



WATER RESOURCES RESEARCH GRANT PROPOSAL

Project ID: 2002TN4B

Title: Water Supply Options for Cumberland County, Tennessee: A Policy Assessment

Project Type: Research

Focus Categories: Law, Institutions, and Policy, Water Supply, Management and Planning

Keywords: conflict management, institutional relationships, multiple-objective planning, planning, policy analysis, water demand, water resources development

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Congressional District: TN2

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Abstract

The Cumberland Plateau is an expansive tableland that spans the width of Tennessee, rising abruptly 600-800 feet above the surrounding low country. Due to its elevation, the Plateau serves as the headwaters for all its watersheds. Because no water source enters the region other than by precipitation, its populace depends solely upon stored rainwater (impounded surface and ground water) for its entire water supply.

The Plateau's temperate climate—mild, low-humidity summers and moderate winters—coupled with pristine rural scenery of farmlands and hardwood forests, excellent interstate and state highways, low-crime rate, first-rate health facilities, and low taxation, have helped produce dramatic population growth. The county is experiencing the sixth-fastest growing population rate in Tennessee, largely due to its extensive retirement communities (the county has the oldest demographic population of the state). Its growth rate is projected to increase along with the aging U.S. population. Increased demands upon its existing water supply have led to widespread concerns over water shortages.

In 1998 Cumberland County received a federal planning grant to fund a U.S. Army Corps of Engineers study of water supply options to meet the region's expected needs for the next fifty years. Six major water supply options were identified: 1) additional impoundments; 2) water harvesting; 3) increased groundwater use; 4) pumping water from lowland reservoirs; 5) raising dams at existing impoundments; and, 6) non-structural options (i.e., increasing consumer price and enforcing conservation to regulate supply).

Each option is achievable strictly from an engineering or planning perspective. However, attitudes and deeply held values have generated obstacles to consensus-based solutions. Significant challenges by user-

group interests have caused disagreement among affected local, state, and federal-level stakeholders. A lack of consensus among stakeholders is now limiting long-range water supply planning.

For this project we will conduct a detailed policy evaluation of the six water-supply options for Cumberland County. Our objective is to provide a fully-assessed range of the political implications associated with meeting Cumberland County's fifty-year water supply needs. Public acceptability of each option will be assessed through a combination of interviews with key stakeholders. A review will be conducted of relevant laws, compacts, and other agreements. Key factors of our analysis will be the impact of each option on water-use law, judicial precedent, the state's new interbasin transfer law, and county-wide development objectives.

We will provide a composite multi-dimensional ranking system of the water supply alternatives that details benefits and costs, water supply safety and safeguarding issues, public concerns, and other political ramifications. We will explain and illustrate each option, referencing similar case studies of other communities. This study will serve as an educational resource to help the citizens and local decision-makers better understand the various implications of each option in forming effective water policy. Our research will provide a baseline for a more-detailed investigation as large-scale external funding becomes available.