





Duck River Water Need Analysis

Summary & Key Findings



August 10, 2026

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Project Summary

Project Overview



Focused on eight (8) water suppliers with intakes on Duck River



Evaluated existing conditions for each supplier



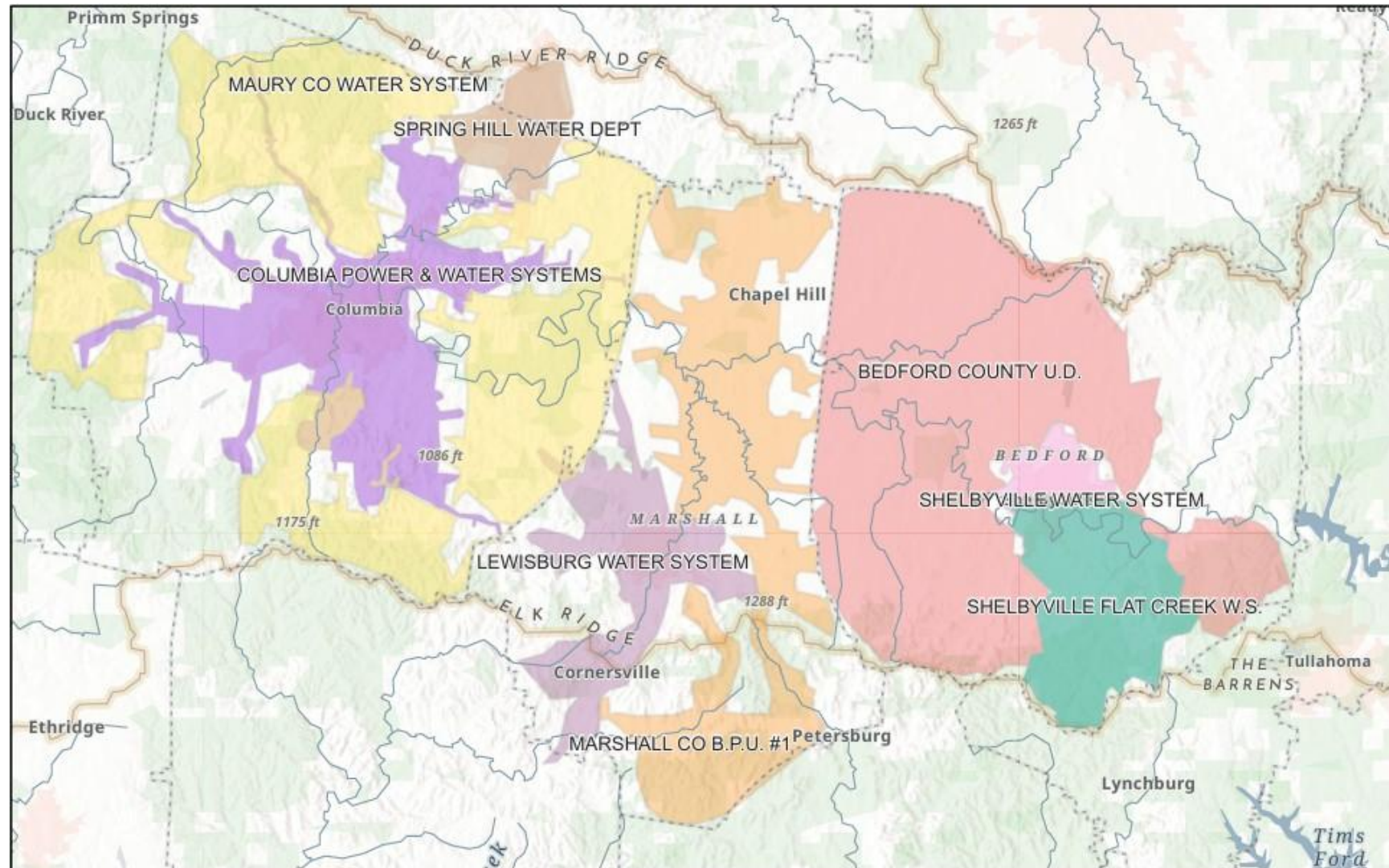
Projected water demands over 30-year & 44-year planning horizon



Drafted Technical Memorandum detailing findings

Water Suppliers Interviewed

1. Bedford County Utility Commission
2. Columbia Power, Water, & Sewer
3. Duck River Utility Commission
4. Lewisburg Water System
5. Marshall County Board of Public Utilities
6. Maury County Water Systems
7. Shelbyville Power, Water, & Sewerage
8. Spring Hill Water System

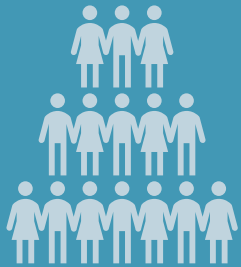


Demand Forecasting Methodology



Calculate gallons per capita per day (GPCD)

- $\text{Avg. Daily Water Use} / \text{Service Area Pop.} = \text{GPCD}$



Estimate future population of Service Area

- $\text{Current County Pop.} / \text{Service Area Pop.} = \text{Service Area Weight}$
- $\text{Proj. County Pop.} \times \text{Service Area Weight} = \text{Proj. Service Area Pop.}$



Determine projected planning demand

- $(\text{Proj. Service Area Pop.} \times \text{GPCD}) \times \text{Growth Contingency} + \text{Add'l Commercial Demand} = \text{Future Planning Demand}$

Contingencies for Future Commercial / Industrial Growth

To account for uncertainty and unplanned growth, a contingency factor was applied

5%

- Slow growth or mostly built-out areas

7%

- Moderate growth with scattered commercial expansion

10%

- Strong economic growth corridors, highway interchanges, & industrial parks

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Key Findings

Water Supplier Concerns & Recurring Themes

Growth Outpacing Available Supply

- Systems implementing moratoriums, delaying developments, turning away large users

Dependence on Single Source & Constraints Governing its Use

- Uncertainty on origin of 175 cfs flow restriction
- Restrictions not applied consistently

Impact of Water Loss on Source Availability

- Differing priorities, resource limitations result in diverse approaches

Lack of Inter-Utility Communication & Coordination

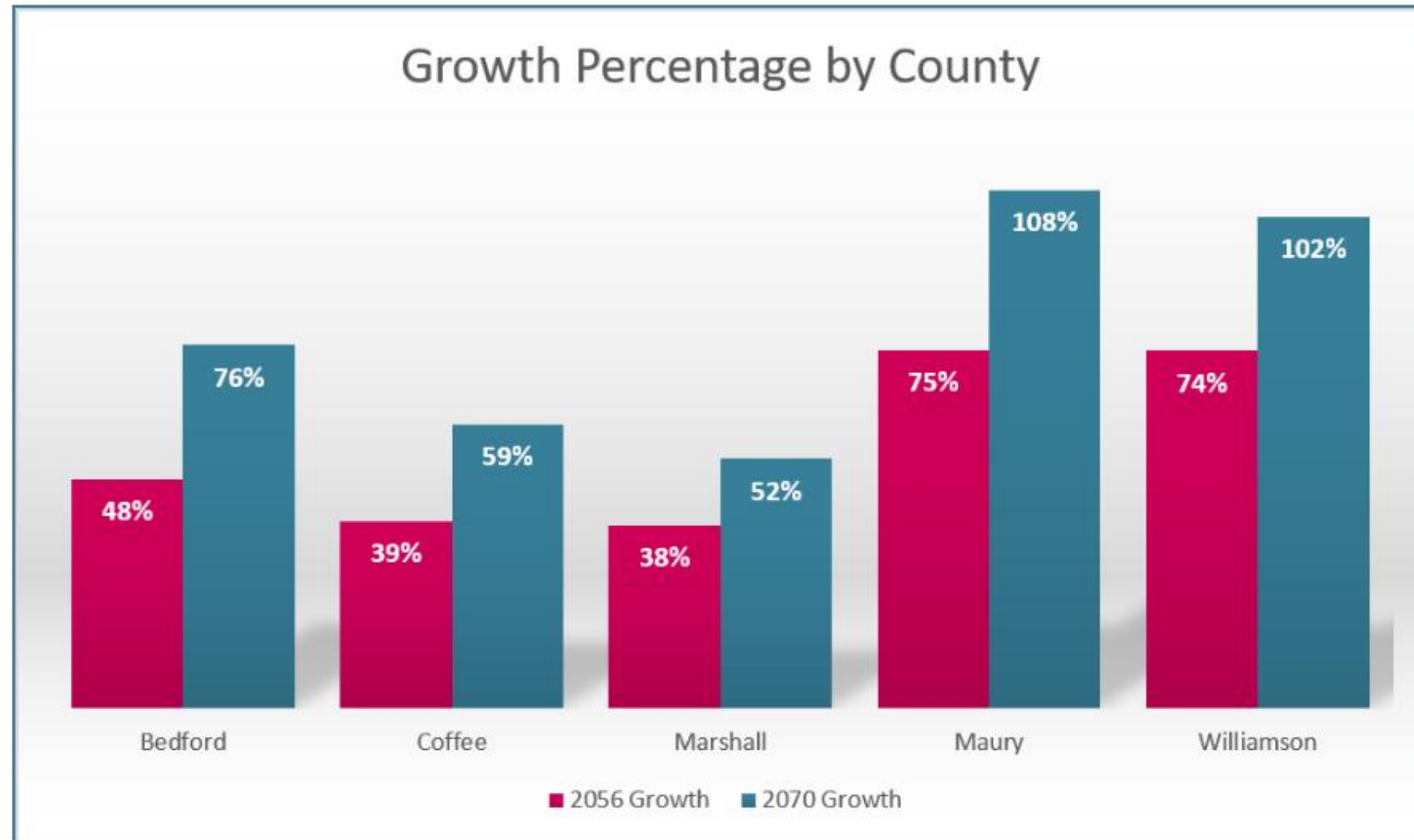
- Fragmented landscape w/ no real unified approach to planning, communication, decision-making

Desire to Shift From Planning to Implementation

- Frustration that actions not keeping pace w/ urgency

Population Forecasts

- All counties expected to experience exponential growth
- Maury & Williamson expected to see largest amounts over horizon
 - Utilities within this area expected to see largest demand increases

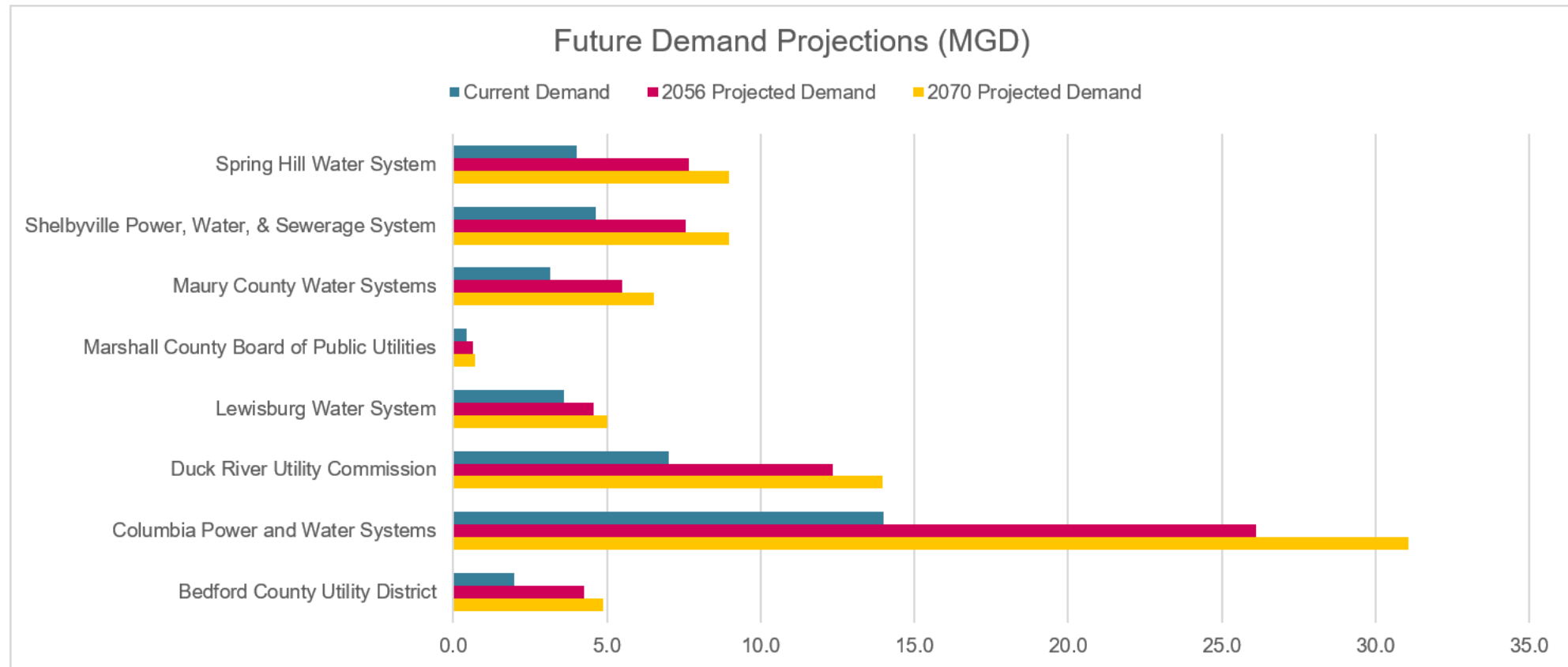


Population Forecasts per County in 5-year Increments

	Bedford	Coffee	Marshall	Maury	Williamson
2025	52,237	59,710	36,049	107,791	260,351
2030	57,365	65,179	40,356	128,574	304,573
2035	60,790	68,309	42,329	140,086	333,948
2040	64,276	71,442	44,095	151,220	362,863
2045	67,988	74,782	45,883	162,527	391,939
2050	71,948	78,336	47,651	174,026	420,662
2055	76,258	82,148	49,418	185,904	448,665
2060	80,949	86,195	51,189	198,138	475,723
2065	86,112	90,502	52,972	210,935	501,612
2070	91,742	95,056	54,794	224,120	527,068

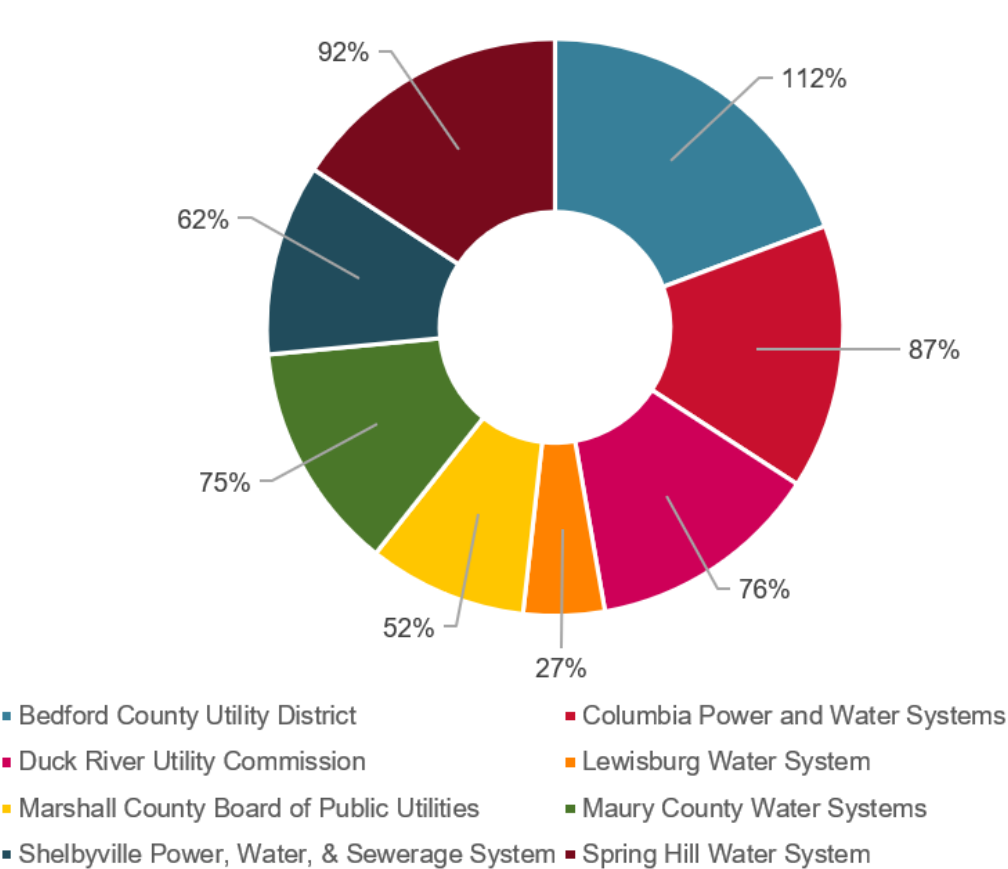
Forecasted Demands

- 2056 - 7 of the 8 systems could see 50% or more increase in demand
- 2070 - 4 of 8 systems could see 100% or more increase in demand
- Water needs for 2070 = ~80.1 MGD
- Decline in flexibility during drought & low-flow conditions

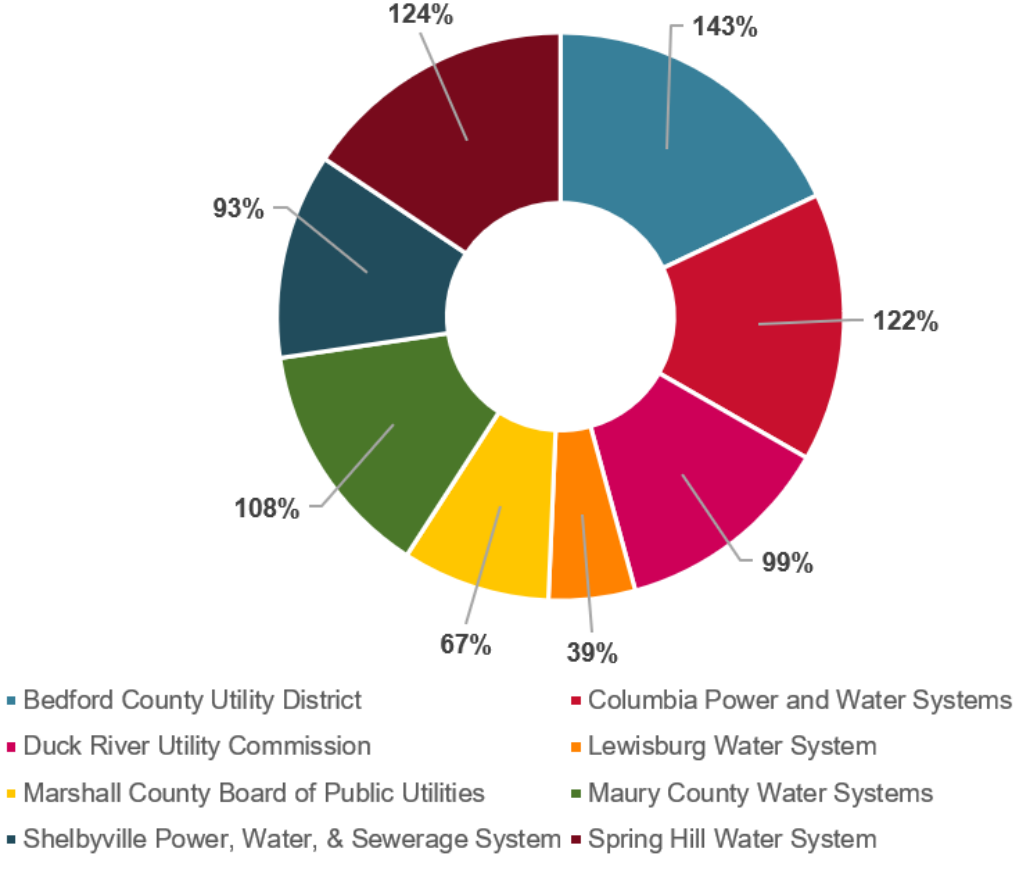


Projected Demand Increases

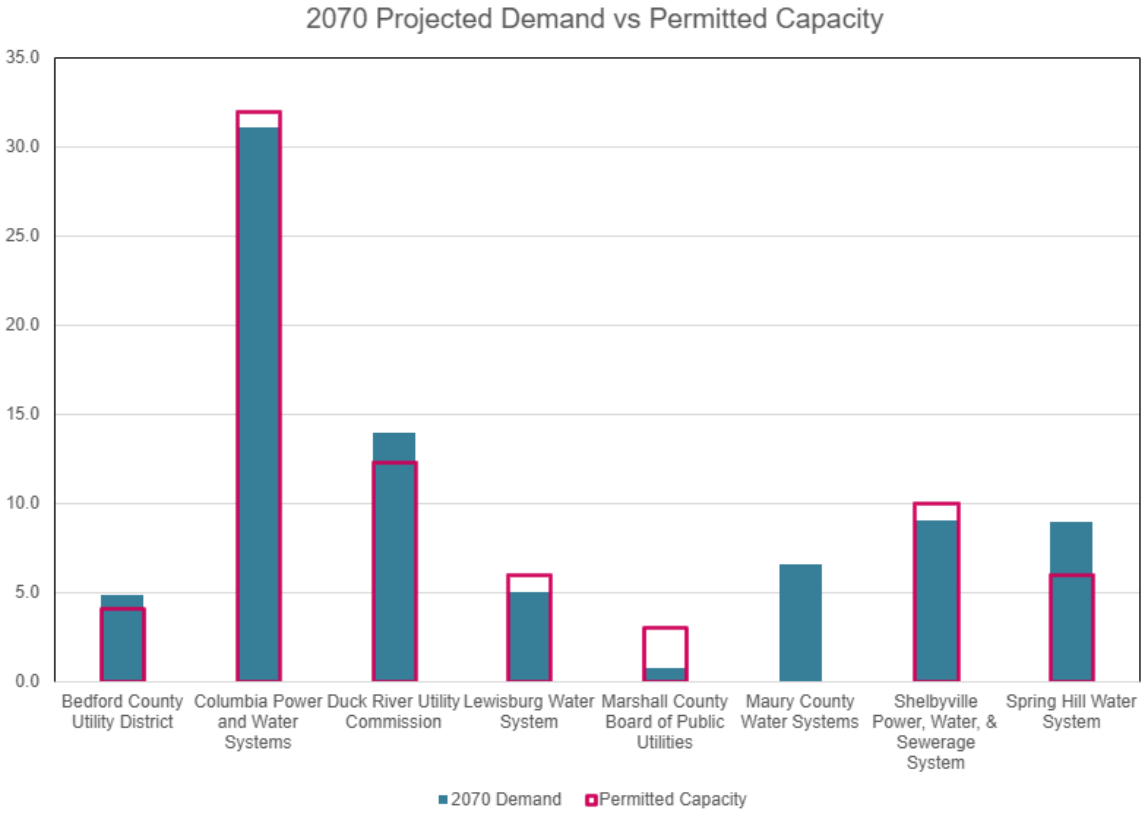
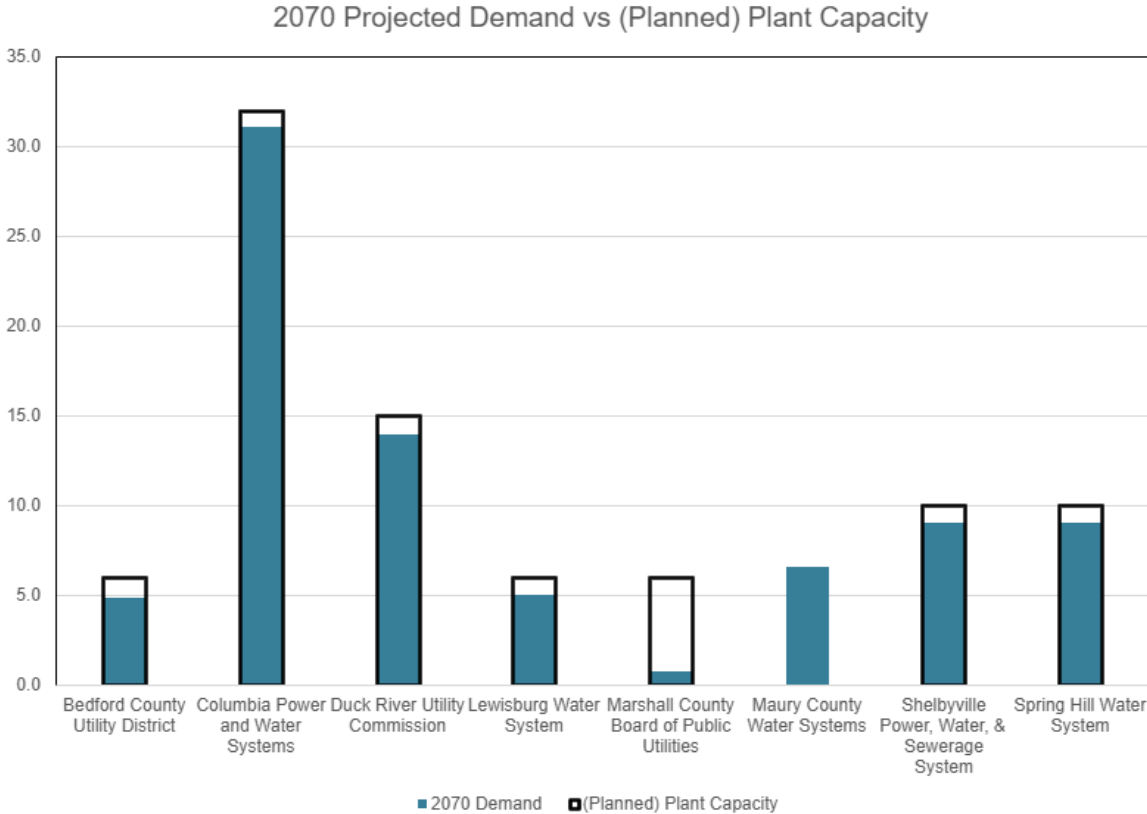
2056 Demand Increases



2070 Demand Increases



Demand Compared to Capacity



Future Outlook

- Several initiatives occurring to help
 - TVA modifications to flow management
 - CPWS planned second intake
 - Spring Hill raw water storage
 - DRUC intake improvements
- Challenges will still persist from extended droughts & reduced operational flexibility





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Questions?