

UNRBA
Monitoring Project
PFC Meeting
May 2015



Brief Project Updates





Project Management Changes at Cardno

- Lauren Elmore is on a leave of absence
- Doug Durbin is the principal in charge on the project and has taken on the role of project leader / manager
- He has managed similar monitoring programs in the past
- Matt continues to be the technical lead on the project
- Alix is providing additional technical and logistics support
- The Monitoring RFQ Committee met with Cardno to discuss these changes on May 14th



Annual Report

- Objectives
 - Present data collected from August to December 2014
 - Describe the program in terms that would be easy to understand by the general public
 - Does not present trends or recommend programmatic changes to the Monitoring Program based on the limited dataset
- Forrest, Haywood, and Jay provided two rounds of comments on the Annual Report
- Our public communications specialist offered input on the report and the reviewer comments
- Forrest distributed to the PFC on May 5th
- Will post to the UNRBA website early next week



Lake Sediment Evaluation

- Recon trip with Dr. Marc Alperin from UNC on May 7th
- Pulled test cores from ~10 locations
- Plan to sample 20 locations in June
- Anticipate laboratory results in July or August
- Interpretation and report from Dr. Alperin in the fall





Laboratory Audit and QAQC

- Matt, Jay, and Haywood participated in a laboratory audit of Environment 1 in early April
- Lab is well-run and data quality appears high
- Lab follows DWR requirements for QA samples
- Cardno has requested additional QA steps to address specific concerns
 - Elevated field blanks
 - Analytical sequences
- Cardno has specified more rapid data delivery
- Lab has agreed to Cardno requests
 - Changes will be included in the FY 2016 contract

Potential Additional Lake Monitoring



Value of Additional Lake Monitoring

- Would additional lake monitoring improve the EFDC model?
 - How much data?
 - What kind of data?
 - How much improvement in the model?
- Forrest asked Cardno to look into these questions

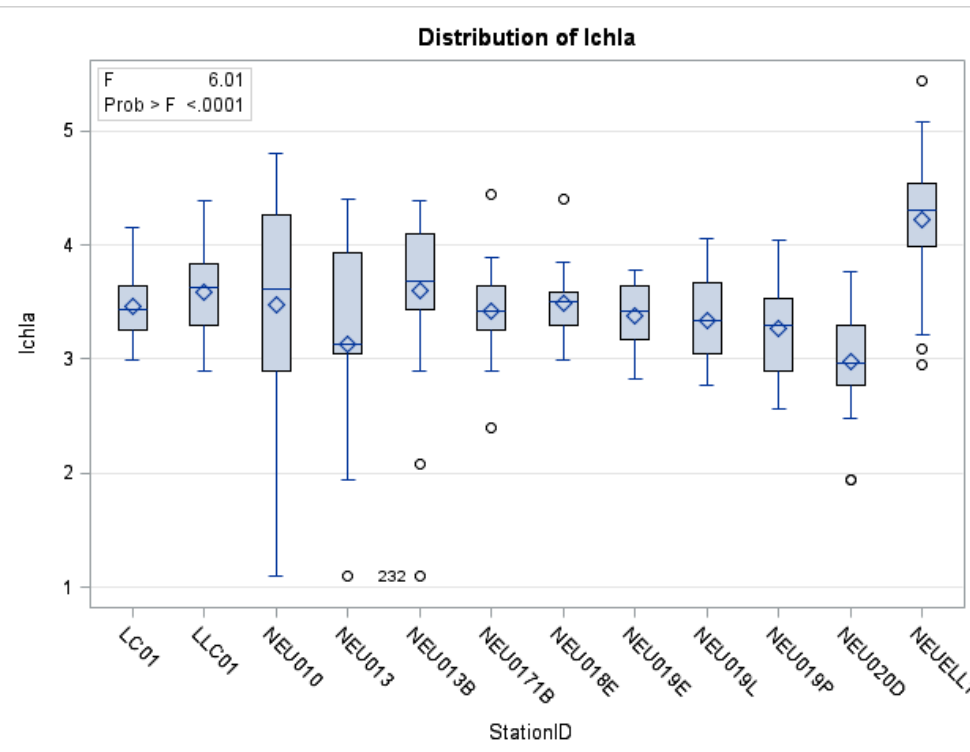
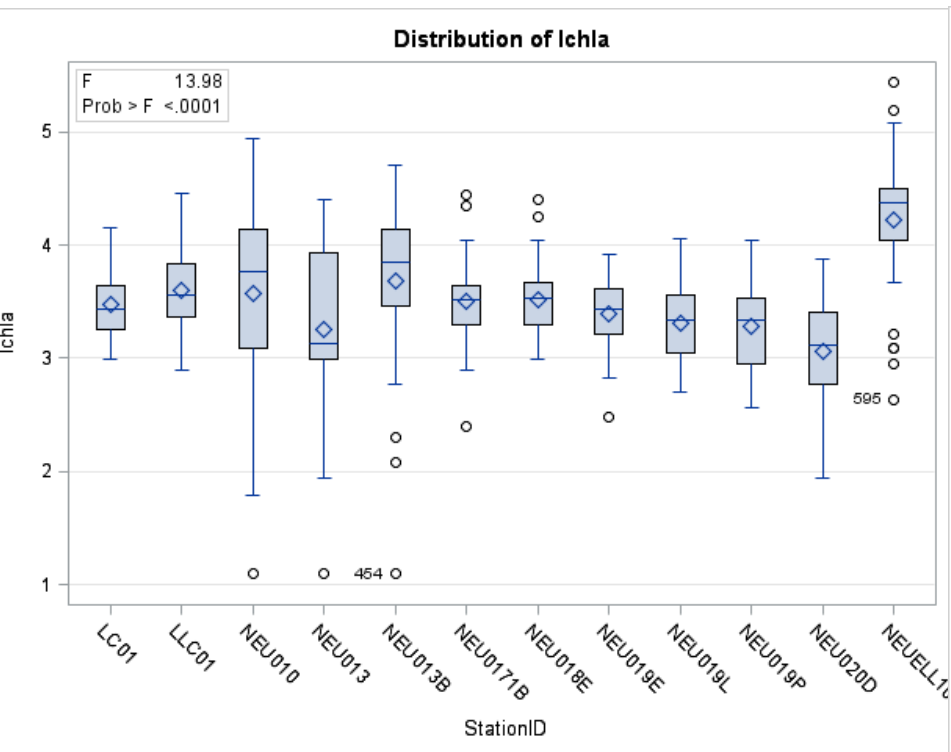


Statistical Analysis

- Review of 2005 to 2007

Twice a Month Sampling

Once a Month Sampling





Model Review

- **Cardno's hydrodynamic / water quality modeling team**
 - Provided a review of the Monitoring Program pursuant to model needs
 - Recommendations are consistent with previous recommendations from Cardno and LimnoTech
 - Concluded that twice monthly sampling would not improve model calibration as much as other types of data that could be collected



Key Recommendations Related to Modeling

- Event-based water quality sampling at bridge causeways
 - Higher sampling frequency
 - Estimate flux between lake segments
 - Provide more robust calibration targets
- Light extinction measurements in Falls Lake
- Analyze VSS as well as TSS to provide data to compare to model output
- Use existing EFDC model to explore and prioritize studies



Linking Modeling Recommendations to FY2016 Scope

- We prioritized modeling recommendations
- Incorporated them into the revised Monitoring Plan
- Incorporated higher priority studies into the FY2016 scope of work
- Generated cost estimates for FY2016 budget

2016 Monitoring Plan





Revisions to the Monitoring Plan as Adapted May 2015

- Forrest, Jay, and Haywood have reviewed and commented on revisions to the Monitoring Plan document
- Forrest requested that the recommendations from our modelers be included in the latest draft
- Forrest distributed revised draft to the PFC on May 13th
- There will be minor changes to the routine monitoring components, based on the limited data provided in the Annual Report
- The special studies component has been augmented and reprioritized



Modifications to Special Studies Component

- Incorporated studies that were approved and began last year (e.g., wet weather sampling)
- Added recommendations from the Model Review (e.g., water quality and velocity measurements at lake constriction points)
- Prioritized studies based on the relevance to the Monitoring Program objectives



Scope of Work for FY 2016

- Restructured phases and tasks to streamline project management
- Refined cost estimates based on Year 1 information
- Project cost for routine monitoring components: ~\$575,000
 - Routine monitoring
 - Data management
 - Analysis and reporting
 - QAQC review
 - Revisions to next year's monitoring program



Special Studies

- **Cost of all High Priority Special Studies:**
 - Estimated at \$200,000 to \$300,000
 - Still developing some costs
 - Evaluating 2015 budget for carry over
 - Discussing additional participation by DWR
- **Three Medium Priority Special Studies:**
 - \$30,000 to \$40,000
 - Still developing some costs
- **Two Low Priority studies**
 - Not recommended for 2016



Discussion, Questions, and Feedback Welcome

