



PUBLIC WORKS

CITY OF DURHAM

FY2023 Upper Neuse River Basin Association

Budget Resolution

Stormwater & GIS Services | April 21, 2022



← Visible surface scum from algae
(chlorophyll $a=48 \mu\text{g/L}$)

Surface scum near shoreline, green
water (chlorophyll $a=86 \mu\text{g/L}$)



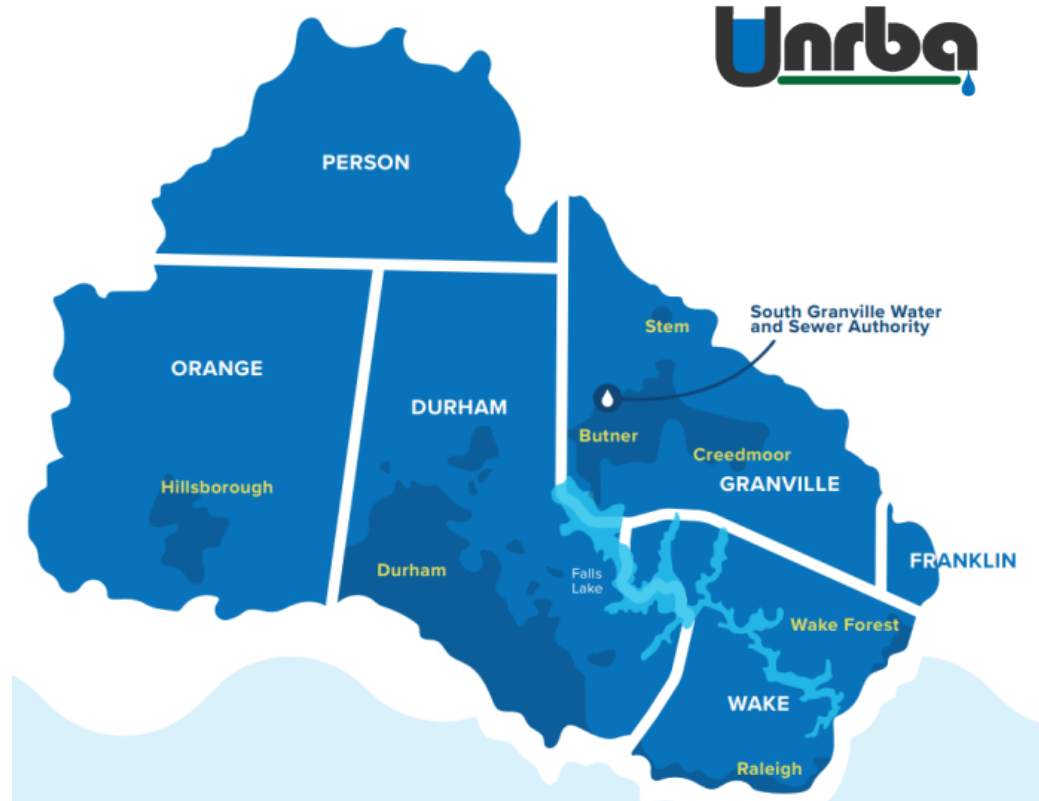
The regulatory standard for
chlorophyll a is $40 \mu\text{g/L}$.



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UNRBA Members

- Six municipalities: Butner, Creedmoor, Durham, Hillsborough, Raleigh, Stem, and Wake Forest
- Six counties: Durham, Franklin, Granville, Orange, Person, and Wake
- South Granville Water & Sewer Authority



Falls Lake Rules (Effective January 2011)

- .0275 Purpose and Scope (Goals)
- .0276 Definitions
- .0277 New Development
- .0278 Existing Development
- .0279 Wastewater Discharge
- .0230 Agriculture
- .0281 State and Federal Entities
- .0282 Options for Offsetting Nutrient Loads
- .0283 Fertilizer Management

~~Stage I: \$605 million~~
Stage II: \$946 million





Stage II costs: \$1,400 per household per yr



1000 Stormwater Control Measures per year

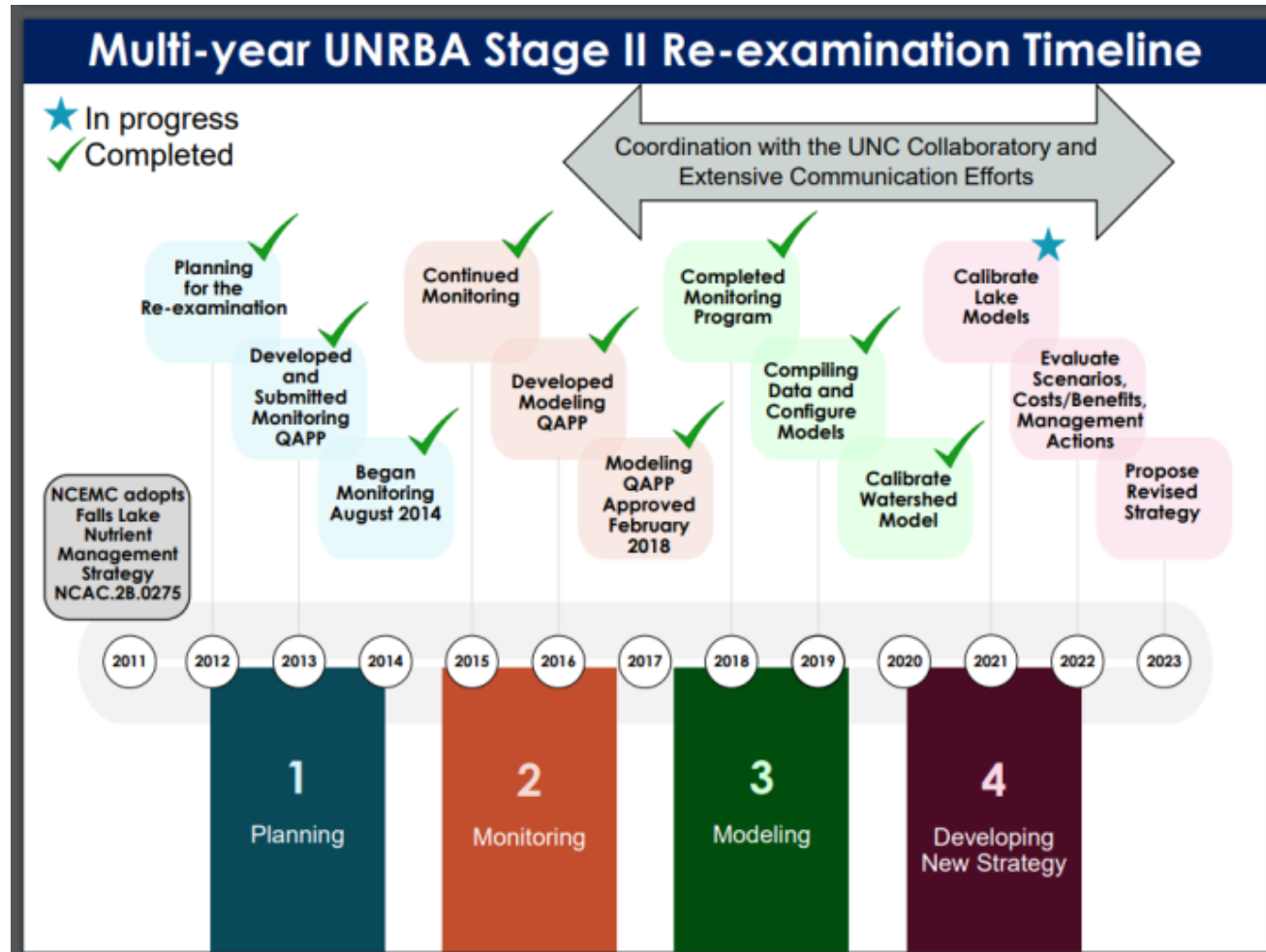
Existing Development Rule Feasibility
(Source: Cardno Entrix, 2013)



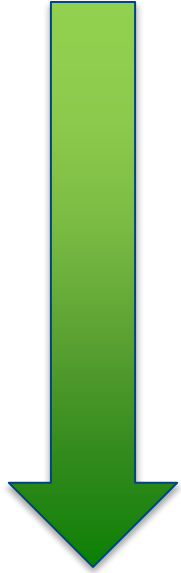
Reduce TN 40%

Retrofit "nearly every acre of existing development"

Slide from Brown & Caldwell, Nov 2, 2021



Nutrient Management Accomplishments since 2005-2007



Nitrogen applied to the watershed, decreased 37%

Phosphorus applied to the watershed, decreased 29%

Atmospheric deposition of nitrogen, decreased ~ 20%

Treated wastewater nitrogen discharge, decreased 33%

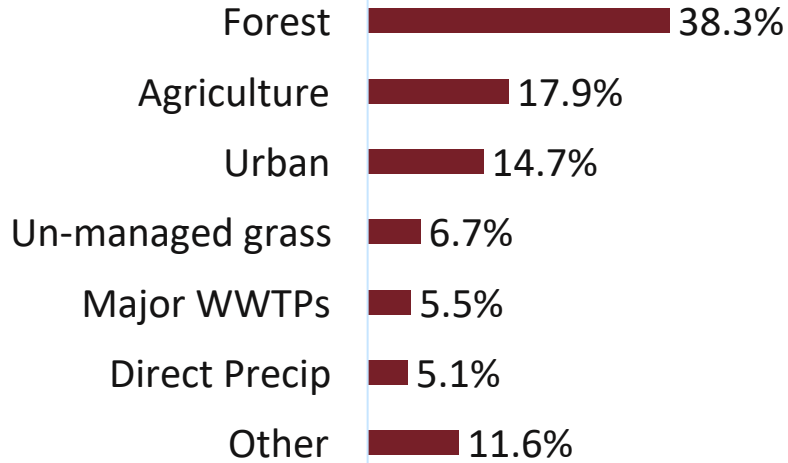
Treated wastewater phosphorus discharge, decreased 77%



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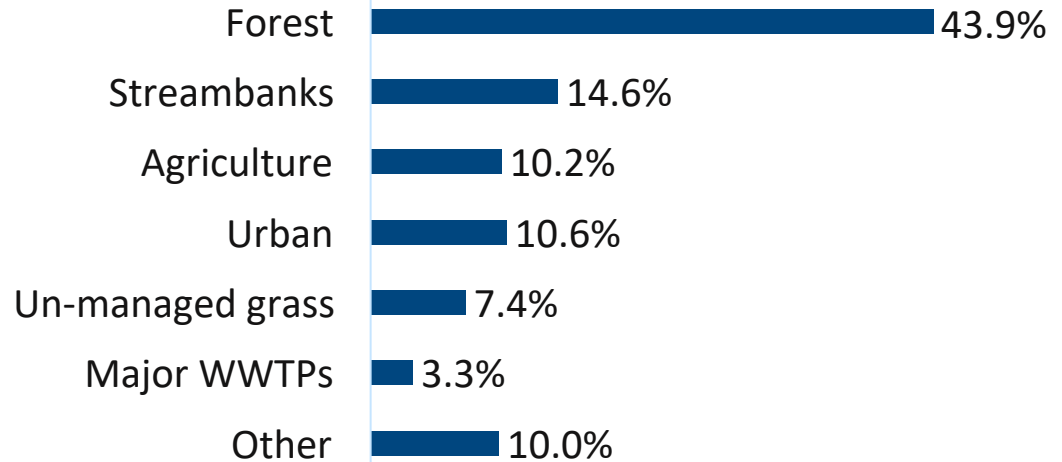
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Nitrogen



Nitrogen & Phosphorus reaching Falls Lake, by Land use/Source (2015 -2018)

Phosphorus



FY2023 UNRBA Budget Categories

Overall Budget
\$1,192,892

Executive Director & Svcs
\$223,392

Monitoring & Modeling
\$800,000

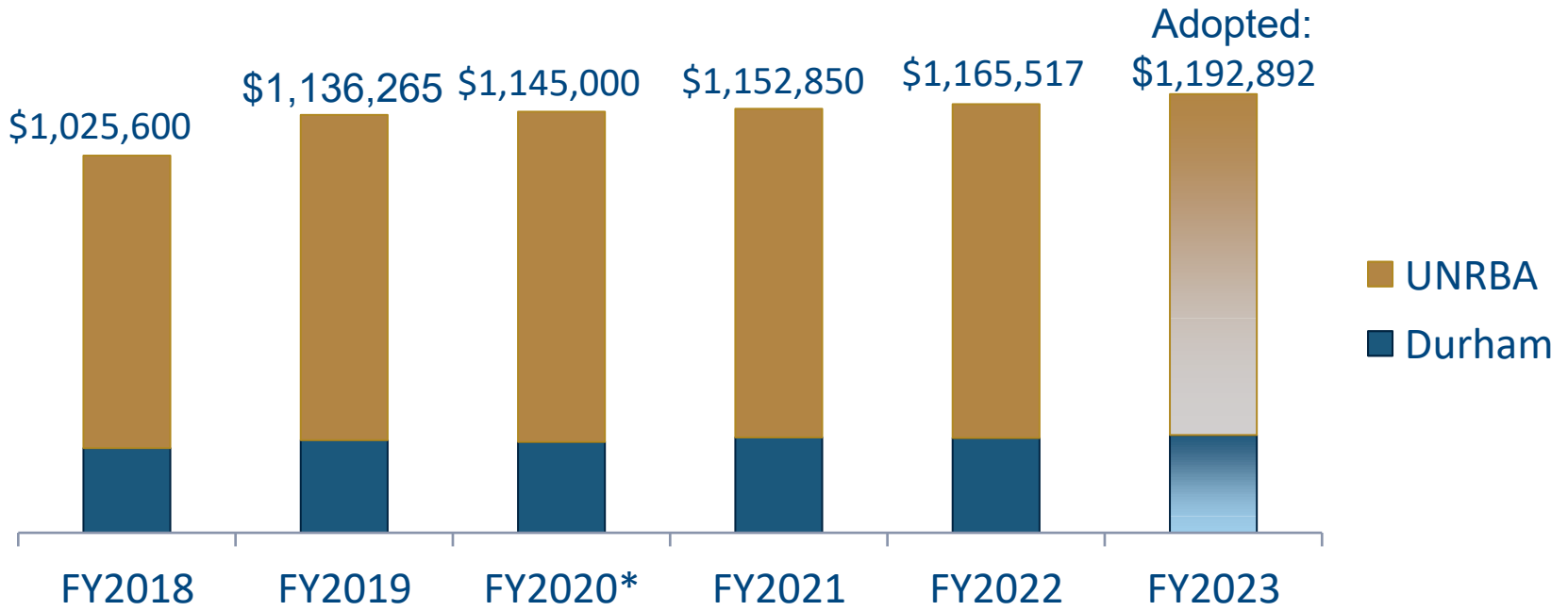
Legal Support
\$100,000

Communication
\$60,000

Audit, Admin & Web Site
\$9,500



UNRBA Budgets, FY2018 - 2023



Guidelines for a Revised Strategy (Examples)

Water Quality

Cost-effective

Protect Falls Lake

Protect Lake Michie and Little
River Reservoir

Social

Racial Equity & Environmental
Justice

Equitable

Promotes collaboration

Thank You for your attention

City of Durham Falls/UNRBA Team

Reggie Hicks, Water Management
Michelle Woolfolk, Public Works
Don O'Toole, City Attorney's Office
Sandi Wilbur, Public Works
Joseph Smith, Public Works



Photo by C. Cailleret, Public Works