EPA Comments

(1) In the Background and Justification section for Nutrient Criteria Development in the Delaware Estuary, a paragraph should be added to provide a clear explanation of how all of the applicable Resolutions passed to date will lead to the derivation of Numeric Nutrient Criteria (NNC). Those resolutions most relevant to NNC should be included in the reference section and as an Appendix.

The relevant Commission resolutions are described on pages 3 and 4 of the revised draft document.

(2) In citing EPA's identified NNC development priorities, the actual development of NNC as noted in the March 16, 2011 'Stoner' memo should be included. We also suggest that you consider the other approaches identified in the 'Stoner' memo to address nutrients.

Given the tasks ahead and the limited staff and resources available, we are seeking to minimize additional effort toward completing this draft plan.

(3) Protection of all designated uses which may affected by elevated levels of nutrients is not addressed (only the aquatic life use is mentioned as the basis for DO criterion derivation). DRBC should elaborate on why only aquatic life use is being addressed.

In the absence of observed harmful algal blooms in the Delaware Estuary, aquatic life use is the primary driver for DO criteria development and subsequent numeric nutrient criteria.

(4) Based on Table 1, NNC will be derived by December of 2023. Task E11 states that after DO criteria and new aquatic life use are adopted, DRBC will start the work on NNC derivation. Table 1 does not indicate a timeframe for adoption of DO criterion. If the public notice period ends in June 2023, what timeframe does DRBC envision for these criteria to take effect?

Resolution 2017-4 expresses a 3.5 year timeline for completion of attainability analysis and commencement of rulemaking as expeditiously as possible.

(5) Why does the work on the derivation of NNC only start after the DO criterion is to be adopted? If they are interrelated, why can't both be adopted at the same time?

We concur with this comment.

(6) A separate table should be presented outlining the task and timeline leading to the goal of Table 1, Task E-11. It should be investigated whether a reference-based approach will work for deriving NNC. To ensure that adequate data is available, a strategic monitoring plan needs to be developed with the results articulated in a comprehensive monitoring report similar to that developed for the Chesapeake Bay.

We believe that the current draft plan adequately describes how numeric nutrient criteria will be derived from the eutrophication modeling efforts. We believe that our focus should remain on the current modeling effort rather than pursuing other approaches in parallel. Strategic monitoring in support of the eutrophication effort has been discussed *and documented* extensively at WQAC meetings on May 11, 2017, August 24, 2017, March 1, 2018, March 29, 2018, July 18, 2018, and MACC meetings on November 2, 2017, April 25, 2017, and May 31, 2018.

(7) DRBC has not discussed how they plan on using the nutrient monitoring data (ambient and NPDES) in eutrophication modeling activities. Does DRBC have a backup plan if the continued modeling activities provide inconclusive results?

DRBC has described how data will be used in eutrophication model development through the WQAC (see response above). We believe that the modeling efforts will provide conclusive results and remain committed to that effort.

(8) Is the assumption that DO is the critical limiting parameter and meeting the DO would drive the Total Nitrogen (TN) and Total Phosphorus (TP) criteria? Are there studies being done showing that DO is the critical limiting parameter for these waters and addressing only DO will result in protective NNC?

Concentrations of certain nutrient species are likely contributing to the current DO sag. The modelling will establish ambient nutrient concentrations necessary to support a revised DO criteria concentration which may then be used as a basis for establishing ambient NNC in the estuary.

(9) TN is not included as one of the non-tidal Existing Water Quality (EWQ) parameters. Can TN be derived from the measured nitrogen compounds?

Total Nitrogen (TN) *is* one of the EWQ parameters, as indicated in Tables 2C through 2Z at [HYPERLINK "https://www.nj.gov/drbc/library/documents/WQregs.pdf"]

(10) How do we know that EWQ is protective of all designated uses? Is there a demonstration that the drinking water and recreation use are also being protected?

Assessment of all uses (including drinking water and recreation) are performed every even numbered year as part of DRBC's water quality assessment report available at:

[HYPERLINK "https://www.nj.gov/drbc/quality/reports/wq-assessment-rpts.html"]

We interpret that aquatic life use would be the primary beneficiary of NNC development.

(11) Consider initiating a process of eliminating grandfathering of existing NPDES permit limits in DRBC Water Quality Regulations (Administrative Manual-Part III, 18 CFR Part 410 Section 3.10.3.A.d.5 1992 Best Demonstrative Technology. The Technology Requirements themselves are also quite outdated and should be revised.

We propose to discuss this request at an upcoming WQAC meeting.

(12) Please provide further justification as to why no activities are planned for estuarine NNC derivation until 2024. It seems that the data collection and modelling being carried out now would lead into NNC criteria.

We believe this comment is incorrect. Activities underway now are part of the effort that will lead to NNC in the estuary. These are not separate activities but part of the same continued effort.

(13) The task table for non-tidal nutrient criteria development consisted of two action items: Identifying criteria by 2024 (N1) and publication of new criteria in 2025 (N2). Please provide further justification as to why the goal of non-tidal NNC derivation cannot be achieved until 2024. The lack of details on how NNC will be developed makes it difficult to determine the feasibility of this proposal. If non-tidal NNC development is to continue as an objective, a more detailed plan of action will need to be articulated. If DRBC feels that the EWQ values provide a good foundation for NNC development, it will need to be demonstrated how EWQ protects not only aquatic life but also recreational and drink water uses. In the end DRBC may find it prudent to forgo work on non-tidal criteria development until such time that Delaware Estuarine criteria adoption have been concluded.

We believe the SPW program provides a level of protection in the non-tidal comparable to NNC. While SPW does not alleviate the need for NNC in the non-tidal river, it should allow flexibility in prioritization of effort. As documented in DRBC's SPW Lower Delaware Assessment and USGS' Trends in the quality of water in New Jersey streams, water years 1971–2011, reductions in nutrient concentrations have been observed in non-tidal mainstem Delaware River. An analysis of attainment of uses is performed every even numbered year and submitted to EPA. These Water Quality Assessments are available at [HYPERLINK "https://www.nj.gov/drbc/quality/reports/wq-assessment-rpts.html"]

As the commenter stated, we find it prudent to defer work on non-tidal NNC development until the Delaware Estuary criteria development effort is concluded.

Delaware Estuary TMDL Coalition Comments

1. **We Recommend that DRBC Modify the Draft Plan, Consistent with the 2013 Nutrient Criteria Plan, to Reiterate that An Attainability Analysis is a Vital First Step Prior to Establishing Any New or Revised Water Quality Standards.**

See the attached comment letter for the full text following this comment summary.

Given the tasks ahead and the limited staff and resources available, we are seeking to minimize additional effort toward completing this draft plan.

2. **We Recommend that DRBC Revise the Draft Plan to Better Explain How its Tasks Align with the Tasks in the 2013 Nutrient Criteria Plan.**

See the attached comment letter for the full text following this comment summary.

Given the tasks ahead and the limited staff and resources available, we are seeking to minimize additional effort toward completing this draft plan.

3. **We Recommend that DRBC Revise Task E7 to Provide Further Detail on the Economic Cost Evaluation and Confirm that an Evaluation of Economic Impact is a Fundamental Element of the Attainability Analysis.**

See the attached comment letter for the full text following this comment summary.

Given the tasks ahead and the limited staff and resources available, we are seeking to minimize additional effort toward completing this draft plan.

4. **We Recommend that DRBC Revise Tasks E9 and E11 to Eliminate the Use of the Terms "Wasteload Allocation" and "Load Allocation" Because They Are Terms Associated with Total Maximum Daily Loads.**

See the attached comment letter for the full text following this comment summary.

We agree that these terms are borrowed from the TMDL program. The benefit to these terms is that most readers will understand what is meant. It is unclear what practical value would be gained in devising comparable but different terms for the same concepts.

5. **DRBC's Discussion of the Eutrophication Model Would Benefit from a More Robust Description of DRBC's Modeling Efforts to Date and Planned Work for Further Development of the Model.**

See the attached comment letter for the full text following this comment summary.

The modeling work is an evolving, ongoing effort. DRBC provides regular updates on model development status through the WQAC meetings (as documented on the WQAC web page at [HYPERLINK "https://www.nj.gov/drbc/about/advisory/WQAC_index.html"]). WQAC meetings provide a better means of communicating up-to-date modeling efforts and planned work.

PWD Comments

1. *'Early action' is a non-regulatory effort and resides with the municipal dischargers.*

There are duplicative efforts underway among DRBC, EPA and state regulatory agencies to externally diagnose early action steps for municipal dischargers to achieve ammonia reduction. early action is a voluntary, non-regulatory planning activity being undertaken individually by municipal dischargers. The expertise to identify and study options for early action resides with the utilities. Utilities are going so far as to form a Dissolved Oxygen Partnership, that will serve as a forum for municipal dischargers to learn from shared experiences and encourage one another to take early action to reduce ammonia.

The Early Action co-regulator effort is specifically mandated by Resolution 2017-4.

> *Early actions to reduce oxygen depleting discharges. The Commission further directs the Executive Director to convene a workgroup consisting of state and federal coregulators to identify and encourage the implementation of practicable early actions that can be implemented by NPDES permittees in the near term to reduce the loading of ammonia and other oxygen depleting pollutants to the Estuary. The Commission recommends that the early action initiatives be led, coordinated, and managed by the appropriate state agencies and be supported through technical assistance provided by EPA and that this initiative commence without delay.*

We disagree that any action undertaken to date by the co-regulators has been duplicative with any other effort, including that of the Dissolved Oxygen Partnership. DRBC's obligation is to determine what (if any) early actions are available while the larger effort proceeds.

While individual utilities are best suited to identify and study early actions *at their plant*, most utilities are not positioned to assess aggregate loadings from multiple sources or system-wide responses.

DRBC supports the Dissolved Oxygen Partnership, as also documented in Resolution 2017-4.

2. *The expertise to perform Task E7 for the PWD plants and customer rates resides with PWD.*

See the attached comment letter for the full text following this comment summary.

The engineering evaluation and cost estimate work underway is a planning-level estimate intended to provide information to the Commissioners regarding the relative cost impact of possible regulatory decisions. No part of this effort will substitute for the necessary site-specific engineering design, development of plans and specifications, and detailed cost engineering associated with capital upgrades at a specific facility.

We welcome PWD's support in obtaining more detailed, realistic estimates.

3. *The outcomes of 'early action' need to be incorporated into the NCP.*

See the attached comment letter for the full text following this comment summary.

We agree that the outcomes of 'early action' should be documented and highlighted. We commit to working with the utilities and co-regulators to share and emphasize early action improvements.

4. *The NCP and tasks need more detail.*

The NCP task descriptions do not include enough details and information to understand what will be done and by whom. If there are steps within the NCP where additional resources or the contributions and involvement of third parties may be needed, the NCP should specifically identify the range of resources or external party involvement required.

Given the tasks ahead and the limited staff and resources available, we are seeking to minimize additional effort toward completing this draft plan.

5. *In sections of the NCP focused on dissolved oxygen improvement, the general term 'nutrient' should be avoided within the task descriptions.*

To the extent that the NCP is focused on possible dissolved oxygen improvement, the general term "nutrients" should be avoided within the task descriptions. PWD acknowledges the fact that ammonia can play multiple roles within the estuary, including a source of nitrogenous biochemical oxygen demand (NBOD), a macronutrient for algae growth, and a toxicant. However, specific terms should be chosen so as not to conflate the NBOD role of ammonia with cultural eutrophication effects of nutrients.

This document is primarily responsive to EPA's requirement that water quality regulators develop and adopt numeric nutrient criteria. Given that context, it is not feasible to exclude the term 'nutrient.'

6. *Limit the mention of effects of nutrient pollution to those observed in the Delaware Estuary*

The "Background and Justification" section of the NCP includes a quote from EPA citing various harmful effects of nutrient pollution, such as "toxic harmful algal blooms, contamination of drinking water sources, and costly impacts on recreation, tourism and fisheries". While these effects can be serious problems where and when they occur, most are not recognized as nutrient-related problems within the Delaware Estuary. PWD recommends that the "Background and Justification" section be limited to specific nutrient issues in the Delaware River Basin.

We agree that some harmful effects of nutrients have not been directly observed in the Delaware River. However, the potential for these events, given ambient concentrations, remains. In addition, harmful algal blooms in ponds and reservoirs draining to the Delaware have been noted.

In addition, we believe the value of citing the EPA driver for development of nutrient criteria outweighs concerns about effects not observed locally to date.

7. *Consider using the WQAC to review and improve the Academy of Natural Sciences of Drexel University (ANSDU) methodology for evaluating dissolved oxygen requirements of species in the Delaware Estuary.*

PWD is attaching in full the public comments provided to DRBC on February 9, 2018 regarding the ANSDU draft methodology. The final version of the ANSDU methodology has not been changed to adequately address public comments. PWD found the ANSDU methodology to be flawed and in need of significant revision to ensure that scientifically rigorous studies of the dissolved oxygen needs of key species, such as the Atlantic sturgeon, are not substituted by literature searches and subject matter expert opinion.

We are fully satisfied with the participation process surrounding both the methodology and final report entitled "A Review of Dissolved Oxygen Requirements for Key Sensitive Species in the Delaware Estuary" available at [HYPERLINK "https://www.nj.gov/drbc/library/documents/Review_DOreq_KeySensSpecies_DelEstuary_ANStoDRBC nov2018.pdf"]

Both DRBC staff and ANSDU carefully considered comments provided in response to both the methodology and draft report. The effort was discussed at multiple WQAC meetings including a detailed presentation and extended question and answer session during the July 2018 meeting.

We disagree that the lack of an extant study for any species in any way constitutes a methodological flaw in identifying and documenting what information does exist.