

# THE Onsite Journal

**NOWRA**  
National Onsite Wastewater Recycling Association

Spring 2025



**Inside:**

**2024 Mega-Conference  
Wrap-Up. Page 27**

**Sustainable Decentralized Wastewater Management  
in the Rural Alabama Black Belt. Page 19**



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## Legislative Update Page 13



## 2024 Mega- Conference Wrap-Up Page 27

## ADVERTISER INDEX

BioMicrobics .....	18
Eljen Corp.....	IFC
Infiltrator Water Technologies .....	7, IBC
Inspector Cameras .....	15
JET .....	11
PolyLok .....	9
Premier Tech .....	17
WaterColor Management .....	18
Wieser Concrete .....	14



## INSIDE THIS ISSUE

A Note From the President.....	4
Message From the Executive Director.....	6
State Affiliate News.....	8
NOWRA Board of Directors 2025–26.....	12
Legislative Update .....	13
Committee Updates.....	16
Sustainable Decentralized Wastewater Management in the Rural Black Belt .....	19
BenefitHub Discounts.....	25
2024 Mega-Conference Wrap-Up.....	27
NOWRA Online Learning Academy.....	30
Corporate Members.....	32
Industry News.....	33



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You can find this edition and back issues of *The Onsite Journal* online under the [Resources section](#) of NOWRA's website.

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# A NOTE FROM THE PRESIDENT

As the newly elected President of NOWRA, I am both honored and humbled to serve in this role. Since taking office in December, I've been deeply grateful for the trust placed in me by the Board of Directors, and I'd like to take a moment to thank them for their confidence. I'd also like to express my sincere appreciation to the Otter Tail County Board of Commissioners and Deputy Administrator Nicholas Leonard for supporting me in this capacity as part of my responsibilities at the County.

Now, let's get down to business. What's on the agenda for NOWRA in 2025?

Last fall, the NOWRA Board of Directors dedicated significant time to creating a comprehensive three-year Strategic Plan. We gathered virtually, and later in person at the Mega-Conference in Spokane, WA, where we worked with a facilitator to shape a clear direction for the future. The outcome of these discussions is a plan that provides clarity, focus, and a roadmap for our progress. (See *NOWRA's 2025–2027 Strategic Plan* on the following page.)

As part of this process, we also crafted a new Vision and Mission Statement, along with four key goals to drive our work:

**Vision:** "Leading the shift towards decentralized wastewater solutions for a sustainable and resilient water future."

**Mission:** "Advancing sustainable decentralized wastewater infrastructure through advocacy and professional development to protect public and environmental health."

## Goals

1. **Engagement & Membership:** Grow industry representation by 15% to strengthen and unify the voice of the decentralized wastewater industry.
2. **Education:** Lead the shift by collaborating with various industry sectors to reach a diverse audience and expand training opportunities.
3. **Advocacy & Lobbying:** Serve as the principal advocate for the decentralized onsite wastewater industry through lobbying and strategic advocacy efforts.
4. **Strategic Operations:** Foster industry growth by maintaining annual revenue growth of at least \$175K, with a target annual income of at least \$125K.

While crafting the Strategic Plan was a critical first step, executing it is equally vital—often the most overlooked phase. Recognizing this challenge, the Board of Directors and Executive Committee promptly established the Strategic Plan Implementation Task Force (SPITF), led by Kwame Agyare and President-Elect Dwayne Jones. This task force will ensure that we turn our strategic vision into action.



In addition to our strategic progress, NOWRA is also expanding in both staff and state affiliates. I'm thrilled to announce that we've secured agreements with three new state affiliates: New Hampshire, Oklahoma, and South Carolina. This growth signifies a strong momentum for NOWRA's presence and influence across the nation.

Furthermore, we are excited to welcome Tricia Scott, a valued member of our Board of Directors from Nebraska to her new role as NOWRA Operations Coordinator. This full-time position is a new addition to NOWRA and will primarily focus on online learning, website development and maintenance, as well as outreach, event coordination, and database management. Please join me in congratulating Tricia as she steps into this critical role, which will be instrumental in advancing NOWRA's mission.

Thank you for your continued support as we work together toward a sustainable, resilient future for decentralized wastewater solutions.

— **Chris LeClair**



### VISION

Leading the shift towards decentralized wastewater solutions for a sustainable and resilient water future.

### MISSION

Advancing sustainable decentralized wastewater infrastructure through advocacy and professional development to protect public and environmental health.

## STRATEGIC GOALS

### 1 ENGAGEMENT & MEMBERSHIP

NOWRA will grow its membership by 15% annually towards unifying and strengthening the voice of the decentralized wastewater industry.

#### Members

Increase member utilization of NOWRA-provided services and value by marketing current and new value.

#### Affiliate Members

Onboard 3 new US or International affiliate members.

#### Corporate Members

Onboard 1-2 new corporate members and increase the membership level of 6 current corporate members.

### 2 EDUCATION

NOWRA will lead the shift by collaborating with industry sectors to reach a diverse audience and expand training opportunities.

#### Education & Training

Develop 20 new online training materials for service providers, design professionals, and small communities.

#### Certification

Partner with qualified organization(s) to develop a certification program with a goal to improve the overall performance and management of decentralized systems.

#### Training through Grant Funding

Develop and deliver training and technical assistance as contracted in grant funding to protect water quality, environmental health, and public health.

### 3 ADVOCACY & LOBBYING

NOWRA will lobby and advocate as the principal resource for the decentralized onsite wastewater industry.

#### Federal Lobbying

Advocate to ensure federal decentralized funding of \$50M per year is appropriated.

#### Federal Advocacy

Engage with 50% of EPA MOU partners to positively affect decentralized wastewater policies.

#### State Advocacy

Develop relationships with all state affiliates to facilitate state advocacy efforts.

### 4 STRATEGIC OPERATIONS

NOWRA will strengthen and mature industry support by maintaining year-over-year revenue growth of at least \$175K and annual net income of at least \$125K.

#### Staffing

Sustain 3-5 full-time employees.

#### Reserves

Set policies to grow and maintain reserves at a minimum of 12 months of annual expenses.

#### Grants

Diversify grant portfolio by at least 2 additional funding sources.

For more information about NOWRA:  
[NOWRA.org](http://NOWRA.org) | [info@NOWRA.org](mailto:info@NOWRA.org)

# MESSAGE FROM THE EXECUTIVE DIRECTOR

Welcome to the Spring issue of NOWRA's Onsite Journal. This is our first of three issues for 2025. By the time everyone receives this, the snow will have melted, many of our members will be back out in the field doing what they do best, and spring flowers will be budding. This issue will feature our successful Spokane Mega-Conference wrap-up as well as a follow-up article on the Alabama Black Belt.

This year has already started off with a bang! NOWRA is pleased to

announce that we have **THREE** new state affiliates joining us for 2025—South Carolina, New Hampshire, and Oklahoma. This is very exciting and brings our total state affiliates to 30. The NOWRA staff is growing as well. Our new Operations Coordinator, Tricia Scott, started March 3rd with NOWRA and will oversee many of our operational tasks, such as outreach, online training, committee coordination, etc. I'm pleased to say that we are no longer a one-person operation.

2024 was a successful year for NOWRA. Not only did we hold a successful conference in Spokane, but we continued to grow our affiliate and corporate members, added new member benefits such as health insurance, continued to expand our online training options, and also finalized and approved a Strategic Plan for the organization for the next 3 years.

For 2025 we have examined our Onsite Journal content and are attempting to make it more relevant to all our members. We know some members like to read technical or research articles, but we also want to provide something for our members who are looking for more practical information as they design, install, and/or maintain systems. Not only have we incorporated a practitioner article, but we are also looking to kick off a Question-and-Answer section—an "Ask the Septic Experts" kind of forum. We look forward to hearing from you so we can incorporate some of your questions and/or ideas in future issues.



We are pleased to announce the Call for Abstracts for our 2025 Mega-Conference. The theme for this year's conference is **Clean Water Strategies at the Heart of it All**, so plan on submitting an abstract, bring the family and come out to join us at the Kalahari Resort in Sandusky, Ohio, in October.

As I conclude every issue, I like to state that this organization is only as strong as its members and volunteers. We are excited about the results of our strategic planning effort which will only help us to continue to improve the organization. Much of the great work that you will read about inside of the publication is due to the dedicated committee members and volunteers. As you read about NOWRA's activities, please consider joining a committee or task force. We will be holding an election in September for open seats on the NOWRA Board. Watch for those openings listed in the next issue. If not this year, please consider getting involved at your state association or national level. It's a great opportunity to expand your horizons, network with like-professionals, feel good about yourself and the industry that we have chosen, and make life-long friends.

Thank you for allowing me to serve as the Executive Director of this great organization for over four years now. Time sure flies. I look forward to a great 2025!

— **Thomas Groves**

## New Q&A Section *Your Questions, Answered!*

We are excited to introduce a new Q&A section in our next issue, where industry professionals can ask and answer the pressing questions shaping our work. Whether you're an installer, designer, or regulator, we invite you to submit your questions—or suggest the ones you'd like to see answered.

- What challenges are you facing?
- What insights can help the industry move forward?

Send in your questions, and we'll tap into expert knowledge to provide practical, real-world answers.

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# STATE AFFILIATE NEWS

**AZOWRA (ARIZONA)** — The Arizona Onsite Water Reclamation Association (AzOWRA) is co-sponsoring the Arizona Onsite Educational Conference, along with ACDEHSA (Arizona County Directors of Environmental Health Services Assoc.), on April 1-2, 2025, in Payson, AZ. The program theme is “Training Today for Tomorrow.” Some of the speakers include Dr. Kitt Farrell-Poe, University of Arizona; Dr. Albert Robert (Bob) Rubin, North Carolina State University; Bruce Lesikar, P.E., Columbus, TX; Trevor Baggione, ADEQ Water Quality Division Director; Mark Gross, P.E., and others. For more information on the Arizona Onsite Educational Conference go to [www.azowra.org](http://www.azowra.org).

**CPOW (COLORADO)** — CPOW started off 2025 with our Annual Education Conference at the end of January, in Golden, CO. The conference was attended by almost 200 people, including 14 Speakers and 15 Exhibitors, covering topics such as The Future of Onsite, the Septage Crisis, Dosing Systems & Controls, and the upcoming Regulation 43 Changes. The revisions to Reg 43 are still moving through the process, with a recent prehearing conference held on Feb 19th, before the expected rulemaking hearing on March 10th. CPOW is also looking forward to a full calendar of OWTS courses, including the newest CPOW Design Course, which includes modules being hosted on the NOWRA platform.

**GSOWA (NEW HAMPSHIRE)** — Hello from the Live Free or Die State! The Granite State Onsite Wastewater Association (GSOWA) is very busy planning our 36th Annual Spring Conference and Expo set to take place March 31-April 1 in Manchester, NH. Last year we had well over 350 attendees – and we are hoping for an even larger turnout this year! Election of our Board of Directors will take place on the first day of the conference as well. In December, after soliciting member feedback, members of the Board met with the NH Department of Environmental Services to review and discuss proposed Revised Administrative Rules Env-Wq 1000. As yet, no changes have been adopted. On January 30th we held a combination post-holiday dinner for members while simultaneously saying goodbye and wishing a great retirement to our former Executive Director, Matt Gatzke. Kimberly

DeMartin is our new Executive Director who has taken over Matt's role.

**OOWA (OHIO)** — Greetings from the Buckeye State! The Ohio Onsite Wastewater Association (OOWA) concluded their annual conference on January 7-8 at the Cherry Valley Hotel in Newark. Chas Kaiser of CDK Structures Inc was awarded the Trent Lydic Memorial OOWA Distinguished Service Award. Caleb Stephenson of Cody Wheeler Excavating, Jon Franklin of Tidy Tim's, and Steven Swartzentruber of Avodah Construction took home the top three places in this year's Backhoe ROE-D-HOE competition!

Board nominations for OOWA recently took place and the following individuals will be holding a leadership position in 2025. Zak Sherman of Sickel's Septic Tanks, President; Dominic Dowell of Jet Inc., Vice President; Mike Rogich of Delaware General Health District, Past President; SCS Engineers' Dan Brennan, President Elect; Drew Nickoli of Eljen, Treasurer; and Tidy Tim's Zach Gossett, Secretary. We hope to see you in Sandusky in October for the Mega Conference!

**SCOWA (SOUTH CAROLINA)** — Greetings from South Carolina! We are excited to introduce the South Carolina Onsite Wastewater Association (SCOWA) as a new state affiliate of NOWRA! SCOWA was formed to support and advocate for professionals in the onsite wastewater industry, providing education, networking, and resources to ensure safe and sustainable wastewater management across the Palmetto State.

Our mission is to promote best practices, encourage professional development, and collaborate with regulatory agencies to advance the onsite wastewater industry in South Carolina. As we establish our presence, we look forward to offering training opportunities, industry updates, and four regional meetings a year, along with a 2-day Annual State Conference to bring together professionals from across the state.

We're kicking off our inaugural regional meeting on March 12, 2025, at the Cooperative Conference Center in Columbia, SC! This meeting is the first of four we will

*continued on page 10*





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hold throughout the year, ensuring valuable networking and education opportunities for our industry.

We are eager to connect with our peers in the industry and contribute to the national conversation on onsite wastewater solutions. Stay tuned for updates, CEU credit opportunities, and event announcements by visiting [www.scowa.org](http://www.scowa.org).

**WOSSA (WASHINGTON)** — Leigh McIntire is the new WOSSA Executive Director, as former director Chuck Ahrens completes his move to Tennessee for new adventures, fame and fortune. Leigh has been working for WOSSA as the Incoming Executive Director since October.



*NOWRA wishes to thank Chuck Ahrens for all of his efforts and wish him the best of luck.*

Chuck has led WOSSA to become a premier on-site association in the nation for influence, industry knowledge, and training opportunities. He has established new relationships with local and state health departments, as well as the State Board of Registration for Professional Engineers and Land Surveyors.

Leigh has been a WOSSA member for over 20 years, is an active instructor at the WOSSA Training Center, and has served on the Board in various roles including President. He has almost 35 years of experience in the on-site industry, as a wastewater systems designer and a regulator.

We had 836 people in attendance at the annual WOSSA conference, SEPTIC-CON and an additional 161 people from Washington attended the NOWRA Mega-Conference in Spokane for a total of 997 people at Washington conferences hosted by WOSSA/NOWRA this year! We are looking forward to breaking the 1000 attendee mark in the future which would be awesome, a huge credit to our industry partners and professionals!

**YOWA (NEW ENGLAND)** — As of January, the Yankee Onsite Wastewater Association (YOWA) switched their membership cycle from anniversary renewals to calendar year to better align with organizations' fiscal years. All memberships will now be active from January to December.

Additionally, YOWA will be hosting various in-person and virtual trainings throughout 2025. The "Women in Public Health: Shaping the Future, Inspiring Change" webinar will take place on March 25, and a webinar on pressure distribution will be held later this Spring. This Summer, YOWA will also host an in-person soils training and Innovative and Advanced Technology Systems Field Training. More information on these events will be available soon on YOWA's site: [www.yankeeonsite.org](http://www.yankeeonsite.org).

[See full listing of NOWRA state affiliates.](#)

## 2025 National Backhoe Roe-D-Hoe Champion Crowned

The NOWRA National Backhoe Roe-D-Hoe championships were held recently in Indianapolis at the 2025 WWETT Show. 197 entrants tested their backhoe skills through the obstacle course of basketballs, bowling pins, and golf balls. Five qualifying finalists, the reigning National Champion; Albert Breech, the Ohio state champion; Caleb Stephenson, and the Iowa state champion; Jordan Boley competed for the top three prizes in the finals. Congratulations to Adrian Keiper from Ohio for winning first place with an incredible total time of 59 seconds matching Albert Breech's winning time in 2024. He got to wear the Backhoe Roe-D-Hoe championship belt and walked away with \$1000 in cash and a commemorative belt buckle.

Congratulations also goes out to our other top finishers: 2nd place, Albert Breech, Ohio; 3rd place, Caleb Stephenson, Ohio; Honorable mention, Jordan Boley, Iowa; Cody Wheeler, OH; Eric Pier, Wisconsin; Josh Reading, Illinois; and Nick Dykes, Missouri.

Check out more pictures and a video of the championship round on the [NOWRA FaceBook page](#). Join us next year for the NOWRA National Backhoe Roe-D-Hoe championships at the [WWETT Show](#) in February 2026. We hope to have several state champions vying for the top prize and bragging rights.



*MC Randy Miles announcing that Adrian Keiper from Ohio was the first-place winner of the 2025 Roe-D-Hoe 2025 competition held at the 2025 WWETT Show.*



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## EXECUTIVE COMMITTEE DECEMBER 2024—NOVEMBER 2025

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**Robert Sweeney**

President, Environmental Management  
Systems, Inc., Milwaukie, OR

## Welcome to Our New Board Members



**Nicholas Huber** has been a member of the Oklahoma Department of Environmental Quality since December 2003. During that time, he has served as an Environmental Program Specialist responsible for implementing the Agency's On-site program across a large

region of the State. In January of 2018 he moved into the role of Environmental Program Manager responsible for the On-site Program. As Program Manager, he has worked diligently to review and revise the state's on-site regulations to incorporate industry standards and pave the way for new technologies. Nicholas was recently appointed to the board by President LeClair to fill the Regulator term recently vacated by new NOWRA staff member, Tricia Scott.



**Brian Koski** started in the onsite industry in 2004 after completing an Associates' Degree in Water Quality Science. This 2-year program focused on water and wastewater treatment. He started as an intern with Septic Check in 2004 and has stayed with the

company ever since and eventually became sole owner of the company in 2013. During his time with Septic Check, he has obtained all onsite licenses available in Minnesota and has 20 years' experience in all of the disciplines including design, inspection, installation, service provider, and maintainer. Brian has been involved with his state organization, MOWA, since 2005. He served on the MOWA board for two terms, was president for two terms, and was also involved in many of the committee functions. Brian was elected in Fall 2024





# LEGISLATIVE UPDATE

## *New President, Congress Eager to Advance Policy Agenda*

*By Tim Perrin, Polsinelli*

“And they’re off!” That phrase really seems to capture how this new year in Washington has begun. The 119th Congress convened in the first days of January with Republican majorities in both the Senate and the House of Representatives. Shortly thereafter President Trump was sworn in for a second term and wasted no time in carrying out his campaign pledges. Things are moving quickly, and it has been a challenge at times to keep up with the flurry of activity within all three branches of government.

Most of the attention rightly focuses on the White House and President Trump’s executive actions. Following wins in both the Electoral College and the national popular vote, the president is setting Republicans’ agenda and putting in place his team to deliver on that agenda. As we track always-updating news feeds, it is useful to pause to see how decentralized wastewater policy issues fit into the broader context.

### Trump 2.0

Within President Trump’s first month in office, the Senate approved 18 of his 22 Cabinet nominees – a very fast pace. In addition to White House advisors and staff, the individuals President Trump nominated to lead the federal departments and agencies share his vision for reforming government programs. Many of these nominees, if not most, are considered “disruptors”—individuals willing to deviate from ‘business as usual’ to advance the president’s agenda. For

NOWRA, President Trump’s selections to lead the U.S. Environmental Protection Agency (EPA) and the Department of Agriculture (USDA), while not the expected picks, present the industry with opportunities to highlight how decentralized wastewater systems save money and simultaneously promote public and environmental health.

- The Senate confirmed former New York Congressman Lee Zeldin to lead EPA in January. Representing Long Island on Capitol Hill, Zeldin spearheaded legislation on septic tanks and decentralized wastewater infrastructure. Although he does not have extensive experience in the environmental sciences, he is educated on clean water and wastewater issues and was endorsed during the confirmation process by key water stakeholder organizations. As such, we are confident Zeldin will readily understand the value decentralized wastewater systems bring to communities.
- Brooke Rollins was sworn in as Secretary of Agriculture in mid-February. Although Rollins’ undergraduate degree was in agricultural development, she has spent much of her career as senior level policy advisor for former Texas Gov. Rick Perry and as director of the White House Domestic Policy Council during President Trump’s first term. She also directed Trump’s American Innovation office in his first

term. We expect Rollins to recognize decentralized wastewater’s investment in innovation and how these innovations are cost-effective wastewater solutions—especially in rural America.

### 119th Congress

While President Trump and his appointees are receiving most of the focus, it is Congress that will be the agent of lasting policy change. In this era of unified government, Congressional Republicans are working to carry out their priorities, and the president’s, through changes to the federal budget. This year Congress is doing this through the (1) appropriations process, which provides funding for all federal programs, as well as through the (2) budget reconciliation process, which restructures federal policies connected to revenues and expenditures. These two whole-of-government initiatives represent two of the biggest debates we will encounter this year.

It is within this context that NOWRA is calling on Congress to appropriate funding for two decentralized wastewater grant programs administered by USDA and EPA. NOWRA advocates are making the case that with 25 percent of the country depending on decentralized wastewater, the federal government should play a greater role than it currently does in assisting low- and moderate-income decentralized users to upgrade their systems.

*continued on next page*


# LEGISLATIVE UPDATE

*continued*

And while this effort to secure additional support for these grant programs is underway, NOWRA is exploring ways to increase the allocation decentralized wastewater stakeholders receive from the EPA's Clean Water State Revolving Fund (CWSRF). A recent EPA survey of states found that approximately \$75 billion is required to improve and upgrade decentralized wastewater systems across the U.S. This amount represents about 12 percent of the CWSRF, but decentralized stakeholders currently receive less than 1 percent. Finding a way to grow this allocation through a legislative fix could mean a long-term infusion of significant funding for the decentralized wastewater sector.

Amidst the backdrop of non-stop political action, NOWRA is actively pursuing opportunities to advance the priorities of decentralized wastewater stakeholders. We look forward to working with NOWRA members as we communicate our interests to policymakers in this new year.





*Tim Perrin is a Senior Policy Advisor with Polsinelli PC.*



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**ADVOCACY** The following companies and organizations are supporters of NOWRA's advocacy efforts for 2025 and comprise our Lobbying Board of Governors. We thank them for their efforts and support.

- American Manufacturing, Inc.
- Anua
- BioMicrobics, Inc.
- Eljen Corp.
- Florida Onsite Wastewater Association
- Infiltrator Water Technologies
- Jet, Inc.
- Missouri Smallflows Organization
- National Association of Wastewater Technicians (NAWT)
- Norweco, Inc
- Orenco Systems, Inc.
- Residential Sewage Treatment Co.
- Roth North America
- Virginia Onsite Wastewater Recycling Association (VOWRA)

**BECOME INVOLVED!** We would welcome your participation on the Board of Governors if you are able to make that commitment. You are also welcome to contribute at a lower level. All of the funds raised go directly to supporting our advocacy efforts. To find out more about NOWRA's Advocacy activities, visit our [Advocacy website](#) to get more involved or [contact the NOWRA office](#).



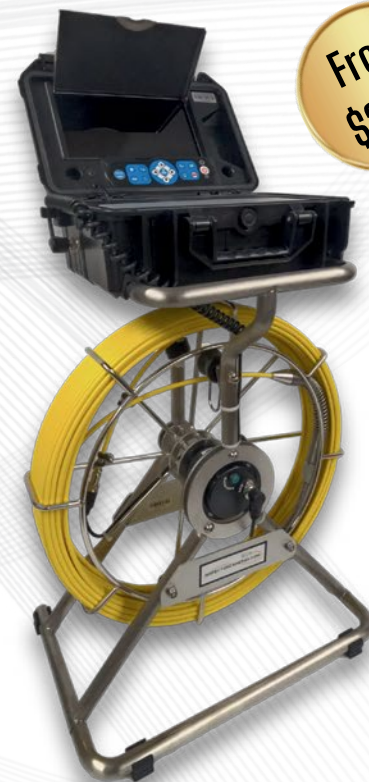


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# COMMITTEE UPDATES

## NOWRA Committees

NOWRA's committees are the working groups of the organization. They exist to shape the direction of the organization over time. NOWRA welcomes and encourages its members to become involved with its committees and task forces. To belong to a NOWRA committee, you must be a NOWRA member. For information on joining a committee check out the [committee webpage](#) or contact the NOWRA office at [info@nowra.org](mailto:info@nowra.org).

### Corporate Member Committee

*Open to existing NOWRA Corporate Members only*  
*Chair: Ed Schloss, Jet, Inc.*

### Conference Planning Committee (2025 Mega-Conference)

*Chair: Valerie Graham, Ohio Onsite Wastewater Association*

### Education Committee

*Chair: Gary Hawkins, Ph.D., University of Georgia*

### Emerging Professionals Committee

*Chair: Jonathan Kaiser, Infiltrator Water Technologies*

### Government Relations Committee

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### Marketing & Communications Committee

*Chair: Donna Fiorentino, Infiltrator Water Technologies*

### Online Education Committee

*Chair: Sara Heger, Ph.D., University of Minnesota*

### Onsite Journal Committee

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*Open to existing NOWRA state affiliates*  
*Chair: Jessica Wood, Residential Sewage Treatment Co.*

### Technical Practices Committee

*Co-chairs: Allison Blodig, GYST Consulting and Chris Strycharz, Infiltrator Water Technologies*

## Emerging Professionals Committee Update

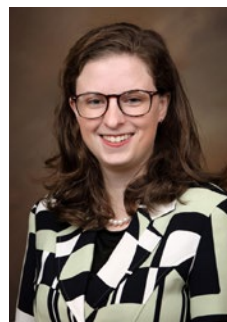
The NOWRA Emerging Professionals Committee (EPC) continues to make waves, demonstrating its vital role in shaping the future of the onsite wastewater industry. At this past NOWRA Mega-Conference in Spokane, WA, the EPC made a strong presence.

One of the standout moments of the event was the presentation of scholarships to two outstanding emerging professionals. These scholarships go beyond financial assistance; they serve as a catalyst for innovation,

*continued on page 18*

## 2024 Emerging Professionals SCHOLARSHIP WINNERS

The winners of the 2024 Emerging Professionals Scholarship were announced at the Mega-Conference in October. The committee received applications from many worthy candidates as interest has grown in the program.



**Rebecca Etter** is a second-year Civil Engineering PhD student in Auburn University's Samuel Ginn College of Engineering. She is from rural Georgia and has completed a bachelor's and master's degree in engineering at Mercer University in Macon, Georgia, where she served as a visiting instructor before leaving to pursue her PhD.



**Lorraine Lowrey** works for the Kansas Rural Water Association (KRWA) overseeing its USDA Decentralized Wastewater program. Lorraine is currently pursuing her MS in Civil Engineering from Ohio University and intends to graduate the summer of 2025.



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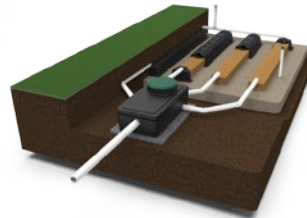


### Ecoflo compact biofilter | Concrete

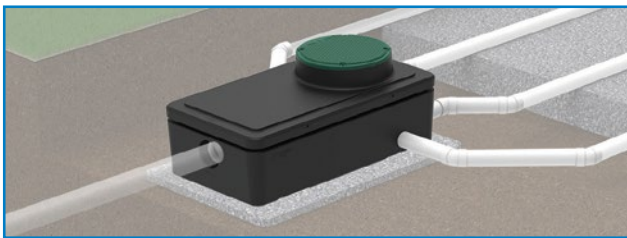
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## Emerging Professionals Update *(continued)*

equipping rising leaders with the resources and encouragement to make a lasting impact in the onsite industry. This initiative is a testament to NOWRA's steadfast commitment to fostering excellence and driving the industry forward.

To raise money for future scholarships, the EPC spearheaded successful fundraising efforts, including a pre-conference golf tournament and a 50/50 raffle. Every dollar raised directly supports scholarships, reinforcing the EPC's dedication to providing meaningful opportunities for young professionals.

The EPC also hosted oral and poster competitions with cash awards. These competitions do more than highlight emerging talent—they create a dynamic exchange of knowledge, where fresh perspectives challenge conventional thinking and inspire seasoned professionals. This synergy between experience and innovation is crucial for the advancement of the industry.

While the EPC takes pride in its achievements at this last Mega-Conference, its mission is far from complete. With a vision set on expanding outreach, creating new opportunities, and fostering a thriving community of emerging professionals, the EPC remains a driving force for change.

If you're ready to be part of this momentum, whether as a participant, mentor, or supporter, NOWRA welcomes your involvement. Reach out to the NOWRA office at [info@nowra.org](mailto:info@nowra.org) and help shape the future of the industry!

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# Sustainable Decentralized Wastewater Management in the Rural Alabama Black Belt

Authors: Amal Bakchan, Rachel Chai, Lacey Christian, Kevin D. White, Jillian Maxcy-Brown, Mark A. Elliott, and Mark O. Barnett

## Introduction

The 17-county Black Belt region in rural Alabama has long struggled from a lack of access to adequate wastewater management (Photo 1). Contributing to the acute wastewater problem in this region are extreme soils conditions (a shrink-swell vertisol clay) that cause hydraulic failures in conventional septic systems, coupled with various socio-technical obstacles, including high-poverty, low-population density, limited local government capacity, challenges accessing funding, and lack of appropriate management models (Elliott et al. 2023). These challenges have resulted in the use of straight pipes discharge raw sewage to

backyards or nearby land surfaces (see Photo 2). Such an unacceptable sanitation condition—highlighted in national and international news (Engelman-Lado et al. 2021; United Nations 2011; Winkler and Flowers 2017)—has spurred research and community-based efforts to provide technological, financial, management, and regulatory solutions.

In 2018, the Consortium of Rural Alabama Water and Wastewater Management (CARWW) (CARWW 2024) was formed to facilitate communication and collaboration between the Alabama regulatory community, academic institutions, elected officials, community groups, and representatives from the water

and wastewater industry (20+ formal members) for the purpose of finding equitable and sustainable solutions. In addition to CARWW's contributions to facilitating much-needed communication and collaboration between community stakeholders, it has organized community-based workshops to capture community preferences related to decentralized wastewater management solutions, as well as involve the stakeholders directly in the decision-making processes. The CARWW's approach to addressing the Black Belt region's wastewater issues has been termed the "Three-Legged Stool", further discussed in the previous article published in the Spring 2024 issue of the NOWRA Onsite Journal. This article (1) sheds light on the needs assessment plan for incorporating decentralized wastewater infrastructure in the Black Belt, (2) goes more in-depth on our work to analyze life cycle costs associated with the potential technology solutions, and (3) evaluates the development of responsible management entities (RMEs) for providing sustainable systems operations.



**Photo 1.** Soil conditions for onsite wastewater treatment systems in the Alabama Black Belt.



**Photo 2.** Examples of straight pipes and failing septic systems in the Black Belt Region of Alabama.

## Wastewater Needs Assessment Plan

The work discussed in this article builds upon the wastewater needs studies discussed in the previous article. To create an overall plan for implementing wastewater solutions in the Alabama Black Belt and beyond, a reproducible method was established for assessing wastewater needs within a specified area.

*continued on page 20*

For the Alabama Black Belt's needs assessments, the area of interest was assigned by county. The assessment identifies and maps areas with existing centralized wastewater systems, population clusters that would benefit from connecting to an existing sewer system, population clusters that are good candidates for decentralized clustered wastewater systems with their own treatment system, and areas where appropriate onsite wastewater treatment systems (OWTS) are necessary. According to estimates based on National Pollutant Discharge Elimination System (NPDES) permits, implementing the solutions identified in these assessments would increase the percentage of Black Belts' residents on managed wastewater systems from 51% to over 85%. The estimated cost of implementing these solutions for the Black Belt is \$689 million. For the remaining 15% of the population, OWTS solutions are needed. Notably, the U.S. Department of Agriculture's

web soil surveys were utilized to map soil ratings for septic tank absorption fields, which is necessary to identify appropriate onsite wastewater treatment technologies for an area.

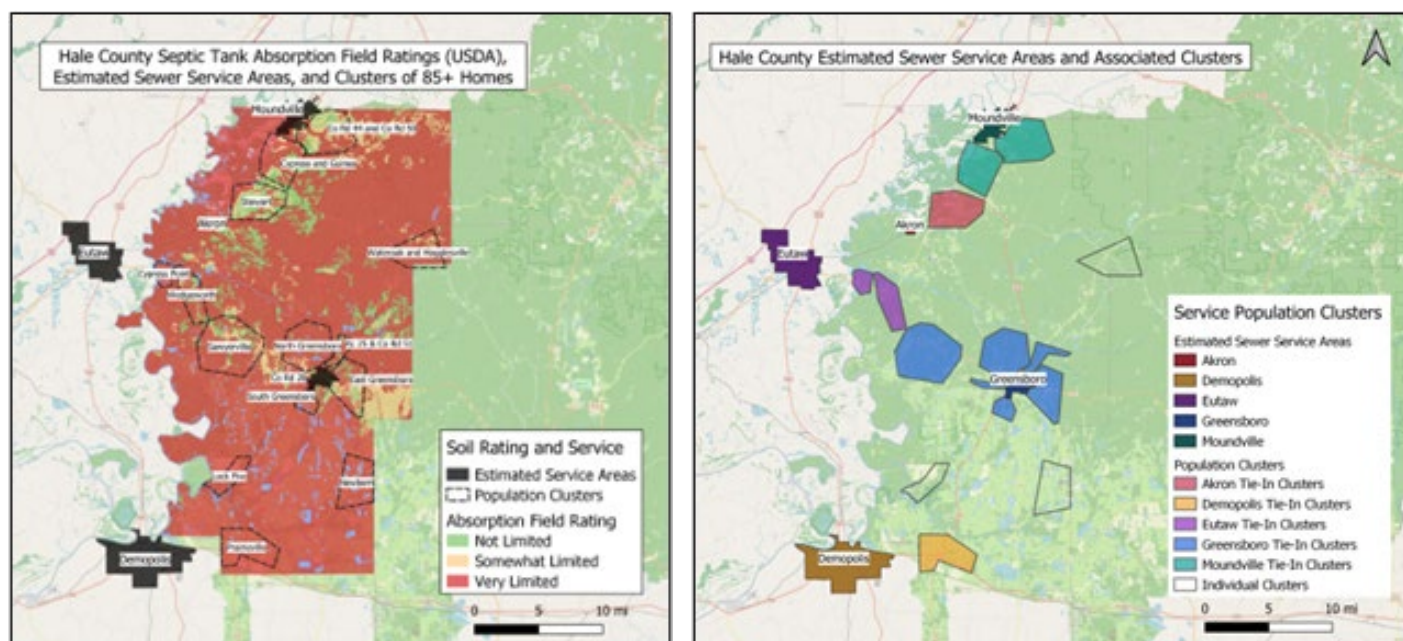
For instance, the Hale County needs assessment map in Photo 3 shows the existing centralized wastewater systems—identified using NPDES permits—of Moundville, Greensboro, Eutaw, and Demopolis with service areas estimated to city limits. The mapped population clusters, identified using county GIS records and satellite images, have 85+ homes with a maximum diameter of 5 miles and a minimum average density of 25 homes per square mile. For all areas outside of the estimated service areas and population clusters, appropriate OWTS should be identified for the soil conditions shown. Photo 3 highlights which population clusters are close enough (6 miles or less) to an existing sewer service area to be candidates for connecting to that system, as well as which population clusters require

their own decentralized clustered wastewater treatment system. It is important to note that the potential to connect to an existing sewer system depends on the system capacity and the willingness of the community to be tied in.

### Life Cycle Cost Analysis of Decentralized Wastewater Treatment Technologies

Affordability is a significant challenge for small, rural communities—such as the Black Belt—given their limited financial capacity and resources. Even with the unprecedented U.S. federal funding opportunities—through the Bipartisan Infrastructure Law (BIL) and the American Rescue Plan Act (ARPA)—many of these communities lack the local government capacity needed to access these funds and select cost-effective wastewater treatment technologies to address their local infrastructure issues. As part of our commitment

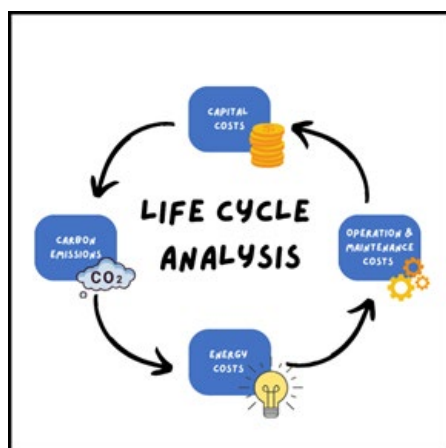
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**Photo 3.** Example wastewater needs study for Hale County, Alabama.



to address wastewater issues in the Black Belt, we are conducting a life cycle analysis (LCA) to assist with this technology selection, considering factors from the initial development of the system (e.g., material creation and acquisition) through the usage and disposal of the system. These factors span various socio-technical dimensions, including operational, financial, and environmental aspects (see Photo 4). We are evaluating various decentralized wastewater treatment technologies that can be considered at the community level, such as lagoons, aerated activated sludge treatment systems, recirculating media filter, and constructed wetlands. Preliminary findings show that nature-based systems (e.g., constructed wetlands, lagoons) are more cost-effective treatment technologies for small, rural communities, like the Black Belt. We are in the process of finalizing this analysis and developing recommendations that could guide engineers and community residents in selecting appropriate technologies based on a comprehensive LCA approach.

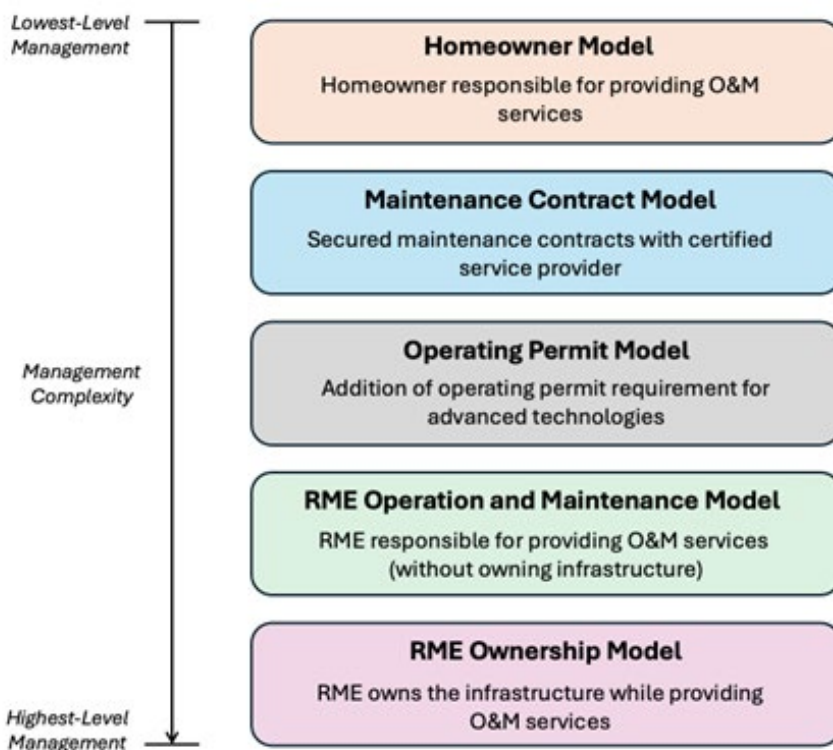


**Photo 4.** LCA assessment criteria for evaluating cost-effective wastewater treatment technologies.

## Responsible Management of Decentralized Wastewater Systems

**Need for a Sustainable Management Model.** While the wastewater needs assessment plan provides a unique paradigm for incorporating decentralized wastewater management in Alabama (and other small, rural communities in the U.S.), it must be coupled with a comprehensive management model to ensure sustainable systems operations over the long term. According to US-EPA (2003), decentralized management requirements vary based on the treatment system's complexity, as well as environmental sensitivity or public health concerns of an area. In this regard, a five-level conceptual decentralized systems management framework exists, ranging from approaches with the

least management controls—primarily adequate for conventional onsite septic systems that require little owner attention—to approaches with higher management restrictions (see Photo 5). For instance, the first management model (homeowner awareness) is typically adopted in low-risk contexts (e.g., simple technology and few serious consequences from malfunction), where the system owner may be capable of providing the long-term maintenance. For more complex systems (including collection, advanced treatment, and dispersal options), the local regulatory authority may require that system owners secure maintenance contracts with certified service providers—referred to as the maintenance contract model. This management model might be enhanced by the addition of an operating permit



**Photo 5.** Five-level management framework of decentralized wastewater infrastructure.

## Sustainable Decentralized Wastewater Management in the Rural Alabama Black Belt *(continued)*

requirement—referred to as the operating permit model—which is often adopted in contexts where performance-based codes are implemented to facilitate the use of more advanced collection, treatment, and dispersal technologies. The permit renewal is based upon meeting conditions for proper maintenance at the designated frequency and achieving reasonable system performance.

In contexts where public health and environmental risk increase, a community might consider adopting the fourth management model (RME operation and maintenance). A qualified RME becomes responsible for maintaining all management tasks associated with the system (i.e., collection, treatment, disposal components), in exchange for a fee paid by the property owners. This approach is also known as “contract operation”, as the RME ensures that the system is in compliance but does not own the infrastructure. In contrast, in the highest-level management model (RME ownership), the RME actually owns the infrastructure while ensuring proper operations and management (O&M) to stay in compliance.

For the case of the Black Belt, an RME is needed to provide proper O&M for the newly installed and/or proposed decentralized wastewater systems—both onsite and clustered; that is, adopting either the RME operation and maintenance model or the RME ownership model. Notably, even the existing municipal wastewater systems in the small towns of the Black Belt have a limited number of connections, with the majority being less than 600 connections. Further, some of the decentralized clusters identified as part of the needs assessment plan are as large as some of the

small-town municipal systems. Therefore, the identified RME can manage multiple existing small municipal systems, clustered systems, and/or OWTS, providing the opportunity for a true consolidation that promotes systems sustainability over the long term. Adopting such RMEs-related approaches would facilitate having part of the user fee being dedicated towards establishing a reserve fund—paid in increments—to be used for system repairs and replacements. RMEs are thus not only driven by protecting public and environmental health but also proactively avoiding unexpected repair bills to ensure sustainable O&M.

***Ongoing Efforts to Capture Stakeholders’ Perception on Responsible Management.*** As demonstrated by our wastewater needs assessment and LCA studies, decentralized wastewater systems—a combination of OWTS and clustered systems—are promising solutions to address wastewater issues in the Black Belt. However, to achieve successful RME operations, we need to determine feasible entity type (e.g., public, private, public-private-partnership), establish an effective scale of management (e.g., county-wide management, multi-county regionalization), and identify/address possible barriers to proper performance by RMEs. To do so, we collected both survey data and conducted semi-structured interviews with different types of stakeholders.

For the survey questionnaire, we gathered data from various public and private management entities across the U.S., including water utilities, sewer utilities, and community development corporations. The survey included questions about

the participants’ demographics and experience in their respective organizations, entity type and structure (e.g., public service provider, private agencies, non-profit), type of service provided (e.g., water, sewer, or both), and possible scale options that may be feasible for the RME handling various alternative decentralized wastewater systems (onsite and/or clustered) in the Black Belt (e.g., community-, county-, regional-, state-level). Survey data collection was conducted between March 2022 and January 2023, yielding 117 complete responses, spanning 27 states. To further understand the challenges and opportunities for the adoption of various scale options as well as various challenges faced at technical, social, financial, and regulatory dimensions, we conducted 32 semi-structured interviews with 42 stakeholders from September 2022 to May 2023. The stakeholders included both institutional players (e.g., regulators, elected officials, operators, utilities, engineers) and community advocates/residents. Stakeholders’ expertise spans utility management of small, rural, decentralized wastewater systems, technical assistance, regulatory aspects, and socio-technical dynamics underlying the wastewater crisis in the Black Belt.

Our findings reveal that private entities are more willing to manage small, decentralized wastewater systems in the Black Belt compared to public entities. Additionally, our analysis shows that private-public partnership (PPP) may be an effective utility structure approach; the local government would create and enforce the PPP arrangement while being able to obtain federal funds, whereas the private RME would



provide O&M services leveraging its technical and managerial efficiencies. Both survey and interview participants show their preferences towards a scale of management that promotes RME's financial sustainability, either at the county level or preferably consolidating systems across multiple counties to increase the customer base. Even though regionalization of responsible management is an opportunity for sustainable system operations in such small, rural, underserved communities (for reasons such as economies of scale), communities' preferences and political dynamics across communities need to be considered. For instance, our findings reveal stakeholders' concerns about implementing a centralized management approach that crosses the county scale, as communities may oppose such solutions due to political and power dynamics across counties. These findings emphasize the need for additional educational efforts about benefits of regionalization, targeting all types of stakeholders, including

community residents, elected officials, regulators, and utilities. Also, our work highlights the water-wastewater workforce shortage in the Black Belt—an ongoing national challenge in the water-wastewater sector, further exacerbated in rural, underserved communities. Survey respondents and interview participants seem to be highly concerned about this workforce barrier, as it would probably increase RMEs' hurdle to acquire the required expertise needed to conduct timely O&M services. Given such urgent need to foster economic development in the Black Belt—through the provision of both physical and human infrastructure—workforce development has been a key component to our ongoing (and future) efforts in the Black Belt.

### Conclusions

Our team is working on a multi-faceted approach to address the ongoing wastewater infrastructure issues in the 17-county Black Belt, including treatment technologies,

responsible management solutions, regulatory and financial models, and workforce development strategies—all founded on robust community engagement facilitated through CARWW. The team has been recently awarded two large-scale multi-institutional grants—a ~\$15 million EPA Community Change Grant (led by Dr. Amal Bakchan at Texas A&M University) and a \$5.2 million USDA-Rural Development Grant (led by Dr. Mark Elliott at the University of Alabama). As part of these projects, we plan to continue our efforts to advance the wastewater needs assessment, analysis of life cycle costs associated with various types of decentralized wastewater systems, and responsible management models that account for entity structure, regionalization of O&M, and socio-technical challenges impeding sustainable systems management and operations. We welcome anyone interested in knowing more about these efforts and/or visiting our pilot demonstrations to contact the project team (bios provided on page 24).

## References

CARWW. 2024. "Consortium for Alabama Rural Water and Wastewater Management." Retrieved (<https://rural-wastewater.southalabama.edu/>).

Elliott, M., Bakchan, A., Maxy-Brown, J., D'Amato, V., Hallahan, D., et al. 2023. "Sustainable Wastewater Management for Underserved Communities Using Federal Infrastructure Funds: Barriers, Bottlenecks, and Tradeoffs." *Water Secur.*, 20,100152.

Engelman-Lado, M., Bustos, C., Leslie-Bole, H., and Leung, P. 2021. "Environmental Injustice in Uniontown, Alabama, Decades after the Civil Rights Act of 1964:

It's Time For Action." *American Bar Association Human Rights Magazine*, May.

United Nations. 2011. "Report of the Special Rapporteur on the Human Right to Safe Drinking Water and Sanitation, Catarina De Albuquerque."

US-EPA. 2003. Voluntary National Guidelines for Management of Onsite and Clustered (Decentralized) Wastewater Treatment Systems (EPA 832-B-03-001).

Winkler, I. T. and Flowers, C. C. 2017. "America's Dirty Secret": The Human Right to Sanitation in Alabama's Black Belt. Vol. 49.1.

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### Author Bios

**Amal Bakchan, PhD** (Contact Author), is an Assistant Professor in the Department of Construction Science at Texas A&M University. Her research primarily focuses on water and wastewater infrastructures, in the broad areas of socio-technical infrastructure systems management in extreme contexts (e.g., disasters, development crises); infrastructure resilience; regionalization of responsible management entities of decentralized systems in rural communities; and workforce development. ***For any questions or additional information regarding this article, please contact Amal Bakchan at bakchan@tamu.edu.***

**Rachel Chai is a Ph.D.** candidate in the Systems Engineering program at the University of South Alabama focusing on lifecycle assessment for decentralized wastewater treatment systems. Drawing on her experience, her research applies systems thinking and civil engineering design toward finding innovative solutions in the Alabama Black Belt region under the guidance of Drs. Kevin White, Sean Walker, and Kaushik Venkiteshwaran.

**Lacey Christian** is a Research Project Coordinator in the Department of Civil, Coastal, and Environmental Engineering at the University of South Alabama. She has an interest in applying innovative engineering solutions to cases of environmental inequity. Her current focus is evaluating and identifying the current needs and appropriate solutions to the wastewater issues faced in the Alabama Black Belt.

**Kevin D. White, PhD, P.E.**, is a Professor Emeritus and the former Chairman of the Department of Civil Engineering at the University of South Alabama. Specializing in environmental engineering, his research has focused on small community and onsite wastewater systems, decentralized water and wastewater infrastructure, and constructed wetlands treatment systems for both wastewater and stormwater.

**Jillian Maxcy-Brown, PhD**, is an Assistant Professor of Environmental Engineering in the Department of Civil and Environmental Engineering at Auburn University. Her work primarily focuses on addressing the equity challenges for water and wastewater access in underserved communities throughout the U.S. She is also currently serving as the vice-chair of NOWRA's Emerging Professionals Committee.

**Mark A. Elliott, PhD**, is a Professor of Environmental Engineering in the Department of Civil, Construction and Environmental Engineering at the University of Alabama. His research focuses primarily on water and wastewater challenges in low-resources settings, membrane-based treatment, and wastewater management in rural Alabama.

**Mark O. Barnett, PhD, P.E.**, is a Professor of Environmental Engineering in the Department of Civil and Environmental Engineering at Auburn University. He has over thirty years of national and international environmental engineering and science experience in industry, government, and academia ranging from water supply and sanitation in rural communities to nuclear waste disposal.



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The 2024 Onsite Wastewater Mega-Conference took place from October 19-23, 2024, in Spokane, Washington. Ironically, the conference occurred on the 50th anniversary of the Spokane World's Fair in 1972—which was the first environmentally focused fair. We capitalized on that theme throughout the conference. Over 550 attendees had the choice of 74 presentations they could attend ranging from Business to Policy to Nutrients to Emerging Issues to Innovative Solutions, as well as six poster presentations from emerging professionals. A total of 51 companies exhibited their goods in the sold-out exhibitor hall.

The Opening Session featured a welcome from the Presidents of the conference sponsoring organizations, Washington On-Site Sewage Association (WOSSA), Oregon Onsite Wastewater Association (O2WA), National Association of Wastewater

Technicians (NAWT), State Onsite Regulators Association (SORA), and NOWRA. Our keynote speaker, Brian Harding, gave a dynamic presentation about the importance of creating a culture of consistency, safety, and excellence in order to build and maintain a successful and competitive company. His insights were interesting and made great sense. Attendees also heard presentations from US EPA, USDA, as well as Tim Perrin of Polsinelli, LLC, who spoke about the lobbying efforts NOWRA



**Keynote Speaker Brian Harding of Service Industry Success**

has undertaken regarding onsite and decentralized wastewater. NOWRA president Allison Blodig closed out the Opening Ceremonies with NOWRA announcements, awards, and news.

The NOWRA Emerging Professionals Committee held an oral and poster presentation competition. Lilith Astete Vasquez of San Diego State University won the poster competition with her presentation *Microbial Community Dynamics in Response to Alternative Waste Introduction to Onsite Sanitation Systems*. Gabby Saba Zimmer of Wastewater Alternatives & Innovations won the oral presentation contest with *Surfing the Silver Tsunami with Work-4-Water: Addressing the Wastewater Workforce Shortage in Hawaii*. Jake Lowe from Lowridge Onsite Technologies was the runner-up with *Efficiency in Wastewater Treatment*.

*continued on next page*





## CONFERENCE WRAP-UP *(CONTINUED)*

### Richard J. Otis Industry Achievement Award

The 2024 Richard J. Otis Industry Achievement Award was given to Kevin Sherman at this year's Onsite Wastewater Mega-Conference. The award



which is named after NOWRA Past-president, Richard Otis, is presented annually to an individual who has made outstanding contributions to both NOWRA and the onsite industry.

Sherman has served in many roles with NOWRA over the years, including Board Member, President, Committee Chair, and active committee member as well as presenting many papers and presentations for NOWRA and other industry related events. Sherman currently works for SeptiTech of Lewiston, Maine, a subsidiary of BioMicrobics, Inc.

The award was presented at the Opening Session of the recent 2024 Onsite Wastewater Mega-Conference held in Spokane, Washington by NOWRA President, Allison Blodig. Congratulations and well-deserved Kevin!

To learn more about the Richard J. Otis Industry Achievement Award and past recipients, check out the [Otis Award website](#).

NOWRA and WOSSA also held the ever-popular Backhoe Roe-D-Hoe competition at the Mega-Conference. The contestants had to demonstrate skill, speed, and accuracy in a series of games. Todd Zollinger, from Zollinger Excavating, Inc., of Oregon, won first place. Andrea Varga from E & A Systems, Inc., of Oregon won second place.

The final event of the Mega-Conference was a field trip to a precast plant, the Spokane Solid Waste Dis-

posal Facility, and one of Spokane's Municipal Wastewater Treatment Facilities. This field trip provided attendees with an opportunity to learn about larger, more complex, and sustainable wastewater needs. As always, the Mega-Conference provided a unique learning and networking opportunity for all attendees. We hope to see you in Sandusky, Ohio for this year's conference in October!





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The NOWRA Online Learning Academy has free online business and regulator courses available for our members and affiliates. Our newest free offerings include:

**Building and Running a Quality Business** discusses how to better run a small onsite wastewater business. *(Available to members only.)*

**Insurance Costs and Risk Management** was hosted in partnership with Watercolor Insurance Management and shares ways to get the best coverages for your business, focusing on the different kinds of liability management that are most relevant to the onsite industry. *(Available to members only.)*

**NEW! The Regulator's Role in Onsite/Decentralized Wastewater** gives an overview of the regulator's role in the onsite wastewater industry, as well as safety, on-going education, and other important concepts.

**NEW! Onsite Wastewater Treatment—What Is It and Where Can I Go for Information?** Is one of two webinars presented in partnership with NEHA. This one-hour course covers onsite wastewater treatment function, the various types of onsite treatment systems, educating homeowners, and where to find additional resources and training.

**NEW! Sewage Disposal—A Priority Item You May Be Overlooking as a Food Inspector** is the second webinar presented in partnership with NEHA. This hour-long presentation discusses onsite wastewater treatment systems in relation to food codes, which government agencies may be involved in evaluations, how to help facilities solve issues that may occur, and other resources and training which are available.

*Watch for more business courses to be added to the Online Learning Academy in 2025!*

Participants can select class length based on continuing education requirements, the subject matter, or how much time they have to commit to training.

**Sign up today!**

[www.pathlms.com/NOWRA](http://www.pathlms.com/NOWRA)



Scan for more info



More info and enrollment



### New Health Benefits Available for NOWRA Members

At NOWRA, we're committed to supporting the health and well-being of our members. That's why we're excited to announce a new partnership with Apollo Health Insurance.

As a NOWRA member, you now have access to a range of tailored health insurance plans designed to meet your unique needs. Whether you're an installer, designer, pumper, service provider, or other small business owner in the onsite wastewater industry, Apollo offers flexible and affordable options with your lifestyle in mind.

#### Key Benefits:

- **Personalized Plans:** Apollo's experts will work with you to create a plan that fits your specific needs and budget.
- **Dedicated Support:** Our team is here to guide you through the enrollment process, answer questions, and assist with claims.
- **Comprehensive Coverage:** Enjoy peace of mind knowing you and your team are protected.

To explore your options and enroll, please visit [Apollo and NOWRA Enrollment](#) to schedule your call. For immediate assistance or to learn more, please contact Apollo at 816-282-1977.

# NOWRA CORPORATE MEMBERS

National Onsite Wastewater Recycling Association

## Diamond Level



## Gold Level



## Silver Level

BioMicrobics, Inc.

Ecological Tanks

National Precast Concrete Association (NPCA)

Orenco Systems

Polylok

## Bronze Level

Anua  
Clearstream Wastewater  
Systems, Inc.  
Hoot Systems, LLC  
Netafim USA  
Roth Global Plastics  
WaterColor Insurance  
Management  
Wieser Concrete

## Copper Level

Ashland Water Group  
JMN Technologies, Inc./LWRE  
FujiClean USA  
Hiblow USA, Inc.  
Residential Sewage  
Treatment Company

## Pewter Level

10X Business Broker  
Mergers & Acquisitions  
Arris Water Treatment  
& Technology  
Imperial Industries  
Inspector Cameras, LLC  
NSF International  
Premier Tech Water  
& Environment  
RioVation  
SJE Rhombus  
SludgeHammer Group, Ltd.

To learn more about or to join NOWRA's Corporate Membership program, please contact us at 978-496-1800, by email at [info@nowra.org](mailto:info@nowra.org), or on our website at [www.nowra.org/about/corporate-members](http://www.nowra.org/about/corporate-members).



## CORPORATE MEMBER BENEFITS

Corporate Membership in NOWRA is an investment that enhances your business marketing efforts while showing your support of our mission to advance and grow the onsite and decentralized wastewater industry.

### Corporate Membership Benefits

- Conference booth, sponsorship, & advertising discounts
- *Onsite Journal* advertising discounts
- Individual NOWRA memberships
- Recognition in the industry
- Federal advocacy on your behalf

### Advocacy Successes

1. NOWRA worked with Congress on the Infrastructure Investment and Jobs Act (H.R. 3684) that was signed into law by President Biden on November 15, 2021. The water infrastructure bill creates a Decentralized Wastewater Grant Program for the repair or replacement of failing or non-existent septic systems owned by low-income homeowners. The Act authorizes \$50 million of funding for each of the Fiscal Years 2022–2026, for a total of \$250 million.
2. NOWRA is working with EPA on implementation of legislation we sponsored which was passed into law as part of the 2018 Water Bill (America's Water Infrastructure Act of 2018) requiring EPA to create a Decentralized Technology Clearinghouse and to share information about the cost-effectiveness of decentralized systems with local governments and other groups. EPA must regularly report back to Congress about how they are supporting the increased use of decentralized systems.
3. NOWRA is monitoring the U.S. Census Bureau's efforts to include a "sewer or septic" question added to the Annual American Community Survey (ACS). This question was removed from the decennial Census after 1990. NOWRA worked with EPA to get them to submit a request to have this question included on the survey. In October 2018 the U.S. Census Bureau accepted the EPA proposal and the question is moving forward to the next stage of approval. This is on track for addition to 2026 ACS.

## INDUSTRY NEWS

### Premier Tech Introduces the Ecoflo Linear Biofilter

Premier Tech is proud to present the Ecoflo linear biofilter, a design upgrade to the classic combined treatment and dispersal system. Wastewater travels through integrated distribution channels and disperses over a length of coco filtration pad before trickling through to an underlying sand layer. The lack of extra pipes allows for quick, easy assembly on installation sites, while the added filtration and treatment from coco preserves the underlying sand layer and opens the system up to sand options outside of C33, allowing projects to source locally available C33 sand alternatives.

The Ecoflo linear biofilter also features chambers made of lightweight plastic that are easy to stack. This makes the system simple to handle, easy to ship in large quantities, and reduces carbon emissions. The system uses zero electricity for treatment and pairs seamlessly with the Rewatec dosing distribution box, an energy-free dosing device that guarantees even distribution throughout the system.

The Ecoflo linear biofilter is certified under ANSI/NSF Standard 40 Class I and CAN/BNQ 3680-600 Class B-IV.

### NOWRA Members Win Young Professionals Award

At the recent 2025 WWETT Show in Indianapolis, NOWRA members Jonathan Kaiser, Infiltrator Water Technologies, and Joe Rebori, BioMicrobics, Inc., were recipients at a special ceremony of the inaugural WWETT Young Professional Awards. The awards were sponsored by NASSCO, NAWT, NOWRA, PSAI. Congratulations Jon and Joe!



*Jon Kaiser, Infiltrator Water Technologies (left photo), and Joe Rebori, BioMicrobics, Inc., (right photo) accept the inaugural WWETT Young Professional Award from Marc Acampora, Informa Markets/WWETT Show.*

## Onsite Wastewater Treatment System Homeowner Education

START COURSE

Please share this resource with your network of onsite system owners!

**NOWRA**  
National Onsite Wastewater Recycling Association



Designed to help homeowners get the most out of their Onsite Wastewater Treatment System (OWTS). Select the Start button in the course header to get started, or select a topic in the outline below to jump to a specific section.

## HELP US EDUCATE HOMEOWNERS

**NOWRA's Online Learning Academy** now includes a free, online training module to educate homeowners about their onsite wastewater systems.

The **Homeowner's Education Course** was designed to be an engaging way for people to learn the basics of onsite treatment and maintenance. While the training's target audience is property owners with onsite systems, the concepts are also applicable to the general public, realtors, local health officials, and septic system professionals.

MORE  
INFO  
HERE



Concepts covered in this short and easy-to-use training module include: the importance of wastewater treatment, an overview of treatment in an onsite system, typical onsite system features, final treatment and dispersal, management, maintenance, safety, and system troubleshooting.

The Homeowner's Education Course was developed through a U.S. EPA grant and in partnership with the Rural Community Assistance Partnership (RCAP).

This course is free but users must create an account on [NOWRA's Online Learning Academy](#)

Questions about this course should be directed to NOWRA at [info@nowra.org](mailto:info@nowra.org).



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Visit [www.nowra.org/education](http://www.nowra.org/education) for a full class list and descriptions.

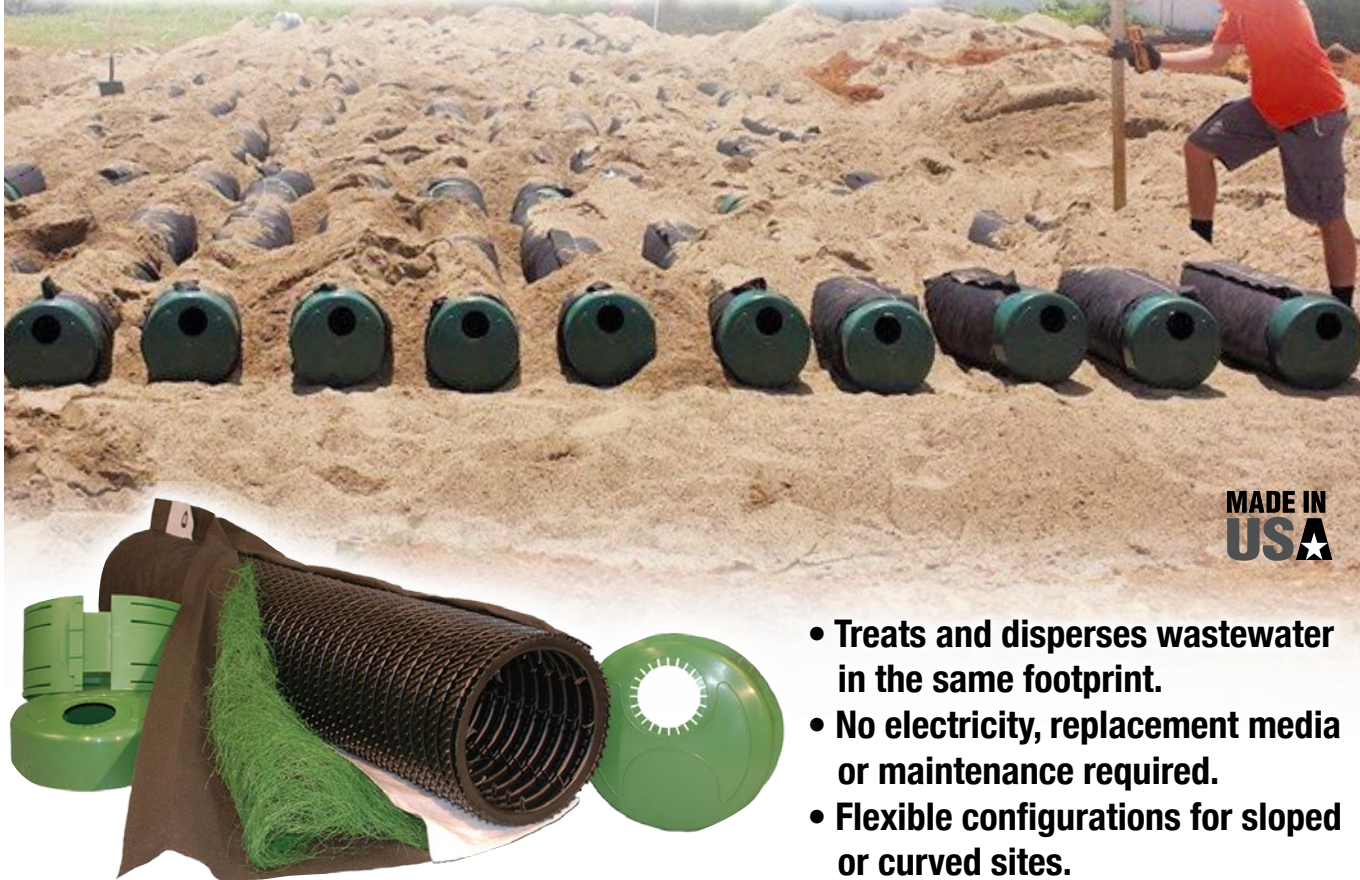
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**SAVE THE DATE!**  
**October 19-22, 2025**  
Kalahari Resort and Conventions  
Sandusky, Ohio



A collaboration of the following organizations:



*Onsite Wastewater Event of 2025*  
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**Now open until March 31, 2025**

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