

Lower Neuse Basin Association® Neuse River Compliance Association®
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March 29, 2021

Dr. A. Stanley Meiburg, Chairman
NC Environmental Management Commission, Members
1611 Mail Service Center
Raleigh, N.C. 27699- 1617

Dear Chairman Meiburg and Commissioners:

I am writing this letter as chairman of the Lower Neuse Basin Association ("LNBA") and the Neuse River Compliance Association ("NRCA"). On behalf of the Associations, I respectfully submit the attached comments on the Draft 2020 North Carolina 303(d) List and Integrated Report.

The Associations appreciate the monumental challenges placed upon the Division of Water Resources to provide an accurate and informative assessment of water quality limited areas in the state of North Carolina. With millions of water quality observations collected each assessment period we recognize that it is difficult to get each and every assessment absolutely correct. We offer our comments to assist with that goal.

Thank you for the opportunity to submit these comments. If you require additional information or have questions about our proposal please contact me or Haywood Phthisic, LNBA/NRCA Executive Director.

Sincerely,



Daniel F. McLawhorn, Chairman

cc: LNBA/NRCA Boards
Haywood Phthisic

LNBA/ NRCA Comments on the 2020 Draft 303(d) list and 305(b) Integrated Report

1. For water quality impairment decisions, DWR has continued to alter Assessment Units (AU) based on the observed concentration data for individual parameters on each assessment period. Altering Assessment Units based on the changing concentrations of observed data is particularly important in Reservoirs and Estuaries. Concentration data is highly variable even in pristine waterbodies. When DWR observes differences in the concentration standards attainment at particular stations within an AU, the AU is subdivided where one parameter may be meeting standards and one not meeting standards. Once an AU has been subdivided based on a particular assessment period, the subdivision is not re-combined. This can help to maximize 303(d) listings. Simply put, if DWR continues to promote 303(d) decisions based on single monitoring stations the number of 303(d) impairments will increase. We make particular note that the 2020 assessment reports for the lower Neuse estuary did not include extensive data collected by NCSU and the UNC IMS Modeling and Monitoring program (ModMon). This is very disturbing. The result is a dramatic increase in the number of AU's with only one sampling location. Impairment decisions made based on limited sampling sites and limited data greatly increase the uncertainty of the assessment decision.
2. Throughout our review of the detailed Integrated Report Fact Sheets impairments for Total Nitrogen were frequently observed and listed in Category 4t - . With the exception of water supply waters that have Nitrogen standards of 10mg/L, NC has no numerical water quality criteria (standards) for nitrogen. We made similar comments on the 2018 versions of the assessment documents. Any reference to exceeding criteria for nitrogen should be removed. The Neuse estuary TMDL was constructed and approved by EPA to address standards non-attainment of chlorophyll-a. The water quality target for this TMDL is chlorophyll-a as explicitly identified in the TMDL. While the Neuse strategies seek to manage chlorophyll-a non-attainment of the standard with nitrogen controls, nitrogen is NOT a water quality standard and thus the Integrated Report is inappropriately suggesting that a standard for nitrogen has been exceeded. This error is biased and suggestive of the need for a nitrogen numerical water quality standard it is not appropriate for listing waters as impaired. Even within the 2020 Draft IR, total nitrogen “attainment” is evaluated inconsistently as described below. Total Nitrogen should be removed from the IR.

Total Nitrogen Assessment

Two Assessment Units are listed in Category 1t Meeting Criteria Approved TMDL
27-(96)b1b and 27-(96)b1c

One Assessment Unit is listed in Category 4t and yet Meeting Criteria
27-(96)b2

Eight Assessment Units for total nitrogen are listed in Category 4t Exceeding Criteria
27-(104)a1, 27-(104)a2, 27-(104)b, 27-(118)a1
27-(118)a1a, 27-(118)a2a, 27-(118)a2b, 27-(118)f

LNBA/ NRCA Comments on the 2020 Draft 303(d) list and 305(b) Integrated Report

3. Legacy “total metals” issues are complex and have demonstrated that the new water quality standards adopted based on “dissolved metals” most often result in delisting legacy “total metals” impairment decisions. Thus, it is understandable that, there is little confidence afforded to the suggestion that “total metals” assessments indicate impairments of aquatic life uses. That said, 303(d) methods approved by the EMC indicate that Category 5 impairment decisions are not in harmony with an ‘inconclusive’ assessment. We note that New Listings on the 303(d) list include 27-(118)a1 in the Neuse Estuary. Copper is listed in Category 5 but also with **Data Inconclusive** Legacy Category 5 Total Metals Assessment. We suggest that the use of merging Category 5 with a conclusion of “inconclusive” is not consistent. We will note similar observations within the Integrated Report as well. We suggest DWR prioritize their limited monitoring resources to resolve these legacy listings and to alter their decision to place these legacy metals into category 5. Examples of these IR assessments in the lower Neuse can be found in the following AU’s: **27-(96)b1b, 27-(96)b1c, 27-(104)a1, 27-(104)a2, 27-(118)a1.**
4. Several AU’s seem to identify Chlorophyll-a as a parameter that fits into Category 4i Exceeding Criteria without referencing station numbers or summary data. It is unclear where this information comes from or what the actual results indicate. Are these “legacy” assessments based on data outside of the 2020 Integrated Report time period of 2014-2018? Was this assessment based on citizen complaints or some other data? Please explain. This is important to our Associations. Examples can be found in the Draft IR for AU’s 27-(104)b, 27-(118)a2b.
5. We have identified a suspected error in the IR for AU 27-(118)a2a Neuse River from Adams Creek to Wiggins Point to line across Neuse River from east mouth of Orchard Creek (northside) across to east mouth of the South River (southside). This AU Includes Station J9810000. Chlorophyll-a is listed in Category 4i as Exceeding Criteria with confidence. A review of the fact sheet chlorophyll-a data summary shows:

<u>Station #</u>	<u>Location</u>	<u>Count</u>	<u>#obs>40</u>	<u>%obs>40</u>	<u>%Conf</u>
J9810000	Neuse R at CM 7 nr Oriental	41	6	15%	78%

 Note that for 2017 and 2018 only two of fourteen chlorophyll-a samples exceeded criteria (14%). Potential Error - listing for chlorophyll-a should indicate category 3 data inconclusive.
6. AU 27-(118)g was assessed in the 2018 IR for chlorophyll-a in Category 1 Meeting Criteria. Yet in the 2020 draft IR this AU makes no mention of Chlorophyll-a. The 2020 Fact Sheets for the IR make no mentions of chlorophyll-a data or monitoring stations for this AU. Our comment #4 may be a closely related incidence. If legacy data was used for impairment, shouldn’t legacy data be used for attainment as well? This is a confusing situation can you help us to understand these decisions?
7. AU 27-(104)a2 fact sheets indicate that there were two monitoring locations included.

J8910000	NEUSE RIV AT CM 11 NR RIVERDALE and
J8920000	location unknown

 J8920000 is unknown to us and it only had one observation. We made similar comments on the 2018 IR. Obviously this is an insignificant issue but we would appreciate an explanation.

Attached for our member benefits is a summary of interesting observations based on our review

LNBA/ NRCA Comments on the 2020 Draft 303(d) list and 305(b) Integrated Report

Review DWR Draft 2020 Report New 303(d) listings Neuse River Basin as of February 1, 2020

27-33-18 Pigeon House Branch

From source to Crabtree Creek

Dissolved Oxygen (4 mg/l, AL, FW) Category 5 Exceeding Criteria with Statistical Confidence

27-62 Stoney Creek

From source to Neuse River

Benthos Category 5 Exceeding Criteria Fair, Poor or Severe Bioclassification

27-(118)a1 NEUSE RIVER Estuary

From a line across Neuse River from Wilkinson Point to Cherry Point to a line across the river From Adams Creek to Wiggins Point (part of lower model segment)

Copper Category 5 **Data Inconclusive** Legacy Category 5 Total Metals Assessment

Shellfish Growing Area Status (Fecal, SH, SA) 5 Exceeding Criteria Prohibited Shellfish Growing Area

27-(118)a1a NEUSE RIVER Estuary

Neuse River Estuary at Camp Don Lee Swim beach

Enterococcus Category 5 Exceeding Criteria Pathogen Indicator Standards

Shellfish Growing Area Status Category 5 Exceeding Criteria Prohibited Shellfish Growing Area

27-125-(6)a Dawson Creek

From mouth of Tarkiln Creek to 0.03 miles upstream of Neuse River

Enterococcus Category 5 Exceeding Criteria Pathogen Indicator Standards Exceedance

27-125-(6)b Dawson Creek

From 0.03 miles upstream of Neuse River to Neuse River

Enterococcus Category 5 Exceeding Criteria Pathogen Indicator Standards Exceedance

A number of other creeks and estuarine areas appear on the 303(d) New Listings but are not included in this brief summary. These creeks and other tidal areas are listed for Shellfish Growing Area Status (Fecal, SH, SA) Category 5 Exceeding Criteria Prohibited Shellfish Growing Area.

LNBA/ NRCA Comments on the 2020 Draft 303(d) list and 305(b) Integrated Report

Review NC 2020 Draft Integrated Report with a Focus on Main Stem Neuse River Estuary Chlorophyll-a as of February 1, 2020

27-(85) Neuse River From mouth of Contentnea Creek to Streets Ferry

Includes Stations: DWR J7850000, LNBA J7850000, and DWR J7930000

2018 Category 1 Draft 2020 Chlorophyll-a Category 1 Meeting Criteria with Confidence

27-(96)a Neuse River Estuary

From Streets Ferry to Bachelor Creek (river model segment)

Includes Station: J8250000

2018 Category 1 Draft 2020 Chlorophyll-a Category 1i Meeting Criteria with Confidence

27-(96)b1a Neuse River Estuary

From Bachelor Creek to a line across the river from Renny Creek to 0.5 miles north of Mills Br.

Includes Station: J 8290000

2018 Category 1 Draft 2020 Chlorophyll-a Category 1i Meeting Criteria with Confidence

27-(96)b1b NEUSE RIVER Estuary

From a line across the river from Renny Creek to 0.5 miles north of Mills Branch to a line across the river from Jack Smith Creek to 0.5 miles south of Mills Branch

Fact Sheets contain no information on stations or supporting data

2018 Category 3i Draft 2020 Chlorophyll a Category 1i Meeting Criteria with Confidence

2018 TN no mention Draft 2020 Total Nitrogen Category 1t Meeting Criteria Approved TMDL

2018 Category 5 Draft 2020 Copper 5 Data Inconclusive Legacy Category 5

27-(96)b1c NEUSE RIVER Estuary

From a line across the river from Jack Smith Creek to 0.5 miles south of Mills Branch to Trent River.

Includes Station: J8570000,

2018 Category 5 Draft 2020 Copper Category 5 Data Inconclusive Legacy Category

2018 Category 1 Draft 2020 Chlorophyll-a Category 1i Meeting Criteria with Confidence

2018 Category 1 Draft 2020 Dissolved Oxygen Category 3a Data Inconclusive

2018 TN no mention Draft 2020 Total Nitrogen Category 1t Meeting Criteria Approved TMDL

27-(96)b2 NEUSE RIVER Estuary

From Trent River to a line across Neuse River from Johnson Point to McCotter Point (part of upper model segment)

Includes Station: J8900800

2018 Category 4i Draft 2020 Chlorophyll a Category 3i Data Inconclusive

2018 TN no mention Draft 2020 Total Nitrogen Category 4t Meeting Criteria Approved TMDL

27-(104)a1 Neuse River Estuary

From a line across Neuse River from Johnson Point to McCotter Point to a line across the river from 0.6 miles north of Otter Creek and 0.7 miles south of Goose Creek

Includes Station: J8902500

2018 Category 5 Draft 2020 Copper Category 5 Data Inconclusive Legacy Category 5

2018 Category 1 Draft 2020 pH (8.5) 3a Data Inconclusive

2018 Category 4i Draft 2020 Chlorophyll-a Category 4i Exceeding Criteria with Statistical Co

LNBA/ NRCA Comments on the 2020 Draft 303(d) list and 305(b) Integrated Report

2018 TN no mention Draft 2020 Total Nitrogen 4t Exceeding Criteria Approved TMDL 1996

27-(104)a2 NEUSE RIVER Estuary

From a line across the river from 0.6 miles north of Otter Creek and 0.7 miles south of Goose Creek to 0.5 miles upstream of Beard Creek

Includes Stations J8910000 and J8920000 (however J8920000 is unknown)

2018 Category 5 Draft 2020 Copper Category 5 Data Inconclusive Legacy Category 5

2018 Category 4t Draft 2020 Total Nitrogen 4t Exceeding Criteria Approved TMDL 1996

2018 Category 4i Draft 2020 pH (8.5) 4i Exceeding Criteria with Confidence

2018 Category 4i Draft 2020 Chlorophyll a Category 4i Exceeding Criteria with Confidence

Chlorophyll-a data summary

Station #	Location	Count	#obs>40	%obs>40	%Confid
J8910000	NEUSE RIV AT CM 11 NR RIVERDALE	44	14	32%	100%
J8920000	This Station is unknown	1	0	0%	0%

27-(104)b NEUSE RIVER Estuary

From a line across Neuse River from 1.2 miles upstream of Slocum Creek to 0.5 miles upstream of Beard Creek to a line across Neuse River from Wilkinson Point to Cherry Point (bend model segment)

Includes Stations C105B, C107, C95 from Div of Marine Fisheries (Enterrococcus Data)

It is unclear from the Fact Sheets where the Chlorophyll-a and Nitrogen data have come from.

2018 Category 4t Draft 2020 Total Nitrogen Category 4t Exceeding Criteria Approved TMDL

2018 Category 4i Draft 2020 Chlorophyll-a Category 4i Exceeding Criteria with Confidence

27-(118)a1 NEUSE RIVER Estuary

From a line across Neuse River from Wilkinson Point to Cherry Point to a line across the river From Adams Creek to Wiggins Point (part of lower model segment)

Includes Stations C110A and C94 from Div of Marine Fisheries (Enterrococcus Data)

It is unclear from the Fact Sheets where the Chlorophyll-a and Nitrogen data have come from.

2018 Category 5 Draft 2020 Copper Category 5 Data Inconclusive Legacy Category 5

2018 Category 1 Draft 2020 Shellfish Growing Area Status Category 5 Exceeding Criteria

2018 Category ? Draft 2020 Shellfish Growing Area Status Category 1 Meeting Criteria

2018 Category 4i Draft 2020 Chlorophyll-a Category 4i Exceeding Criteria with Confidence

2018 TN no mention Draft 2020 Total Nitrogen Category 4t Exceeding Criteria Approved TMDL

27-(118)a1a NEUSE RIVER Estuary

Swim beach at Camp Don Lee

Includes Station C93 from Div of Marine Fisheries (Enterrococcus Data)

It is unclear from the Fact Sheets where the Chlorophyll-a and Nitrogen data have come from.

2018 Category 1 Draft 2020 Enterrococcus Category 5 Exceeding Criteria

2018 no mention Draft 2020 Chlorophyll-a Category 4i Exceeding Criteria with Confidence

2018 Category 1 Draft 2020 Shellfish Growing Area Status Category 5 Exceeding Criteria Prohibited

2018 TN no mention Draft 2020 Total Nitrogen Category 4t Exceeding Criteria Approved TMDL 1996

27-(118)a2 NEUSE RIVER Estuary

Divided into two Assessment Units as part of final 2018 IR (27-(118)a2a and 27-(118)a2b)

From a line across Neuse River from Adams Creek to Wiggins Point to Pamlico Sound (mouth of Neuse River described as a line running from Mawpoint to Point of Marsh)

LNBA/ NRCA Comments on the 2020 Draft 303(d) list and 305(b) Integrated Report

27-(118)a2a NEUSE RIVER Estuary

From a line across Neuse River from Adams Creek to Wiggins Point to line across Neuse River from east mouth of Orchard Creek (northside) across to east mouth of the South River (southside).

Includes Station J9810000

2018 Category 4t Draft 2020 Total Nitrogen Category 4t Exceeding Criteria Approved TMDL

2018 Category 4i Draft 2020 Chlorophyll-a Category 4i Exceeding Criteria with Confidence

Chlorophyll-a data summary

<u>Station #</u>	<u>Location</u>	<u>Count</u>	<u>#obs>40</u>	<u>%obs>40</u>	<u>%Confid</u>
J9810000	Neuse R at CM 7 nr Oriental	41	6	15%	78%

Note that for 2017 and 2018 only two of fourteen chlorophyll-a samples exceeded criteria (14%)

Potential Error - listing for chlorophyll-a should indicate category 3 data inconclusive.

27-(118)a2b NEUSE RIVER Estuary

From a line across Neuse River from east mouth of Orchard Creek (northside) across to east mouth of the South River (southside) to Pamlico Sound (mouth of Neuse River described as a line running from Maw point to Point of Marsh)

Includes Station C90A from Div of Marine Fisheries (Enterrococcus Data)

It is unclear from the Fact Sheets where the Chlorophyll-a and Nitrogen data have come from.

2018 Category 4t Draft 2020 Total Nitrogen Category 4t Exceeding Criteria Approved TMDL

2018 Category 1i Draft 2020 Chlorophyll a Category 3i Data Inconclusive.

27-(118)b NEUSE RIVER Estuary

DEH prohibited area at mouth of Clubfoot Creek

No Stations are listed on Fact Sheets

2018 Category 5 Draft 2020 Shellfish Growing Area Status (Fecal, SH, SA) 5 Exceeding Criteria

27-(118)c NEUSE RIVER Estuary

DEH prohibited area at mouth of Green Creek

No Stations are listed on Fact Sheets

2018 Category 5 Draft 2020 Shellfish Growing Area Status (Fecal, SH, SA) 5 Exceeding Criteria

27-(118)d NEUSE RIVER Estuary

DEH prohibited area at mouth of Peirce Creek

No Stations are listed on Fact Sheets

2018 Category 1 Draft 2020 Shellfish Growing Area Status (Fecal, SH, SA) 1 Meeting Criteria

27-(118)e NEUSE RIVER Estuary

DEH Shellfish Area at mouth of the South River

Includes Station C85 from Div of Marine Fisheries (Enterrococcus Data)

2018 Category 5 Draft 2020 DEH Shellfish Conditionally approved-open area

LNBA/ NRCA Comments on the 2020 Draft 303(d) list and 305(b) Integrated Report

27-(118)f NEUSE RIVER Estuary

Prohibited area at Cherry Branch Minnesott Ferry Landing south side of river

Includes station J9530000

- 2018 Category 4t Draft 2020 Total Nitrogen Category 4t Exceeding Criteria Approved TMDL
 - 2018 Category 3a Draft 2020 Ph(8.5) Category 4i Exceeding Criteria with Confidence
 - 2018 Category 4i Draft 2020 Chlorophyll-a Category 4i Exceeding Criteria with Confidence
 - 2018 Category 5 Draft 2020 Shellfish Growing Area Status Category 5 Exceeding Criteria Prohibited
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27-(118)g NEUSE RIVER Estuary

Prohibited area at mouth of Orchard Creek

No Stations are listed on Fact Sheets

- 2018 Category 5 Draft 2020 Shellfish Growing Area Status Category 5 Exceeding Criteria Prohibited
 - 2018 Category 1i Draft 2020 Chlorophyll-a not mentioned
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27-(118)h NEUSE RIVER Estuary

Public Beach area at mouth of Dawson Creek

No Stations are listed on Fact Sheets

- 2018 Category 1 Draft 2020 Shellfish Growing Area Status Category 5 Exceeding Criteria Prohibited