

**STATE OF CONNECTICUT
INTEGRATED WATER QUALITY REPORT**

Summary of Public Comments and Responses to Comments

September 2022



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Katie S. Dykes, Commissioner

BACKGROUND

The Connecticut Department of Energy and Environmental Protection (CT DEEP) published a draft version of the *State of Connecticut Integrated Water Quality Report* (“*Report*”) on June 6, 2022 and accepted comments until July 6, 2022. The *Report* was prepared by DEEP to fulfill requirements of the Federal Clean Water Act under Sections 305(b) and 303(d). The *Report* was posted on the CT DEEP [IWQR website](#) for review and download by interested parties. Paper copies were also made available on request. Letters noticing the availability of these documents were sent to interested parties including: citizens; conservation organizations; universities; environmental consulting firms; water supply companies; tribal nations; and federal, state, and local officials. Notices were sent via email in lieu of printed mailings. An informational meeting for the general public was held via Zoom on June 15, 2022, the meeting was recorded and is posted on the IWQR website. The notice of the availability of the *Report* as well as the notice of the informational meeting was published in the Hartford Courant, New Haven Register, Norwich Bulletin, The Day (New London), and Waterbury Republican American.

Comments received from the public are identified and discussed in the following document. Comments are paraphrased for brevity; however, every effort has been made to preserve the original intent of the comment. Responses may refer to other comments where similar issues were addressed.

Direct reference to the oral public testimony is not made since the comments provided orally during the public meeting were found to be adequately represented by the written comments referenced within this report. Original public comments are provided in Appendix A to this document.

Comments regarding typographical and grammatical errors during the draft review process were corrected in the *Report* as needed and some are not listed for responses. There is a link to those original comments on the last page of this document.

PUBLIC COMMENTS

Paul Aresta, Council on Environmental Quality, Executive Director

Comment #1:

While there has been some improvement in water quality, identified as an increase in the segments/miles of assessed rivers that are “Fully Supporting” the designated use of Aquatic Life Use Support in the 2022 Draft Report compared to the 2020 Final Report, there has been a significant decrease in the number of river segments/miles that support the designated use of recreation. This might be due to elevated levels of bacteria. The Council recommends that DEEP include information in the 2022 Final Report explaining why there was such a dramatic decrease in river segments that supported the designated use of recreation. The Council also recommends that DEEP assess whether the geographic distribution of rivers that did not support the use of recreation are concentrated in a particular area of Connecticut, and, if so, to briefly try to explain the cause of the clustering.

Response:

Water quality improvements for river recreation has been on a steady increase over the past several cycles due primarily to work by watershed organizations and volunteer monitoring programs. With a deeper investigation into the data, the “significant decrease” for recreational support was proven to be a calculation error and shows an increase in recreation support. Monitoring occurs throughout Connecticut annually in accordance with our annual monitoring plan which explains a rotating basin approach to cover Connecticut every 5 years. Quality assured external monitoring groups perform annual monitoring in locations across Connecticut, but are not distributed equally, so geographic distribution analysis would over represent locations with active groups and not necessarily locations with bacteria clustering. The Department will continue to develop visual tools and reports to convey Connecticut’s water quality status.

Comment #2:

The river segment CT6800-05_01 that was identified in the 2020 Final Report has been changed to two segments totaling the same length but identified as CT6800-05_01a and CT6800-05_01b in the 2022 Draft Report. The Council supports such changes to better track water quality in waterbodies but recommends that the 2022 Draft Report explicitly identify changes in the “Waterbody Segment ID” from recent years.

Response:

The IWQR will now have a table in Appendix B-5 that identifies segments that have been added, removed, or changed going forward.

Alicea Charamut, Executive Director, Rivers Alliance of Connecticut

Comment #3:

Flow Regime Modifications

The methodology developed by Bellucci, Becker, Czarnowski and Fitting is essential in providing data and metrics necessary to assess and categorize streams that are impaired for flow that is not due to impoundment or other physical alteration of surface water. This information is critical in our decision-making process for diversion permits and any diversion that may fall below the DEEP permitting threshold of 50K gpd that is causing a significant

impairment that may need to be evaluated by local IWWCs.

If possible, it would be helpful to include streamflow classification for the segments listed as impaired for “Flow Regime Modification” in the listings for Category 4c. This report is not only a mandatory CWA requirement, but a go-to for information for watershed managers, local and regional decision makers, and anyone who advocates for our water resources. Having streamflow classification information included in these listings will help the user better understand the underlying cause of any flow regime modification.

Response:

The relationship between the flow classifications and 305 (b) segments is not a direct comparison. We have added Streamflow Classifications to the [IWOR Interactive Web Mapping Application](#) to provide a visual analysis.

Comment #4:

The staff that work for the water quality monitoring section and the volunteer monitoring program do an excellent job with the resources they have available. But the number of segments that go unassessed with each cycle is of great concern.

The number of assessments and definitive recreational use support determinations could increase significantly with a modest increase in resources to the monitoring program along with grants to organizations that can contribute data that can be used for these assessments. Massachusetts Department of Environmental Protection is in the fourth year of their [Water Quality Monitoring Grant Program](#). This year’s grant round will distributed approximately \$150,000 in available funds in up to \$15,000 increments to nonprofit organizations for monitoring for bacteria.

Comment #5:

Funding cuts to DEEP over the past decade has led to program and staff reductions. In many cases, some or all of these programs were carried on by local volunteer groups and non-profits. Running these programs are costly and often difficult to fund. Such is the case of water quality monitoring programs. We appreciate the budget constraints with which the state and the Department has had to contend but a modest investment in helping your partners fund some of the measuring will mean DEEP staff can spend more time doing the more complicated measurements and on the management aspect.

Comment #6:

We are now experiencing the weather patterns that has predicted for decades that would come with climate change. Now more than ever, we need the data to support programmatic and regulatory changes necessary to adapt and be more resilient in the face of these changes. A near-term recommendation of the [Working and Natural Lands Workgroup: Rivers Sub-Working Group of the Governor’s Council on Climate change](#) was, “Establish a funding mechanism similar to

Massachusetts’ Water Quality Grant Program to provide resources to NGOs to supplement DEEP’s ambient monitoring program to reduce the number of streams that are unassessed or do not have sufficient data for each Water Quality Report cycle.”

There is currently more funding than ever before available for programs that will assist in combating climate change. We hope you’ll consider implementing a water quality monitoring grant program similar to that of Massachusetts in order to decrease data gaps with a portion of this funding that is or will become available.

Response (#4, 5 & 6):

The Department welcomes discussion on the topic of supporting organizations to assist with water monitoring. In recent years, we have enhanced our long-standing stream macroinvertebrate [Riffle Bioassessment by Volunteers](#) program, added support for water temperature monitoring through our [VSTeM Program](#), worked closely with the [Unified Water Study](#) partners on coastal monitoring efforts, and launched a [Connecticut Lake Watch Program](#) to increase the capacity of citizen science programs throughout the state. We support the added educational value of these water quality programs as well as the contribution of data to the scientific community in Connecticut. We will contact you in the near future to schedule a meeting to discuss these ideas more broadly.

Jean Pillo, Watershed Conservation Project Manager, Eastern Connecticut Conservation District

Comment #7

Amos Lake, Preston

What data supports that Amos Lake is non-supporting for recreation? The Last Green Valley Volunteer Water Quality Monitoring Program in partnership with the Amos Lake Association have been collecting water quality data from Amos Lake since 2013. The Amos Lake Beach Club assesses the lake for *E. coli*, although I don't believe that data has been shared with CT DEEP. I am not aware of any exceedances of *E. coli* at the beach club at the south end of the lake. The lake parameters for spring/summer nutrient concentrations, secchi depth and Chlorophyll A have been averaging in the mesotrophic range (data submitted to DEEP).

There is a concern focused on the spread of variable milfoil in Amos Lake. The milfoil may be consuming nutrients which in turn led to decreases in cyanobacteria concentrations in summer., There have been no reported cyanobacteria blooms in the lake in recent years. Since 2018, The Last Green Valley has been supporting the Amos Lake Association by using assessment techniques as outlined by the US EPA Cyanobacteria Monitoring Collaborative. Is the variable milfoil issue bumping up the status Amos Lake from mesotrophic to eutrophic? Recent evidence shows the original infestation has spread from near the boat launch to many different areas of the lake.

Response:

Amos Lake is impaired for Recreational Use Support due to excess algae, chlorophyll a, and nutrients based upon studies and data collections dating back prior to 2000. The Department will work with the Amos Lake Association and The Last Green Valley to review the most recent information and determine what additional information is needed to update the assessment for the next cycle.

Comment #8

Avery Pond, Preston

Avery Pond volunteers, in partnership with The Last Green Valley Volunteer water quality monitoring program has been participating in the EPA Cyanobacteria Monitoring Collaborative program in 2020 and 2021. Cyanobacteria blooms have been documented in the lake and reported to the CMC via the BloomWatch app, and water samples assessed for microcystin levels in a cyanobacteria film along the western shoreline of the lake. These values were just below the threshold for safe recreation. Previously, summer sampling analysis for TP, TN,

secchi depth and Chlorophyll A data was collected and submitted to CT DEEP. These data suggest the lake trophic status parameters in Avery Pond to be crossing into the Highly Eutrophic range in 2014 and 2015. We believe additional monitoring in Avery Pond by CT DEEP is warranted. See image in Figure 1 (refer to Appendix A) for representation of a cyanobacteria bloom recorded on September 30, 2022.

Response:

Thank you for your suggestion for additional monitoring in Avery Pond. The Department will add Avery Pond to the list of lakes and ponds to consider during the development of our annual water quality work plans.

Comment #9

Bungee Brook and Still River were assessed by The Last Green Valley Water Quality Monitoring Program volunteers in 2020 and the data submitted to CT DEEP was used to support the assessment that these rivers/streams are not meeting the recreational water quality standards. The above listings clipped from the draft 2022 IWQR report show the data was used to update the Recreation status of these two streams. However, these two streams are not listed in 2022 IWQR Reconciliation List of Impaired Waters (Delistings and Listings) as a new listing. The lowest number in that table is 4300 suggesting that maybe part of the table was omitted in the draft report that was posted online.

Response:

These segments are on page 4 of Appendix B-5 Reconciliation List of Impaired Waters (Delistings and Listings) shown below. Segments are not listed in numerical order.

Segment ID	Location	Parameter	Use	Status	Notes
CT3201-00_01	Bungee Brook (Woodstock)-01	ESCHERICHIA COLI (E. COLI)	Recreation	Applicable WQS NOT attained; based on new data	Listing
CT3202-00_01	Still River (Eastford)-01	ESCHERICHIA COLI (E. COLI)	Recreation	Applicable WQS NOT attained; based on new data	Listing

Comment #10

Indian Town Brook, Preston – altered flow regime

Prior to submitting evidence in a Town of Preston Inland Wetlands Commission public hearing regarding a development proposal, ECCD contacted the CT DEEP Fisheries staff for any recommendations regarding any potential environmental impacts from developing a campground on the shore of Avery Pond and Indiantown Brook. Kevin Job, a Fisheries Biologist from CT DEEP expressed concerns over water withdrawals and use by the project. He reported that areas of the Indian Town Brook on the downstream side of Route 2 had been severely taxed by water withdrawals from existing uses. In 2020, water withdrawals for an agricultural operation “pumped the stream dry and prevented the emigration of juveniles [alewife] from late summer to well into the fall.” He suggested that if any additional surface or groundwater withdrawals from the stratified drift deposit associated with Avery Pond are planned, they must be carefully evaluated for conflicts with existing uses and with fish passage in late summer. ECCD has been working in partnership with CT DEEP Fisheries to restore the annual Alewife migration to their historic breeding grounds in Amos Lake. Pre-spawned alewife had been released in both Amos Lake and Avery Pond by CT DEEP Fisheries staff in advance of a planned fishway over the Shewville Dam in Ledyard. The success of the late summer migration of the juvenile fish down Indian Town Brook on their way to the Atlantic Ocean was impacted by the low flow in the brook at the most critical time of that downstream migration. Further investigation of this steam segment is warranted.

Response:

The Department has added Indian Town Brook to the list of impaired waters for flow alteration.

Patrick Kearney, Administrator, Manchester Water and Sewer Department

Comment #11

The 2022 Draft Integrated Water Quality Report (Report) is a good starting point to determine the water quality needs of the State water bodies. The Report indicates its data is limited and has not necessarily investigated the data that was collected. The data is from a myriad of different sources, different time frames and quality. While I understand this is the best data available at the time, historic data changes. In some ways for the better and others for the worst.

While this is an acceptable method to provide information to EPA and to set goals for the waters of the State of Connecticut, it should by no means be a document to base regulations, permits, etc. on specific waters. Each of these need to be based on professional studies of these bodies of water. See page 44 of the Report. All the water bodies listed should be labeled as to the Tiered data used to make the assessment or the data used to make these assessments need to be published on a public data base accessible to anyone (page 9), this should not be private. It also should be accessible via the Department of Energy and Environmental Protection's (DEEP) website and not have to go through EPA's WQX, unless it is available through DEEP's website.

Response:

The Department takes data quality very seriously and does not use data to make assessments for the IWQR without careful consideration of quality, age, and intended reason the data were initially collected, including the importance of quality-controlled data collected by trained staff and partners.

We are working towards meeting the goal of making our monitoring data publicly accessible through the National Water Quality Monitoring Council's [Water Quality Portal](#). We do not have the staff or resources to house the data in multiple locations. We believe that having one data repository that harbors quality-controlled data collected by all users in Connecticut is beneficial to all policy makers and potential users of water quality data. Additionally, DEEP handles multiple requests per year for water monitoring data and is happy to share any information while we continue to migrate data to the Water Quality Portal.

Comment #12

The Report lists there are 72,509 acres of lakes in the State of Connecticut and has assessment data on 182 lakes. Of the 182 lakes assessed what amount of acreage does that represent? What is the total amount of lakes in Connecticut? According to the internet, we all know how reliable that can be, there are over 3000 lakes. This amounts to having DEEP reviewed assessment on only 6% of the lakes (page 10), using just the number of lakes, not acreage. Only one lake in Manchester has been assessed (Appendix A-2). The water quality assessment for Union Pond aquatic wildlife is "not supporting" and recreation is "insufficient information", while the upstream and downstream water quality of the Hockanum River assessment for aquatic wildlife is "not supporting" and recreation is "not supporting". While I know water quality can change but it would seem unlikely the dammed portion of the river's water quality would be much different than to water entering and leaving it.

Response:

The number of lakes and ponds in Connecticut can vary depending on the source and map scale. The Department uses the 1:24000 scale high-resolution National Hydrography Dataset for IWQR assessments. The Department estimates that the 182 lakes assessed represent approximately 42% of the total 72,509 acres of lakes in Connecticut.

The Department has made assessments on Union Pond based on samples collected within the Pond. We currently do not have enough information to assess recreation within the Pond.

Previously, however, there was sufficient information to assess recreational uses of the main stem sections of the Hockanum River. These river segments were impaired and an Action Plan ([A Total Maximum Daily Load Analysis for the Hockanum River Regional Basin](#)) was established in 2011. Union Pond is an impoundment on the Hockanum River. This Action Plan includes river segments both above and below Union Pond. It compels actions for facilities covered under NPDES permits and provides a basis for development of watershed-based plans to address non-regulated, or nonpoint source pollution. Through the inclusion of the segments above Union Pond within this Action Plan, permitted discharges, such as discharges from sewage treatment plants and regulated stormwater discharges, have additional requirements to address water quality impairments. In general, over time and development of many action plans for recreational uses, we have found that properly operated sewage treatment plants generally do not contribute significantly to bacteria-based impairments due to disinfection requirements in their permits. Stormwater, both from regulated and nonregulated sources, generally is more of a concern. For that reason, stormwater permits, such as the MS4 permit for municipal stormwater, have been modified to require additional actions to address impaired segments identified within the IWQR and/or included within a TMDL. This includes additional requirements to reduce the amount of bacteria discharged to these waters. All the towns in the Hockanum River Watershed are subject to the MS4 permit. Therefore, while Union Pond is not listed as impaired at this time and is not specifically included in the TMDL, it benefits from the actions required through the Action Plan and associated implementing permits. Since water quality in Union Pond would be influenced by upstream water quality as you noted in your comment, the Action Plan for the Hockanum River Watershed should provide a means to improve water quality in Union Pond and has already been translated into regulatory actions to support restoration of recreational uses within the Hockanum River.

Comment #13

The Stream Flow Indicators (page 17) can be useful to determine the biological assessments that may be impacted by hydrologic alteration. The list of information considered to make these assessment leaves out or minimizes human interference (non-consumptive) with the flow. Channelization of stream flows caused by such things as highway projects, flood control, farming, siltation, etc. are not mentioned. A couple of these come to mind such as Park River in Hartford or Trout Brook in West Hartford. Basically, there are very few, if not any, waterways in Connecticut not influenced by human activity. Any flowing water body going through a city or town has a major influence by storm water flow, impervious surfaces preventing ground water recharge, etc. Modern construction practices are starting to change this however I cannot imagen that it can ever be changed back to the pre-settlement days. Even Native Americans altered the flows for irrigation and fishing. There may be segments for waterway that have not been influence but it would be hard to break these out. Table 1-4 (page 18) breaks down the

stream flow class into 4 classifications, the narrative for these classifications are vague and highly subjective. It does not even include intermittent streams within the classification. In stream flow classification, the regulation includes 18 factors related to the degree of alteration in stream flow, are these factors used in determining where they fit into these classifications?

Response:

The narrative standards for each class are based on maintaining, to various degrees, the natural variation in flow expected in Connecticut given seasonal climate and rainfall patterns and human use and are determined by considering the 18 factors listed in the regulation in Section 26-141b-5 of the Regulations of Connecticut State Agencies. Adoption of river or stream system classifications.

The Streamflow Standards and Regulations, Sections 26-141b-1 to 26-141b-8 of the Regulations of Connecticut State Agencies, incorporate the concept of balancing human and ecological needs for water by establishing different flow standards for each of four classes of waters.

-Class 1- free flowing, priority given to protecting ecological health

-Class 2- minimally altered free flowing stream system

-Class 3- moderately altered, have intermediate balance points between ecological and human uses.

-Class 4- substantially altered, priority is given to human uses

Comment # 14

Determining Causes and Source of Impairment (page 44) states the “Monitoring and assessment data used to determine the attainment of CT WQS and designated uses are generally insufficient to provide specific indication of the cause or sources of impairment or potential sources of stress to a water body.” Water bodies need to be studied, therefore generalizations used in the should be noted as such unless the water body has had a compressive study. While I can concede the information provide in this document is a good guidance tool, divisive actions warrant a study of the water body. Again, this document should only be use for guidance. Category 4c non-pollutant (page 48), using the term pollution for flow alteration, stream channelization and invasive species does not seem correct. The title of the subsection also states its non-pollution, so how can a non-pollutant be a pollutant? DEEP does not provide a lot of support for the issues of “flow regime modification”, as it provided with other sections, although it states it on page 7, 17 and 18. I believe more assessments are needed in this area. In all the draft Report will meet the need of the EPA and the requirements of Section 305(b) and 303(d) of the Federal Clean Water Act. It should only be used tool while individual assessments are needed for specific remedies of water bodies.

Response:

Consistent with EPA guidance, the Department has used the Category 4c to include waterbodies that are impacted by flow alterations. The Department has worked extensively over the past several years to improve our monitoring and assessment approach water suspected to be impacted by altered flow regimes. We are now confident that we can accurately demonstrate rivers and streams that are impacted by flow alterations. Our methods have been well documented and the hyperlink on page 48 points to the webpage of the peer reviewed approach that the Department has developed for assessing flow impairments. That citation will also be added to the References Section of the document beginning on page 53 to be clearer about our methods - Bellucci, C.J., M.E. Becker, M. Czarnowski, and C. Fitting. 2020. A novel method to evaluate stream connectivity using trail cameras. Rivers Research and Applications 36:1504-

1514.

The Department continues to work towards identifying the cause or causes to streams impaired by flow alteration and has several ongoing studies to help better identify the most probable cause of these impairments to direct the proper resources to implement fixes for these problems.

The IWQR is not a guidance document. While the IWQR is a requirement of EPA and required under the Clean Water Act, the Report tracks the overall health of CT waterbodies which are studied and modeled before any assessment decisions are made. Additionally, the Report identifies the appropriate Water Quality Action Plan that should be developed and implemented to restore or protect CT Waterbodies. It is through the Action Plan development process that additional water quality data is collected if needed to provide a more detailed evaluation of water quality condition, sources and pollutant loadings. The more detailed analysis in these plans forms the basis for actions required to restore or protect specific waterbodies

APPENDIX A. Original Comments submitted on the 2020 draft Integrated Water Quality Report

The Department thanks you for your comments on the draft Integrated Water Quality Report. All comments have been addressed and will be reflected in the Final Document.

Commenters

Paul Aresta, Council on Environmental Quality, Executive Director

Jean Pillo, Watershed Conservation Project Manager, Eastern Connecticut Conservation District

Alicea Charamut, Rivers Alliance of Connecticut

Patrick Kearney, Administrator, Manchester Water and Sewer Department