

# Modeling and Regulatory Support Workgroup Meeting Remote Access, July 6, 2021



# Remote Access Options

Equipment Type	Access Information	Notes
Computers with microphones and speakers	<a href="#">Join Microsoft Teams Meeting</a> <b>Please mute your microphone</b> unless you want to provide input.	Press control and click on this link to bring up Microsoft Teams through the internet. You can view the screen share and communicate through your computer's speakers and microphone
Computers without audio capabilities, or audio that is not working	<a href="#">Join Microsoft Teams Meeting</a> (888) 404-2493 Passcode: 371 817 961# <b>Please mute your phone</b> unless you want to provide input.	Follow instructions above <b>Turn down your computer speakers, mute your computer microphone,</b> and dial the toll-free number through your phone and enter the passcode
Phone only	(888) 404-2493 Passcode: 371 817 961#  <b>Please mute your phone</b> unless you want to provide input.	Dial the toll-free number and enter the passcode

# Remote Access Guidelines

- This meeting will open 30 minutes prior to the official meeting start time to allow users to **test equipment** and ensure communication methods are working
- If you dial in through your phone, mute your microphone and turn down your speakers to **avoid feedback**
- Unless you are speaking, please mute your computer or device microphone and phone microphone to **minimize background noise**

# Agenda

- Opening Comments, Agenda Review/Revisions
- Falls Lake Research Presentation
- MRSW Workgroup Reports
- Plan for Statistical Model Development and Regulatory Options for the Chlorophyll-a Water Quality Standard
- Modeling and Regulatory Support Status

# **Falls Lake Research Presentation**

# Falls Lake Research Presentation

- Dr. Rick Luettich will present his research on water circulation and physical properties of Falls Lake
- This work is important to the UNRBA lake modeling efforts that are currently underway.
- The [presentation](#) from the May 19, 2021 joint symposium and the [interim report](#) are available online at <https://nutrients.web.unc.edu/2021-falls-lake-symposium/> and <https://nutrients.web.unc.edu/resources/>

# **MRSW Workgroup Reports**

# Status of Two Scenario Workgroups

- The MRSW and PFC have formed two workgroups to provide input to the modeling team on scenarios
- The Model Scenario Output Workgroup
  - Discussing reporting formats for comparing scenario descriptions and model output
  - The 6<sup>th</sup> meeting for this workgroup was held April 12<sup>th</sup>
  - Decision to transition to an online reporting tool
- The Scenario Screening Workgroup
  - Developing a selection process for choosing scenarios and a preliminary list of scenarios to evaluate
  - The 5<sup>th</sup> meeting for workgroup was held May 24<sup>th</sup>
  - Two subgroups are working on scenario forms for scenarios preliminarily assigned a high priority



# **Plan for Statistical Model Development and Regulatory Options for the Chlorophyll-a Water Quality Standard**

# Planning for Development of a Petition for Site Specific Criteria

- A primary task for the legal team is to begin consideration of a petition for site specific criteria for Falls Lake
- The UNRBA Statistical Model of Falls Lake will be used to support this effort
- Evaluation of other State's site-specific standards for chlorophyll-a and nutrient-related standards is ongoing.
- The legal team and the statistical modeling team are coordinating on this effort
- We have identified a Subject Matter Expert for assistance to the UNRBA in the evaluation of site-specific criteria for Falls Lake, Dr. Marty Lebo who was part of the High Rock Lake SAC and this work is underway

# Status of the Technical Advisors Workgroup

- The Technical Advisors Workgroup held their initial meeting in May
- This group has compiled a list of local contacts to assist with setting the designated use evaluation metrics for the statistical/Bayesian model
- The modeling team will begin coordinating with these contacts in July by designated use
- The MRSW members are invited to offer additional suggestions for contacts

# Contacts Identified by the Workgroup

- Aquatic Life
  - DWR: Jeff Deberardinis, Fisheries Biologist
  - Wake County: Chris Snow, Parks Recreation and Open Space Director
  - Eno River Foundation: Jessica Sheffield, Executive Director
  - Ellerber Creek Watershed Association: Rickie White, Executive Director
  - Wildlife Resources Commission: Christian Waters, Director of NC Inland Fisheries
  - Triangle Fly Fishers: Terry Hackett, President
- Continued on next slide

# Contacts Identified by the Workgroup

- Recreation (fishing, swimming)
  - Wake County: Betsy Pearce, Watershed Management
  - Froghollow Outdoors: contact to be identified
  - Upper Neuse River Keeper: Matthew Starr
  - Wildlife Resources Commission: Christian Waters, Director of NC Inland Fisheries
  - Triangle Fly Fishers: Terry Hackett, President
- Continued on next slide

# Contacts Identified by the Workgroup

- Drinking Water
  - City of Raleigh
    - Whit Wheeler, Assistant Public Utilities Director
    - Vanessa Barnes, Laboratory Supervisor
- Flood Protection
  - US Army Corps of Engineers
    - Steven Gager, Project Manager, Neuse River Basin Flood Risk Management Study
    - Tony Young, Water Management Chief

# **Status of the DWR 2021 Falls Lake Status Report**

# Status of the DWR 2021 Falls Lake Status Report

- DWR has drafted its 5-year status report for Falls Lake which includes references to the summaries and findings from the [2019 UNRBA Monitoring Report](#).
- John Huisman provided an overview of the report and the PFC provided comments during the April 6, 2021 PFC meeting.
- DWR revised the draft report to respond to UNRBA comments and provided a revised draft for review by the UNRBA.
- DWR plans to present this report to the water quality committee and full EMC at the July EMC meetings.



# **Modeling and Regulatory Support Status**

# Reporting

- Interim draft report for the hydrologic model development and calibration for the Watershed Analysis Risk Management Framework (WARMF) watershed model
  - Addressing Executive Director's comments on draft hydrologic sections
  - Adding text to describe water quality model development
  - Including the model calibration output formats requested by the MRSW
- Developing draft report for the EFDC model

# EFDC Hydrodynamic Lake Modeling

- Modeling team is refining hydrodynamic calibration to apportion flow balances based on tributary area and use a statistical smoothing technique
- Setting up the water quality components of the EFDC lake model (inputs, calibration data, etc.)

# WARMF Watershed Modeling

- Model is being calibrated for stream flow and water quality across the watershed
- As described in the QAPP, calibration and performance criteria focus on the upper five tributaries that deliver more than 70 percent of the flow to the lake
- Performance criteria will be provided for both concentrations and loads
- Checks for “reasonableness” were conducted for the other tributaries using the UNRBA monitoring data despite lack of gaged stream flows
- Overall, the model performs well when streams are flowing and delivering load to the lake; simulated concentrations are not accurate during very low flows
- Scott Sheeder will review modeling results during the meeting

# Closing Comments

## Additional Discussion