2022 SOUTHWEST VIRGINIA REGIONAL WASTEWATER STUDY

STUDY SUMMARY / FINDINGS

- Purpose and Scope:
  - Identify and evaluate existing wastewater systems and unserved areas within the LENOWISCO, Cumberland Plateau, and Mount Rogers planning districts.
  - Create GIS mapping of each participating collection system.
  - Present recommendations from the study findings.
- The Study evaluated **71 existing municipal sewerage collection systems** and **44 wastewater treatment plants**.
  - On average, over 29,000,000 gallons per day of wastewater generated by approximately 59,000 sewer connections is collected and treated by publicly owned wastewater systems within the study area.
  - Approximately **55%** of all treated wastewater in the study area is infiltration and inflow (I/I), highlighting the poor condition and age of the area's wastewater collection systems.
  - The average monthly user cost in the study area based on 3,000-gallon usage is **$40.34** or **1.3%** of the region's annual median household income of **$39,701**. The median household income in the Commonwealth of Virginia is **$76,398.**
- Sewer System Mapping was assembled, converted to GIS format, and presented to the PDCs for use by their individual system operators and municipalities.
- The Study evaluated **73 existing system upgrade/rehabilitation projects** totaling over **$381 million** within the study area.
- The Study evaluated **96 potential centralized sewer system extension projects** with an estimated cost of **$1.232 Billion** and **25 decentralized projects** with an estimated cost of **$59 Million**.
- The Southwest Virginia Regional Wastewater Study identified over **$1.67 Billion** in wastewater infrastructure needs within Planning Districts 1, 2, and 3 in Southwest Virginia.

PROJECT COST SUMMARY

Planning District	Existing System Upgrade Projects	Centralized Wastewater System Expansions	Decentralized Wastewater Systems
Cumberland Plateau	$140,068,456	$436,482,917	$28,637,600
LENOWISCO	$104,542,800	$423,925,775	$9,357,500
Mount Rogers	$136,737,715	$371,708,080	$21,001,300
Totals	**$381,348,971**	**$1,232,116,772**	**$58,996,400**

STUDY RECOMMENDATIONS

- The Virginia Department of Environmental Quality (DEQ) and other funding agencies should modify existing or develop new programs that assist localities in evaluating their existing wastewater systems and in rehabilitating failing wastewater infrastructure.

- Local Community Colleges should be engaged and encouraged to offer classes related to treatment plant operation and to prepare potential students for their licensure exams. In addition, consideration should be given to apprenticeship programs funded by the Commonwealth to help train the next generation of operators.

- The $1.67 Billion in wastewater system needs identified by the Study will continue to grow exponentially year after year. The Study's findings should be utilized in coordination with elected officials to address this urgent issue and to increase the availability of state and federal funding for these critical projects.

- Whenever possible, consolidation of smaller systems into larger county-wide public service authorities or other larger adjacent systems should be evaluated and implemented. Regionalization should be one of the first alternatives evaluated in future projects.

- Because adequate wastewater service benefits everyone, system operators along with their local governments should consider instituting county-wide mandatory hook-up ordinances and sewer availability fees used to offset the costs of system expansions and maintenance.

- A more concentrated emphasis is needed by regulatory and funding agencies on the advantages and benefits of managed decentralized wastewater systems, particularly in areas where the extension of central wastewater systems is cost prohibitive. Larger county-wide system operators should develop the means to plan, construct, operate and maintain these types of systems when other alternatives are not available.

- State and local policy makers and the general public must be educated to understand the overall benefits provided by wastewater systems and the consequences of inaction. This will require a sustained effort from multiple stakeholders and will involve the expenditure of resources in both time and money.

    - DEQ should consider creating a southwest Virginia committee charged with developing and managing initiatives involving education of the public and the implementation of the other recommendations within the Study.

    - The Study and other educational material should be developed and publicized online via public websites and social media.

    - Each new project should be celebrated and publicized to underscore their importance to the community.

    - Wastewater system operators, engineering firms, and DEQ should communicate with local middle and high schools to pursue learning opportunities such as field trips to wastewater treatment facilities to expose the students to the importance of proper wastewater collection and treatment.