

Extension's Advocacy Role in Wastewater Projects in Low Income Communities

A Case Study from Rural West Virginia

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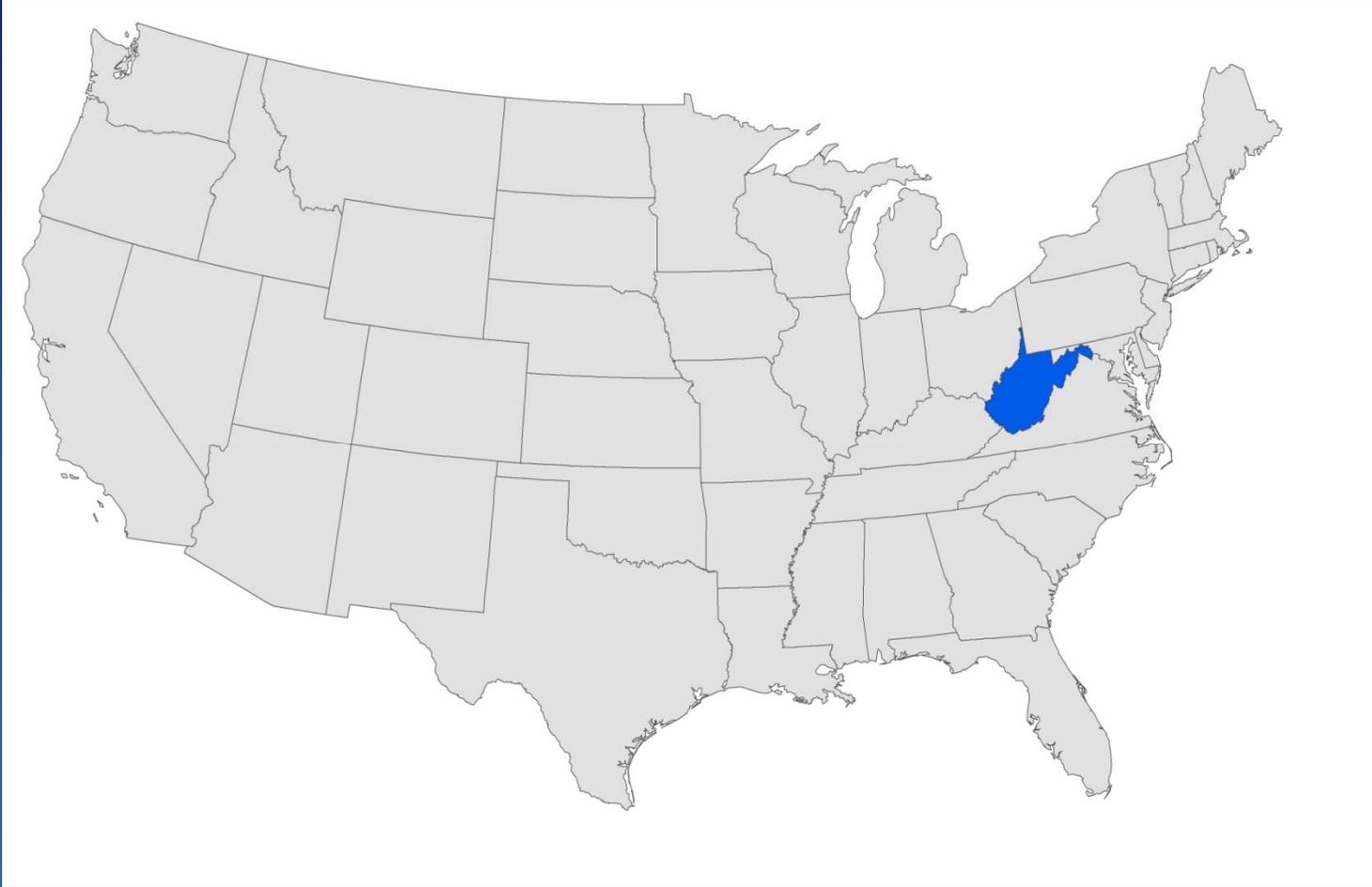
USDA-CSREES National Water Conference
February 2009
St. Louis, MO



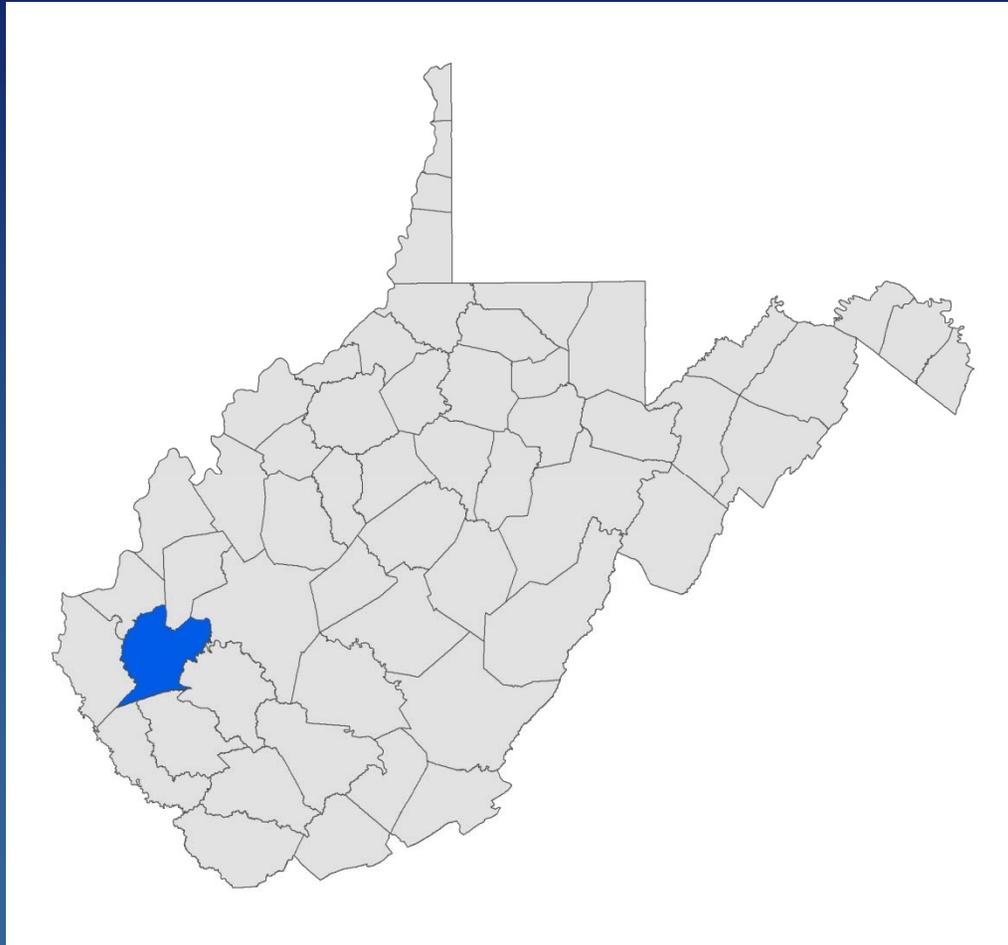
Key Lessons Learned

- There is a lack of affordable, appropriate, effective alternative wastewater technology for low income, rural communities.
- University engagement is too often top-down, even when Extension is involved.
- Local installers, technology suppliers, & state regulators often need critical training in wastewater technology.

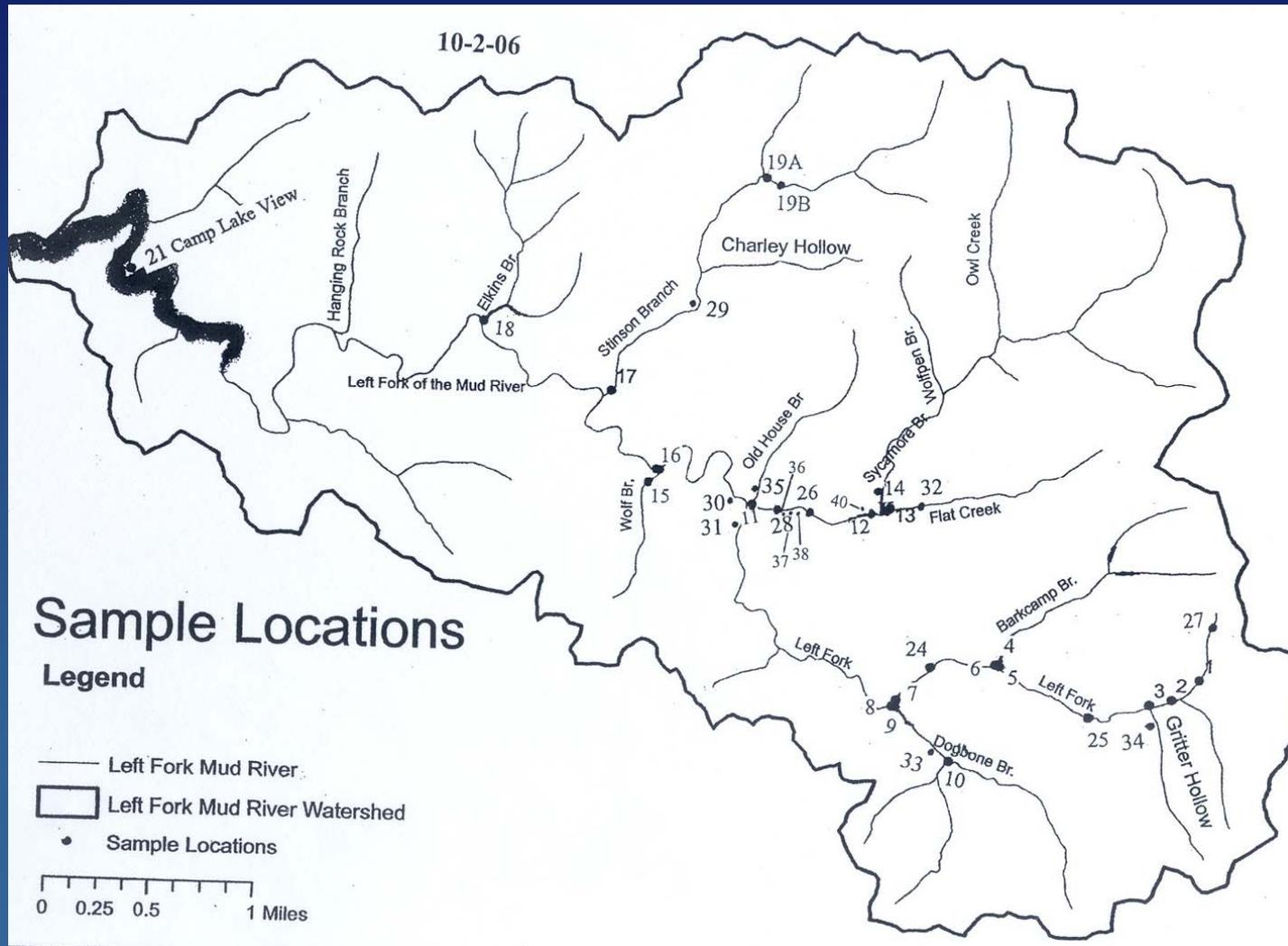
West Virginia ~ Region 3



Lincoln County, West Virginia



Left Fork Mud River Watershed



EPA National Decentralized Wastewater Demonstration Project

- \$964,000 Award
- 2005 to 2010
- Recipient: Lincoln County Commission
- Sub-recipient: West Virginia University



Project Objectives



- Reduce bacterial contamination of surface waters
- Install alternative home wastewater treatment systems and assess their effectiveness
- Empower local community as equal decision makers

Project Accomplishments



- 195 tributary samples taken over 12 month pre-installation period
- 61% over acceptable E. coli limit of 200 colonies per 100 milliliters
- Bacterial Source Tracking Component
- 52 community meetings within the watershed

Project Accomplishments



- Community created home ranking criteria for prioritizing system installations
- \$363,000 in-kind and cash raised toward required match
- 24 homes have new alternative systems at average cost of \$12,300

Structural Challenges



- Soils typically heavy, often unsuited to conventional septic systems
- Seasonal high water tables
- Homes located in flood plains
- Small lot sizes restrict type and placement of systems
- Some alternative systems cost more than homes are worth

Critical System Challenges



- **New septic and pump tanks leak**
- **Systems' direct discharge effluent has higher than acceptable BOD, TSS and bacterial levels**
- **Components not always installed correctly**

Human Challenges



- Lack of models for affordable, effective systems for rural, low income communities
- Distrust by local community of academics and government
- Mutual misunderstandings between university researchers and local community
- State does not require ongoing training for installers
- Lack of state funds for system monitoring and state agency training

Extension's Natural Advocacy



- **Respect and value the inherent knowledge of low-income, less educated citizens.**
- **Don't withhold information from people because you think they can't understand it.**
- **Share information in plain language, and answer people's questions about what you share.**

Extension's Natural Advocacy



- **Share all financial information including salaries paid through the project.**
- **Familiarize yourself with the community.**
- **Listen more than you talk.**
- **Write handouts and announcements at a 5th grade reading level.**

Long Range Potential Outcomes

- **Raise critical installation and system design issues**
- **Increase awareness of relationship of human health and water quality**
- **Develop local community leadership which can tackle other problems and needs**
- **Increase peoples' perception that the university is a resource committed to helping improve their lives**

