



UNRBA Board Meeting September 16, 2020

**Remote Access Only
(see next slides)**



Remote Access for UNRBA Board Meetings

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Remote Access Guidelines

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- UNRBA meetings are open meetings; however, for this remote access meeting, please **limit the discussion to UNRBA Board Members** to facilitate moving through action items

September 16, 2020 UNRBA Board Agenda

- **Opening—Sig Hutchinson, Chair**
- **Action Items**
 - Approval of June 17, 2020 Meeting Minutes
 - Approval of the Treasurer's Report
 - Authorization to pay Barnes & Thornburg (B&T) for additional work performed in FY2020
 - Review of the Stage I Existing Development Interim Alternative Implementation Approach Program Development Schedule—Request Jurisdictional Statement on Participation in the Program
- **Status Reports and Informational Items**
 - Modeling and Regulatory Support (MRS) Status
 - EPA proposed criteria for lake and reservoirs
 - DWR 303(d) process
 - High Rock Lake Recommendations DWR Nutrient Criteria Development Plan ([additional agenda item](#))
 - Falls Lake site-specific criteria/B&T FY2021 scope of work
 - UNC Collaboratory Falls Lake research updates
 - Ongoing DEQ Discussions/Issues
- **Closing Comments**

Opening—Sig Hutchinson

Opening

- Introductions and announcements
- Roll call for quorum
- Identification of any conflicts
- Review and approval of agenda

Action Items

Approval of June 17, 2020 Meeting Minutes

Approval of the Treasurer's Report

Balance Forward: (per bank statement - 4/30/2020)	Checking	\$	82,403.23
	Savings		809,058.11
Debits:			
McGill Asso. (April thru August 2020 Invs)		\$	56,484.69
Brown & Caldwell (MRS, FY 20, 2020 Invs)			216,322.97
Brown & Caldwell (MRS, FY 20-21, July Inv)			20,313.07
Sauber WQ Consulting (2020 Invs)			13,580.00
HDR, Inc (2020 Invs)			6,700.77
The Insurance Shoppe (D & O Insurance annual)			1,113.00
MFG Consulting, LLC (2020 Invs)			700.00
Phthisic Consulting, Inc. (2020 Invs)			2,022.90
			<u>317,237.40</u>
Credits:			
Interest (checking)		\$	133.76
Interest (savings)			3,941.64
FY 2020-21 Membership Fees			932,296.49
Transfer from Savings to Checking Account			<u>250,000.00</u>
Account Balance (per bank statement - 8/31/2020)	Checking	\$	947,596.08
	Savings		<u>562,999.75</u>
Total UNRBA Account Balance :		\$	<u>1,510,595.83</u>
Outstanding invoices/deposits in process since the close of bank statement (8/31/2020):			
Debits:			
McGill Asso. (August 2020 Inv)		\$	-
Brown & Caldwell (MRS, FY 20, July, 2020 Inv)			-
Brown & Caldwell (MRS, FY 21, August, 2020 Inv)			-
MFG Consulting, LLC (August, 2020 Inv)			125.00
Sauber Water Quality Consulting (August 2020 Inv)			3,080.00
Phthisic Consulting, Inc. (August 2020 Inv)			560.00
Penn National (for 2020-21, general liability ins)			589.00
Credits:			
Transfer from Savings to Checking		\$	<u>-</u>
Current Account Balances:	Checking		944,391.08
	Savings		<u>562,999.75</u>
Total UNRBA Account Balance :		\$	<u>1,507,390.83</u>

Authorization to Pay Barnes & Thornburg for Additional Work performed Under the First Engagement Letter

Authorization to pay Barnes & Thornburg for Additional Work Performed in FY2020

- Invoices for work performed by Barnes & Thornburg under the previous engagement letter exceed the budget amount of \$50,000 by \$4,722.94.
- Additional work was required to complete the work products under the approved scope
- Barnes & Thornburg performed this additional work in good faith.
- The Executive Director requests authorization to pay Barnes & Thornburg for the additional work performed in FY2020 out of the unallocated balance in the legal fund.

Review the Stage I Interim Alternative Implementation Approach (IAIA) Program Development Schedule

Status of the IAIA

- On January 15, 2020, the Board
 - Approved the IAIA Program Description as a guidance document
 - Authorized the Executive Director to discuss implementation pathways with DWR and others
- On June 17, 2020 the Board
 - Discussed administrative issues
- The legal group developed a Core Principles document which was distributed in its latest form July 17, 2020
- On August 4, 2020 and September 1, 2020, PFC members discussed status of discussions with local leaders on participation
- PFC representatives have provided preliminary intent to participate
- Seeking Board feedback today on planned participation
- November Board meeting will seek statement on participation

Summary of Core Principles

- The IAIA is a group effort, but compliance is assessed individually for each jurisdiction
- Participation requires a 5-year investment commitment from each jurisdiction to reduce administrative burden
- Commitments can either be met individually at the local level or as part of a joint project
- Individual jurisdictions decide how their funds are spent
- Jurisdictions may be more specific in their budgets or board directives about how funds are spent, and the IAIA Program Document is not prescriptive but rather flexible
- Individuals may drop out of the program at the end of a fiscal year
 - Must notify other participants and DWR
 - Must prepare a local program to meet jurisdictional nutrient reductions and submit to DWR and EMC for approval without a lag in implementation

Development Schedule for UNRBA IAIA Program Implemented under the Falls Lake existing rules for a potential start date in July 2021.

July 2020:

- ~~DWR provides a revised draft Model Program for UNRBA review~~
- PFC discuss with local decision makers the likelihood of participation ✓
- ~~PFC review the DWR Model Program~~

Aug 2020:

- PFC discuss preliminary input from local leaders on participation (Aug 4th) ✓
- PFC review DWR Model Program and provide comment to DWR
- PFC finalizes IAIA Program Document for Board review
- UNRBA prepare for information update to the EMC Water Quality Committee ✓

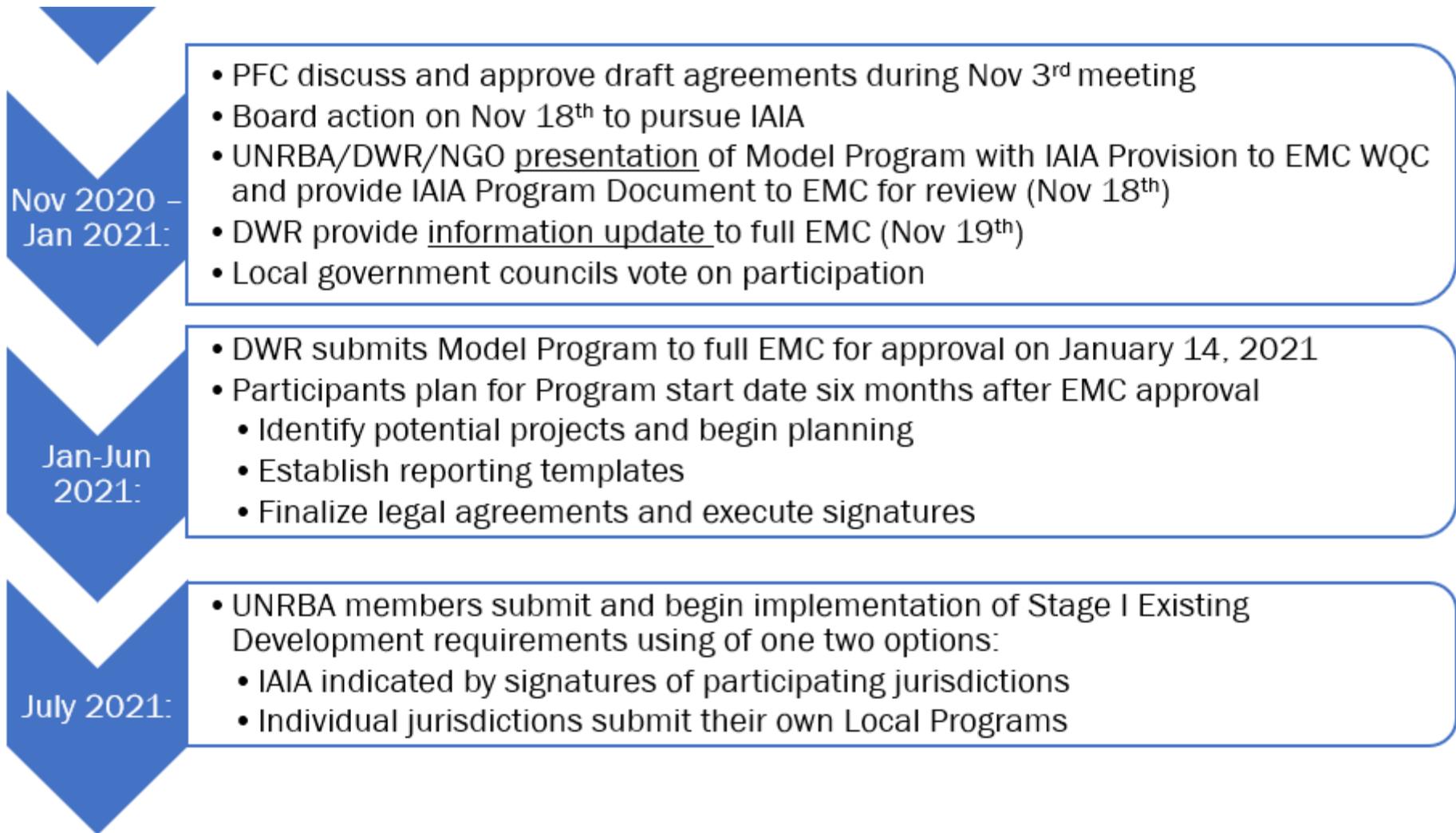
Sep 2020:

- DWR finalizes draft Model Program
- PFC discuss progress on decision making at local level (Sep 1st) ✓
- DWR/UNRBA provide information update to EMC WQC (Sep 9th)
- UNRBA Board meeting (Sep 16th): present IAIA Program
 - Vote on local participation (pending finalization of documents)
 - Authorize legal representatives of likely participants to develop agreements

Sep-Oct
2020:

- Local governments brief local councils and decision makers on IAIA Status
- UNRBA/DWR/NGO prepare for presentation to EMC WQC
- Legal representatives of likely participants develop agreements
- PFC representatives of likely participants review draft agreements

Development Schedule for UNRBA IAIA Program Implemented under the Falls Lake existing rules for a potential start date of July 1, 2021.



**Status Presentation to the
Environmental Management
Commission Water Quality
Committee on September 9th**



Upper Neuse River Basin Association (UNRBA) and Actions to Implement the Falls Lake Rules

Environmental Management Commission,
Water Quality Committee September 9, 2020



History of the UNRBA

- Formed in 1996 to address water quality issues
- Engaged on the development of the Falls Rules
 - Consensus Principles
 - Two stages of nutrient reduction goals
 - Allowed for adaptive management including re-examination of Stage II
- **Stage II Rules were the most stringent passed in NC**
 - Anticipated to cost over \$1.5 billion
 - Goals are not feasible
 - Regulated sectors are siloed
- **UNRBA shifted focus in 2011 to re-examination of Stage II**

Stage II Re-examination Components	Progress
<p>Monitoring (\$3.5 million)</p> <ul style="list-style-type: none"> • DWR-Approved Monitoring Plan • DWR-Approved Quality Assurance Plan • Exceeded the minimum data requirements 	<p>All elements complete; 51 months of data</p>
<p>Modeling</p> <ul style="list-style-type: none"> • Modeling Quality Assurance Plan approved by DWR • Develop nutrient loading model for the watershed • Develop lake response model for Falls Lake • Identify cost-effective, feasible solutions 	<p>Underway</p>
<p>Stakeholder Involvement</p> <ul style="list-style-type: none"> • Provide status updates • Solicit input • Work toward acceptable solution 	<p>Continuous effort with open meetings, technical workshops, website postings</p>
<p>Re-examination</p> <ul style="list-style-type: none"> • Work with stakeholders to formalize selected strategy • Provide recommendation in 2023 	<p>Starting soon Most of this work will begin after the modeling is complete</p>

Current Conditions of Falls Lake

- **Provides safe drinking water to over 500,000 customers**
 - Algal toxins are below guidelines and thresholds
- **Supports aquatic life and recreation**
 - No nutrient-related fish kills have occurred
 - Most of the volume of the reservoir provides sufficient oxygen levels (except deep water in summer)
 - Falls Lake provides swimming and boating opportunities
 - Supports large, regional fishing tournaments
- **Provides flood protection and improved water quality to Neuse River**

See [UNRBA 2019 Annual Monitoring Report](#) for more details

Implementing Stage I Rules

- **Regulated sectors have made progress toward the implementation of Stage I Rules**
 - New development rule is being implemented
 - Stage I reductions have been met for agriculture
 - Wastewater treatment plants have reduced loading to Falls Lake beyond Stage I requirements, resulting in **temporary credits** of almost
 - 50,000 pounds of nitrogen per year and
 - 9,700 pounds of phosphorus per year
- **Stage I Existing Development Rules have several obstacles that have limited implementation**
 - Jurisdictional and DWR **estimated ranges of required reductions** are
 - 6,000 to 15,100 pounds of nitrogen per year and
 - 800 to 1,900 pounds of phosphorus per year

Stage I Existing Development Interim Alternative Implementation Approach (IAIA)

- **Innovative** concept originated by NGOs in March 2018
- Developed by UNRBA as an **alternative to Stage I** Rules for Existing Development – does not focus on counting pounds
- Focuses on investment and implementation of projects to **improve water quality**
- Provides more **flexibility** and **promotes cooperation** - expands eligible practices and actions, removes regulatory silos, and encourages joint ventures
- **Voluntary** program – members choose to implement individual local programs under current rules or the IAIA
- **Interim** until the Stage II re-examination is complete (pilot)



IAIA (Interim Approach)

New Management Strategy

Critical Steps and Schedule

- **September 9, 2020** information update to the EMC WQC
- **September 16, 2020** UNRBA Board authorizes development of formal agreements
- **October 2020** Local government members to brief their councils
- **November 18, 2020** UNRBA Board of Directors' vote to pursue IAIA
- **November 18, 2020** DWR, UNRBA, NGO present Model Program and IAIA Program to EMC WQC
- **November 19, 2020** DWR provide information update to full EMC
- **January 14, 2021** DWR submits Model Program to full EMC for approval; 6-month clock starts for implementation
- **July 1, 2021 (potential start date)** Local governments begin Stage I Existing Development implementation under either the IAIA or a local program

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Executive Director

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Ongoing Actions

- DWR scheduled to provide draft Model Program for review by UNRBA
- Local governments reporting on participation in the IAIA Program
 - Preliminary feedback August 4th (PFC meeting)
 - Intentions discussed September 1st (PFC meeting)
 - Intentions formalized September 16th Board meeting
 - Commitments at the November 18th Board meeting
- Legal Group members authorized by their Board member to work toward modification of UNRBA Bylaws and development of agreements to formalize participation
- PFC to begin discussing reporting templates for the Program in October or November

Status Reports and Informational Items

Modeling and Regulatory Support for the Re-examination of Stage II

Modeling Status

- Modifying the Watershed Analysis Risk Management Framework (WARMF) model code to simulate many types of onsite wastewater treatment systems is underway
- Model development for WARMF watershed water quality modeling is underway
 - Atmospheric deposition
 - Sanitary sewer overflows
 - Wastewater treatment plant effluent
 - Nutrient application rates
 - Onsite wastewater treatment systems
- Continuing discussions with the MRSW on WARMF Lake segmentation of Falls Lake
- Responding to Executive Director comments on the draft watershed modeling hydrologic calibration interim report and plan to provide revised draft to the MRSW in October

**Comments submitted to EPA Federal
Register Notice:
EPA Draft Water Quality Criteria Document
Ambient WQ Criteria for Lakes and
Reservoirs**

EPA Water Quality Criteria for Lakes and Reservoirs Models for Chlorophyll-a, N, & P Endpoints and Risk metrics

- **Recreational Use** 8 µg/L microcystin children ingestion.
- **Finished Drinking Water Use** 0.3 µg/L of microcystin.
- **For all Lakes Aquatic Life Use**
The relationship between zooplankton and phytoplankton biomass. The premise - phytoplankton biomass can increase at rates that exceed the capacity of zooplankton to consume the phytoplankton when excess nutrients are available.

Comments Posted on EPA Docket

- ~ Total of 72 Comments Posted on the Docket
- ~ 25 Different State Agencies
- ~ 37 Associations including the UNRBA
- ~ 4 Individuals

Comments NC Division of Water Resources

- Should be technical guidance, not 304a Criteria.
- States flexibility to decline guidance given its limitations.
- Further guidance is critical.
- Questions climactic conditions, limited data, minimum data requirements
- The phytoplankton/zooplankton relationship?
- Depth differences within a single lake?
- Apply criteria on a station-by-station basis or lakewide?
- Should different criteria be used for each station?
- Geometric means not appropriate for Chlorophyll-a.
- Relationship between algal density to microcystin is weak. Only certain types of algae can produce microcystin.

Comments

NC Water Quality Association (NCWQA)

- Technical guidance document rather than as 304(a) criteria.
- Significant improvement upon the 2000 ecoregional criteria.
- Concurs with growing season geometric mean.
- Criteria should be state-led and stakeholder-informed regulations.
- Risk endpoints are not appropriate for use in North Carolina
- Zoo/Phyto not a valid aquatic life use attainment measure
- Criteria should consider historic condition.
- Criteria should balance fish production with other uses.
- Consider both numeric and narrative measures of use attainment.
- Allowable frequency of exceedance (e.g., 1-in-3 or 2-in-6 years).
- N&P criteria optional and placed in a bioconfirmation framework.

DWR 2020 Water Quality Assessments Integrated Report and 303(d) list

The DWR draft Integrated Water Quality Assessment Report and the 303(d) list for 2020 were anticipated for Public Review in June 2020.

The target date has been pushed back
Public review likely October or November 2020
With Submittal to EPA perhaps early 2021

High Rock Lake Recommendations DWR Nutrient Criteria Development Plan

Scientific Advisory Council (SAC)

“site-specific nutrient criteria based solely on data and scientific judgments about pollutant concentrations and their effects”

Criteria Implementation Committee (CIC)

“ implementation details and fiscal implications ”

Basis of SAC Recommendations

Chlorophyll a Criterion for High Rock Lake

The SAC reviewed water quality studies from 1973 - 2016.

- Fisheries production responds positively to chlorophyll-a.
- Chl-a beyond a threshold may have negative impacts to fish.
- Does not advise establishing chlorophyll-a standards based solely on toxin risk to aquatic life.
- HRL water quality supportive of a sport fishery; WRC - a “quality fishery”
- Fish kills are uncommon.
- Large fish kills only noted during the major drought of 2002.
- The SAC is not aware of any aesthetic or swimming use impairment of the lake, even though chl-a concentrations routinely exceed 50 µg/L.

SAC Recommendations

Chlorophyll a Criterion for High Rock Lake

- Chlorophyll-a criterion: growing season (Apr-Oct) geometric mean of 35 $\mu\text{g/L}$.
- Not to be exceeded more than once in three years (e.g once in 3 yrs OK).
- Only open waters are used for calculating the seasonal geometric mean.
- Locations in backwaters, isolated coves, or where water depth is typically shallow (e.g. <10 feet) would be excluded from the geometric mean.
- Non-open water areas would be evaluated based on narrative criteria.
- Geometric mean should include samples from at least 5 different months.
- Assessment data collected in two or more years to incorporate variability.

CIC Aug 31, 2020 Meeting

Chlorophyll-a Criterion for High Rock Lake

- Questions...CIC was asked by DWR -
Are there any significant implementation challenges?
What should DWR consider in a fiscal analysis of the SAC proposal?
- Questions...DWR was asked by CIC –
To discuss issues raised by the SAC for further discussion with the CIC.
Will CIC provide insights on changes to WQ standard or the Management Strategy?
What is the CIC and SAC role in the Nutrient Management Process for HRL?
How will DWR draft water quality standards for HRL?
- Overall DWR response to questions – Not Sure.
 - Role of SAC and CIC may end when the WQS proposal is made to EMC.
 - Not sure that there is a role for CIC to evaluate a nutrient management strategy.
 - DWR meeting internally every 2 weeks on how to move forward.
 - Over the next 3 months DWR would work on SAC recommendations to build draft water quality standards language and implementation to the EMC.
 - CIC asked if draft recommendations would come to CIC before EMC review – DWR replied “no”.

CIC Aug 31, 2020 Meeting

DWR Next Steps

- The Aug 31 meeting was the opportunity to hear from the CIC.
 - Next DWR will begin to draft some rule making language and then brief the EMC with proposed water quality criteria in early 2021.
 - **Q.** CIC asked if this was the last CIC meeting on HRL.
 - **A.** DWR responded “possibly” or perhaps the EMC may ask for more input from the CIC – not sure. Perhaps there will be another CIC meeting but not sure.
-
- Overall, In my opinion, I would characterize the meeting discussions as politely awkward and difficult at times.
 - DWR left the impression that a DWR internal process would be managing the next steps for any changes to High Rock Lake site-specific water quality standards and future management strategies, and that the work of the SAC and CIC was likely ending for HRL.

Plan for Developing Recommendations for Support of a Site-specific Chlorophyll-a Standard For Falls Lake

Summary of August 20th Legal Group Meeting with Barnes & Thornburg

- Discussed FY2021 legal support scope of work
 - Task 1 – Support Development of UNRBA Petition for Site Specific Criteria
 - Plan for EPA engagement
 - Outline of legal and regulatory requirements for site-specific petition
 - Draft legal sections of site-specific petition
 - Task 2 - Support development of Memorandum of Agreement with DEQ
 - Review draft MOA as needed.
 - Support UNRBA efforts to negotiate/finalize MOA.
- Discussed plan to move forward with development of recommendations for a site-specific criteria for Falls Lake (next slide)

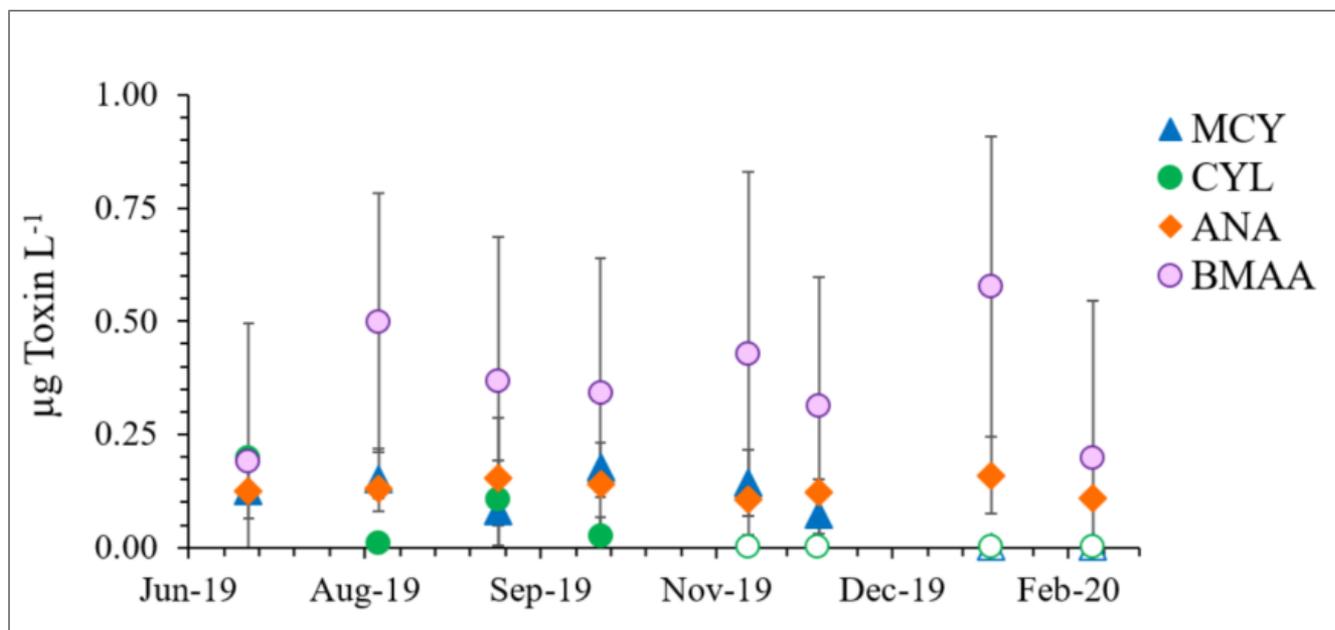
Planning for Development of a Petition for Site Specific Criteria

- Engage EPA early to seek their input
- Use a science-based approach to develop proposed criteria
- Consider other processes that may affect the outcome
 - Approaches used in other states approved by EPA
 - NC Nutrient Criteria Development Plan and the site-specific criteria developed for High Rock Lake
 - EPA proposed criteria for lakes and reservoirs
- Integrate with the UNRBA Statistical Modeling that will link lake water quality to designated uses (anticipated MRSW topic for December)
- Discuss timing of submittal of petition relative to modeling and submittal of the re-examination package

UNC Collaboratory Falls Lake Research Updates

NC State University Study of Algal Toxins

- Dr. Astrid Schnetzer and her team have measured concentrations of algal toxins in Falls Lake.
- All measurements were well below regulatory thresholds and guidance levels for EPA recreational criteria:
 - 8 $\mu\text{g}/\text{L}$ microcystin
 - 15 $\mu\text{g}/\text{L}$ cylindrospermopsim



UNC Environmental Finance Center Falls Lake Study

- The UNC Environmental Finance Center (EFC) has recently completed the Year 1 Report for their Falls Lake Study.
 - Executive Director and consultants are reviewing the draft and plan to offer comments
- The EFC is currently engaging local governments in the watershed with interviews to understand more about
 - Measures being used to implement nutrient management practices
 - Costs of actions
 - Local funding strategies.

Ongoing DEQ Discussions/Issues

Ongoing Discussions/Issues

- Scheduling meetings with DWR
 - Review the 2019 Monitoring Program Report
 - Discuss modeling efforts
- Re-examination, 303(d) assessment procedures, need for a site-specific chlorophyll-a criterion(a), NC Numeric Nutrient Criteria Development Plan, the work of the Scientific Advisory Council, and the evaluation by the UNC Collaboratory
- Continue to engage DEQ in the technical stakeholder sessions and MRSW meetings to secure input to modeling as it is being developed
- Continue discussions with DEQ on the MOA—develop more specific information on submittal requirements under the Re-examination rule provision

Closing Comments

**Next UNRBA Board Meeting is Scheduled
for November 18, 2020 at the
Butner Town Hall from 9:30 AM to Noon**

**The location and access for this meeting
may be modified at a later date.**