



Context for UNRBA Modeling and Regulatory Support

Forrest Westall - UNRBA





Municipalities

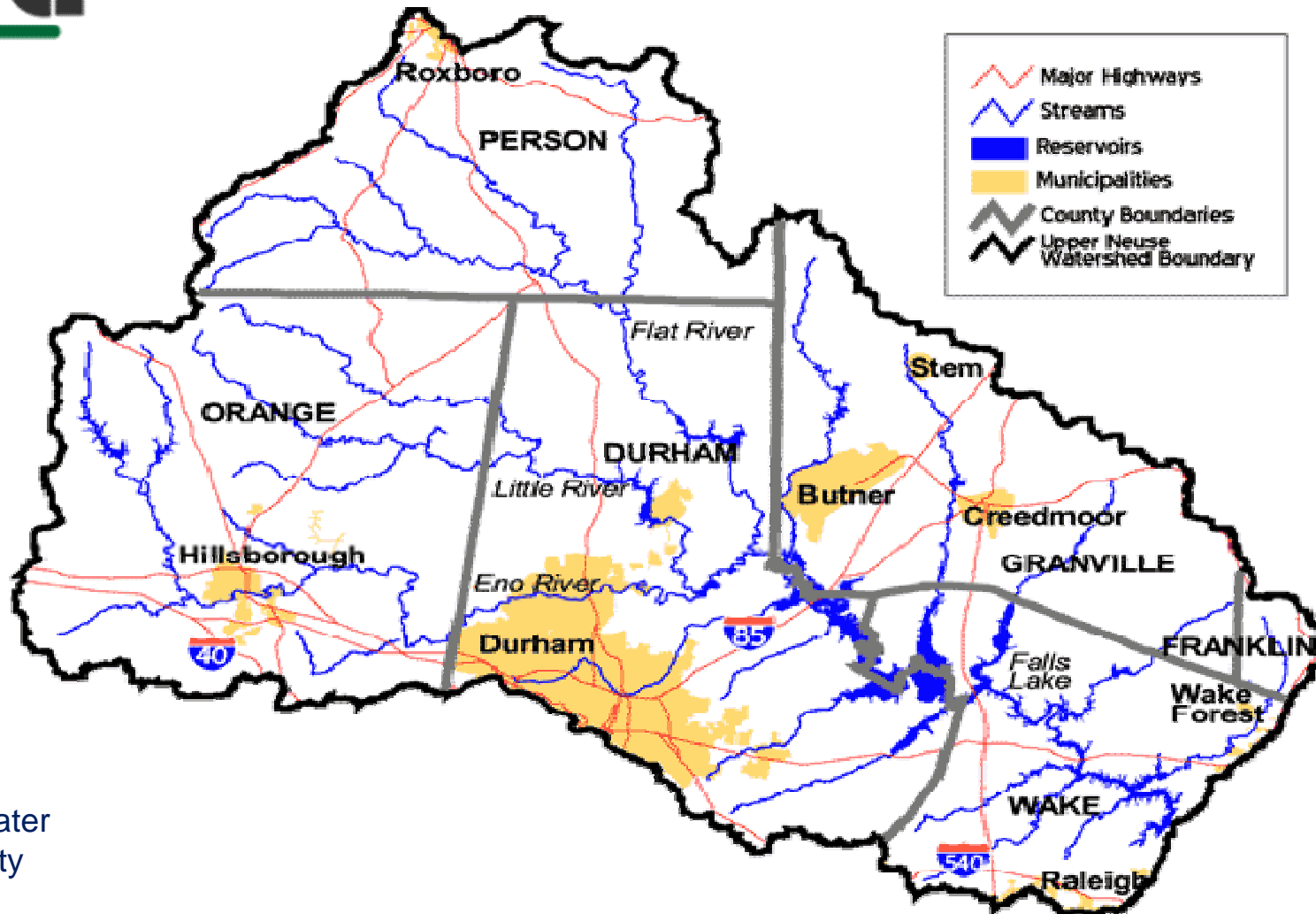
Butner
Creedmoor
Durham
Hillsborough
Raleigh
Stem
Wake Forest

Counties

Durham
Franklin
Granville
Orange
Person
Wake

South Granville Water
and Sewer Authority
(SGWASA)

Soil and Water
Conservation Districts
(Ex Officio)





A Brief History of the UNRBA

- > Formed in 1996 due to concerns about the future water quality of Falls Lake
- > Following the adoption of Falls Lake Nutrient Management Strategy and the Falls Lake Rules in 2010, the organization shifted focus
- > Updated goals and objectives
 - Assist member jurisdictions with Strategy implementation
 - Reexamine the Stage II Rules



The Stated Purpose of the UNRBA, 2011 By-Laws

...to jointly address issues of concern relating to water quality and waste water management in the Upper Neuse River Basin and the Falls Lake Watershed.



Challenges and Realities: Resource and Burden

- > Primary source of water for one jurisdiction
- > Water quality concerns – chlorophyll *a* impairment
- > Legislative action required nutrient management
- > Falls Lake adopted rules
 - Very restrictive nutrient requirements
 - Existing development nutrient reductions
 - Stage I requirements expensive
 - Extremely costly Stage II requirements
- > Consensus Principles



History of the Issues Leading to Consensus Principals

- > Draft Falls Lake Rules raised concerns
 - Cost and technology issues
 - Water quality improvement schedule
 - Water supply considerations

- > Result:
 - “Consensus Principles”
 - A memorandum of agreement between stakeholders
 - A two-stage approach
 - Adaptive management provision





The Impact of the Consensus Principles on the Falls Lake Nutrient Management Strategy/Rules



Primary UNRBA Driving Forces

- > Protect lake water quality for the purpose of water supply
- > Stage II feasibility
 - Costs greater than \$1 billion
 - Requirements are not technically feasible
- > Reexamination
 - Enhanced monitoring program - \$800,000 per year
 - Remodeling/updated data analysis – recalculate nutrient targets & loads
- > Nutrient credits development project
 - Expansion of BMP Toolbox
- > Development of alternative regulatory options



Nutrient Reduction Requirements

- > Stage I (2011- 2021)
 - Achieve standards in lower lake by 2021
 - Initial reductions watershed wide
 - Reduce loading by 20% for TN and 40% for TP
 - New development requirements implemented in 2012

- > Stage II (2021 – 2036)
 - Achieve standards in entire lake by 2041
 - Additional reduction in upper watershed
 - Reduce loading by 40% for TN and 77% for TP
 - Continue new development requirements



Major Components of the Rules as Developed Through the Consensus Principles

- > Adaptive Management
- > Provision for Reexamination of the Strategy/Rules



The Path Forward: Increasing the Effectiveness of the UNRBA in the Era of the Falls Lake Rules

Collaboration in the Era of the Falls Lake Rules

Providing a public forum to review and discuss innovative approaches to restore, protect & maintain water quality

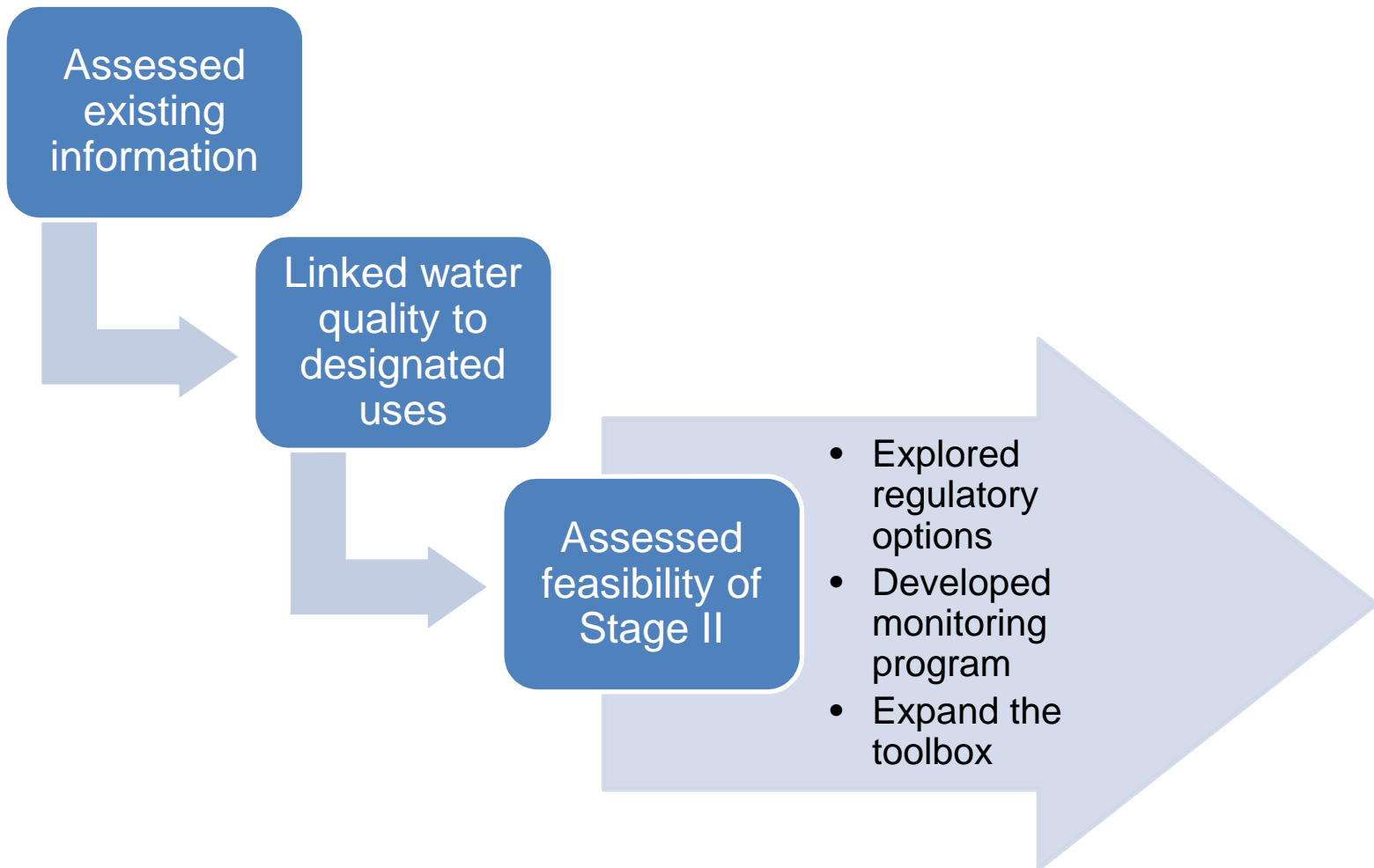
A robust and innovative trading program with a transparent and accessible system for recording and maintaining nutrient offsets and credits. [*Consensus Principles #11, Session Law 2010-115*]

Technical assistance for all jurisdictions. Service needs will vary based on the jurisdiction size and existing programs.

A re-examination of the nutrient management strategy that answers key questions about the impacts of reductions and the feasibility of Stage II. [*Consensus Principles #9, 15A NCAC 02B.0275(5)*]



UNRBA Re-examination Strategy for Stage II





Reexamination Effort Status

- > Monitoring began August 2014
- > Special studies are underway
- > Interim report released November 13, 2015
- > Annual monitoring report issued May 18, 2016
- > RFQ for modeling and data analysis released April 8, 2016
- > Modeling and Regulatory Support Contract Signed September 21, 2016
- > Modeling and Regulatory Support Kick-Off Meeting, September 28, 2016

2010

Falls Lake Strategy is passed

Consensus Principles adopted

2011

UNRBA decides to initiate a re-examination of Stage II

2012/2013

UNRBA contracted work to develop a strategy for the re-examination process

2013/2014

Develop monitoring plan to support re-examination and obtain DWR approval

2014/2018-19

Collect monitoring data

2019/2020

Revise lake model and recalculate reduction goals

2021-?

Pursue regulatory options as needed



Summary of Falls Reexamination

- a measured, stepwise, reexamination process

- > Local governments want to improve water quality
- > Local governments' burden is over \$1,000,000,000
- > Local governments want the best science
- > Achieve improved water quality by applying economic, scientifically supportable and reasonable actions

***Working to Balance Action
With Level Of Problem***

