

Path Forward Committee Meeting August 6, 2019



Agenda

- Opening comments
- PFC Tasks and Timelines—Workload and Priority Considerations
 - Development of a Decision Framework
 - Reaching a Decision on Transitional Monitoring Program for FY 2021
 - Completion of the Evaluation of an Optional Implementation Approach for Stage I ED
 - Modeling and Regulatory Support (MRS) Oversight and Direction
 - Planning and Conducting a UNRBA Reexamination Summit
- Modeling and Regulatory Support Status Update
- Review of the Need for Developing a Site-Specific Chlorophyll-a Standard
- Summary of stakeholder feedback from June NSAB meeting on the upcoming Jordan Lake rule revisions
- Other status items
- Closing Comments

PFC Tasks and Timelines

**Workload and Priority
Considerations**

Priority Considerations Moving Forward

- Completion of the Scientific Tools for the Reexamination—Support of MRSW/Decision Framework
- Engage All Stakeholders to Promote Understanding, Input and Support—Summit and Technical Workshops
- Coordinate with
- Assist the Jurisdictions with Stage I ED and the Period of Time Before a New Strategy is in Place
- Provide Strategic Planning Relative to the “Landscape” Impacting the Work of the UNRBA

**Development of a Decision
Framework—Facilitated
Sessions Begin at September
PFC Meeting, Completion of
Process by January 2020**

Reaching a Decision on Transitional Monitoring Program for FY 2021

**Cost Evaluation in September, Final PFC
Recommendation for inclusion in the
Prospective UNRBA FY 2020 Budget—
Board Meeting November 20, 2019**

Completion of the Evaluation of an Optional Implementation Approach for Stage I ED

Optional Implementation Approach, July 9, 2019 Discussion—Main Outcomes

- Jurisdictions Need to Evaluate the Potential Compliance Options for Stage I Existing Development(ED) and Relative “Cost” of Compliance
- Optional Program can only be Fully Considered when the Details are Developed
- First Critical Consideration: What are Jurisdictions “Willing to Pay” to Participate in an Investment-Based Stage I ED Compliance Approach?
- Agency Position on Key “Driver” for a Optional Program: What is DWR’s Plan for Rolling Out Stage I ED Under the Current Rules?

PFC Meeting July 9, 2019 Follow-up Results

- Current Commitments of Durham and Raleigh
- Hillsborough—Interested in Participating in an Optional Program and Joint Compliance, but Would Plan on Keeping Some of their Overall Budget for Jurisdictional-Specific Projects—Willing to Allocate a Portion of their Budget to a Joint Program
- Wake County—Not Opposed to an Optional Program and Joint Compliance, but Wants to Evaluate Cost of Compliance Under the Program as Specified in the Rule
- DWR is Evaluating the Request for a Statement of Intent Concerning Implementation of Stage I ED Under the Rule

**Funding Considerations—
Distribution of Funding Using
the Current Dues and Fees
Equation—Slides Provided at
May PFC Meeting**

Example Minimum Funding Levels

- The workgroup requested evaluation of fair and equitable methods to set the minimum funding levels for the group
 - Individual members may exceed these levels based on current plans
- **These examples are for illustration purposes only and do not reflect a commitment of funding by the local governments**
- The following two examples use the UNRBA existing fee structure
 - Fix contributions for a single member to calculate
 - Total funding level
 - Contribution of the other members

Example Minimum Funding Levels

Member	Percent of UNRBA Fees	Existing Fee Structure	
		Based on Person Co.	Based on Raleigh
Butner	1.5	\$2,000	\$98,833
Creedmoor	1.1	\$1,431	\$70,728
Durham	22.2	\$29,334	\$1,449,925
Durham Co.	9.0	\$11,662	\$576,463
Franklin Co.	1.2	\$1,618	\$79,994
Granville Co.	6.8	\$8,773	\$433,640
Hillsborough	2.2	\$2,934	\$145,034
Orange Co.	11.0	\$14,181	\$700,938
Person Co.	7.7	\$10,000	\$494,301
Raleigh	30.5	\$40,462	\$2,000,000
SGWASA	0.0	\$-	\$-
Wake Co.	6.0	\$7,765	\$383,804
Wake Forest	0.9	\$1,147	\$56,676
Total	100	\$131,307	\$6,490,336

- These two examples were presented to the workgroup on April 29th
 - Use the existing UNRBA fee structure
 - 50% water supply
 - 40% total watershed area
 - 10% equal distribution
 - Set the minimum funding level for **either** Person County or City of Raleigh based on prospective information
 - The total funding level and the other communities contributions are scaled relative to the fixed contribution

UNRBA Fee Schedule for Offset Program Scenario #1

\$ 1,510,000.00 Projected Revenue

Date: 7/25/19

Member	Base Rate (10%)	2018 Raw Water Demands (50%)			Jurisdiction's Land Area (40%)			Offset Program Scenario #1
		2018 Average Raw Water Demand (MGD)	\$ 755,000.00 (%)	Member's Sub-Share Cost	Jurisdiction's Acres Within Watershed	\$ 604,000.00 (%)	Member's Sub-Share Cost	
Town of Butler	\$ 12,583.33	NA			8,822	1.8	\$ 10,809.65	\$ 23,392.98
City of Creedmoor	12,583.33	NA			3,544	0.7	4,342.49	16,925.82
City of Durham	12,583.33	25.810	37.9	\$ 285,839.70	31,963	6.5	39,164.46	337,587.49
Durham County	12,583.33	NA			98,520	20	120,717.17	133,300.50
Franklin County	12,583.33	NA			5,284	1.1	6,474.52	19,057.85
Granville County	12,583.33	NA			71,698	14.5	87,852.01	100,435.34
Town of Hillsborough	12,583.33	1.543	2.3	17,088.36	3,713	0.8	4,549.56	34,221.25
Orange County	12,583.33	NA			121,896	24.7	149,359.93	161,943.26
Person County	12,583.33	NA			83,090	16.9	101,810.69	114,394.02
City of Raleigh	12,583.33	40.820	59.9	452,071.93	1,164	0.2	1,426.26	466,081.52
SGWASA	-	0.000	0	-	NA		-	-
Town of Stem	-	NA			NA		-	-
Wake County	12,583.33	NA			62,339	12.6	76,384.36	88,967.69
Town of Wake Forest	12,583.33	NA			905	0.2	1,108.90	13,692.23
Total	\$ 150,999.96	68.173	100.1	\$ 754,999.99	492,938	100	\$ 604,000.00	\$ 1,509,999.95

Notes:

* Cost Allocation = 10% by uniform participation; 50% by raw water demands; and 40% by jurisdictional land area in UNRBA.

** 2018 annual daily average raw water demand reported by user systems.

*** Jurisdictional areas obtained from members, January, 2019. Percentages are calculated based on total basin acres. The towns of Mebane and Franklinton have a few acres but not enough to affect percentages.

Municipal acreages do NOT include ETJs (although some municipalities may have some planning jurisdiction in ETJs, they do not collect tax revenue from these properties). SGWASA- and OAWS-owned acreages are included in their respective jurisdictional areas and are not calculated separately.

Draft Offset Fee Illustration Based on Dues Formula*

Date: 8/05/19

Member	Nutrient Offset Fees
Town of Butner	\$ 23,392.98
City of Creedmoor	16,925.82
City of Durham	337,587.49
Durham County	133,300.50
Franklin County	19,057.85
Granville County	100,435.34
Town of Hillsborough	34,221.25
Orange County	161,943.26
Person County	114,394.02
City of Raleigh	466,081.52
SGWASA	-
Wake County	88,967.69
Town of Wake Forest	13,692.23
Total	\$ 1,509,999.95

* Offset fee calculation based on the UNREA Dues Formula with one member's willingness to fund their portion at \$100,000.

Modeling and Regulatory Support (MRS) Oversight and Direction

Workload and Schedule for the MRSW

Planning and Conducting a UNRBA Reexamination Summit

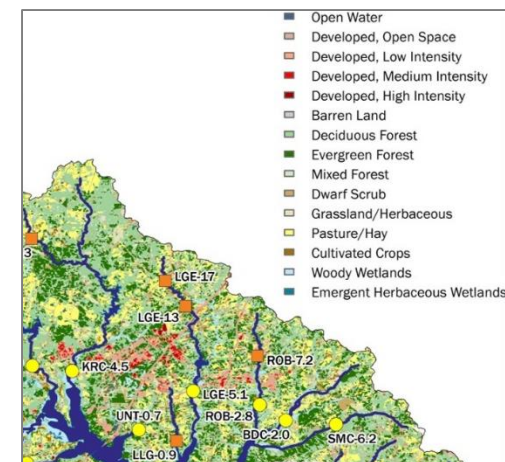
Key Summit Considerations

- Developing an Agenda and Providing Speakers that will Generate Interest For Elected Stakeholders, Local Leaders and Unreached Parties
- Providing a Venue that will Encourage Participation
- Giving Enough Substance to Attract Target Stakeholders
- Providing a Stimulating Format that is Developed for this List of Stakeholders
- Securing the Assistance of the Board and PFC Members in Identifying the Appropriate Stakeholders and Encouraging their Attendance

Modeling and Regulatory Support Status

Land Use Data

- Modelers are processing three years of USGS National Land Cover Data that represents three periods
 - 2006 (baseline period)
 - 2016 (UNRBA monitoring/modeling period)
 - 2011 (implementation of the new development rules)
- Coordination with NC DOT
 - Providing refined baseline data relative to what was used in the State's baseline model
 - Providing a 2017 roads database to represent the recent modeling period
- Coordination with NC Department of Agriculture
 - Provided crop and pasture acreages to represent baseline and recent modeling periods



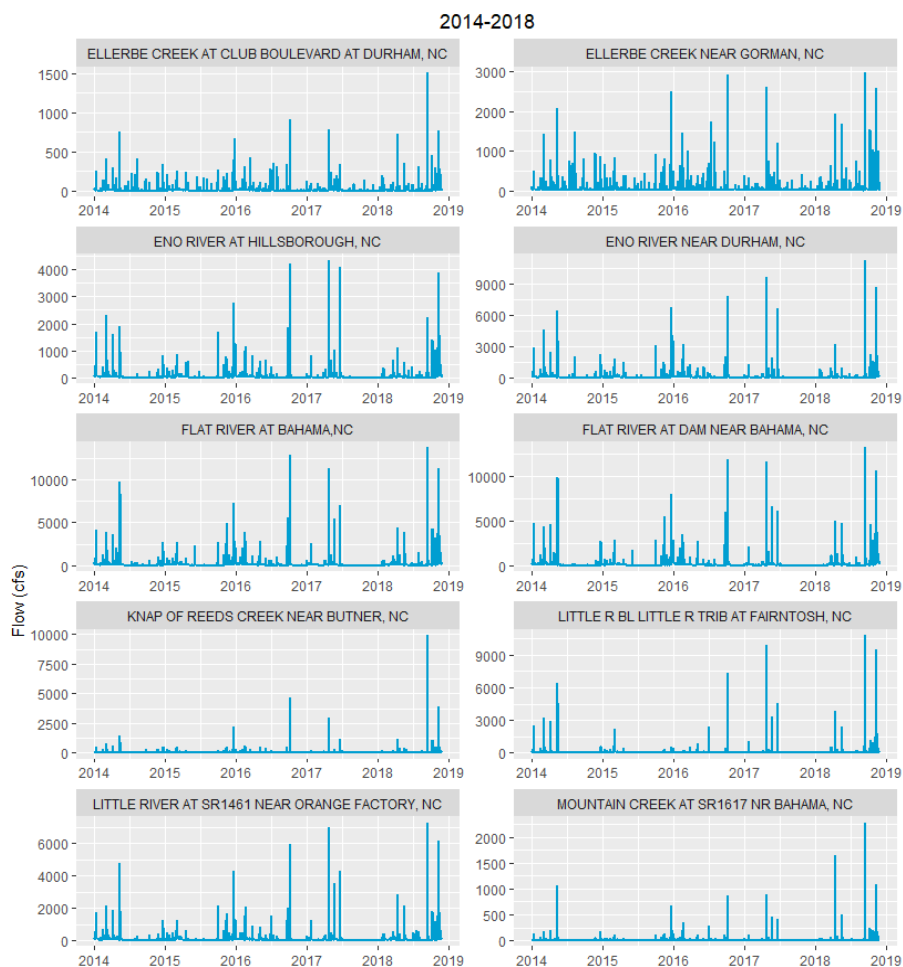
Meteorological Data

- Modelers have processed the NLDAS weather data
 - 18 grid cells that cover the Falls Lake watershed (~8 mile by 8 mile grids)
 - 6-hr time steps to match the resolution of the NEXRAD precipitation data
- Modelers are awaiting the NEXRAD 6-hr precipitation data
 - Almost 80 locations across the watershed
 - Represents grid cells that are ~2 miles by 2 miles
 - Formatting for use in the WARMF watershed model



USGS Flow and Water Level Data

- Modelers have processed the USGS flow and water level data for model calibration
 - 6-hr time steps to match the resolution of the NEXRAD precipitation data



Onsite Wastewater Treatment System Data

- Modelers are compiling onsite wastewater treatment system data for use in the WARMF model
- Preliminary discussion with the Collaboratory for support through its researcher (Dr. Humphrey, ECU)
- Three counties have parcel level data with year of occupancy and presence of onsite system
 - Durham County
 - Orange County
 - Granville County
- Person County is compiling similar data
- Franklin County is developing an online database that will identify systems permitted since 2004
 - 2012 inventory of number of systems in the watershed will be used to approximate the number of older systems present

Review of the Need for Developing a Site-Specific Chlorophyll-a Standard

UNRBA Chlorophyll-a challenges – drivers for a site-specific standard

- 1. WQ Standards Attainment CWA 305(b) and 303(d)**
- 2. Status DWR STD Revision of chlorophyll-a**
- 3. DWR NCDP Science Advisory Council**
- 4. Modeling and Regulatory Support Implications**
- 5. NCAC Water Quality Site Specific Standards**
- 6. Legal Group Considerations - Re-examination may
need site specific standards as part of ensemble
approach.**

Chlorophyll-a drivers for a site-specific standard

1. WQ Standards Attainment 305(b) and 303(d)

- 2018 methods - easier to get on list and harder to remove.
- Evaluates compliance at individual monitoring stations.
- Disregards limnologic processes, hydrogeological, morphological, and management principals.
- Does not recognize lake backwaters, coves, and upstream to downstream concentration gradients.
- Inconsistent with the Falls Lake Rules
- UNRBA has worked with DWR/EMC staff to evaluate Falls Lake with a knowledge based approach using proposed segments based on hydrogeological, morphological, and management principals.
- DWR staff objects to establishing site-specific approach to Falls Lake 303(d) evaluation.

Chlorophyll-a drivers for a site-specific standard

2. DWR Rules Review Water Quality Standards

Proposed Changes to Chlorophyll-a standard

Public Hearings: July 2, 2018 and July 11, 2018

- Rulemaking Action to Amend 15A NCAC 02B .0100–.0300 Classifications and Standards for the Protection of Surface Waters

Proposed Language in the Notice

“Chlorophyll a (corrected): not greater than 40 ug/l (based upon monthly averaging where such data are available during the growing season which is generally April 1 – October 31)”

Chlorophyll-a drivers for a site-specific standard

2. cont'd

DWR Rules Review Water Quality Standards

July 27, 2018 UNRBA letter to EMC.

- Opportunity to respond to new information and provide a more effective way of determining when algae is truly impacting designated uses.
- Chlorophyll-a based on central tendency rather than instantaneous measurements impacted by short-term and often highly dynamic conditions.
- Current standard difficult to equate to protection of designated uses –
higher values may not indicate impairment
lower values may not be protective of uses.
- Chlorophyll-a standard, at a minimum, should include a provision to allow the development of site-specific standards that reflect an appropriate value related to designated uses and a methodology for application of a central tendency determination.

Chlorophyll-a drivers for a site-specific standard

2. cont'd

Proposed DWR Chlorophyll-a Standards

“Chlorophyll a (corrected): not greater than 40 ug/l (based upon monthly averaging where such data are available during the growing season which is generally April 1 – October 31)”

Comments from Hearing Officers Report

- NCWQA, Greensboro, Burlington, League of Municipalities, and Farm Bureau Federation wait on outcomes of NCDP SAC.
- Mecklenburg Co. Storm Water did not support revisions.
- LNBA/NRCA clarity on duration and frequency, recommended averaging, and need to provide opportunity to develop site-specific standard.
- American Rivers, NC Cons. Network, Sound Rivers request numeric criteria for N & P, periphyton, benthic nitrogen & phosphorus criteria. also discusses geometric averaging related to chlorophyll a standards.
- EPA: premature to make changes to existing chlorophyll a language while the NCDP SAC process is ongoing

**Chlorophyll-a
drivers for a site-specific standard**

2. cont'd

DWR Rules Review Water Quality Standards

July 11, 2019

NC ENVIRONMENTAL MANAGEMENT COMMISSION MEETING

DWR Staff and Hearing Officer Recommendation:

**Chlorophyll a: proposed text modified existing standard.
Recommend to maintain current text/withdraw proposed text,
await NC SAC recommendations.**

**Result EMC Approved Recommendation thus:
no change to the current Chlorophyll-a standard.**

Chlorophyll-a drivers for a site-specific standard

3. NCDP Science Advisory Council

- **High Rock Lake, Albemarle Sound, Middle Cape Fear River**
- **May 2015 –SAC First Meeting**
- **Deliberations focused on proposals for site specific criteria**
- **Challenge: Define the specific numeric threshold for protection of designated uses – Water Supply, Recreation, Fish and Wildlife.**

3. cont'd

December 4, 2018
Consensus Reached

**SAC High Rock Lake Recommendation
site specific chlorophyll a standard**

- 35 ug/L chlorophyll-a growing season geometric mean
- collected over a complete assessment period (5 years)
- at any mainstream location
- photic zone composite samples
- Growing Season - April 1 through October 31.
- Minimum number of samples ten observations.

Ten of the Eleven SAC Members voted to support.

One Member not attending.

Wording could change before formal documentation completed.

3. cont'd

Chlorophyll-a drivers for a site-specific standard

NCDP Science Advisory Council

High Rock Lake Draft Report target August 2019

New NCDP May 16, 2019 – Approved by EPA June 5, 2019

- Revised role of SAC
- Officially recognized CIC
- Paired Chowan River with Albemarle Sound
- Updated milestones with reasonable dates

3. cont'd

Chlorophyll-a drivers for a site-specific standard

NCDP Science Advisory Council

New DWR NCDP May 16, 2019

- DWR continued commitment to developing nutrient criteria throughout NC on a site-specific basis. Criteria development efforts directed to three specific water body types: 1) reservoirs/lakes, 2) rivers/streams, 3) estuaries.
- First priority to develop criteria on:
1) High Rock Lake, 2) Central Portion Cape Fear River 3) Albemarle Sound.
- Draft criteria for High Rock Lake have been completed.
- Following criteria development for these three, the applicability of criteria will be assessed for respective water body types across the state on a site-specific basis to ensure coverage of waters statewide.

Timeline: “ We anticipate development and adoption of nutrient criteria for the three water bodies specified in this plan by 2025. Adoption of nutrient criteria statewide is anticipated by 2029.”

3. cont'd

**Chlorophyll-a
drivers for a site-specific standard**

NCDP Science Advisory Council

New DWR NCDP May 16, 2019

outlines seven projects discussed in chronological order

- 1. Review and amend as necessary membership of SAC and CIC**
- 2. Complete nutrient criteria development for High Rock Lake**
- 3. Nutrient criteria for Chowan River/Albemarle Sound**
- 4. Nutrient criteria for the Central Portion of the Cape Fear River**
- 5. Nutrient criteria development for estuaries statewide**
- 6. Nutrient criteria development for reservoirs and lakes statewide**
- 7. Nutrient criteria development for rivers and streams statewide**

3. cont'd

**Chlorophyll-a
drivers for a site-specific standard**

NCDP Science Advisory Council

New DWR NCDP May 16, 2019

Complete nutrient criteria development for High Rock Lake

Present draft criteria to CIC	October	2019
Receive CIC's comments	January	2020
Present proposed NNC to WQC	March	2020
Present proposed NNC to EMC	October	2019
Adoption of nutrient criteria for HRL	January	2022

Activities proposed to prioritize reservoirs/lakes statewide

Begin consultation with the SAC	January	2025
Present tentative NNC to SAC	March	2026
Present refined NNC to SAC	May	2026
Present proposed NNC to WQC	October	2026
Present proposed NNC to EMC	Dec	2026
Adoption of nutrient criteria	May	2028

Chlorophyll-a drivers for a site-specific standard

4. Modeling and Regulatory Support Implications

- If compliance determined at individual stations, will Falls Lake meet standards (i.e. ups Hwy 50, ups I-85,?)
- Is there sound scientific support for site specific criteria for different portions of Falls Lake?
- If DWR/SAC/EMC cannot substantiate a relationship between chlorophyll-a levels and specific designated uses can modeling and science identify alternative site-specific criteria?
- EPA has been supportive of chlorophyll-a site-specific criteria in other states when statewide criteria have been absent or less restrictive. What does that mean for Falls Lake?
- If site specific chlorophyll-a standard for HRL is adopted will EPA approve? What are ramifications for Falls Lake?

5. NCAC Water Quality Site Specific Standards

- **143-214.3. Revision to water quality standard.**
Any person subject to G.S. 143-215.1 may petition EMC for hearing for a revision to water quality standards as such water quality standards may apply to a specific stream segment into which the petitioner discharges.
- **15A NCAC 02B .0226 EXEMPTIONS FROM SURFACE WATER QUALITY STANDARDS**
Variances from applicable standards, revisions to water quality standards or site-specific water quality standards may be granted by the Commission on a case-by-case basis pursuant to G.S. 143-215.3(e), 143-214.3 or 143-214.1. A listing of existing variances shall be maintained and made available to the public by the Division. Exemptions established pursuant to this Rule shall be reviewed as part of the Triennial Review of Water Quality Standards conducted pursuant to 40 CFR 131.10(g).

Chlorophyll-a drivers for a site-specific standard

**6. Legal Group Considerations - Re-examination
may need site specific standards as part of
ensemble approach.**

Discussion

Forrest Westall, Executive Director

**June 7, 2019 NSAB Meeting on
the upcoming Jordan Lake Rule
Revisions**

Status of the Jordan Lake Rules Readoption Process

- The final report from the Collaboratory on Jordan Lake is due December 2019; following this, the rules readoption process is scheduled to start
- Session Law 2016-94 required DEQ to set up a stakeholder meeting in 2016, per DWR:
 - An initial Conference call involving 30 representatives was held
 - This group will be included in the stakeholder process
- DEQ is working on the public involvement plan for the Jordan Lake Rules Readoption process. At the June 7th meeting, DWR:
 - Invited input from the Nutrient Scientific Advisory Board
 - Other meeting attendees also participated

Relevance to the UNRBA

- Relevant for Falls Lake re-examination process
 - Similar groups of stakeholders
 - Ideas and concerns for Jordan Lake watershed will likely be similar
 - Provides perspective for long-term UNRBA planning
- Provides examples of types of decisions UNRBA may need to make
 - Balancing competing objectives across stakeholder groups
 - Selecting fair and equitable strategies
 - Improving communications
 - Managing risk

Overarching Question from the NSAB Discussion:

What needs to be considered for the implementation of existing development rules?

Major Areas of Discussion

- Several Commented that the Overall Objective of the Jordan Program should Look at Multiple Objectives, Not Single Issues
- A Consistent Theme of Comments Identified the Importance of Setting Appropriate End Goals
- Many felt that End Goals Must be Feasible and Achievable
- Overall View was that Requirements and Associated Costs to Local Governments Must be Understood and Acceptable to Decision Makers
- Feasibility and Acceptance of Actions Required need to be Supported by a Robust Tool Box of Practices
- Must Address the Concerns with the Original Rules that Resulted in Legislative Action

Major Areas of Discussion--continued

- Effective Program will Address/Meet Clean Water Requirements
- In Order to Proceed Effectively Through This Process Agreement has to be Reached on “What is the Goal?”
- Work Toward Solutions that Apply Lessons Already Learned
- Flexibility in Program Design is Critical
- Program Must Create Certainty for Local Governments
- Effective Communication/Understanding will Build Support

**Other Status Items—See
Agenda for Summary**

Next PFC Meeting Date and Time

Closing Comments

Additional Discussion