

ENDOWMENT CONTACT

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ABOUT THE ENDOWMENT

The U.S. Endowment for Forestry and Communities (the Endowment) is a not-for-profit public charity working collaboratively with partners in the public and private sectors to advance systemic, transformative, and sustainable change for the health and vitality of the nation's working forests and forest-reliant communities.

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BACKGROUND

The Upper Neuse Clean Water Initiative (Initiative) seeks to protect drinking water sources in the Raleigh, North Carolina metro area by preserving land valuable to watershed health. The Upper Neuse Basin boasts nine public drinking water reservoirs, including Raleigh's main reservoir, Falls Lake. The City of Raleigh has taken progressive steps to ensure the protection of the Falls Lake Reservoir through an innovative utility rate program, ensuring watershed health and a clean, sustainable supply of drinking water for a growing population.



courtesy of the Triangle Land Conservancy

RALEIGH'S WATER SUPPLY

The City of Raleigh has a service population of 560,000 people, requiring a large drinking water reservoir. The Falls Lake Dam was constructed by the Army Corps of Engineers in 1983. Its dated design, however, has left it threatened by eutrophication -- a condition where bodies of water are excessively enriched with nutrients that result in algal blooms and oxygen depletion. Runoff from phosphate-rich materials, like fertilizers, leads to eutrophication. In 2008, a report by the North Carolina Division of Water Resources (NCDWR) found that the lake was experiencing threatening levels of nutrient and sediment loads. These findings presented a direct threat to the city's water supply.

The Initiative offered a promising solution: conserve land to act as buffer zones against harmful contaminants entering the reservoir. As the Upper Neuse Basin drains into Falls Lake, conservation strategies upstream are vital to protecting water quality downstream. The program seeks to have measurable and long-term beneficial impacts resulting in an area known for plentiful, clean, and outstanding drinking water quality.

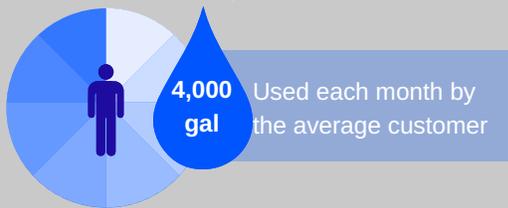
THE RATE PROGRAM

In order to stabilize funding for the Initiative, Raleigh instituted a volumetric charge on consumer water usage in 2011, which is tiered based on consumption. The utility bill also includes line items such as a water infrastructure replacement charge. On a customer's water bill, the watershed protection program rate is displayed as "watershed protection fund," which relays to the customer that the program is in effect "to ensure measurable benefits for water quality." There is also a link customers can follow to learn more about the program on the Public Utilities' webpage.

The Upper Neuse Clean Water Initiative was originally spearheaded by the [Conservation Trust for North Carolina \(CTNC\)](#) — and funded under the U.S. Endowment for Forestry and Communities (Endowment) Healthy Watersheds through Healthy Forests Initiative with matching funding from the Natural Resources Conservation Service. It is supported by a diverse cadre of conservation and political leaders including former CTNC Executive Director Reid Wilson and former Raleigh Mayor Charles Meeker.

UNCWI Rate Program
Breakdown

In 2015 the rate was boosted to **\$0.15 per 1,000 gallons** of water used



This usage equals **\$0.57 per month** or **\$7 a year**



\$2.25 million generated a year from the program

Figure 1

THE RATE PROGRAM, CONTINUED

Originally, Raleigh charged ratepayers \$0.10 per 1,000 gallons of water consumed. In 2015, the City Council voted to increase the rate to \$0.15 per 1,000 gallons of water used. The average customer uses about 4,000 gallons of water per month, meaning the average residential user pays about \$0.57 per month or \$7 a year for the rate program. The program generates about \$2.25 million a year devoted to watershed protection. (Figure 1).

PROGRAM RECEPTION

The Initiative operates under the idea that clean water is an intrinsic value, like clean air. Presented in this context, the program has sparked little controversy or opposition. The only opposition resulted from a misunderstanding of the program's fee structure. Additionally, the program is appealing to ratepayers because its multifaceted nature allows it to extend into multiple areas, such as green infrastructure development.

FUNDING FORESTLAND PROTECTION

The funds generated by the rate program go towards land protection through acquisition (fee simple or easement). Thus far, the program has protected nearly 8,000 acres and 89 miles of streambank from development. The Initiative's recent 2015-2045 Conservation Strategy identified 230,000 priority acres and a goal of protecting 30,000 over the next 30 years.

The success of this program is in part moderated by the efficiency of the municipal water system. Despite Raleigh's large population increases, the same amount of water is being used year to year. Therefore, increases in population do not directly result in increases in consumption. As the rate program is tied to usage, the funding generated each year remains level despite an increase in the number of ratepayers. Generally speaking, higher rates are equivalent to lower usage by ratepayers; therefore, utilities charge fees that are a mix of fixed costs (40%) and usage (60%).

OTHER PROGRAMS

While various counties in North Carolina have similar programs, Durham is the only other municipality along with Raleigh that has a rate devoted to watershed protection in the Upper Neuse Basin. Durham's program differs slightly as it operates solely under a tiered rate system. Water users are divided into certain brackets of usage and the rate changes per tier. The more water a customer uses, the more expensive per tier. As Durham's system is a flat rate, the funds generated are comparatively smaller than the funds generated by Raleigh. However, Durham has a smaller watershed, which from a conservation perspective is ideal as the water source is viewed as finite and therefore easier to tie investments to results. The Durham program generates about \$100,000 per year.

QUANTIFYING BENEFITS OF LAND PROTECTION

Partners in the Initiative worked with the Upper Neuse River Basin Association to develop a method of quantifying the benefits of avoided development as a result of watershed protection. The data show that as a result of the projects completed in the first 10 years of the program, an estimated **8,200 lbs** per year of nitrogen and **1,480 lbs** per year of phosphorous did not enter the basin. These results will increase each year as new land is added. The program does not currently assess sediment numbers.

TOTALS

Total funds collected: \$15,517,711

Total acres conserved: 7,658