

**Lower Neuse Basin Association®
Neuse River Compliance Association®
Post Office Box 1410
Clayton, North Carolina 27528 - 1410**

February 28, 2022

Ms. Robin Smith, Chair, NC EMC, and
NC Environmental Management Commission Members
1611 Mail Service Center
Raleigh, N.C. 27699- 1617

Dear Chairman Smith and Commissioners:

On behalf of the Lower Neuse Basin Association ("LNBA") and the Neuse River Compliance Association ("NRCA") (collectively the "Associations"), I respectfully submit the attached comments on the North Carolina Draft 2022 303(d) List and Draft 305(b) Integrated Report ("IR"). The Neuse River Estuary TMDL was developed by the state and approved by EPA in 2002 to achieve the standard for *chlorophyll-a*. The LNBA/NRCA NPDES dischargers have met their nutrient reduction goals to attain the chlorophyll-a water quality standard. Because the Neuse Estuary is no longer on the 303(d) list the DWR draft 2022 Integrated Report (IR) is of great interest to the LNBA/NRCA.

The Associations recognize that both assessment reports are requirements under the Clean Water Act Sections 303(d) and 305(b). The Associations appreciate the monumental challenges placed upon DWR to provide an accurate and informative assessment of surface waters meeting or not-attaining water quality standards in North Carolina. With millions of water quality observations collected each assessment period, we recognize that it is a difficult goal to get each, and every assessment absolutely correct. We offer our comments to assist with that goal.

To facilitate the Associations' review of the draft reports, DWR provided summary Fact Sheets. The Fact Sheets are very helpful and provide a level of detail that enhances our understanding of the 2022 assessment. DWR staff should be commended for providing this information in a timely manner. However, one of the shortcomings, of the NC 303(d) and 305(b) assessment process, is that placing a water on the 303(d) list relies primarily on the frequency of a parameter exceeding a water quality standard, as opposed to a consideration of the magnitude of exceedance values above the water quality standard before a water is placed on the 303(d) list for a that parameter.

The Associations' comments are based on a detailed review of the DWR 2022 Draft Reports, and the summary Fact Sheets of individual assessment units provided by DWR. We have not reviewed the detailed raw data as that is beyond our current resources. Our comments focus on potential errors in the assessment reports due to technical mistakes and our confusion in understanding the applicability of the

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new DWR Data Tiers implemented after the May 13, 2021 EMC approval of the methodology. How the new DWR Data Tiers are used or not used in each of the assessment reports (303(d) and IR) is quite confusing, as we have described in the attached comments.

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

Sincerely,

A handwritten signature in cursive script that reads "Barry Parks".

Barry Parks, Chairman

cc: DWR Director S. Daniel Smith
LNBA/NRCA Boards
Haywood Phthisic

LNBA/ NRCA Comments on the 2022 Draft 303(d) list and 305(b) Integrated Report

1. DWR has newly implemented the use of **Water Quality Data Tiers**, that are divided into three groups, to assess North Carolina waters for the 303(d) list and the 305(b) Integrated Report. See: <https://deq.nc.gov/water-quality/planning/tmdl/303d/general/data-tiers/download>

TIER 1 - Education, Environmental Health Screening TIER 2 - Basin Planning, Research, Effectiveness Monitoring, Targeting of Management Actions TIER 3 - Regulatory Assessments of Water Quality Standards Attainment

The Associations are confused about the use of the **Water Quality Data Tiers**, especially since the EMC has not approved the use of the **Water Quality Data Tiers**, in either the 2022 303(d) Listing and Delisting Methodology, or the DWR Integrated Report Category Assignment Procedure. According to the Water Quality Data Tiers, Tier 1 and Tier 2 data cannot be used for regulatory purposes. Tier 3 data, which must meet the same quality assurance and control as data collected by DWR, and which requires a DWR-approved Quality Assurance Project Plan (“QAPP”), can be used for regulatory purposes, and can be included in the biannual statewide assessment under Sections 305(b) and 303(d) of the Clean Water Act.

However, the **Fact Sheets** provided by DWR to the Associations, which summarize observations and criteria exceedances used for the Draft 303(d) and Draft 305(b) Integrated Reports, included both Tier 3 data and Tier 2 data collected by the UNC Institute of Marine Sciences (IMS) ModMon Program. The Associations understand that the IMS ModMon program, like many research universities, does not have a DWR-approved QAPP or DWR-certified laboratory, and DWR has previously utilized ModMon data for 303(d) and 305(b) purposes. If the ModMon data is considered Tier 2 this data should not be considered in the Fact Sheets for the 303(d) and 305(b) reports.

The Associations are confused by the new process and would like to know what the established methods are for considering both Tier 2 and Tier 3 data in the Integrated Report. What are the methods for evaluating conflicts between Tier 2 and Tier 3 data in the Integrated Report? The Fact Sheets should be limited to only Tier 3 data; and question whether the Tier 2 data can be used for the 303(d) list and the 305(b) Integrated Report, since these assessments are made for regulatory purposes. The 303(d) list and the 305(b) Integrated Report are assessing the attainment of water quality standards based on an assessment methodology approved by the EMC. DWR needs to clarify the appropriate use of **Water Quality Data Tiers** in the 303(d) list and Integrated Report and associated Fact Sheets.

Furthermore, the DWR Fact Sheet summaries include a column for identifying the appropriate Tier. However, most of this column information is blank except for Tier 2 notations for the ModMon data. If DWR Monitoring Coalitions are included as Tier 3 data, the Associations strongly recommend that the DWR "Water Quality Data Tiers" document be revised and explicitly indicate that Coalitions with Memoranda of Agreement (“MOAs”) are included in Tier 3 even though the Coalitions do not have individual QAPPs. The EMC-approved assessment methodology (May 13, 2021) includes decision

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charts for meeting, exceeding, and inconclusive assessments. Each of these decisions are made in both the 303(d) and (305(b) Integrated Report assessments.

2. The Draft 2022 303(d) report appropriately contains no listings for non-attainment of Total Nitrogen. However, the Draft 305(b) Integrated Report includes many non-attainment listings for Total Nitrogen. These IR spreadsheet listings are not limited to just the Neuse Estuary. NC has no numerical water quality standards for total nitrogen concentrations except for water supply. Any reference to exceeding water quality standards for nitrogen should be removed from the IR. Rather, the Associations recommend that DWR provide a narrative summary of the attainment or non-attainment of total maximum daily loads (“TMDLs”) and other Management Strategies in a narrative form that better informs of the progress or lack of progress including an assessment of the goals attained or not attained. The 2022 EMC-approved 303(d) assessment methodology (May 13, 2021) does not indicate a method for assessing Total Nitrogen concentrations. The Environmental Protection Agency (“EPA”)-approved TMDL for the Neuse Estuary (and most other TMDLs) does not include an evaluation level for Total Nitrogen concentrations. It only includes an evaluation level for Total Nitrogen Load reductions. The 303(d) list and the IR spreadsheets are intended to evaluate attainment of water quality standards using approved methods. These spreadsheets do not adequately explain the progress of attainment or non-attainment of TMDL goals. The 2022 Fact Sheets offer no indication of how this criterion was assessed using nitrogen data from 2016-2020. There is no indication of how many samples exceed a Total Nitrogen criterion or the established evaluation level for total nitrogen concentrations. The Total Nitrogen assessments should be removed from the Draft 305(b) Integrated Report as they are inconsistently applied to individual assessment units. Total nitrogen is not a water quality standard, and thus the Draft 305(b) Integrated Report is inappropriately suggesting that a standard for nitrogen has been exceeded.
3. Legacy “total metals” issues are complex, and the relatively new water quality metals standards adopted based on “dissolved metals” most often results in the 303(d) delisting of legacy “total metals” decisions. The Associations recommend that DWR prioritize its monitoring resources to resolve these legacy listings and to conduct new monitoring assessments to appropriately consider de-listing these legacy issues.
4. The Associations have attached the Draft 2022 newly listed 303(d) waters for the benefit of our members to assist their individual reviews of the Draft materials. The ten new listings noted by the Associations in the Neuse Basin below Falls Lake include three for benthic macroinvertebrates, six for pH levels below a pH of 6, and one for low dissolved oxygen. The Associations suspect that many of these new listings may be related to the influence of swamp like waters.
5. Attached below, for your consideration, the Associations provide several potential errors based on our review of the individual assessment units within the Neuse River Estuary.

LNBA/ NRCA Comments on the 2022 Draft 303(d) list and 305(b) Integrated Report

Summary Review 2022 DWR Draft **New** 303(d) listings Neuse River Basin below Falls Lake Assessment 2016 – 2020

Crabtree Creek (Crabtree Lake)

27-33-(3.5)b1 From Cary WWTP to mouth of Richlands Creek
Benthos (Nar, AL, FW) Category 5 Exceeding Criteria Fair, Poor or Severe Bioclassification 2022

Marks Creek (Lake Myra) Near Knightdale NC

27-38 From source to Neuse River
Benthos (Nar, AL, FW) Category 5 Exceeding Criteria Fair, Poor or Severe Bioclassification 2022

Mill Creek (Moorewood Pond) Near Erwin NC

27-52-(1)b From source to Stone Creek
pH (6 su, AL, FW) Category 5 Exceeding Criteria 2022

Hannah Creek

27-52-6a1 From source to Allens Crossroads NC 96
Dissolved Oxygen (4 mg/l, AL, FW) Category 5 Exceeding Criteria 2022

Hannah Creek

27-52-6a2 From source to Allens Crossroads NC 96
pH (6 su, AL, FW) Category 5 Exceeding Criteria 2022

Falling Creek

27-54-(3.5)b From Wayne County SR 1006 to Thoroughfare Swamp
pH (6 su, AL, FW) Category 5 Exceeding Criteria 2022

Little River (Tarpleys Pond)

27-57-(8.5)b From Little Buffalo Creek to Spring Branch
pH (6 su, AL, FW) Category 5 Exceeding Criteria 2022

Buffalo Creek (Wendell Lake)

27-57-16-(3)a 200 feet upstream from West Haywood Street near Wendell to UT on west side of creek
0.8 miles south of Wendell Lake
pH (6 su, AL, FW) Category 5 Exceeding Criteria 2022

Walnut Creek (Lake Wackena, Spring Lake)

27-68 From source to Neuse River
pH (6 su, AL, FW) Category 5 Exceeding Criteria 2022

Little Creek (East Side)

27-86-2-5 From source to Moccasin Creek
Benthos (Nar, AL, FW) Category 5 Exceeding Criteria Fair, Poor or Severe Bioclassification 2022

**Potential Error Review of the NC 2022 Draft Integrated Report (IR)
with a Focus on Chlorophyll-a and Nitrogen
Main Stem Neuse River Estuary Chlorophyll-a 2016-2020**

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

Includes Stations: J7850000, and J7930000

2020 IR Chlorophyll-a Category 1 Meeting Criteria

2022 Draft IR Chlorophyll-a Category 1 Meeting Criteria

Potential Error: Fact Sheets indicate 95 composite integrated water samples for chlorophyll-a (Chla_IWS) from Station J7930000. However, there is no indication of how many samples exceed criteria 2016-2020. It is unclear if this Tier 2 information was included in the assessment.

**27-(96)a Neuse River Estuary (First Assessment Unit in Neuse River included in Estuary TMDL)
From Streets Ferry to Bachelor Creek (river model segment)**

Includes Station: J8250000

2020 IR Chlorophyll-a Category 1i Meeting Criteria

2020 IR Total Nitrogen Category 1t Meeting Criteria TMDL

2022 Draft IR Chlorophyll-a Category 1i Meeting Criteria

2022 Draft IR Total Nitrogen Category 1t Meeting Criteria Approved TMDL

Potential Error: Fact Sheets indicate Total Nitrogen is MEETING the criteria at this location.

Note that Total Nitrogen is NOT meeting the criteria at other locations. Nothing explains the inconsistency in meeting or not meeting the criteria. NC does not have an approved water quality standard for nitrogen concentrations. The 2022 EMC approved 303d assessment methodology (May 13, 2021) does not indicate a method for assessing Total Nitrogen. The EPA approved TMDL for the Neuse Estuary does not include an evaluation level for Total Nitrogen concentrations only annual Total Nitrogen Load reductions. The 303(d) list and the IR are intended to evaluate attainment of water quality standards using approved methods. The Fact sheets offer no indication of how this criterion was assessed using data from 2016-2020. There is no indication of how many samples exceed a Total Nitrogen criterion or the established evaluation level for total nitrogen concentrations from 2016-2020. The Total Nitrogen assessments should be removed from the Integrated Report as they are inconsistently applied to individual assessment units. Rather, it is suggested to provide a summary of the attainment or non-attainment of TMDL's and other Management Strategies in a narrative form that includes an assessment of the goals attained or not attained.

(This comment will be referred to as "**Remove Total Nitrogen Assessment**").

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: J8290000

2020 IR Chlorophyll-a Category 1i Meeting Criteria

2020 IR Total Nitrogen Category 1t Meeting Criteria TMDL

2022 Draft IR Chlorophyll-a Category 1i Meeting Criteria

2022 Draft IR Total Nitrogen Category 1t Meeting Criteria Approved TMDL

Potential Error: "**Remove Total Nitrogen Assessment**"

LNBA/ NRCA Comments on the 2022 Draft 303(d) list and 305(b) Integrated Report

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

2020 IR Chlorophyll a Category 1i Meeting Criteria

2020 IR Total Nitrogen Category 4t Meeting Criteria Approved TMDL

2022 Draft IR Chlorophyll-a Category 1i Meeting Criteria

2022 Draft IR Total Nitrogen 4t Meeting Criteria Approved TMDL

Potential Error: 2022 IR Fact Sheets contain no information on stations or supporting data for Nitrogen or Chlorophyll-a.

Potential Error: Total Nitrogen is listed as Category 4t and Meeting Criteria. Category 4 is typically reserved for "Exceeding Criteria" only. Inconsistencies are evident.

Potential Error: "Remove Total Nitrogen Assessment"

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.

Previously 2020 assessment included Station: J8570000,

2020 IR Chlorophyll-a Category 1i Meeting Criteria

2020 IR Total Nitrogen Category 1t Meeting Criteria Approved TMDL

2022 Draft IR Chlorophyll-a Category 1i Meeting Criteria

2022 Draft IR Total Nitrogen Category 4t Meeting Criteria Approved TMDL

Potential Error: Chlorophyll-a is listed as Meeting Criteria. Fact Sheets for J8570000 indicate Tier 3 chlorophyll-as follows:

Chlorophyll-a observations =45

Confidence Exceeding Criteria=33%

Number Exceeding Criteria= 4

Confidence Meeting Criteria= 47%

% Exceeding criteria = 9%

N observations 2019-2020 = 16

N exceeding criteria 2019-2020 = 3

Confidence Meeting 2019-2020 = 7%

Tier 3 Recommended Assessment Methodology Results = Category 3i Data Inconclusive

Tier 2 chlorophyll-a data for integrated water samples indicate 102 observations no details are provided for the number of samples exceeding the 40ug/l criteria. Did the Tier 2 data contribute to the assessment of Category 1i Meeting Criteria?

Potential Error: Total Nitrogen is listed as Category 4t and Meeting Criteria. Category 4 is typically reserved for "Exceeding Criteria" only. Inconsistencies are evident.

Potential Error: "Remove Total Nitrogen Assessment"

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

2020 IR Chlorophyll a Category 3i Data Inconclusive

2020 IR Total Nitrogen Category 4t Meeting Criteria Approved TMDL

2022 Draft IR Chlorophyll-a Category 4i Data Inconclusive

2022 Draft IR Total Nitrogen Category 4t Meeting Criteria Approved TMDL

Potential Error: Chlorophyll-a is listed in Category 4i with Data Inconclusive. Category 4 is typically reserved for "Exceeding Criteria" only. Inconsistencies are evident.

Potential Error: Chlorophyll-a is listed as 4i Data Inconclusive. Fact Sheets for J8900800 indicate Tier 3 chlorophyll-as follows:

Chlorophyll-a observations =44

Confidence Exceeding Criteria=55%

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Number Exceeding Criteria= 5
% Exceeding criteria = 11%

Confidence Meeting Criteria= 28%
N observations 2019-2020 = 16
N exceeding criteria 2019-2020 = 2
Confidence Meeting 2019-2020 = 21%

Tier 3 Recommended Assessment Methodology Results = Category 3i Data Inconclusive

Tier 2 chlorophyll-a data for integrated water samples indicate 102 observations no details are provided for the number of samples exceeding the 40ug/l criteria. Did the Tier 2 data contribute to the assessment of Category 4i Data Inconclusive?

Potential Error: Total Nitrogen is listed as Category 4t and Meeting Criteria. Category 4 is typically reserved for "Exceeding Criteria" only. Inconsistencies are evident.

Potential Error: "Remove Total Nitrogen Assessment"

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

2020 IR Chlorophyll-a Category 4i Exceeding Criteria

2020 IR Total Nitrogen 4t Exceeding Criteria Approved TMDL

2022 Draft IR Chlorophyll-a Category 4i Exceeding Criteria

2022 Draft IR Total Nitrogen Category 4t Exceeding Criteria Approved TMDL

Note: Tier 3 Chlorophyll-a data support the Category 4i Exceeding Criteria.

Tier 2 Chlorophyll-a data indicate 102 observations for integrated water column results. However, no details are presented for the number of observations exceeding the criteria of 40ug/L.

Potential Error: "Remove Total Nitrogen Assessment"

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

2020 IR Chlorophyll a Category 4i Exceeding Criteria

2020 IR Total Nitrogen 4t Exceeding Criteria Approved TMDL

2022 Draft IR Chlorophyll-a Category 4i Exceeding Criteria

2022 Draft IR Total Nitrogen Category 4t Exceeding Criteria Approved TMDL

Potential Error: "Remove Total Nitrogen Assessment"

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)

2020 IR Total Nitrogen Category 4t Exceeding Criteria Approved TMDL

2020 IR Chlorophyll-a Category 4i Exceeding Criteria

2022 Draft IR Chlorophyll-a Category 4i Exceeding Criteria

2022 Draft IR Total Nitrogen Category 4t Exceeding Criteria Approved TMDL

Potential Error: It is unclear from the Fact Sheets for this AU where the Chlorophyll-a and Nitrogen data have come from. No Tier 3 data are presented for chlorophyll-a. Tier 2 data for J8925000 chlorophyll-a are presented but only as "grab samples" either at the surface or bottom – no integrated water column samples (IWS) are presented. Tier 2 "grab sample data" should not be used to make chlorophyll-a assessments. If previous assessments from the 2020 IR or even earlier IR's were used for the

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assessment then it is recommended to include this information under the Column Heading of "REASON FOR RATING"

Potential Error: "Remove Total Nitrogen Assessment"

27-(118)a1 NEUSE RIVER Estuary

Note: The 2020 IR and the Draft 2022 IR reference Segment **27-(118)a1** is identified as 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). And Segment **27-(118)a1a** is identified as the Swim beach at Camp Don Lee.

Note: There is no 2022 Fact Sheet for Segment **27-(118)a1** and the 2022 Fact Sheets for segment **27-(118)a1a** is identified as 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) rather than the Swim beach at Camp Don Lee. This provides confusion as the Draft 2022 Fact Sheets location description is not consistent with the IR's. Perhaps the Assessments for these two AU's have somehow been mis-aligned.

2020 IR Chlorophyll-a Category 4i Exceeding Criteria

2020 IR Total Nitrogen Category 4t Exceeding Criteria Approved TMDL

2022 Draft IR Chlorophyll-a Category 4i Exceeding Criteria

2022 Draft IR Total Nitrogen Category 4t Exceeding Criteria Approved TMDL

Potential Error: It is unclear from the Fact Sheets where the Chlorophyll-a and Nitrogen data have come from. There are no Tier 3 or Tier 2 data presented. Suggest Category 3a perhaps.

See 27-(118)a1a immediately below

Suggest Categories 3a if no data otherwise recommend "carry forward assessment perhaps

Potential Error: "Remove Total Nitrogen Assessment"

27-(118)a1a NEUSE RIVER Estuary from the 2020 IR Previously Swim beach at Camp Don Lee

Now Identified in 2022 Draft IR as: Segment 27-(118)a1a

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)

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

See 27-(118)a1 immediately above

Suggest Categories 3a if no data otherwise recommend "carry forward assessment" perhaps

Potential Error: "Remove Total Nitrogen Assessment"

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

2020 IR Total Nitrogen Category 4t Exceeding Criteria Approved TMDL

2020 IR Chlorophyll-a Category 4i Exceeding Criteria

2022 Draft IR Chlorophyll-a Category 3i Exceeding Criteria

2022 Draft IR Total Nitrogen Category 4t Exceeding Criteria Approved TMDL

Potential Error: Chlorophyll-a Category 3i is inconsistent with Exceeding Criteria. Category 4 is associated with "exceeding" while Category 3 is associated with "data Inconclusive".

Potential Error: Tier 3 Chlorophyll-a data assessment for station J9810000 follows.

Station J9810000 2016-2020

Chlorophyll-a observations =36

Confidence Exceeding Criteria=29%

Number Exceeding Criteria= 3

Confidence Meeting Criteria= 49%

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% Exceeding criteria = 8%

N observations 2019-2020 = 13

N exceeding criteria 2019-2020 = 0

Confidence Meeting 2019-2020 = 75%

Tier 3 Recommended Assessment Methodology Results = Category Meeting Criteria, Category 1i

Tier 2 chlorophyll-a data suggests 102 samples from the appropriate Integrated Water Samples (IWS). However, no data is provided summarizing the number of samples that exceed the 40ug/L criteria.

Potential Error: "Remove Total Nitrogen Assessment"

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).

2020 IR Total Nitrogen Category 4t Exceeding Criteria Approved TMDL

2020 IR Chlorophyll a Category 3i Data Inconclusive.

2022 Draft IR Chlorophyll-a Category 3i Data Inconclusive

2022 Draft IR Total Nitrogen Category 4t Exceeding Criteria Approved TMDL

Note: Fact Sheets include Station J9900000. It is unclear from the Fact Sheets where the Chlorophyll-a and Nitrogen data have come from to make the assessments. No Tier 3 data are presented in Fact Sheets. Tier 2 data does not include any integrated water samples (IWS) for chlorophyll-a. Tier 2 data for surface and bottom grab samples should not be used for assessment. Suggest Category 3i is appropriate for chlorophyll-a.

Potential Error: "Remove Total Nitrogen Assessment"

27-(118)f NEUSE RIVER Estuary

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

Includes station J9530000

2020 IR Total Nitrogen Category 4t Exceeding Criteria Approved TMDL

2020 IR Chlorophyll-a Category 4i Exceeding Criteria

2022 Draft IR Chlorophyll-a Category 4i Exceeding Criteria

2022 Draft IR Total Nitrogen Category 4t Exceeding Criteria Approved TMDL

Potential Error Chlorophyll-a Assessment based on Fact Sheets

Tier 2 Chlorophyll-a data indicates 102 integrated samples (IWS), no data indicating exceedances.

Tier 3 Chlorophyll-a data assessment for station J9530000 2016-2020 follows

Chlorophyll-a observations =36

Confidence Exceeding Criteria=85%

Number Exceeding Criteria= 6

Confidence Meeting Criteria= 6%

% Exceeding criteria = 17%

N observations 2019-2020 = 13

N exceeding criteria 2019-2020 = 1

Confidence Meeting 2019-2020 = 38%

Recommended Assessment Methodology Results = data Inconclusive, Category 3i

Potential Error: "Remove Total Nitrogen Assessment"
