

**Lessons From the National Community  
Decentralized Wastewater  
Demonstration Project – 2004**

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## **LESSONS FROM THE NATIONAL COMMUNITY DECENTRALIZED WASTEWATER DEMONSTRATION PROJECT – 2004**

This memorandum summarizes the discussions among representatives of National Community Decentralized Wastewater Demonstration Projects, at an afternoon meeting following a Community Decisionmaking Forum (CDF) held July 28–29 in Arlington, Virginia. The CDF was convened by the National Decentralized Water Resource Capacity Development Project (NDWRCDP) to assess the applicability of funded research projects to decisions made by stakeholders wrestling with a wide variety of distributed wastewater issues. Demonstration project representatives were key members of the evaluation teams.

At the demonstration project meeting, representatives were asked to first, present an update of activities under each of the projects, and second, to identify and prioritize various “messages to the decentralized wastewater field” that they have learned from administering the demonstration projects at each of their sites. At the conclusion of the meeting, participants were also asked to list the NDWRCDP projects that each of them would have been particularly likely to utilize if they had been available at the outset of their demonstration projects.

This memorandum presents the following:

- Participants and demonstration projects represented at the meeting
- List of identified “messages to the field” and high-priority topics
- Message 1: Greater attention to the naturalized/integrated water cycle
- Message 2: Public education strategies for system care and maintenance
- Message 3: Creative funding sources and technical support
- Message 4: Management and operation and maintenance needs for all types of systems
- NDWRCDP projects that may be applicable/useful to the demonstration projects

### **Participants and Demonstration Projects Represented at the Meeting**

David Casaletto – Table Rock Lake, Missouri  
Mary Clarke, Warren, Vermont  
Eric Ellman, Rio Grande, Colonias, Texas  
Catherine Flowers, Lowndes County, Alabama  
Juli Beth Hoover, Colchester, Vermont  
Lorraine Joubert, Block Island/Green Hill Pond, Rhode Island  
George Loomis, Block Island/Green Hill Pond, Rhode Island  
Sharon Meigs, Upper Patuxent River Watershed, Maryland  
Patricia Miller, Mud River Watershed, West Virginia  
Erick Murdock, Skaneateles Lake, New York  
Barbara Rich, La Pine, Deschutes County, Oregon  
Genie Soboslai, Colchester, Vermont  
Kevin White, Mobile, Alabama

## **“Messages to the Field” From the Demonstration Projects**

Demonstration project representatives were asked to identify lessons from their projects that they thought were important to the demonstration projects and should be conveyed to national and state decentralized wastewater leadership and to communities across the country. Seventeen topics were listed on flip charts. Those indicated by an asterisk emerged as high priorities in a first “dot voting” process:

1. Management of technologies
2. Unanticipated community benefits
3. Perceiving regulators as partners
4. \*Dealing with regulators
5. \*Cost accountability (total cost)
6. Equal representation of onsite system owners
7. Statement of acceptability
8. \*Creative funding sources and technical support
9. \*Longer-term assessment of technologies
10. \*More naturalized/integrated water cycle
11. More “terror-proof”
12. Trading schemes
13. Lessons from the local teams/public
14. \*Public education regarding system care/maintenance and lessons from local public experience
15. Community character and growth issues
16. \*Management and operation and maintenance needs for all types of systems
17. \*Community context

Following a second voting procedure, the following four topics were ranked in order of priority:

1. More naturalized/integrated water cycle
2. Public education regarding system care/maintenance and lessons from local public experience
3. Creative funding sources and technical support
4. Management and operation and maintenance needs for all types of systems

Participants were divided into two groups, with two topics each, to discuss further issues and recommendations. These discussions were then reported back to the larger group using flip chart notes.

### **Message 1: Greater Attention to the Naturalized/Integrated Water Cycle**

The breakout group agreed on the following message:

#### ***Integrating Wastewater and Storm Water Management Is Desirable and Feasible***

(It should be noted that while the demonstration projects invited to the CDF were intended to address decentralized wastewater technologies and management, other

demonstration projects funded in recent years have broadened to include storm water management and low impact development practices. It is significant that the decentralized wastewater demonstration projects thought a more integrated approach of wastewater and storm water would have been desirable and feasible. Further, while the term “naturalized/integrated water cycle” was not defined by the participants, many had been involved in an earlier workshop where the definition of integrated water resource management was as follows: “The water resource management field has many ‘sectors’ or ‘disciplines,’ including decentralized wastewater, drinking water, distributed storm water, low-impact development, non-structural flood control, and others. Integrated water management means that planning for each of these sectors is conducted within the context of all other sectors. Too often, facility planning fails to take account of all the direct and indirect impacts on other sectors. In this context, soft path approaches will often have distinct advantages over centralized infrastructure, since there is less impact on natural processes and better assimilative and treatment capacity.”)

In order to promote integrated wastewater and storm water management, the following projects were recommended:

- Convene a joint National Onsite Wastewater Recycling Association (NOWRA) and storm water (STORMCON) conference in 2006
- Target state environmental commissions through the national Environmental Commissioners of the States (ECOS)
- Develop model codes that integrate wastewater and storm water
- Outreach to the American Planning Association and landscape architects
- Work on research and education jointly with civil engineers, in particular related to land-use development and water resource management
- Outreach to conservation commissioners and national organizations such as National Environmental Health Association (NEHA)
- Outreach to Congressional staff, activist organizations, and researchers
- Create multidisciplinary teams on land-use development plans, etc.

## **Message 2: Public Education Strategies for System Care and Maintenance**

Education of the public about decentralized wastewater system care and maintenance requirements was considered essential. Lack of public awareness can be a barrier to both homeowner care of their own system, as well as to public support for system upgrades, new management programs, etc.

The following vehicles to reach the public were identified:

- Churches
- School children
- Public officials PSAs
- Mass mailings
- Health clinics/public places

- Websites
- Local newspapers

Educational materials should also be disseminated through:

- Public service announcements regionally or nationally
- Small Flows Clearinghouse
- Other websites
- Rural assistance programs
- Rural utilities and local governments
- US Environmental Protection Agency websites

### **Message 3: Creative Funding Sources and Technical Support**

The need for ongoing financial and technical support of community decentralized wastewater projects was identified as a key priority. A range of funding sources include:

1. Low income housing authorities
2. US Department of Agriculture (USDA)
3. Foundations
4. Individual donations
5. Incentives
6. User fees
7. Loan funds (State Revolving Loan Funds (SRF))
8. State appropriations
9. Congressional line-item appropriations
10. SEPT Fine Money
11. Local Taxes

Technical assistance to communities was also considered essential to success of local projects. Technical assistance providers identified were:

- Extension service (USDA-funded staff at land-grant universities)
- NRCS, SWCD'S
- Wastewater training centers
- National service corp.
- Internships

### **Message 4: Management and Operation and Maintenance Needs for All Types of Systems**

The message to the wastewater field is that management and operation and maintenance are needed for all systems, including both centralized and decentralized technologies. This is a precondition for reliable performance of systems.

Two particular needs were identified:

- Central treatment managers have to be convinced that they have an obligation to the community to manage all wastewater, including onsite and cluster systems
- The cost effectiveness of decentralized operation and maintenance versus long-term operation and maintenance of central plants needs to be documented and illustrated

The message regarding operation and maintenance needs to be conveyed to:

- Homeowners
- Regulators
- Service providers
- Installers
- Elected officials
- “Everyone”

### **NDWRCDP Projects That May Be Applicable/Useful to the Demonstration Projects**

Thirteen NDWRCDP-funded research projects were presented and discussed at the CDF meeting. At the end of the demonstration project meeting, participants were asked to identify those research projects that would have been applicable or useful to their demonstration projects. The five research projects out of thirteen that were identified by three or more of the twelve participating projects include, in rank order:

- 1. Wastewater Planning Handbook: Mapping Onsite Treatment Needs, Pollution Risks, and Management Options Using GIS*
- 2. Expanding Communication in Communities Addressing Wastewater Needs*
- 3. Planning and Management of Cluster Wastewater Systems*
- 4. Creative Community Design and Wastewater Management*
- 5. Decentralized Wastewater System Reliability Analysis*

Of lesser interest to the demonstration projects, was research on complex fate and transport models and risk management models, case studies, life-cycle analysis and regulatory reform.