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February 15, 2017

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Subject: Comments to U.S. Environmental Protection Agency (“EPA”) regarding EPA’s Dec 8, 2016 proposal to add waterbody-pollutant combinations to the State’s April 1, 2016 Section 303(d) List

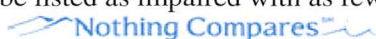
Dear Ms. Hopkins:

The North Carolina Division of Water Resources (DWR) submits the following comments in response to EPA’s Public Notice: EPA Decision to Add 72 Waterbody-Pollutant Combinations to North Carolina’s 2016 Section 303(d) List.

Small Datasets

North Carolina’s 2016 Assessment Methodology established by the NC Environmental Management Commission (EMC) sets a data window (2010-2014) as well as a minimum sample size of ten samples to be required in order to make a 303(d) listing decision on conventional and toxic pollutants (where waterbody/pollutant combinations would be placed on the 303(d) list if there is greater than 10% exceedance with 90% confidence). The EPA disagreed with this approach and conducted their own review of data for stations with less than ten samples. As a result, EPA is proposing to list 11 waterbody/pollutant combinations where there were less than ten samples, but three or more exceedances of conventional pollutants. These are primarily all small lakes or reservoirs. EPA’s rationale is that if there were ten samples for these waters, three exceedances would meet the criteria for 303(d) listing under the 10% exceedance with 90% confidence methodology. Therefore, additional samples are not necessary to make a listing determination.

In taking the proposed actions of listing waters for small datasets, but not allowing delistings from the 303(d) list due to a confidence level decided by EPA (that is not even supported by the paper EPA cites in its justification), EPA is creating a difficult management target for the state of North Carolina. Under the proposed actions, a waterbody could be listed as impaired with as few as three samples, but then the



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very same waterbody could not be delisted unless there were at least 22 samples with zero exceedances. With very limited monitoring resources available, the state needs to be able to target resources practically and effectively. Would EPA allow this same amount of data to be used for delisting? It appears not and therefore, DWR does not agree with EPA's proposal to list these waters.

Furthermore, EPA's proposed action is inconsistent with the methodology established by the EMC. Three waterbodies that EPA has proposed adding to the 303(d) list have multiple stations that do not all meet three exceedances. These are summarized in the table below. These waterbodies should not be listed in their entirety based on the results of one station. If EPA moves forward with their proposed action, at a minimum these assessment units should be split to reflect the differences in water quality between the stations.

State's Proposed Action – The state proposes that EPA should not include the waters with small datasets on the 303(d) list. In choosing to list these waters, EPA has set criteria for 303(d) listing for small datasets without consultation with the state. The EMC may consider developing listing criteria for small datasets for the 2018 Assessment Methodology to consider magnitude of exceedance or any other overwhelming evidence of impairment.

Table of Waters that EPA proposes to list that have some water segments with only 1 exceedance.

2016 Assessment Unit #	Waterbody Name	NC Basin	Parameter of Interest	Data Summary
16-14-(5.5)	Stony Creek (Stony Creek Reservoir)	Cape Fear	Chlorophyll <i>a</i>	2 stations CPFSCR2 - 4 exceed / 9 total CPFSCR4 - 1 exceed / 9 total
27-10-(1)	Ledge Creek (Lake Rogers)	Neuse	Turbidity	2 stations NEU017A - 2 exceed / 5 total NEU017B - 4 exceed / 5 total
13-17-9-4-(1)	Cold Water Creek (Lake Fisher)	Yadkin PeeDee	Chlorophyll <i>a</i>	3 stations YAD215R - 3 exceed / 5 total YAD215T - 1 exceed / 5 total YAD216A - 1 exceed / 5 total

Delistings of Conventional Pollutants

The EPA is also proposing to add 17 waterbody/pollutant combinations to the 303(d) list for the reason of "Failure to demonstrate good cause to delist. Improper statistical analysis." These waterbodies were included on the 2014 303(d) list, however analysis of recent data led the state to delist these waters from the 2016 303(d) list because they did not meet the EMC established criteria to remain on the 303(d) list.

DWR only includes waters on the 303(d) list if data collected for a particular waterbody meet the EMC established criteria for listing (10 sample minimum, greater than 10% exceed the standard with 90% confidence). If data for a waterbody do not meet the criteria and the water was previously on the 303(d) list, the water is delisted. It is important to note that DWR used the same decision making process in 2014 and EPA approved over 200 delistings, but takes issue now with 17 proposed delistings.

In contrast to the 2014 decision, EPA now wants to apply a different statistical test to delist waters and require 90% confidence that the water is not impaired. This test requires many more samples to achieve a positive result (i.e. a minimum of 22 samples with zero exceedances would be required to reach a decision that the water is not impaired). In this decision, EPA is imposing a confidence level for delisting that is inconsistent with the state's monitoring program.

Essentially, in taking this action, EPA is forcing waters to be on the 303(d) list that don't actually meet the criteria to be on the list. And, in fact, due to the number of samples required, there could be waters on the 303(d) list that have zero exceedances of the parameter of concern, but are listed because they did not pass the 90% confidence test to delist. DWR is concerned that this will lead to confusion and increase difficulty in prioritizing TMDL development.

It appears that the paper¹ EPA sites as the justification for this action has been misinterpreted or that key conclusions in the paper were ignored. There is acknowledgment in the paper EPA cites in its decision document that "Requiring "more samples" for delisting than for listing an impaired water at a comparable level of confidence seems somewhat puzzling to many readers, but it is strictly a matter of statistical theory."¹ The paper further suggests that confidence levels do not need to be the same for listing and delisting decisions: "However, the same sample size could be used for listing and delisting at the expense of a lesser confidence level for delisting."¹

DWR is only placing waters on the 303(d) list that meet the EMC's criteria for impairment. If data for a waterbody do not meet the criteria for listing on the 303(d) list due to having greater than 10% exceedance without 90% confidence, the state does not conclude that the water is "meeting criteria." The state appropriately places these waters in category 3 of the state's 305(b) Integrated Report under a unique category, Category 3a. DWR contends that this is a transparent and clear process because it acknowledges where waters have not met the criteria for listing on the 303(d) list, but are not considered to be "meeting criteria" either.

By only including waters on the 303(d) list that meet the criteria for listing, the state can better prioritize waters for TMDL development. This does not mean the state ignores waters once they are removed from the 303(d) list. By placing waters in a unique category such as Category 3a, the state can more easily track the status of changes to assessments for waterbodies over time and determine through the basinwide planning process if additional study or focus is needed on an area.

State's Proposed Action – the state proposes that EPA not take action on the 17 delistings and allow the state to continue to acknowledge these waters in Category 3 and track their status through the basinwide planning process. If necessary, the state will clarify this process in subsequent assessment methodology documents.

Toxics

The EMC has submitted comments concerning EPA's decision to place 44 waterbody/pollutant combinations on the 2016 list as toxics made up of 41 metals and 3 arsenics (The 41 metals are mostly copper, with some lead, nickel and zinc)) impairments, based on greater than one exceedance in three years. The EMC submitted comments on February 14, 2017 to EPA that address this issue of EPA proposing to add 44 waterbody/pollutant combinations to the list. This is primarily the same data that EPA disagreed with the State in 2014. In 2014, it was 51 waters. The State disagreed with EPA listing them, but EPA finalized the 2014 list to include them. The state prioritized sampling and delisted 7 of

¹ Lin, Pi-Erh, Duane Meeter and Xu-Feng Niu. 2000. *A Nonparametric Procedure for Listing and Delisting Impaired Waters Based on Criterion Exceedances*. Technical Report. Department of Statistics, Florida State University, Tallahassee, FL.

these where additional data have been collected for the 2016 list, and EPA has agreed with those delistings. The state will continue to prioritize sampling away from other areas to continue to sample the remaining 44 waters. The State has always disagreed (for over a decade) that these types of standards exceedances are indicative of an impaired waterbody, but EPA continues to list them based on total metals standards. The State began its effort to revise metals standards from total metals to dissolved standards in 2007 so that EPA would no longer insist on listing these waters. The revised metals standards, as dissolved standards, became effective in the state on January 1, 2015. The state is continuing to provide the sampling of these waters that it considers to be non-priorities while EPA continues to list these waters and consider them priorities.

State's Proposed Action - The state does not agree with listing these waters for the reasons mentioned above. Furthermore, the EPA's proposal does not meet the EMC's criteria for impairment of 10% exceedance with 90% confidence.

Conclusion

The state submitted its 303(d) list, timely, on April 1, 2016, and had prepared its list in accordance with the listing methodology established by the authority of the state's EMC. At the same time, the state also submitted a white paper to EPA to provide the scientific basis, rationale and justification for not relying on exceptionally small datasets for making 303(d) listing decisions for toxics – "Water Quality Assessment Methods for Toxics, April 1, 2016". The state respectfully requests EPA to approve the submitted list. Additionally, we look forward to participating in the conference call meeting that has been set for February 21, 2017 between North Carolina and EPA staff.

Sincerely,



S. Jay Zimmerman, P.G.

Division of Water Resources