

### Wake Water Trend #5: Increased Water Demand

*The amount of water used by households and businesses is expected to increase because the population in Wake County is increasing.*



**Water Demand**

#### Drivers and Expected Impacts

Increases in population will increase water demand. As Wake County’s population of 1.2 million residents continues to grow, demands on both surface water (Jordan Lake and Falls Lake) and groundwater sources will increase. Approximately 85% of Wake County’s population receive water through a municipal water supply system and 15% of the population in Wake County rely on groundwater for their drinking water needs (Tetra Tech and Hazen and Sawyer, 2023).<sup>1</sup> Assuming present-day growth projections are reasonably correct, all the municipal systems serving Wake County residents will require some form of water supply or water treatment expansion during the 50-year planning horizon to assure residents of an abundant and reliable drinking water supply. In addition, increased competition for groundwater resources increases the risk of well interference and decreased well yields for private well users.

#### Related Trends



**Increased pollution**



**Reduced well yields**



**Reduced infiltration**



**Less groundwater recharge**

#### Future Trends

The combination of population growth and projected climate conditions is anticipated to increase pressure on both surface water and groundwater resources. Increases in groundwater demands and reductions in the amount of groundwater recharge are anticipated to increase the vulnerability of well users. Significant growth is also expected within municipal water supply system service areas, with some utilities expecting their population to more than double (Table 1). Projected water demand over the next 50 years is summarized in Table 2.

<sup>1</sup> Tetra Tech and Hazen (Hazen & Sawyer). 2023. Summary of County and Municipal Water Supply Status. Report 1.4. Prepared for Wake County Government by Tetra Tech and Hazen, Research Triangle Park, NC.

**Table 1. Population comparison between 2021 and projected population data for each water utility in the County.<sup>2</sup>**

Water Utility	Population	
	2021	2070
Raleigh Water	610,000	1,514,000
Town of Cary and Town of Morrisville	212,109	242,554
Town of Apex	71,988	182,000
Town of Holly Springs	45,058	117,000
Town of Fuquay-Varina	34,152	126,000

**Table 2. Water demand comparison between 2021 and projected water demand for each water utility in the County.<sup>2,3</sup>**

Water Utility	Water Demand (million gallons per day)	
	2021	2070
Raleigh Water	53.0	124.4
Town of Cary and Town of Morrisville	20.2	34.4
Town of Apex	5.6	14.4
Town of Holly Springs	3.2	11.1
Town of Fuquay-Varina	2.8	10.7

<sup>2</sup> <https://www.ncwater.org/WUDC/app/LWSP/>

<sup>3</sup> According to communications with Holly Springs in 2021, the projected 2070 water demand for Holly Springs was derived from the UCWRF Expansion Master Plan (Hazen and Sawyer, July 2021).