

Benefits of Decentralized Wastewater Treatment

Maureen A. Tooke
U.S. EPA, Office of Wastewater Management
Lead, EPA Decentralized MOU Partnership

Overview



- ▶ EPA Decentralized MOU Partnership
 - Development of papers

- ▶ Benefits of decentralized wastewater treatment system
 - a sensible solution
 - Economics
 - environmental protection and preservation
 - protection of public health – Christl Tate, NEHA
 - Challenges – Eric Casey, NOWRA

EPA's Decentralized MOU Partnership

- ▶ First signed in 2005 with six organizations signing the MOU; grew to 16 in 2011's renewal
- ▶ Purpose – an ongoing cooperative relationship between the EPA and Signatory Organizations to effectively and collaboratively address management and performance issues pertaining to decentralized systems.



MOU Position Papers

- ▶ Developed collaboratively and collectively by all Partners for the purpose of educating communities about their wastewater infrastructure options
- ▶ Reviewed by each partners' organization approved and logos placed on each paper
- ▶ 'Ground-truthed' by EPA's Local Government Advisory Committee–Small Community Advisory Subcommittee
 - Members are independently appointed locally elected officials from across the U.S. (est. 1996)

‘Decentralized Wastewater Treatment – A Sensible Solution’

- ▶ Decentralized wastewater treatment consists of a variety of approaches for collection, treatment, and dispersal/reuse of wastewater
- ▶ Decentralized wastewater treatment can be a smart alternative for communities, particularly small ones
 - Avoiding large capital costs
 - Using energy and land wisely
 - Protection of communities’ health

Where it's worked:

- ▶ Rutherford County, TN
 - A STEP system consisting of 50-lot subdivision and a recirculating sand filter and large drip dispersal system equipped with pumps and control panels discharge to central collection—all owned and managed by the county
 - <http://cudrc.com/Departments/Waste-Water.aspx>



‘Decentralized Wastewater Treatment Can Be Cost Effective and Economical’

Decentralized wastewater treatment can provide a long-term and cost-effective solution for communities by:

- avoiding large capital costs,
- reducing operation and maintenance costs, and
- promoting business and job opportunities.

Where it's worked:

- ▶ Mobile, AL
 - Faced with significant growth and aging infrastructure the Mobile Area Water & Sewer System and the city of Mobile began using cluster systems to serve new residential developments.
 - Improved service to residents
 - New business and revenue source
 - Protected water quality using professionally managed systems, while saving money on costly sewer extensions
 - Reuse of treated wastewater

‘Decentralized Wastewater Treatment Can Be Green and Sustainable’

Decentralized wastewater treatment can meet the triple bottom line of protecting the environment, being efficient, and contributing to community well-being by:

- increasing water quality and availability,
- using energy and land wisely,
- responding to growth while preserving green space, and
- using the natural treatment properties of the soil.

Where it's worked:

- ▶ Shannock Woods Cluster Subdivision, RI
 - A cluster system was selected to manage this steep sloped communities' wastewater over individual systems for the 16-lot development and aimed to:
 - minimize soil erosion
 - Maintain scenic views
 - Protect drinking waters in this highly permeable aquifer recharge area

The selection of the cluster system drastically reduced the land needed for wastewater treatment (50% preserved for open space) and removed 50% of the nitrogen.

<http://www.uri.edu/ce/wq/nemo/Publications/PDFs/WW.CreativeDesignAndManagement.pdf>

‘Decentralized Wastewater Treatment Can Protect the Environment, Public Health, and Water Quality’

Decentralized wastewater treatment systems can protect the environment, public health, and water quality in homes and communities by:

- providing reliable wastewater treatment,
- reducing conventional pollutants, nutrients, and emerging contaminants, and
- mitigating contamination and health risks associated with wastewater.

...More to come on this from Christl Tate of NEHA

What's Up Next

- ▶ The economics of the 'hidden' workforce
- ▶ Investing in our nations' water and wastewater infrastructure and the workforce needed to repair it
 - The Department of Commerce estimates:
 - each job created in the local water and wastewater industry creates 3.68 jobs in the national economy
 - each public dollar spent yields \$2.62 dollars in economic output in other industries

Questions?

Contact:

Maureen Tooke, EPA – tooke.maureen@epa.gov

For more information on the MOU Partnership and the papers go to:
<http://water.epa.gov/infrastructure/septic/>

Case Studies: <http://water.epa.gov/infrastructure/septic/demos.cfm>





U.S. Environmental Protection Agency

Homeowner Outreach & Education

<http://water.epa.gov/infrastructure/septic/septicsmart.cfm>