



Robert Hust
Department of Energy and Environmental Protection
Bureau of Water Protection and Land Reuse
Planning & Standards Division
79 Elm Street
Hartford, Connecticut, 06106-512

RE: Comments on the 2013-2014 Triennial Review of CT's Water Quality Standards

12/16/2013

Dear Mr. Hust:

The Housatonic Valley Association (HVA) is pleased to have this opportunity to comment during the 2013-2014 Triennial Review of Connecticut's Water Quality Standards ("Standards"). HVA is the only organization dedicated solely to protecting the Housatonic River and its 2,000 square-mile watershed. The watershed includes portions of 83 Towns in Massachusetts, Connecticut, and New York, running from the Berkshire/Taconic and Litchfield Hills south to the Long Island Sound. Throughout the watershed, HVA works to preserve the natural character and health of watershed communities by protecting and restoring lands and waters. HVA is headquartered in Cornwall Bridge, CT with additional offices in Lee, MA and Wassaic, NY.

HVA recognizes the vital role that the Standards play in the protection of the Housatonic and its tributaries, and we appreciate all of the work that CT-DEEP does to maintain the Standards and protect water quality in Connecticut.

General Comment:

The Standards do not incorporate future changes to baseline water quality in response to climate change. According to the findings of Governor Malloy's Steering Committee on Climate Change, EPA, and a variety of other authorities, climate change will present additional challenges to water quality protection in the future, and it is essential that these be considered in management decisions¹.

¹ Governor's Steering Committee on Climate Change: Adaptation Sub-Committee, 2010. *The Impacts of Climate Change on Connecticut Agriculture, Infrastructure, Natural Resources and Public Health: A Report by the Adaptation Subcommittee to the Governor's Steering Committee on Climate Change*. Available here: <http://www.ct.gov/deep/lib/deep/climatechange/impactsclimatechange.pdf>
CT-DEEP, 2009. *FACING OUR FUTURE: Water Resources, Quality and Quantity- Adapting to Connecticut's Changing Climate*. Available here: http://www.ct.gov/deep/lib/deep/air/climatechange/adaptation/090313_water_resources.pdf
USEPA, 2012. *National Water Program 2012 Strategy: Response to Climate Change*. Available here: http://water.epa.gov/scitech/climatechange/upload/epa_2012_climate_water_strategy_full_report_final.pdf
USEPA, 2013. *DRAFT Office of Water Climate Change Adaptation Implementation Plan*. Available here: <http://www.epa.gov/climatechange/Downloads/impacts-adaptation/office-of-water-plan.pdf>
Interagency Climate Change Adaptation Task Force, 2011. *NATIONAL ACTION PLAN: Priorities for Managing Freshwater Resources in a Changing Climate*. Available here: http://www.whitehouse.gov/sites/default/files/microsites/ceq/2011_national_action_plan.pdf

While it is difficult to predict the exact impacts of climate change on individual water bodies in the state, there is widespread agreement among researchers that climate change will make it more challenging to protect our waters from degradation. The number of waterbodies listed as “impaired” is likely to increase, even if pollution levels are stable, with associated impacts on human health and aquatic ecosystems. Predicted water quality impacts include (but aren’t limited to):

Higher average temperatures in aquatic systems:

- Direct impact on temperature-sensitive species
- Increase in biological productivity leading to more frequent algal blooms and accelerated eutrophication
- More frequent hypoxic events

Higher amounts of annual rainfall:

- More water will reach surface waters as runoff each year, w/ associated pollution;

Rainfall concentrated in fewer, more intense events;

- More variability in streamflow
 - High flows- Increased channel instability/erosion and associated downstream pollution; broader hydrologic connection to the landscape w/ associated pollution
 - Low flows- Higher temps, increased concentration of pollutants
- Potential for infrastructure failure and corresponding water quality issues;
 - Stormwater infrastructure and stream crossings sized based on historic storm events that may not be representative of future storm events
 - Many WWTPs vulnerable to flood damage

The body of research on climate change impacts to the northeast indicates that the baseline condition of our waters will shift towards a more degraded state; it is therefore essential that the range of possible future conditions be incorporated into our management of water quality. If some level of degradation is already baked into the system over the long-term, the Standards need to preserve the ability of our waters to adapt by limiting impacts in the short-term. Precedents for incorporating climate change impacts into water quality standards exist, including standards developed for the Great Lakes and Lake Champlain².

Our specific comments on the Standards are below, beginning with the topics identified by CT-DEEP in the Public Notice announcing the Triennial Review:

Johnson, T., Butcher, J., Parker, A., and Weaver, C. 2012. "Investigating the Sensitivity of U.S. Streamflow and Water Quality to Climate Change: U.S. EPA Global Change Research Program's 20 Watersheds Project." *J. Water Resour. Plann. Manage.*, 138(5), 453–464. Available here: <http://cfpub.epa.gov/ncea/global/recordisplay.cfm?deid=247495#Download>

Frumhoff, P.C., J.J. McCarthy, J.M. Melillo, S.C. Moser, and D.J. Wuebbles. 2007. *Confronting Climate Change in the U.S. Northeast: Science, Impacts, and Solutions*. Synthesis report of the Northeast Climate Impacts Assessment (NECIA). Cambridge, MA: Union of Concerned Scientists (UCS).

² Gregg, R.M. 2012. Addressing Climate Change Impacts in the Great Lakes Water Quality Agreement [Case study on a project of the U.S. Environmental Protection Agency and the Canadian Ministry of the Environment]. Product of EcoAdapt's State of Adaptation Program. Retrieved from CAKE: www.cakex.org/case-studies/addressing-climate-change-impacts-great-lakes... (Last updated October 2012)

Kershner, J. M. 2012. Incorporating Climate Change into TMDL Decisions for Lake Champlain [Case study on a project of the Conservation Law Foundation]. Product of EcoAdapt's State of Adaptation Program. Retrieved from CAKE: www.cakex.org/case-studies/incorporating-climate-change-tmdl-decisions-l... (Last updated October 2012)

Evaluate consistency of WQS with federal water quality criteria established in accordance with section 304(a) of the federal Clean Water Act:

HVA supports any effort to ensure that the Standards are consistent with National Recommended Water Quality Criteria developed by EPA. The EPA-recommended criteria incorporate the latest relevant research and provide a science-based set of minimum standards on which to base CT's Water Quality Standards. EPA has released new standards for Recreational Water Quality since the last Triennial Review of CT's Water Quality Standards. Increasing recreational use of Housatonic Basin waters that regularly receive fecal contamination is an important concern for HVA, and we support adoption of any new EPA-recommended criteria related to this issue.

Potential extension of the wastewater disinfection period:

In the Housatonic watershed, dramatic improvements in water quality over the past few decades have brought people back to rivers and streams in large numbers for boating, fishing, and other activities. Rivers like the Still and the Naugatuck have been transformed from veritable open sewers to popular recreation destinations³. While this is certainly a positive development, it also means more people will be exposed to any pathogens and contaminants present in these waters. It is imperative that the WQS acknowledge the public health implications of incremental improvements in water quality leading to increased recreational use of waste-receiving waters, and incorporate additional safeguards accordingly. HVA believes it is appropriate to extend the wastewater disinfection period beyond the current window of May 1 – October 1st to protect the health of river users, provided that additional disinfection does not result in increased use of chlorination and associated impacts to aquatic life. Extending the disinfection period addresses two concerns related to pathogen exposure: The potential for some pathogens to persist through winter conditions and become a threat when conditions become favorable; and increasing year-round use of the river by boaters and fishermen. Year-round disinfection is ideal, particularly at WWTPs above popular recreation areas.

Include “inland wetlands and watercourses” in the definition of surface waters:

HVA would like more information on the implications of this change. We would support inclusion of inland wetlands and watercourses in the definition of surface waters under the Water Quality Standards, to the extent that this will allow for additional review of activities that impact water quality by local Inland Wetlands Commissions under the Anti-Degradation Policy of the Standards.

Temperature criteria and associated surface water classifications:

Climate change is expected to significantly impact water quality in the northeast, primarily by increasing air and water temperatures and altering hydrologic regimes⁴. Although there is uncertainty about the timing and magnitude of surface water temperature changes in response to climate change, particularly at spatial scales relevant to water quality management under the WQS, it is likely that average temperatures will increase in many CT waters. Critical temperature thresholds are already being exceeded in some cold-water habitats in the state⁵. We can expect any increases in temperature allowed under the Standards to be augmented by climate change impacts

³ <http://stillriveralliance.wix.com/danbury>;

http://www.naugatuckriver.net/about_the_river/history.php

⁴ USEPA 2012, 2013; Interagency Climate Change Adaptation Task Force, 2011; Frumhoff et al. 2007.

⁵ Governor's Steering Committee on Climate Change: Adaptation Sub-Committee, 2010

at some point in the future, increasing the likelihood of ultimate impairment and loss of sensitive species and habitats⁶. Cold-water habitats are especially vulnerable to climate change-driven temperature increases.

Given the uncertainty inherent in predicting climate change impacts on temperature for a given site, HVA urges CT-DEEP to take a precautionary approach in setting allowable changes in temperature under the Standards. The primary goal of the temperature standard should be to preserve the ability of aquatic habitats to resist degradation from the effects of climate change. Temperature standards should be based on biological condition, and should not allow the degradation of existing cold-water systems. Precedents for biologically-based temperature criteria for the protection of cold-water species and habitats exist, most notably in Pacific Northwest.⁷

Nutrient criteria development:

HVA is currently participating in the PA 12-155 Phosphorus Working Group deliberations, and the update to the state Non-Point Source plan. Thanks to all the CT-DEEP staff who make these opportunities possible. We will continue to contribute to the discussion about nutrient pollution in CT waters through these ongoing processes.

Water body designations with regard to the implementation of the Anti-Degradation Policy:

HVA asks that CT-DEEP reassess the eligibility requirements for Outstanding National Resource Waters described in the WQS, revise them to allow for greater eligibility of waters in the state, and begin a conversation with stakeholders about classifying some of our highest quality waters as ONRWs. The CT eligibility requirements indicate that only waters on state or federal lands are eligible for the designation. EPA does not ask for this requirement, and in fact states and tribes are allowed to designate any waters of the state they choose as ONRWs⁸. A cursory review of ONRW designation in other states indicates that designation based solely on ecological value is common⁹.

Aquatic Habitat Continuity:

HVA asks that CT-DEEP consider including the protection of aquatic habitat connectivity in the Anti-Degradation standards, specifically the evaluation of activities with the potential to fragment aquatic habitat such as the construction of flood control structures, dams and road/stream crossings. The Anti-Degradation Policy states that designated fish and wildlife uses are to be maintained; aquatic habitat fragmentation has ecological implications that can and do impact those uses by making fish and wildlife populations more vulnerable to other stressors. Habitat connectivity is also an essential to the ability of species and habitats to adapt to climate change.

⁶ USEPA 2012, 2013

⁷ Washington State Department of Ecology, 2002. Evaluating Standards for Protecting Aquatic Life in Washington's Surface Water Quality Standards Temperature Criteria. Available here:

<https://fortress.wa.gov/ecy/publications/publications/0010070.pdf>

State of Oregon DEQ. *Water quality standards: beneficial uses, policies, and criteria for Oregon*. Available here:

http://arcweb.sos.state.or.us/pages/rules/oars_300/oar_340/340_041.html

⁸ USEPA, retrieved 12/14/2013. Water Quality Standards Academy: Module 4. Available here:

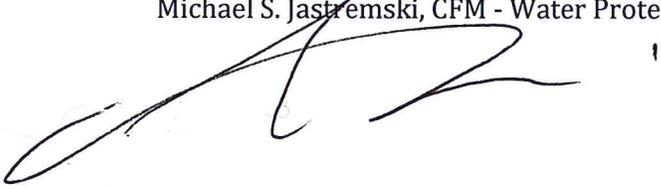
<http://water.epa.gov/learn/training/standardsacademy/mod4/page8.cfm>

⁹ <http://water.ky.gov/waterquality/Pages/SpecialUseWaters.aspx>; <http://www.nmenv.state.nm.us/swqb/ONRW/>

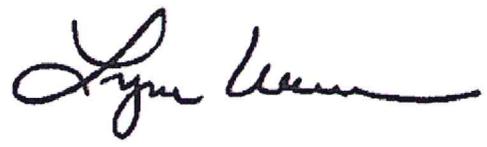
Thank you for the opportunity to comment on Connecticut's Water Quality Standards. Please do not hesitate to contact us if you have further questions about our submission.

Sincerely,

Michael S. Jastremski, CFM - Water Protection Program Director

A handwritten signature in black ink, appearing to read "Michael S. Jastremski". The signature is fluid and cursive, with a long horizontal stroke at the end.

Lynn Werner - Executive Director

A handwritten signature in black ink, appearing to read "Lynn Werner". The signature is cursive and somewhat stylized, with a long horizontal stroke at the end.

