

Path Forward Committee Meeting Butner Town Hall, June 6, 2023



Agenda

- Opening Comments, Agenda Review/Revisions
- Contracts and Agreements for FY2024
- Modeling and Regulatory Support Status
- Developing Recommendations for a Revised Nutrient Management Strategy and a Petition for a Site-Specific Chlorophyll-a Water Quality Standard
- Gathering Data from Local Governments to Support the Cost Benefit Analysis
- Timeline for the Development of Recommendations for a Revised Strategy and Model Development Documentation
- Communications Support
- Other Status Items
- Closing

Opening Comments, Agenda Review/Revisions

- PFC Meeting Schedule
 - No meeting scheduled in July, but we need to schedule a “Check-In” Teams Session the week of July 3rd or 10th
 - PFC to set this date today
- Board Meeting Schedule
 - Recommend provisional meeting date for December

Contracts and Agreements For FY2024

**Review of the Modeling and Regulatory Support
and Communications Support (MRS&C)
Contract and Scope of Work for FY2024**

Review Process for the Draft Scope of Work

- The Executive Director and Chairs of the PFC have reviewed the draft scope of work and contract
- Board will review and act during the June 21, 2023, meeting
- The total budget is proposed at \$675,000
 - BC (labor and miscellaneous expenses): ~\$395,000
 - Systech Water Resources (WARMF): ~\$75,000
 - Dynamic Solutions (EFDC): ~\$75,000
 - KDV (Statistical, Bayesian, Decision Support): ~\$90,000
 - Brindle Creek (economist): ~\$40,000

Task 361 Sensitivity Analyses/Scenario Evaluation (~\$100,000)

- Evaluate additional scenarios and sensitivity analyses EFDC and WARMF Lake requested by DWR or other stakeholders
- Document analyses in the lake model report or technical memorandum

Task 362 Modeling Supp/Stats Modeling (~\$125,000)

- Finalize the Statistical/Bayesian/Decision Support tool
- Re-examination data analysis support

Task 363 Status Updates and Final Reporting (~\$110,000)

- Finalize watershed model and lake model reports
- Generation of meeting slides for status meetings, technical workshops, etc.

Task 364 Update the Work Plan (~\$5,000)

- Update the multi-year work plan and develop scope for FY2025 to support the UNRBA with the rule making process and coordination with DWR and the EMC

Task 365 Regulatory/IAIA Support (~\$105,000)

- Regulatory support for the re-examination (meetings, workshops, finalize UNRBA recommendations, assistance with rule making, etc.)
- IAIA Program Support

Task 366 Communications Support (~\$60,000)

- Continued management and coordination of UNRBA's communications team
- Implementation and revision (as needed) of the UNRBA Communications Plan
- Preparation of materials to support meetings with regulatory agencies, commissions, and NGOs; technical stakeholder workshop; and symposia or forums
- Coordination with communications staff at local governments to leverage existing resources, platforms, and distribution lists and better reach the general public concerning the re-examination goals and recommendations
- Development of videos and press releases to communicate the work and recommendations of the UNRBA

Task 420 Cost Benefit Analysis (~\$80,000)

- Cost benefit analyses to support the re-examination
- Integrate work of the UNC Environmental Finance Center

Task 510 Delivery of Modeling Files to Agencies (~\$30,000)

- Compile EFDC data inputs, model files, executables, and final reports for submittal to DWR; conduct EFDC model training
- Provide these and WARMF materials, as required, to other regulatory agencies, such as EPA
- Respond to comments and inquiries from the agencies to clarify any questions

Task 620 (~\$60,000)

- Project management and miscellaneous expenses (room rental, food for workshops, etc.)
- Meeting attendance: working calls, workshops, status meetings, symposium

MRS&C Meeting Plan

- Target no more than two meetings or workshops per month
- Utilize reserved meetings times for alternative purposes
 - Technical Stakeholders Workshop
 - Workshop with DWR/NC Collaboratory/NGOs regarding stakeholder feedback on a revised strategy
 - Spring Regulatory Forum

Review of the Executive Director Services Contract

Executive Director Services Contract

- The UNRBA Personnel Committee reviewed Executive Director services for the calendar year 2022 in December 2022 and made recommendations to the Board in January.
- The Board approved contract provisions for FY2024 and that contract is being reviewed for presentation to the Board on June 21, 2023.

Review of Legal Support

Review of Legal Support

- The UNRBA began collecting legal support funding from its members in FY 2019.
- The UNRBA selected Fred Andes with Barnes and Thornburg to provide legal support to the UNRBA.
- There have been two letters of engagement approved by the Board since June of 2018 with a total budget of \$100,000.
- The last engagement letter was in 2020 and that budget has been used.
- Fred Andes has prepared a new letter and scope and it has been reviewed by the Executive Director.
- This letter and scope is under informal legal review and will be adjusted based on input received.
- The new letter will include a not to exceed budget of \$50,000.
- The new letter will be put before the Board on June 21, 2023 for approval.

Modeling and Regulatory Support Status

WARMF Watershed Model Report

- The watershed modeling report and appendices have been revised
 - Address MRSW and DWR comments
 - Include results of the watershed model sensitivity analyses and scenarios
- Forrest and Michelle are reviewing the revisions and responses to comments
- Next, it will be distributed to the MRSW, DWR, and PFC for review and additional comment
- Following additional refinements, the report will be formally submitted to DWR
- Revised WARMF model executable, input files, and output files have been provided to DWR based on requests during the DWR model training

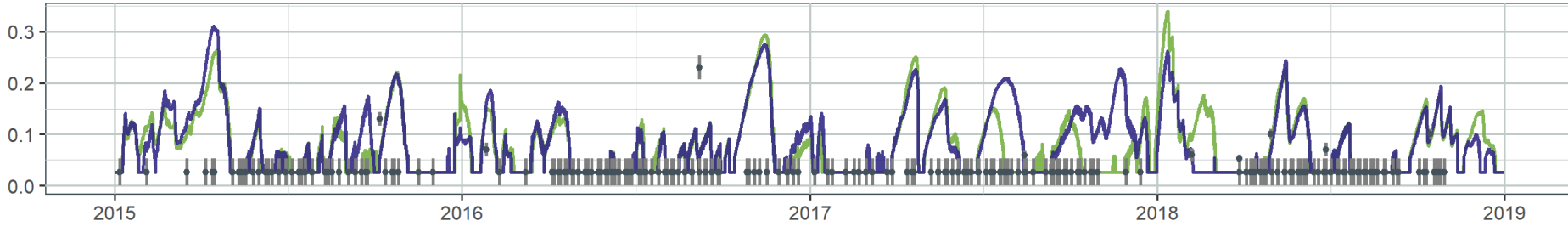
WARMF Lake Dam Operation Scenario

WARMF Lake Dam Operation Scenario

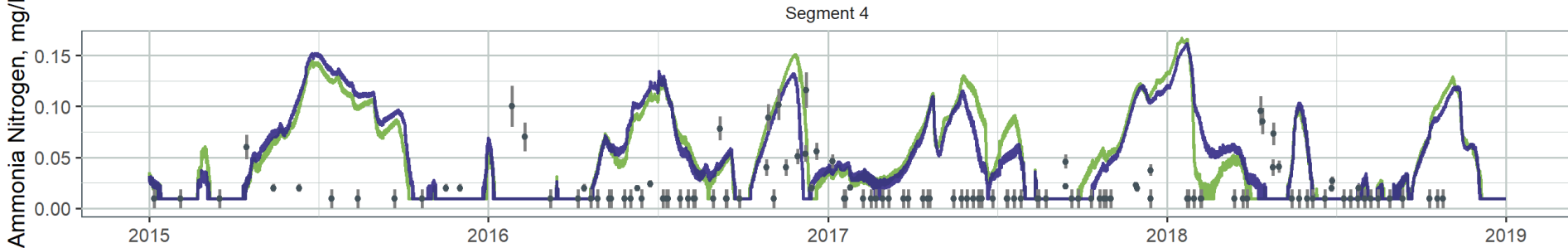
- The USACE operates Falls Lake as a flood control structure to protect downstream communities
- Water level is controlled for a target elevation of 251.5 feet above mean sea level, but following large storms, water is retained in the lake and released it slowly once downstream flooding risk has passed
- This operation affects retention of storm water in Falls Lake, residence time, and lake water quality
- A scenario was evaluated to determine the effect of changing the lake operation from a flood control structure to one with a weir release at normal pool
 - Lowered the spillway from 264.9 ft to 251.5 ft
 - Specified minimum release of 100 cfs from April 1st to October 31st and 60 cfs from November 1st to March 31st
- Simulated lake water quality changes some, but not drastically because the USACE already targets 251.5 ft

Ammonia

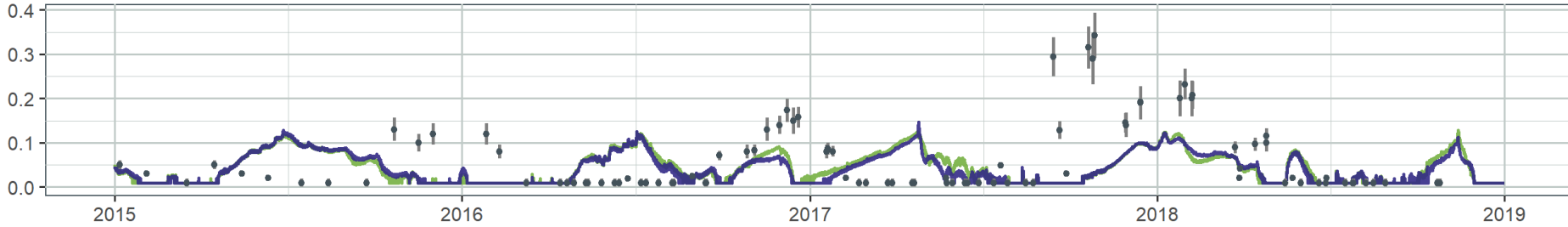
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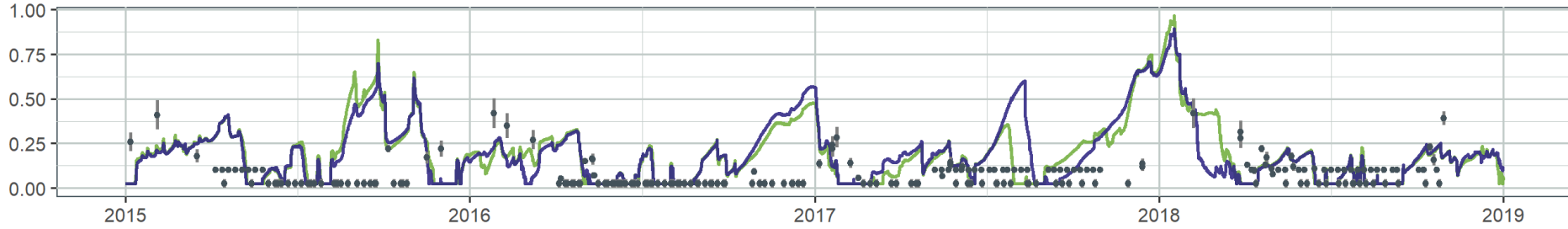
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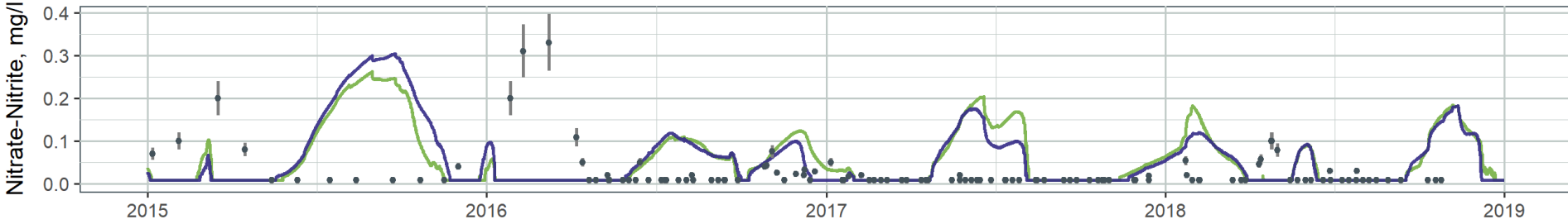
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Nitrate

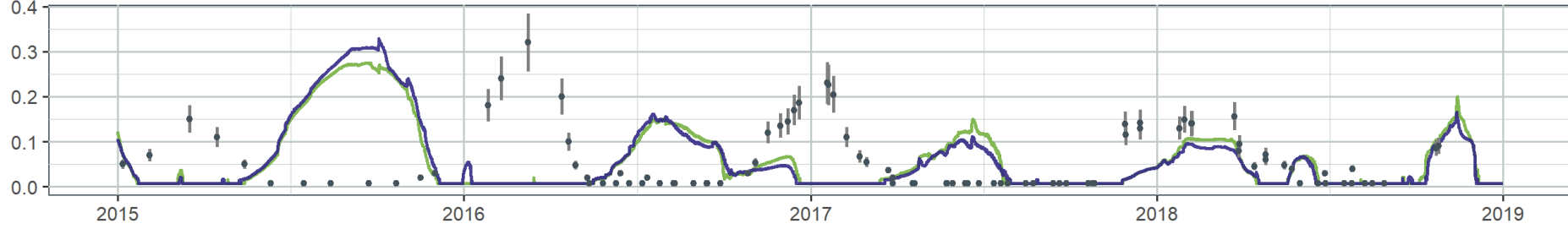
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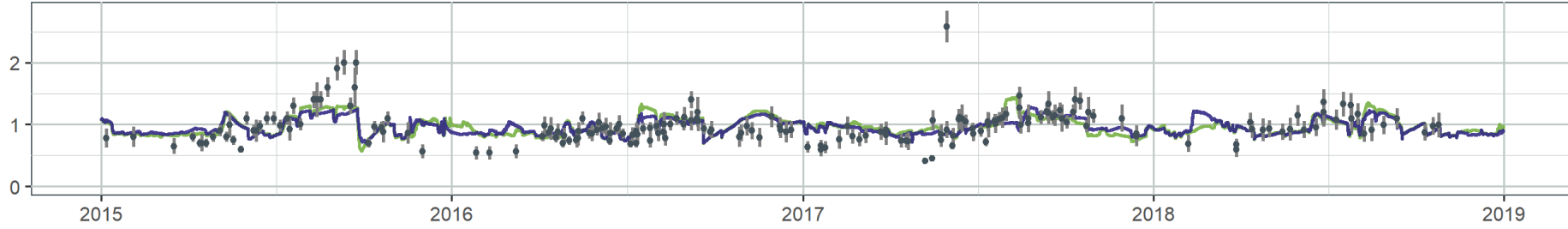
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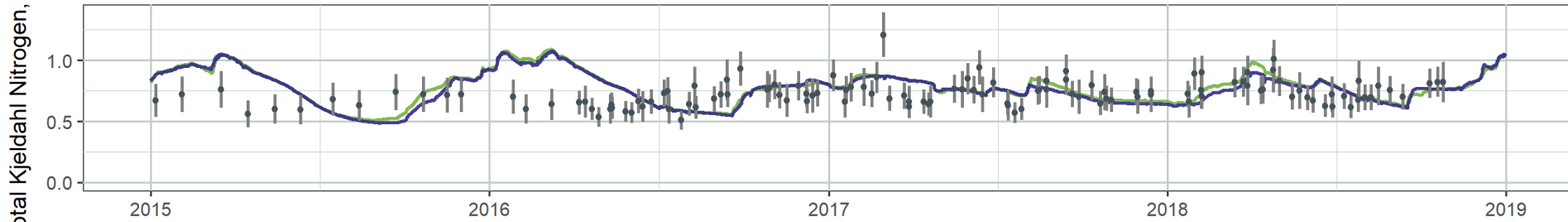
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Total Kjeldahl Nitrogen (TKN)

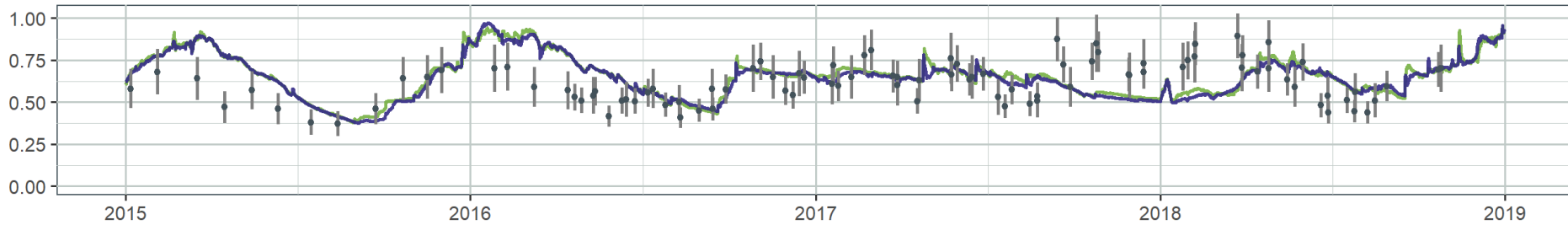
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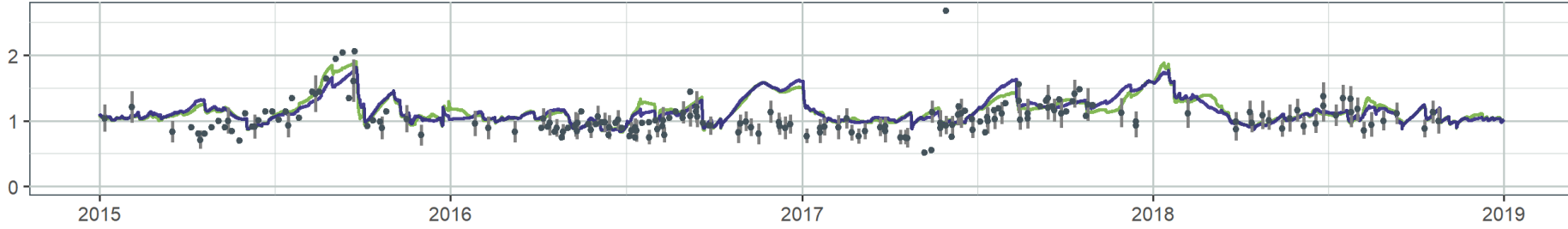
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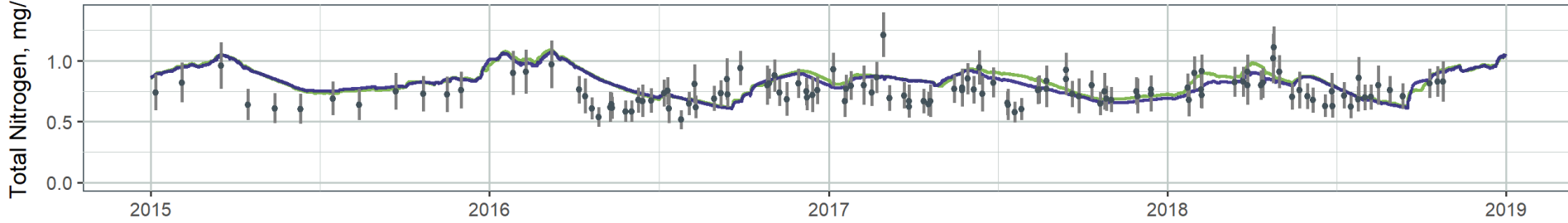
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Total Nitrogen (TN)

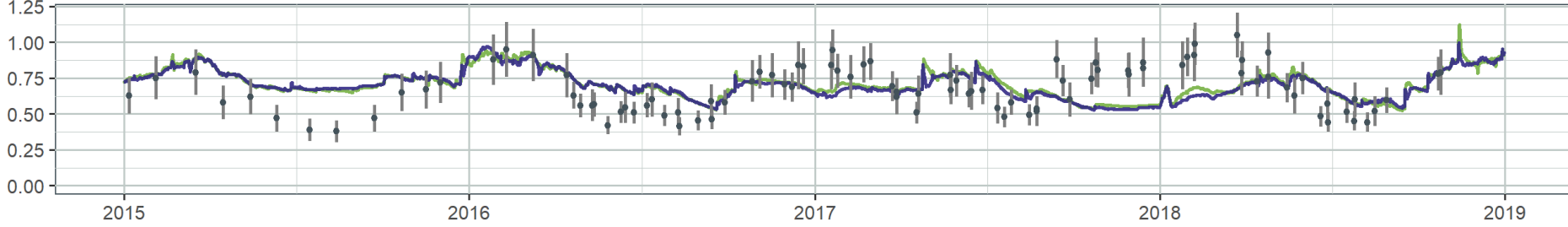
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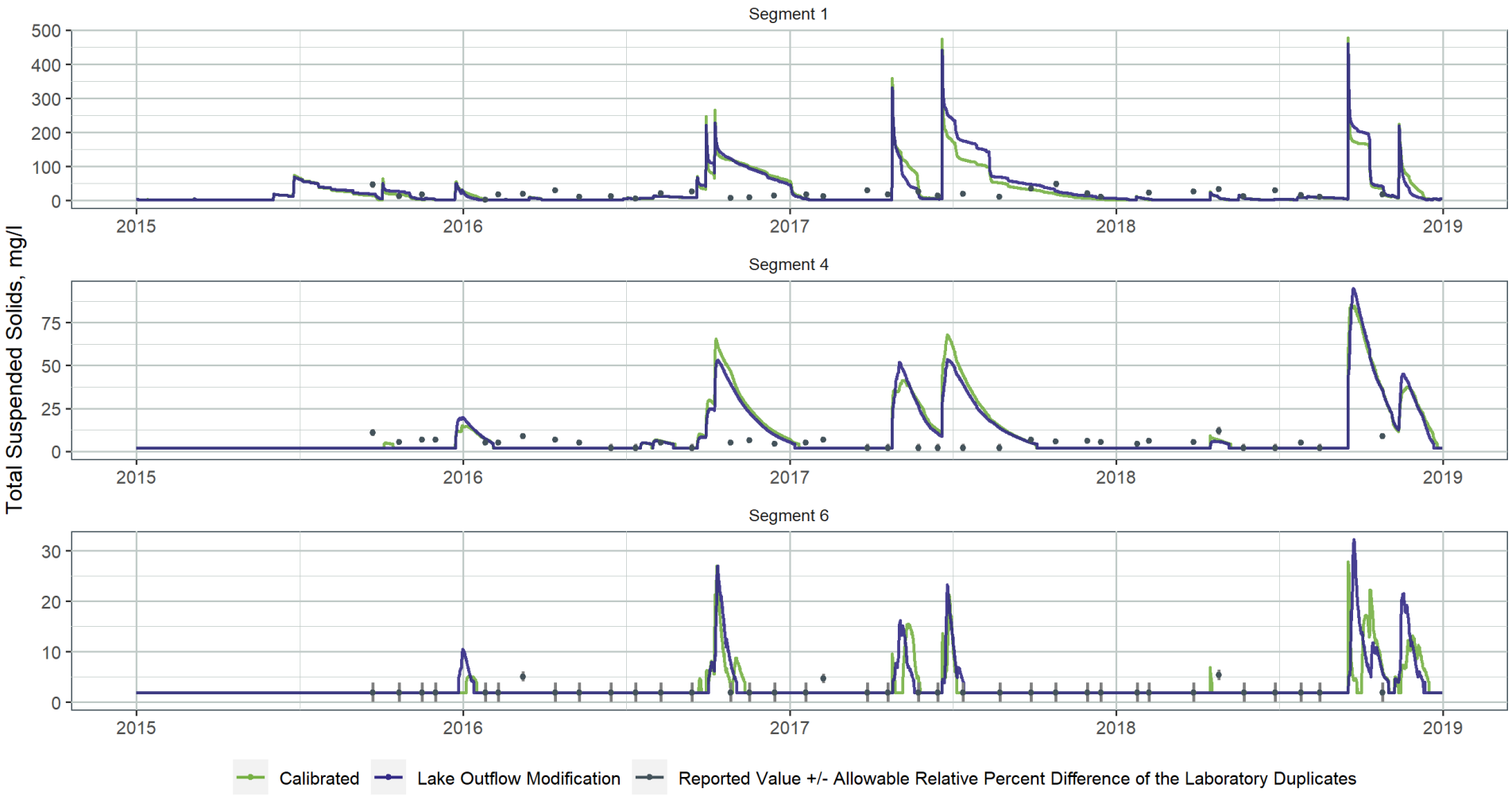


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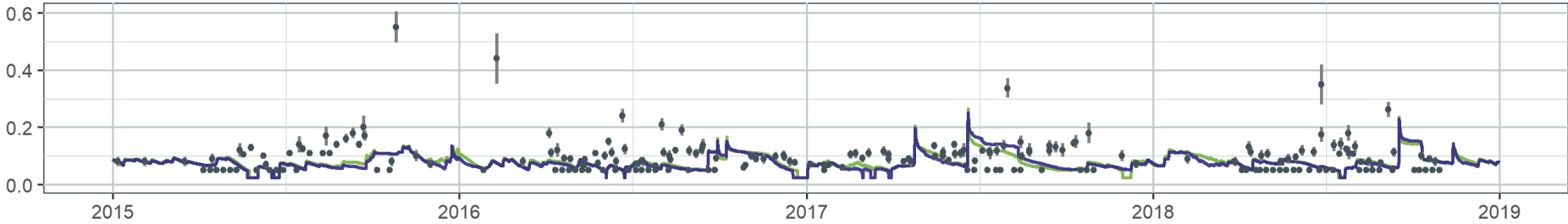
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Total Suspended Solids (TSS)

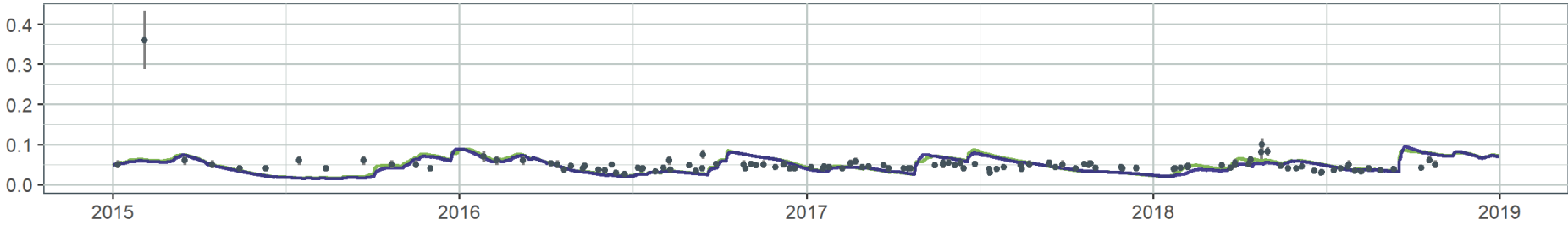


Total Phosphorus (TP)

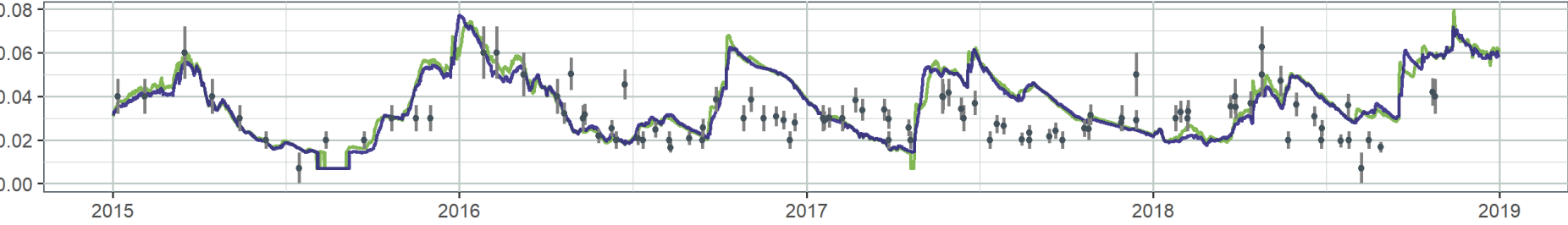
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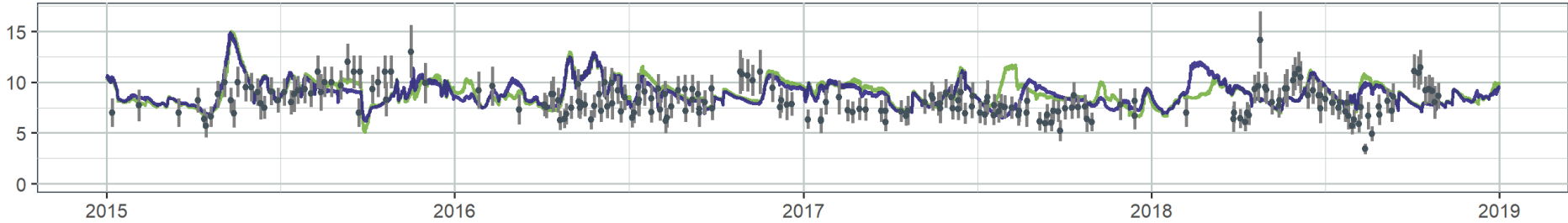
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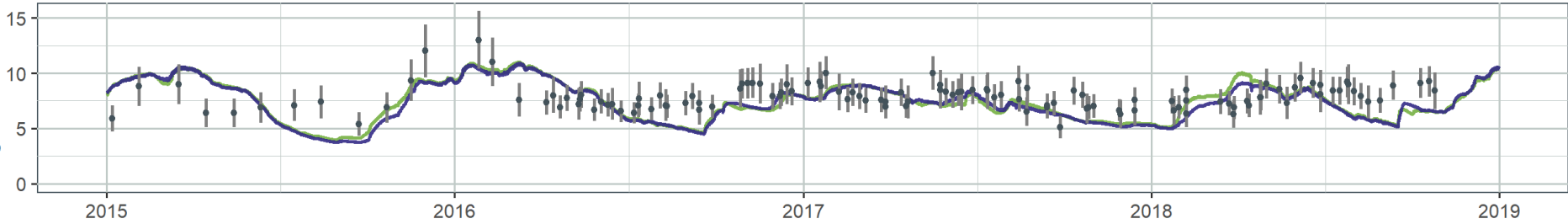
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Total Organic Carbon

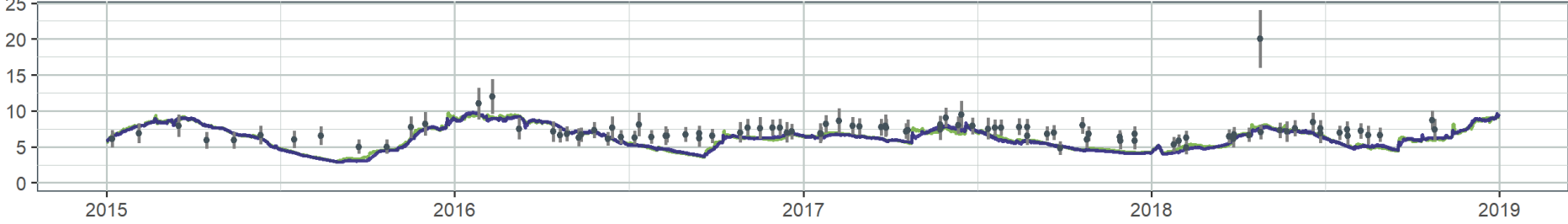
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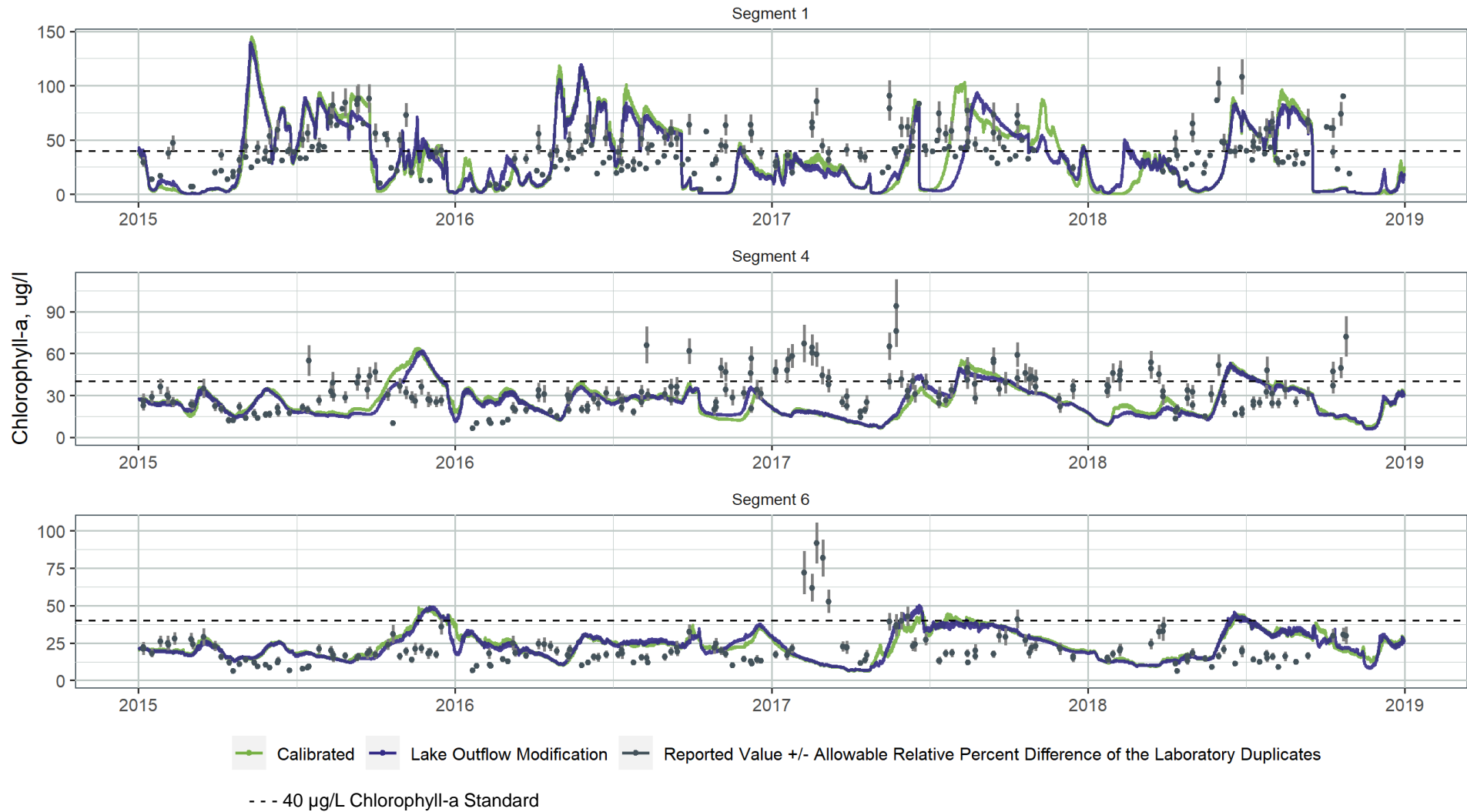


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— Calibrated — Lake Outflow Modification ● Reported Value +/- Allowable Relative Percent Difference of the Laboratory Duplicates

Chlorophyll-a



Impacts of the Lake Operation Scenario

- Often there is little difference between the scenarios because the USACE already targets water level at 251.5 ft
- Some parameters have lower peaks or shifted timing of peaks when operations are changed
 - Ammonia, TKN, TN, TP
- Some parameters have higher or lower peaks
 - Nitrate, TSS, TOC, Chlophyll-a
- This change in lake operation would not affect compliance status for chlorophyll-a or significantly change TOC near the City of Raleigh intake

Lake Model Report

Lake Model Report

- The lake model report is under development and will address all three UNRBA lake models
- This report will include the results of the lake sensitivity and scenario evaluations.
- Model-specific appendices are also under development
- The EFDC model appendix will be distributed for MRSW review soon

UNRBA Statistical/Bayesian Model

UNRBA Statistical/Bayesian Modeling

- The third lake model is the Statistical/Bayesian/Decision Support model which is based on an extensive data base dating back to the 1990s.
- The subject matter experts and third-party reviewers funded by the NC Collaboratory began review of the input data and categorization in February, and we continued this discussion in March.
- Comparisons of data within the lake arms compared to the main lake is being conducted to inform model development
- Evaluations of loading to Falls Lake are being compiled
 - Monthly tributary loading from 4 tributaries back to the 1980s
 - Monthly estimates of atmospheric deposition from 2000 to 2020 based on NADP model estimates and extended back to the 1980s based on linear regressions
 - Seasonal estimates of nutrient releases from Falls Lake sediments based on EFDC modeling

**Developing Recommendations
for a Revised Nutrient
Management Strategy and a
Petition for a Site-Specific
Chlorophyll-a Water Quality
Standard**

Overview of Reexamination Activities

- **May through August 2023**
 - Discuss revised draft document describing concepts and principles and distribute public-facing summary; revise based on feedback; provide to Board for review
 - Expand stakeholder engagement
 - Propose legislation as needed; begin documenting potential rule changes
 - Meetings with Director of the Division of Water Resources (DWR) and the Chairs of the Environmental Management Commission (EMC) and its Water Quality Committee
- **September/October 2023**
 - Technical stakeholder workshop to review a final draft document
 - Provide draft report to the Collaboratory for reference
 - Draft consensus principals 2 for UNRBA and local government approvals
- **Not later than mid-November 2023 – UNRBA Board endorsement of Consensus Principals 2 and UNRBA Submittal**
- **December 2023 - Legislative requirements for Submittals**
 - NC Collaboratory final Falls Lake report
 - Submittals from other groups (UNRBA)
- **DWR to begin rule making within 6 months/no later than December 2024**
 - DWR to begin their stakeholder process
- **DWR anticipates rules readoption by 2026/2027**

Continued engagement with Collaboratory researchers

Development of Concepts and Principles for a Revised Strategy

- Since November 2022, the PFC has been discussing concepts and principles for inclusion in the UNRBA's recommendations for a revised Falls Lake Strategy/Revised Falls Lake Rules.
- The development of principles and concepts for review and approval by the PFC will lead to specific recommendations for revised rules.
- A draft document has been reviewed by the PFC and the full distribution list; revisions have been made based on this feedback and the PFC co-chairs have reviewed
- A revised draft will be distributed to the PFC via email prior to finalize before distribution to the Board to discuss at their June 21st meeting
- A public-facing summary is also being developed to expand outreach and invite additional feedback; this will be provided to the PFC for review and can be used by the local governments to distribute information to their mailing lists and social media accounts

Coordination with DEQ/DWR

- The UNRBA has scheduled a meeting with DEQ and DWR leadership on June 22nd to continue discussing coordination efforts
 - Review the technical findings of the reexamination
 - Discuss UNRBA recommendations for a revised nutrient management strategy
 - Develop a petition for site specific criteria
 - Continue coordination as the agency moves into the rules readoption process
- We have continued to remind DWR that they would identify a contact for site-specific chlorophyll-a standard development, and they have filled their vacant standards management position, but have not yet identified a specific staff member as the main point contact.
- John Huisman remains the primary DWR contact for work on an updated strategy.

Coordination with Stakeholders and SMEs

- The UNRBA will continue to identify opportunities to work with other stakeholders as we move through this development process.
- The subject matter experts continue to evaluate other State's site-specific standards for chlorophyll-a and nutrient-related standards.
- The UNRBA continues to work with Dr. Marty Lebo to complete his work and integrate his results into the site-specific standard evaluation, statistical modeling, and regulatory support efforts.

Gathering Data from Local Governments to Support the Cost Benefit Analysis

Gathering Data from Local Governments to Support the Cost Benefit Analysis

- An important component of the re-examination is understanding the costs of past and possible future actions in the watershed as well as the benefits
 - Nutrient load reductions
 - Improvements in lake water quality
- At the February PFC meeting we discussed the types of data and information we are seeking to initiate this process
- Please email initial information to amatos@brwncald.com and ashley@brindlecreek.com and copy Forrest.Westall@mcgillassociates.com.
- Structured data requests will follow after existing data and reports have been reviewed and compiled.

Timeline for the Development of Recommendations for a Revised Strategy and Model Development Documentation

Anticipated Schedule for MRSW/PFC Review of Work Products

Report	Status	MRSW/PFC Action
Watershed model report and appendices	Modeling team responded to MRSW, DWR, and 3 rd -party reviewers' comments; added scenarios and sensitivity analyses; Forrest and Michelle reviewing revisions and responses to comments	Review responses to comments and approve for submittal to DWR (September/October)
Lake model report and appendices	Modeling team drafting main report and appendices	Aim to provide to the EFDC Appendix to the MRSW, PFC, and DWR in July and the main report and other appendices in September with final to DWR in December.
Concepts and Principals Document	Merging comments from the PFC following latest review	PFC review next draft following the June 6 th meeting via email and indicate approval to submit for Board review in June
Public-facing summary of Concepts and Principals Document	Addressing executive director and co-chair comments	PFC review draft following the June 6 th meeting via email and indicate approval to submit for Board review in June
Consensus Principles II	To be drafted	Initial PFC review by email in August with revised draft for review at September meeting for approval to send to the Board in September
Annotation of the Falls Lake Rules with UNRBA proposed revisions	Aiming to start this in August; we should discuss review timeline given other items	PFC review in October/November

Timeline for the Development of Recommendations for a Revised Strategy and Model Development Documentation

- The timeline for the development of strategy revision recommendations was set in 2018 as part of the modified Collaboratory legislation.
- December of 2023 has been ahead of us for about 5 years and all of our focus has been on achieving this goal.
 - C&P document under development
 - Need to draft Consensus Principles II to be the primary communication to the state (EMC, DEQ, DWR and General Assembly).
 - Model documentation and files that will be submitted to DWR for review by the end of the year
 - Forrest has discussed with the two Co-Chairs of the PFC the plan for this process and the schedule by report has been developed and was provided to the PFC ahead of the meeting.
- We need to keep in clear focus meeting this schedule because it is critical to placing before the state our recommendations for a revised strategy and for a site-specific water quality standard for chlorophyll-a.

Communications Outreach and Preparation

Communications Outreach and Preparation

- Continued engagement with DWR and Collaboratory researchers (meeting planning underway)
- Development of a high-level, public-facing document to describe the challenges for the Falls Lake watershed and the concepts and principles under consideration by the UNRBA to maintain and improve water quality in Falls Lake.
- Several events recently held or being planned
 - WRRRI Falls Lake Session held on March 23, 2023
 - Symposium with NC Collaboratory held on April 19, 2023
 - Meeting with DWR to discuss reexamination in June 2023
 - Workshop with DWR/NC Policy Collaboratory/NGOs planned for summer 2023
 - Technical Stakeholder Workshop planned for Fall 2023
 - Regulatory forum to discuss rules revision process planned for Spring 2024

PFC Discussion of the Technical Stakeholders Workshop

- We have been discussing hosting a Technical Stakeholder Workshop after the model scenarios were completed
- The workshop would summarize model development, calibration, scenario analysis and the UNRBA concepts and principles for a revised strategy
- Possible dates:
 - August 1st
 - Pros: Would allow earlier feedback on the concepts and principles
 - Cons: may distract from other activities
 - September 5th
 - Pros: more time
 - Cons: date follows the September 4th Holiday
- Possible agenda:
 - 1-hour PFC meeting from 9:00 AM to 10:15 AM
 - Workshop from 10:30 AM to 3:00 PM
- PFC to discuss possible dates and agenda

Communications Outreach and Preparation

- The Executive Director will continue scheduling presentations at the local government's Board, Council, and other meetings to discuss the recommendations for a revised nutrient management strategy
 - Presented to the City of Durham Environmental Affairs Board on April 12, 2023
 - Plans to present to the City of Creedmoor Commissioners on July 17, 2023 and the Wake County Growth & Sustainability Committee on September 18, 2023
- The Executive Director will continue to reach out to local government staff to identify needs and support staff with implementation of the IAIA Program
 - Year 2 ends June 30th and annual reports to DWR are due September 30th (copy UNRBA)
- Planning a press release on the Neuse River of the Year for the upper part of the watershed following event details from American Rivers
 - The Board suggests including the IAIA accomplishments and the 2022 UNRBA Status Report as part of this release
 - BC communications staff have been identified to support development of press releases and videos

Other Status Items

Ongoing Items

- More intensive outreach and stakeholder engagement and management of expectations and resources—A lot to do between now and recommendations in 2023
- Ongoing DEQ/DWR Items
 - Continued engagement with staff and leadership
 - Building agreement with timeline for EPA outreach
 - MOA
 - Neuse Watershed Model Information Session – Delivery Factors for WWTP—Update provided by John Huisman
 - The UNRBA will be providing comments on the DWR 20-yr status report for the Neuse and Tar-Pam Estuaries

Future Meetings as Currently Scheduled:

Next BOD Meeting: June 21, 2023, 9:30 AM to Noon

PFC Check-In Meeting in July via Teams (to be determined)

Next PFC Meeting: August 1, 2023

(time to be determined pending today's discussion)

Technical Stakeholders Workshop:

August 1, 2023 or September 5, 2023: 10:30 AM to 3:00 PM

(day to be determined pending today's discussion)

Closing Comments

Additional Discussion