

Path Forward Committee Meeting
9:30 AM on January 5, 2021
Remote Access Only (see next slides)



Remote Access Options

Equipment Type	Access Information	Notes
Computers with microphones and speakers	Join Microsoft Teams Meeting Please mute your microphone 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	Join Microsoft Teams Meeting (888) 404-2493 Passcode: 371 817 961# Please mute your phone unless you want to provide input.	Follow instructions above Turn down your computer speakers, mute your computer microphone, and dial the toll-free number through your phone and enter the passcode
Phone only	(888) 404-2493 Passcode: 371 817 961# Please mute your phone unless you want to provide input.	Dial the toll-free number and enter the passcode

Remote Access Guidelines

- This meeting will open 10 minutes prior to the first meeting start time (e.g., MRSW) 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
- Development of a Reporting Template for the UNRBA Stage I Existing Development Interim Alternative Implementation Approach (IAIA)
- Status of the Draft Falls Lake Model Program
- Modeling and Regulatory Support Status
- Plan for Development of a Statistical Model and Evaluation of Regulatory Options
- Status of MRSW and PFC Workgroups
- Communications Support
- Other items
- Closing comments

**Development of a Reporting
Template for the UNRBA Stage
I Existing Development Interim
Alternative Implementation
Approach (IAIA)**

Status of the IAIA

- At the request of the Board, the Legal Group has proposed revisions to the UNRBA Bylaws to allow for the IAIA
- On November 18, 2020, the Board reviewed the proposed changes to the Bylaws
- Thus far, all jurisdictions indicate they plan to participate pending finalizations of documents
- The IAIA Program Document has been revised in response to comments from DWR and to be consistent with the Bylaw changes
- PFC to develop a reporting template for individual local government annual reports

Prospective Schedule for Adoption of Program

- PFC discuss IAIA reporting elements (work group was formed at the December 2020 PFC meeting)
- UNRBA Board to provide approve revisions to the IAIA Program Document and UNRBA Bylaws (March 17, 2021)
- Local government planning
 - Project identification
 - Budgeting
 - Outreach to potential partners
 - Individual reporting
 - Data and information management
- Program Document to be finalized by the UNRBA Board and participants after EMC action and submitted at the end of June 2021
- Program start July 1, 2021

Summary of IAIA Reporting Workgroup Meeting

- Meeting held December 14th: Sandi, Terry, Lance, John H., Forrest, Alix
- Refined list of reporting elements discussed at the December 2020 PFC meeting
- Discussed applicability of UNRBA Credit Tool as the reporting template which was developed previously
 - Support compliance tracking for individual local programs Stage I Existing Development load reductions
 - More complex accounting than would be required for IAIA
- Generated revised draft of reporting elements that were distributed to the PFC and will be summarized in the following slides

Reporting Elements and Potential Descriptors

Summary Information:

- Local government submitting the annual report
- Minimum annual investment level
- Reporting period (fiscal year)
- Total investment for fiscal year (expended + committed for specific project(s))
- Carry over from previous year (not applicable the first year)
- Carry over to next fiscal year(s)
- Compliance with the minimum investment level
- Name of person submitting the report for this fiscal year (name, email, phone number)

Reporting Elements and Potential Descriptors

Project Level information:

- Repeat local government submitting report
- Local government project identification number
 - User entered
- Project type based on IAIA eligible practices
 - Select from list of eligible practices
 - Allow user specified project type or other activity approved by DWR
- Funding option
 - Self funded
 - Interlocal agreement
 - Other organization agreement
 - Special project

Project Level Information, Continued

- Location
 - County
 - Latitude and longitude if applicable
- Partners
 - Managing organization or government
 - Names of partners: local governments, organizations, etc.
- Benefits and linkages to water quality or water quantity improvement
 - Drop down list (nutrients, sediment, peak flow reduction, water storage, other/description)
- Additional benefits – user entered (ecosystem services benefits, sustainability, outreach, environmental justice, sustainability, resiliency, research, not applicable)

Project Level Information, Continued

- Status of projects and activities
 - Drop down list (e.g., permitting, site preparation, construction/ installation, in service, operation and maintenance)
 - User entered description
- Anticipated timeline (fiscal year) for completion
- Estimated total cost of project
- Funds committed for the project
- Funds expended for this fiscal year by the local government (cash and in-kind to be entered in two separate columns)
- Estimated nitrogen and phosphorus reductions if quantifiable

Project Level Information, Continued

- Method for estimating nutrient credits (drop down + user entered)
 - SNAP version x.x.
 - DWR Crediting document
 - Monitoring data
 - Other (user entered)
- Other tracking metric for activities without State-approved nutrient credits (user entered, can list examples in comments)
 - Acres conserved
 - People reached
 - Septic systems pumped, etc.
- Date project or activity data was last updated and initials of updater (optional, not required)
- Narrative project description and benefits

[PFC Discussion of reporting template for individual reports under the IAIA.](#)

Planning for the UNRBA Annual Summary Report

- Level of detail and effort to be discussed by the Compliance Group Committee
- At least provide the summaries of compliance relative to investment level for each jurisdiction

Status of the Draft Falls Lake Model Program

Status of the Draft Falls Lake Model Program

- UNRBA compiled comments on the draft Model Program
- Submitted comments to DWR on October 12, 2020
- Executive Director met with DWR staff on November 6th to discuss
- DWR provided a revised draft to address UNRBA comments on November 23, 2020
 - This draft included a new Section 7 (Practice Implementation Guidance)
- John Huisman (DWR) summarized responses to the UNRBA comments at the December 1, 2020 PFC meeting
 - DWR distributed another draft of the Model Program on December 1, 2020 to delete a paragraph in the trading section that had been missed in the 11/23/2020 draft
 - DWR requested UNRBA comments on the revised draft by 12/8/2020

UNRBA Comments on the 12/1/2020 Draft

- The majority of the UNRBA comments on previous drafts have been addressed
 - Clarification of recommendations versus requirements in Sections 1 – 6
 - Including loading from onsite wastewater treatment systems only when the default pre-development loading rates are assumed
- New Section 7 included additional requirements
- Executive Director met with DWR staff virtually on December 14, 2020 to discuss UNRBA comments on Section 7
- DWR revised the draft in response to UNRBA comments
 - UNRBA agreed that concerns had been addressed
- The revised draft was distributed to the UNRBA and posted for review by EMC in preparation for the January meeting

Modeling and Regulatory Support (MRS) Status

Watershed Modeling

- Continue work on the Watershed Analysis Risk Management Framework (WARMF) watershed model for water quality simulations
 - Onsite wastewater treatment systems
 - Final information to format counts and types in the model was received in December 2020
 - Effluent concentrations by system type developed with input from UNC Collaboratory Researchers
 - All other data sets have been input the model
 - Calibrated total suspended sediment and total organic carbon across the watershed
 - Nutrient calibration is underway

EFDC Hydrodynamic Lake Modeling

- Modeling team met virtually with DWR Modeling Group to discuss outstanding questions and present revised calibration on November 30, 2020
 - Reviewed additional performance criteria
 - Discussed water balance assumptions applied and additional methods to consider
- Modeling team provided supplemental information and recommendations to finalize the hydrodynamic calibration following the meeting for final decision by the MRSW (distributed and voted on by email correspondence)
 - Apportion balance flows at 17 tributaries locations based on drainage areas
 - Implement smoothing of additions and withdrawals using locally weighted scatterplot smoothing (LOESS)
- MRSW has voted to accept these recommendations and the 3rd party reviewers at the UNC Collaboratory provided input and confirmation of this approach

Reporting Status

- Interim draft report for the hydrologic model development and calibration for the WARMF watershed model
 - Addressing Executive Director's comments on draft
 - Including the model calibration output formats requested by the MRSW
 - Anticipating a draft for review by the MRSW in February
- Deliverables associated with FY2020 are being reviewed by the Executive Director and Subject Matter Experts
 - 319 report to DWR regarding model code revisions for simulating onsite wastewater systems in WARMF
 - Transition Monitoring technical memorandum

Plan for Development of a Statistical Model and Evaluation of Regulatory Options

Planning for Development of a Petition for Site Specific Criteria

- The primary task for the legal team in FY2021 is to begin consideration of a petition for site specific criteria for Falls Lake
- This work will rely partially on the UNRBA Statistical Model of Falls Lake
- 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
- The Technical Advisors to the Legal Group and Statistical Modelers will be formed later today to support this effort

Purpose of the Modeling Effort

- Re-examine Stage II of the Falls Lake Nutrient Management Strategy
- Better understand sources of nutrient loading to Falls Lake
- Evaluate nutrient management options to improve water quality and continue to protect designated uses
- Consider cost and technical feasibility in the revised strategy
- Work with stakeholders throughout the process
 - Hear concerns and address issues
 - Build a workable strategy with buy-in across organizations

Three Types of Output Associated with Different UNRBA Models

Watershed Loading to Falls Lake

- Flow
- Nutrients
- Carbon
- Chlorophyll-a

Water Quality in Falls Lake

- Temperature
- Nutrients
- Carbon
- Chlorophyll-a

Attainment of Designated Uses in Falls Lake

- Drinking water supply
- Flood protection
- Aquatic life
- Recreation
 - Fishing
 - Swimming

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WARMF (2015-18)

Water Quality in Falls Lake

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- Carbon
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Attainment of Designated Uses in Falls Lake

- Drinking water
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 - Swimming

Statistical
(long-term estimates)

Three Types of Output Associated with Different UNRBA Models

Watershed Loading to Falls Lake

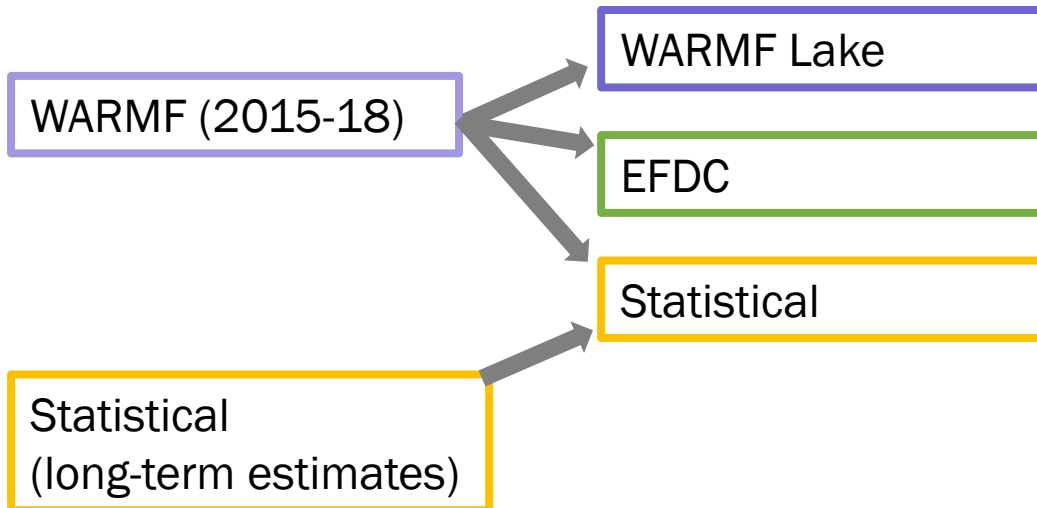
- Flow
- Nutrients
- Carbon
- Chlorophyll-a

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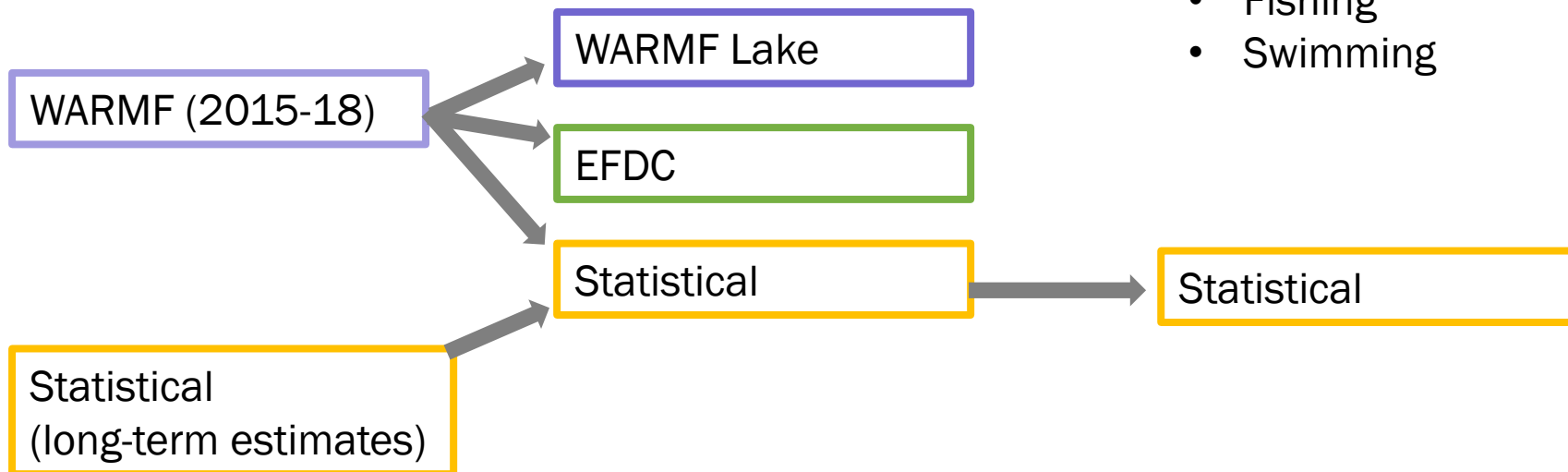
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Statistical Modeling Overview and Guiding Principals

Objectives of the Statistical Model

- Understand how eutrophication affects designated uses of Falls Lake
 - Drinking water
 - Recreation
 - Aquatic life
 - Flood protection
- Understand how management actions affect water quality and therefore designated uses
- Explore relationships between chlorophyll-a and designated uses
 - No direct linkage, but eutrophication affects both
 - Provide insight into potential site-specific chlorophyll-a criteria for Falls Lake that represent protection of designated uses

Guiding Principals for Development

- Start simple and build complexity as needed
- Use existing, local data when available
- Use regional data and literature to fill in gaps
- Rely on previously compiled water quality databases (and estimates of flow) to provide a
 - Long-term record of inputs to Falls Lake
 - Water quality observations within Falls Lake
- Use the WARMF watershed model to understand how current loading and potential management actions impact designated uses
 - Flow, nutrients, sediment, and carbon are predicted
 - Scenarios will estimate changes in each of these inputs

Potential Endpoints for Statistical Model

Designated Uses

- Safe drinking water
 - Taste, Odor
 - DBPs
 - TOC removal
- Aquatic Life
 - Dissolved Oxygen
 - Fish Kills
- Recreation
 - Fishing
 - Swimming
- Flood control

Water Quality Standards

- Dissolved oxygen
- pH
- Chlorophyll-a

Next Steps for Statistical Model Development

- Define the output metrics for the model in terms of parameters and units
 - What information is most useful to the legal team?
 - What information is most useful to the local governments for their decision making?
- Identify sources of data and information and subject matter experts to support model development
- Select a designated use or water quality parameter to focus on and begin model building

Formation of Technical Advisors Group for the Legal Group and Statistical Modeling Team

- Comprised of PFC and MRSW members
 - Expected that specific technical staff would be identified by members at the local level to provide data, information, and coordinate on desired outputs
 - UNC Collaboratory 3rd party reviewers to be involved in statistical modeling discussions
- Preliminary recommendations from the group to be discussed at PFC and MRSW meetings and then Technical Stakeholder Workshops for review and input from broader audiences
- Topics to address
 - Statistical model development
 - Evaluation of regulatory options including, but not limited, to a petition for site-specific chlorophyll-a standard
 - Memorandum of Agreement with DWR

PFC to officially form this group during the January 5, 2021 PFC meeting. Volunteers thus far include Terry, Reggie, Nancy, Kenny, Michelle.

Status of MRSW and PFC Workgroups

Status of PFC and MRSW Subgroups

- Model Scenario Output Group
 - Formed during the November 2020 MRSW meeting
 - First meeting is scheduled for January 7, 2021
 - Recommend model output formats for summarizing and comparing different scenarios
- Scenario Screening Group
 - Formed during the November 2020 MRSW meeting
 - First meeting is anticipated for February
 - Recommend scenarios for evaluation with the models
- IAIA Reporting Group
 - Formed during the December 2020 PFC meeting
 - First meeting held on December 14, 2020 (summarized above)
- Technical Advisors to the Legal Group and Stats Team
 - Formed during the January 2021 PFC meeting

Communications Support

Planning for Spring Symposium with the UNC Collaboratory

- Planning for the joint Collaboratory and UNRBA Symposium continues
- General plan is to have presentations by the Collaboratory Researchers and the UNRBA to
 - Summarize the research underway and how the UNRBA plans to incorporate it into the re-examination analyses
 - Review the schedule for completion of the Collaboratory's assessment of Falls Lake and the UNRBA's Re-examination of the Falls Lake Rules
 - Engage attendees to get needed input related to the issues important to stakeholders.

Alternate Plan for the UNRBA Technical Stakeholder Workshop

- The UNRBA Technical Stakeholder Workshop has been postponed until FY2022 due to COVID-19 and the Collaboratory/UNRBA Symposium.
- Anticipate first half of meeting to provide an update on model calibration for WARMF and EFDC
- Second half is typically small group sessions; potential topics include review and stakeholder input of
 - Modeling scenarios being evaluated
 - Data sources for the statistical model
 - Output metrics for the statistical model

Other Status Items

Ongoing Items

- Appointment of DEQ Secretary Michael Reagan as EPA Administrator
- Coordination with the Collaboratory on Falls Lake studies
- Ongoing DEQ/DWR Items
 - MOA
 - DWR 2020 Integrated Report and 303(d) assessments
 - High Rock Lake Site Specific Chlorophyll-a Criteria
 - 2019 UNRBA Final Monitoring Report meeting
 - Schedule for face to face when possible
 - Neuse Watershed Model Information Session / Delivery Factors for WWTP

Future Meetings as Currently Scheduled:

Next BOD Meeting

January 20, 2021, 9:30 AM to Noon

Remote Meeting

Next MRSW Meeting

February 2, 2021, 9:00 AM to 11:00 AM

Remote Meeting

Next PFC Meeting

February 2, 2021, 11:30 AM to 1:15 PM

Remote Meeting

Closing Comments Additional Discussion