



Water Quality – What are Other Counties Doing?

Presented by

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Strategy & Innovation



Research Scope



- ✓ Focus on local government projects (some with private partnerships)
- ✓ Avoided waste water treatment plan projects.
- ✓ Focus on water quality issues that are similar to Buncombe County's watershed
- ✓ High-level Information



Buncombe County's Water Quality Scope



- ✓ **Fecal Coliform** (leaking septic or municipal waste water treatment piping/plants, livestock, pet droppings, etc.)
- ✓ **Soil** (erosion, stormwater, construction, etc.)
- ✓ **Historical Practices** (historical pollution sources, industry, etc.)
- ✓ **Excess Water Flooding** (infrastructure from flooding which leads to more chemical and pollutants and soil in the watershed)



Let's Start with Water Quality Projects in



What are the regulars, what is unique, and what are we doing?



The Regulars

- Technical and Financial Cost-Share Assistance through Federal, State and Local Grants (Farms)
- Erosion Control Permitting with New Constructions
- Water and Well Testing and Permitting
- Septic Tank Inspections and Permitting
- Stormwater Management Plans
- Establishing and Implementing Water Quality Monitoring Programs



UNIQUE

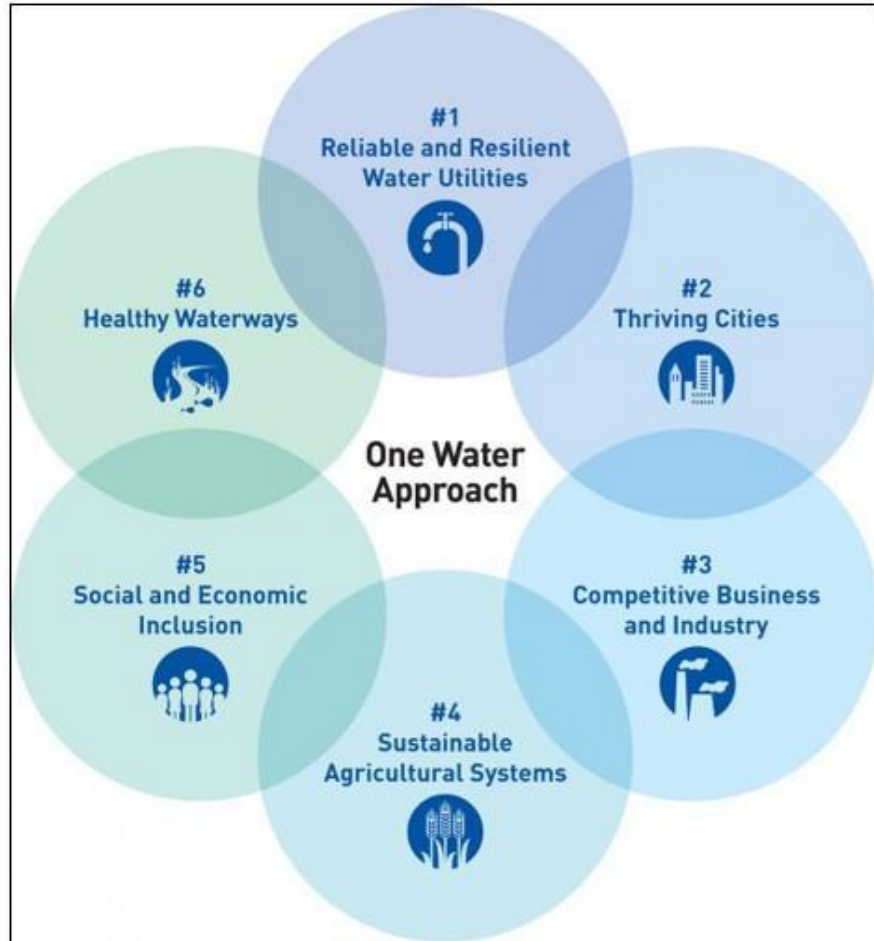
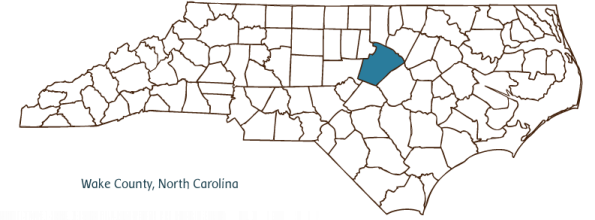


NORTH CAROLINA

Old North State

PROJECTS

Wake County, NC



- One Water is a 50-year water quality comprehensive plan and green stormwater infrastructure program. It aims to design and build infrastructure to protect local water resources while enhancing neighborhoods, parks, and schools. It includes new drainage policies, moving responsibilities of water quality to a stormwater group allowing greater flexibility, wetland construction, permeable pavement, and more.
- [\\$200K Allocated for Septic Fix Assistance](#)



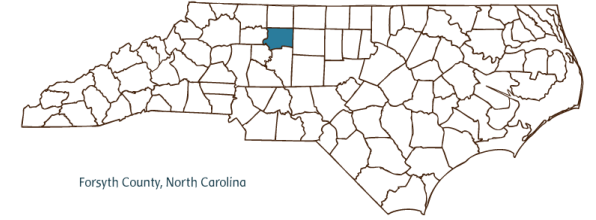
Mecklenburg County, NC



- Urban cost-share program with approved applicants receiving up to \$7,500 in installation for projects that address existing erosion and other non-point source pollution.
- Rain barrel/tree seedling sales
- Critical area plantings and grassed waterways
- Pet Waste Receptacle installation along waterways
- Legacy Project – County is buying land for a Charlotte park with "rare" river views to purchase to help water quality and restrict development. (\$3.65M)



Forsyth County, NC



- New storm sewers to decrease flooding on multiple roads
- Retention pond(s) upkeep – removal of debris in pond from inlet/outlet structures. Inspections for damage and invasive vegetation, monitoring for sediment accumulation, etc.
- Septic Tank pump out program
- Waste management training for businesses and employees.



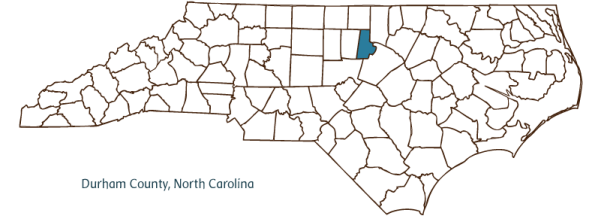
Union County, NC



- Septic System Repair Program with a budget of \$270,000. This new program will support residents who often cannot afford necessary repairs to their septic system. This program will help residents identify problems with their septic systems, and help remove some of the costs associated with repairing their septic system.



Durham County, NC



- Little Lick Creek Real Estate Planning Ordinance to amend the development code to limit how much land can be graded at one time. Grading clears and levels a site so it's ready to be built upon. The goal is to increase tree preservation and other measures to keep the land stabilized.
- Septic Assistance program ranging from 20% to 100% of repair costs (max \$4k)



New Hanover County, NC



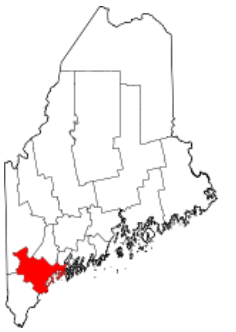
- Promotion and selling of rain barrels
- Small scale draining improvements projects for unincorporated areas of the county with drainage inspections upon request.
- Volunteer "Treelay" - planting trees around the clock within riparian buffer areas. 178 volunteers planted 3,500 native trees along streams, parks, and urban areas.



Let's Look Outside of North Carolina



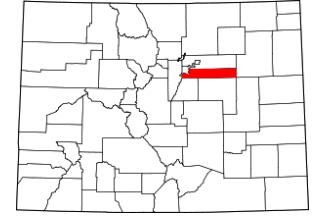
Portland, Maine



- New state regulations forcing Maine's most populated communities to reduce untreated stormwater that carries pollutants to Maine's waterways. It requires more stringent testing even during droughts to more accurately pinpoint pollution sources.
- Part of the plan improves pushing for rain gardens, vegetated rooftops, porous pavement, and regulation of swimming pool drainage.



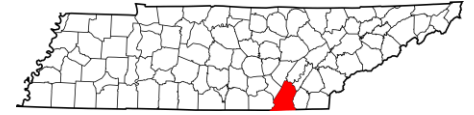
Denver, Colorado



- New environmental codes updated a couple weeks ago including green stormwater infrastructure as the primary method of combating stormwater pollution.
- More stringent requirements for urban slope protections.
- Missing Middle Housing which would hold small residential projects being built on single-family lots to the same environmental standards as single-family homes.



Chattanooga/Knoxville, TN



NoogaKnox Challenge – goal is to get residents to adhere to Certified Tennessee Smart Yards. These are yards designed to help retain stormwater before flowing into local streams and rivers. You can become a "certified Smart Yard" through sustainable landscaping, some sort of rainwater collection with plants and rain garden recommendations.



Leelanau County, Michigan



- New countywide septic ordinance. Whenever a title of land is transferred or sold, it will trigger a septic inspection requirement from the Department of Health. This will help determine the shape of the septic system and what kind of improvements need to be made.



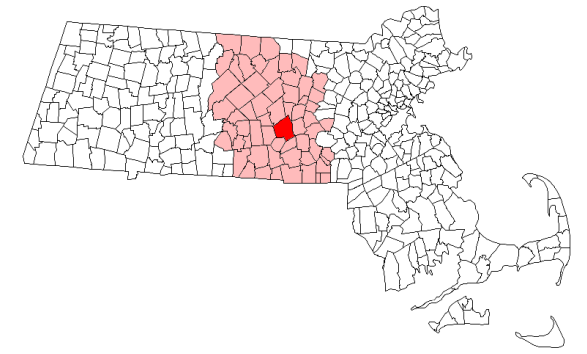
Huron County, Michigan



- Huron River Watershed Failing Septic Systems Report using [Thermal Imaging](#). This was a cost-saving measure that allowed inspection of tracts of septic systems at once: especially along sensitive areas near water sources. It could determine failed or questionable septic systems and work with community members on solutions and cost assistance programs.



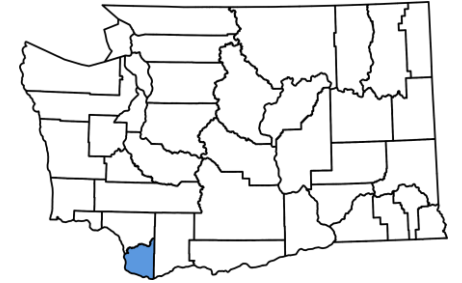
Grafton, Massachusetts



- The Eco-Machine at the Fisherville Mill Canal. Untreated water from the river flows into multiple filters through a greenhouse using a pump and its discharged back into the river reducing 95% of petroleum hydrocarbons within the cycle of the system.



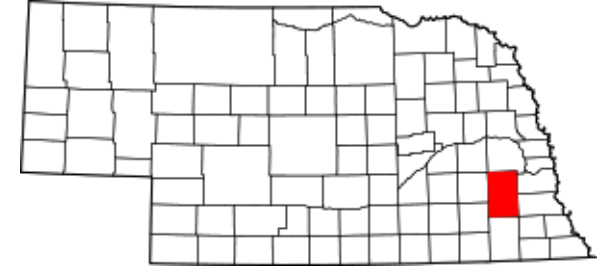
Clark County, Washington



- "Poop Smart" project offers grants for septic systems. Failing septic systems for low to moderate income households near East Fork Lewis River can now apply for grants up to \$20,000 to fix failing septic systems. Funding from Washington State Conservation Commission. Partnership with state extension office. The program focuses on reducing fecal bacteria from local waterways.



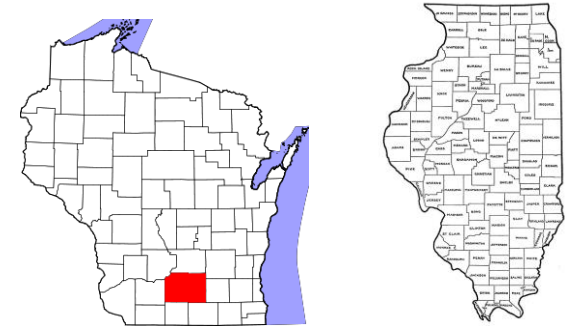
Lincoln, Nebraska



- Project SENSE. Researchers at University of Nebraska are working with farmers on Project (Sensors for Efficient Nitrogen Use and Stewardship of the Environment). It utilizes farming techniques and sensors for better crop productivity, decreased fertilizer use, and improved water quality due to less runoff.



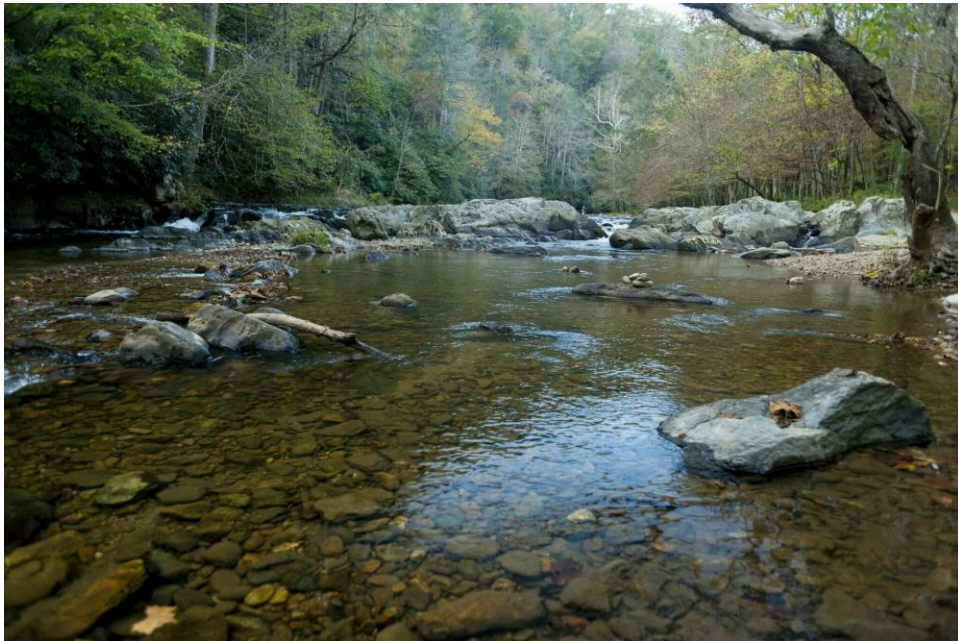
Rock River, Illinois/Wisconsin



- Rock River [citizen-based stream monitoring program](#). It's been going on since 2002, over 200 volunteers are trained to test the waters along the entirety of the river using easy-to-learn methods. It's a way to get more community buy in for the river quality and expand the water quality monitoring of the river beyond sporadic or spread out testing areas for more accurate pinpointing of pollution sourcing.



Shoutout to Buncombe, NC



- Agricultural cost-sharing programs
- Conservation planning for farms
- Federal conservation funding
- Partnership Programs
 - Western Stream Initiative (EQIP)
 - EPA 319 Grant assistance
 - Shade Your Streams
 - 9-Element Watershed Action Plan (WAP)
- Community Conservation Assistance Program
- Water Quality Monitoring
- Farmland Preservation
- Farmland Best Practices Consulting



Non-Regional Specific Programs



Real-Time River Sensors

(Cleveland Metroparks, Hudson River, Savannah River)



*Visuals Differ

- Real-time flow and water quality sensors to attain precise regular water data under every collection circumstance. It helps determine when pollutants and silt enter and at what levels, how excess water affects the pollutant levels, etc. Better to determine accurate trends in water quality continually.



Increasing/Adding Clean Farming Incentives



Organizations like the Iowa Farm Bureau recommend instead of penalizing farms for not adhering to optional farming best practices to incentivize clean farming practices. For example, the Iowa Department of Agriculture implemented a small policy fix offering a \$5 acre rebate on crop insurance to farmers who plant new acres with cover crops – as it is a healthy environmental practice and even reduces insurance claims.



River Friendly Farm Certification



- Programs appear nationwide, criteria include:
 - Little to no soil erosion
 - Good pasture management
 - Nutrient management
 - Pest management (non-pesticide)
 - Runoff/leachate/wastewater management
 - Manure/compost storage
 - Protecting waterways
 - Litter and trash management
 - Restricted livestock access to water
 - Much more



Anything Specific You Need More Research On?



Otherwise, that's it.

