

THE Onsite Journal

National Review of
Onsite Wastewater
Systems 2015-18:
Trends and
possibilities within
the data, 10



2021 Onsite Wastewater MEGA-CONFERENCE

Essential Work in the Lone Star State



The Onsite Wastewater Event of 2021

Conference schedule & highlights, 14-18

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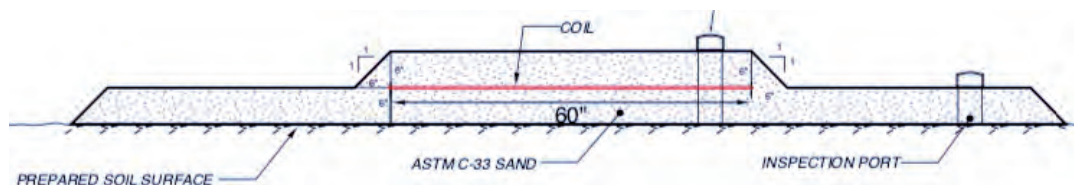
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See us at the Onsite Wastewater Mega-Conference
In San Marcos, Texas October 17-20!



See our conference coverage
on page 14-18

ADVERTISER INDEX

Lowridge Onsite Technologies, Inc.....	2
Jet, Inc.....	5
WaterColor Management	7
Hiblow	9
American Manufacturing Company	11
Presby Environmental	13
Roth Global Plastics, Inc	15
Norweco.....	18
Polylok.....	19
Geoflow, Inc	20
Infiltrator Water Technologies	21
BioMicrobics, Inc.....	22
Eljen Corporation.....	23
Salcor.....	24

INSIDE THIS ISSUE

Executive Director's Message	4
A Note From The President	5
State Affiliate News	6
Legislative Update	8
Corporate Members	9
National Review of Onsite Wastewater	10
Onsite Wastewater Mega-Conference	
Welcome to Texas	14
Conference Highlights and Schedule	16
NOWRA Board of Directors	20
SepticSmart Week	22

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Thomas Groves, Exec. Director

It's hard to believe that I've already been on the job here for 6 months at the time I sit and write this message. Before you know it, the leaves are going to start turning here in New England and snow will be coming. It truly has flown by fast, but I've enjoyed the ride. I feel NOWRA has accomplished a lot in these first 6 months, but there is still so much more work to do.

Since the last issue of OSJ, NOWRA has held a successful virtual legislative fly-in in June with Senate and Congressional staffers. Over 50 ZOOM sessions were conducted with various members of NOWRA's membership and staffers. I wish we could have done it in person, but the one-on-one private setting using Zoom provided a real good personal atmosphere. The timing of our virtual fly-in couldn't have been more perfect. As if on cue, the House of Representatives moved forward with an infrastructure bill, HR 3684, that included language on a decentralized grant program for low- and moderate-income households. For more information on NOWRA's Lobbying activities, check out the story on page 8 by NOWRA's lobbyist, Tracy Hammond.

Now that September is here, plans are in full force for our Onsite Wastewater Mega-Conference being held in-person in San Marcos, Texas in mid-October. Many in our industry, and especially in Texas, are looking forward

EXECUTIVE DIRECTOR'S MESSAGE

to attending an in-person conference once again. We are making appropriate plans for the 2021 Mega-Conference, which will also feature a virtual component for those who are not able to attend in-person.

The Mega-Conference will feature over 50 technical presentations on the latest industry trends, case studies, and research in the onsite field. Our exhibit hall will once again feature the latest in technology and products serving the onsite industry and will provide attendees an opportunity to meet with exhibitors and network with their peers. Optional field trips on high strength waste and reuse are also planned to demonstrate how things are done in Texas for those who want to learn in a more hands-on fashion. For more information on the Mega-Conference, check out the related story on page 14. The Mega-Conference will conclude with a special facilitated, invitation only forum discussion for the NOWRA Needs for Onsite Wastewater Recycling Research (NOW-R2) survey that was featured in the March issue of the Onsite Journal.

The NOWRA Executive Committee recently met in person in a strategic planning mini-retreat to help craft the direction of NOWRA for the next five to 10 years. We are happy with the direction that the organization has taken in the last few years with the diversification of training into an online format as well as lobbying efforts for the industry, but the NOWRA Executive Committee

and Board of Directors want to set additional goals that we can shoot for to continue to make the organization stronger. One of those goals is to pursue a 501(c)(3) non-profit status that will allow NOWRA to be the recipient of grant and foundation funding.

One of my main goals when I came on board as Executive Director of NOWRA was to increase the communication and the visibility of NOWRA to all our state affiliates as well as our general membership. I believe NOWRA has been doing this, and I will continue to do so for the remainder of 2021 and beyond. As someone who came from the state affiliate side of the organization, I recognize the importance of transparency and communication to the membership.

Lastly, I would like to leave you with this thought. The strength of our organization is only as strong as our members and volunteers. NOWRA has a continued need for people to get involved. We have openings coming up for the NOWRA Board of Directors in the Regulator, Service Provider, Supplier/Manufacturer, and Installer categories. In addition to board members, NOWRA needs your assistance with some of our committees. These are the lifeblood of our organization, so if you enjoy NOWRA as much as I do, look at how you can become involved with the organization and continue to make it strive to become better.

See you in Texas!

A NOTE FROM THE PRESIDENT

Looking to the Future

The future of NOWRA and of our Industry are not known, but NOWRA is working vigilantly to assure more citizens have access to sustainable wastewater treatment through decentralized wastewater treatment. What is NOWRA doing to look to the future to move towards this goal?

1. Spearheading national level education at the 2021 Onsite Wastewater Mega-Conference being held in October in Texas.

2. Developing educational materials to train engineers on effective septic system design.

3. Synthesizing a survey to develop our list of research priorities to be taken to national level funders to disseminate to policy-makers, research funders, industry, and the scientific community.

4. Securing additional federal funding to assist low income households across the US so they have access to proper onsite wastewater treatment.

5. Developing a 501(c)(3) to allow NOWRA to be eligible to receive grant funding to further our mission of developing educational resources, solving research questions and being a resource to our state affiliates and members.

6. Assuring our organization has long term viability by building a reserve fund.

7. Strategically planning to grow our organization to increase our impact towards our goal.

I feel very confident that these activities will help to secure and grow our organization both nationally and at home in each of



Sara Heger, President

your states. I encourage you to reach out to your state affiliate to contribute to local initiatives or to NOWRA if you are interested in volunteering. NOWRA is only as strong as our members and passion and perseverance go a long way to assuring the decentralized industry is providing sustainable wastewater treatment to more households across the US.



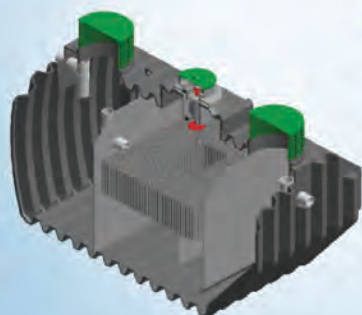
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STATE AFFILIATE NEWS

OHIO ONSITE WASTEWATER ASSOCIATION (OOWA)

Greetings from the Buckeye State! The Ohio Onsite Wastewater Association (OOWA) is looking forward to some upcoming events and getting those in the industry back together again for education and networking. Be sure to check out our website (ohioonsite.org) for some of our upcoming events and educational opportunities! We have events taking place in September and November of 2021 and January 2022.

OREGON ONSITE WASTEWATER ASSOCIATION (O2WA)

Oregon Legislators ended this season with a win for septic program support – OR DEQ's budget includes \$2M to restart the septic system replacement loan program. The package includes \$2 million of General Fund for low-cost loans to repair or replace failing septic systems. SB 1563 (2016) established this program and DEQ has received one-time funding in prior biennia. DEQ will use an outside contractor to run the program as it has done in previous biennia. Of the \$2 million, DEQ anticipates \$50,000 for administrative costs. This funding is added on a one-time basis.

Thankful to have this program back and available soon. Elizabeth MacIntosh, Clean Water Loan customer "This was a huge expense for us and having a company that could step in and assist me, with the loan I needed, and low rates and easy terms was such a benefit. It made the entire process much easier to deal with." O2WA joined a coalition of organizations to support this funding. Thanks to the members that gave their testimonies on the success of the program.

TEXAS ONSITE WASTEWATER ASSOCIATION (TxOWA)

Here's a big howdy to all you on-site professionals! We've certainly had a long run in Texas. The onsite and decentralized wastewater industry has been bustling the entire 30 years I've been in this industry. If I'd compare Texas to the many other states I've worked in my career, Texas has been somewhat immune to economic and housing downturns during the last three decades. I am still amazed at the amount of growth in this state, even in a pandemic we still experienced growth.

With all this growth comes challenges to our industry. These challenges range from having enough trained professionals working in our industry, educating the public and updating our rules protecting public health, environmental health, public safety, and environmental safety. TOWA continues working to professionalize the industry through developing training courses. We offer these throughout the year in the form of classroom training, chapter meetings and the annual conference. We at TOWA feel fortunate that we could continue providing these essential services throughout these trying times.

As a state affiliate, TOWA is very excited to be hosting the NOWRA "MEGA Conference" this year in San Marcos, Texas! Onsite and decentralized professionals don't miss this opportunity to attend the biggest national, onsite wastewater event that's coming to Texas for the first time since the mid 90's!!!

YANKEE ONSITE WASTEWATER ASSOCIATION (YOWA)

The Yankee Onsite Wastewater Association (YOWA) represents

the six New England states. On August 5th YOWA hosted an educational webinar in collaboration with the Massachusetts Alternative Septic System Training Center (MASSTC) on troubleshooting Innovative and Alternative (I/A) systems. The two-hour webinar featured a powerpoint presentation titled "Troubleshooting and Recommendations for I/A Septic System Performance" followed by a live panel discussion and question and answer session with I/A system operators. Two hours of continuing education credits for Massachusetts soil evaluators, system inspectors, engineers, sanitarians, and health officials were awarded. YOWA's educational committee is planning to host another webinar in late Fall.

The YOWA membership committee is proud to announce that membership is up by 46%, due to increased outreach efforts, more online training opportunities and its ongoing collaboration with MASSTC.

In other news, YOWA is saddened to share that former YOWA President Steven Corr, P.E. has passed away. Steve was a state regulator who helped both stabilize and grow the association during his term as president. He was also instrumental in engaging NEWEA as YOWA's professional staff, which has been critical to the viable operation of the association.

NOWRA conducts bimonthly calls with our state affiliate organizations. For more on NOWRA's affiliate state organizations, visit our web site at: www.nowra.org/about/state-organizations/

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by Tracy Hammond, Polsinelli

On June 9 and 10, NOWRA members from across the country met with nearly 50 House and Senate offices during our annual Congressional “Fly In.” Due to COVID-19, we were unable to travel to Washington and meet with our elected leaders face-to-face. Instead, we conducted these meetings virtually, and 21 of our members were able to talk with our Representatives and Senators about the challenges facing our customers and industry.

In addition to educating Members and their staffs about the benefits of onsite wastewater treatment, we stressed the importance of providing more federal resources for households who rely on decentralized systems. In each of our discussions, we advocated for support of the Decentralized Wastewater Grant Act (more on this below); as well as for increased funding for USDA’s Decentralized Water Systems Grant and Loan Program.

NOWRA sincerely appreciates the time and effort our volunteer members took away from their other responsibilities in order to educate and advocate on behalf of our industry and our customers. Our members have always been our best advocates, and these two days proved that once again. NOWRA is pleased to report that shortly after our congressional visits, the U.S. House of Representatives passed the INVEST Act (HR 3684)—a more than \$700 billion proposal that would create a new grant program overseen by the

LEGISLATIVE UPDATE

U.S. EPA to provide much-needed funding to households that rely on decentralized wastewater treatment systems. The vote on final passage was 221-201, largely along party lines.

This legislation helps deal with the need to increase funding for water infrastructure, address water workforce development needs, improve resilience to climate change, and improve environmental equity.

Of importance to NOWRA members, the package would create the Decentralized Wastewater Grant Program. This program will help homeowners install and replace decentralized wastewater systems by authorizing \$100 million of annual funding for grants of up to \$15,000 for Fiscal Years 2022 – 2026 (for a total of \$500 million overall).

Inclusion of this grant program in the INVEST Act immediately followed introduction of HR 3745, the Decentralized Wastewater Grant Act, sponsored by Congresswoman Terri Sewell (D-AL) and Congressman Brian Babin (R-TX). Representatives Sewell and Babin have been longtime champions of the onsite industry, and we sincerely appreciate their continued support and efforts to provide much-needed federal assistance to our customers.

Earlier this year, the U.S. Senate overwhelmingly passed S. 914, the Drinking Water and Wastewater Infrastructure Act, (DWWIA). The Senate bill included similar language to establish a Decentralized Wastewater Grant Program at EPA, but authorized \$250 million in funding over 5 years for the program.

Now that the Decentralized Wastewater Grant Act has garnered bipartisan support in the House and Senate, the program has been included in the Bipartisan Infrastructure Investment and Jobs Act that both chambers are working to pass and get to President Biden for his signature.

While President Biden and Congress continue to work on the package that includes water development programs in addition to much-needed funding for roads and bridges, Democrats are also developing a larger economic recovery and stimulus package that may provide an opportunity to increase federal resources for the installation and replacement of onsite systems.

NOWRA members and our team in Washington will continue to advocate for increased funding for decentralized systems and for those households who rely on our systems for wastewater treatment. We continue to push for enactment of the Decentralized Wastewater Grant Act and for increased funding through multiple USDA programs.

Tracy Hammond is a Senior Policy Advisor with Polsinelli’s Public Policy Group in the firm’s Washington Office. He advises clients on federal legislation and regulation in the areas of infrastructure, water and environmental policy and serves as one of NOWRA’s lobbyists in Washington, DC.

NOWRA's Board of Directors thanks its Corporate Members for their support of NOWRA's activities:

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NATIONAL REVIEW OF ONSITE WASTEWATER TREATMENT SYSTEMS (2015-2018)

10

Trends and possibilities within the data

by **Cory Yarrington, Lian-Shin Lin, Jennifer Hause and Chris Anderson**

Onsite wastewater treatment systems (OWTS) have been and will continue to be a viable option for the treatment of wastewater in areas not served by centralized wastewater treatment systems.

Every state in the nation has a population served by decentralized (onsite) wastewater systems. The measurement of OWTS utilization on a national scale has not been conducted since the 1990 Census. In response, the National Environmental Services Center (NESC) has conducted a national assessment of onsite wastewater treatment system (OWTS) permits in 1993, 1998, and 2015 - 2018. The OWTS data collected in this effort includes new, residential system permits; residential system repairs; new,

commercial system (multi-family, commercial, institutional, etc.) permits; and commercial system repairs.

NESC, with support of industry and regulators, worked to gather data from years 2015 through 2018 on the installation of onsite wastewater treatment systems across the country. The first of two reports (Phase 1) focused on 2015 collected data. The second report (Phase 2), now available, expanded the Phase 1 dataset to include years 2016 through 2018. The Phase 2 report assesses the use of onsite wastewater treatment systems with new residential and commercial development during the time frame of 2015 through 2018. Figure 1 shows the data collection efforts during both the phases and the states that responded during each phase. Note that all but two

states responded to NESC, some fully and some partially. The On-site Wastewater System Installation Assessment in 2015 (Phase 1) received an overall 82% response rate from state regulatory/permitting agencies. The follow-up survey for 2016 – 2018 (Phase 2) received an overall 45% response rate.

The collected data was used to calculate onsite system utilization rate (OSUR) for new housings, which is defined as the ratio of number of reported new, residential housing with onsite system permits to total new housing permits plus manufactured housing shipments with a 6-month lag for installation. The Adjusted OSUR was calculated based on the housing permits and mobile housing placements from the responding counties with reported onsite system installations:

Results of Phase 2 with Historical Dataset

Permit Type	National new housing permits					
	1993*	1998*	2015	2016	2017	2018
Total new OWTS	270,431	333,383	189,233	160,129	166,192	157,691
(%) included in OSUR	NA	NA	73%	77%	76%	73%
Adjusted new OWTS	NA	NA	138,681	123,746	126,591	115,203
Total new housing	1,285,714	1,472,479	731,686	808,755	875,484	938,365
(%) included in OSUR	90%	93%	63%	49%	46%	42%
Adjusted total new housing	1,163,219	1,373,855	460,447	399,207	399,339	396,196
Unadjusted OSUR	21%	23%	26%	20%	19%	17%
Adjusted OSUR	23%	24%	30%	31%	32%	30%

The (*) indicates housing numbers are annual total with no 6-month lag. This will have a small deviation in actual OSUR value. Adjusted total removes data sets with no response or incompatible data.

Unable to parse incompatible data in the historical dataset (1993, 1998) due to data set limitations.

Table 1. National overview of new housing permits, onsite wastewater treatment system permits, and resulting Onsite System Utilization Rate (OSUR).

$$\text{Adjusted OSUR} = \frac{(\text{OWTS Permits})}{((\text{TNH}) \times (\text{NH}\%))}$$

where OWTS permits are residential or combined (residential and commercial) depending on data availability; total new housing (TNH) is the sum of manufactured and constructed housing with a 6-month lag; and (NH%) is new housing percentage that is located within responding counties.

1.1 Historical comparison of OSUR

There are significant decreases in new housing permits and new housings with an onsite system permits when comparing the data from the 1998 report with the data collected in 2015-2018. The data provided from the 1998 report indicates new housing permit demand was much higher in 1993 and 1998 than the new housing permits in 2015, a difference of greater than

100% (~750,000 permits, Table 1). Similarly, the data provided from the 1998 report indicates the total for new housings with an onsite system had decreased from 1998 to 2015 by nearly 100% (~145,000 permits).

A main reason for this discrepancy is data reliability. Specifically, the reliability of the data in terms of county response rate by state is not provided in the 1998 report. Any reference to OSUR for the years of 1993 (21%) and 1998 (23%) are unadjusted and considered a minimum value. Conservatively, with data limitations, the national OSUR has consistently remained at 21 – 24 % from 1993 to 2018. The adjusted OSURs calculated for the period of 2015-2018 are a more accurate representation of real onsite system utilization rates for new housing, which show approximately 1/3 of new housing uses an onsite system, see Table 1.

1.2 Untapped Potential in National Onsite System Database

The exciting part of this research is not what it has uncovered but the untapped potential in a national onsite system database. The knowledge of the current trends and the status of existing OWTS provides government agencies with necessary information to appropriately allocate resources to ensure OWTS are providing necessary environmental and human health protections. The findings of the full national assessment report can be used to identify market trends, opportunities, and potential coverage gaps.

The knowledge potential increases exponentially in possibility by combining the OWTS permit database with other variables such as geographic location, socio-economics, and water-soil quality



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indexes. These types of analysis can identify high need/low funded areas, inefficiencies in the current funding opportunities at a national and state level, needs for product redesign in areas with high repair/replace rates, and impacts of onsite systems on the surrounding environment.

The effort of this project exemplifies: a) widespread reliance on decentralized wastewater treatment to properly treat wastewater across the United States, b) the need to leverage appropriate resources to ensure continued environmental and public health protection, and c) the need for a national database of onsite wastewater system permits.

Details on data collection process and analysis can be found in the national assessment. Further breakdown of permits by size and type, state by state definitions, and OSUR statistics are found in the “Onsite Wastewater Installation Assessment: Phase 2 (2015 – 2018) Report” at www.nesc.wvu.edu upon request.

About the Authors:

Cory Yarrington is working on his Environmental Engineering PhD, focused on a national database for onsite wastewater treatment systems.

Dr. Lian-Shin (Lance) Lin has research focused on technology innovation that improves resource utilization efficiency in coal mining regions.

Jennifer Hause works for the National Environmental Services Center and has served on the West Virginia Sewage Advisory Board, the EPA Strategic Planning Committee for Decentralized Wastewater Management, and the Water Environment Federation Small Community Committee.

Christopher Anderson is an undergraduate student in the Civil Engineering Department at West Virginia University.

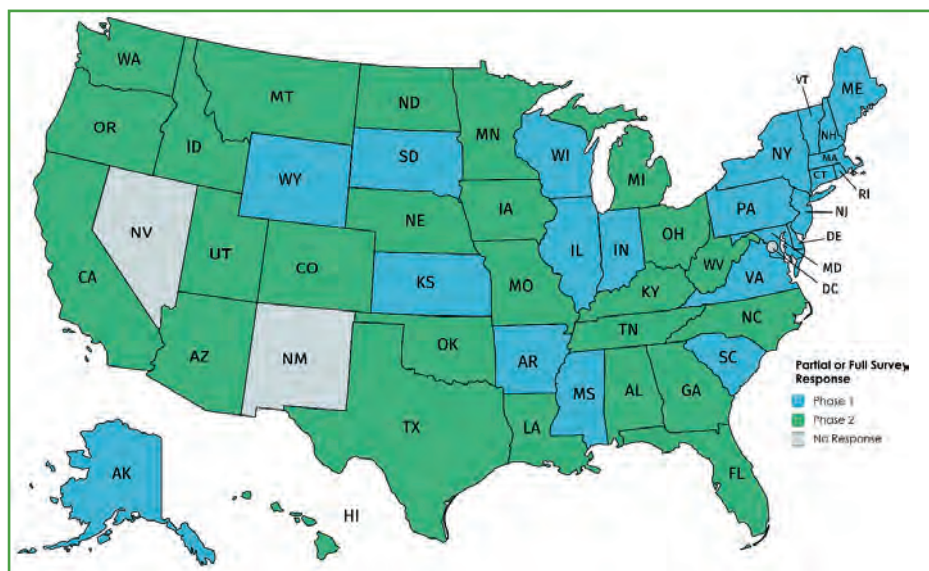


Figure 1: States responding during Phase 1 and Phase 2.

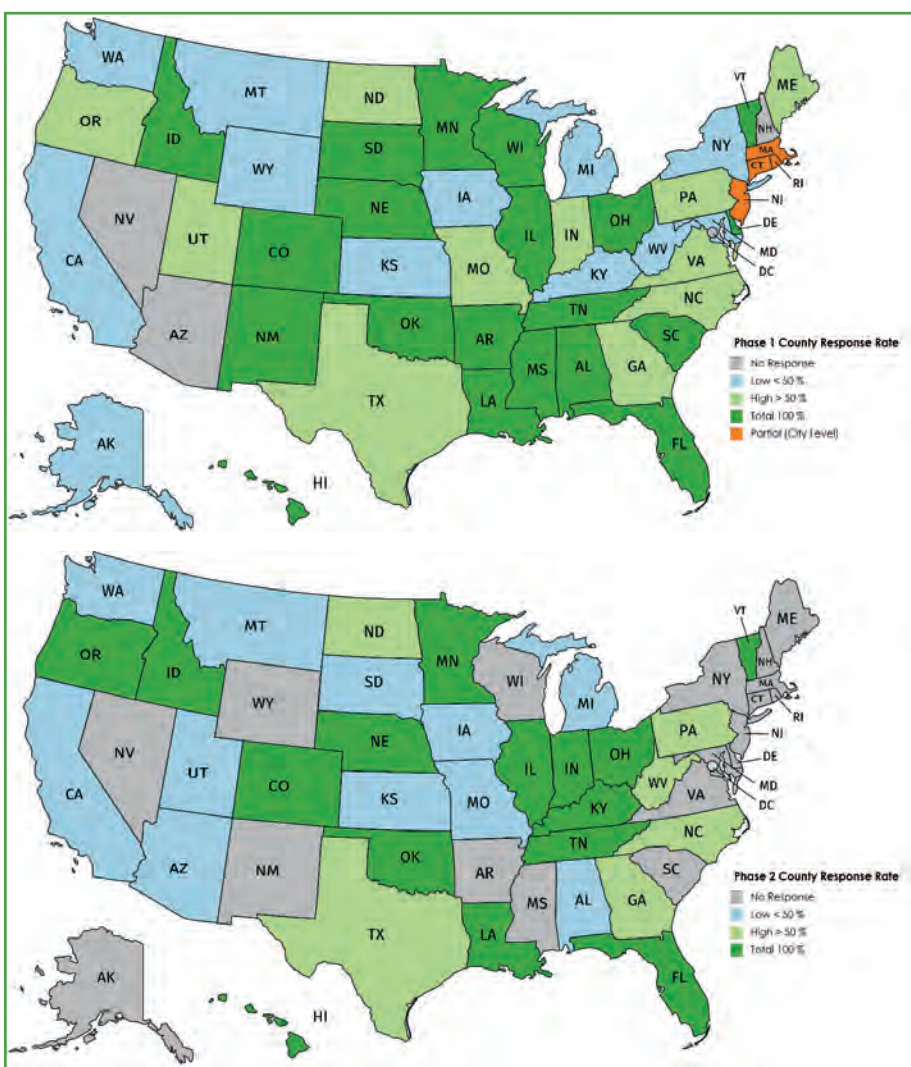


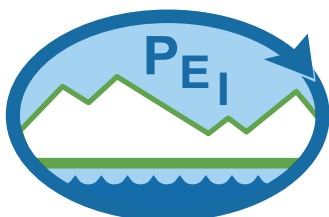
Figure 2: County response rates to the Onsite Wastewater System Installation Assessment, Phase 1 and Phase 2.

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WELCOME TO TEXAS!

Howdy and welcome to Texas from the 3-Ts, actively working to improve statewide use of onsite systems!

The 3-Ts, the Texas A&M University (TAMU), Texas Commission on Environmental Quality (TCEQ) and Texas Onsite Wastewater Association (TOWA), welcome the NOWRA, NAWT, and SORA membership to Texas for the 2021 Onsite Wastewater Mega-Conference.

It has been a while since Texas hosted this event! During the early days of NOWRA (back in early and mid-1990s), Texas hosted two annual onsite conferences, in 1993 and 1997. Since then, a lot has changed for better in the onsite wastewater world and even in Texas. However, what's not changed in Texas since the '90s is the cooperative working arrangements among the 3-Ts focused on continually improving statewide use of onsite systems.

This article briefly describes the role each group plays in Texas and prepares the national group to have a productive interaction with team members from each group during their visit to San Marcos, Texas in October.

For the non-Texans visiting Texas for the first time, it is important to note and remember that in Texas we use the term OSSF (On-Site Sewage Facility) to talk about On-site Wastewater Treatment System



or Septic System! So, in this article you will see OSSF mentioned many times and now you know what that means.

The TAMU AgriLife Extension and Research Agency, along with the Department of Biological and Agricultural Engineering (BAEN), supports statewide efforts on improved use of OSSFs. After several years of dormancy, and after TAMU hired Dr. Anish Jantrania, the Center was rejuvenated and reopened in 2015 (see photo on top of page 15). Since then the Center has been active in meeting the demands for research, training, demonstration, and education needs for OSSF industry professionals and homeowners who depend on OSSF in their daily activities. TAMU students are also benefiting from the Center for their undergraduate and graduate research projects.

Visit the websites (<https://ossf.tamu.edu/> and <https://reeu.baen.tamu.edu/>) before you come to Texas, and during the Conference visit the TAMU booth and attend several presentations given by team-TAMU. Contact Dr. Jantrania via email (ajantrania@tamu.edu) if you are interested in visiting the

Center before the conference on Saturday, October 16 or the day after on Thursday, October 21.

The TCEQ is the state agency that responsible for regulating use of OSSF in Texas with the support from more than 300 local permitting entities (called Authorized Agents, or AA) under a unique model that allows for local control following the state-wide base regulations. Each AA may supersede State minimum OSSF rules with a TCEQ approved Order. State-wide regulation for OSSF is called "285 Rules" that set design, operation, and maintenance standards for more than a dozen types of OSSF options.

To get familiar with the Texas regulatory program, visit the TCEQ website <https://www.tceq.texas.gov/permitting/ossf/on-site.html> and get ready to interact with team-TCEQ during the Conference in the exhibit hall and during the field trips.

TOWA is one of the largest (if not the largest) state-chapter of NOWRA with more than 800 members. Age-wise, TOWA is as old as NOWRA! Formed in early 1992, TOWA serves the industry interests in the state with the mission "To advance and promote all aspects of the onsite wastewater industry including installers, service providers, pumpers, manufacturers, suppliers, engineers and designers, registered sanitarians,



research and academic professionals, consultants, and governmental regulatory personnel.”

TOWA actively offers education and training programs to OSSF industry professionals and to homeowners. In March 2020, just before the start of COVID pandemic, TOWA organized its 28th annual conference in Waco. More than 650 participants attended two-day education programs and enjoyed the exhibition hall (see photo on top of page 14. It is our hope that the NOWRA show in October will attract similar attendance.

TOWA is working closely with NOWRA to organize the Mega-Conference and has identified several exiting OSSF project sites near San Marcos for field trips on Wednesday, October 20. We hope you will join us! Don't forget to visit the TOWA booth and meet team-TOWA during the Mega Conference. Visit the TOWA website <http://txowa.org/> before you come to Texas.

Texas is a big state with the second largest population of onsite systems. One in five dwellings in the state are served by OSSF, which is similar to the national

statistics. Thus, the 3-Ts are staying busy to meet the demands for education, training, and research needed to continuously improve statewide use of onsite systems. Team members from the 3-Ts are looking forward to interacting with the national onsite audience and share Texas experience that we hope will allow all of us in onsite industry to better serve our customers.

See you in San Marcos, and once again welcome to Texas!



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Now in its seventh year, the Onsite Wastewater Mega Conference is a collaboration between several national and state onsite wastewater organizations:

- **NOWRA** – National Onsite Wastewater Recycling Association
- **NAWT** – National Association of Wastewater Technicians
- **SORA** – State Onsite Regulators Association
- **TOWA** – Texas Onsite Wastewater Association

So what does that mean for you? Installers... pumpers...service providers...regulators...engineers...soil scientists... designers...educators.... Regardless of your role in the onsite wastewater profession, you will find lots of useful learning opportunities.

Ideas to grow or improve your business. Through education sessions, conversations with colleagues, and meetings with many of the industry's most progressive and innovative companies in the exhibit hall, you can get new ideas for building your existing business.

You can identify new ways to expand your business. Increasing water shortages, skyrocketing costs to build and maintain central sewer infrastructure, and a wide range of applications are creating new markets for onsite wastewater. The Mega-Conference is an ideal place for you to identify new opportunities for your company to grow and expand.

Bigger really is better. While size doesn't always matter, having lots of choices does. A wide range of options for meeting your education needs is another reason to attend the Mega-Conference.

You can meet your continuing education requirements. In most states, the conference curriculum will qualify for credit hours in licensing or professional certification programs. We are working to secure approval for continuing education credit from all states which license or certify installers, service providers, inspectors and designers.

It's an investment in you and your organization. If you get one good idea which translates into more business or a better way to do things, you will more than justify your cost of attending. Invest in yourself and your organization.

Register online! <https://www.nowra.org/conference/mega-conference/>



CONFERENCE SCHEDULE



Sunday, October 17

- 12:00 pm - 5:30 pm..... Registration open
- 1:00 pm - 5:00 pm..... Exhibitor Move-in
- 2:30 pm - 5:30 pm..... NOWRA Board of Directors Meeting
- 6:00 pm - 7:30 pm..... Welcome Reception

Monday, October 18

- 7:00 am - 5:00 pm Registration open
- 7:00 am - 8:00 am Government Relations Committee Meeting
- 7:30 am - 11:00 am Exhibitor move-in continued
- 8:00 am - 12:00 pm Opening General Session
- 12:00 pm - 6:00 pm..... Mega-Conference Expo open
- 12:00 pm - 1:30 pm..... Lunch in Expo, Backhoe Roe-D-Hoe Trials, State Affiliates Committee Meeting
- 1:30 pm - 4:30 pm..... Concurrent Education Sessions
- 6:00 pm - 9:00 pm..... Offsite Social Event, Gristmill River Restaurant (optional)



Tuesday, October 19

- 7:00 am - 4:30 pm Registration open
- 7:00 am - 1:30 pm Mega-Conference Expo open
- 8:00 am - 11:30 am Concurrent Education Sessions
- 11:30 am - 1:00 pm..... Lunch in Expo, Backhoe Roe-D-Hoe Finals
- 11:30 am - 1:00 pm..... NOWRA Education Committee & Online Training Task Force Meeting
- 11:30 am - 1:00 pm NOWRA Technical Practices Committee Meeting
- 1:00 pm - 4:30 pm..... Concurrent Education Sessions
- 1:30 pm - 6:00 pm..... Expo move out
- 2:00 pm - 3:30 pm..... NOWRA Corporate Members Meeting
- 5:00 pm - 6:30 pm..... NOWRA Annual Business Meeting
- 6:30 pm - 8:30 pm..... SORA Reception (invitation only)



Wednesday, October 20 (Optional Field Trips)

- 8:00 am - 5:00 pm High Strength Wastewater
- 8:00 am - 5:00 pm Wastewater Reuse
- 9:00 am - 5:00 pm..... NOW-R2 Research Forum (invitation only)

CONFERENCE HIGHLIGHTS

TECHNICAL EDUCATION & TRAINING

Choose from more than 50 sessions in five tracks across a variety of topics, including case studies, technology, policy and education, Texas-specific issues, challenging waste streams, advanced treatment, business management and funding.

NAWT LIFE CYCLE

Onsite Wastewater Treatment Systems have a life and a life cycle. They go through the inception stage where they are born; there is the development stage where they are created; the life stage where they are maintained and operated and periodically inspected. Understanding the life cycle of a OWTS is vital to all sectors within the industry. Each stage of the life of an OWTS has principles that help to make the process more efficient and in turn help support and assist the other sectors that are involved in the life of the system.

This track will summarize the life cycle and the significance of understanding, implementing and abiding by a principled approach to Design, Installation, Operations & Maintenance, Inspections while also demonstrating business concepts that will help to tie all the practitioner efforts into creating and maintaining an OWTS business within the industry.

NATIONAL BACKHOE ROE-D-HOE CHAMPIONSHIP

The ROE-D-HOE® competition is a two-day open event where attendees who are skilled backhoe operators compete by using the backhoe shovel to skillfully and smoothly move small objects such as a golf ball or bowling pin in an extreme race against time. The competition is timed and will culminate with the contestants with the top three times winning belt buckles in addition to up to cash prizes.

In addition to the competitors who participate in the Texas competition, champions from state ROE-D-HOE® competitions held around the country will also participate. The overall champion will be presented with the Championship Belt to wear for the day!

NOWRA/NAWT/TOWA EXPO

Dozens of leading national and local companies will be displaying their latest products and services.

GREAT SOCIAL EVENT

Gristmill River Restaurant: A True Texas Experience!— Located beneath Gruene's landmark water tower, in the ruins of an 1878 cotton gin, overlooking the Guadalupe River, the Historic Gristmill has been considered one of the most unique dining spots in Texas for nearly half a century. Join us for an evening of food and cheer in an historic setting while networking with your peers.



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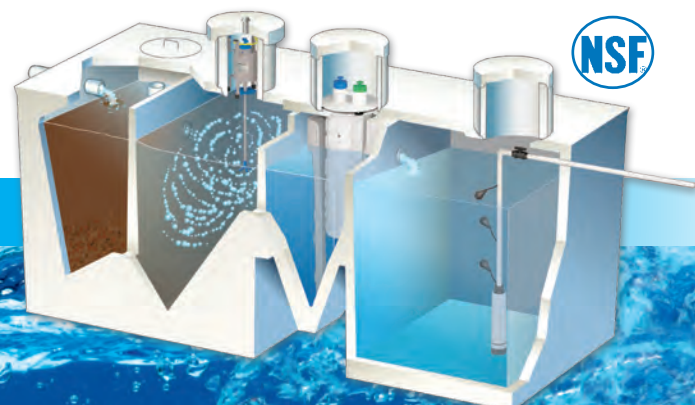
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SepticSmart Week



As a proud member of the US EPA's Decentralized Wastewater Management Memorandum of Understanding (MOU) Partnership, NOWRA is pleased to once again participate in SepticSmart Week for 2021.

At the June 2021 Board of Directors meeting, the NOWRA Board endorsed the Proclamation for SepticSmart Week and encouraged all of our NOWRA State Affiliates to do the same. The proclamation is published below.

Watch for social media postings each day from NOWRA during SepticSmart Week.

Proclamation

WHEREAS, proper septic system use and routine care are vital to protecting public health, preserving our highly valued groundwater, lakes, streams and waterways, and avoiding costly repairs that can result from neglect; and

WHEREAS, more than one in five households depend on septic systems to treat wastewater from homes and businesses; and

WHEREAS, wastewater professionals of NOWRA use their expertise in the design, installation, maintenance, research, outreach and/or regulation of septic systems in the U.S.; and

WHEREAS, the U.S. Environmental Protection Agency's SepticSmart program used by NOWRA does educate homeowners about the need for proper septic system use and routine maintenance; and

WHEREAS, homeowners and the environment benefit from properly designed, installed, operated, and maintained septic systems;

NOW THEREFORE, we the Board of Directors of the National Onsite Wastewater Recycling Association do hereby proclaim the week of September 20-24, 2021 as SepticSmart Week and we urge all people to join us in this special observance.

Signed this 23rd day of June 2021,
Sara Heger, PhD, NOWRA President

25
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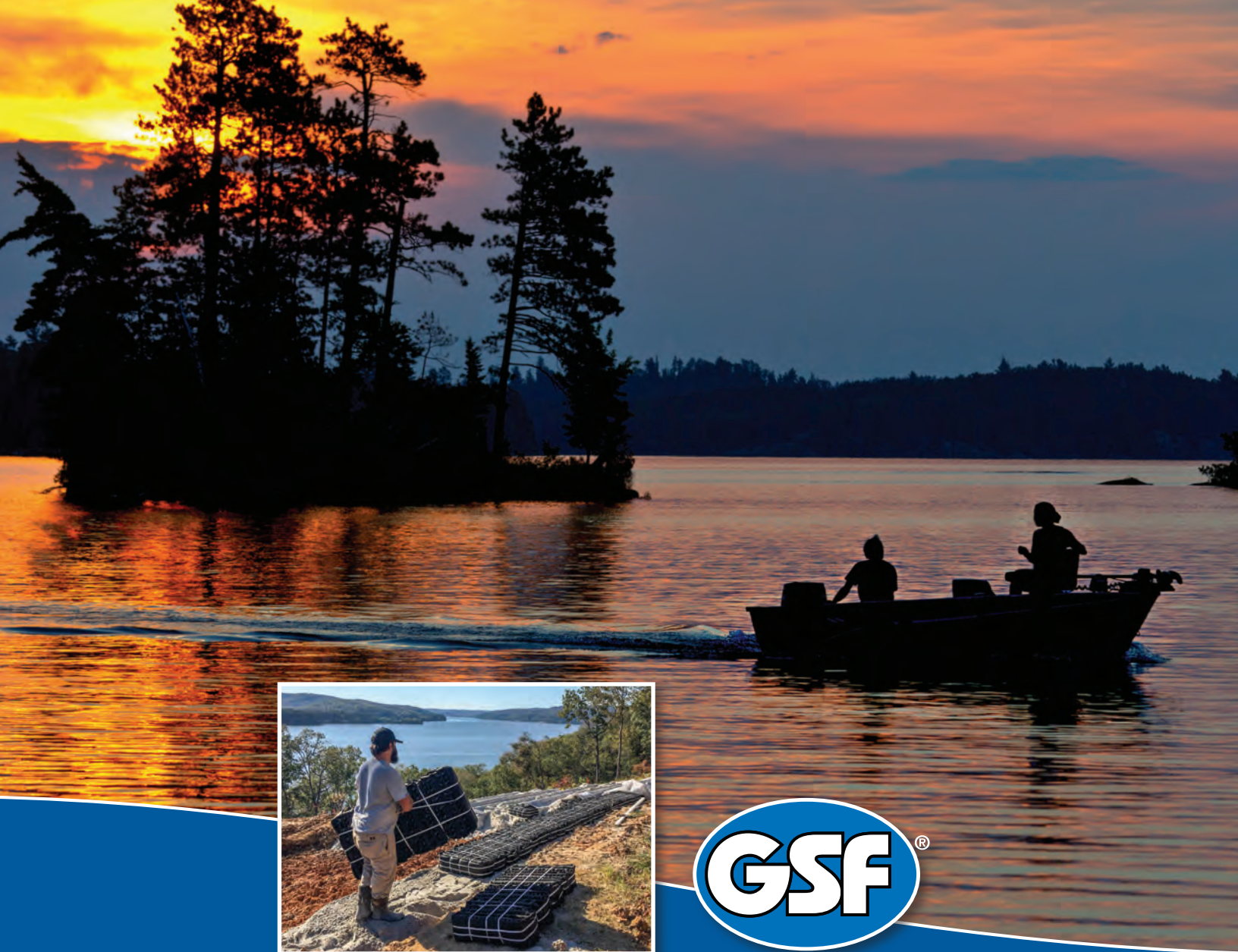
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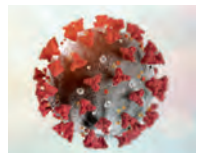


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