

# Water Quality Standards Advisory Committee (WQSAC)

## MEETING SUMMARY

Thursday, January 11, 2018 1:30 pm – 3:30 pm

NH Department of Environmental Services (NHDES)  
29 Hazen Drive, Concord, NH  
Rooms 112-114

### Attendees

Name	Organization	Attending WQSAC Meeting?
Jeff Andrews	NHDES	√
Bill Arcieri	Vanasse, Hangen, Brustlin, Inc. (VHB)	√
Dan Arsenaault	EPA Region 1	√
Clifton Bell	Brown and Caldwell	√
Neil Cheseldine	Wright-Pierce	√
Gregg Comstock	NHDES	√
Sarita Croce	Town of Merrimack	√
Ted Diers	NHDES	√
Sam Demeritt	NH Wildlife Federation	√
Ken Edwardson	NHDES	√
David Green	City of Rochester	√
Bill Hall		√ webinar
Joel Dotty	Normandeau Associates	√
Bob Lucic	City of Dover, Sheehan Phinney Bass and Green	√
John Magee	NH Fish & Game Department	√
Brian Maloy	Monadnock Paper Mills	√
PC Nourse	City of Rochester	√
Cheri Patterson	NH Fish & Game Department	√ webinar
Kenneth Rhodes	Associated General Contractors of NH	√
Robert Robinson	City of Manchester EPD	√
Rebecca Saucier	Wright Pierce	√
William Schroeder	NH Lakes Association	√
Stergios Spanos	NHDES	√
Paul Stacey	Formerly with NHFG (now retired)	√ webinar
Kathy Urffer	Connecticut River Conservancy	√ webinar
Jeanne Vorhees	EPA Region I	√
Matt Wood	NHDES	√
Sherry Young	Rath, Young and Pignatalli	√

### Meeting Documents/Handouts

1. Agenda
2. Draft of 10/12/17 WQSAC Meeting Summary (20171012\_wqsac\_mtgsum\_DRAFT to WQSAC.pdf)
3. HB 1590 (HB1590\_20171228.pdf)
4. HB1618 ( HB1618\_20171228.pdf)

5. HB1714 (HB1714\_20171228.pdf)
6. SB450 (SB450\_20171228.pdf)
7. Presentation on Legislative and EPA Updates, DO Subcommittee Status and Background for Nutrient Permitting Discussion (20180111\_WQSAC\_Mtg\_NHDES\_Final.pdf)
8. Presentation by Dan Arsenault of EPA titled “Calculation of Total Phosphorus Limits for NPDES Permits in New Hampshire (NH TP Limit Calcs.pdf)
9. Presentation by Clifton Bell of Brown and Caldwell titled “Review of Streamflows for Nutrient Permitting” (7Q10 Alternative Presentation-Bell.pdf)

Note: This meeting was also offered as a webinar via GoToMeeting.

### **1) Introductions**

The meeting began with a round of introductions including those who participated remotely via the webinar.

### **2) Nomination of WQSAC Vice Chair**

On October 25, 2017, Sam Demeritt received a letter from NHDES Commissioner Scott formally appointing him as Chair of the WQSAC for a two year term. Sam solicited nominations for Vice Chair, which will also be for a two year term. Sarita Croce volunteered. There were no objections. **Gregg will request that the Commissioner send a letter to Sarita formally appointing her as Vice Chair. (On January 16, 2018 Gregg sent the request to the Commissioner).**

### **3) Approval of 10/12/17 Meeting Summary**

The 10/12/17 meeting summary (see meeting document #2) was discussed. Bill Schroeder noted an error on page 2: Sam McDermitt should be Sam Demeritt. **To give participants more time to review, it was agreed that comments can be sent to Gregg Comstock via email until 4 pm on Thursday January 18<sup>th</sup>. After January 18<sup>th</sup>, the meeting summary will be finalized.**

### **4) Legislative Updates**

Ted Diers discussed recent legislative changes that impact NH surface water quality standards. In general, the final version of SB 127 (see meeting document #3), which became effective 9/8/17, requires the following:

- a. RSA 485-A:6, XV: Authorizes NHDES to adopt water quality standards rules (NHDES has had this authority but it wasn't clearly stated; this addition clarifies it).
- b. RSA 485-A:6, XIV: Authorizes NHDES to adopt rules for dissolved oxygen concentration. Other revisions to RSA 485-A:8, II and II-a, eliminates the explicit minimum 75 percent of saturation dissolved oxygen (DO) requirement and authorizes NHDES to adopt rules relative to DO in fresh and tidal and saline waters in a manner consistent with EPA guidance on DO criteria published pursuant to section 304(a) of the Clean Water Act, and other relevant scientific information.
- c. RSA 485-A:8, II. Prohibits NHDES from calculating nutrient discharge limits for aquatic life and human health criteria based on the 7Q10 flow or such other flow criteria that are more restrictive than 7Q10. In addition, a definition of 7Q10 was added to RSA 485-A:2, XXIV (i.e., 7Q10 means the lowest average flow that occurs for 7 consecutive

days on an annual basis with a recurrence interval of once in 10 years on average, expressed in terms of volume per time period).

Discussion of DO related changes was reserved for the DO Subcommittee meeting which immediately followed this meeting.

With regards to statute changes which prohibits use of the 7Q10 low flow to calculate nutrient discharge limits, Ted asked if it is necessary to adopt an alternative flow in Env-Wq 1700 for determining nutrient discharge limits or if we should leave that up to the permit writers. Bill Schroeder stated that permit writers should at least have some interim guidance on how to determine nutrient discharge limits.

Dan Arsenault of EPA stated that they currently use the 7Q10 low flow (per Env-Wq 1705.02), and an instream target of 100 ug/L for Total Phosphorus (which is from the EPA Gold Book) to determine National Pollutant Discharge Elimination System (NPDES) permit limits for wastewater treatment plant (WWTP) discharges. If a flow higher than the 7Q10 was used, it may be necessary to adjust the ambient target to be lower than 100 ug/L. Vermont has adopted numeric phosphorus limits for wadeable rivers and Maine is close to adopting criteria. It is believed both are in the range of approximately 30 to 35 ug/L of total phosphorus. **NHDES staff will contact Maine and Vermont staff to confirm their total phosphorus criteria and the flow that they would use to determine compliance.**

Sarita Croce of the Town of Merrimack asked if results of the US Army Corps of Engineers (Corps) Pemigewasset/Merrimack River watershed study<sup>1</sup> will be used to determine WWTP permit discharge limits. This study, which is expected to be completed by December 31, 2017, includes a water quality model of the Pemigewasset and Merrimack Rivers. The Corps has run various scenarios assuming different WWTP phosphorus concentrations and flows to see how the river responds (i.e., in terms of phytoplankton chlorophyll a and dissolved oxygen) to the different WWTP phosphorus loadings. The model was run continuously from spring to late fall for different years representing dry and wet conditions. The dry year included periods of 7Q10 low flow. **Since most people at the meeting were not aware of this Corps project, NHDES will provide an overview and a summary of draft scenario results at a future WQSAC meeting.**

Clifton Bell stated that their testimony for SB 127 included examples of flows used by other states for calculating nutrient permit limits. **Clifton will send a copy to Gregg Comstock for discussion at a future WQSAC meeting.**

## 5) EPA Updates

Jeanne Voorhees of EPA reported the following:

*Aluminum Criteria Status* – EPA recently issued draft freshwater aluminum criteria for the protection of aquatic life for public comment (see <https://www.epa.gov/wqc/aquatic-life-criteria-aluminum#2017>). The comment period has been extended from 9/26/17 to 10/26/17. The

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<sup>1</sup> See <http://www.nae.usace.army.mil/Missions/Projects-Topics/Upper-Merrimack/>

criteria are dependent on dissolved organic carbon (DOC), hardness, and pH. The EPA website includes a calculator in Excel to calculate the acute and chronic criteria for different combinations of DOC, hardness, and pH. The acute criterion is met if the one hour average concentration does not exceed this value more than once every three years on average. The chronic criterion is met if the four-day average concentration is not exceeded more than once every three years on average. The criteria are based on total aluminum.

New Hampshire's current aluminum criteria are 750 ug/L for acute and 87 ug/L for chronic regardless of hardness, DOC, and pH and represent the acid-soluble fraction. NH surface waters typically have relatively low hardness, DOC and pH. Examples of acute and chronic criteria based on results from the calculator are provided below. As shown, for hardness, DOC, and pH ranges shown in the table, EPA's proposed chronic total aluminum criteria are always higher than New Hampshire's current acid soluble chronic criterion of 87 ug/L, however, in some instances, EPA's proposed acute total aluminum criteria are less than New Hampshire's current acid soluble acute criterion of 750 ug/L.

Paul Stacey asked if EPA's proposed criterion includes particulate aluminum, which isn't usually bioavailable and toxic to organisms. Jeanne stated that it would since the criteria are expressed in terms of total aluminum, which includes all forms.

Ted asked if the criteria are valid below a hardness of 25 mg/L. Jeanne said that the criterion was valid for any hardness.

Ted stated that MassDEP has finished a report which shows lower aluminum toxicity with increasing humic acid concentration and asked if EPA was looking into this. Jeanne replied that humic acid is part of DOC and has therefore been accounted for in the proposed criteria.

Ted stated that we will revisit EPA's proposed aluminum criteria at a future WQSAC meeting.

<b>pH</b>	<b>Hardness (mg/L)</b>	<b>DOC (mg/L)</b>	<b>Freshwater Acute criterion (ug/L)</b>	<b>Freshwater Chronic criterion (ug/L)</b>
NH's current acid soluble aluminum criteria			750	87
EPA's Draft total aluminum criteria available for public comment until 10/26/17				
6.5	15	1	410	200
6.5	15	2	590	290
7.0	15	1	920	490
6.5	20	1	460	220
6.5	20	2	670	310
7.0	20	1	1000	500
6.5	25	1	510	220
6.5	25	2	730	320
7.0	25	1	1100	490

*PFOA/PFAS Criteria Status* – Ted Diers stated that a legislative bill is being proposed calling for NHDES to adopt surface water quality standards for perflourinated chemicals (PFCs) such as PFOA and PFAS. NH recently adopted a groundwater drinking water standard of 70 ppt however it does not have any surface water criteria for the protection of aquatic life or human health. Ted asked Jeanne if EPA is working on 304(a) criteria for these chemicals. Sarita also asked about the status of EPA approval of test methods for these chemicals in groundwater, soils and wastewater treatment plant effluent. **Jeanne said she would check on both of these questions and report back to the WQSAC.**

#### **6) Status of Env-Wq 1700 Rulemaking**

Gregg Comstock stated that revisions to Env-Wq 1700 were adopted and posted on the DES website in December 2016. After the rules are adopted the Office of Legislative Services (OLS) prepares a camera ready copy and sends it NHDES for proofing. NHDES has worked with OLS to make corrections. The rules were certified on 8/1/17 and posted on the NHDES website on 8/4/17 (see <https://www.des.nh.gov/organization/commissioner/legal/rules/documents/env-wq1700.pdf>). These are the rules that should be used. Now that NHDES and others have been working on the rules, a few questions have come up which we are now addressing with our legal unit and OLS. An example is Note 1 in Table 1703-1. The “1” looks like the number 1. We are proposing to italicize it to help distinguish it from the number 1. **If further changes are made, Gregg will notify the WQSAC.**

#### **7) Next Steps**

- a. Participants will report back on the items in bold text above.
- b. Gregg will prepare a draft meeting summary for review.

#### **8) Other Business**

*Next WQSAC meeting:* The next WQSAC meeting is on January 11, 2018 at 1:30 pm.

*List of Potential Future WQSAC meeting topics:* A running list of potential future WQSAC meeting topics and their status (presented in no particular order) is attached. Ken Rhodes mentioned chlorides which Gregg Comstock noted was on the attached list of future topics and that it will be up the WQSAC to prioritize topics for discussion.

#### **8) Adjourn**

The meeting was adjourned at approximately 2:00 pm.

**List of Potential Future WQSAC Meeting Topics**  
**Last Updated 01/08/18**

Topic	Description	Status
Acute and Chronic Toxicity definitions (Env-Wq 1702.02 and 1702.10)	Should the definitions be more broad? (from July 2016 comments on IP <sup>2</sup> by OOE <sup>Error! Bookmark not defined.</sup> ).	
Nuisance species (Env-Wq 1702.33 and 1703.03(c)(1)d)	Should nuisance species be better defined because it's too subjective? Should it include a list of "invasive" plants? How do you determine if a waterbody is degraded by development or if it's due to the natural lake aging process? (from July 2016 comments on IP by NHFG <sup>Error! Bookmark not defined.</sup> )	
Designated Uses (Env-Wq 1702.16 and 1703.01)	How should conflicts between designated uses be resolved (e.g., aquatic life (which depend on plants for habitat) and boating or swimming (which can be adversely impacted by too many plants)? (from July 2016 comments on IP by NHFG).	
Dissolved Oxygen Criteria (RSA 485-A:8 II, IIA., Env-Wq 1703.07)	In 2017, RSA 485-A:8, II was revised and 485-A:8, IIA., was added that requires DES Commissioner to adopt rules relative to DO water quality standards in a manner that is consistent with EPA guidance on fresh and tidal DO water criteria published pursuant to section 304(a) of the CWA, and other relevant scientific information. (from July 2016 comments on IP by GBMC <sup>Error! Bookmark not defined.</sup> and others)	In progress. Subcommittee formed and first meeting held 10/13/16.
Tidal nutrient related assessment procedures (Env-Wq 1703.14)	Do the nutrient related assessment procedures for tidal waters for dissolved oxygen, chlorophyll a, water clarity, macrophytes, epiphytes and eelgrass need to be revisited? (from July 2016 comments on IP by GBMC).	
EPA Human Health Criteria methodology and assumptions (Env-Wq 1703.21, Table 1703-1)	Are the risk factors, body weight, drinking water intake rates, bioaccumulation factors used by EPA to develop 304(a) recommended human health criteria appropriate? Should DES adopt the EPA 304(a) recommended criteria for 94 chemicals finalized in 2015? (from July 2016 comments on IP by OOE).	
Chloride Criteria – (Env-Wq 1703.21, Table 1703-1)	Should chloride criteria be revised?  Note - EPA disapproved Missouri's proposal to adopt Iowa's criteria in 2015 (not scientifically defensible and may not be protective based on recent toxicity tests using mussels).	
Aluminum Criteria – (Env-Wq 1703.21, Table 1703-1)	EPA issued draft freshwater criteria for aluminum in July 2017. The comment period closed 9/26/17. Should DES adopt the revised criteria once it is finalized? (from DES, 9/7/16).	

<sup>2</sup> GBMC means Great Bay Municipal Coalition; IP means Initial Proposal; NHFG means New Hampshire Fish and Game Department ; OOE means Osprey Owl Environmental, Inc.

**List of Potential Future WQSAC Meeting Topics**  
**Last Updated 01/08/18**

Topic	Description	Status
PFOA & PFOS Criteria in Env-Wq 1700	In October, 2016, NH adopted emergency rules to establish an ambient groundwater drinking water standard of 70 ppt for PFOA & PFOS. The emergency rule lasts 180 days. There are currently no criteria for PFOA or PFOS in Env-Wq 1700 for the protection of aquatic life or human health (added by NHDES in Sept 2017)	NHDES is attending committee meetings regarding proposed legislation to develop surface water quality standards for various PFCs.
Assimilative Capacity (Env-Wq 1705.01)	Should the 10% reserve for future growth be maintained? (from July 2016 comments on IP by City of Rochester).	
River flows for calculation of permit limits (Env-Wq 1705.02)	Should the 7Q10 river flow be used to calculate nutrient related permit limits or should a seasonal flow be used? (from July 2016 comments on IP by City of Rochester).	In progress. Topic was introduced at 10/12/17 WQSAC meeting.
Bacteria: Seasonal (versus year-round) disinfection of WWTF effluent	Current regulations require year-round disinfection of WWTF effluent. Some other NE states do not require disinfection during the winter months. Should NH WWTFs be allowed to do the same? Would require rule change and likely a statute change.	
Presentation	NHDES Monitoring Strategy	
Presentation	Pollutant Tracking and Accounting Pilot Program (PTAPP) being developed for the coast	
Presentation	Trends of Mercury in Fish Tissue	
Presentation	River Order used in the Shoreland Protection Act	