

# STATE OF CONNECTICUT

## DEPARTMENT OF ENVIRONMENTAL PROTECTION



February 23, 2011

Mr. Stephen Silva  
Chief, Water Quality Branch  
US EPA Region 1  
5 Post Office Square  
Suite 100 (OEP06-2)  
Boston, MA 02109-3912

Re: Response to EPA Letter Concerning Connecticut Water Quality Standards

Dear Mr. Silva:

Thank you for your timely review of Connecticut's Water Quality Standards submitted to your office on January 4, 2011. I am writing to forward to your office certain revisions to those standards, to provide EPA with requested clarifications and to correct certain typographical errors in the Department's January 4, 2011 submission.

Your February 18, 2011 letter noted that EPA had identified certain issues that raised obstacles to the approval of certain revisions. Please find attached to this letter the technical revisions (see Attachment A) that our respective offices have discussed and agreed upon and that will allow these provisions of the water quality standards to be approved by EPA. These revisions, no longer shown in redline/strikeout, are based on the changes noted in Attachment A to your February 18, 2011 letter and replace the corresponding provisions contained in the Department's January 4, 2011 submittal.

With respect to clarifications, we understand that EPA has sought two clarifications, one related to the number of days allowed, as that term is used in Table 1 of Appendix C, and the other to Water Quality Standard 8. In the Department's January 4, 2011 submission, Table 1 in Appendix C was revised to update the number of days during which an excursion of dissolved oxygen concentrations below the acceptable range is allowed. Your office has asked that we clarify that the number of days during which an excursion will be allowed will be evaluated over a calendar year. The Department has used this approach for some time and this is the approach identified in the Connecticut Consolidated Assessment and Listing Methodology. With respect to the second clarification, Water Quality Standard 8 applies when natural causes lead to an excursion of one of the parameters/conditions above that specified in the Water Quality Standards. In that case, I am clarifying here that the condition that arises from natural causes becomes the applicable criterion. However, except for the criterion based upon natural causes, all the water quality standards unaffected by natural causes remain applicable to the water body.

With respect to typographical errors, by letters dated January 7, 2011 and January 28, 2011, the Department alerted your office to two errors we detected. The first was the deletion of paragraphs 12(A)(ii) and 12(A)(iii) in Water Quality Standard 12. The second was in the Purpose section of Appendix E, Section VI, Tier 3 Antidegradation Evaluation and Implementation Review, where the reference at the end of this section should be to Water Quality Standard 5, not Water Quality Standard 3.

We have discovered one other typographical error. In Appendix D, under Inorganics, the applicable human health criteria for beryllium, regarding Class B, SA and SB waters for consumption of fish was transposed. The limit should be 0.13ug/l, not 0.31 ug/l. The two typographical changes noted above, as well as the one for beryllium, are noted on Attachment A and replace the corresponding provisions contained in the Department's January 4, 2011 submittal.

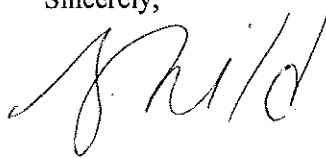
Additionally, in response to the comments in your office's February 18, 2001 letter regarding the site specific copper criteria for Indian Lake Creek, the Department is withdrawing this revision and accordingly has omitted the reference to Indian Lake Creek in Appendix D, footnote 10.

There is one additional error that the Department would like to call to your attention. In Appendix D, Under Other Substances, applicable to Class AA, A & B freshwater, the Department included acute and chronic water quality criteria for formaldehyde. Unfortunately, these criteria contained a calculation error. When the calculation is corrected, the criteria are likely to be lower than proposed in our submittal. Therefore, the Department is withdrawing the criteria for Formaldehyde from Appendix D. In the meantime, we will continue to address water quality impacts associated with formaldehyde on a case-by-case basis.

With respect to the two provisions that the Department is withdrawing, related to Indian Lake Creek and formaldehyde, we understand that based upon this withdrawal EPA will not need to, and does not intend to, take any action with respect to these provisions. Also, the technical revisions noted in Attachment A, along with other provisions submitted by the Department, once approved by EPA, as well as the two provisions the Department is withdrawing, will all be reflected in the water quality standards that the Department submits to the Connecticut Secretary of State's office.

We appreciate all of your office's assistance with the Water Quality Standards. Please do not hesitate to contact me if you have any questions regarding this letter.

Sincerely,



Betsey Wingfield  
Bureau Chief  
Bureau of Water Protection and Land Reuse

## ATTACHMENT A<sup>1</sup>

### Water Quality Standard 2

2. Existing and designated uses such as propagation of fish, shellfish and wildlife, recreation, public water supply, and agriculture, industrial use and navigation, and the water quality necessary for their protection, are to be maintained and protected.

### Water Quality Standard 8:

8. Water Quality Criteria do not apply to environmental conditions brought about by natural causes or conditions.

### Water Quality Standard 12:

12. The Commissioner, pursuant to Chapter 446k of the Connecticut General Statutes and regulations adopted there under, will regulate discharges to the surface waters to assure that such discharges do not cause acute or chronic toxicity to freshwater and marine aquatic life and wildlife, do not impair the biological integrity of freshwater and marine ecosystems and do not create an unacceptable risk to human health.

(A) In making a determination under Chapter 446k of the Connecticut General Statutes as to whether a discharge will or can reasonably be expected to cause pollution of surface waters, the Commissioner shall consider the numeric criteria for the chemical constituents listed in Appendix D;

(B) The Commissioner may amend the numeric criteria for the chemical constituents listed in Appendix D of these WQS in accordance with the procedures specified in Section 22a-426 of the Connecticut General Statutes on his or her own initiative, or upon request of any person or municipality that site-specific water quality criteria be adopted or amended, provided such request is supported by sound scientific and technical evidence demonstrating the following:

1. Conditions at the specific site differ significantly from those used in establishing the statewide criteria.
2. The proposed site-specific criteria are sufficiently stringent to protect all existing and designated uses of the water body.
3. The proposed site-specific criteria are derived in a manner consistent with sound scientific and technical principles, giving consideration to all applicable federal guidance.

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<sup>1</sup> Replacements to provisions submitted to U.S. EPA Region I on January 4, 2011.

## Lake Trophic Categories: Table 1

**Mesotrophic** - May be Class AA, Class A, or Class B water. Moderately enriched with plant nutrients. Moderate biological productivity characterized by intermittent blooms of algae and/or small areas of macrophyte beds. Good potential for water contact recreation.

**Eutrophic** - May be Class AA, Class A, or Class B water. Highly enriched with plant nutrients. High biological productivity characterized by occasional blooms of algae and/or extensive areas of dense macrophyte beds. Water contact recreation opportunities may be limited.

### Appendix A Definitions:

**Trophic State** - Trophic State means the level of biological productivity or amount of plant biomass within a water body at the time of measurement.

**Point Source** - Point source means any discernible, confined and discrete conveyance, including but not limited to any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, landfill leachate collection system, or vessel or other floating craft, from which pollutants are or may be discharged. This term does not include agricultural stormwater discharges and return flows from irrigated agriculture.

**Surface Water** - Surface Water means the waters of Long Island Sound, its harbors, embayments, tidal wetlands and creeks; rivers and streams, brooks, waterways, lakes, ponds, marshes, swamps, bogs, federal jurisdictional wetlands, and other natural or artificial, public or private, vernal or intermittent bodies of water, excluding groundwater.

**Indicator Bacteria**- Indicator bacteria mean a species or group of microbes which are used to conduct microbiological examinations of water in order to determine its sanitary quality and provide evidence of recent fecal contamination from humans or other warm blooded animals.

**Appendix B** – Under the Category Designated Use, under Saltwater, the descriptions under Shellfishing will be “Direct Consumption” for Class SA waters and “Indirect Consumption” for Class SB waters.

### Appendix D

Under the category Inorganics, a change has been made for Beryllium as follows. Other than the withdrawal of Indian Lake Creek from footnote 10, the withdrawal of the aquatic life criteria for formaldehyde, and this change for Beryllium, Appendix D is unchanged.

Concentrations in ug/L		Aquatic Life Criteria	Human Health Criteria			
			Chemical	CASRN	Freshwater or Saltwater	Consumption of Fish
Beryllium	7440417			0.13	0.0077	TT

## **Appendix E Antidegradation Implementation Policy:**

### **V. Tier 2 Antidegradation Evaluation and Implementation Review**

1. The Commissioner shall determine whether the new or increased discharge or activity will result in a significant lowering of water quality in a high quality water or any wetland by utilizing all relevant available data and the best professional judgment of Department staff and considering the discharge or activity both independently and in the context of other discharges and activities in the affected water body and considering any TMDL established for the water body. The Commissioner may determine only under the following circumstances that a proposed new or increased discharge or activity would not reasonably be expected to significantly lower water quality in high quality waters or wetlands:

### **VI. Tier 3 Antidegradation Evaluation and Implementation Review**

Purpose: The purpose of the Tier 3 Antidegradation Evaluation and Implementation Review is to ensure that existing and designated uses of surface waters and the water quality necessary for their protection is maintained and protected pursuant to Connecticut Water Quality Standard 2 and that water quality in Outstanding National Resource Waters is maintained and protected pursuant to Connecticut Water Quality Standard 5.