



EXECUTIVE DIRECTOR

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TNSA Times

Tennessee Stormwater Association Quarterly Newsletter

A Message From the TNSA President

These are challenging times, and Stormwater professionals are committed to providing essential services to all people, and maintaining critical infrastructure that is so vital to quality of life for all.

Over these past months, Stormwater professionals have also been called upon to address additional challenges presented by the COVID-19 pandemic to include continuing education and outreach, public participation activities while practicing social distancing and safety precautions in office environments, continued assessments of the local waterways, providing meeting updates via ZOOM or other social media means and working with our counterparts or other members to address the unique needs of our diverse populations and community's needs. In spite of these efforts our Goodlettsville MS4 annual program review realized a 10 percent decline in compliance due to COVID-19 restrictions.

On behalf of the board, thank all of you for your continued support and engagement in TNSA. Your active involvement in committees and regional meetings helps to create a collaborative atmosphere and build a meaningful organization in TNSA.

Charlene has been continuing to work diligently to address an ever changing format to reach all members and set up Zoom meetings for both Regional and Board quarterly meetings, I want to extend a big thank you to her for our success with TNSA talks.

Thank you to David Mason for the extensive work through APWA in re-writing the "Financing Stormwater Utilities" David has been and continues to be very instrumental in collaboration between agencies.

Thank you to Crystal Bishop, Jason Bates and the BMP Committee for the dedication and hard work on the Guide to Stormwater Manufactured Treatment Devices. I understand it was a labor of love and we are excited to have this document for members.

A note regarding WOTUS:

Rules promulgated by EPA and the Army Corps to repeal and/or replace the 2015 "Waters of the US" (WOTUS) regulations have been discussed and debated for the past three years. Most recently, the Navigable Waters Protection Rule or "Replacement Rule" was published in the Federal Register on April 21st and became effective 60 days later on June 22, 2020. While now technically effective in most states (it has already been stayed in Colorado – pending an appeal) SESWA members should not jump to conclusions about how NPDES permits and other CWA-related programs may change.

Respectfully,

Warren C. Garrett

Goodlettsville, Tn. MS4 Stormwater Coordinator/TNSA President 2020



A Message from your Executive Director

Dear TNSA Members,

COVID-19 has impacted all of us in so many different ways. Thankfully we have been able to come together virtually. Regional meetings are being held via Zoom until 2021, the positive is that you can attend a meeting in any region.

TNSA Talks have been extremely successful the past few months and we plan to continue the program. Remember, the Talks are free to participating in and TNSA members receive 1 PDH per talk. Please let me know if there is a specific topic you would like covered or if you would like to host a talk. I am doing my best to offer education opportunities.

As for the annual conference, it was a very hard decision to move it to virtual. With the feedback I have received it seemed like most members are still not able to travel out of their county for work and we wanted to make sure all members have the same education opportunities.

Thank you all of your patience during these difficult times and please let me know if there is anything I can do to make your job less stressful and easier.

Charlene DeSha, TNSA Executive Director



Upcoming Regional Meetings

Regional meetings are held each quarter. You do not have to be a TNSA member to attend a meeting. Region meetings are a great way to keep updated within your area. Meet professionals who have like minds, network, learn about statewide events and new ideas within the stormwater community.

NOTE: All in-person meetings are canceled for 2020. Meetings will be held on Zoom.

- ◆ East: First Friday 9am-10:00am Sept 4, Dec 4
- ◆ West: First Tuesday 1pm-2pm Sept 1, Dec 1
- ◆ North West: First Wednesday 10am-11am Sept 2, Dec 2
- ◆ Middle: First Thursday 10am-11am Sept 3, Dec 3
- ◆ North East: Second Thursday 1pm-2pm Sept 10, Dec 10
- ◆ South East: Thursday 2pm Sept 17



For updated meeting information visit our website event calendar.

Email Charlene DeSha if you would like to be added to a specific region email list.

Committee Updates

Communication: Goal is to work on communication within and outside of the organization

Chair: Aaron Rogge, CDM Smith

The Communication Committee is working on the next two videos in the legislative series, “Why do I care?” and “What’s being done?”. The first video “What is Stormwater?” can be viewed on the Tennessee Stormwater Association’s You Tube page.

Public Outreach: Creates Education Resources

Chair: Tom Lawrence, Thomas Lawrence Engineering

We are in the process of creating an elementary school children’s activity book, 2nd grade level. The first printing will be distributed to MS4’s free of charge. Please contact Charlene DeSha if you would like free copies for future events. Do you have a nice looking, informative Hot Spot brochure or rack card you would like to share?

BMP: Standardizes Device Evaluation and Develops BMP Toolkit

Chair: Jason Bates, ADS, Inc.

Congratulations to the BMP Committee for finalizing the *Guide to Stormwater Manufactured Treatment Devices*. The guide is available on the TNSA Website, click here for page link. The committee will be sending a survey to members in order to determine their next project. Stay tuned!

Education: Manages and Creates Educational Training and Resources

Chair: Tim Gangaware, UT Tennessee Water Resources Research Center

All In-Person classes are being rescheduled for 2021.

Thank you to all of the TNSA Talk speakers so far this year. TNSA Talks are free to attend on Zoom and TNSA Members received a PDH certificate. Registration is required for each talk. If you are interested in speaking at a talk, email Charlene DeSha.

Several past TNSA Talks have been recorded and posted on the TNSA website: <https://www.tnstormwater.org/tnsatalks>.

Committee Updates Continued...

Policy: Works with TDEC to share and update members on state and EPA regulations and policies;

Chair: David Mason, CDM Smith

The Division of Water Resource's has made a decision to reissue the general industrial stormwater discharge permit.

Previous TMSP reflected the 2015 federal Multi Sector General Permit (MSGP), which expired on June 4, 2020. EPA has proposed a 2020 MSGP that is fundamentally different from the previous permit and from Tennessee's 2015 TMSP. The comment period for the federal MSGP ended June 1, 2020, and the final permit is not anticipated until November 12, 2020.

Rather than wait for EPA's final 2020 permit to inform Tennessee's 2020 TMSP, TDEC decided to reissue the 2015 TMSP, unchanged, for a term of two years. This will provide an opportunity to review the final federal MSGP prior to proposing any changes to the TMSP. Reissuing the 2020 TMSP for a two-year term will avoid impacting new industrial facilities who would be unable to receive permit coverage without an active TMSP in Tennessee.

All TMSP forms and links to other resources can be found here: <https://www.tn.gov/environment/permit-permits/water-permits/npdes-permits/npdes-stormwater-permitting-program/npdes-industrial-stormwater-general-permit.html>

TDEC Annual Report Form is the same as last year, fillable form available on our website under the Newsletter and Library page. <https://www.tnstormwater.org/newsletter-library>

TENNESSEE STORMWATER ASSOCIATION

2020 ANNUAL VIRTUAL CONFERENCE

OCTOBER 21-22, 2020

"Going the Distance"

Registration Price: \$150 members, \$200 non-members

Conference includes Exhibitors, TNSA Awards, Membership Meeting,
Technical Sessions and Door Prizes.

Register at: <https://www.tnstormwater.org/tnsa-conference>

Thank you to our Sponsors



SPONSORSHIP AND EXHIBITOR OPPORTUNITIES

Sustaining Sponsor \$1,500

Logo featured on TNSA conference web page
Logo on top of TNSA web partner page
Logo featured on main hall page and each speaker session
Link to company website
4 complementary registrations
List of conference attendees
Complementary booth space

Awards Sponsor \$1,000

Logo on TNSA conference web page
Logo on TNSA web partner page
Logo featured on main hall page and on Membership/Awards Event
Link to company website
3 complementary registrations
List of conference attendees

General Sponsor \$500

Logo on TNSA conference web page
Logo on main hall page
Link to company website
2 complementary registrations

Exhibitor \$150

Booth space with two one hour dedicated networking vendor sessions each day
Contact Charlene DeSha with any questions.
865-386-6917, Charlene@tnstormwater.org

The Understory Gardens: Interdivisional success is key to increasing urban biodiversity to support healthy systems

The long-time City Forester, Gene Hyde, had a bug problem. Oak lecanium scale insects (*Parthenolecanium quercifex*) were damaging downtown willow oaks (*Quercus phellos*) that were already stressed from urban heat, low soil volume and high pH. He was considering using biocontrol insects for tree pest management, but did not know much about it. He approached the City's Water Quality Landscape Management group because much of our green infrastructure (GI) maintenance work deals with healthy plant communities including trees. The Forestry Division had previously drenched the soil around these urban trees with a neonicotinoid insecticide. A single treatment cost was a hefty \$17,000! Gene was searching for a way to control the scale insects and also reduce both the price and the water quality impact.

There was no question that this was a water quality issue. Many of the affected trees were located within the Combined Sewer System (CSS) in the heart of downtown and are integral to reducing stormwater runoff and combined sewer overflows. Reducing pesticide, herbicide and fertilizer (PHF) use is also required in our NPDES permit. From previous experience in public land management and exotic-invasive plant control, we questioned the effectiveness of using biocontrol insects that may never establish stable populations after release, and often require carefully timed re-releases, adding to the cost and unpredictability of outcomes.

We reached out to University of Tennessee and Extension specialist, entomologist Dr. Frank Hale, to question the efficacy of biocontrol releases in an urban setting. He responded that providing certain native plant species as habitat would help support existing native beneficial insects. Planting native plants in the mint, carrot and aster families could be a part of an integrated pest management (IPM) strategy to help stabilize native insect populations. Biodiversity is just one of the many ecosystem services suppressed in most urban landscapes, yet is recognized as critical to maintaining healthy watersheds. Biodiversity is a powerful multi tool already employed in GI. In fact, many of the same species that support the beneficial insects were already present in bioretention basins that we maintain, as well as pollinator gardens in many city parks. Chattanooga's GI practices have as many as 100 species of native plants, with dozens of species in the families suggested by Dr. Hale. We decided that this could be an in-house project given our access to parks where many practices already existed. It was also in each department's interest to reduce PHF and increase native plants for better water, air and human habitat quality. Through research background experience in botany, landscape architecture, landscaping (with and without native plants) and water quality program administration, we created the Understory Gardens, nodding to the foundational nature of building a healthy ecosystem.

Native plants once dominated the landscape, but have been replaced with less useful species like non native turf grasses, exotic ornamental crepe myrtle and ubiquitous monkey grass. None of these species support a diverse insect community the way native plants do because they did not evolve the same complex, intimate interactions that sustain a thriving ecosystem. Using biocontrol insects from a commercial retailer would mean releasing non native insects into an inhospitable environment, where many would probably die before being able to eat or parasitize the target pest. Our best bet for a long-term IPM strategy needed to start with creating habitat.

Beneficial parasitoid wasps in the families Braconidae and Ichneumonidae could be attracted by landscaping with native plants. The wasps drink the nectar while pollinating the plants. Plants in these families contain a multitude of shallow, nectar producing flowers that these tiny parasitoid wasps with flat faces can reach. Parasitoid wasps cannot sting people. They lay eggs inside scale insects. After hatching, the larvae feed on the scale while still alive. The wasp larvae benefit greatly from using a living host for food and shelter, while the scale insect eventually dies or is too weak to reproduce. This effectively reduces the scale population thereby reducing stress on the oak trees. This allows for more years of gainful stormwater control from the urban trees.

Employees from Park Maintenance, Water Quality Landscape, Forestry, and GIS created a map to help identify where understory gardens could be installed near street trees on City owned properties. Using previously collected data on street tree locations overlaid with Park's parcels, potential sites were identified to install native plant gardens in close proximity to historically affected trees.

The Understory Gardens (continued)

After looking at potential site conditions and deciding on a meadow-style garden, species selection began. We mixed colorful flowers that bloom through the seasons with grasses that provide cover year-round, focusing on species that support parasitoid wasps. Native plants were bought from local and wholesale nurseries. Further consideration of irrigation and adjacent land use narrowed the list of potential sites. The cost for the first round of garden installations was \$8175- which included the first year of maintenance. This cost was shared among divisions, which reduced the overall burden placed on any one department. In April and June three gardens were installed, two at Main Terrain Art Park and one at Jefferson Park totalling 875 sq ft. Due to the pandemic, our plan to use volunteers for planting were not possible, but City employees were eager to help build these new and beautiful assets. Water Quality and Parks divisions agreed to allow staff to assist with garden preparation and planting. Work was determined to be safe while following social distancing measures and wearing masks.

We are communicating to the University of Tennessee Chattanooga's Environmental Science and Biology Departments about the enormous potential for research on urban forestry IPM. Particularly in the South, there is not enough information or expertise in this field. However, North Carolina State University does have a lab dedicated to the problems of urban ecology, and they regularly post novel research on ecoipm.org.

The next understory gardens will be planted this fall, and we will refine a few of our methods based on what we learned with the pilot understory gardens. One great lesson we learned is that the public is extremely interested in this project and volunteers are eager to begin helping again. People want a healthy environment and are excited by the efforts Chattanooga is taking to grow native plants and reduce pesticides.

Lucy Ellis, Landscape Inspector,

City of Chattanooga Water Quality Program, ljellis@chattanooga.gov




TENNESSEE STORMWATER VIRTUAL RACE FOR CLEAN WATER 5K
SEPTEMBER 12-26, 2020

REGISTRATION PRICE:
\$10

#tnstormwater5k

Register at:
www.tnstormwater.org
[virtualraceforcleanwater](http://virtualraceforcleanwater.org)



Participate and enter to win a rain barrel shipped to your door.

The Tennessee Stormwater Association is excited to offer a virtual race in order to get folks outside to enjoy their local waterways. Run a 5K along side a waterway in your area from September 12-26 and post your run and waterway photos on social media with the #tnstormwater5k.

HAVING A HARD TIME
MEETING YOUR PERMIT
EDUCATION GOALS THIS
YEAR?

VIRTUAL 5K
SPONSORSHIPS ARE
AVAILABLE FOR \$100.

CLEAN WATER TIPS WILL BE
SHARED ON THE EVENT
SOCIAL MEDIA SITES FOR
PUBLIC OUTREACH.

Contact Charlene DeSha for
more information.
Charlene@tnstormwater.org

EPA Provides Additional Funding to Help Reduce Excess Nutrients in the Gulf of Mexico Watershed

WASHINGTON (June 22, 2020) — Today, the U.S. Environmental Protection Agency (EPA) announced that it is providing an additional \$840 thousand to the 12 state members of the Hypoxia Task Force (HTF), expanding the \$1.2 million that the agency already announced in August 2019. EPA's more than \$2 million in funding is helping HTF states implement plans that accelerate progress on reducing excess nutrients and improving water quality in the Mississippi River/Atchafalaya River Basin.

"By providing this new round of funding, EPA is further empowering our state partners to build on their ongoing efforts to update nutrient management plans, develop water quality trading programs and demonstrate best practices in high-priority watersheds," said EPA Assistant Administrator for Water David Ross. "Recognizing and supporting efforts that are developed through state leadership is a key component of the National Administration's multi-pronged approach to reducing excess nutrients in our nation's waters."

Excess nutrients that make their way into our nation's surface waters can contribute to algae blooms, hypoxic zones and other water quality concerns. HTF provides direction and support for federal and state initiatives to improve water quality in local waterways and in the Gulf of Mexico. Today's funding announcement supports state strategies, which the HTF has recognized as a cornerstone for reducing nutrient loads to the Gulf and throughout the basin.

"As the co-chair of the Gulf of Mexico Hypoxia Task Force, I'm fortunate to work alongside 12 other state leaders, the EPA and other federal agencies, to guide the implementation of water quality and soil health practices that will help reduce the size, severity and duration of the hypoxia zone in the Gulf," said Iowa Secretary of Agriculture Mike Naig. "As states continue implementing their nutrient reduction plans, they need additional funding to build upon the successful water quality projects underway. I am very grateful that the EPA is doubling-down on its water quality investment in the HTF states. In Iowa, we are adding practices at the fastest pace in our state's history. We're continuously looking for ways to scale up outreach, design, engineering and construction to put even more projects on the ground, and find new ways to measure our success."

This effort continues the National Administration's ongoing focus on reducing excess nutrients in the nation's waters through enhanced federal and state coordination, stakeholder engagement and promoting market-based and other collaborative approaches. In 2020, EPA's actions have included co-hosting a public meeting of the Gulf of Mexico Hypoxia Task Force in Washington, D.C.; awarding more than \$1.8 million in Great Lakes Restoration Initiative (GLRI) grants to five organizations that will use market-based approaches to enhance nonpoint source excess nutrient reduction efforts in the Great Lakes basin; and issuing new, draft ambient water quality criteria recommendations for nutrients in lakes and reservoirs—the first update in almost 20 years. For more information on EPA's efforts to support the Hypoxia Task Force, visit <https://www.epa.gov/ms-htf>.

The Hypoxia Task Force will host a virtual public meeting the week of September 27, 2020. The dates and time will be announced on our website at epa.gov/ms-htf.

NEW Location for Thomas Lawrence Engineering Office

The team at Thomas Lawrence Engineering is pleased to announce their new office location! TLE can now be found at 88 Union Avenue, in the heart of Downtown Memphis. The new office is located on the fifth floor and overlooks the core of Downtown Memphis, offering views of the Peabody Hotel, Huey's restaurant and the Main Street trolley line. TLE's owner, Thomas Lawrence, chose this suite specifically for the spacious conference room which works well for hosting stormwater training classes and visiting speakers. Even though COVID-19 has put in-person presentations on hold for now, the new office space allows TLE team members to continue their research into various stormwater topics such as evolving treatment techniques and innovative capture methods. Virtual meetings are also being continued at the new location. If you would like to see our new office, we would be glad to set up a virtual tour. We can also arrange limited in-person tours (2 people max), making sure to accommodate all proper COVID-19 precautions.

Contact TLE, PLLC at 901-237-4819 or email Thomas Lawrence at tomlawrence@bellsouth.net to schedule a tour. We look forward to hearing from you!



EPA Releases “How’s My Waterway 2.0”

EPA recently released How’s My Waterway 2.0 - a tool that assembles publicly available water quality data into a user-friendly package of information on the quality of our nation’s waters. The information the tool provides may help identify areas of need where green infrastructure can improve water quality, assist in the ecological restoration of water bodies, and have a positive impact on aquatic resources and recreational opportunities.

Map-centric and mobile-friendly, How’s My Waterway works on all different screen sizes from desktop computers and tablets to mobile phones. This new tool was created in partnership with the states and water stakeholders. How’s My Waterway opens water information to the public in a way not done before. You can access the new How’s My Waterway at: <https://mywaterway.epa.gov>.

Conservation Skills Series

The U.S. Fish & Wildlife Service has developed a series of short videos covering technical skills related to conservation.

Several videos cover skills useful for the conservation of aquatic life.

Link: [https://www.youtube.com/playlist?](https://www.youtube.com/playlist?list=PLZb5DyVcCk95ls_J7VjzhtQwucm0tLI8)

[list=PLZb5DyVcCk95ls_J7VjzhtQwucm0tLI8](https://www.youtube.com/playlist?list=PLZb5DyVcCk95ls_J7VjzhtQwucm0tLI8)

[list=PLZb5DyVcCk95ls_J7VjzhtQwucm0tLI8](https://www.youtube.com/playlist?list=PLZb5DyVcCk95ls_J7VjzhtQwucm0tLI8)

Popular Science: Stay-at-home science project-Whip up a storm in a glass

In less than 10 minutes, you can demonstrate the basics of rainfall. *Popular Science* featured a simple experiment aimed at helping children better understand precipitation and the importance of stormwater management. The simple demonstration requires only water, food coloring, shaving cream, and common kitchenware. The purpose is to convey that the size and frequency of rainstorms are not random.

The demonstration is a fun way to start the conversation about stormwater.

Where it goes, how it is polluted and ways to prevent pollution.

Click here for more information: <https://www.popsci.com/story/diy/storm-in-glass/>

TNSA RESOURCES

Webinars and Job Openings are listed on TNSA Website Page

Link: <https://www.tnstormwater.org/webinars>

Link: <https://www.tnstormwater.org/job-openings>

Link: <https://www.tnstormwater.org/tnsatalks>

TNSA Members have access to the Tresorit File Sharing program.

Please let Charlene DeSha know if you would like access. Access

links will be sent to all members early September and January.

The Tennessee Stormwater Association is Tennessee’s premier membership organization for stormwater professionals. TNSA’s mission is to assist members with their local efforts to comply with State and Federal clean water laws; including stormwater regulations through EPA and TDEC (Tennessee Department of Environment and Conservation). TNSA’s goal is to protect and improve the quality of the waters of Tennessee through the exchange of information and knowledge regarding design, construction, maintenance, administration and operation of stormwater facilities.

TENNESSEE STORMWATER ASSOCIATION



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