

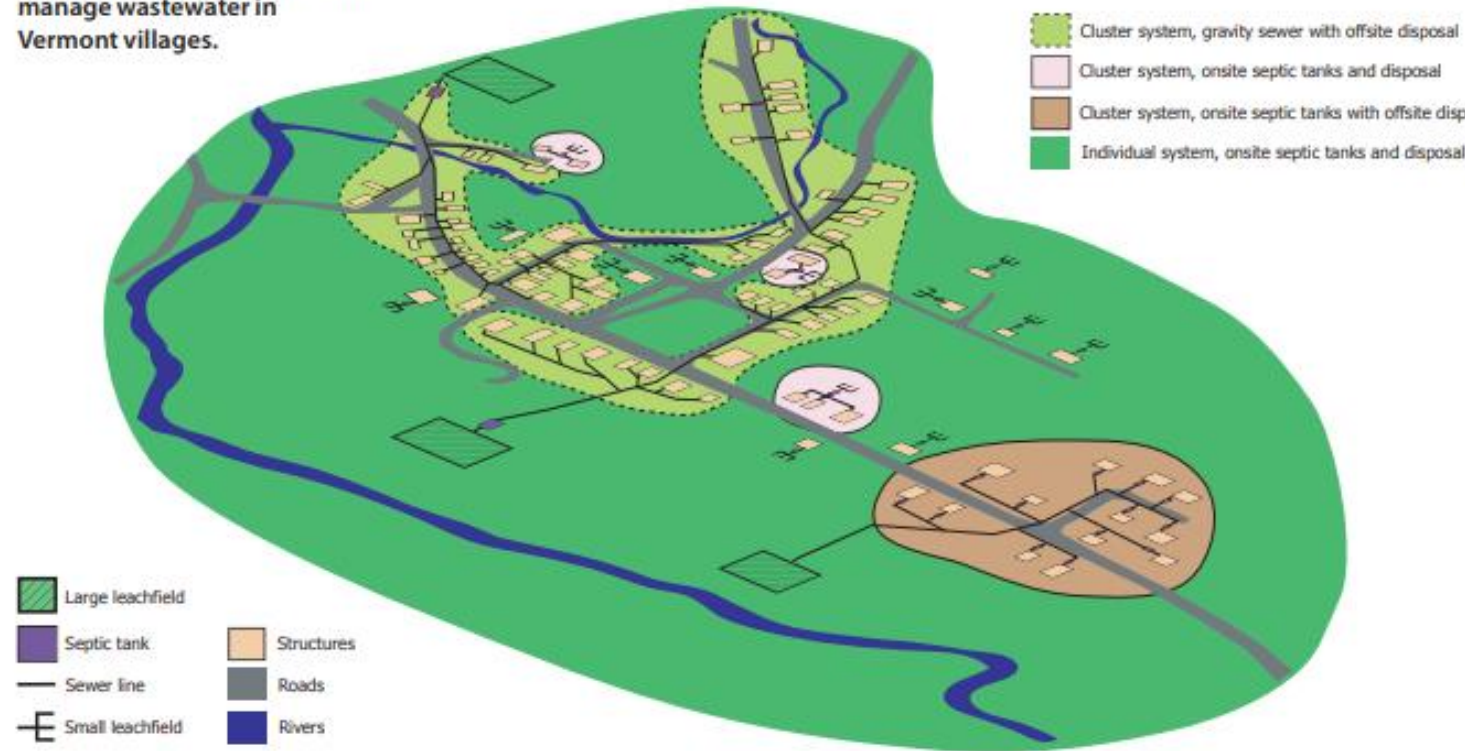
# Decentralized Wastewater Management: A National Perspective

Mary K. Clark, Vermont Licensed Water/Wastewater Designer  
13<sup>th</sup> Annual Southwest Onsite Wastewater Conference  
January 2020

# OWTS - Onsite Wastewater Treatment Systems or Decentralized Systems

- Discharges to soil which provides secondary treatment, filtration and dispersal to recharge aquifers/watersheds indirectly
- Targets actual needs of properties using off-site solutions
- Can effectively treat wastewater and be an appropriate option when managed properly

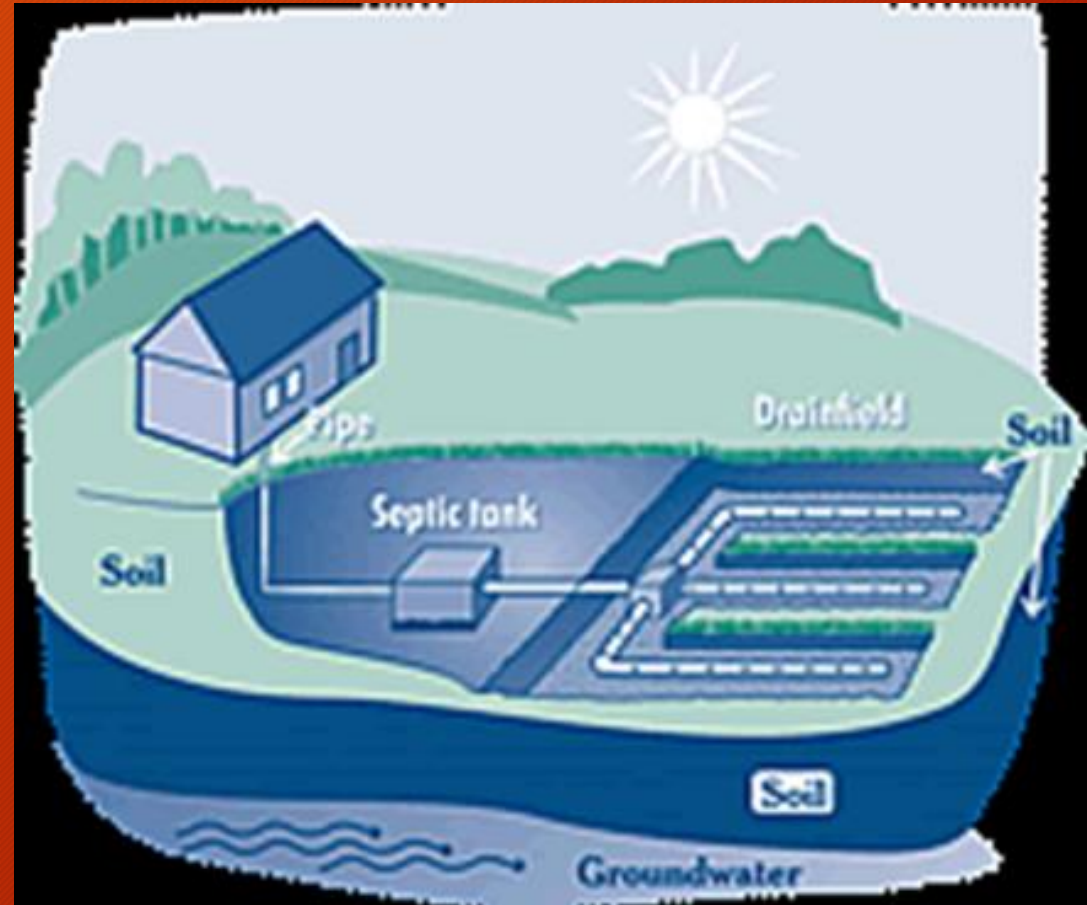
A variety of collection and treatment solutions can be used to manage wastewater in Vermont villages.





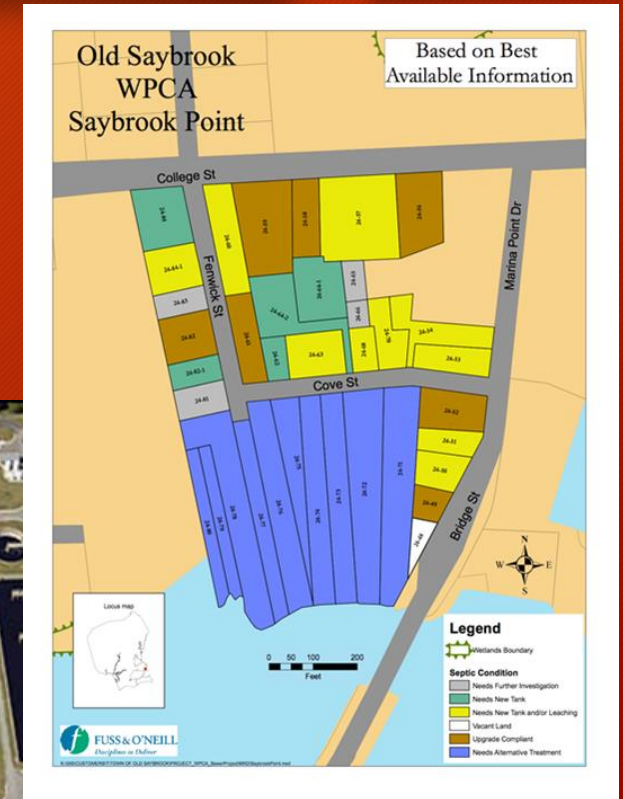
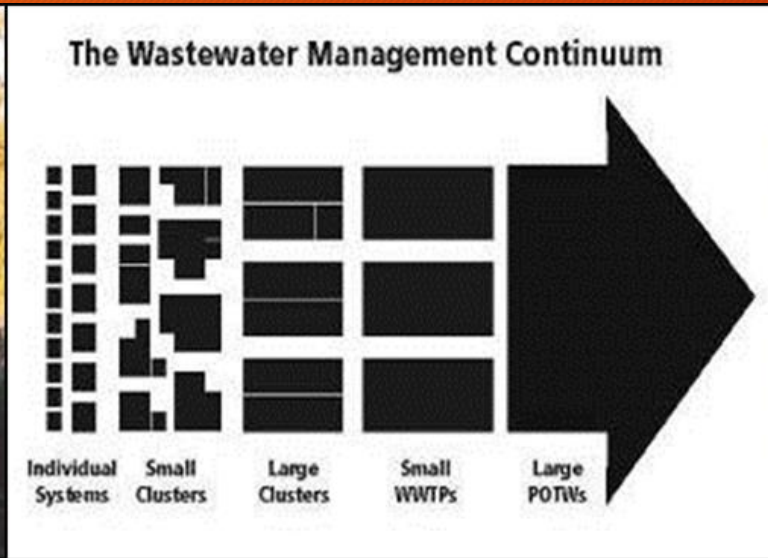
# Potential Impacts from OWTS

- Can impact groundwater and/or surface waters
- Wastewater strength measured by BOD5 and TSS
- Pathogens, bacteria, viruses+
- Nutrients: nitrogen, phosphorus
- Lake quality decline
- Beach closures
- Cyanobacteria blooms
- Drinking water source impacts
- Proximity/near shore pollution



# Community Wastewater Management Examples

- State developed but locally administered OWMP
  - Includes general assessment of community for OWTS
  - Preferred options for improvements where needed
  - Onsite loan/grant programs





# National Loan/Grant Programs

- Clean Water State Revolving Fund (CWSRF)
- USDA Rural Development (RD)
- Community Development Block Grant (CDBG)
- Section 319 Funds
- Other economic development, environmental justice programs



# Clean Water State Revolving Fund - CWSRF

- Expanded to include various NPS projects including stormwater, decentralized wastewater
- Loans available for individuals, communities
- Also expanded for administration by non-profit organizations
- May require changes to state statutes, priority point calculations and regulations for full use of funds



## Clean Water Funding and Projects

Funding, tracking, and reporting for priority projects.



## Water Infrastructure Financing Programs

Clean Water and Drinking Water State Revolving Loan Funds, On-Site Loan Program, Pollution Control Grants & more...



## Watershed Planning Program

Development and implementation of watershed management plans which identify priorities for protection and restoration.



# EPA Decentralized Wastewater Team - D.C.

- Works with 19 Water-sector MOU Partners
- Renews and expands partnership every 3 years
- 5 strategic priorities



# MOU Strategic Priorities - Priority 1

Lead: U.S. EPA

Ensure decentralized systems are maintained and functioning to protect water quality and public health





# Priority 1 Deliverables

- SepticSmart Week - Every third week of September
- Outreach tool kit including suggested social media blasts, website postings, emails, proclamations
- Rental Property Outreach
  - Flyer for renters
  - Kitchen postcard
  - Bathroom placard
- Videos



Kitchen postcard

# MOU Strategic Priorities - Priority 2

Lead: NESC/ASTHO

Obtain accurate statistics on decentralized wastewater treatment systems usage in the U.S.

// Census.gov > Our Surveys & Programs > American Community Survey (ACS)

We are hiring thousands of people for the 2020 Census. Click to learn more.

## American Community Survey (ACS)

About the Survey

Respond to the Survey

News & Updates

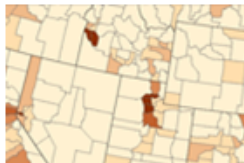

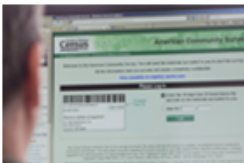
Data

Guidance for Data Users

Geography & ACS

Technical Documentation

The **American Community Survey (ACS)** helps local officials, community leaders, and businesses understand the changes taking place in their communities. It is the premier source for detailed population and housing information about our nation.





# Priority 2 Deliverables

- Question being added to the American Community Survey
- ASTHO 2019 Survey



The screenshot displays the top portion of the ASTHO website. At the top left is the ASTHO logo, consisting of the word 'astho' in a blue, lowercase, sans-serif font with a red swoosh above the 'a'. To the right of the logo is the text 'ASSOCIATION OF STATE AND TERRITORIAL HEALTH OFFICIALS' in a smaller, grey, uppercase font. Below this is a horizontal navigation bar with several menu items: 'PROGRAMS +', 'RESOURCES +', 'GOVERNMENT AFFAIRS +', 'RESEARCH +', and 'ME'. A large orange banner with the word 'ABOUT' in white, uppercase letters is positioned below the navigation bar. Underneath the banner, the page is divided into two columns. The left column contains a list of links: 'About', 'About Us »', 'Directory of State and Territorial Health Officials »', and 'ASTHO 2019 Survey »'. The right column features the heading 'About Us' in a large, bold, black font, followed by a paragraph of text: 'ASTHO is the national nonprofit organization representing public health agencies in the United States, the U.S. Territories, and the District of Columbia and over 100,000 public health professionals these agencies employ. ASTHO members, the chief health officials of these jurisdictions, formulate and influence public health policy and ensure excellence in state-based public health practice.'

# MOU Strategic Priorities - Priority 3

Lead: WRF/WEF

Expand opportunities to emphasize utility of decentralized system benefits



The screenshot shows a web browser window with the URL [www.ndwrcdp.org/research.asp](http://www.ndwrcdp.org/research.asp). The browser's address bar includes a search icon and the text "SEARCH". Below the address bar is a navigation menu with the following items: "ABOUT", "STRATEGIC THINKING", and "RESEARCH PROJECTS". The "RESEARCH PROJECTS" item is highlighted in blue. The main content area features a large image of a landscape with a building and mountains under a cloudy sky. To the right of the image, the text reads: "RESEARCH PROJECTS" in green, followed by "Projects sponsored by the Decentralized Water Resources Collaborative include..." and "Nearly 30 research and development projects received funding..." and "funded under Phase 2. These projects include efforts to:".





# Priority 3 Deliverables

- Factsheets being developed on
  - Distributed systems;
  - Water reuse; and
  - Nutrient recovery

DISTRIBUTED SYSTEMS  
FACT SHEET SERIES

## DISTRIBUTED SYSTEMS OVERVIEW

 **Water Environment Federation**  
the water quality people®

 **THE Water Research FOUNDATION**

IN COLLABORATION WITH EPA's Decentralized Wastewater Management Memorandum of Understanding (MOU) Partnership

**What is a Distributed System?**  
There are many ways in which to define a distributed system. Typically, distributed systems are in different geographical locations, but are linked to a central system either physically, or by management. The most likely is a “distributed management” scenario, wherein distributed management provides the opportunity for overall single-entity management of disparate or remote systems. “Distributed wastewater management is an approach to wastewater collection, treatment, and disposition (discharge, reuse, dispersal) that uses appropriately scaled systems—which can vary from onsite to cluster to centralized—across a service area, watershed, or other political or

**Distributed systems** are in different geographical locations, but **are linked** to a central system either physically, or by management.

**Decentralized systems** can be located in a different geographical location, but **are not linked** physically, or are not managed under the umbrella of a centralized system.

in *Charting New Waters*, using the term ‘distributed’ in an urban environment places the focus on what the systems are instead of what they are not as the term ‘decentralized’ does. [The Johnson Foundation at Wingspread, p.3]

# MOU Strategic Priorities - Priority 4

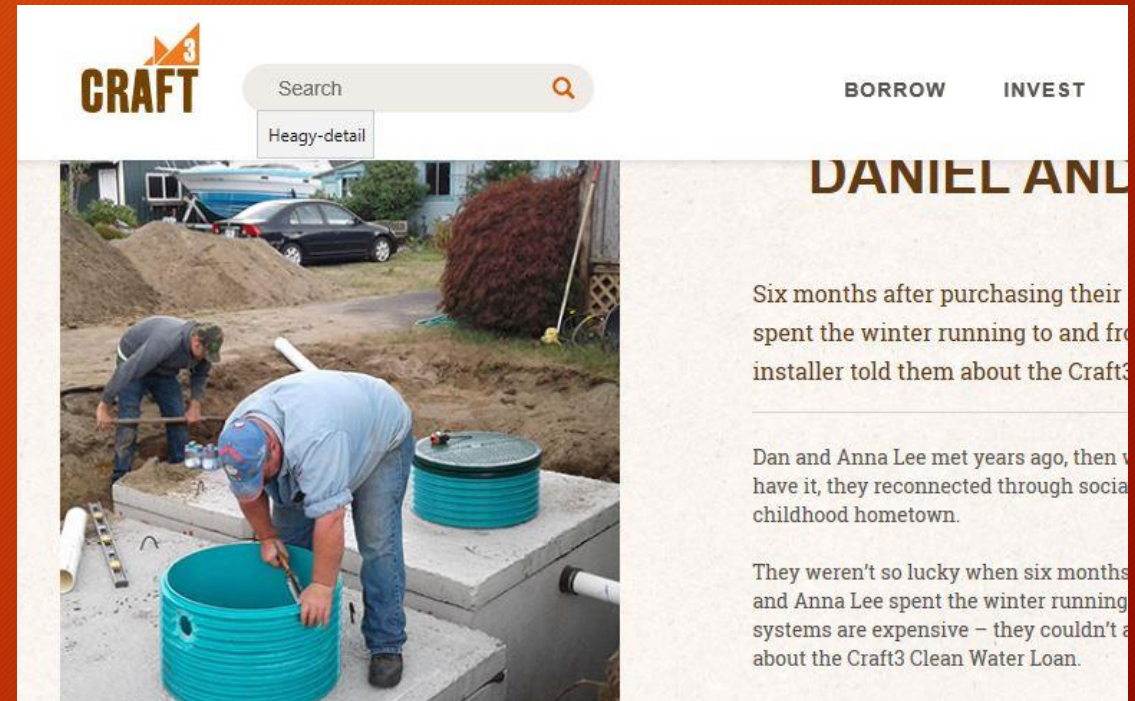
Lead: SORA/NOWRA

Leverage existing funding mechanisms for decentralized WTS - Identify and share information on options for homeowners and communities



# Priority 4 Deliverables

- New EPA-sponsored guide to using CWSRF and other options to finance DWTS: “Getting to Yes”
- Share information on and support efforts to develop CDFI’s to finance DWTS
- Collaborate on WIRFC decentralized training module and resource database



# Priority 4 - Financing Examples for Individuals and Communities

- WA/OR Craft3/CDFI's
- RI/MA Community Loan Funds
- MN MPCA

THE TOWN OF  
**JAMESTOWN, RI**

HOME ORDINANCES TOWN DEPARTMENTS TOWN

- Administration
- Building & Zoning
- Clerk
- Finance
- Fire Department
- Harbor
- Parks & Recreation
- Planning
- Police

**m** MINNESOTA POLLUTION CONTROL AGENCY

Air Water Waste Regulations Living Green Data About the MPCA

Water

## Permitting and regulations



Town Departments » Public Works

## ONSITE WASTEWATER MANAGEMENT PROGRAM

Font Size: [+](#) [-](#) [+](#) [Share & Bookmark](#)

### Overview:

In 2003 the Town implemented the Onsite Wastewater Management Program which requires the installation, maintenance, and inspection of all 1,800 septic systems on the island. To date 98.4% of all the septic systems have had a first maintenance inspection. In June 2006, The Town began Routine Maintenance (RMI's). RMI's are required every 3 - 5 years. RMI notices were last mailed in June of 2019.



# MOU Strategic Priorities - Priority 5

Lead: NOWRA

Emphasize decentralized WTS education/collaborate to expand decentralized focus in STEM, Community College and engineering degree programs



# Priority 5 Deliverables

- 2 EPA-sponsored National Decentralized Workforce Meetings Listening Sessions
  - NOWRA Mega-Conference 10/2018
  - NEHA Conference 7/2019
- Report with recommended actions



# Summary

- MOU Partners help frame priorities on decentralized systems
- Partner organizations have expanded with every renewal (3 Years)
- Case studies of successful programs can assist in crafting local solutions

# Questions?

- Contact me at [mary.clark@Vermont.gov](mailto:mary.clark@Vermont.gov)
- 802.595.3395
- This is what my backyard looks like, so thanks!

