

UNRBA Path Forward Committee Meeting

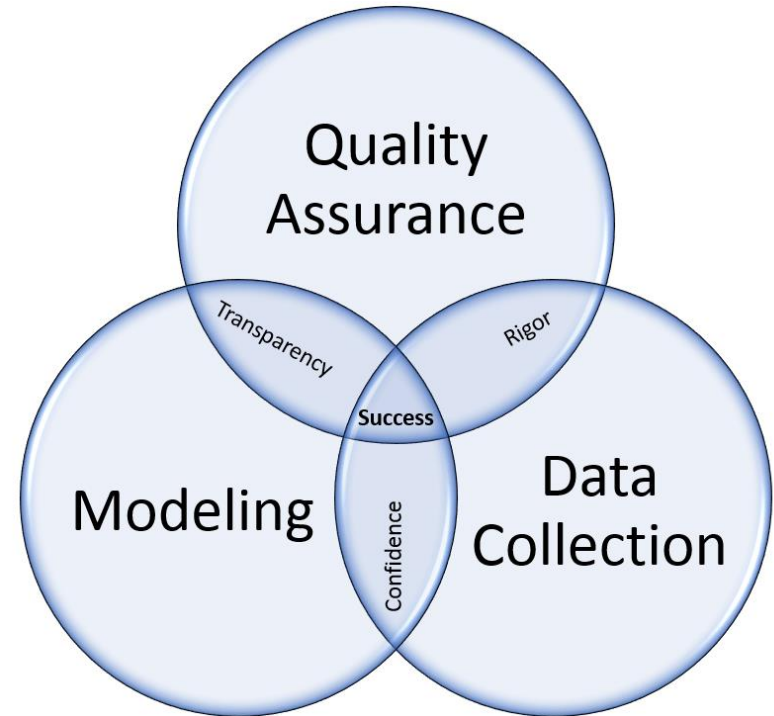
MRS Project Status Update

December 4, 2017



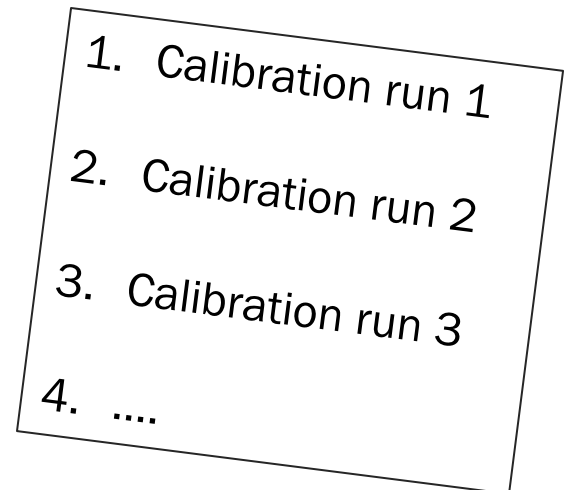
Modeling Quality Assurance Project Plan (QAPP)

- MRSW discussed revisions to address DWR comments on November 17th
- DWR received redline version on November 20th
- Executive Director requested comments from DWR prior to formal submittal
- UNRBA to formally submit QAPP in December



Data Management Plan

- Modeling Team is drafting a Data Management Plan for review by the MRSW and PFC to describe
 - How data is processed and quality assured to develop model inputs
 - Time series
 - Spatial
 - How model runs are catalogued and stored
 - Calibration
 - Validation
 - Sensitivity analyses
 - Scenario runs

- 
1. Calibration run 1
 2. Calibration run 2
 3. Calibration run 3
 4.

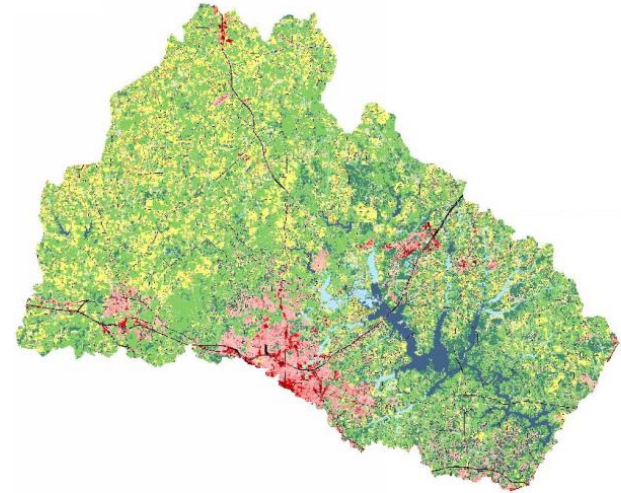
Data Acquisition Forms and Follow Up

- Data acquisition forms were distributed prior to the stakeholder meeting
- Follow up calls have occurred with each sector
- Agency meeting (non-ag) has not been scheduled
- Next slides provide summaries of follow-up calls



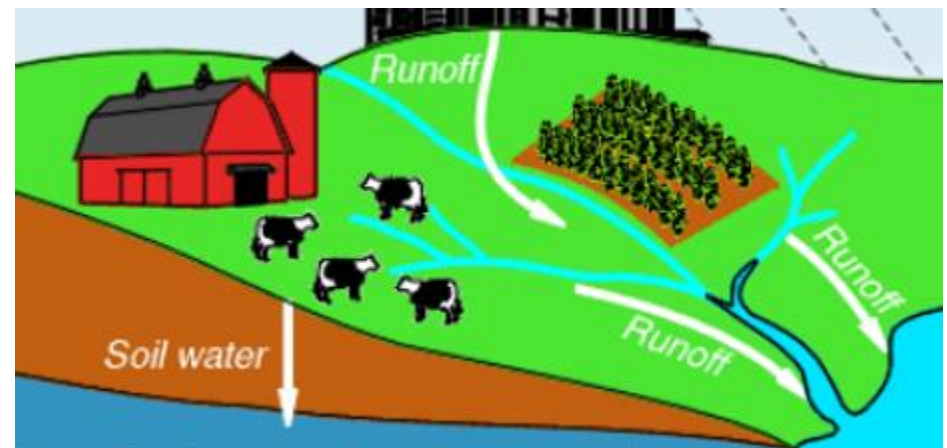
Land Use/Land Cover Data

- Top priority for data acquisition
- Cooperative data collection by some members
- Aerial photographs from NC One Map
 - Some have been processed into land cover data sets
- In some areas, national datasets will be the only data available
- Municipalities may maintain this data in multiple departments
- Impervious cover data may not include roads – burn in separately



Centralized Source for Agricultural Data

- The Falls Lake Nutrient Management Strategy requires
 - Local Advisory Committees submit reports to the Watershed Oversight Committee (WOC) each year
 - The WOC maintains and summarizes this data
 - The WOC submits an Annual Report to the Environmental Management Commission
- We can acquire the agricultural data needed for the watershed model from WOC rather than each individual SWCD



Agricultural Data and Information

- Crop acres are available at the county level each year
- Crop types vary year to year; sometimes with multiple crops grown per year – do not double count these acres
- Average fertilization rates and timing by crop type each year
- Nitrogen fertilization amounts include inorganic fertilizer, biosolids, and manure
 - Nutrient application to pasture is tracked separately from crops
 - Accounts for cattle, horses, sheep, goats
 - Includes smaller operations that are not in the database of permitted facilities
- Phosphorus fertilization rates to be provided based on Neuse Basin survey

Agricultural Data, Continued

- Approximate timing of harvest by crop type (removal of nutrients from system)
- Animal operations should not be explicitly simulated (avoid double counting)
- Only “dedicated” (non-ag field) biosolids applications should be explicitly simulated (avoid double counting)
- Contact the state and wastewater utilities for data on dedicated biosolids fields



Source: Scott Eaton, Kings Mountain NC

Agricultural Data, Continued

- Best Management Practices
 - Data are not maintained in spatial databases
 - NC Dept of Ag and Division of Soil and Water track this data at the county level
 - Practices tracked include livestock exclusion, stream buffers, scavenger crops, conservation tillage, cropland conversion
 - Only practices under cost-share practices are actively tracked (would omit older practices with expired contracts)



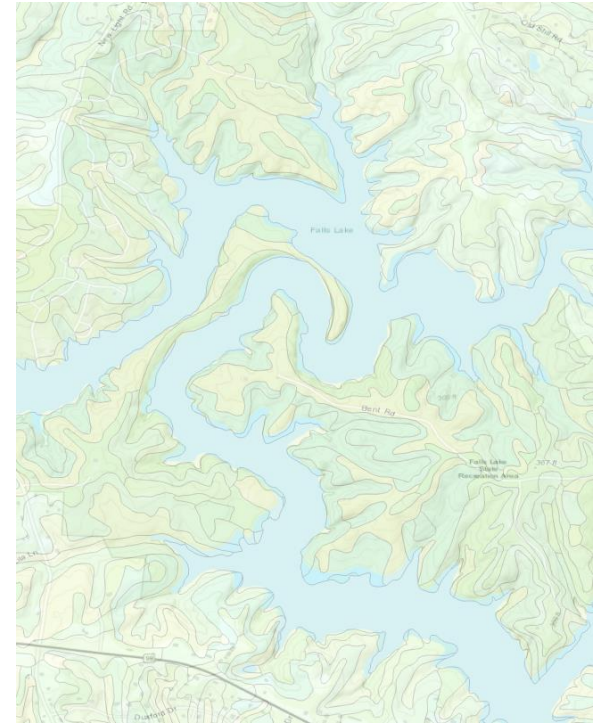
Impoundments

- Obtain drinking water withdrawals from local governments
- Obtain older and more recent models for information (BATHTUB, OASIS)
- UNRBA information request does not pertain to small farm ponds
- May revisit location of small farm ponds and potential irrigation if hydrograph calibration for watershed model is difficult



Soil Chemistry Data

- NC Dept of Ag tracks county level data by crop type (Phosphorus index, Calcium, Potassium, etc.)
- Online summaries available for 2007 – 2012
- Will request raw data for sensitivity analyses



Soil mapping units in the Falls Lake watershed

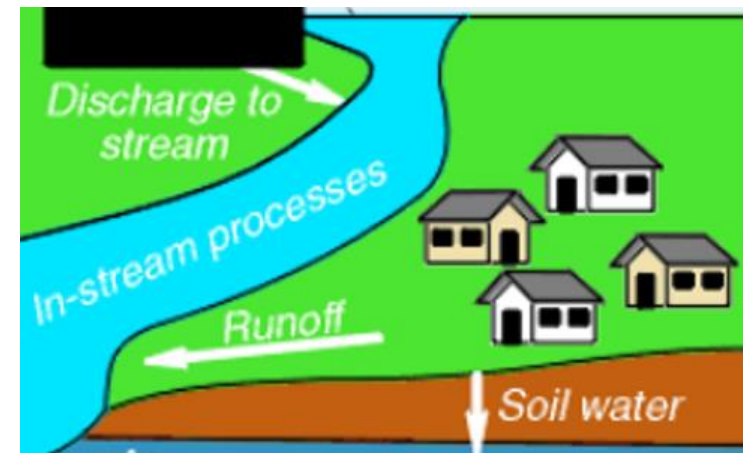
Urban BMPs and Nutrient Application

- Urban best management practices (BMPs)
 - Varying types of information is managed spatially
 - Nutrient credits often managed in spreadsheets
 - Most practices tracked are for new development
- Urban nutrient application
 - Rates for land owned by local governments – department level information
 - Homeowner surveys conducted by Deanna Osmond (NCSU)



Wastewater and SSOs

- Onsite wastewater
 - System inventories were developed under the Falls Rules; request from DWR
 - Need to understand how many systems have been hooked up to sewer
 - Need to request previous failure rate studies submitted to the State
- Sanitary Sewer Overflows (SSOs)
 - Data may be managed at the state, local, and departmental level
- Wastewater discharges
 - State and local data sources



Potential WARMF Code Customization

- Seasonal crop rotations
 - Multiple inputs for crop type, fertilization, harvest time, etc. on the same field
 - Special coding has been developed for crop rotations in CA
- Subsurface nutrient application to crops
- Tillage practices

Data Transmittal and Next Steps

- Organizations to submit available data in December and January
- Some data sets are still in development that may be submitted as available
- Some data sets will need to be updated after 2018 to capture the last year of the modeling
- Contractors will distribute file sharing protocols and begin summarizing the data and supplemental information in a memorandum for review by the stakeholders prior to modeling

Questions ?



