom1985_2015%2FMapServer&source=sd)) with land use changes in Connecticut, and zoom to the Bantam Lake watershed area.*

- B. Regarding the map on page 3 (Figure 1), other conserved lands need to be highlighted in addition to the Goshen Wildlife Management Area. These lands are owned by Goshen Land Trust, the town of Goshen, Litchfield Land Trust, White Memorial Foundation, and the state of Connecticut's Camp Columbia State Forest in Morris. Please refer to White Memorial in the context of this map as "White Memorial Foundation", since White Memorial Foundation and White Memorial Conservation Center are different organizations. <sup>3</sup>**

*Response: Regarding labeling the ownership of the protected lands, the critical concept is that these lands are preserved and who provides the protection is not the main focus. The maps have*

*been updated to reflect the protection of the land without attribution of ownership. We do not have that information for all parcels in the area.*

- C. Regarding the map on page 8 (figure 4), There are currently two marinas on Bantam Lake. One is owned by the state of Connecticut and is located on Palmer Road, Morris. White Memorial Foundation owns and manages a public marina on North Shore Rd, Litchfield. There are a total of four public boat launches. Both the state of Connecticut and White Memorial Foundation manage launches at their marinas. The town of Morris owns a public launch on East Shore Road and the town of Litchfield owns a launch at their off North Shore Rd. The town of Litchfield owns a boat launch for non-motorized watercraft located on Bantam River on Whites Woods Rd. in Litchfield. The state of Connecticut owns a boat launch on Dog Pond in Goshen. Camp Washington is not located in the Bantam Lake Watershed (Table 3 page 11). The underground injection point located in the southeast region of the watershed is incorrect.<sup>3</sup>**

*Response: Thank you for your feedback, the map and table have been updated.*

- D. Regarding the map on page 13 (figure 5):**
- a. Please highlight the public beach located on Bantam Lake that are owned by the towns of Litchfield and Morris.**
  - b. A River/Stream has been highlighted in error. The aqueduct located under Bantam Lake that travels underground ESE toward Pitch Reservoir appears to have been included in this map. Barren Land is located WSW of Bantam Lake at the town of Morris's old landfill. This point was in Figure 4.<sup>3</sup>**

*Response: Please see figure 4 for the Litchfield Town Beach and Morris Town Beach locations. Thank you for noting the error of the highlighted river/stream and barren land, they have been removed from figure 4.*

### 3.1.4 Stormwater

- A. Please clarify if US Route 202 is covered by CT DOT MS4 General permit.<sup>3</sup>**

*Response: The Town of Litchfield is not regulated by the MS4 permit because it does not contain any urbanized area and does not meet the definition of a small MS4. As the CTDOT MS4 permit requirements are tied to the MS4 status of the town, currently Route 202 is not covered under the CTDOT MS4 permit. However, there is a provision in the CTDOT permit that indicates that the permit applies to CTDOT roadways that are covered under a TMDL. Therefore, once the TMDL for Bantam Lake is finalized, Route 202 will then be covered under the CTDOT MS4 permit.*

- B. Page 41 (Identify areas in the watershed or ways to implement both structural and non-structural BMPs to control existing NPS pollution in stormwater runoff): Please consider strengthening the emphasis of the following sentence: “Structural BMPs could include**



restoring and maintaining adequate shoreline buffers, especially for agricultural and developed lands adjacent to surface waters.” As was already mentioned, the WBP lays out the value of restoring buffers compared to other NPS reduction methods. Please consider the following sentence instead: “Restoration of shoreline buffers, especially for agricultural and developed lands adjacent to surface waters is one of the most cost-effective BMP strategies and is strongly recommended.”<sup>5</sup>

*Response: The text was updated.*

### 3.1.5 Trophic state

- A. Use of the paleolimnological reconstruction noted under LAKE SPECIFIC STUDIES is applauded and appreciated! Earliest fossil records from the Siver et. al. (2021) study suggests that Bantam was closer to oligotrophic / early mesotrophic ca 1857. I agree with the natural trophic state for Bantam at this stage being mesotrophic. The oligotrophic / early mesotrophic “ship has sailed.”<sup>2</sup>**

*Response: Thank you for your comment.*

- B. Can you provide further explanation on the concept that a lake can have two trophic states?<sup>7</sup>**

*Response: In the document we identify a current trophic level based on the results of our analyses of water chemistry and macrophyte coverage during the model calibration period and a future trophic level goal based on the load reduction targets from the model results, but we do not suggest two concurrent trophic states. See details in section 6.2.*

### 3.1.6 Point sources

- A. Legacy Point Sources: Section 4 should include a discussion of the impact of the old Litchfield wastewater treatment plant. Though closed in 1971, its leach field was close the Bantam River above Bantam Lake. A 1975 EPA report cites sediment data showing the effect of the plant's discharge. (Document Display | NEPIS | US EPA) That effect may be ongoing, and a significant contributor to the lake's current nutrient budget.<sup>8</sup>**

*Response: Given that the leach field was closed 50 years ago, it is unlikely that the source represents an on-going significant source of nutrients. The recommendations in the document to both monitor nutrient inputs to the lake and implement BMPs will help identify if other sources are having a significant impact on the lake*

### 3.1.7 Decentralized Sewage Systems

- A. Section 7.4 – The Town of New Fairfield has a successful septic walkover program worth looking at.<sup>2</sup>**

*Response: Thank you for your feedback. CT DEEP will review the recommended program for potential inclusion in future updates to the document.*

- B. Page 42 (Address groundwater leachate pollutant sources from septic systems): Thank you for including this as a strategy as the information that can be gathered from regular inspections and records will help to understand more fully the nutrient contribution from septic systems that have not been properly maintained. The WBP rates sources from septic systems as lower as a source of nutrient contribution because the assumption was made that all systems are well maintained. The contribution from this source may very well be higher. Identifying and addressing the problematic systems may bring significant progress toward meeting nutrient reduction goals. <sup>5</sup>**

*Response: Thank you for your feedback.*

- C. Pg. 42 Section 7.4 cites some local SSDS management actions such as mandatory tank pump-outs and system upgrades. It is recognized that ensuring systems are properly maintained and operated is an integral part of a SSDS management program. There is no mention of DSS management actions at the state level that support local management initiatives. DPH supports improved and comprehensive SSDS/DSS management that provides a proactive pollution prevention approach rather than addressing pollution problems after the fact. Lack of funding and resources have hampered efforts in that regard. Grant funds and low-interest loans (e.g., Clean Water State Revolving Funds) should be pursued for DSS management improvements. A statewide program should be established to assist communities with funding of repairs and upgrades of failing and malfunctioning DSSs. <sup>8</sup>**

*Response: The focus of the TMDL is on the local watershed, so state level programs aren't discussed. DEEP appreciates the support that DPH provides for DSS management statewide.*

- D. The WLSD Board has another alternative solution that is outside of the scope of this study, which is the regionalization of the processing of our wastewater by the Litchfield WPCF. This regionalization project would eliminate the Woodridge Lake WPCF total phosphorus and total nitrogen loading from the Bantam Lake watershed. Our Board believes this option is the most environmentally responsible path to take given the circumstances and would encourage the Town of Litchfield and Morris as stewards of Bantam Lake as well as the interested local environmentalist groups and the public to actively support such an alternative. <sup>1</sup>**

*Response: The approach described is appropriate and CTDEEP would encourage collaboration between Woodridge Lake and the Town of Litchfield. CTDEEP is available to participate in these conversations.*

### 3.1.8 Monitoring plan

- A. Section 8.2 – A number of the recommended components, beyond the standard water quality monitoring components are already in place, e.g. cyanobacteria monitoring, microcystin toxin monitoring. Table 14 needs some revising. <sup>2</sup>**

*Response: We made a range of future monitoring recommendations from baseline level to more complex monitoring. It depends on resources available to do the monitoring. Monitoring is optional but would help to track progress towards meeting water quality goals and the efficacy of the implementation measures that are put in place.*

- B. Section 8.0 (page 44) – HVA encourages the incorporation of an outfall monitoring and pollution track down element to the monitoring plan, in order to better pinpoint areas where nutrients and bacteria are entering surface waters. We understand that watershed communities are obligated by the Illicit Discharge Detection and Elimination element of the MS4 General Permit to conduct this work in some portions of their jurisdictions, but we recommend a more comprehensive program across the watershed. HVA and our partners have been able to rectify acute pollution issues with minimal expense using the outfall monitoring/pollution track down approach. <sup>6</sup>**

*Response: Thank you for the suggestion. Initial track down work has been done to support development of watershed-based plans and we expect further track down work may be done in the future to support this project. None of the Bantam Lake watershed municipalities are subject to the current (2017) MS4 General Permit.*

### 3.1.9 Shoreline buffers

- A. Recommended Implementation Strategies - Amend local ordinances to better protect water resources and reduce future NPS pollution in stormwater runoff through such strategies as low impact development or green infrastructure. (p 41) - The Bantam Lake watershed currently has relatively low development compared to other areas of our densely populated state. The majority of the decisions that will either protect or degrade water quality are made at the local land use commission level. There is a considerable amount of potential for development in this watershed and with this a potential to undermine implementation and investment in other strategies (some very costly as in the case of the Woodridge WWTF upgrades.) <sup>5</sup>**

*Response: Thank you for the feedback.*

### 3.1.10 Existing local activities

- A. “To ensure that funds are spent with the appropriate prioritization, a watershed-wide culvert assessment is recommended to identify potential culvert issues that contribute to nutrient**

**loading via transport of sediment and attached phosphorus.” p.19: HVA has already developed a methodology to assess and prioritize road-stream crossings and could easily add modifications for the Bantam Lake watershed in order to identify culverts that contribute to sedimentation and nutrient loading. <sup>6</sup>**

*Response: Thank you for bringing our attention to this. A recommendation to evaluate culverts, consistent with the recommendation in the Bantam Lake Watershed Based Plan, was added to the Recommended Implementation Strategies section of the Bantam Lake TMDL with a link provided to the HVA webpage on this topic. Information on the resources from HVA was also added to the Bantam Watershed Based Plan and Lake Nutrient TMDL Core Document. Thank you for your offer of assistance on this topic.*

## 3.2 Bantam Lake Watershed-based Plan

### 3.2.1 General

- A. Was reviewed by the WLS D group for consistency with the data, methods and conclusions presented in the Bantam Lake TMDL Appendix 1. We found it to accurately explain the impact of the Woodridge Lake WPCF on the Bantam Lake. <sup>1</sup>**

*Response: Thank you for doing a review and for your comment.*

- B. We note a lack of stakeholder engagement during the Bantam Lake watershed-based planning process, compared to the watershed-based planning efforts that HVA has been involved with elsewhere in our service area. Again, this is understandable given the constraints presented by the Covid-19 pandemic- but we hope that the review of these draft documents and the implementation phase will be an opportunity for more meaningful engagement of watershed communities, conservation non-profits and other stakeholders. We did not receive email notice of the public availability of the Bantam Lake Watershed documents or the July 29th informational meeting until a colleague forwarded the public notice. Given that we have felt somewhat disconnected from the planning process, we wonder if other key stakeholders who could make valuable contributions to the Bantam Lake WBP have had similar experiences. Moving forward, we suggest a focus on improving communications with stakeholders to cultivate meaningful engagement in WBP implementation. <sup>6</sup>**

*Response: Thank you for bringing this issue to our attention. We followed up with HVA after receiving this comment to clear up the miscommunication. Unfortunately, the emails were probably lost due to spam filters. Public outreach and involvement are integral parts of the TMDL and watershed-based plan development. We tried to disseminate the information through multiple*

platforms to make sure the information gets to interested parties. We do send out the notices directly to people and organizations that may be interested, but we encourage interested parties to sign up for the Water Quality Planning Listserv to guarantee direct notice. Instructions on joining the Listserv can be found on the CTDEEP webpage (<https://portal.ct.gov/DEEP/Water/Water-Quality/Water-Quality-Planner-ListServ>). Additionally, we recommend that people sign up for e-Alerts through the CTDEEP web page (<https://portal.ct.gov/DEEP/About/Newsletters/Sign-Up-to-Receive-Updates--Newsletters-by-E-mail>). By signing up for e-Alerts you will receive email notification of public notices that are published by CTDEEP, which would include public notices for TMDL and other water quality related documents. That webpage also has links to other newsletters and listservs that may be of interest to you.

### 3.2.2 Monitoring sites

- A. From the efforts by volunteers and staff of White Memorial Conservation Center, some sites may have been under-represented. Land Stewards from the Litchfield Land Trust performed stream walks on properties where they have landowner agreements for conservation easements. Unfortunately, not all tributaries were assessed thoroughly by performing stream-walks. Sites within Litchfield town center could have been underrepresented, therefore run-off associated with impervious surfaces. Farms with high density of livestock and poorly maintained septic fields are challenging to document because it requires access to private property. I think the best way to address these potential deficiencies would be to perform follow-up site surveys during this management plan.<sup>3</sup>**

*Response: The monitoring locations available and selected by these efforts are a starting point for collecting information and making decisions on the watershed. Resource and logistical limitations did not allow for the entire watershed to be assessed and it was not intended to be an all-inclusive (see WBPA pg. 14). However, the modelling tools implemented in creating the Watershed Based Plan took this into account and the information was sufficient for that purpose. Moving forward, we recognize that this is an iterative process and follow up surveys will benefit the management plan. The implementation projects discussed in the document are intended to provide examples of the types of locations and projects which could be implemented to reduce nonpoint source nutrient loads. Future implementation efforts could also consider other supplemental projects that are feasible or appropriate, but it may require revising the plan if seeking support from federal funding.*

- B. It is our understanding that the field reconnaissance stage of this process relied heavily on the generosity of White Memorial Conservation Center. Initial potential project pool might have skewed to sites that could be conveniently reached (e.g., at road-stream crossings) and that were also easily identified by laypeople. The project pool would be more robust had there been more strategic field reconnaissance over a longer period of time. We hope HVA can help identify, develop, and prioritize additional projects that further the goals of the WBP and**

**the TMDL, and get priority projects added to the WBP as they are developed and approved by stakeholders. <sup>6</sup>**

*Response: There was considerable public involvement, but we welcome and encourage assistance from organizations such as HVA to help move this plan and others forward. Please see response to comment A. There will still be opportunities for additional evaluation and participation moving forward.*

### 3.2.3 Structural BMPs

- A. We strongly recommend the use of already developed materials and programs, such as the Connecticut RiverSmart/LakeSmart/SwampSmart program (<https://www.riversmartct.org/>). We would also like to see more details about how neighborhood rain gardens will be utilized, as these can be extremely effective tools for both stormwater runoff mitigation and public education and outreach. The proposed neighborhood rain garden program for the three priority neighborhoods is a great idea and we are eager to see that implemented. <sup>6</sup>**

*Response: Thank you for your input. The core document text has been updated with the RiverSmart resource and further mention of rain gardens. Also, CTDEEP will take this into consideration for inclusion in future updates to the documents.*

- B. We would like to know more about selected structural BMP implementation locations- what was the rationale for choosing these sites? How was meeting TP and TN load reduction targets considered? It seems that several sites were selected based on potential to reduce erosion and sedimentation (e.g., Area 1 and 2). We understand that erosion/sedimentation can be a significant source of nutrient loading depending on soils and land use. We noted in the WBP though that non-regulated stormwater contributes a high proportion of TN and TP total load allocation to the Bantam Lake (Table 2: TMDL Water Quality Targets for Bantam Lake (p. 5)), While several of the proposed structural BMP areas do mitigate stormwater runoff, most are in areas of sparse and disconnected impervious surface (beaches, boat launches, etc.). Were stormwater BMPs in areas of denser development with denser, directly connected impervious cover considered? Per the TMDL (p. 11), much of the development within the watershed is concentrated around the lake, along roads, and in the town centers of Litchfield and Goshen. The only sites identified in the town centers are Commercial Site 1 and Commercial Site 2 in downtown Litchfield. Additional BMPs in these areas could disconnect impervious cover from the storm sewer system, leading to immediate pollutant load reductions. Practices such as rain gardens, permeable pavement, green roofs, infiltration trenches, and bioswales could have a significant positive impact on water quality in Bantam Lake. <sup>6</sup>**

*Response: The structural BMPs are selected based on optimization calculations performed using EPA's Opti-Tool (see WBP pg.3). The locations were chosen based on field investigations but are*

*not intended to be an all-inclusive listing of potential locations (see WBP “Field Investigations”, pg. 13). This plan is intended to be iterative, so future information could lead to other BMP’s and locations being identified.*

### 3.2.4 Shoreline buffers

- A. The WBP highlights the value of reestablishing vegetated buffers as the lowest cost per pound of Phosphorus reduction. Protecting buffers in the first place is essentially free. Municipalities in the watershed should coordinate efforts and take advantage of this opportunity to ensure that land use decisions are evenly protective of wetlands and water courses throughout the watershed. Thank you for including this as one of the first strategies on the list. River Alliance would be happy to offer assistance to municipalities in evaluating their local ordinances. <sup>5</sup>**

*Response: Thank you for your feedback and the offer of assistance.*

## 3.3 Statewide Lake Nutrient TMDL Core Document

### 3.3.1 Stormwater

- A. Page 53: Public Act 21-115 An Act Concerning Climate Change Adaption should also be referenced in this section as it updated CGS 22a-498 and authorizes all municipalities, rather than just certain ones, to establish a municipal stormwater authority. <sup>5</sup>**

*Response: Thank you for bringing this to our attention, the document has been updated.*

### 3.3.2 Funding sources

- A. Rivers Alliance CT Watershed Assistance Small Grants Program (p. 68): This grant program was extremely beneficial to smaller, under-resourced watershed and conservation organizations that had small, impactful projects that were difficult to fund through other funding sources. Federal grant program applications can be extremely cumbersome for small organizations and piecing together funding from other sources can be challenging as well. And the majority of the time, these organizations can do so much with very little, offering a lot of “bang for the buck.” Rivers Alliance has and will continued to apply for these funds from the 319 grant program and hope that, since this funding source continues to be listed in the core document, that DEEP may reconsider reinstating the program. <sup>5</sup>**

*Response: Thank you for your feedback. Unfortunately, we had intended to remove this grant program from the draft document but that was missed. The text has been revised to delete this reference. DEEP is cognizant of the past achievements of that program and strives to support valuable projects through the 319 NPS Grant program, but we routinely receive many more proposals than it can support for any given year.*

### 3.3.3 Shoreline buffers

- A. A homeowner works on solving run-off and erosion issues on their property on Marsh Point by creating a rain garden. Maine implements a statewide program to enhance shoreline buffer zones by better managing and controlling change along lake shorelines throughout the state ( <https://www.maine.gov/dep/land/slz/index.html> & <https://www.maine.gov/dep/land/watershed/bufa.html>). While a statewide program like Maine’s may not be appropriate for Connecticut, with the right support from CTDEEP and EPA, many aspects could be implemented effectively at the Litchfield and Morris Conservation and Inland Wetlands Commission levels. I am skeptical that educational materials and “homeowner encouragement” alone will yield meaningful changes along the shoreline; rather a structured, regulatory framework is necessary to manage activity with the shoreline buffer zones in order to realize meaningful results. Buffer zones not only improve flora and reduce impact to the TMDL of the lake but improve habitat for fish and fauna. <sup>4</sup>**

*Response: Thank you for bringing this program to our attention. We have added this information into the core document.*

### 3.3.4 Harmful algal blooms

- A. Pg. 3 This document should reference the latest version of the CT DPH/CT DEEP guidance for local health departments on managing blue green algae blooms. The most recent version of the guidance can be found at: [https://portal.ct.gov/-/media/Departments-and-Agencies/DPH/dph/environmental\\_health/BEACH/2021/Guidance-to-LHD-for-Blue-Green-AlgaeBlooms\\_June2021\\_FINAL.pdf](https://portal.ct.gov/-/media/Departments-and-Agencies/DPH/dph/environmental_health/BEACH/2021/Guidance-to-LHD-for-Blue-Green-AlgaeBlooms_June2021_FINAL.pdf)<sup>8</sup>**

*Response: Thank you, the reference is updated.*

### 3.3.5 Decentralized Sewage Systems

- A. The Statewide Lake Nutrient TMDL Core Document should include recommendations for a statewide approach for comprehensive management of DSSs. Approximately 40 percent of CT’s population rely on DSSs, mainly septic systems, for sewage disposal, and they are utilized in approximately 75% of the developed area of the state. Comprehensive DSS**



**management would assist statewide and local efforts to reduce bacterial impairment of surface waters, and would support nutrient TMDLs, non-point source pollution programs, as well as drinking water source water protection and recreation programs.** <sup>8</sup>

*Response: The Core document identifies existing resources related to nutrient impacts on lakes. If a statewide approach for managing DSS is developed, we can update the Core document to reflect that program. CTDEEP supports improved DSS management on a statewide basis.*

- B. Pg. 2 The phosphorus report developed pursuant to Public Act #12-155 did not sufficiently evaluate phosphorus loading from subsurface sewage disposal systems (SSDSs) and it did not adequately explore on-site sewage disposal opportunities to reduce such loading. DPH can provide past communications to Department of Energy and Environmental Protection (DEEP) on this item if requested.** <sup>8</sup>

*Response: We reference the 12-155 report only to identify that SSDS's have potential phosphorus impacts across the state and to lakes specifically and should be further evaluated and addressed. We would welcome future coordination with DPH on such evaluation.*

- C. Pg. 19 Improved inter-agency communication and cooperation between DPH and DEEP is needed on decentralized sewage system considerations in the CT Nonpoint Source Management Plan. DPH can provide past communications sent to DEEP on this item if requested.** <sup>8</sup>

*Response: DEEP agrees with the need for continued and improved inter-agency communication and coordination. IDEEP is interested and available to work with DPH on this issue.*

- D. Pg. 20 Section 3.2.2. is titled Septic Systems, however at the end of the section on pg. 21 there is a discussion about alternative treatment systems and regulatory jurisdiction of SSDSs, alternative treatment and community sewerage systems, which is problematic. It is recommended that Section 3.2.2. be renamed decentralized sewage systems with separate subsections on SSDSs, alternative treatment systems, and community sewerage systems. Alternatively, Section 3.2.2. could strictly cover septic systems/SSDSs, and a separate section could cover alternative treatment systems and community sewerage systems and note that these systems are currently regulated by DEEP. Regulatory jurisdiction of decentralized sewage systems is split between DEEP and DPH/Local Directors of Health (DOH), and this section(s) should accurately reflect jurisdiction of the various categories and design flow breakpoints. This is especially important since the power point presentation (Presentation Slides Watershed Based Plan) includes slides (non-structural BMPs: Regulatory Tools) that suggest municipalities adopt regulations to enable/promote use of alternative treatment systems based on proximity to a water body, and notes Local DOH would be the relevant**

**authority to regulate such systems. These slides are problematic, and points of clarification are needed.** <sup>8</sup>

*Response: Section 3.2.2 has been updated and renamed to “Subsurface Sewage Disposal Systems”. We don’t have enough material in the document to create separate subsections for community and alternative systems. However, we have added language regarding CT DEEP regulating alternative treatment systems and community sewerage systems. Additionally, the language has been added to this section to indicate that use of alternative treatment systems with design flows less than 7,500 GPD is an option but recommended after a statewide permitting program is established. If used, proper permitting and regulatory oversight would need to be followed.*

- E. More than 95% of all DSSs utilized in CT are conventional septic systems/SSDs regulated by DPH and Local DOH. The discussion about alternative treatment systems should include statements that there are very few small systems in use and provide information on legislation (CGS Sec. 19a-35a) that could transfer jurisdiction of small alternative treatment systems from DEEP to DPH. Further comments on alternative treatment systems and recent legislative proposals can be found in DPH testimony on bills #961 and #1024 from the 2021 legislative session.** <sup>8</sup>

*Response: The intent of the core document is to provide a general overview, so an in-depth discussion about history, status and regulatory structure for alternative treatment systems would be too much information. We have identified existing regulatory structure and indicated that use of alternative treatment systems with design flows less than 7,500 GPD is an option but recommended after a statewide permitting program is established. (See previous answer)*

- F. Pg. 20 The document acknowledges effective pathogen and phosphorous removal with a properly functioning septic system. The document states that nitrogen removal efficiency is likely lacking but it is cautious in definitively making this assumption. Assumptions regarding nitrogen and phosphorous discharges from septic systems were calibrated using the Lake Loading Response Model (LLRM). This model consists of relatively simplistic and minimal inputs that focus primarily on dwelling occupancy and per capita nitrogen / phosphorous outputs for the average person. More recent and comprehensive nitrogen load modeling studies were not cited. Ground truthing (empirical data) for this study as well as all other recent nitrogen loading studies is imperative. None of the studies include comprehensive actual field data to back up the numerous assumptions regarding nitrogen discharges from SSDs.** <sup>8</sup>

*Response: The LLRM model provides average annual estimated loads based on a nationally recognized study. If necessary, for specific watersheds, additional information can be gathered. The TMDL recommends ground truthing the potential for impacts from septic systems by reviewing*

*information to identify if any of the systems in the watershed have been identified as not functioning properly.*

- G. Pg. 20 Large (greater than 2,000 gallons per day (GPD)) leaching systems and leaching systems on sites with fast percolation rates or tidally influenced groundwater require increased minimum separation above maximum groundwater (A.K.A, seasonal high groundwater). Pending revisions to DPH’s *Technical Standards for Subsurface Sewage Disposal Systems* (Technical Standards) will require increased minimum separation above maximum groundwater in coastal areas in flood zones. <sup>8</sup>**

*Response: The statewide lake TMDL approach pertains to freshwater lakes and ponds. Regarding the issue of systems on sites with fast percolation rates, the expectation is for those system to meet DPH technical standards as may be amended or revised.*

- H. Page 21 has an incorrect citation regarding DPH SSDS jurisdiction for systems with design flows from 2,000 to 7,500 GPD. The language implies DPH reviews and permits SSDSs/septic systems with design flows from 2,000 to 7,500 GPD without local health department participation. Local DOHs issue approvals and permits (Approval to Construct, Permit to Discharge) for SSDSs up to 7,500 GPD. DPH is required to approve large (2,000 to 7,500 GPD) SSDS plans in accordance with Section 19-13-B103d (c) of the Regulations of CT State Agencies (RCSAs). <sup>8</sup>**

*Response: The citation has been corrected.*

- I. Pg.21 DPH’s Environmental Engineering Program is incorrectly referenced as the “CT DPH Sewage Program.” <sup>8</sup>**

*Response: The correction has been made.*

- J. Pg. 34 Local Health Department: Roles and Responsibilities include permitting and inspection of new and repaired SSDSs. SSDS inspections not associated with a permitted activity would be more appropriate if conducted by a licensed SSDS installer. <sup>8</sup>**

*Response: The table has been updated.*

- K. Pg. 39 In the septic system category it cites enforce occupancy loads. Septic systems are designed on conservative occupancy levels, but occupancy levels are not monitored. <sup>8</sup>**

*Response: This recommendation was removed from table.*

- L. Pg. 39 In the septic system category it cites require SSDS inspections of all seasonal to year-round home conversions. Building conversions on SSDS sites up to 7,500 GPD are governed by**

**Section 19-13-B100a of the RCSAs that are enforced by the Local DOH and the regulation requires a demonstration that the site can support a code complying SSDS. SSDS inspections in conjunction with real estate transactions is a proactive management measure required in some states but not in CT. A standardized statewide requirement for SSDS inspections in conjunction with real estate transactions would be preferable over municipalities developing their own requirements.** <sup>8</sup>

*Response: Noted. The TMDL provides recommendations at the local level, so until a statewide solution is provided, action at the local level is recommended. However, we have added to the table that state agencies may also play a role in establishing statewide requirements for SSDS inspections, to acknowledge the potential for future development of a statewide program.*

- M. Pg. 39 In the septic system category of Table 5-2 it cites develop and maintain a SSDS database. This is a proactive management measure that should be implemented statewide. Table 5-2 does not specifically mention other decentralized sewage systems such as alternative treatment systems, but as previously noted the accompanying power point presentations promotes local programs to enable use of alternative treatment systems, which is problematic.** <sup>8</sup>

*Response: The TMDL provides recommendation at the local level, so until a statewide solution is provided, action at the local level is recommended. However, we have added to the table that state agencies may also play a role in establishing a database for SSDS, to acknowledge the potential for future development of a statewide program. The core document presents a range of potential approaches. As previously mentioned, the document was update to indicate that use of alternative treatment systems is an option but recommended after a statewide permitting program is established. If used, proper permitting and regulatory oversight would need to be followed.*

- N. Pg. 40 In the funding category it cites investigate grants and low-interest loans (e.g., Clean Water State Revolving Fund (CWSRF)). This task should be accomplished statewide and a program established to assist communities with funding repairs and upgrades of failing and malfunctioning SSDSs. In CT the CWSRF doesn't allow for proactive pollution prevention DSS management and access to CWSRF \$ is only available in response to community pollution abatement problems. The U.S. EPA encourages states to re-evaluate their CWSRF programs to ensure DSS needs are adequately determined and DSS sufficiently supported. DPH has previously provided comments to DEEP in that regard. DPH can provide past communications sent to DEEP on this item if requested.** <sup>8</sup>

*Response: The reference to the Clean Water State Revolving Fund was removed from the document.*

**O. Pg. 61 In the SSDS replacement bullet it mentions programs that could allow “innovative alternative technologies”. Alternative treatment systems currently can only be approved by DEEP. The use of these systems for most sites is not practical or possible under current DEEP requirements. DPH does not support widespread use of alternative treatment systems that are approved at the local level without creation of a legitimate program at the state level for these systems. The complexity of alternative treatment systems coupled with the need for proper management and oversight requires resources to ensure their use is protective of public health and the environment. Without proper oversight their usage is ineffective as witnessed by other States that have implemented programs that lacked sufficient management.**<sup>8</sup>

*Response: This bullet has been modified to recommend consideration of alternative treatment systems provided a statewide permitting program has been established.*

**P. Pg. 62 In the Septic System Resources section include DPH’s On-Site Sewage Disposal Regulations and Technical Standards.**<sup>8</sup>

*Response: The text has been updated.*

**Q. Pg. 62 In the Septic System Resources section it cites the National Small Flows Clearinghouse, but that entity lost key funding in 2015 and had to eliminate SSDS support to small, rural communities. EPA’s SepticSmart program is much more robust and up to date. [SepticSmart Homeowners | US EPA](#)**<sup>8</sup>

*Response: The text has been updated.*

## **4 Conclusions**

The Department has completed the review and response to comments received on the Bantam Lake Watershed Project Documents and made the changes necessary. The documents will be submitted to the United States Environmental Protection Agency Region 1 for review and approval.

---

Graham Stevens, Bureau Chief

---

Date

## 5 Appendix A: Copy of Notice

### PUBLIC NOTICE

Notice is hereby given that the State of Connecticut Department of Energy and Environmental Protection (CT DEEP) is making available three draft documents, the *Statewide Lake Nutrient TMDL Core Document*, the *Bantam Lake TMDL* and the *Bantam Lake Watershed-based Plan* for public review and comment (Public Notice) from **July 19, 2021 to August 19, 2021**. These documents were prepared by the CT DEEP with support from the United States Environmental Protection Agency to fulfill requirements of the Federal Clean Water Act (CWA) under Sections 303(d) and 319. The final document will be submitted to the federal Environmental Protection Agency (US EPA) following the Department's consideration of comments received.

Interested persons may obtain copies of the draft documents on the CT DEEP website at <https://portal.ct.gov/DEEP/Water/Watershed-Management/Bantam-Lake-Watershed-Projects>

Hard copies of the document may be requested by contacting the Department [sarah.hurley@ct.gov](mailto:sarah.hurley@ct.gov).

**Due to the ongoing COVID-19 virus pandemic, the Department of Energy and Environmental Protection office located at 79 Elm Street, Hartford, CT is closed to the public until further notice.**

Written comments on the draft documents must be received at the Department by **August 19, 2021** in order to be considered prior to submission of the final document to US EPA, email preferred. Comments should be directed electronically to [sarah.hurley@ct.gov](mailto:sarah.hurley@ct.gov). Written comments may also be submitted in paper form to the Connecticut Department of Energy and Environmental Protection, Bureau of Water Protection and Land Reuse, Water Planning and Management Division, 79 Elm Street, Hartford, CT 06106-5127, Attn: Sarah Hurley.

**Due to the COVID-19 virus pandemic and social distancing measures implemented by CT DEEP staff, there could be delays in the response to your comments.**

A public informational meeting has been scheduled on **July 29, 2021 from 2:00 PM-5:00 PM** via ZOOM. Register in advance for this meeting at:

[https://ctdeep.zoom.us/meeting/register/tJYpfuqprT8tG9Mn\\_tCMbVNPpRbG3QSNY6lW](https://ctdeep.zoom.us/meeting/register/tJYpfuqprT8tG9Mn_tCMbVNPpRbG3QSNY6lW)

After registering, you will receive a confirmation email containing information about joining the meeting.

CT DEEP is an Affirmative Action and Equal Opportunity Employer that is committed to complying with the Americans with Disabilities Act. To request an accommodation contact us at 860-418-5910 or [deep.accommodations@ct.gov](mailto:deep.accommodations@ct.gov).

## 6 Appendix B: List of Commenters

Commenters are indicated by superscript numbering on each comment. See list of commenters below.

Comment Number	Comment's Provided By
1	James Mersfelder, Woodridge Lake Sewer District
2	Larry Marsicano, Aquatic Ecosystem Research
3	James Fischer, The White Memorial Conservation Center, Inc.
4	Mark Winne
5	Alicea Charamut, Rivers Alliance of Connecticut
6	Michael Jastremski and Lindsay Larson, Housatonic Valley Association
7	George Knoecklein
8	Connecticut Department of Health, Environmental Health & Drinking Water Branch