

Evaluating the Benefits of Land Conservation for Water Quality in the Falls Lake Watershed

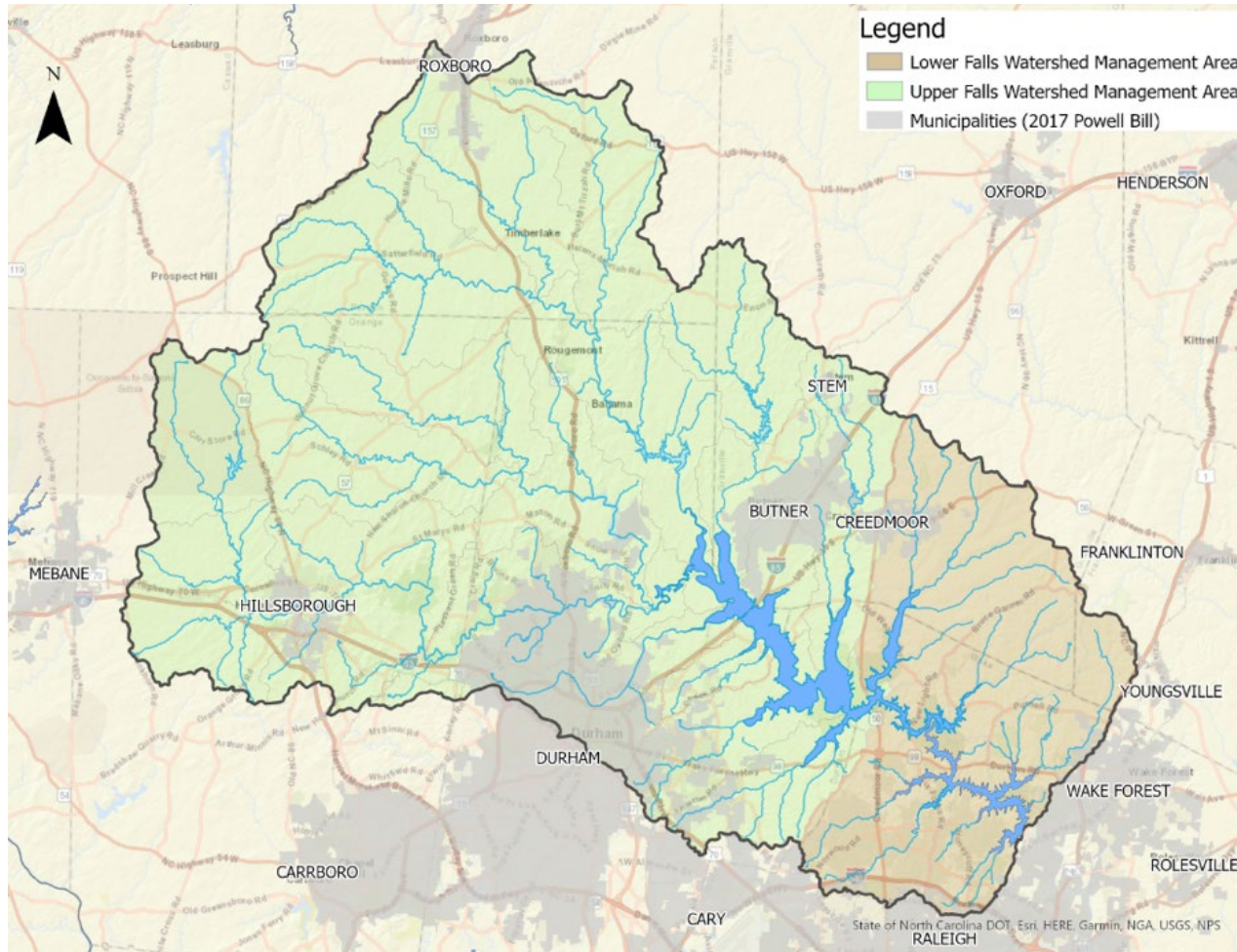
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Background

Water and Land Use



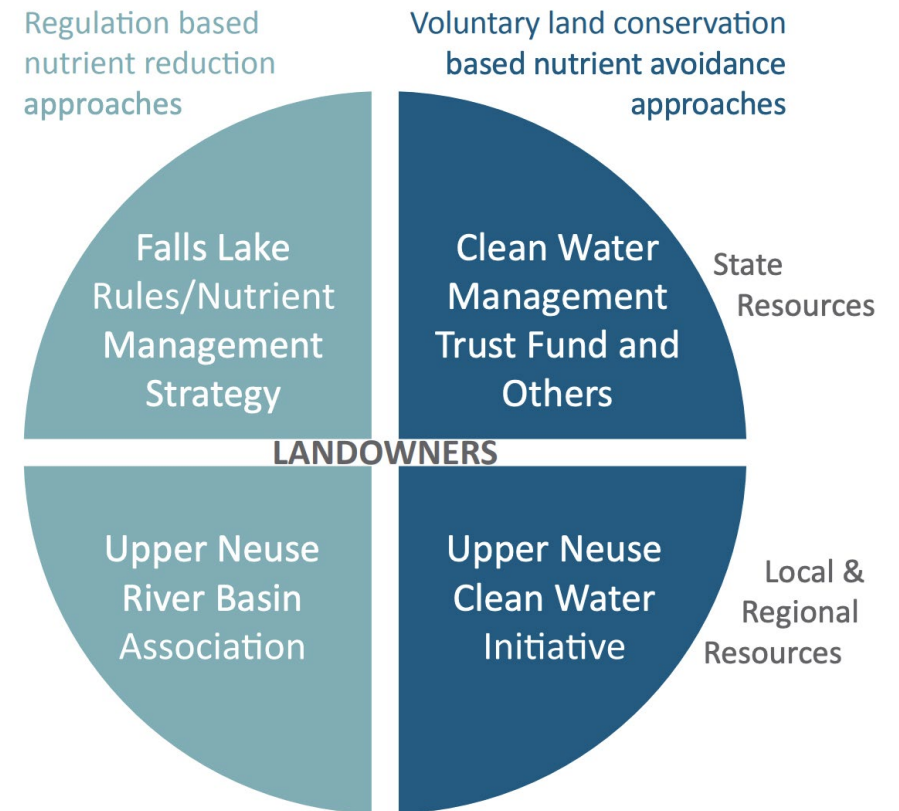
- Provides drinking water to 500,000 Piedmont residents
- 60% forests
 - Forested land decreased by 2% 2001-2016
- 16% urbanized land
 - 1.5% medium or high density
- 15% grasslands, wetlands, open water
- 9% agricultural land

Ecosystem Services from Forests

- Prevents intense nutrient loading *directly* through filtration and erosion prevention
 - 30-98% reductions of nutrients and pollutants in surface and groundwater
- Prevents nutrient loading *indirectly* by displacing development and avoiding excess runoff
- Effective risk management strategy

Upper Neuse Clean Water Initiative (UNCWI)

- Partnership between conservation NGOs, local and state governments, land owners, and land trusts founded in 2006
- \$72 million in funds leveraged 2007-2015 from a variety of sources



Current Conservation Activities

UNCWI Success 2006-2015

88 properties

84 miles of
streambanks

7,658 acres



7,926 lbs N
avoided yearly

1,048 lbs P
avoided yearly

**2015-2045 goal: protect 30,000
acres / 11% of the watershed**

Interim Alternative Implementation Approach (IAIA)

Project Type	Total Funds Allocated	Number of Projects
Land conservation	\$3,951,898	3
Green infrastructure and other best management practices (BMPs)	\$964,729	8
Stormwater control measures (State-approved SCMs)	\$237,179	8
Project planning and administrative costs associated with the participation in the IAIA	\$162,086	2
Illicit discharge detection and elimination	\$152,377	4
Programmatic measures	\$21,338	4
Stream and riparian buffer restoration and enhancement	\$14,074	2
Projects and activities that focus on flooding that have an associated water quality benefit	\$4,846	1
Projects in greenways and parks with water quality and quantity benefits	\$3,383	1
Grand Total	\$5,511,909	33



Case Study

Chesapeake Bay

- Collaboration between NGOs, landowners, land trusts, state and local governments
 - Varied sources of funding

- Proactive policy to incentivize conservation
 - Transferable tax credits
 - Pay for success contracts
 - Income and cigarette taxes
 - Accessibility of state loans

- Use of predictive land models and adaptive management



Conclusions

Looking Forward

As a revised nutrient management strategy is developed for Falls Lake, land conservation can be a critical component based on the investment levels and success of the IAIA and Chesapeake Bay Program.

