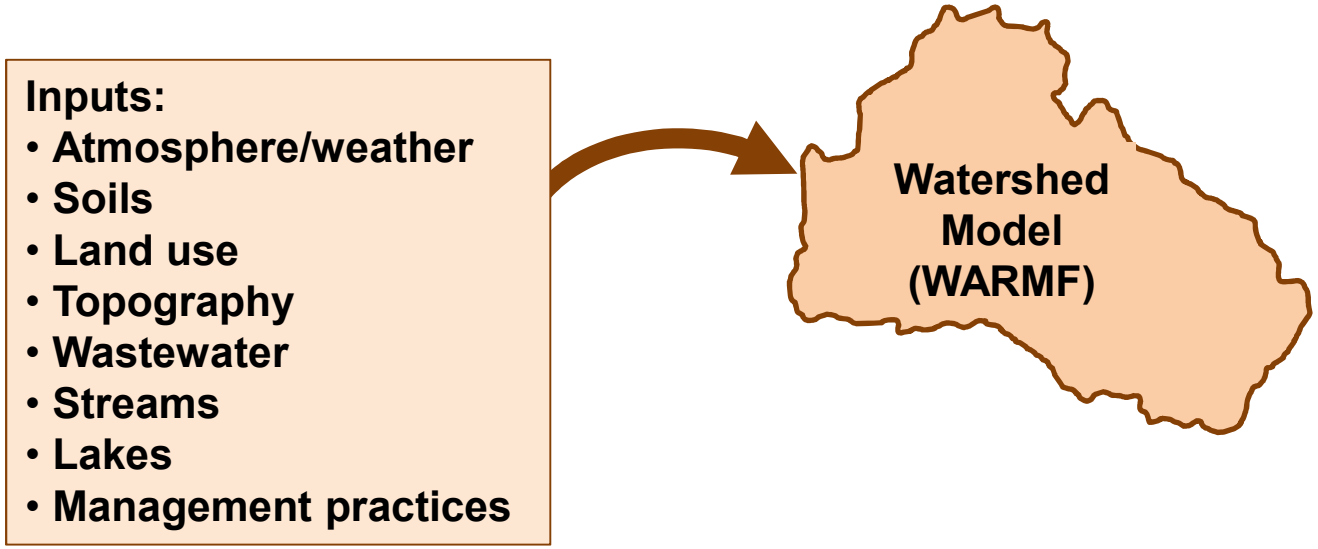
UNRBA Board Meeting

MRS Project
Status Update

April 25, 2018

Data Acquisition to Support Modeling

- Continuing to receive data from organizations in the watershed
- Summarizing for review by UNRBA and stakeholders
- Include 3rd party reviewers as available
- Please submit available data as soon as possible

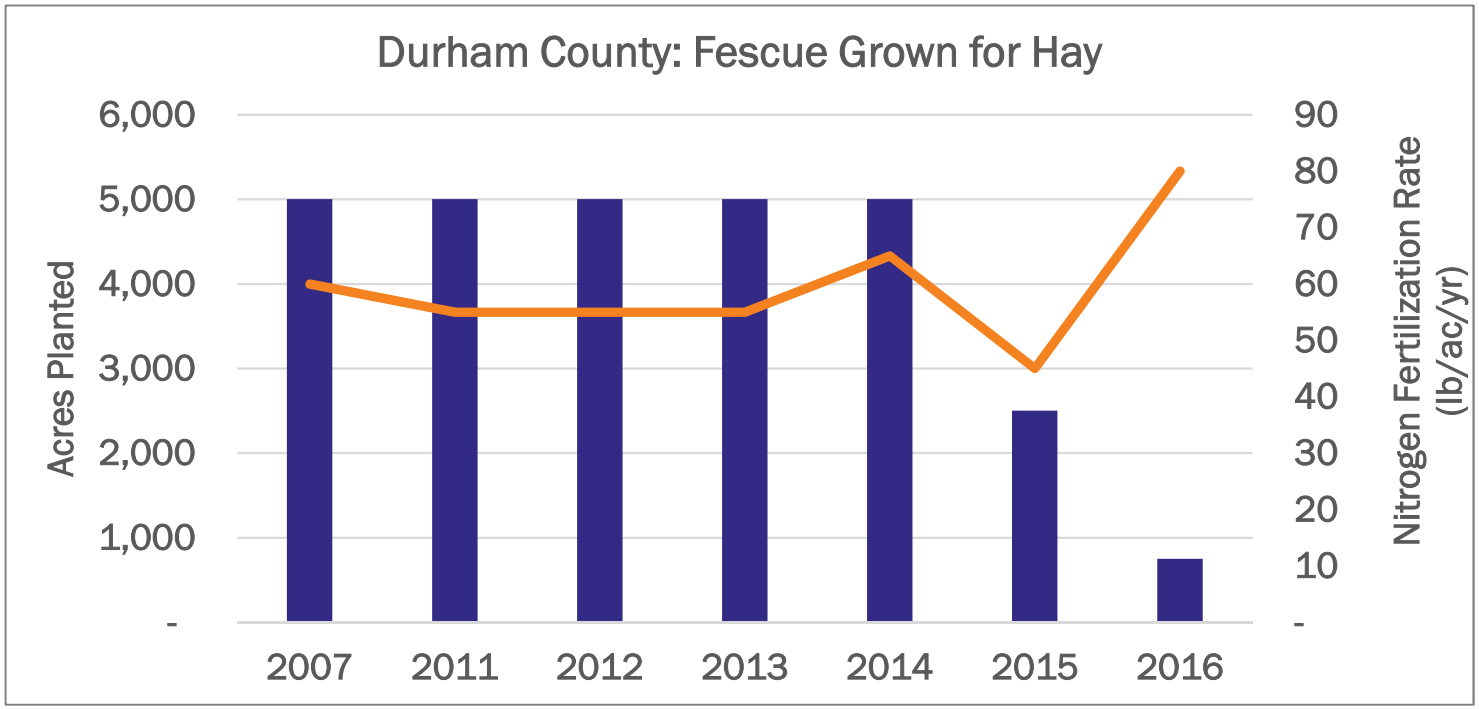


Highlight Recent Data Provided by NC Department of Agriculture

- County level data
  - Provided for 2007 and 2011 through 2016
  - Crop acres planted (including pasture)
  - Nitrogen fertilization rates for each crop (includes all types)
- Crop Data
  - Planting times
  - Harvest times
  - Fertilization frequency and timing

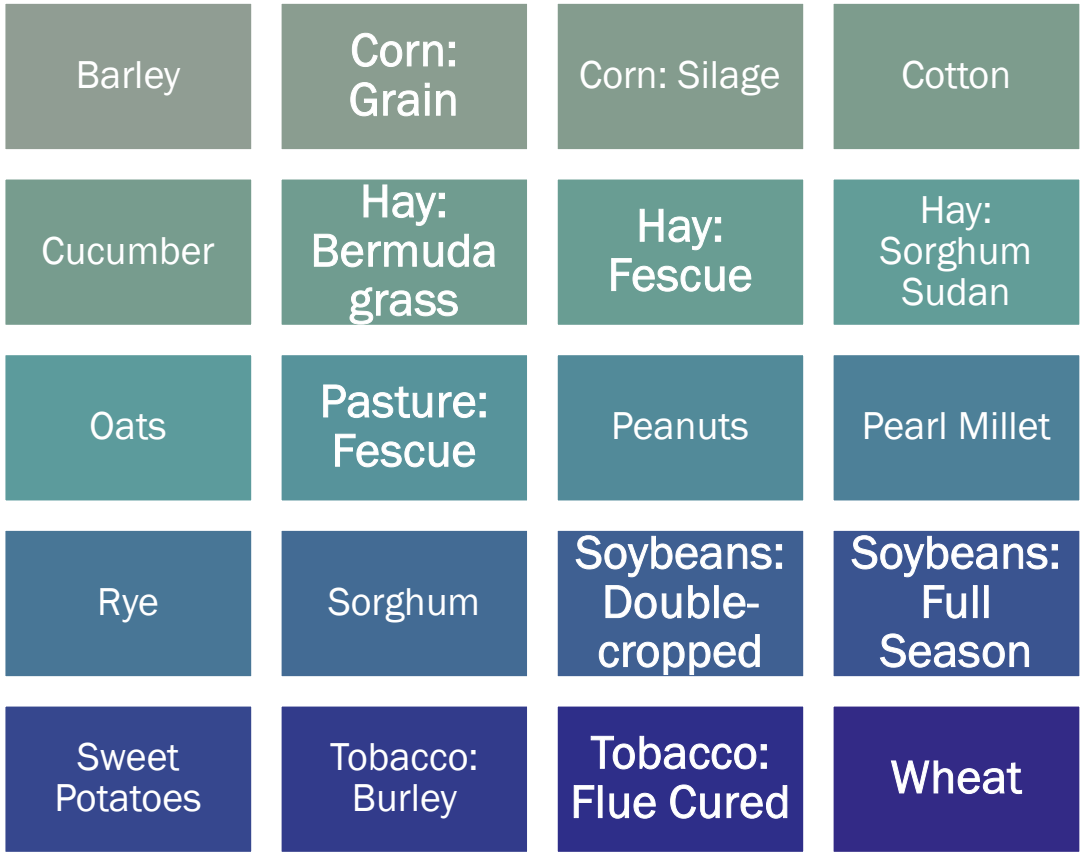
Example: Fescue Grown for Hay in Durham County

- Planting occurs in April
- Two to three cuttings through November
- Fertilizer is typically applied in four equal amounts
  - At planting, one month after planting, in September and October



Considerable Amount of Information for Agriculture

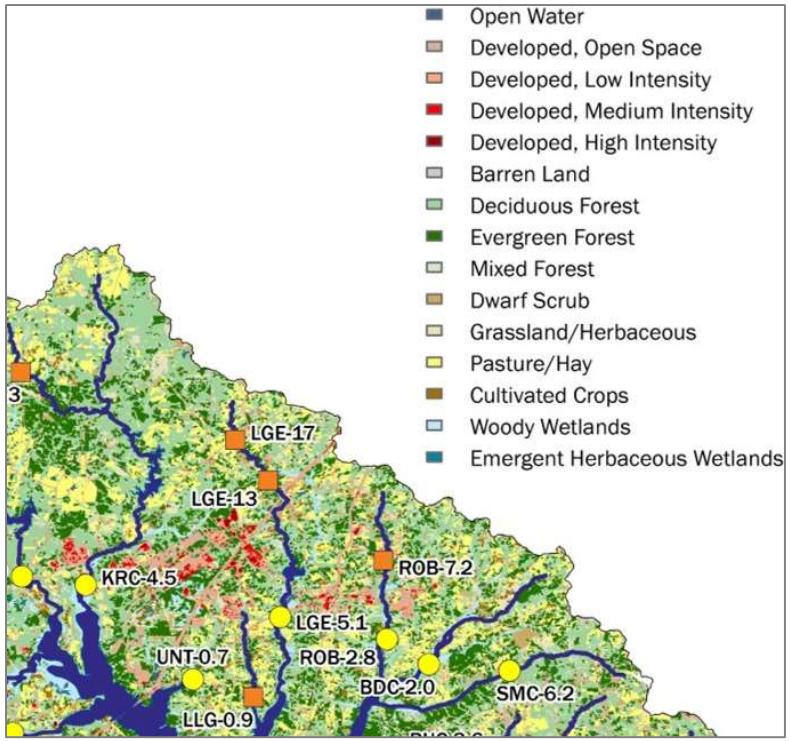
- Six counties
- Seven years
- Twenty crops



Some of these have little to no acres planted for a given year. Larger fonts indicate at least 1,000 acres planted in any county in any year.

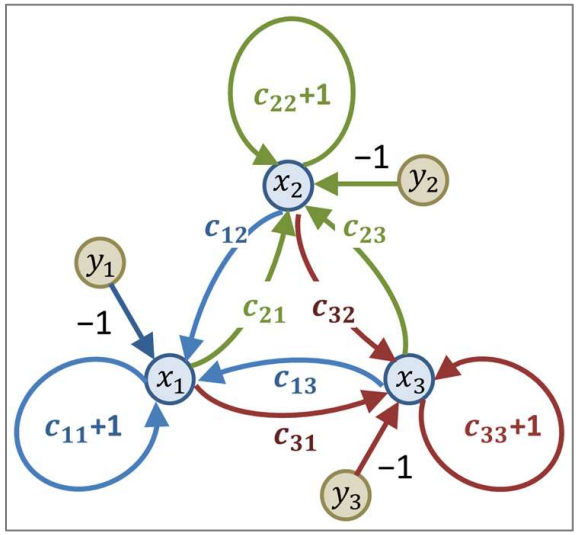
Update on USGS National Land Cover Data

- NLCD data are currently available for 2006 and 2011
- USGS indicates that 2016 data will be published in late 2018
- Older data sets will be "reharmonized" and released at the same time
  - Provide more consistent comparison through time



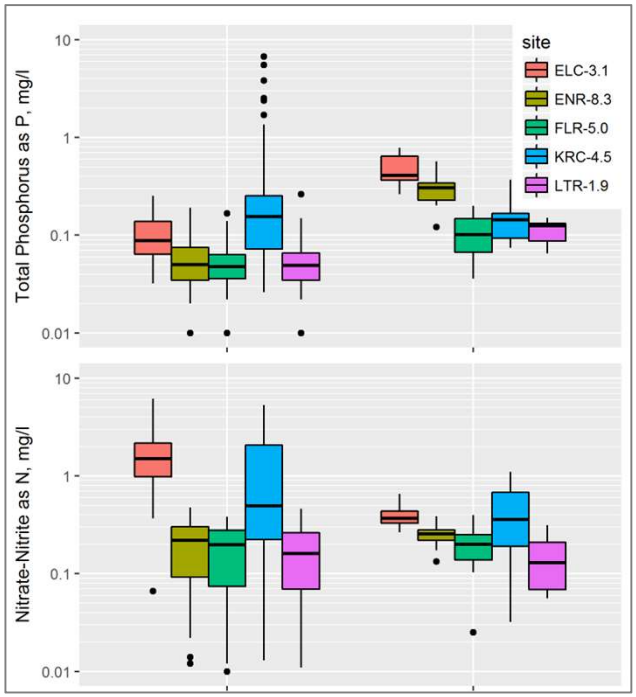
Processing Land Use Land Cover Data

- The modeling team proposes to use the available data as a starting point
- Establish the algorithms and rules that will be used to process land use data
- Need to merge different types of information
  - NLCD provides a good starting point across the watershed
  - Some local governments have more refined data
  - NC Department of Agriculture has provided acres planted by year and county
  - Agricultural parcel database identifies the presence of agriculture

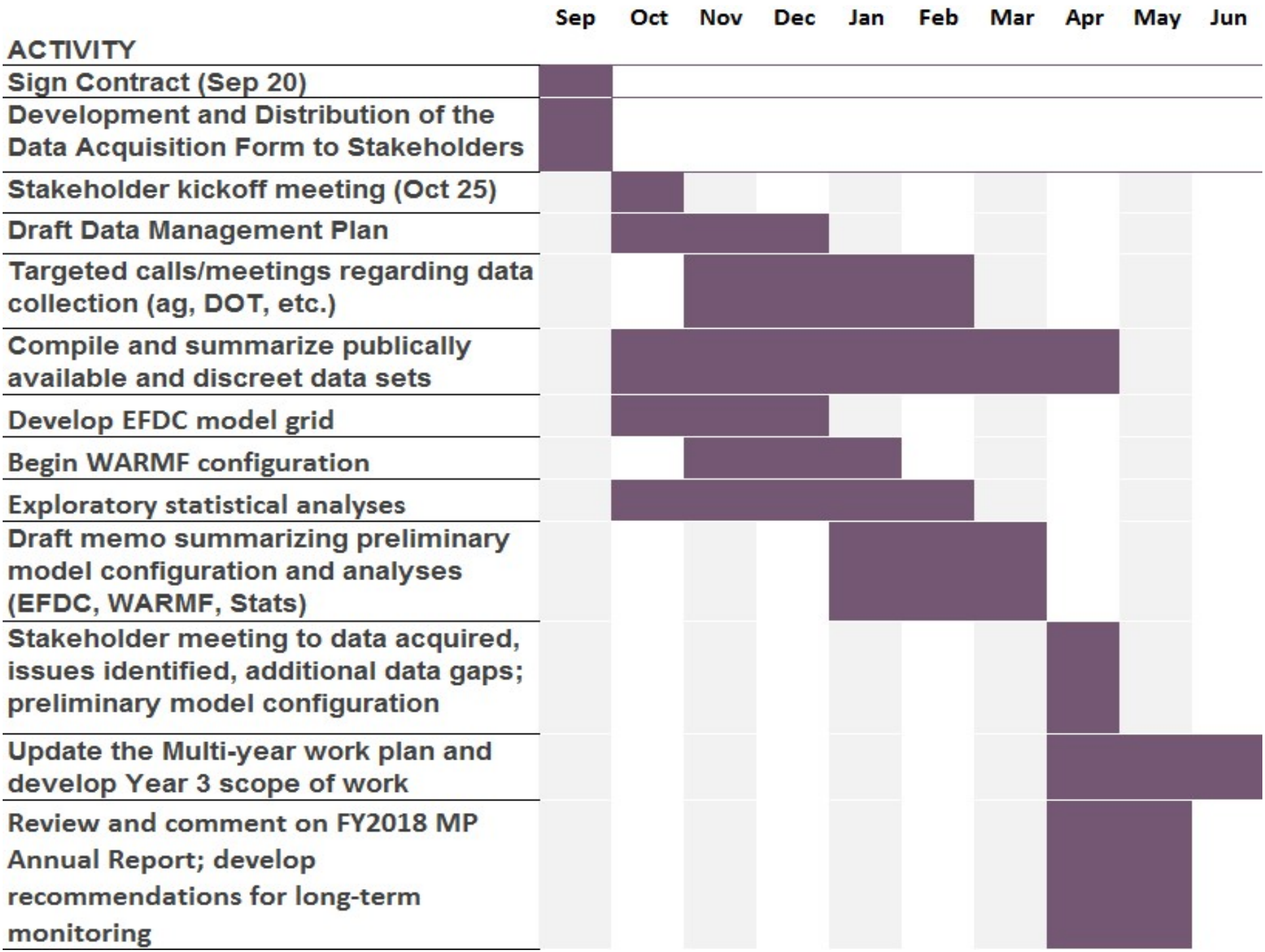


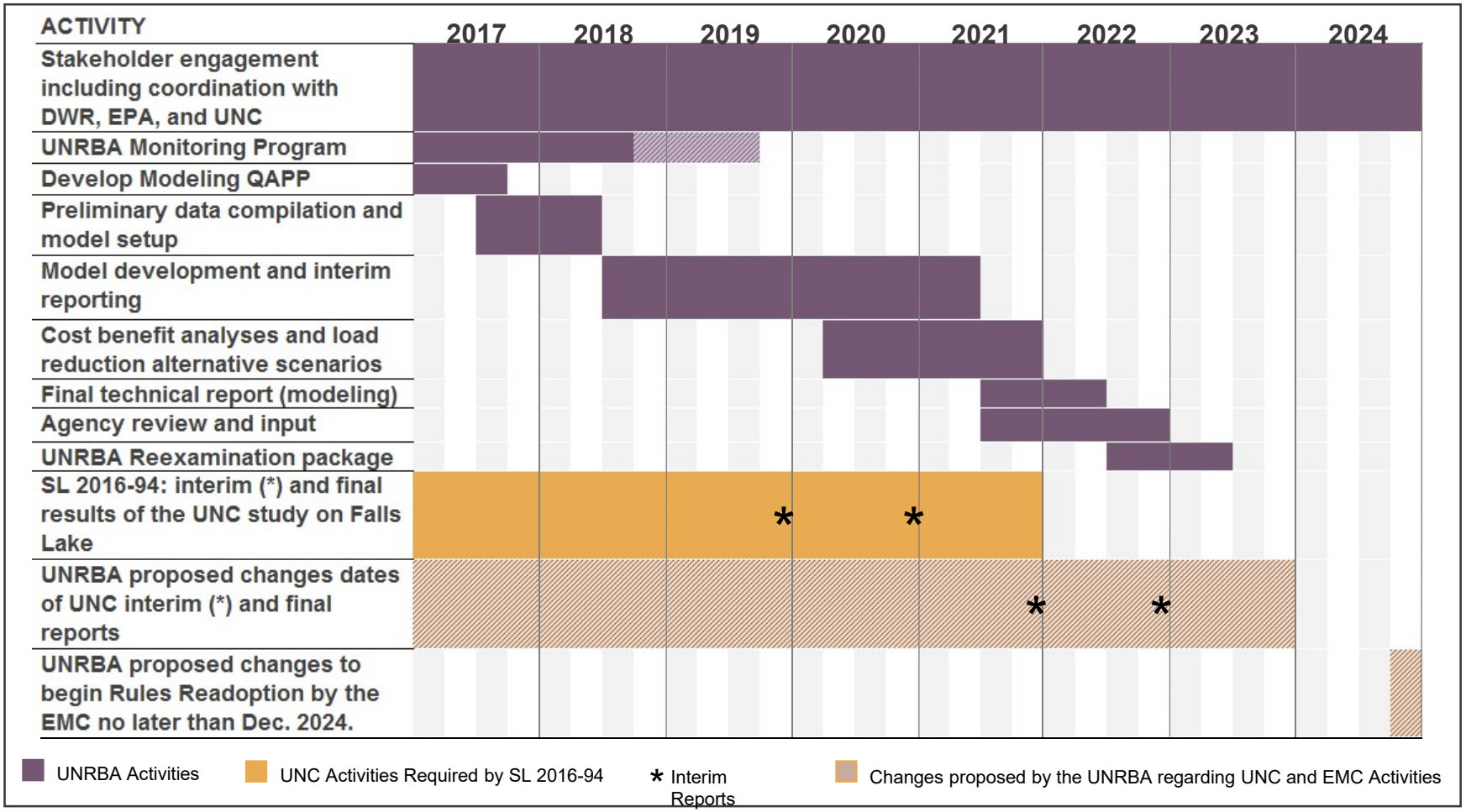
Modeling Team Review of the Annual Report and the UNRBA Monitoring Program

- The water quality data collected is sufficient to develop the watershed and lake models
- Additional parameters or special studies are not needed
- A fifth year of monitoring would not likely provide further benefit to the model (the model period ends in 2018)
- Supporting analyses would be beneficial to the modeling
  - Cluster analyses of in-lake monitoring stations
  - Evaluation of lake profile data
  - Updated load estimations for the big five tributaries



Questions ?


Sep
Oct
Nov
Dec
Jan
Feb
Mar
Apr
May
Jun
ACTIVITY
Sign Contract (Sep 20)
Development and Distribution of the Data Acquisition Form to Stakeholders
Stakeholder kickoff meeting (Oct 25)
Draft Data Management Plan
Targeted calls/meetings regarding data collection (ag, DOT, etc.)
Compile and summarize publically available and discreet data sets
Develop EFDC model grid
Begin WARMF configuration
Exploratory statistical analyses
Draft memo summarizing preliminary model configuration and analyses (EFDC, WARMF, Stats)
Stakeholder meeting to data acquired, issues identified, additional data gaps; preliminary model configuration
Update the Multi-year work plan and develop Year 3 scope of work
Review and comment on FY2018 MP Annual Report; develop recommendations for long-term monitoring


ACTIVITY
2017
2018
2019
2020
2021
2022
2023
2024
Stakeholder engagement including coordination with DWR, EPA, and UNC
UNRBA Monitoring Program
Develop Modeling QAPP
Preliminary data compilation and model setup
Model development and interim reporting
Cost benefit analyses and load reduction alternative scenarios
Final technical report (modeling)
Agency review and input
UNRBA Reexamination package
SL 2016-94: interim (*) and final results of the UNC study on Falls Lake
UNRBA proposed changes dates of UNC interim (*) and final reports
UNRBA proposed changes to begin Rules Readoption by the EMC no later than Dec. 2024.
UNRBA Activities
UNC Activities Required by SL 2016-94
* Interim Reports
Changes proposed by the UNRBA regarding UNC and EMC Activities