

# Paying for Nutrient Management in the Falls Lake Watershed

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# Research questions

Are there case studies of implementation strategies of site-specific standards in the Southeast?

How might existing tools help Falls Lake stakeholders with financial and policy decision making?

Are there existing or likely future affordability challenges for rate payers? How might they be addressed?

Analyze the IAIA process in the first year of implementation.

# Site-specific standard implementation case studies

- Site specific standards do not always result in a reduction in total compliance costs
  - Regulators have often struggled to link designated uses to contaminants and contaminant levels
  - The details of a future site-specific standard for Falls Lake will determine if there is a reduction in total compliance costs
    - A site-specific standard in Falls Lake may not necessarily necessitate a revised management strategy
- We found no case studies for implementation strategies for site-specific standards in the Southeast

# Tools

EPA Green Infrastructure Modeling Toolkit



Falls Lake Revenuedshed



EJ Screen



# How might existing tools help Falls Lake stakeholders with financial and policy decision making?

## Community-enabled Lifecycle Analysis of Stormwater Infrastructure Costs (CLASIC) Tool



CLASIC is an online tool that uses a life cycle cost framework to support feasibility and planning of stormwater infrastructure. It helps stormwater professionals, community planners, and local decision makers understand and weigh the estimated costs, reductions in runoff and pollutant loads, and co-benefits of various planning scenarios as they consider stormwater management projects. The tool is fully interfaced with GIS and links with national databases that can be applied at a community level. CLASIC was developed under EPA National Priorities grants by grantees from the Water Research Foundation, Colorado State University, Wichita State University, the University of Maryland, and the University of Utah. *(Note: Not included in video at top of page.)*

Average Annual Cost Over Design Life



Co-Benefit Analysis



# Community- enabled Lifecycle Analysis of Stormwater Infrastructure Costs (CLASIC)

## What is the tool's function?

- Estimate life cycle costs of SCMs
- Quantify co-benefits of SCMs (economy, environment, social)

## When to use the tool?

- Deciding on SCMs that will have the greatest ancillary benefits.

# How might existing tools help Falls Lake stakeholders with financial and policy decision making?

Introduction Participants Water Wastewater Stormwater Property Tax

## Falls Lake Revenushed

**What is a Revenushed?**

A revenushed describes the area within which revenue is generated for protection of the Falls Lake Watershed.

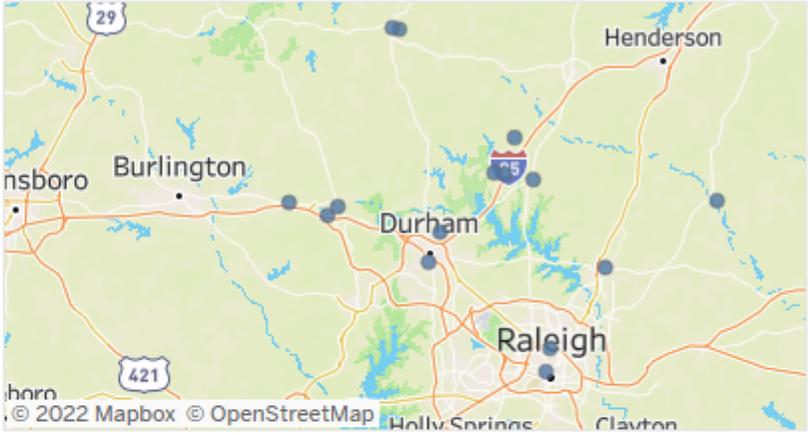
**Enter Project Goals:**

How would you like to pay for the project?

Enter Cash Amount(\$):	<input type="text" value="\$0.00"/>
Enter Loan Amount (\$):	<input type="text" value="\$0.00"/>
Enter Interest Rate (%):	<input type="text" value="0.00%"/>
Enter Loan Term (yrs.):	<input type="text" value="0"/>

**Explore Rate and Tax Changes:**

1. Choose a project goal by selecting a loan amount, loan term, and interest rate.
2. Investigate the tabs dedicated to different revenue sources.
3. Use sliders to increase revenue supply and acheive target goal.
4. Discover how new revenue for watershed protection may affect customer bill affordability.



The *Water Quality Revenushed* represents all parcels and environmental service rate payers within the Falls Lake Watershed. Potential revenue from the water quality revenushed includes wastewater fees for customers whose wastewater is discharged into the watershed, stormwater fees for parcels inside the watershed, and property tax.

The *Water Supply Revenushed* is made up of 3 municipalities and 1 water authority that currently use Falls Lake water. The revenue source for the water supply revenushed is drinking water rates.

The *Total Revenushed* is the combination of the Water Supply and Water Quality Revenusheds.

<https://go.unc.edu/FLRevenushed>

# Revenueshed

## What is the tool's function?

- Model the impact of small, incremental increases in existing fees to pay for a nutrient management strategy
- Quickly see the potential impact on economically burdened residents
- Explore the impact of full versus partial participation in a nutrient management implementation strategy

## When to use the tool?

- Financial scenario building for paying for rule compliance both basin-wide and within each individual jurisdiction

# Are there existing or likely future affordability challenges for rate payers? How might they be addressed?

- There are residents burdened by paying current water, wastewater, and stormwater bills
- Burden varies heavily by jurisdiction **and** within each jurisdiction
- North Carolina utilities are somewhat limited in what they can do in a Customer Assistance Program (CAP), but there are still options

Are there existing or likely future affordability challenges for rate payers? How might they be addressed?

### Affordability Ratio (AR)



*where utility services are least affordable for households at a particular point of the income distribution (e.g., AR<sub>20</sub> is households at the lowest 20th percentile of income)*

Butner: AR = 27.3

Durham: AR = 14

# Are there existing or likely future affordability challenges for rate payers? How might they be addressed?

## North Carolina

Water and wastewater utilities in North Carolina fall under several rate setting regulatory systems.

### Commission-Regulated Utilities

The [North Carolina Utilities Commission \(NCUC\)](#) regulates rates set by private water and wastewater companies.<sup>26c</sup> The NCUC does not regulate government-owned water or wastewater utilities.<sup>2c</sup>

Under [N.C. Gen. Stat. § 62-130](#), the NCUC shall “make, fix, establish, or allow just and reasonable rates” for commission-regulated utilities. Regulation by the NCUC is done on an individual rate case basis.<sup>26a</sup> [N.C. Gen. Stat. § 62-140](#) provides that no commission-regulated utility shall “make or grant any unreasonable preference or advantage to any person or subject any person to any unreasonable prejudice or disadvantage” and prohibits commission-regulated utilities from utilizing “any unreasonable difference as to rates or services either as between localities or as between classes of service.”

Additionally, commission-regulated utilities are not allowed to charge any person more or less than what the NCUC sets for any service, nor are customers permitted to receive service for a rate greater or less than what the NCUC has set.<sup>26b</sup> Under [N.C. Gen. Stat. § 62-132](#), rates set by the NCUC are deemed “just and reasonable,” and any rate charged by a commission-regulated utility that differs from the NCUC rates shall be deemed “unjust and unreasonable.”

In sum, commission-regulated utilities are not expressly prohibited from implementing low-income customer assistance programs (CAPs) funded by rate revenues; however, any such program would have to be approved by the NCUC. Additionally, the language prohibiting commission-regulated utilities from charging greater or less than commission approved rates, or from granting any preferences or advantages to one customer over another customer, likely holds the

Commission-regulated utilities



Noncommission-regulated utilities



<b>State Population (2016):</b>	10,146,788
<b>Median Annual Household Income (2015):</b>	\$46,868
<b>Poverty Rate (2015):</b>	17.4%
<b>Typical Annual Household Water and Wastewater Expenditures (2017):</b>	\$914
North Carolina has 2,010 community water systems (CWS), of which 1,458 are privately owned and 1,875 serve populations of 10,000 or fewer people.	
North Carolina has 318 publicly owned treatment works facilities (POTWs), of which 213 treat 1 MGD or less.	
855,740 people are served by privately owned CWS; 7,164,754 are served by government-owned CWS; and 4,409,160 are served by POTWs.	
<b>Estimated Long-Term Water and Wastewater Infrastructure Needs:</b>	\$15.1 billion
<small>Sources: U.S. Census Bureau, 2016 Population Estimate &amp; 2011–2015 American Community Survey 5-Year Estimates; 2016 EFC Rates Survey; U.S. Environmental Protection Agency, 2016 Safe Drinking Water Information System, 2011 Drinking Water Infrastructure Needs Survey, and 2012 Clean Watersheds Needs Survey. See Appendix C for more details.</small>	

greatest potential for legal challenges.

### Noncommission-Regulated Utilities

Under [N.C. Gen. Stat. § 160A-312\(a\)](#) and [§ 153A-275](#), cities and counties are authorized to own and operate “public enterprises,” which are defined to include water and wastewater utilities.<sup>27a</sup> Further, [N.C. Gen. Stat. § 160A-314](#) and [§ 153A-277](#) provide that cities and counties may establish and revise rates for public enterprise services, which “may vary according to

## Case Study: Cape Fear Public Utility Authority

- Restructuring rates, lowering costs for about 80% of customers
- Households that use less water pay less per gallon, and those using more pay more per gallon
- Shift financial burden to heavier users- customers that are driving the need for greater capacity
- Achieves affordability and equity?





# OASIS UTILITY BILL PROGRAM

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Town of Cary-  
Addressing  
Financial Hardship

- Assistance is provided by way of donations from other utility customers
- Crisis counselors interview applicants to determine available assistance

# BUDGET BILLING PROGRAM

## Shelby- Bill Stabilization

- Yearly plan that allows customer to pay the same amount each month based on the last 12 months' billing
- Takes the surprise out of utility bill by stabilizing monthly utility payment throughout the course of the year
- All customers are eligible



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Town of Stem, North Carolina



THE COUNTY OF Granville NORTH CAROLINA



# Interim Alternative Implementation Approach



# Interim Alternative Implementation Approach began July 2021

- Existing projects, planned before the IAIA, may be counted towards the IAIA
- Efforts to expand list of eligible projects
- Template spreadsheet will be/is being used for IAIA tracking

## Policy implications:

- Stage II needs are uncertain, pending re-examination of the rules and no implementation strategy case studies exist.
- Existing tools can help with IAIA decision-making.
- Existing strategies exist to lower the burden on economically vulnerable populations.

# What research remains for the EFC?

- A broader look at how existing case studies may inform a revised implementation approach in Falls Lake
- Finish in-depth affordability analysis, including identifying burdened census block groups
- Exploration of EPA EJ Screen tool for Falls Lake jurisdictions
- Final analysis of IAIA projects
- Next year: Integrated planning as an approach to nutrient rule compliance

# Ongoing support for JLOW

- Development of non-profit
- Evaluation and future implementation of comprehensive governance structure which may necessitate legislative change, but this is a ways out
  - Legislative change could aide UNRBA efforts

# Summary

- Some residents may already be economically burdened by their total water bill and addressing these burdens now will decrease the future burden. The outcome of the rule re-examination process may or may not have a major impact on the future implementation strategy and the total cost of compliance.

# Acknowledgements

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