



EPA's Decentralized Wastewater Program

2021 ONSITE MEGA CONFERENCE

Zach Lowenstein

*U.S. EPA, Office of Wastewater Management,
www.epa.gov/septic*

EPA Decentralized Wastewater Program

- Approximately 20% of homes in the U.S. utilize decentralized (onsite/septic) systems (AHS, 2015)
- Decentralized systems can provide the same level of treatment, and may be less expensive than centralized wastewater (sewer) treatment
- Provides non-regulatory program support focused on outreach tools for homeowners, counties and states



Decentralized Wastewater MOU Partnership

- **Goal:** To collaborate in encouraging proper decentralized system management and protect the nation's public health and water resources



Image: 2017 MOU Partnership Renewal



Decentralized Partnership Renewed September 2020



MOU Partnership Priorities

- 1) **Increase outreach and public education to ensure decentralized wastewater and septic systems are properly maintained to protect water quality and human health**
- 2) **Identify and utilize current information and data on the use and performance of decentralized wastewater and septic systems in the US**
- 3) **Promote the benefits of advanced decentralized treatment technologies within the wastewater industry and to the public**
- 4) **Share information on funding sources and pursue innovative public and private financing options to help communities and homeowners replace, upgrade, or maintain decentralized wastewater systems**
- 5) **Expand mechanisms to address workforce, education, training, and research needs related to the decentralized wastewater industry to improve future sustainability**



Partnership Priority #1

Increase outreach and public education to ensure decentralized wastewater and septic systems are properly maintained to protect water quality and human health

Actions:

- SepticSmart Week
- Partnering with other organizations





U.S. Environmental Protection Agency

www.epa.gov/septicmart



SepticSmart Week

- Annually, third week in September
- Sept 20 – 24, 2021
- Current products available at www.epa.gov/septic



SepticSmart Week 2021: New and Noteworthy

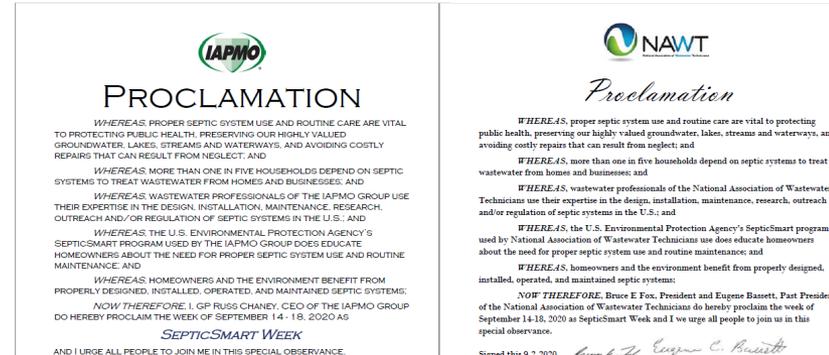
Highlights include:

- 1339 Total Mentions
 - 4.4K interactions
 - 9.4M reach
- Seven New Quick Tip Videos
 - Averaged an additional 300 views per video during the week
- Proclamations
 - 7 MOU partners, 9 States
 - New state partnership proclamation (Oklahoma)
- Many community engagement events
- New blogs, news stories, press releases



Proclamations Declared in 2021

- **9 States**
 - Michigan, Minnesota, New Hampshire, New Mexico, North Carolina, North Dakota, Oklahoma, Virginia, Washington
- **7 MOU Partners**
 - Association of State and Territorial Health Officials (ASTHO)
 - Ground Water Protection Council (GWPC)
 - International Association of Plumbing and Mechanical Officials (IAPMO)
 - National Association of Wastewater Technicians (NAWT)
 - National Environmental Health Association (NEHA)
 - National Onsite Wastewater Recycling Association (NOWRA)
 - Rural Community Assistance Partnership (RCAP)



Local Partnership Proclamation

- Oklahoma Guard the Grand Program Partnership

Septic System Repair/Replace Program
Five Agencies Working Together to Improve Water Quality
in the Grand Lake and Lake Hudson Watersheds



News Coverage

- Onsite Installer and Pumper Magazine
 - Article interviewed SepticSmart Steering Group member
- NOWRA The Onsite Journal
 - Jennifer Hause, National Environmental Services Center (NESC) article
- The Weather Channel
 - Zoë Roller, US Water Alliance featured on the Building Solutions series on Pattn, a media platform associated with The Weather Channel to discuss water access.

The screenshot shows the homepage of the Onsite Installer website. The navigation bar includes links for COVID-19, Systems/ATUs, Septic Tanks, Pumps, Alarms/Controls, Drainfield Media, Distribution, and More Topics. Below the navigation bar, there are several promotional banners, including one for 'VIRTUAL TRAINING is now available from Installer' and another for 'TAKEUCHI EXCAVATORS'. The main content area features an article titled 'Reach Out to Your Community During SepticSmart Week' by Tim Dobbins, dated August 26, 2021. The article includes social media sharing icons and a 'Sign Me Up!' button. A large graphic for 'SAVE THE DATE! SepticSmart Week 2021 September 20-24, 2021' is prominently displayed, featuring a cartoon installer character. Below the graphic, there is a call to action: 'Plan ahead for SepticSmart Week! EPA's annual event focused on how to care for and maintain your septic system. For more information, visit www.epa.gov/septic.' The article also includes a 'Filed Under' section with categories like Onsite Septic System, Homeowner Education, and Customer Education. A 'Sign Me Up!' button is located at the bottom of the article. On the right side of the page, there is a vertical banner for 'Jet' residential and commercial lines, and a 'GET EMAIL ALERTS FOR NEW ONSITE INSTALLER CONTENT!' button.



Blogs and Newsletters

- State Announcements, Press Releases, and Blogs
 - Indiana Department of Natural Resources
 - Maryland Department of the Environment
 - Minnesota Pollution Control Agency
 - New Hampshire Department of Environmental Services
 - Virginia Department of Health



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[Home](#) > NH celebrates EPA's SepticSmart Week, September 20–24



NH celebrates EPA's SepticSmart Week, September 20–24

Date: September 02, 2021

NHDES is participating in EPA's SepticSmart Week, September 20-24. The week is designed to encourage homeowners and communities to care for and maintain their septic systems. The EPA has a website dedicated to SepticSmart Week.

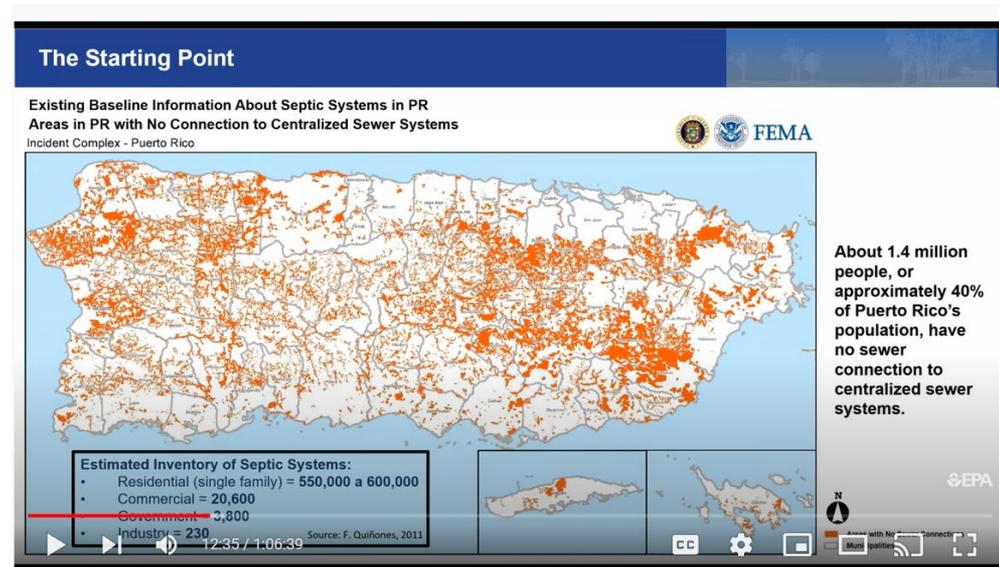


Septic Sam Sightings in New Hampshire



SepticSmart Community Engagement Events

- EPA SepticSmart Week Webinar
 - *Using Nationwide and Local Data Sources to Address Decentralized Wastewater Infrastructure Challenges in the Contiguous U.S. and the Caribbean*
 - Presenters:
 - Paul Fericelli, Environmental Engineer, U.S. Environmental Protection Agency, Water Enforcement Division
 - Nelson da Luz, Ph.D. Candidate, University of Massachusetts Amherst



Using Data to address Decentralized Wastewater Infrastructure Challenges in the U.S. and Caribbean



SepticSmart Community Engagement Events

- Geauga Public Health, in partnership with Geauga Soil and Water Conservation District and Geauga County Public Library outreach and education event



[Gauga County Public Library](#) / [LibCal](#) / [Public Events](#)



In-person: Get SepticSmart!



Join us during national "SepticSmart" week for an informative presentation on the proper care and maintenance of septic systems. The Geauga Soil and Water Conservation District and Geauga Public Health will be providing helpful tips and resources on how a home septic system works, how to maintain your system, and what to do when it appears to not be working properly. Find out how to extend the life of your system while protecting your investment, our water resources, and the public health.

Date: Tuesday, September 21, 2021
Time: 6:00pm - 7:30pm
Time Zone: Eastern Time - US & Canada ([change](#))
Campus: Geauga West Branch
Categories: ■ Adults ■ Nature and Gardening

Registration has closed.

"The EPA SepticSmart Week event is a great opportunity for local health districts to interact with community members on the topics of wastewater management at the residential level. We do really like your SepticSmart educational materials."

- Zachary Myers, Geauga Public Health



SepticSmart Community Engagement Events

- Michigan Department of Environment, Great Lakes, and Energy (EGLE) hosted two brownbag lunch presentations

Michigan.gov

SUBSCRIBE TO RECEIVE MI ENVIRONMENT UPDATES EGLE HOME Q SEARCH

Department of Environment, Great Lakes, and Energy

MI ENVIRONMENT

CHRONOLOGICAL LIST OF ARTICLES FILTER BY TOPIC

MI ENVIRONMENT

SepticSmart Week puts focus on 1.3 million septic systems in Michigan

Date: September 21, 2021

Time: All Day Event

Add to Calendar:  Calendar  Google  Yahoo  MSN/Hotmail/Live

Every year, the Michigan Department of Environment, Great Lakes, and Energy (EGLE) joins with the U.S. Environmental Protection Agency and others to promote [SepticSmart Week](#), a time that focuses on educating homeowners and communities on the proper care and maintenance of their septic systems.

Over 1.3 septic systems in Michigan treat wastewater from homes and businesses.

Onsite septic systems provide a cost-effective, long-term method for treating wastewater, particularly in sparsely populated areas. When properly designed, installed, operated, and maintained, these systems help protect public health, preserve valuable water resources, and maintain a community's economic vitality.

The SepticSmart public education effort offers educational resources to homeowners, local organizations, and government leaders to explain how septic systems work and provide tips on how to properly maintain them.

Helpful SepticSmart tips include:

- Having your septic tank inspected every three years and pumped, when necessary, typically every three to five years.
- Limiting kitchen sink garbage grinder use and avoid pouring harsh products (e.g., oils, grease, chemicals, paint, and medications) down the drain.



SepticSmart Community Engagement Events



- Gary L. Hawkins, Water Resources Specialist with University of Georgia Extension daily SepticSmart videos

- 2021 Athens Water Festival – demonstration of how a septic system works



SepticSmart Community Engagement Events

- Wisconsin Department of Safety and Professional Services webinars

NEWS ▾ WISOPINION ▾ INTERVIEWS PODCASTS EVENTS ▾ PRESS RELEASES SUBSCRIBERS ONLY ▾ ACCOUNT ▾ FREE TRIAL SEARCH

Press Releases > Dept. of Safety and Professional Services: Helps homeowners avoid septic system damage...

Dept. of Safety and Professional Services: Helps homeowners avoid septic system damage and costly repairs with septic smart week information and programming

MADISON, Wis. – The Wisconsin Department of Safety and Professional Services and the U.S. Environmental Protection Agency are teaming up to present Septic Smart Week 2021, an annual event focused on educating homeowners on the proper care and maintenance of their septic system. This year's awareness week will run from September 20–24.

About one third of Wisconsin's population uses onsite wastewater treatment, otherwise known as septic systems. This includes around two million people and over 750,000 households.

- Advertisement -



Outreach Products – Quick Tips!

Don't Strain Your Drain!



Use water efficiently and stagger use of water-based appliances (such as a washing machine) to avoid a back up of your septic system into your house. Learn more at www.epa.gov/septic.



Shield Your Field!



Tree and shrub roots, cars, and livestock can damage your drainfield. Learn more at www.epa.gov/septic.



Protect It and Inspect It!



Regular septic system maintenance can save homeowners thousands of dollars and protect public health. Learn more at www.epa.gov/septic.

Think at the Sink!



What goes down your drain has a big impact on your septic system. Avoid harsh chemicals and use cleaners/detergents in moderation. Learn more at www.epa.gov/septic.



Don't Overload the Commode!



A toilet is not a trashcan. Disposable diapers and wipes, feminine hygiene products, cigarette butts, cat litter and much more can damage your septic system. Learn more at www.epa.gov/septic.



Keep it Clean!



If you have a well, many things can contaminate your drinking water, such as a failing septic system. Test your well water regularly. Learn more at www.epa.gov/septic.



Pump Your Tank!



Ensure your septic tank is pumped at regular intervals as recommended by a professional and/or local permitting authority. Learn more at www.epa.gov/septic.



Outreach Products – Spring Postcard

Have a septic system?
Call your service provider to have your septic system serviced today.

Regular septic system maintenance can save you thousands of dollars!

Don't wait for your system to fail to call for service!

Avoid the hassles and headaches of a failing system by calling your service provider today.

A typical septic system should be serviced every one to three years by a septic system service provider. Follow recommendations from your service provider and requirements from your town, county, or state on having your septic tank pumped.

Do your part. Be SepticSmart!

SepticSmart Week is September 17-21, 2018

Learn tips and tricks on how to maintain your septic system at www.epa.gov/septic.

Add your text or website here.

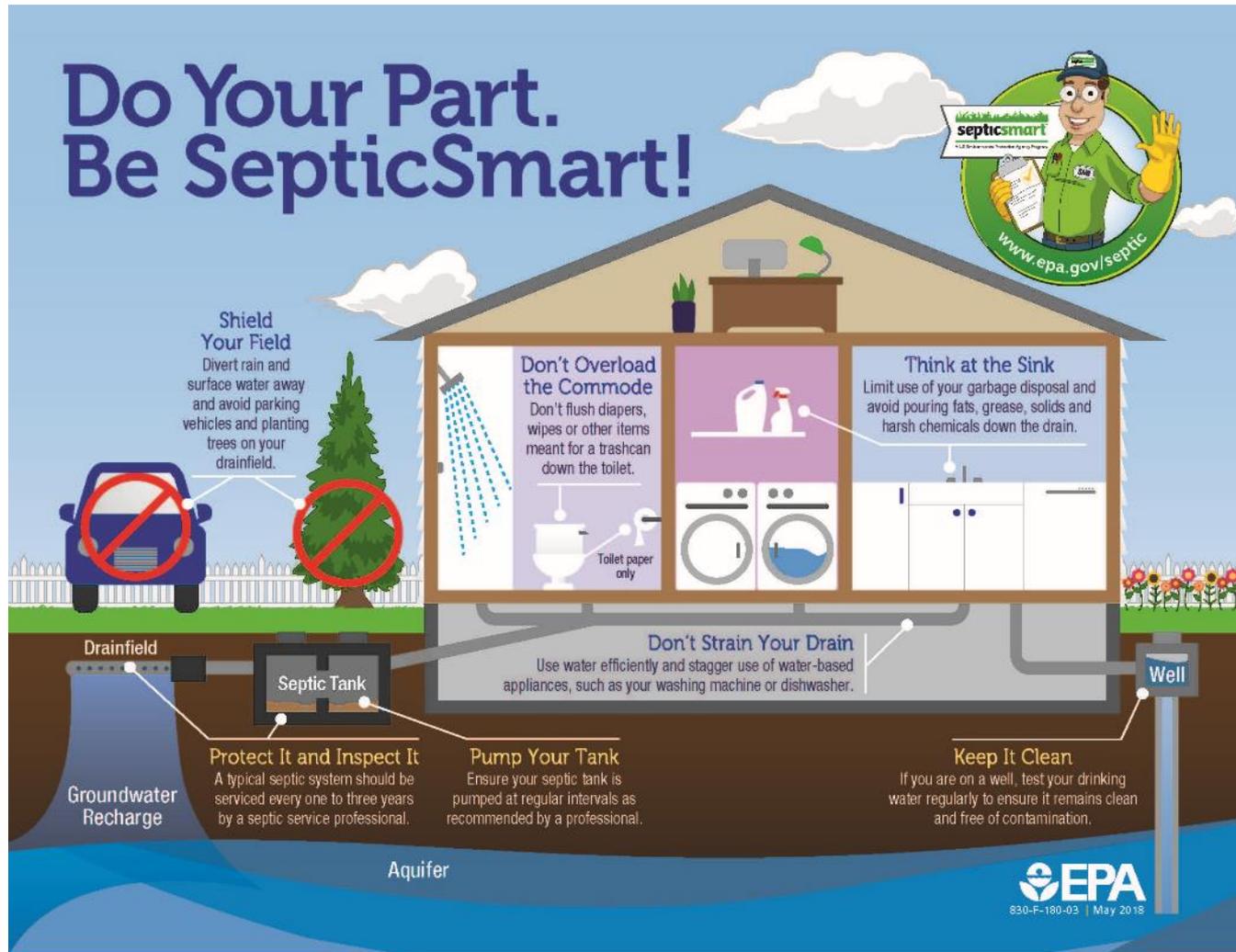


832-F-180-02 | April 2018

Our Customer
12345 Main Street
Clean Town, USA 86753



Outreach Products – Updated Infographic



Outreach Products – Posters

BE SEPTICSMART
THINK AT THE SINK



OK DOWN THE DRAIN
 The following can go down a commercial kitchen drain in limited quantities.

- CLEANING PRODUCTS**
Follow manufacturer's instructions
- DISHWATER**
Wipe off large food remnants/grease
- WASH WATER FROM PRODUCE**
Brush off dirt before rinsing fruits and vegetables

NOT OK DOWN THE DRAIN
 The following cannot go down the drain as they can clog pipes and/or damage septic systems.

- FOOD WASTE**
Limit food waste by disposing of any excess waste
- CHEMICALS**
Avoid pouring harsh chemicals down the drain
- GREASE/FAT**
Dispose of excess grease in a receptacle or container
- GARBAGE DISPOSAL**
Properly dispose of food debris and limit using a garbage disposal

Limit what you pour down the drain.
 Remember, anything other than water can impact your septic system.

Organization logo placeholder



BE SEPTICSMART
PROTECT YOUR PIPES



DO FLUSH
 The following can be flushed down the toilet.

- Toilet paper

DO NOT FLUSH
 The following cannot go in the toilet as they can clog pipes and septic systems.

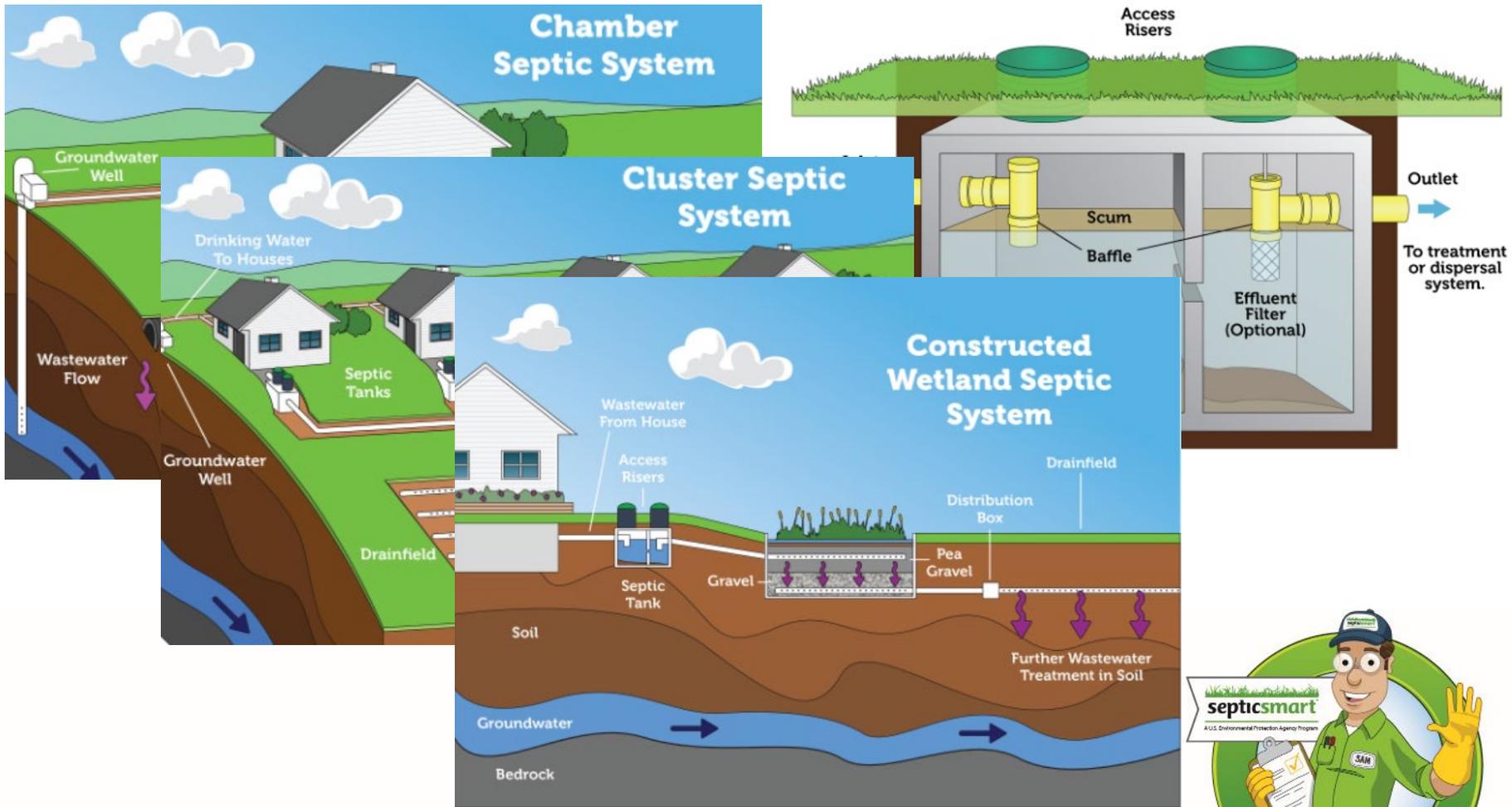
- Paper towels
- Cigarette butts
- Disposable diapers
- Wipes (Baby or flushable)
- Feminine hygiene products
- Plastics
- Medications
- Cotton (Cotton swabs or balls)
- Dental floss
- Toxic Substances

Dispose these items in the trash.

Organization logo placeholder



Outreach Products – Septic System Diagrams



Outreach Products – Spanish translations

¡No recargue el drenaje!



Sea eficiente: los aparatos que usan mucha agua (como la lavadora de platos) deben usarse uno por uno para evitar sobrecargar el sistema séptico de su casa. Obtenga más información en www.epa.gov/septic

Los 10 hábitos para mantener su sistema séptico en buen estado

- ✓ Haga que un profesional calificado inspeccione su sistema séptico cada tres años, o según las recomendaciones de su estado o del departamento de salud de su lugar.
- ✓ Bombee su tanque séptico cuando sea necesario, por lo general entre tres a cinco años.
- ✓ Evite echar productos irritantes por la tubería (por ej., aceite, grasa, químicos, pinturas, medicamentos).
- ✓ Tire los productos no degradables en la basura (por ej., hilo dental, pañales descartables, arena sanitaria para gatos) en lugar de echarlos en el inodoro.
- ✓ Estacione los automóviles y vehículos pesados lejos del área de drenaje y del tanque.
- ✓ Siga las indicaciones del fabricante cuando utilice limpiadores y aditivos para el tanque séptico.
- ✓ Repare las fugas y utilice accesorios eficaces para evitar sobrecargar el sistema.
- ✓ Cuide las plantas y vegetación cerca del sistema para asegurarse de que las raíces no bloqueen los drenajes.
- ✓ Use jabones y detergentes de poca espuma, biodegradables y sin (o con poco) fosfato.
- ✓ Evite que el sistema se congele en épocas de temperaturas bajas para lo cual deberá inspeccionar y aislar las partes más delicadas (por ej., el tubo de inspección y el área de tratamiento del suelo).



Si desea más consejos SepticSmart, visite www.epa.gov/septic

 EPA-832-F-180-10x | Abril 2018

¿Tiene un sistema séptico?

Llame a un proveedor de servicios de mantenimiento séptico para que le revise el suyo.

Costo regular del sistema séptico puede ser de miles de dólares!



832-F-180-02x | Abril 2018



Outreach Products - Rental Property materials

Welcome! Did you know this property is served by a septic system?

Please help us be SepticSmart by taking steps to ensure the septic system continues to operate as expected – helping the environment and ensuring a good stay. Whatever goes down our toilet, sink, or shower pipes ends up in our septic system and affects how well it works.

Please do your part to be SepticSmart by taking these simple steps:

- ✓ **Think at the Sink!** Please keep grease, fats, harmful chemicals, and other debris out of the drain. They can clog or damage our system and can cause an expensive plumbing mess.
- ✓ **Don't Overload the Commode!** Please do not flush non-degradable items such as dental floss, diapers, wipes, hygiene products, or hair.
- ✓ **Be WaterWise!** Stagger use of water-based appliances among household members. Efficient use of the water in this home's pipes ends up in the septic system. Efficient use improves the operation of a septic system and reduces the risk of failure.
- ✓ **Be Mindful of Guests!** If there are more people staying in our home than the septic system was designed to support, your guests may overload the system and mess up your stay. This is one reason why we cannot accept more than the maximum number of guests.
- ✓ **When in Doubt, Follow an Easy Rule of Thumb:** Do not flush anything besides human waste and toilet paper. If you perceive an issue with our plumbing, please call _____ in the rare instance that sewage should back up into our home, avoid contact with it.

Following these easy steps will not only avoid septic system issues but will also help ensure an enjoyable stay.

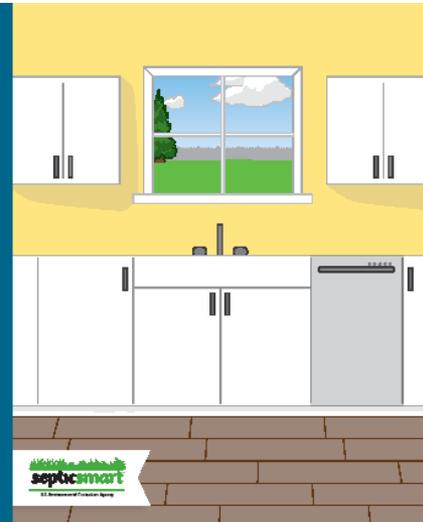


Do Your Part, Be SepticSmart

To protect this home's plumbing, please keep grease, fats, and harmful chemicals out of the drain.



832-F-190-02 | September 2019



This home has a septic system. To prevent plumbing problems, keep hair, waxes, medicine, and other products out of the toilet and drain.

Do Your Part, Be SepticSmart

Do Your Part, Be SepticSmart

This home has a septic system. To prevent plumbing problems, keep hygiene products, hair, wipes, medicine, trash, and other products out of the toilet and drain.



832-F-190-10 | September 2019



NEW – SepticSmart Video Series



Partnership Priority #2

Identify and utilize current information and data on the use and performance of decentralized wastewater and septic systems in the US

Actions:

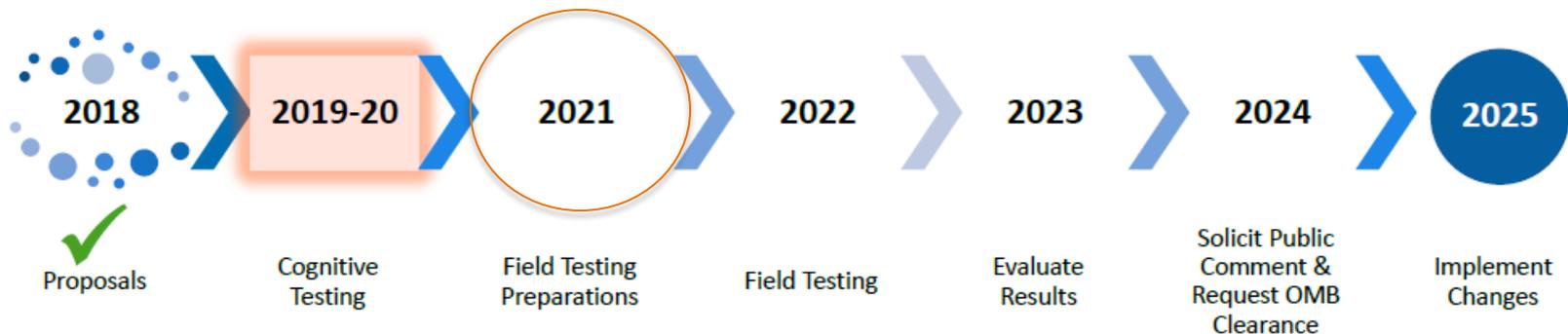
- US Census - American Community Survey
- Leverage Existing Data sources
- Report to Congress on Low/ Moderate Income Households



American Community Survey & Septic Question

- The proposed question on septic systems has been evaluated as having merit
- Will be included in the Census process of cognitive and field testing

2022 ACS Content Test Timeline



Leverage Existing Data Sources and Contacts

- SORA state representatives
- NESC 2017 survey & 2020 Onsite Wastewater Installation Assessment
- ASTHO State Environmental Health Services Survey



Partnership Priority #3

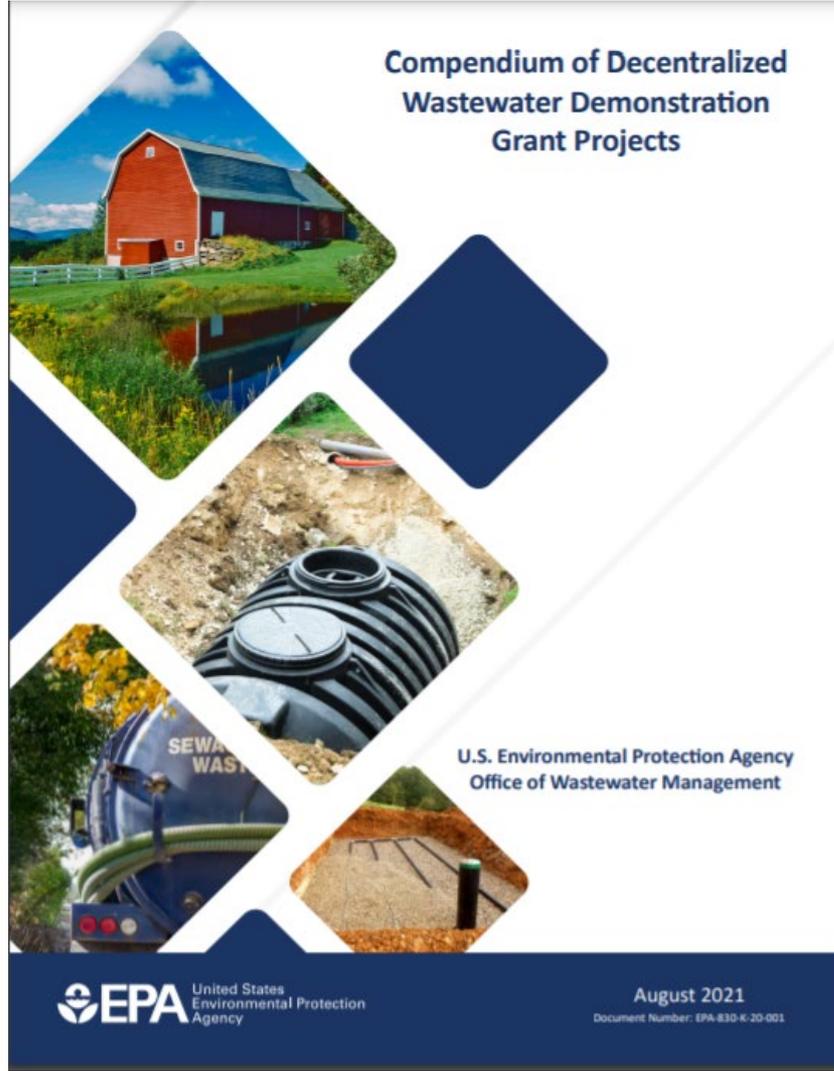
Promote the benefits of advanced decentralized treatment technologies within the wastewater industry and to the public

Actions:

- Decentralized Wastewater Demonstration Project Compendium
- Technology Fact Sheets (WEF and WRF)
- Wastewater Technology Clearinghouse



NEW – Decentralized Grant Compendium



Summarizes 18 community decentralized project grantee final reports, funded under congressional earmarks

Key Topics:

- Installation of new systems
- Community-wide assessments
- Stormwater infrastructure



Decentralized Grant Compendium – example case study

Decentralized Wastewater Demonstration Project Grantee Final Report Summary

The views expressed in this document are solely those of each demonstration project grantee in its final report and follow-up discussions and do not necessarily reflect those of the Agency. EPA does not endorse any products or commercial services mentioned in this document.



Importance of a Responsible Management Entity (RME) and Various Advanced Treatment Technologies in Areas of Poor Soil

Grantee: Table Rock Lake Water Quality, Inc.

Grant Amount: \$1,940,000 ✓ Year Completed: 2007

Grantee Purpose: Due to steep slopes, fractured limestone, and the thin soils of the Ozarks, septic tank effluent receives little, if any, treatment from the natural environment. Septic system failure plagued the area by diminishing water quality in Table Rock Lake, adversely affecting tourism, and also putting drinking water at risk. This grant sought to improve these conditions.

Proposed Project: Demonstrate advanced onsite wastewater treatment technologies and management through field testing of systems and implementation of a Responsible Management Entity (RME). Identify legal impediments to the acceptance of advanced treatment systems and implement a large public education and outreach effort.

Project Overview

Table Rock Lake is a scenic and popular summer vacation destination in the Ozark Mountains of southwestern Missouri. Increasing populations in the 1990s led to more septic systems in Table Rock Lake communities. Soils around the lake were inadequate for effective wastewater treatment with conventional onsite systems (septic systems). The grantee reported that this led to high failure rates: 75-90 percent of systems over 5 years old in 2001 were not adequately treating wastewater. Untreated wastewater would flow to the lake through the fractured limestone. Recognizing the impact poor water quality could have on the local tourism industry, the community formed Table Rock Lake Water Quality, Inc. (TRLWQ).

TRLWQ initially carried out a septic study that found failing septic systems contributed a significant amount of nutrients to the lake. The study concluded that septic systems were the predominant source of nutrients causing algae to develop in coves. TRLWQ called for more effective upgrades and long-term management of septic systems.

The grantee's objectives were to:

- Demonstrate multiple advanced onsite wastewater treatment technologies;
- Demonstrate long-term management solutions through the creation of an RME;
- Identify legal impediments to widespread implementation of advanced treatment systems;
- Evaluate the feasibility of water reuse; and
- Conduct public education and outreach.



Image 37: Installation of an advanced treatment system. (Photo courtesy of Stone County Health Department)

Technology

This grant project featured the following six different advanced onsite wastewater treatment technologies. TRLWQ selected 24 sites for demonstration (6 cluster systems that served multiple homes, 6 resorts, 9 single family homes, 2 restaurants, and 1 community shower house).

Table 14: Decentralized wastewater treatment technologies used in this demonstration project.

Constructed Wetlands	Simulates natural wastewater treatment
BioMicrobics Fixed Activated Sludge Treatment (FAST)	Fixed-film media, aerated system utilizing bacteria growth
BioMicrobics RetroFAST	Adapts conventional systems by inserting a RetroFAST unit and an aeration blower into the existing septic tank
ZABEL or Quatics SCAT treatment	Bio-filter system using a tank containing media such as foam cubes for effluent treatment
Ecoflo Peat-moss Filter treatment	Attached growth pre-treatment system that reduces contaminants/nutrients before discharge into soil
Recirculating Sand Filter treatment	Aerobic, fixed-film bio-filter that removes suspended solids from wastewater

Costs

TRLWQ estimated that the average cost in 2001 for an advanced system with drip dispersal in imported soil on a residential site was \$20,000 - \$25,000. The grantee estimated \$45,000 in 2001 for an aeration/fixed-film media system for a small resort and \$48,000 in 2001 for a foam cube media filter system at a small resort. The grantee reports decreased cost of installation with greater familiarity with these systems over time. In the case of aeration systems, another factor in the reduced costs may be due to the volume of units sold.

TRLWQ estimated that operation and maintenance fees would remain the same as in 2001 at approximately \$20-30 per month.

Monitoring Data and Results

The grantee determined drip irrigation was the best choice for effluent dispersal because the design disperses the liquid effluent over a wide area, allowing for maximum absorption by the soils. Native soils were generally not adequate to provide this treatment, so soil was imported to many of the sites to make drip irrigation effective.

The grantee installed monitoring systems at four sites with varying wastewater treatment technologies to measure treatment success. Samples were taken of septic tank effluent, treatment effluent, and subsurface liquids. Table 15 displays average concentrations among the four sites throughout the monitoring period of 2005 - 2007. The monitoring data indicate a high rate of success.

Table 15: Average septic effluent, treated effluent, and subsurface liquid concentrations at four monitoring sites.

Parameter	Septic Tank	Treated	Sub- Surface
Biological Oxygen Demand (BOD) (mg/L)	162	26.8	3
TSS (mg/L)	46	17.7	N/A
Ammonia (mg/L)	5.6	4	0.41
Phosphorus (mg/L)	3	2.7	0.93
Fecal Coliform (colonies/100 mL)	271,000	19,488	140

Lessons Learned and Project Outcomes

A major outcome of this grant project was an acceptance of the use of advanced decentralized wastewater treatment for the Table Rock Lake area. In the past, local stakeholders did not widely accept these systems as feasible or practical and contractors in the area did not install them.

The project also demonstrated that a drip field can be built where there is little soil initially. As a result of this grant project, the director of Stone County Health Department, the local regulatory agency, placed greater emphasis on wastewater concerns and hired a full-time sanitarian dedicated entirely to wastewater regulation.

The project addressed the issue of maintenance and management of onsite systems through the formation of the Ozarks Clean Water Company (OCWC) in 2004. OCWC owns and operates individual and clustered decentralized wastewater systems as the RME using EPA's Management Model 5 Program, removing the maintenance responsibility from the individual

MOU Partnership Factsheets



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 natural boundary." [D'Amato, et al., p. 3]

An array of decentralized wastewater technologies are considered and implemented in small to mid-sized municipalities, as well as large municipalities, and in new land development projects. These technologies can supplement service areas for municipalities that have an existing centralized wastewater system. This application of multiple systems under a single management entity is called distributed wastewater management. [WEF, Kreissl, et al., p.2]

On the other hand, a decentralized system can be located in a different geographical location, but is not linked physically, or is not managed under the umbrella of a centralized system.

Effectively planned, implemented, and managed distributed or decentralized water systems are critical elements of sustainable infrastructure in the United States. These systems can be in rural or urban settings and range from small systems found on homeowner properties to small-system water resource recovery facilities (average daily flow of less than 1 MGD and serving a population of less than 10,000). The systems can be either discharging (surface or subsurface) or reuse systems. As noted

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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]

Population and Treatment System Statistics

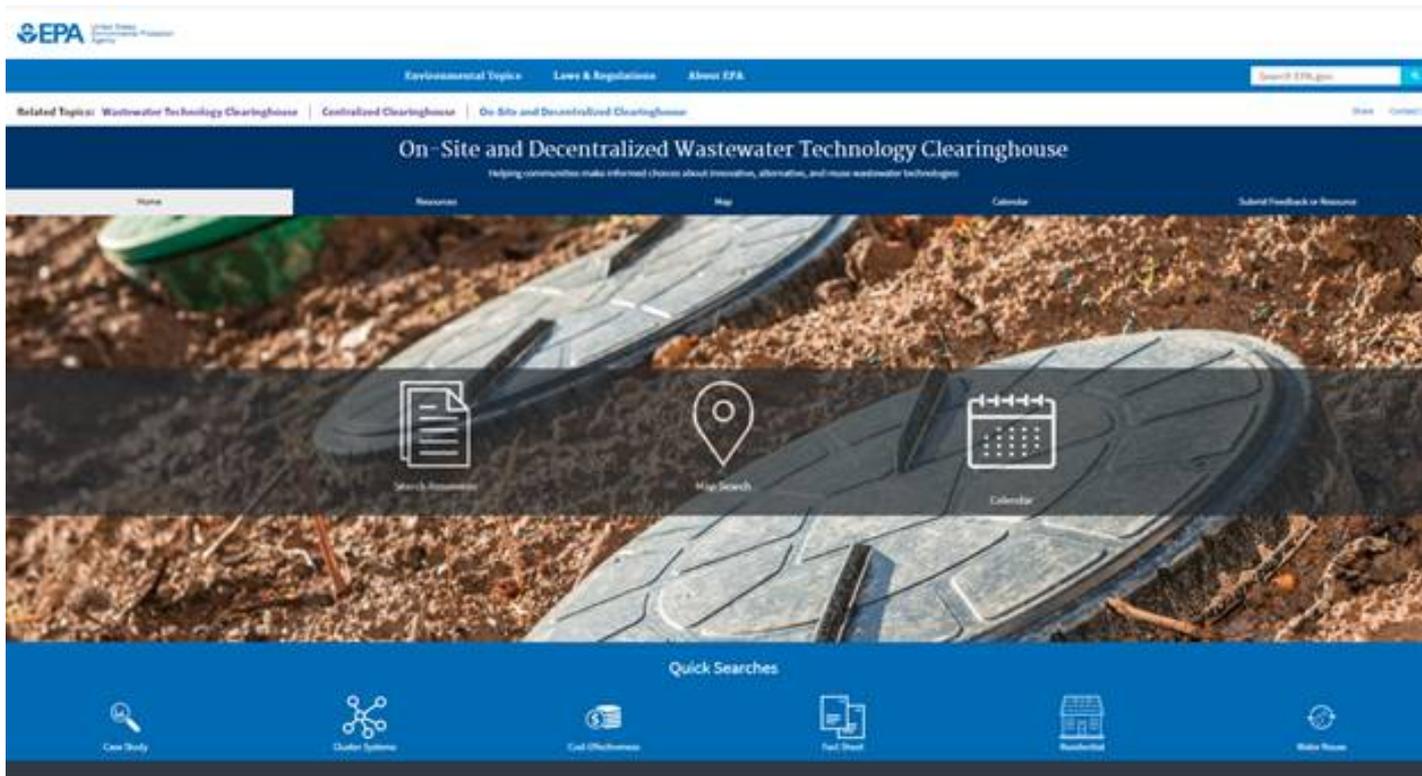
- One third of new development is served by decentralized systems due to population migration away from urban centers [U.S. EPA Primer]
- In the U.S., approximately 11,257 or 72 percent of the 15,617 operational public water resource recovery facilities are classified as small systems – EPA considers these systems small if the population served is 10,000 or fewer, and the average daily wastewater flow is less than one million gallons per day. [U.S. EPA Water Research]

Rural Communities and the Use of Distributed or Decentralized Systems
The development of large-scale water resource recovery facilities is often not necessary for rural (non-urban) communities. Rural communities may lack the financial resources, as well as personnel to manage and operate a large system, and in many cases face challenges due to geography or climate. There are a variety of distributed or decentralized systems that can provide rural

- Joint WEF/ WRF/ MOU Partnership project
- Additional factsheets are under development



Wastewater Technology Clearinghouse



- Now available at online, to contribute content, email: WastewaterTechnologyClearinghouse@epa.gov



Partnership Priority #4

Share information on funding sources and pursue innovative public and private financing options to help communities and homeowners replace, upgrade, or maintain decentralized wastewater systems

Actions:

- Clean Water SRF “Pathways to Success” guidance
- Pilot projects with states

Existing Resources:

- WIRFC Clearinghouse
- Septic Finance Learning Module

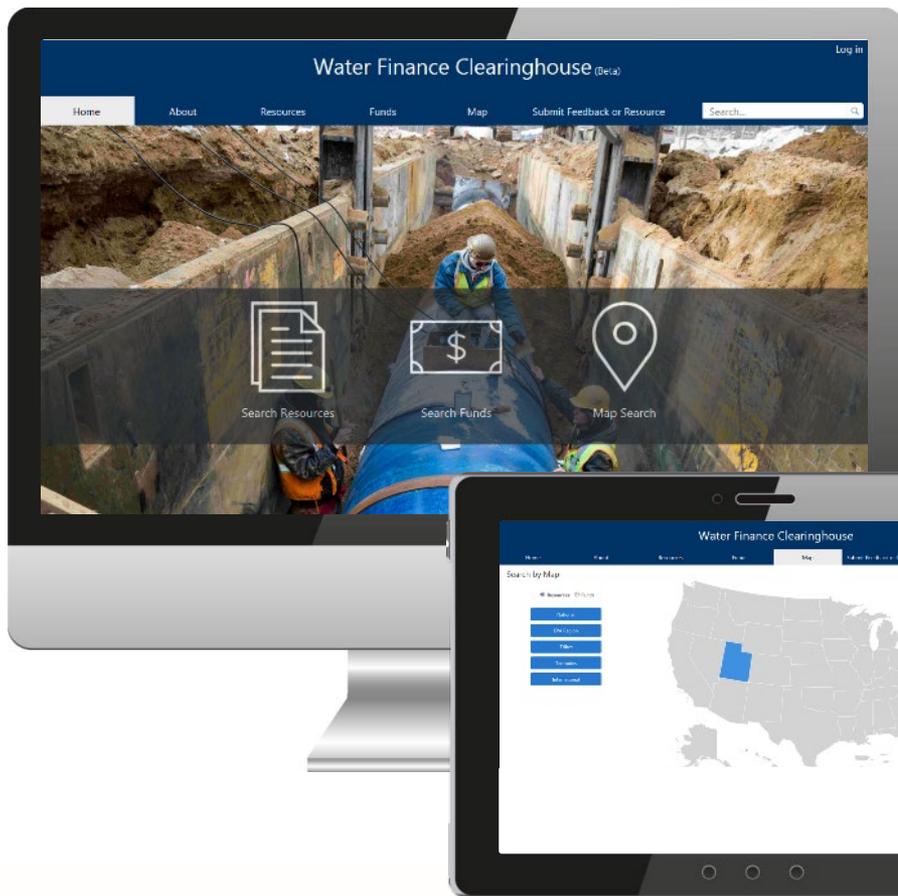


Clean Water State Revolving Fund and Decentralized work

- Clean Water SRF “Pathways to Success” document
- Pilot projects with states for technical assistance



WATER FINANCE CLEARINGHOUSE



ONE STOP SHOP FOR
ALL THINGS WATER
FINANCE

Launched in July 2017



Water Finance Center Septic System Learning Module

- Interactive learning module on financing septic systems including:
 - Septic system basics (terminology, maintenance and repair, design, and costs)
 - Available resources for funding septic system projects
 - Federal, state, and local examples/ case studies



Partnership Priority #5

Expand mechanisms to address workforce, education, training, and research needs related to the decentralized wastewater industry to improve future sustainability

Actions:

- Decentralized Wastewater Workforce effort



National Decentralized Workforce Efforts

- Listening sessions held at NOWRA mega-conference 2018 (Minneapolis, MN)
- National Meeting on July 9, 2019 at NEHA's 2019 Annual Education Conference (Nashville, TN)
- Objectives of meeting: Discuss challenges and identify opportunities to explore options for workforce competency and recruitment



Report #1: Decentralized Career Pathways



Pipeline to a Sustainable Workforce:

A Report on Decentralized/ Onsite Wastewater Occupations

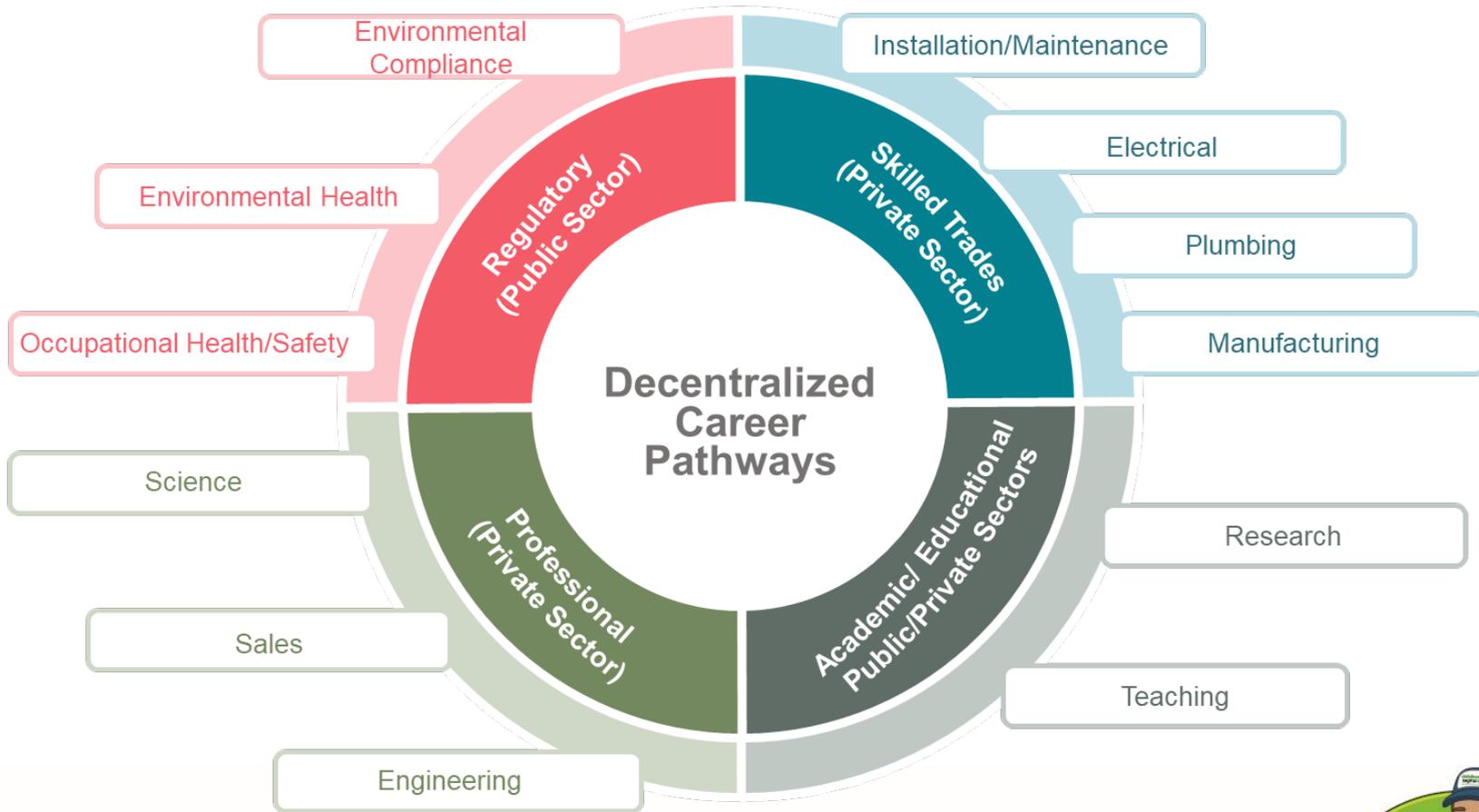
EPA Office of Wastewater Management
February 2021



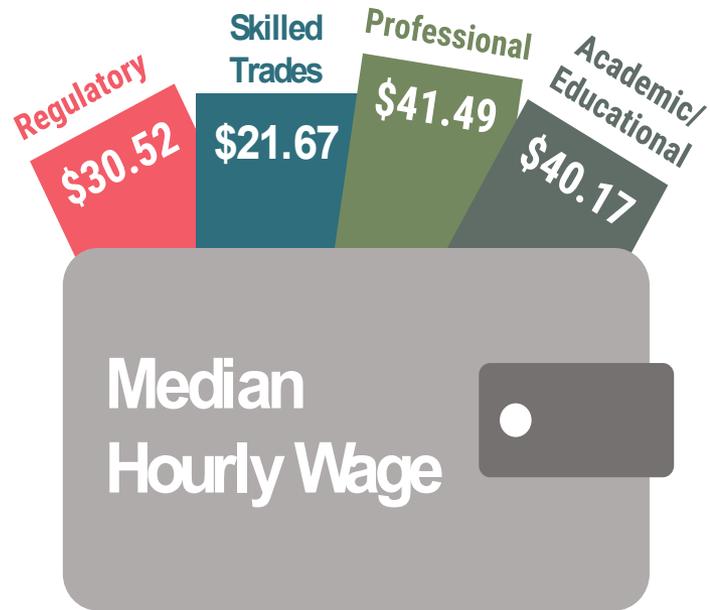
Document Number: EPA-830-R-21-001

- Report focused on outlining decentralized wastewater jobs, including growth predictions, wages, etc.
- Available NOW at www.epa.gov/septic





Wages and Job Growth



50%
decentralized
occupations
considered
"Bright Outlook"

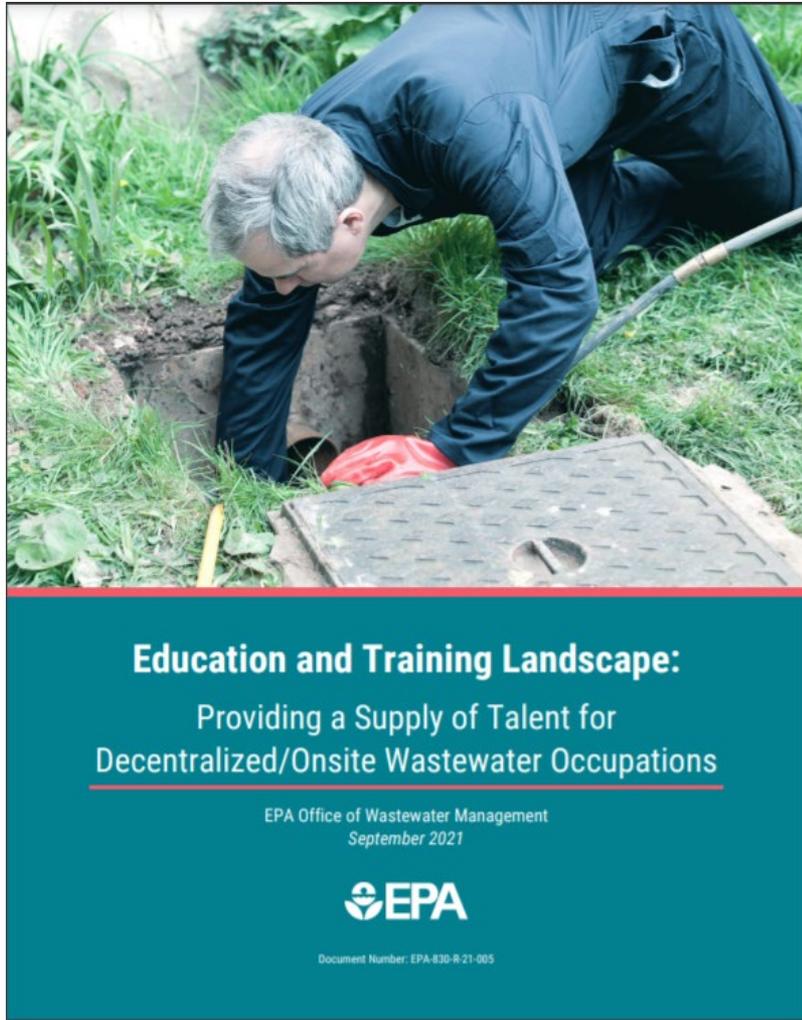
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58%
decentralized
occupations
considered
"Green Jobs"

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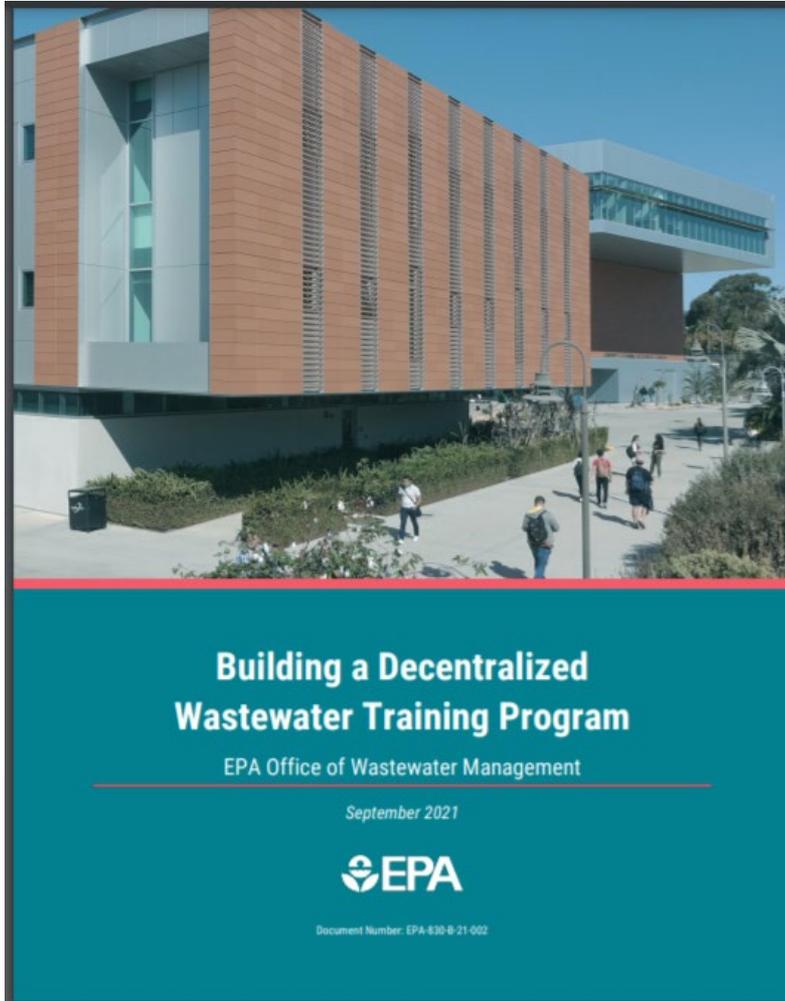
Report #2: Education and Training Landscape Analysis



- Outlines decentralized job functions and credentials
- Provides state examples of education and training approaches
- Available NOW at www.epa.gov/septic



Report #3: Building a Decentralized Wastewater Training Program



- A step-by-step guide for partnering with local community colleges
- Available NOW at www.epa.gov/septic



Steps to Building a Decentralized Wastewater Training Program

- **Step 1:** Find Decentralized Wastewater Sector Partners
- **Step 2:** Connect with the Right Community College Representatives
- **Step 3:** Identify Skills and Competencies Needs for Training
- **Step 4:** Identify Industry Credentials and State Licensing Requirements
- **Step 5:** Compare the Training Needed to the Training That Exists
- **Step 6:** Develop New or Modify Existing Curriculum
- **Step 7:** Enroll Students and Provide Program Support
- **Step 8:** Access, Improve, and Expand





Questions

Please Contact:

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