

# **Local Communities: Equal Partners or Ignored Bystanders?**

## *A Case Study from Rural West Virginia*

**Ric MacDowell, WVU Extension**  
**Tom Basden, WVU Extension**

USDA-CSREES National Water Conference  
January 28 – February 1, 2007  
Savannah, GA

### **Background Situation**

West Virginia's Lincoln County is one of the poorest areas in a poor state. The Left Fork watershed of the Mud River has even higher indices of poverty.

Tributary samplings since the late 1990's have continually shown higher than acceptable levels of total coliforms and e. coli. Based on this research, the Lincoln County Commission was awarded a \$964,000 EPA National Decentralized Wastewater Demonstration grant as part of the 2003 appropriations bill. West Virginia University is a sub-recipient of the project which runs from 2005 to 2008. WVU supplies technical and organizational expertise through two researchers based in Morgantown and a local County Extension agent.

The Left Fork watershed is 6 miles long and has approximately 250 families.



### **Project Objectives**

The project's goal is to install a series of alternative home sewage treatment systems in areas which have highest bacterial contamination, then monitor these areas to demonstrate the intervention's effectiveness in reducing bacterial contamination of surface waters. Also important are the efforts to advocate for and empower the local community so that they are equal decision makers in the total process. In the end, social factors in water management are as paramount as science and technology.

## **Emerging Knowledge and Project Accomplishments**

During the 12 month period ending October 2006, 195 periodic water samples were taken. 61% were over the acceptable e. coli limits of 200 parts per 100 milliliters. Working with neighboring Marshall University, the county is beginning a Bacterial Source Tracking component which will help determine relative percentages of human vs animal e. coli in the tributaries.

If there is not buy-in from local people, even the best projects can fall to pieces after the funding has dried up, and the experts leave. Prior to formal funding agreements, work in the watershed had started in efforts to involve the local community. To date there have been 35 community meetings within the watershed involving a core group of 15 leaders and a broader base of 94 people. Because there is not enough money in the project budget for each family to receive a new system, the community developed a criteria to establish a household ranking order. Stream pollution near the house, low income status, number of people in the home, participation in community meetings, and willingness to contribute toward the installation costs, all were factors in the rankings. Research collaborators from WVU folded their findings into the community rankings to develop a final prioritized installation list.

To date the county has raised \$150,000, both in-kind and cash, toward its required \$321,000 project match.

A variety of state agencies have participated in project planning and have contributed leadership in solving aspects of the project. Local high school environmental science classes have participated in classroom and hands-on field activities designed to increase their knowledge and strengthen the project's long term effectiveness.

## **Structural Challenges**

The majority of the homes in the Left Fork watershed are located in the flood plain where soils are typically heavy and often unsuited to conventional septic systems. Water tables are seasonally high. Though most people own their homes, lot sizes are small, restricting both the type and placement of alternative wastewater systems. In some instances, alternative systems cost more than homes are worth. In addition, the low income status of many people is a challenge to proper post-installation system maintenance.



## Human Challenges

There are few state or national models for affordable, effective systems in rural, low income communities. In a pre-assessment of community attitudes, 59% responded **No**, and 30% responded **Maybe** to: *In communities like mine, people can trust the county government.* Most community members have only rudimentary knowledge of the relationship between ineffective wastewater disposal and human health. In this project the local County Agent was dropped into the PI position with limited experience as a project manager. Finally, there have been a variety of mutual misunderstandings between university researchers and the local community.

## Strategies to Promote University Community Partnerships

- These are based on a variety of projects including this current one :
- *Don't withhold information from people because you think they can't understand it.*
  - *Respect and value the inherent knowledge of low-income high school dropouts.*
  - *Share information in plain language, and answer people's questions about what you share.*
  - *Share all financial information including salaries paid by the project.*
  - *Familiarize yourself with the community.*
  - *Listen more than you talk.*
  - *Write handouts and announcements at a 5th grade reading level.*

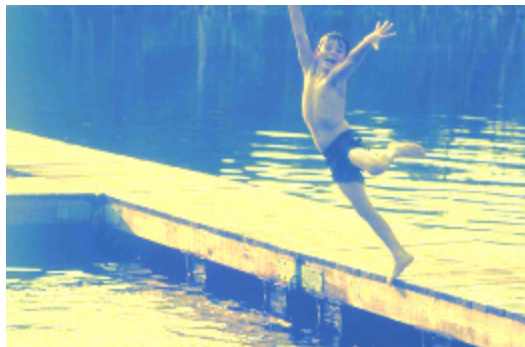
## Long Range Potential

Because the situation in the rural, low income Left Fork watershed is typical of much of the Appalachian region, the project can be a model for how low income communities can handle sewage with cost effective systems. The Left Fork area has the potential to become a training area for alternative wastewater technologies.

The project can help increase peoples' awareness of the relationship between human health and water quality.

As local community leadership develops, the community's ability to tackle other problems and needs increases.

Finally, as the project succeeds, it increases and supports peoples' perception that government can indeed help improve their lives.



For further information contact: [ric.macdowell@mail.wvu.edu](mailto:ric.macdowell@mail.wvu.edu)