

Water Quality Standards Advisory Committee (WQSAC)

MEETING SUMMARY

Thursday, April 11, 2019 1:30 pm – 3:30 pm

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

Attendees

Name	Organization	Attended WQSAC Meeting?
Ralph Abele	EPA Region I	√
Gregg Comstock	NHDES	√
Sarita Croce	Town of Merrimack	√
Sam Demeritt	NH Wildlife Federation	√
Joel Detty	Normandeau Associates, Inc.	√
Bryanna Devonshire	Sheehan Phinney	√
Ted Diers	NHDES	√
Ken Edwardson	NHDES	√
David Green	City of Rochester	√
Meredith Hatfield	CLF	√
Ivy Mlsna	EPA Region I	√
David Neils	NHDES	√
Allan Palmer	Rivers Management Advisory Comm.	√
Cheri Patterson	NHFG	√
Kenneth Rhodes	Associated General Contractors of NH	√
Robert Robinson	City of Manchester EPD	√
Paul Stacey	Consultant – Footprints in the Water	√
Jeanne Voorhees	EPA Region I	√
Dan Arsenault	EPA Region I	√ webinar
Clifton Bell	Brown and Caldwell	√ webinar
Richard Carey	Mass DEP	√ webinar
Jim Hagy	EPA	√ webinar
Bill Hall	Hall and Associates	√ webinar
Lisa King	Foss & O'Neil	√ webinar
John Magee	NHFG	√ webinar
Melissa Paly	CLF	√ webinar
Michael Patrick	Wright Pierce	√ webinar
Toby Stover	EPA Region I	√ webinar

Meeting Documents/Handouts

List of Meeting Documents for WQSAC meeting:

- 1 Draft summary of January 11, 2018 WQSAC Meeting – [20180111_wqsac_mtgsum_DRAFT.pdf]
- 2 Draft summary of April 12, 2018 WQSAC Meeting – [20180412_wqsac_mtgsum_DRAFT.pdf]

- 3 Draft summary of October 12, 2018 WQSAC Meeting – [20181011_wqsac_mtgsum_DRAFT.pdf] (includes an updated List of Potential Future WQSAC Meeting Topics and Status)
- 4 MassDEP DO Letter to City of Taunton (11/13/2018) – [20181113 Letter to Taunton re DO.pdf]
- 5 City of Taunton DO Letter to MassDEP (1/2/2018) - [Taunton ltr to Letter to D Fine - 1-3-19 and attachments.pdf]
- 6 Information on Atlantic Sturgeon for the Refinement of Dissolved Oxygen Criteria in Mount Hope Bay and Taunton River Estuary – [20180309_Internal Draft – DO criteria Refinement for Atlantic Sturgeon in Mt Hope Bay and Taunton River.pdf]
- 7 NHFG Marine Species List for Great Bay – [20181217_Great Bay Tributary Species.xlsx]
- 8 A Review of Dissolved Oxygen Requirements for Key Sensitive Species in the Delaware Estuary, Final Report Submitted to The Delaware River Basin Commission, November 2018. - [201811_Review_DOreq_KeySensSpecies_DelEstuary_ANStoDRBCnov2018.pdf]

From the October 12, 2018 WQSAC Meeting Discussion:

- GBMC Letter (10/3/2019) and Hall and Assoc. Marine Species list DO review (09/19/2018) – [20181003 GBMC letter and 20180919 Hall species eval.pdf]
- [EPA Combined Criteria Factsheet](#)

Meeting Documents/Handouts available at, [Publications | NH Department of Environmental Services](#)

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) Approval of 4/12/18 Meeting Summaries

Ken said that although the previous three meeting summaries have been set out at each following meeting, the WQSAC has not discussed. This is the last shot a correcting any miss-quotes for those summaries. Please e-mail comments to Kenneth.Edwardson@des.nh.gov by 4/18/19.

3) Legislative Updates

No updates.

4) EPA Updates

Jeanne Voorhees - EPA R1, WQS Coordinator

Unlike previous updates, Jeanne gave the WQSAC an idea of what was occurring in other New England states WQStds.

- Vermont updated WQS to include new temperature criteria to protect fish and have included EPA’s 94 human health criteria (HHC). They have updated their antidegradation policy to be consistent with EPA 2015 revision and included EPA Cd update. They have built-in physical integrity into standards – active fluvial geomorphology – to define the suitable physical criteria for aquatic life use support(ALUS), no other New England state has done this. They did not include new Aluminum criteria in this triennial review.
- Connecticut – The comment period for their triennial review ended April 5, 2019. Public could comment on anything and specifically noted intent to update standards to be consistent with EPA’s

latest regulations including the 2103 ammonia NH₃ and 2012 recreational bacteria criteria. Also considering adopting the 94 HHC. May change the low-flow statistic used from 7Q10 to Q99.

- Paul Stacey recalls they had something about most sensitive designated use. Jeanne will look into it. Paul thinks aiming biointegrity to biocriteria.
- Massachusetts – Public comment this summer for their triennial review. Update bacteria (2012), NH₃(2013), Aluminum (2018), and 94 HHC. Also adopting 153 Cold Water designations.
 - **Ralph --can send around MA presentation.** Lots of interest in AL. Took all AL data – developed default AL for 20 basins in the state or can do site specific. They worked with MA fishery and wildlife who suggested a more protective number where there are mussels (use 10th percentile instead of 5th percentile).
 - Ken noted that NH has been collecting additional data at the same time as AI to begin to understand the DOC dynamics in the state.
- Rhode Island – Quiet.
- Allan Palmer asked if WQSAC is unique to NH. True, not in other states but a good model.
- Status of EPA approval of NH WQS. Draft document about finished. Alerted HQ and Anne Williams they can look at it. It's in review stage. Has not yet been through ESA discussion. Getting ready to send to the "services" soon.

5) PFAS Update

Ken Edwardson, NHDES

Since the October 2018 WQSAC meeting;

- December - Hired into the Air Resources Div., Environmental Health Section
 - Jonathan Ali – Toxicologist, PhD from U. Nebraska in Environmental Toxicology
 - Mary Butow – Health Risk Assessor. Came from the Toxics Use Reduction Institute at U Mass (Lowell) researching PFAS effects. MS in Occupational Epidemiology and a GC (grad. cert.) in Clinical Pathology
- January - DW MCL Draft (and concurrent Ambient Groundwater Quality Standard (AGQS))
 - Draft Released January 4, 2019; PFOS (70 ng/L), PFOA (38 ng/L), PFNA (23 ng/L), and PFHxS (85 ng/L) as well as PFOA & PFOS combined (70 ng/L)
 - Science based process – No modifications (as allowed by state law) for availability of detection and treatment or costs associated with compliance.
 - Public Hearings
 - 3 in March; Merrimack, Concord, Portsmouth (Pease)
 - Moving forward – Many comments have been received and the public comment period ends April 12. NHDES will consider comments and new research. Of note is that right after the draft proposed MCLs were posted, Minnesota published a new assessment model (infant/child exposure) for health risk assessment. If incorporated, the Minnesota model may change (significantly lower) the PFOA and PFOS standards. To that end, commenters have suggested that if the final values are much lower, NHDES should consider re-commenting those changes.
- On the SWQ Criteria Plan Side...
 - Working with Jonathan to get an initial idea of available data for ALUS and begin to frame out a plan for Jan 1, 2020

6) Flow for Nutrient Permitting

Gregg Comstock, NHDES

- Gregg gave a brief recap of the 2017 change in state statute prohibiting use of the 7Q10 flow (or lower flow) for nutrient permitting and highlights of Ken Edwardson's 10/11/18 WQSAC presentation titled "Alternatives to 7Q10 for Nutrient Permitting". He also gave a brief summary of the letter received from the Great Bay Municipal Coalition (GBMC) on 1/2/19 and stated that a copy of the GBMC letter and NHDES' response will be provided to the WQSAC and that we anticipate discussing a framework that could be used for developing guidance for permit writers at the next meeting where nutrient permitting is discussed.
 - Sarita asked about the timeline for a final flow (Merrimack's permit is in for review)?
Gregg: If included in the July 2019 WQSAC meeting, likely 6m-1y. Sarita: Will EPA/NHDES be considering the ACOE Merrimack River study for her permit? Gregg: To the extent that it can be. Sarita: Merrimack has been collecting additional WQ data and wondered in which assessment cycle that could be used? Ken: 2020.
 - Paul Stacey: CT has a very detailed site-specific approach for setting nutrient targets.
Ted: NH doesn't have the kind of data CT used.
 - Clifton: Some approaches based on moderate level of enrichment – look forward to discussions
 - Ted: Will likely use a tiered approach. Ted promised a response to the Coalition letter that will lay the groundwork for a discussion at the next meeting about that tiered approach.

7) Dissolved Oxygen Update

Ken initiated a series of mini-presentations revolving around the continued discussions on possible revisions to the marine dissolved oxygen criteria that should be considered.

EPA Process for Approving New Criteria – Jeanne Voorhees, EPA R1

After some technical difficulties, Jeanne gave up on the PowerPoint slides but said she would send them to NHDES to include in the WQSAC website.

Triennial Review – every 3 years. Start with Public Hearing. State then makes proposed changes, goes through rulemaking. Most states don't hold triennial reviews every 3 years. Once EPA receives proposed revisions they give full or partial approval. EPA timeline – has 60 days to approve – if disapprove they send letter to State stating why disapprove. State then should respond in 90 days. Otherwise EPA has 90 days to promulgate.

Key questions: Is it a new WQS to act on? Apply a 4-part test. With regards to new DO criteria. Is it protective, based on sound science, and consistent with regulations and CWA? If there are Threatened or Endangered species, then EPA has to go through ESA consultation too before they can approve.

Also, when are standards applicable? Don't become applicable for NPDES permits, TMDLs until EPA approves the standards. Until they approve, the old standard stays in place.

Paul Stacey: States can adopt more stringent criteria than 304a. Does this apply to DO? Jeanne – would need sound science backing up the DO. They won't disapprove criteria that is more stringent but still needs to have sound scientific basis.

Jeanne said MA has taken 2 years and over 50 meetings – that’s part of the triennial review to vet what they are planning. When the package comes in, EPA can hopefully approve it relatively quickly. Ralph – MA didn’t want to issue for public comment until EPA was ok with it. Jeanne - MA opened up the entire list for public comment. That’s in the spirit of triennial review.

Ted: How does ESA consultation impact EPA’s final decision? Jeanne – first part of process EPA develops biological evaluation and message to ESA is that this change in criteria is unlikely to affect aquatic life. ESA then reviews and hopefully get concurrence. Ralph – in past in some cases criteria didn’t consider mussels: good news is that criteria development (e.g. the new AI criteria) now looks at mussels – helps streamline the process. Paul Stacey – sturgeon sounds like a hard 6 mg/L is there good science. Ralph – yes lots of good science. Sturgeon listed in 2012, MA was first state to consider changing DO. EPA has not received a formal approval yet. Trying to work with states and NMFS ahead of time that will result in criteria that ESA can approve.

NH F&G Marine Species List – Cheri Patterson

Not all species in the list were sampled, but should be present. Samples identified were actually observed. Included Threatened/Endangered. Included data from Piscataqua from Portsmouth Shipyard who does annual survey around shipyard and cherry picks fish out of dry docks where they capture species not seen in traditional methods. Preliminary DO review (sensitivity to DO) – has gaps.

Atlantic Sturgeon and Shortnose Sturgeon. A gravid female was killed in 1990 in the tidal Salmon Falls. Every year the habitat is utilized by these species. The NMFS have designated critical habitat for sturgeon. Allan, if there is habitat but no fish, does it still need higher DO?

Clifton: Regarding sturgeon slide 7, when is recruitment? Cheri April, May and June is spawning. Larval could be longer. Cheri – from hatching to larvae is ~ 4 weeks which would bring you into July.

Bill Hall: Regarding hatching and larvae is in freshwater. Cheri – yes. If they come in they would come in spring when there is enough freshwater at head of time dam. Bill: in Cocheco, at low tide – can this support larvae – Cheri – depends on amount of amount of freshet – it’s possible. Ken - there are dataloggers on Cocheco on Salmon falls Rivers downstream of Head of Tide. Cheri – it’s like river herring, if they can’t pass the dam they spawn at the dam and are viable.

Cheri noted that there are gaps in the fish species sensitivities and she will try continue data mining.

The evaluation for invertebrates was focused on more commercial-like species. Like the fish, there are gaps in the fish species sensitivities but she pulled in the acute sensitivity per Drexel.

Paul: Are early life stages of invertebrates considered, some can be more sensitive? Cheri – has some but not all. Has gaps.

VA Province DO Model Status – Ralph Abele, EPA R1

Ralph: Glen Thursby retired. EPA was furloughed. EPA VPA analysis almost done. Glen coming back to help out. Will hopefully have something in a couple of weeks.

VA Province DO Model Limitations – Ken Edwardson, NHDES

Ken highlighted some of the known concerns with the VA Province approach. Notably; Juvenile survival and larvae growth but a portion considered expendable, one study on reproductive effects, stress of daily swings not addressed, avoidance not considered but documented in the literature at 4-5 mg/L, VA Province approach says that site-species likely to rule where threatened/endangered species, and all of the limitations that come from an all lab study based approach (unlimited food, no sediment related toxic releases at low DO, no tandem pH reduction like would be seen in nature, single stressor). Together it seems that a margin of safety should be applied to the VA Province approach output.

Bill Hall: on 4 mg/L and 5 mg/L – he presumes these are chronic exposures. Ken – the 4 mg/L was based on instantaneous values collected at the same time as trawls. Doesn't recall the data behind the 5 mg/L.

Paul Stacey: Studies also did not consider life stages that can't move so there is probably a large gap regarding avoidance associated with the 4 and 5 mg/L. Also may result in herding. LIS did surveys, picked up a lot of dead and dying invertebrates once in the anoxic areas.

Bill Hall – Regarding avoidance. Typically, criteria are based on survival, growth and reproduction. Temporary avoidance is not necessarily an impairment.

National Marine Fisheries Service - Critical Habitat designation for Atlantic sturgeon – Ken Edwardson, NHDES

Ken presented information of the Shortnose and Atlantic sturgeon distributions and an overview of their dissolved oxygen needs. Shortnose sturgeon are state and federally endangered species. Atlantic sturgeon are state and federally threatened species. Ken looked at available data to try to sort out where and what life stages would require protection under ESA. Historically, sturgeon inhabited the whole Great Bay estuary although pre-1818 reports, the two species were not differentiated. Shortnose sturgeon were captured in 1971 in the Piscataqua River. A sub-adult Atlantic sturgeon was captured in the Oyster River (1981), a gravid (full of eggs) was killed in the Salmon Falls River in 1991, and more recently, acoustic tags through 2017 have shown that shortnose sturgeon have been into Little Bay and Atlantic sturgeon have been seen up to the Salmon Falls/Cocheco confluence. The acoustic array was expanded in 2018 to include the Salmon Falls and Cocheco Rivers as well as Great Bay proper. For Shortnose sturgeon, the entire Great Bay estuary seems to be suitable habitat, but it is unclear if spawning would apply. For Atlantic sturgeon, the Gulf of Maine Distinct Population Segment – Critical Habitat Areas identified the entire Piscataqua/ Salmon Falls/Cocheco Rivers as well as Great Bay proper and identified the Piscataqua/ Salmon Falls/Cocheco Rivers as potential spawning habitat. In terms of dissolved oxygen, Ken noted that DO sensitivity is only available for a few of the sturgeon lifestages (juvenile and a little larvae data, not adults, not eggs) and those life stages are very sensitive to low DO. Together this tells us that any newly proposed criteria will require National Marine Fisheries Service consultation, will need to be protective of sturgeon, and those criteria may need to be above that which the VA Province approach might suggest.

There was discussion of the meaning of the acoustic array information. The points on the map represent acoustic listening locations, not individual fish.

Ted: Are there any metrics to extrapolate # of tagged to total population present. Cheri – they haven't done this.

Dennis Greene: Has the sturgeon population changed since 1967. Cheri – Unknown.

Cheri: Each fish has its own signal.

Ted: USGS to issue final manuscript in the next year which will show the number of Atlantic sturgeon that they tracked between 2013 and 2018.

Ralph: If species is listed, EPA has to consult on any federal action. Critical habitat designation is above and beyond. Designation includes elements regarding water chemistry including DO and the physical habitat. The Atlantic sturgeon is very sensitive to DO which is why it's considered an element of critical habitat. Ted: If had lousy DO but had all other elements which could support, would NMFS designate as critical habitat. Cheri: Yes.

Alan: Regarding eggs and larvae – does it occur at head of dam. Ken – occurs at 0 to 2 ppm salt. Eggs are fixed. Cheri - Larvae will move to where salinity is acceptable. Could be in that zone (up to juveniles) in freshet area. Alan: If there is a higher DO for eggs, will this just apply at the freshet. Ted: These are all things we need to consider. Great Bay is much smaller than Chesapeake Bay. Ralph, it's not just the size difference – Chesapeake had lots of money. Paul: Does Exeter river have the potential now that there is no dam? Cheri – perhaps.

Delaware Estuary DO Review Process – Ken Edwardson, NHDES

Ken presented information gathered from recent dissolved oxygen related activities in by the Delaware River Basin Commission (DRBC). In 2017, the DRBC passed a resolution to increase the DO criteria in several of their “zones”. The original criteria developed in 1967 recognized that full support of the aquatic life designated use was not yet possible in several zones and therefore set interim goals. Of note is that the only tidal zone that they did feel fully supports the designated use, zone 6, has DO criteria set at a daily average of 6 mg/L and instantaneous minimum of 5 mg/L. Similarly, the DRBC has two groups of non-tidal freshwaters that they feel fully support the aquatic life designated use, a daily average of 6 mg/L and instantaneous minimum of 5 mg/L and a second groups defined as daily average of 5 mg/L and instantaneous minimum of 4 mg/L. In terms of salinity, much of Great Bay relates to the DRBCs zone 6. Some of the upper reaches of the Great Bays tidal tributaries may be like zones 4/5, but in the DRBC zones, those areas are not defined as fully supporting aquatic life. Ken went on to show that since 1965, the DRBC and partners have made great improvements in DO conditions. Since 1995, DO criteria has been met in the interim goal zones. In recognition, DRBC completed a 2015 review of the anadromous fish spawning and rearing evaluation in the interim goal zones finding that due to poor spawning and rearing by Atlantic sturgeon, American shad, and Striped bass that full restoration of the “propagation” use is not supported. In 2016 the nature conservancy evaluated the minimum daily DO in June, July, August, and September partitioned between years that had successful or non-successful sturgeon recruitment. No successful recruitment has been documented in years where the minimum of the daily minimum dissolved oxygen fell below 4 mg/L. The 2017 resolution envisions a 6-year process to set new DO criteria. To do that, they begun detailed biological needs evaluation and in-depth system DO modeling. The biological needs work started with a Drexel species evaluation and is moving on to a fisheries biologist technical advisory committee.

Paul – What about temporal aspects? Thinks American shad were still able to make it up the river because anoxia didn't set up until the summer. Ralph thinks he's right. Paul – just curious,

neither here nor there with regard to setting DO standards. Cheri, can't just think about migrating but also when emigrating – adults may not be able to make it through anoxia.

Update on MA marine DO discussions – Ken Edwardson, NHDES

- Ken presented information on how the marine DO review is proceeding in Massachusetts. MA started in 2017 and has spent a considerable amount of money. At this time, it appears that the MA review could be completed with recommendations in late 2019. As such, any proposal would be part of a future triennial review. Initially, three approaches were considered; reference, VA Province, and Chesapeake. To that end, MA created their own species list from which NH may be able to fill in some of our own DO data gaps. In May 2018, Mass DEP presented the initial values from their evaluation. However, a MassDEP letter to the City of Taunton in November 2018 appears to make it clear that it is unlikely that we will see those initial thresholds as the most defensible criteria/current approach when MassDEP finishes their process. MassDEP staff are planning to present a draft of their current approach at two public meetings in May (Boston and Worcester).

Next Steps – Ken Edwardson, NHDES

NHDES proposes to create a white paper on revised theoretical marine DO criteria by the fall considering; VP approach, Chesapeake approach, Delaware process, Massachusetts process and possible outcomes, Endangered and Threatened species, State Species of Concern (Alewife, Am. Eel, Herring, Shad*, Smelt*), Direction gleaned from NMFS ESA discussions, Criteria that lets aquatic life do more than survive, Weighting the impacts of science gaps (Missing DO requirements for NH species and life stages, Avoidance, Implications of VP approach limitations, ESA Species life stage DO requirement gaps, Relationships in DO needs between life stages, Assessment Methods and Compliance), and other factors.

Paul – uncertainty in VP approach probably less than in empirical approach. Good news about VP approach is that the evolutionary patterns of fish don't vary from site to site. It's not surprising. Ralph, the problem we face is the VP approach looks at the 4 most sensitive species – we then have to look at results and compare to the most sensitive species. Doesn't work. Need to factor other factors. They never talked about consultation. Paul – you're right the Atlantic species may result in higher DO.

Bill Hall asked to get slides available. Ken will do this.

8) Other Business

Next WQSAC meeting: The next WQSAC meeting is scheduled for July 11, 2019 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.

11) Adjourn

The meeting was adjourned at approximately 3:45 pm.

List of Potential Future WQSAC Meeting Topics and Status
Last Updated 04/04/19

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)	07/2018 <ul style="list-style-type: none"> • SB 309 – NHDES to make plan for WQStds. 12/2018 <ul style="list-style-type: none"> • Toxicologist and health risk assessor hired. 04/11/2019 WQSAC meeting <ul style="list-style-type: none"> • NHDES-Update
Acute and Chronic Toxicity definitions (Env-Wq 1702.02 and 1702.10)	Should the definitions be more broad? (from July 2016 comments on IP ¹ by OOE ² Error! Bookmark not defined.).	
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 ³)	
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).	

¹ IP means Initial Proposal;

² OOE means Osprey Owl Environmental, Inc.

³ NHFG means New Hampshire Fish and Game Department

List of Potential Future WQSAC Meeting Topics and Status

Last Updated 04/04/19

Topic	Description	Status
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 ⁴ and others)	In progress. Subcommittee formed and first meeting held 10/13/16. 10/13/2016 <ul style="list-style-type: none"> • NHDES-Current Crit., History, Other NE States, Issues, Start 02/09/2017 • Pennsylvania Apprch. 04/13/2017 • NHDES-Why D.O. • NHDES-D.O. and temp. • NHF&G-FW Fish/Life stages • NHDES-EPA 1986 FW Crit. Doc. 09/08/2017 • SB127- a) D.O.%Sat. removed, b) NHDES to adopt D.O. criteria 10/12/2017 • EPA-Glen Thursby – Va. Prov. Apprch. 02/2018 – NHDES DO data to EPA 01/11/2018 WQSAC meeting <ul style="list-style-type: none"> • NHDES-Update. NHFG to generate species info. 04/12/18 WQSAC meeting • NHDES-Update 10/11/2018 • NHDES-Update 12/2018 – Marine Fish Info; NHFG to NHDES to EPA 04/11/2019 • NHDES-Marine Discussion
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).	

⁴ GBMC means Great Bay Municipal Coalition

List of Potential Future WQSAC Meeting Topics and Status
Last Updated 04/04/19

Topic	Description	Status
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).	12/2018 - EPA provided V2
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. 09/08/2017 <ul style="list-style-type: none"> • SB127-Nutrient limits based on flow > 7Q10 10/12/2017 <ul style="list-style-type: none"> • Topic was introduced at WQSAC meeting. 01/11/2018 WQSAC meeting <ul style="list-style-type: none"> • NHDES-Background • EPA-Permit Calcs • Clifton Bell-Alternatives 04/12/2018 <ul style="list-style-type: none"> • NHDES-Recap & Applying other States to a NH permit site 10/11/2018 <ul style="list-style-type: none"> • NHDES-Alternative scenarios 04/11/2019 WQSAC meeting <ul style="list-style-type: none"> • NHDES-Update
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	