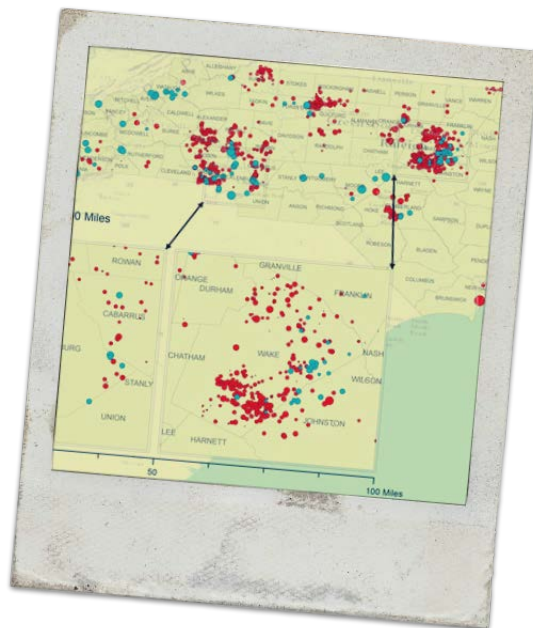


The Stealthy Takeover of NC Drinking Water: A Snapshot of Corporate Privatization

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Clean Water for North Carolina



Executive Summary:

In rural and suburban North Carolina, very small drinking water systems are common sources of household drinking water, typically drawing groundwater from one or more wells. Two profitable investor-owned corporations, Aqua America and Utilities Inc., have quietly purchased many of these systems over the past two decades, and enjoy favorable treatment by state regulators, who have allowed them to repeatedly hike customer rates without adequate oversight to ensure that water quality and maintenance of infrastructure like pipes, tanks and pumps are adequately attended to.

Maps of each company's water systems reflect the companies' different growth strategies: Aqua America is aggressively seeking out small, aging water systems, while Utilities Inc.'s systems are generally larger and they have focused on buying more valuable systems with long-term potential. Both companies serve thousands of customers in rural and suburban areas outside the large cities of Raleigh, Charlotte, and Winston-Salem.

Maps of drinking water systems with water quality violations between 2005 and 2012 show that many corporate-owned systems have struggled with non-compliance despite charging high customer rates. There are several particular counties, such as Cumberland County, where groundwater contaminants affect multiple systems. A lack of violations does not necessarily rule out water quality problems: small systems are not required to monitor as frequently as larger ones, so violations could be slipping through the cracks, and iron and manganese, common naturally-occurring groundwater contaminants, are not considered direct public health threats and do not have federally enforceable drinking water standards.

The spread of corporate, privatized water systems has impacted hundreds of thousands of NC residents, including low-income, minority, and rural communities who are particularly vulnerable to steep rate hikes and poor service.

Background

A subsidiary of Aqua America, Aqua North Carolina (**Aqua NC**) owns and operates water or sewer systems in 53 North Carolina counties, serving over 250,000 residents, with over 90,000 connections. It is the largest investor-owned water/sewer utility operating in the state. **Utilities Inc.** is the second largest investor-owned water utility in the state, and owns 98 systems in 31 counties under seven distinct subsidiaries, with over 30,000 water connections and 12,000 wastewater connections¹. Both are subject to rate regulation by the **NC Utilities Commission (NCUC)**, water quality regulation by **NC Public Water Supply Section (PWS)**, and wastewater discharge regulation by the **NC Division of Water Resources (DWR)**.

In rural North Carolina, **very small drinking water systems** (systems serving 500 people or less)² are common sources of household drinking water, typically drawing from one or more groundwater wells. Many of the state's very small drinking water systems are falling into disrepair. The sheer number of systems makes it difficult for the NCUC and PWS to effectively oversee rates, service, and water quality. Instead of encouraging hookups of small systems to nearby public utilities or otherwise consolidating these systems under public ownership, the NCUC has provided ratemaking incentives to encourage large corporate entities like Aqua NC to acquire the systems. This makes it profitable for Aqua NC to pursue the aggressive "growth-by-acquisition" strategy favored by their parent company [Aqua America]³, driving up rates for many rural water customers now served by the large utility.

Operational strategies: Aqua NC and Utilities Inc.

Aqua America focuses on acquiring water and wastewater systems in states with business-friendly regulatory agencies and/or ratemaking mechanisms that provide extra financial incentives or allow them to circumvent public input. North Carolina has a combination of weakly enforced regulations and financial incentives, making it an attractive place for the company to expand. In 2004, the NCUC created an "acquisition incentive" to encourage Aqua NC to buy rural and suburban water systems which have fallen into disrepair and need upgrades⁴. In 2014, the NC Utilities Commission finalized a rulemaking process following a 2013 legislative change which allows private utilities to skip public comment on certain billing surcharges that will allow rates to gradually creep up⁵. As a result, the company has been expanding their footprint in the state, and is now responsible for many scattered small water systems with significant water quality or infrastructure problems.

While purchases of existing systems are a large portion of the company's acquisitions, Aqua NC also partners extensively with builders and developers, positioning the company as the sole provider of water and/or sewer service for many new subdivisions⁶. This is another way the company has quickly grown its customer base in NC.

Utilities Inc., with seven subsidiaries in North Carolina, is itself part of bcIMC, a Canada-based investment management corporation⁷. Utilities Inc. operates quite differently from Aqua NC, choosing a "disciplined" growth strategy of "acquiring attractively valued utility systems in geographically diverse locations with long-term potential."⁸ For this reason, the company has been less aggressive in seeking out small problematic systems in NC, and has even sold some systems based on financial and management considerations. For example, in 2011 the company sold several systems to Currituck County when they agreed that the County could better serve those

¹ "North Carolina's Public Utility Infrastructure & Regulatory Climate." Accessed 2/27/14. Updated July 2013 – version 1.0. <http://www.ncuc.commerce.state.nc.us/overview/Overview.pdf>.

² "Public Drinking Water Systems: Facts and Figures." <http://water.epa.gov/infrastructure/drinkingwater/pws/factoids.cfm>. Accessed 4/29/2014.

³ Aqua America 2012 Annual Report. Available from: <http://ir.aquaamerica.com/annuals.cfm>. Accessed 1/27/14.

⁴ "Order approving joint stipulation and transfer of stock." NC Utilities Commission. Docket no. W-274 sub 465. 5/26/04. Available from: <http://starw1.ncuc.net/NCUC/ViewFile.aspx?id=6bd88686-c35f-4902-a7b2-766be64e43d6>. Accessed 1/27/14.

⁵ "Order Adopting Rules to Implement G.S. 62-133.12." NC Utilities Commission. Docket no W-100 sub 54. 6/6/14. Available from: <http://starw1.ncuc.net/NCUC/ViewFile.aspx?id=c4174e09-0701-4bef-8545-9ee9f381680d>. Accessed 9/30/14.

⁶ "New Systems Build." Aqua America webpage. <https://www.aquaamerica.com/business-development/new-systems-build.aspx>. Accessed 1/27/14.

⁷ <http://www.bcimc.com/>

⁸ "Growth strategy." Utilities Inc. webpage. http://www.uiwater.com/business_center/growth_strategy.php. Accessed 1/27/14.

customers with an existing reverse osmosis system⁹. Their NC portfolio of water systems is smaller than Aqua NC's and contains generally larger systems than those that Aqua NC serves.¹⁰

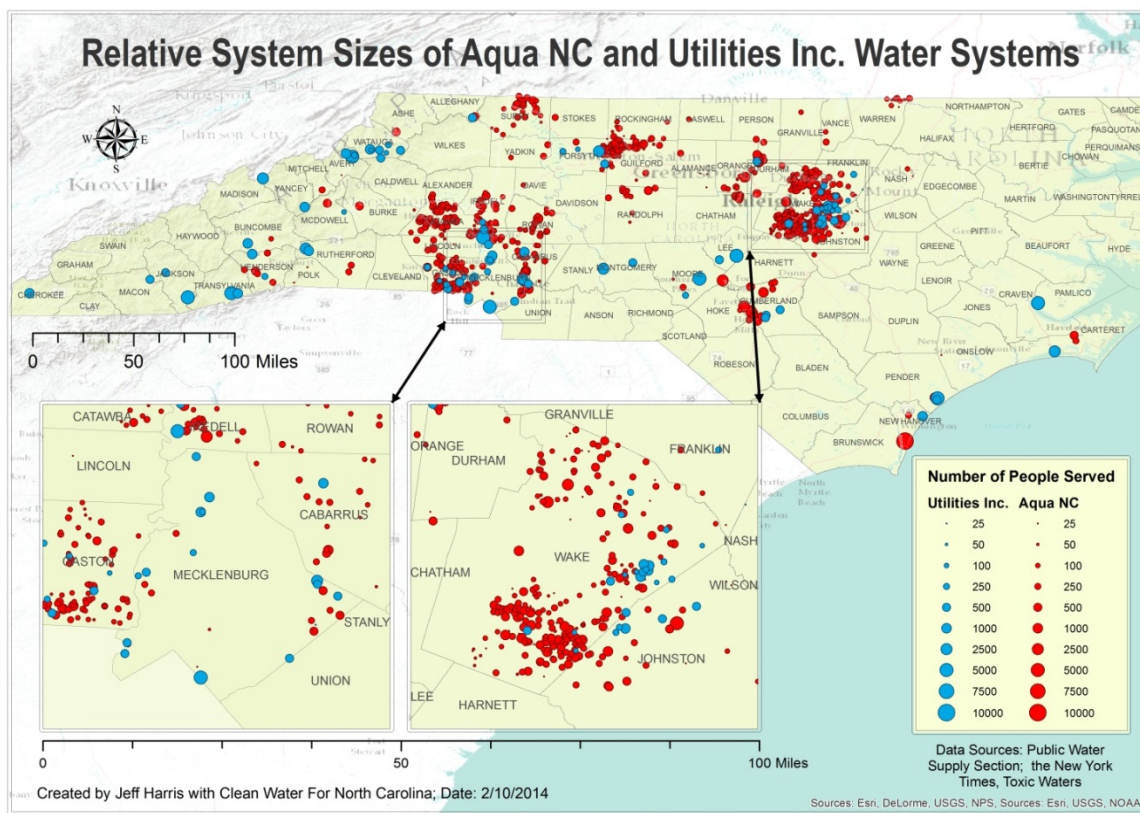
Creating the Guide: Data Sources and Methods

Information on the locations of water systems, water quality compliance records, and surrounding demographics was gathered from NC Public Water Supply Section, the Environmental Protection Agency (EPA) Environmental Justice Geographic Assessment Tool (EJView), and the 2010 American Community Survey dataset from the US Census Bureau. ArcGIS software was used to create the maps. A full set of maps by county for each utility company is available on request; please contact katie@cwfn.org.

Section 1: A Snapshot of Corporate Privatization in NC

Aqua NC and Utilities Inc. systems are concentrated in suburban areas around the two major cities of Raleigh and Charlotte. Aqua NC also has clusters of systems in Surry County, as well as along the Guilford County and Rockingham County border. Both companies also own systems scattered throughout other areas of the state.

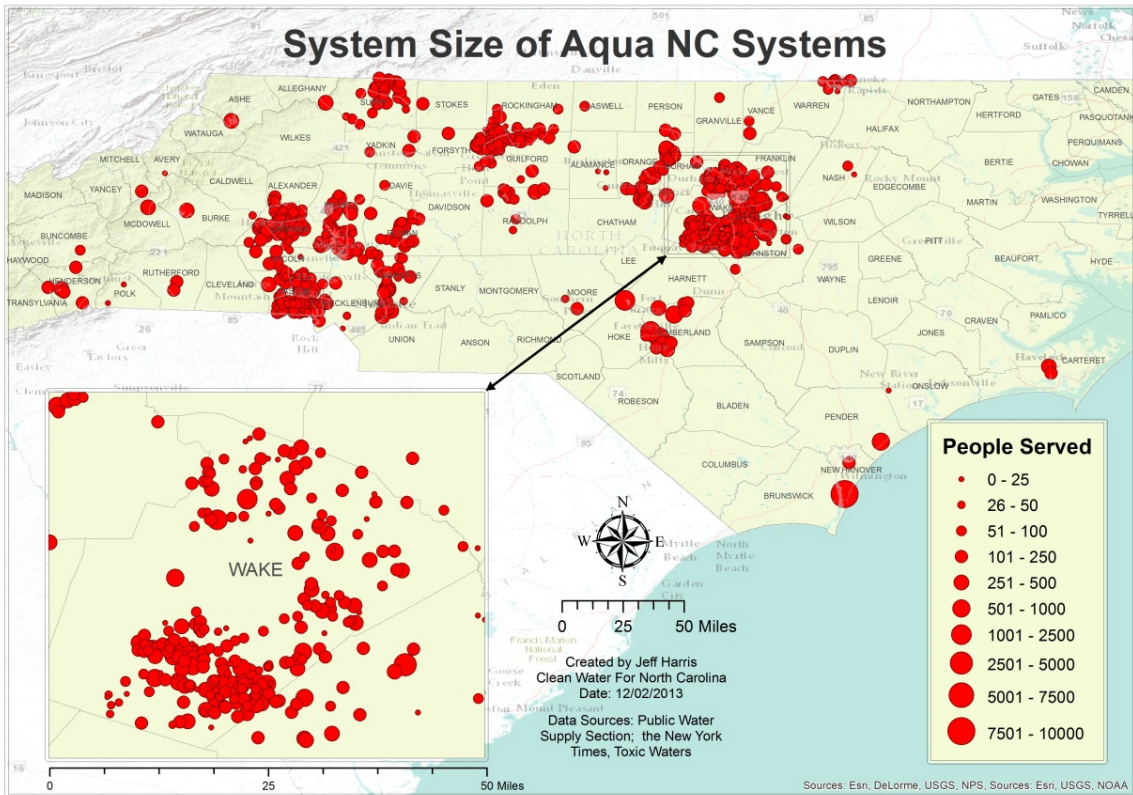
We've coded the maps below to show system size. EPA classifies water system sizes based on number of people served, with five categories: Very Small (25-500 people), Small (501-3,300 people), Medium (3,301-10,000 people), Large (10,001-100,000 people), and Very Large (100,001+ people). For these maps, we have broken down systems into more size categories to more clearly show the variation in size. It is apparent that Aqua NC owns predominantly very small systems, while Utilities Inc.'s systems are more varied in size.



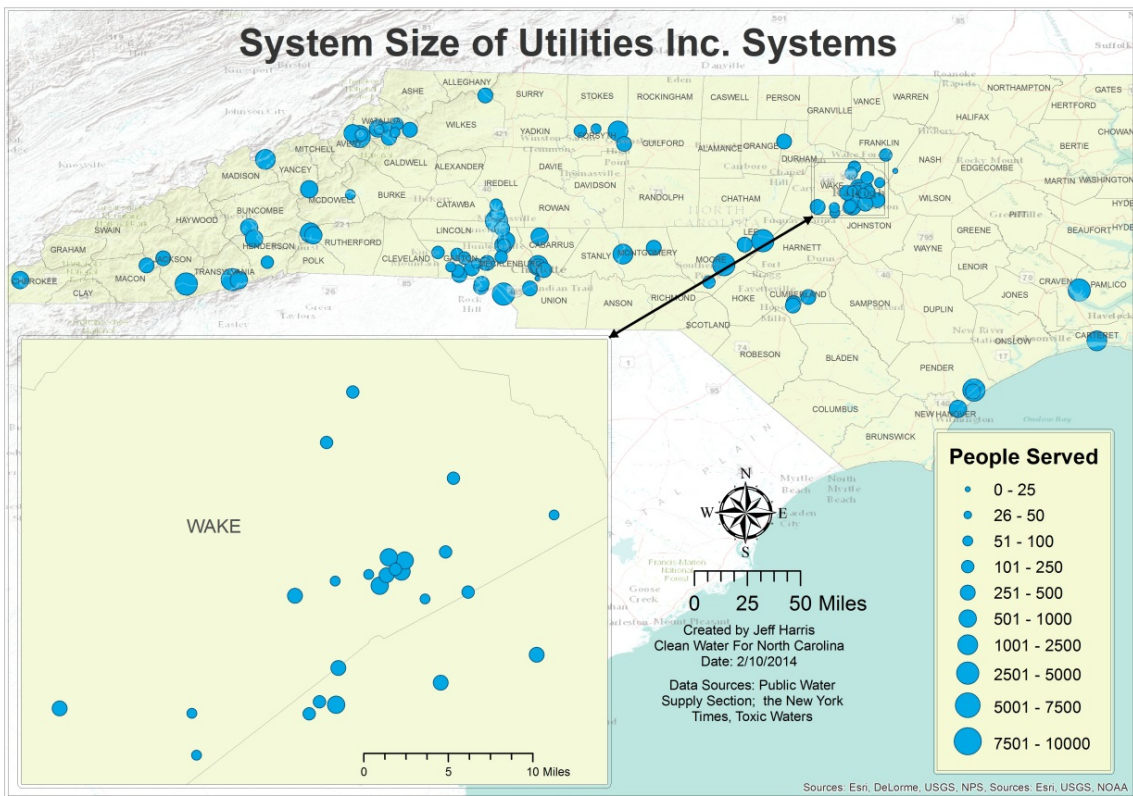
Map 1: Locations and sizes of Aqua NC and Utilities Inc. drinking water systems throughout the state, with inset maps of Mecklenburg and surrounding counties, and Wake County.

⁹ "Order approving transfer of water systems to owner exempt from regulation." NC Utilities Commission. Docket no. W-354, Sub 332. 7/5/11. Available from: <http://starw1.ncuc.net/NCUC/ViewFile.aspx?Id=be98c8ec-48d6-47de-9ea2-f8c7c393106b>. Accessed 1/27/14.

¹⁰ As of July 2013, Utilities Inc. had more wastewater customers in North Carolina than Aqua NC. Wastewater systems are not the topic of this guide, but CWFNC plans to release an accompanying report examining the impacts of privatized wastewater soon.



Map 2: Most systems owned by Aqua NC are small in size, and are widely, though not evenly, distributed. They are concentrated in Wake and Gaston Counties, outside the two major cities of Raleigh and Charlotte.



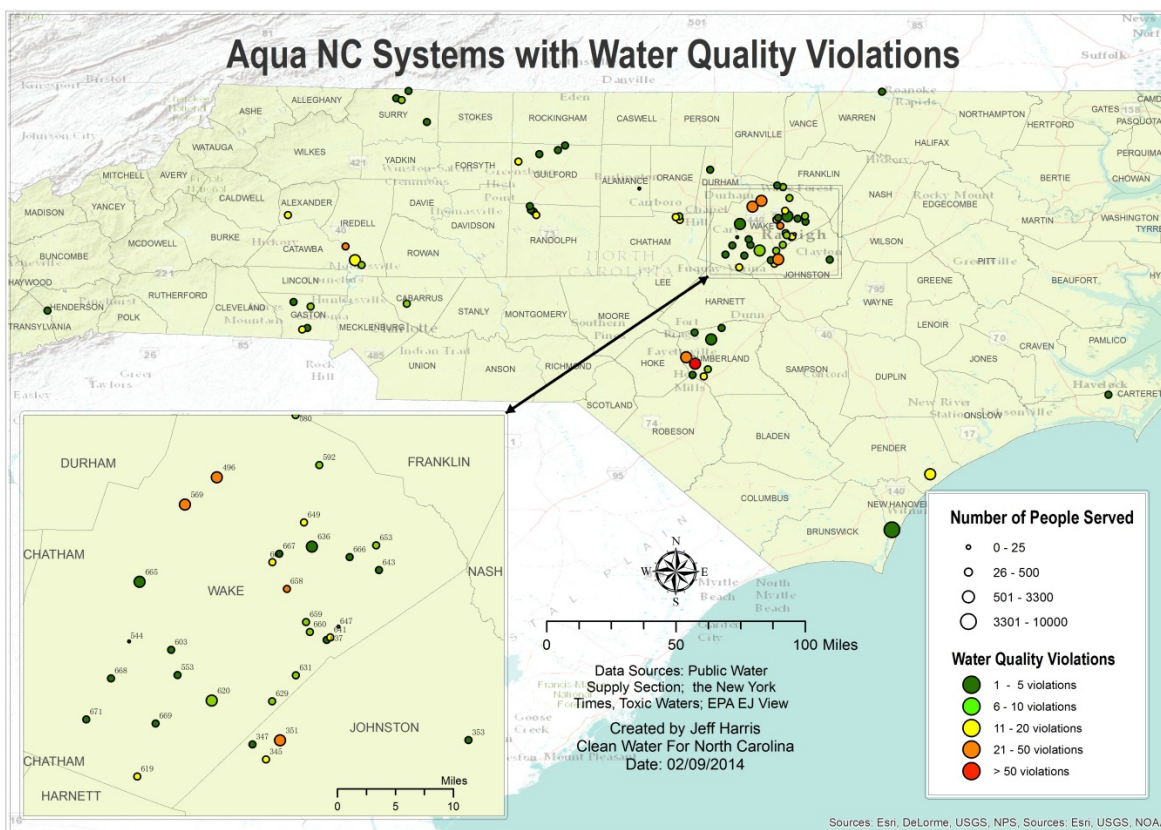
Map 3: Utilities Inc. systems tend to be larger in size than Aqua NC's systems.

Section 2: Water Quality Violations

Under the Safe Drinking Water Act (SDWA), EPA sets primary and secondary drinking water standards to ensure adequate water quality. Primary standards are legally enforceable and are designed to protect public health by limiting harmful contaminants, while secondary standards are not legally enforceable and apply to contaminants not considered to be direct public health threats. In North Carolina, drinking water systems that fall under the Safe Drinking Water Act (those that provide drinking water to at least 15 connections or 25 individuals) must monitor water quality for specific contaminants and report the results to PWS. Violations of primary drinking water standards are reported to all customers in a required annual Consumer Confidence Report, and also may be looked up on the Public Water Supply Section's Drinking Water Watch website (<https://www.pwss.enr.state.nc.us/NCDWW2/>).

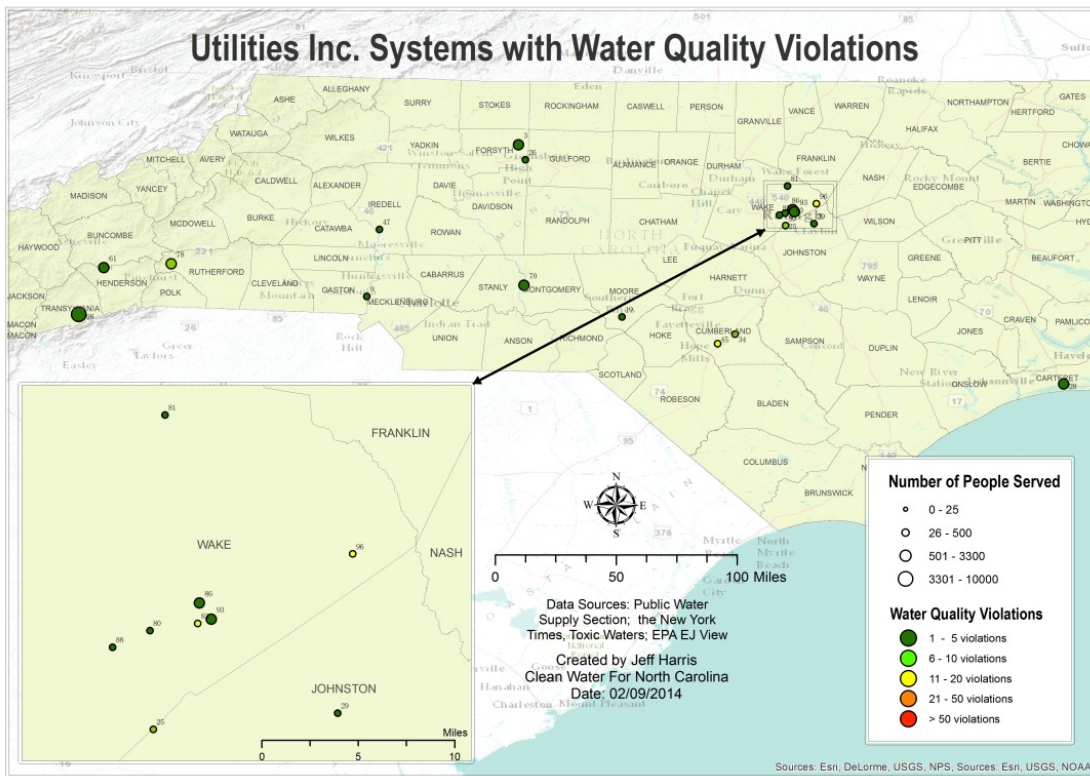
Map 4 and Map 5 show systems with at least one water quality violation occurring between 2005 and 2012. More water quality violations appear to occur in larger systems, especially in Cumberland and Wake Counties. This correlation may be partially explained by the stricter SDWA monitoring requirements for larger systems – more frequent monitoring means larger systems have more frequent chances to “catch” water quality problems¹¹.

The SDWA also requires utilities to comply with record-keeping requirements. When a utility fails to perform mandatory water tests on time or doesn't report sampling results on time, they can receive a “Non-water quality violation” (Maps 6 and 7). These types of violations can be harmless, but also indicate potential failures to detect dangerous contaminants as soon as they appear and notify customers and the regulatory agencies in time to minimize impacts to customers.

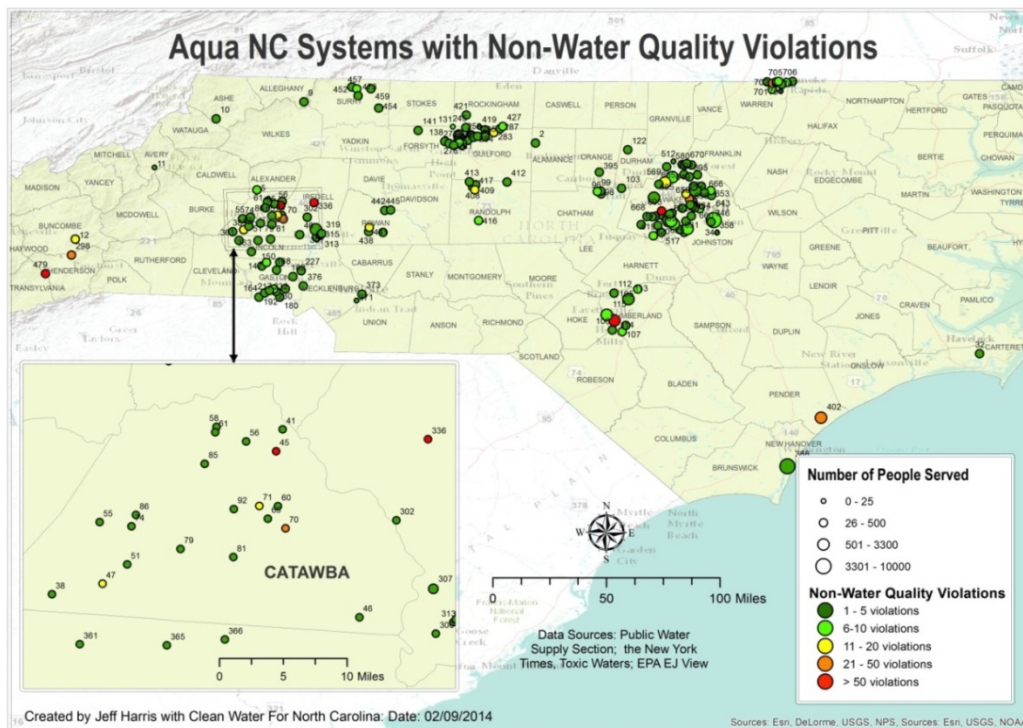


Map 4: Aqua NC's water quality violations. These violations are for excess concentrations of certain chemical or microbial contaminants regulated under the Safe Drinking Water Act.

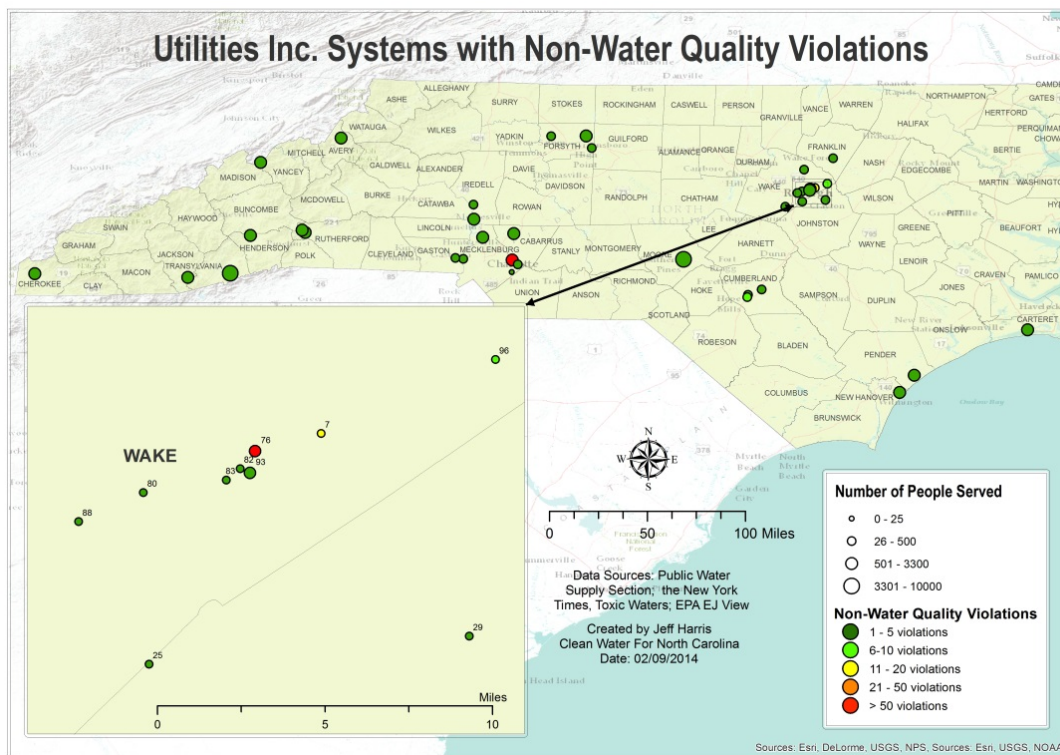
¹¹ Sample schedule guidance: Community Groundwater Systems Guide. NC Public Water Supply Section. Retrieved 2/27/14 from <http://www.ncwater.org/?page=57#guidance>.



Map 5: Water quality violations for Utilities Inc.



Map 6: Non-water quality violations refer to monitoring and reporting violations, public notice violations, and violations of other Safe Drinking Water Act requirements.



Map 7: Non-water quality violations for Utilities Inc.

Section 4: Is Corporate Privatization Disproportionately Impacting Vulnerable Residents? When the high costs or privatized water supplies and failure to meet water quality standards coincide with minority and low-income populations, corporate takeover of water systems could lead to environmental injustices. Maps 8 and 9 show the percent of people below the poverty level for neighborhoods that receive water service from Utilities Inc. or Aqua NC¹², and Maps 10 through 13 show the percent of minority residents.

Communities with high percentages of people below the poverty line are more vulnerable to rate increases. As of 2013, a household of three is considered to be below the poverty level if household income is less than \$18,222. Minority communities have historically been burdened with a disproportionate share of environmental risk^{13,14}. For the purposes of the U.S. Census Bureau data used to generate these maps, “Minority” means all races and ethnicities except non-Hispanic White persons. The percentages reflect a three-mile radius from the estimated center of each water distribution system (the default radius used by the US Environmental Protection Agency), and are based on 5-year Estimates from the American Community Survey (2006-2010).

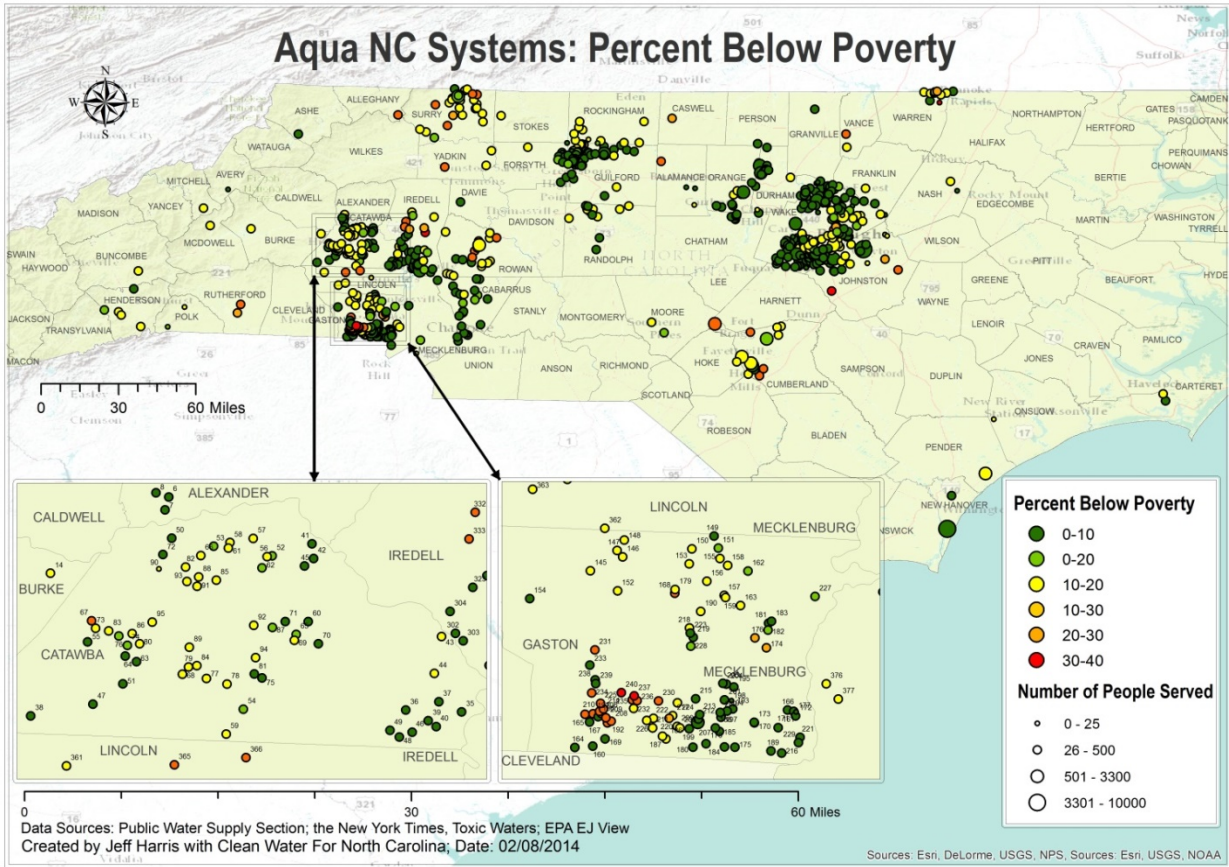
In NC, a striking example of environmental justice concerns related to privatized water service lies in Cumberland County, where 66% of water systems owned by Aqua NC and Utilities Inc. have a record of water quality violations between 2005 and 2012 (the most in the state for both companies). Looking back at Map 4, there are eight water systems that have reported water quality violations in Cumberland County, and one of these reported more than 50 violations. The contaminants of most concern in Cumberland County are combined radium 226 and radium 228. Exposure to high levels of radium over a long period can cause cancer, anemia, and other blood disorders.¹⁵ Looking at the demographic maps below, many customers of these systems are below the poverty level (Map 8), and all of Aqua NC’s Cumberland County water systems are in areas with 30% or more minority residents (Map 12), indicating the presence of economically vulnerable residents.

¹² The percentage ranges indicated in Maps 8 and 9 are for the census tract that contains each neighborhood.

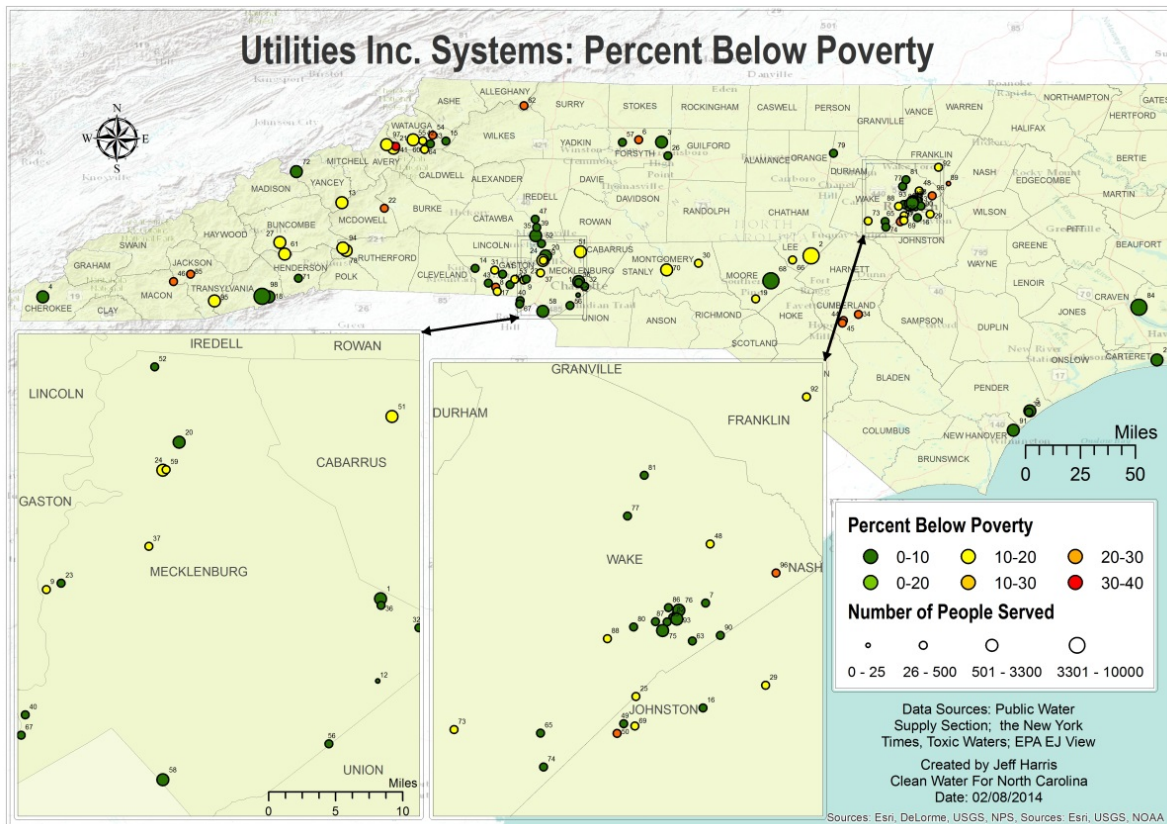
¹³ Michael K. Heiman, “Waste Management and Risk Assessment: Environmental Discrimination through Regulation.” *Urban Geography* 17(5). 1996.

¹⁴ Environmental Justice/Environmental Racism. <http://www.ejnet.org/ej/>. Retrieved July 30, 2014.

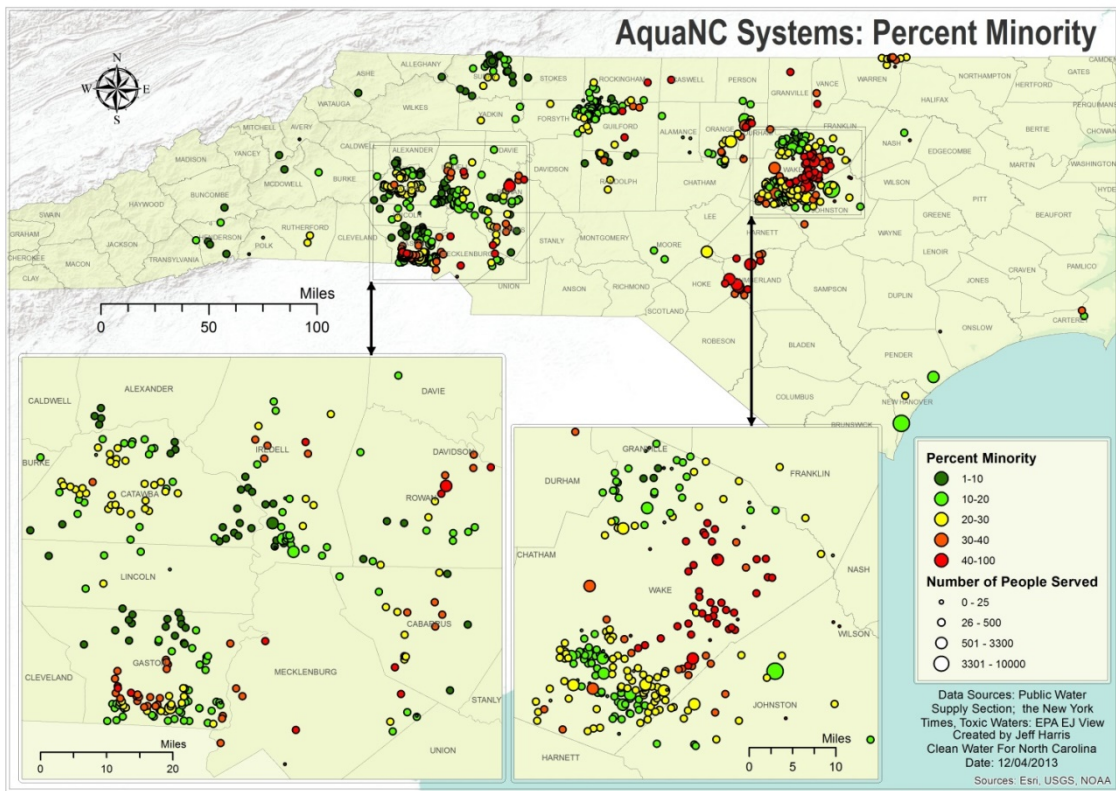
¹⁵ Environmental Protection Agency, “How can radium affect people’s health?” Retrieved April 11, 2014 from <http://www.epa.gov/radiation/radionuclides/radium.html>



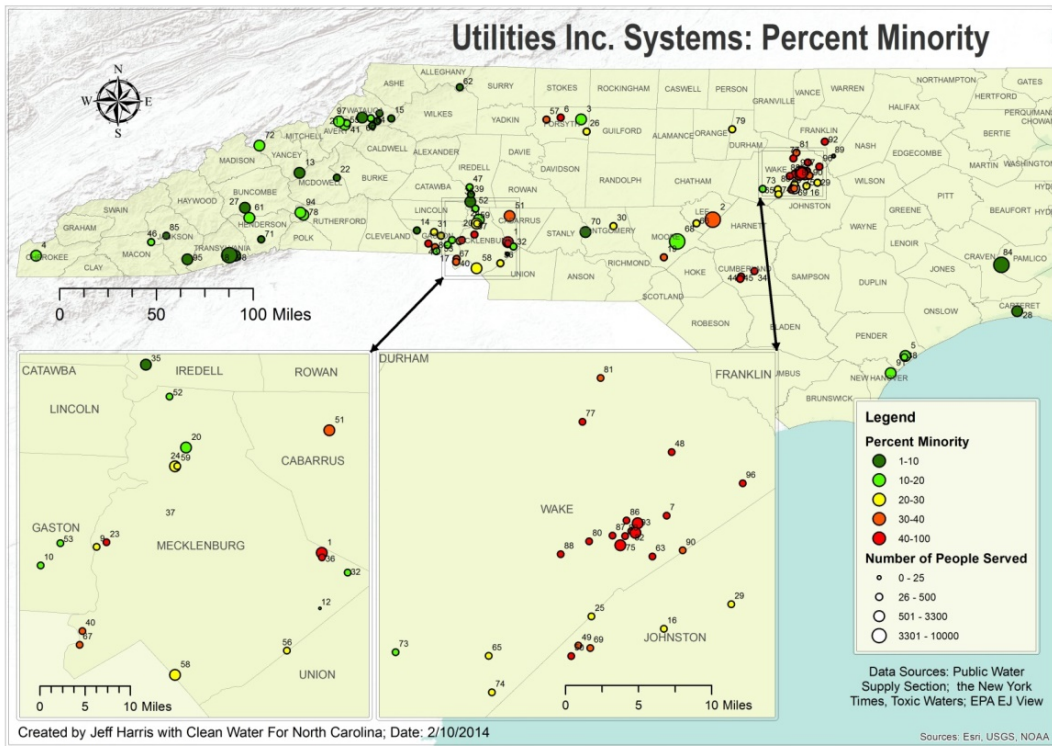
Map 8: Poverty demographics for neighborhoods where Aqua NC provides water service.



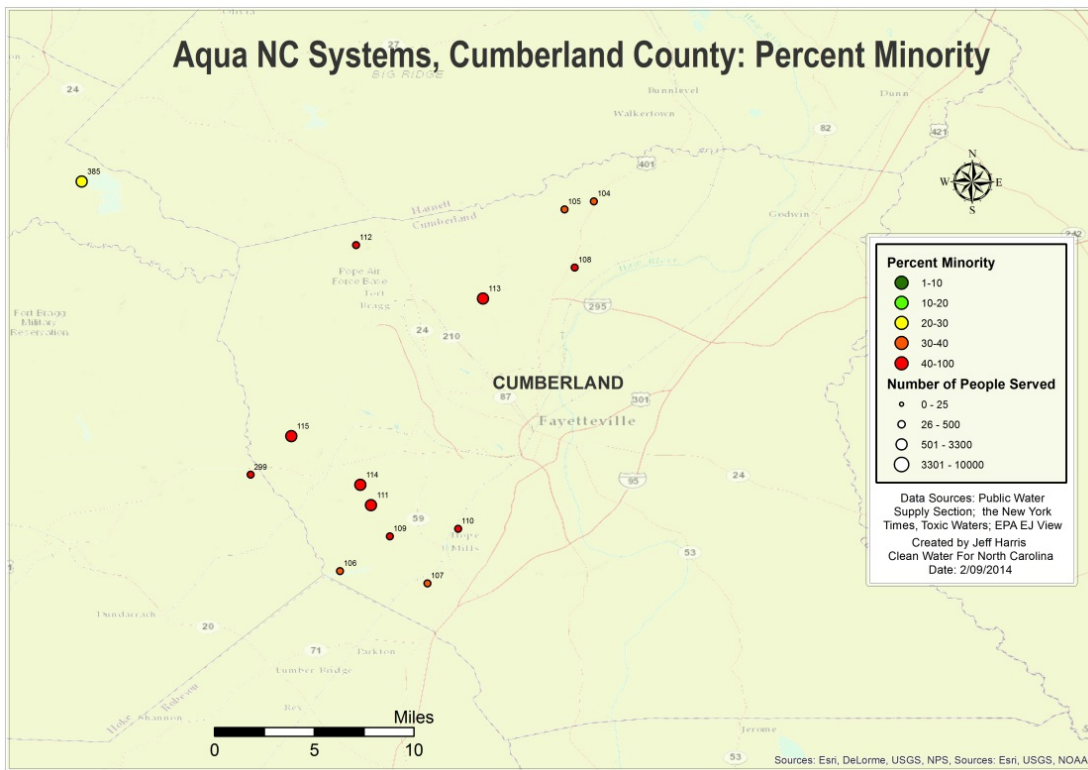
Map 9: Poverty demographics for neighborhoods where Utilities Inc. provides water service.



Map 10: Percent minority levels in neighborhoods where Aqua NC provides water service.

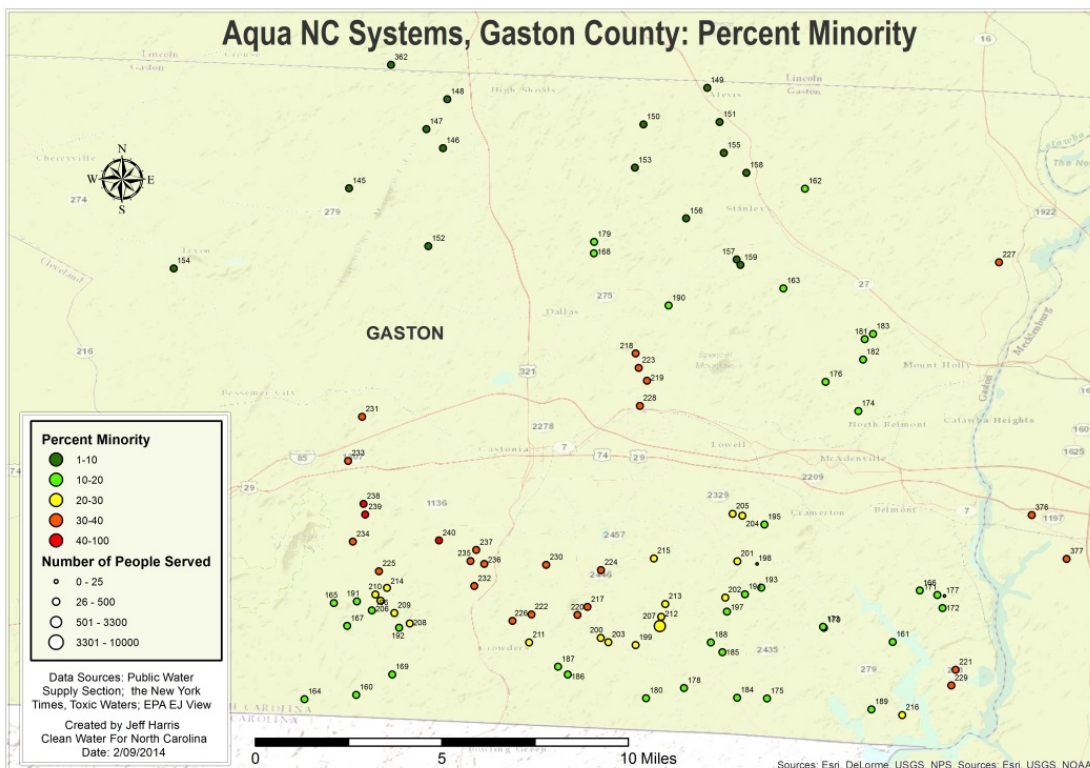


Map 11: Percent minority levels in neighborhoods where Utilities Inc. provides water service.



Map 12: A closer view of percent minority levels of Cumberland County

Socioeconomic conditions differ greatly among neighborhoods served by both Aqua NC and Utilities Inc. In southwestern Gaston County, many of the neighborhoods served by private systems have high poverty levels, while neighborhoods in the southeastern part of the county are more affluent (*Map 13*). The impact of current rates and future rate increases - which would be uniform across the county, with no guarantee that system improvements would be evenly spread across the systems there - would be much more significant to households below the poverty level.



Map 13: A closer view of percent minority levels in Gaston County

Recommendations and Further Information

This geographic guide presents a visual representation of the dominance of corporate, for-profit water utilities in areas that are not served by larger publicly-owned municipal and county service, and the state's ongoing vulnerability to water privatization. The rapid development outside of major cities, combined with the lack of a comprehensive state policy or guidance for municipalities on connecting to existing systems, has created an opportunity for corporate utilities to exploit. For more information on water privatization in North Carolina and its impacts, see Clean Water for NC's report, "Privatizing NC's Water, Undermining Justice" (2011, available at cwfnc.org/reports).

The maps identify vulnerable communities where private water rates may be truly unaffordable for many, or where drinking water violations are burdening low-income or minority communities. If you know of water privatization concerns in your area, please contact katie@cwfnc.org.

This guide may also inform the NC General Assembly, NCUC, and other decision-makers who can create policies that better represent the interests of the consuming public. If the General Assembly initiates a study of the potential benefits of certain water system mergers in the coming legislative sessions, Clean Water for North Carolina encourages lawmakers to look to the example of Alabama, where in the 1990s the water supply regulatory agency encouraged smaller systems to hook up to nearby larger municipal systems, only approving new subdivisions that could hook up to an existing water system. Combined with a commitment to secure funding from federal and state sources for water transmission lines, this strategy cut the total number of systems by more than half and incorporated many of the systems which had struggled to comply with standards, while functionally limiting the state's vulnerability to corporate privatization.

There is still time for North Carolina to capture the consumer and regulatory benefits of promoting consolidation of hundreds of independent systems under public ownership following this model, and to facilitate publicly owned utilities' purchase of small systems in their boundaries or near their existing lines.



Acknowledgements

Thanks to the Park Foundation and the Duke Stanback Internship Program for supporting the creation of this guide. The NC Public Water Supply Section supplied geographic data and water quality violation information. Han Zhang created map layers showing locations of Aqua NC water systems for maps 1, 2, 4, 6, 8, 10, 12, and 13.