

TENNESSEE
STORMWATER
ASSOCIATION



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TNSA Times

Tennessee Stormwater Association News & Information



December 2017

A Message From the TNSA President

Remember last December, when we were all gearing up for imminent stormwater ordinance changes and new permits? Thank goodness those days are behind us! Wait, what? You mean they're NOT behind us? Are we stuck in the movie [Groundhog Day](#)?

So here we are, December 2017, and we are in the same place we all were a year ago. That's OK though. This delay has given us all a little more breathing room. In the past 12 months,

John Chlarson with MTAS and some other [Goodfellas](#) (and Goodgals) have put together a model ordinance that communities can take and adapt for their own use, saving us countless tedious hours of policy writing.

TDEC still has their [Permanent Stormwater Design Guidance Manual](#) for us to use so we don't have to reinvent the wheel about what green infrastructure (GI) looks like. [Nashville](#) and [Chatta-](#)

[nooga](#) also have their calculatory (Is that a word?) spreadsheets and GI manuals that are free to download.

And UT professors Dr. Daniel Yoder and Dr. John Tyner, along with some other smart folks, have developed software as well. Formerly called the Runoff Reduction Analysis Tool (RRAT), it now goes by Stormwater Assessment Resource (STAR). All these resources may give you [Vertigo](#), and have you feeling like you will be reading boring manuals [From Here To Eternity](#) but have no fear, this really is not as complicated as it appears.

While the road we are traveling has been [Rocky](#), pretty soon all of this will be in our [Rear Window](#). Some of us may look back on this and say these were [The Best Years of Our Lives](#)! OK, maybe not, but it's not all bad. TNSA can help you connect with other communities and with stormwater professionals that can make your work life so much easier. Our community loves to share their knowledge with others.

Plan to attend your next regional meeting and come with a fistful of questions and the gumption to [Network](#). You'd be surprised at how much help you can get with just one conversation with the right person. Soon you'll be [Singin' in the Rain](#), Man (that was a twofer!).

And lastly, I just want to encourage everyone to take a break from the regulations and politics and focus on your loved ones for the next couple of weeks. We get so caught up in work sometimes that we tend to forget what really matters. So take some time and sit down in front of a classic movie with the family this holiday season. Make some hot cocoa or some popcorn and remember...[It's a Wonderful Life](#).

Mark D. Heinzer

P.E., LEED AP, CPESC, CPMSM
2017 TNSA President



2018 TNSA Board Members

We are excited to announce the 2018 TNSA Board Members!

East Region: Lori Saal – Town of Farragut & Amy Snyder – City of Oak Ridge

Middle Region: Shelia Huffmire– MTSU & Warren Garrett – City of Goodlettsville

North East Region: Joseph Barnett – City of Elizabethton & Dan Wankel – City of Kingsport

North West Region: Scott Ball –

City of Dyersburg & Mike Brown - City of Paris

South East Region: Crystal Bishop – Hamilton County & Mark Heinzer – City of Chattanooga

West: Chris Masin – Shelby County & Don Fent – City of Bartlett

Associate: Alan Sparkman – TN Concrete Association & Tim Gangaware – TN Water Resources Research Center

Private: Jason Mann – GEO Ser-

vices, LLC, Tom Lawrence – Water Quality Matters, Steve Casey – CEC, Inc. & David Mason – CDM Smith

At-Large: Ashlie Farmer – City of Clarksville, Dale Jayne – City of Maryville & Jennifer Watson – City of Gallatin

Current Officers:

President – Mark Heinzer
President Elect: Jennifer Watson (2018 President)
Vice-President: David Mason



Executive Director

Charlene DeSha

Charlene@tnstormwater.org

TNSA Committees

Regulations & Policy

Chair: [David Mason](#)

Communication

[Chris. Granju](#)

**Education Training
& Professional Development**

Co-Chairs: [David Carver](#) &
[Stephanie Carlson](#)

Manufacturer BMP

Evaluation

Chair: TBD

Public Outreach Committee

Chair: [Tom Lawrence](#)

Conference Planning

Chair: [Crystal Bishop](#)

We welcome TNSA Members to participate on any of these committees! Please contact the committee chair for additional information.

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TNSA Executive Director Message

2018, HERE WE COME!

I am proud to announce that TNSA has had a stellar 2017! With the help of our many board members, regional events and volunteers TNSA is a sustainable non-profit. The goal when I was hired in 2015 was to make TNSA sustainable and move our budget from the red to the black. I am proud to announce that two years in a row TNSA has been in the black. This is due to the efforts of our dedicated board members, conference committee and regional event coordinators. A big thank you to each and everyone one of you!

We will be starting 2018 with some new and exciting programs! The TNSA Professional Development courses and workshops will be kicked off in the first quarter. David Carver and the Education Committee have been working diligently to get this program up and running. We are excited to host Amy Mann, with Knox County, as our first speaker this year. Keep an eye on the TNSA Calendar for more information regarding this exciting program.

The Public Outreach committee will be printing two brochures in

order to distribute at cost to TNSA members: EPA After the Storm and the TN Homeowners Guide to Clean Water. Our goal is to help TNSA members save money by printing in bulk and distributing them at the Quarterly TNSA Regional meetings. Prices will be announced in January 2018.

As, you may have heard, TAB (Tennessee Association of Broadcasters) will drop TNSA as a member at the end of June 2018. The TNSA board had a long discussion relate to this news. A wonderful and new idea emerged with the help of board member Doug Noonan. TNSA is researching the possibility of creating a social media campaign. TAB has been a problem in specific regions due to station participation. This new outlet will help us target specific regions and demographics, which means more residents will be able to see and hear ads and information related to stormwater.

Also, TNSA will be creating a YouTube channel and videos directed towards legislators. We hope this will give you some information and ammunition when speaking to the legislators within your region.

I would like to recognize our outgoing board members: David

Edwards with the City of Kingsport, Doug Noonan with the City of Franklin, Michael Scott with Williamson County, Jimmy Temple with the City of Union City & Tracy Jones with Knox County. Thank you for dedicating the last two years to TNSA and helping to make it the organization it is today. It takes a lot of dedicated people to run a non-profit with one employee and the TNSA board definitely goes above and beyond. Last but not least... thank you to our out-going president Mark Heinzer with the City of Chattanooga. He has made this year remarkable!

I am excited to mark 2017 as successful and ready to move on to a new time with TNSA in 2018!

Best wishes,

[Charlene DeSha](#)
Executive Director



TNSA Policy Committee Update

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

Chair: [David Mason](#), CDM Smith

- Notice about TDEC letter to the MS4s regarding further delay in implementation of the runoff reduction rules until at least after the appeal is heard in January. **The hearing is scheduled for January 16, 2018 at 9am CST, in front of Administrative Law Judge**

Pogue (Docket No. 04.30-140893)).

- It's our interpretation and understanding from TDEC presentations at the conference that the letter also delays implementation of any construction-related ordinance changes that the permit may require until the post construction issue is resolved so that permittees only need to go through one cycle of ordinance changes. This primarily relates to the permit's requirements for erosion and

sedimentation control regulatory changes.

- Lastly, a heads up that members need to pay attention to HB362 when the legislative session reopens next year. This Bill passed the House at the end of last session and could be brought back up. It requires that NPDES post-construction stormwater regulations must be adopted by the board as rules pursuant to the Uniform Administrative Procedures Act.

TNSA Conference Committee Corner

Conference: Coordinates speakers and activities for the annual conference

Chair: [Crystal Bishop](#)

The 2017 Annual Conference "Streaming Together" was the best one yet with 238 attendees! Dr. Anna George, Director and Chief Research Scientist at the Tennessee Aquarium, delivered an inspiring Keynote and reminded us that "every drop matters".

We expanded this year's conference with an additional technical track that provided attendees with an option of 50 presentations! The conference proceedings are available at <http://www.tnstormwater.org/tnsa-conference>. Thank you to all attendees, speakers, sponsors and exhibitors for making this year a success!

The 2018 Conference will celebrate TNSA's 10 year anniversary! We proudly announce that *Water Quality Matters!* will once again be our Sustaining Sponsor (thank you!). Save the Date for week of October 15, 2018, at [Montgomery Bell State Park](#). Due to planned renovations at Fall Creek Falls, we must move the conference location. Details, including official dates and lodging information, are forthcoming so stay tuned!

TNSA Communication Committee Update

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

Chair: [Chris Granju](#)

This committee is working on creating a TNSA You Tube channel with 2-3 minute videos directed toward legislators.

With the past and upcoming bills within the senate and house committees we feel like they need educated on exactly what stormwater is and why it's important.

Each video will ask and answer one question in an interview style method. We would like to have at least one participate from each

region on the committee in order to make sure we cover issues within your area. .

If this program is successful we would like to extend it to include educating mayors, city managers, the general public and children.

TNSA Public Outreach Committee Update

Public Outreach: Working to create education resources for MS4's

Chair: [Tom Lawrence](#)

We are excited to announce the creation of this new committee. Tom Lawrence is the driving force behind this new project.

Through this committee TNSA will be printing two brochures in order for TNSA members to purchase at cost, EPA After the Storm and the TN Homeowners Guide to Clean Water. They will be sold in packs of 100 and distributed at the regional meet-

ings in order to save shipping fees. If you are interested in purchasing any one of these brochures, please email [Charlene DeSha](#). Please include the amount you would like to purchase. Our goal is to save you money by printing in bulk.

This committee is also looking at replacing the TAB (Tennessee Association of Broadcasters) radio ads. TNSA has been dropped by TAB. They have decided to drop the small non-profits and focus only on organizations able to contribute \$100k or more a year. TAB will continue until the end of June 2018.

We are exploring options to host a social

media campaign to include ads and videos created by the TNSA Communication Committee. Social media campaigns make it easier to target specific demographics and regions, it may even cost less than TAB. Social Media includes Facebook, Twitter and Instagram. Look for more information on this program in the next TNSA newsletter.

Please consider participating and joining any of TNSA's Committees!

Email [Charlene](#) for more information!

TNSA Education Committee Update

Education: Manages and creates educational and association training and resources

Co-Chair: [David Carver](#)

Co-Chair: [Stephanie Carlson](#)

We are excited to announce the first TNSA Professional Development Course will be schedule for the first quarter of 2018!

Amy Mann with Knox County will be the speaker, Topic: Creating a Successful SWPPP for your Municipal Facility. This course will be held in Knoxville initially then hosted on a webinar.

The second course for 2018 will be with Dean Baddorf from Contech, Topic: Operation, Inspection and Maintenance of MTDs. This course will be held in Chattanooga during the spring. Possible webinar to follow.

We have just received one additional presentation from David Carver, Planning Commission and Stormwater.

TNSA is excited to finally launch our new program this year. If you would like to share your knowledge with TNSA members proposals can be submitted at the [TNSA web-site](#) under the Professional Development tab.

TDEC—Division of Water Resources News Corner



We at TDEC, Division of Water Resources, appreciate working with TNSA and are happy to take this opportunity to let you know about some changes we are making to our inspection/audit procedures.

The first change is to how we schedule our audits and inspections. We are planning to audit each MS4 program at least once every five years and perform at least one inspection between audits.

Additional inspections may be performed at the request of the MS4, if there are significant issues with the program, or if there has been turn over in staff at the MS4.

Audits should cover all of the Minimum Control Measures while inspections may cover only one or two of them.

Another change to our procedures is that one of the members of our statewide stormwater team will try to participate at every audit. This is being done, in part, to help ensure that we are implementing the state stormwater program consistently statewide.

So with that, we would like to introduce you to our current statewide team members:

Robby Karesh is located in the Nashville Central Office. He has 23 years of experience in stormwater, and as many of you know, he has been active in TNSA for many years.

Ann Morbitt is located in the Nashville field office. She also has 23 years of experience with stormwater as well as conducting audits and inspections.

Karina Bynum is located in our Cookeville EFO, and has over 15 years with the state. Karina brings engineering expertise to the team and has spent much of her time with TDEC working in the stormwater field.

Our newest member is **Brown Patton**. Brown has worked in our Johnson City field office for almost 10 years, with most of that time dedicated to stormwater. Brown has recently accepted a role in our statewide stormwater team, so more of you outside of the Johnson City area will have a chance to work with Brown in the future.

We are so excited about the team of professionals we have working on the stormwater program, and we look forward to working with each of you over the next year.

Ann

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Announcing the 2017 Tennessee Stormwater Association "Exceptional Quality" Awards Winners

Pikeville, TN, October 24, 2017 – The Tennessee Stormwater Association announces the 2017 "Exceptional Quality" Award Winners. TNSA recognizes individuals and stormwater professionals that have devoted time and energy into making TNSA a success and have accomplished great strides within the Tennessee stormwater arena.

Nominations were accepted by TNSA members and voted on by their peers for two specific awards.

Person of the Year: An individual who displays Exceptional dedication and commitment to TNSA.

Organization of the Year: An MS4 or other Organization that displays Exceptional stewardship of Water Quality in Tennessee and provides Exceptional edu-

cation and assistance to MS4s. Individuals are not eligible for this award; only the member organization is eligible.

The TNSA Board of Directors voted to change the name of TNSA Lifetime Achievement Award to the "Dr. Bruce Tschantz Lifetime Achievement Award".

"Dr. Bruce Tschantz received the BS in civil engineering from Ohio Northern University and MS and PhD from New Mexico State University. ... In 1965 he came to the University of Tennessee, where he taught water resources courses in the Department of Civil and Environmental Engineering and received numerous teaching awards. He retired in 2002. ... As Professor Emeritus, he taught workshops in urban hydrology throughout Tennessee. In the early 1970s he worked to establish Tennessee's first dam safety policy, leading him to take a sabbatical after being appointed as the first Chief of Federal Dam Safety in 1980. He

continued his national advocacy for dam safety until his death. He was initiated as a Fellow in the American Society of Civil Engineers, and in 2016 he was recognized by the American Society of Dam Safety Officers (ASDSO) for lifetime achievement." – Knoxville News Sentinel

Dr. Tschantz also assisted the stormwater community in Tennessee immensely, with, among other efforts, his contribution to the development of the first statewide guidance on stormwater best management practices: the TDEC Permanent Stormwater Management Manual.

The **"Dr. Bruce Tschantz Lifetime Achievement Award"** is TNSA's highest honor for outstanding, longtime stormwater professionals with a minimum of 25 years of service. These individuals'

Continued on page 8

Upcoming Conferences



INTERNATIONAL LOW IMPACT DEVELOPMENT CONFERENCE

Nashville, TN | August 12-15, 2018



CALL FOR ABSTRACTS



The International Low Impact Development Conference highlights interdisciplinary practice, research, and implementation of Low Impact Development (LID), Green Infrastructure (GI), Sustainable Urban Drainage Systems (SUDS) and Water Sensitive Urban Designs (WSUD). The focus will be on using our past and present understanding of LID to tune management programs, design practice, and operation and maintenance into the future.

KEY DATES

Jan. 16, 2018: Call for Abstracts Deadline
Mar. 1, 2018: Registration Opens
Apr. 24, 2018: Final Papers Due

www.lidconference.org



INTERNATIONAL LOW IMPACT DEVELOPMENT CONFERENCE 2018

Nashville, Tennessee | August 12-15



Conference Topics

- Innovative LID/GI Research from Engineering, Landscape Architecture, Planning and related fields
- Urban Stream Interactions and considerations when applying LID approaches
- Case studies, perceptions, and innovations from industry
- Social Perspectives for LID – instigating uptake in the community
- International perspectives
- LID maintenance
- Municipal challenges and successes
- Stormwater in Tennessee

LID Steering Committee

Rebecca Dohn,
Metro Water Services, Nashville, TN
Chair

Crystal Bishop
Hamilton County Water Quality Program
Co-Chair

Jon Hathaway
UT Department of Civil Engineering
Technical Program Chair

Jennifer Watson
Tennessee Stormwater Association
Local Host Chair

Guidelines

Abstracts must:

Be written in English

Be between 250 words and 1 page in length

Summarize the information presented at the conference

Be in paragraph format; outlines are not acceptable

Be your own words

Include the full abstract/paper title

Indicate the primary contact

Abstracts must NOT be:

Autobiographical

Previously published

Commercial or promotional

For more information on submission requirements visit:
<https://www.lidconference.org/program/call-submissions>

Cooperating Organizations



Sponsor and/or Exhibit at the LID Conference!
Contact Sean Scully at sscully@asce.org
703.295.6154



Advertise in the TNSA Times Newsletter

6 issues per year

Prices

¼ page: \$50

½ page: 75

Non-profit Prices

¼ page: \$35

½ page: \$50

Contact:

Jennifer Watson

jennifer@tnstormwater.org

615-418-7284



2018 Tennessee Water Resources Symposium

Call for Abstracts, Posters, Exhibitors & Sponsors

Montgomery Bell State Park
Burns, Tennessee
April 11-13, 2018

Hosted by
Tennessee Section of the American
Water Resources Association
including a pre-symposium workshop;
Delft 3D Model

Symposium Chair
Alfred Kalyanapu, President TNAWRA
Tennessee Technological University
Email: akalyanapu@tntech.edu
Tel: (931) 372-3561

Keynote Speaker

Dr. Sam Brody, Director
Center for Texas Beaches and
Shores, Department of Marine
Science, Texas A&M

Luncheon Speaker

Jay Lund, Center for
Watershed Sciences,
University of California-Davis



Let's Make History in 2018

250K Day



February 24, 2018

TECTN.org/250KTreeDay

On February 24 2018, we will plant 250,000 native tree seedlings across Tennessee.* This will be the largest community-tree-planting event in Tennessee history, and is the largest tree-planting event in the United States. The Council is seeking sponsors and donors to cover the costs of seedlings and logistics of planning this event. If you would like to make a contribution and add your name and logo to our list of sponsors, please contact jeff@tectn.org ASAP. We give away seedlings at no cost to volunteers who agree to plant them on February 24 and post pictures and/or videos of your efforts. [Click Here for more information.](#)



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800.940.4025 | EnviroScienceInc.com
1722 General George Patton Dr., Suite B100, Brentwood, TN 37027-7901

TDEC, Disasters and Household Hazardous Waste



Disaster management planning is a critical component to local solid waste planning. In an effort to assist local governments the Material Management Program (MMP) has shared an important Debris Removal Planning Tool developed in partnership between the Tennessee Department of Environment and Conservation (TDEC), Tennessee Department of Transportation (TDOT), Tennessee Department of Agriculture (TDA) – Division of Forestry, and the Tennessee Emergency Management Agency (TEMA).

The purpose of this planning tool is to provide both instruction and an example for developing a debris management plan that will satisfy requirements from the State of Tennessee (Tennessee Code Annotated §68-211-815(b)(17)) and the Federal Emergency Management Agency (FEMA).

Local governments that implement FEMA approved disaster management plans benefit from increased FEMA public assistance and are better prepared to achieve their waste reduction and diversion goals by managing debris to the best highest use.

TDEC's through its 2015-2025 Solid Waste and Materials Management Plan or "2025 Plan" dedicates an entire section on emergency planning. This 2025 Plan is a great resource for local governments to

prepare for a future disaster event and consider options like pre-event contracts, staging locations, and identification of potential contractors.

Local governments can take advantage of the State's contract with their household hazardous waste (HHW) contractor to address HHW generated resulting from an event. In these cases, the residents would separate their HHW from other debris and place on the curb for collection by the contractor.

The Solid Waste Management Act of 1991 established the Solid Waste Management Fund (the Fund) to support the collection of household hazardous waste materials outside these events through grant offerings.

The Fund establishes grants to maintain Permanent Household Hazardous Waste Collection Facilities or HHWCF in counties to assist with maintenance and operating costs of these facilities.

The TDEC also has provided mobile household hazardous waste (HHWME) collection service to counties since September 1993. Moving forward, the Department is looking to expand the operational capability of the HHWCFs to aid local governments in the geographic region by providing specialized hub and spoke capabilities. This will increase access to underserved communities

through milk runs supported by nearby mobile collection events.

Through grant offerings, the HHWCFs will have funds designated for operations and placement of temporary collection infrastructure to serve identified approved communities.

Through these services and advanced planning, disaster events such as tornadoes, floods, or ice storms can allow local communities to be prepared to act with purpose.

These steps protect surface and ground waters from toxic chemicals and oil that are often in abundance after an event. The city with TDEC's help can rapidly manage large amounts of HHW materials and help the citizens return their lives back to normal. Once life returns to normal, then the mobile collection events or HHW hubs can carry the load forward.

For more information on Disaster Recovery, please contact; [R. Ashby Barnes](#), P.G. Office: (615) 532-8010

[Here](#) is the link to the grants page the information for HHW grants. The grants open January 1st if everything is on track with the new online system. For more information, contact either [Bob Fletcher](#) 615-532-9265, or [Robert Wadley](#) 615-741-4907.

Cumberland River Compact—2017 UR5K Water Quality Grant Winner

The 5th Annual Urban Runoff 5K and Water Quality Festival was held August 26, 2017, at Shelby Park in downtown Nashville. Another fun and educational and successful event!



We offered a \$1,000 Water Quality Grant application and this year's winner was the [Cumberland River Compact](#) for the installation of a cistern at Granbery elementary.

"On October 28th we began the installation of a new Cumberland River Compact cistern at Granbery Elementary, pouring the foundations for the cisterns with volunteers from Vanderbilt Engineers Without Borders.

On November 3rd we completed the installation by attaching the cistern to it's founda-

tion and hooking it up to the downspout. With this weekend's rain it should be filling and will be useable in the next dry spell. The cistern includes an attached sign detailing its function and the importance of water conservation."



Announcing the 2017 TNSA "Exceptional Quality" Awards Winners

Continued from page 4:

long-term contributions have made a noticeable impact on stormwater management efforts in the State of Tennessee. Dr. Bruce Tschantz was given the award posthumously this year. In following years, the Board will review nominations and make selection of recipient. This lifetime achievement award will not be voted on by the TNSA membership.

The 2017 awards were announced at the Tennessee Stormwater Association's Annual Conference on October 17, 2017 at Fall Creek Falls State Park.

Person of the Year was awarded to [John Chlarson](#) with the University of Tennessee's Municipal Technical Advisory Service, in cooperation with the Tennessee Municipal League. John has been instrumental to the inception and continued success of the Tennessee Stormwater Association. He has been an integral component of the stormwater world in Tennessee since 2003 when

he helped TDEC draft the very first Phase II permit and NOI, and the Annual Report.

John also co-authored a statewide Model Stormwater Ordinance and a statewide Model Stormwater Utility Ordinance for municipalities in the State of Tennessee. He helped compile all the necessary paperwork and documents to formally incorporate the TNSA in 2008. He has helped countless communities across the state with municipal operations, traffic, and public works needs. He has assisted many stormwater programs and presented before a multitude of city councils on the importance for responsible stormwater management and has served as TNSA Ad-Hoc Secretary since TNSA's inception.

Mr. Chlarson is always willing to schedule an array of training classes including municipal housekeeping, administrative hearings, SWPPP development etc. John plays a significant role in the continual growth of TNSA and we are ever grateful for his generous time and commitment to the Association.

The **TNSA Organization of the Year** was awarded to The University of Tennessee Stormwater Department. Words from the nominator: "We recently took a trip to Knoxville to see the installation of 60 Urban Bioretention along Volunteer Blvd. While there, Garrett Ferry preceded to take us on a tour of all the other LID and BMP installation UT has done over the last couple years. I was astounded at all the other practices they have implemented on campus. Garrett also went through a lot of effort to get the new 1" capture regs implemented on campus."

Please help us recognize and congratulate the 2017 TNSA award winners. All of these folks work tirelessly to help keep the Tennessee waterways clean for years to come!

For more information about TNSA contact Executive Director, Charlene Desha at charlene@tnstormwater.org or visit www.tnstormwater.org.

Cumberland River Compact Looking for Stream Restoration Sites

The [Cumberland River Compact](#), an environmental non-profit organization based in Nashville, is excited to announce the launch of a new stream restoration program that will fully fund work on qualifying projects.

Through this program, the Compact will employ its new **In-Lieu Fee Program**, which sells compensatory mitigation credits for permitted projects resulting in stream impacts. This project will be available to fund restoration work in all sections of the Cumberland River Basin in Tennessee.

At this time they are soliciting interested parties who wish to collaborate on stream restoration projects on public or private land.

Through this program, the Compact will be conducting numerous best management practices within the riparian corridor: planting trees to build new riparian buffers, stabilizing eroding banks, installing cattle fencing in areas impacted by livestock, and many other activities.

In addition to traditional stream restoration, this program will have a special focus on removing unneeded and dangerous low-head dams. Dam removal will reduce stream habitat fragmentation and improve water quality.

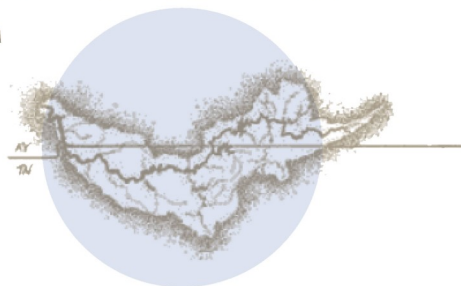
Landowners participating in the program will be asked to set aside a 50-foot conservation easement from the top of each stream bank, but costs of project activities and future maintenance of the easement area (to 10

years) will be fully borne by the Cumberland River Compact.

If you would like to learn more about this program, have a suggestion for a potential site, or are interested in participating, please contact us at 615-837-1151 or e-mail Alec Norman at

al-ec.norman@cumberlandrivercompact.org.

CUMBERLAND RIVER COMPACT



Grant Opportunities

Five Star and Urban Waters Restoration Grant Program 2018 Request for Proposals

Full Proposal Due Date: Wednesday, January 31, 2018 by 11:59 PM Eastern Time

The National Fish and Wildlife Foundation and the Wildlife Habitat Council, in cooperation with the U.S. Environmental Protection Agency, USDA Forest Service, U.S. Fish and Wildlife Service, FedEx, and Southern Company are pleased to solicit applications for the 2018 Five Star and Urban Waters Restoration program. The Five Star and Urban Waters program will award approximately \$2 million in grants nationwide.

Projects include a variety of ecological im-

provements along with targeted community outreach, education and stewardship. Ecological improvements may include one or more of the following: wetland, riparian, forest and coastal habitat restoration; wildlife conservation, community tree canopy enhancement, water quality monitoring and stormwater management. Projects should also increase access to the benefits of nature, reduce the impact of environmental hazards and engage local communities, particularly underserved communities, in project planning, outreach and implementation.

Go directly to the grant program website at

<http://www.nfwf.org/fivestar/Pages/2018rfp.aspx> where you can find:

- The full "Request for Proposals"
- A "Tip Sheet" that walks you through the application process and describes what is needed for each question/information prompt. This "how to" document is extremely helpful and thorough.

EPA EJ Collaborative Problem-Solving Grants Opportunity is Now Open

Full Proposal Due Date: Friday, February 16, 2018 by 11:59 PM Eastern Time

The Environmental Justice Collaborative Problem-Solving (EJCPS) Cooperative Agreement Program provides funding to support community-based organizations in their efforts to collaborate and partner with local stakeholder groups (e.g., local businesses and industry, local government, medical

providers, and academia) as they develop and implement solutions that address environmental and/or public health issues for underserved communities.

The EJCPS program will award approximately \$1.2 million nationwide for this competitive opportunity. EPA anticipates awarding ten cooperative agreements (one in each of the ten EPA Regions) of up to

\$120,000 each.

Applicants are invited to participate in conference calls with EPA to address questions about the EJCPS Program and this solicitation. Interested persons may access the pre-application assistance calls by dialing 1-866-299-3188 and entering the code 202-564-0152 when prompted. [Click Here for More Information.](#)



Applications due Wednesday, January 31, 2018

TDOT is now accepting applications for \$1.5 million of competitive grant funding for community based special litter projects.

Each winning application may be awarded between \$20,000 and \$200,000 in funding, and does not require a local match. Grant recipients will be awarded a two year contract to complete projects.

Examples of projects eligible for Special Litter Grant funding include: litter enforcement and tarp law efforts, multijurisdictional collaborations, illegal roadside dumpsite cleanups, 'litter free' or recycling public events, projects connecting litter prevention to local water quality, student litter education programs, Adopt-A-Street pro-

grams, local efforts incorporating TDOT's new "Nobody Trashes Tennessee" litter prevention campaign and tire collections.

Special Litter Grant funding is meant for local litter pickup, prevention education and abatement activities. Landscaping and other similar community beautification efforts will not be funded.

The Department invites any local government, non-profit or community organization to submit an application to the Environmental Division's Highway Beautification Office by Wednesday, January 31, 2018.

This opportunity is for a reimbursement grant which requires quarterly invoicing and performance reporting. For additional information and application instructions please view the Special Litter Grant manual on the

[TDOT Highway Beautification Office webpage](#). All other questions should be directed to Environmental Outreach Programs Manager, [Mike McClanahan](#), (615) 741-0803.

Please note that a mandatory webinar has been pre-recorded and posted to the [Highway Beautification Office homepage](#).

Be sure to listen for a password which needs to be included in your application's project narrative. The password will prove you've listened to the webinar .



Tools and Webinars

TWRA Updates Smartphone App with Goal to Help Users Easily Discover Outdoors Opportunities

For nearly a quarter-million users of the Tennessee Wildlife Resources Agency's 'On The Go 2.0' smartphone app, finding a place in Tennessee to hunt, fish, boat, and view wildlife has become easier than ever. "We have put a lot of time into improving our app and we are happy to announce it is now available and free to all who enjoy our outdoors and want to learn more," said Michael May, a TWRA assistant director.

"If you want to find a boat ramp, public land to hunt on, a convenient way to check-in big game, places where you can view birds and other wildlife, or keep up with news that pertains to the outdoors, this updated version of our app offers unlimited sources of information," said May.

Users can buy licenses, check big game while afield, view interactive maps, apply for quota hunts, and visit the TWRA website. One new feature includes a "Stay Connect-

ed Page." It provides easy access to TWRA's social media, Tennessee WildCast podcast, newsroom, outdoors and event calendar, and more.

Smartphone users should visit TWRA's website by clicking [here](#). If the current version is already installed, Apple users can easily upgrade via their app, while Android users will need to uninstall their current app before uploading the new one.

Water Utility Response On-The-Go Mobile Application and Website

Install the Response On-The-Go App on your Apple or Android Mobile Device

The Water Utility Response On-The-Go App consolidates and makes accessible from the field, information and tools that water utility operators and their response partners may need during an emergency. Downloading Response On-

The-Go can help responders and stakeholders increase situational awareness, facilitate coordination, and enhance overall response efforts.

The App allows users to:

- Identify and contact emergency response partners
- Monitor local and national severe weather

- Review and complete incident-specific checklists
- Populate, save and email damage assessment forms with photo attachments
- Access Incident Command System procedures and resources
- To download the app:
- For Apple devices click [here](#).
- For Android devices click [here](#).

Archived Webinar: Trees and Stormwater: A Tool for Your Community

Traditional 'gray' water infrastructure – like concrete and metal pipes, holding tanks, pumps, and water tunnels – have long supported our cities and towns as they grow and develop.

However, as leaders grapple with shrinking budgets and deteriorating local infrastructure, the resilience and multifunctionality of green infrastructure and trees continues to broaden its appeal as a fiscally responsible investment for the long-

term health and vibrancy of an area.

Treesandstormwater.org, a new interactive tool developed by the Ohio-Kentucky-Indiana Council of Governments in partnership with the US Forest Service, will enable community planners, engineers, stormwater managers, community foresters, and policy-makers to better capitalize on trees when investing or reinvesting in their stormwater systems.

Watch this webinar to learn about this new tool and how you can use trees and green infrastructure for stormwater management while also maximizing the variety of co-benefits that trees can provide in your community.



- [URL to Webinar Recording:](#)
- [URL to Video from Presentation:](#)

EPA Local Food Local Places Program Toolkit

EPA has just released a new community planning guide we think you may find helpful.

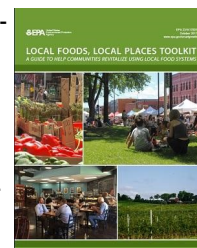
The EPA Local Food Local Places program has released a toolkit to help communities with revitalizing local food systems while reinvesting in downtown areas and existing neighborhoods. Might be a good fit with green infrastructure efforts.

Developed by EPA's Office of Sustainable Communities, it provides step-by-step instructions for planning and hosting the type of community workshop offered through the Local Foods, Local Places assistance program.

Local Foods, Local Places helps communities create action plans for using local foods to meet economic growth, environmental,

health and other community goals. Based on best practices and lessons learned from the program, the new toolkit includes a how-to guide, case studies, and presentations.

Download the toolkit: [Here](#).



Webinar: National Stormwater Calculator for Managing Runoff Using Green Infrastructure: Addition of Cost Module and a Mobile Web Application Version

January 31, 2018 [Register for Webinar](#)

Stormwater discharges continue to cause impairment of our Nation's waterbodies. Conventional stormwater infrastructure, or gray infrastructure, is largely designed to move stormwater away from urban areas through pipes and conduit. Runoff from these surfaces can overwhelm sewer systems and end up contaminating local waterways. When stormwater runs off impervious streets, parking lots, sidewalks, and rooftops, it can carry pollutants to streams, rivers, and lakes. Runoff flows can also cause erosion and flooding that can damage property, infrastructure, and wildlife habitat. In addition to runoff problems, impervious surfaces also prevent water from penetrating the soil and recharging groundwater supplies.

Green infrastructure, such as rain gardens, and porous pavement, is becoming an increasingly attractive way to reduce the amount of stormwater runoff that flows into wastewater treatment plants or into waterbodies untreated, and to recharge aquifers.

It provides many environmental, social, and economic benefits that promote urban livability, such as improved surface water quality, water conservation, and improved aesthetic and property value. EPA researchers have been studying green infrastructure practices and developing models and tools to help communities manage their stormwater runoff and address nutrient impairment.

EPA developed the [National Stormwater Calculator \(SWC\)](#) to help support local,

state, and national stormwater management objectives and regulatory efforts to reduce runoff through infiltration and retention using green infrastructure practices as low impact development controls.

It is designed to be used by anyone interested in reducing runoff from a property, including site developers, landscape architects, urban planners, and homeowners.

It can be used for any location within the United States, including Puerto Rico. This webinar will provide potential and example applications, and will present the new cost module and mobile web application version that can be used on mobile devices, such as smartphones and tablets.

Adapting Landscape Plants, Policies, and Management to a Water-Limited Future

Tom Brown, USDA Forest Service

Heidi Kratsch, University of Nevada, Reno

Climate change, growing populations, and increasing water demands across sectors increase the vulnerability of water supplies across the US to shortage, driving a range of policies and community- and site-scale choices on water management in urban and com-

munity landscapes. It is critical for policy makers and water resource planners to have accurate estimates of the extent to which these changes are likely to occur and for property owners and managers to understand the choices available to them for appropriate landscape plant selection and proper irrigation of trees and shrubs.

effects of canopy loss.

Presentations

[View the webinar podcast »](#)

[Future Water Supply Vulnerability in the U.S \(PDF\)](#)

[Keeping Urban Trees Alive Now and into the Water-Limited Future \(PDF\)](#)

Managing Stormwater in Parks & on Public Land: Resources from National Recreation and Parks Association

The National Recreation and Park Association (NRPA) in cooperation with the American Planning Association (APA) and the Low Impact Development Center (LIDC) as part of the Great Urban Parks Campaign has produced a number of new resources on green infrastructure stormwater management in parks and on public lands.

These downloadable resources include: [A Resource Guide to Planning, Designing and Implementing Green Infrastructure in Parks](#);

three briefing papers: Financing [Green Infrastructure](#), [Green Infrastructure and Park System Planning](#), and [Planning For Equity in Parks with Green Infrastructure](#); and four case studies organized by topic on green infrastructure projects in parks in Atlanta, Baltimore, Denver and Pittsburgh: [Engagement Case Study](#), [Funding Case Study](#), [Partnerships Case Study](#) and [Design Case Study](#)

There are other resources including down-

loadable infographics, links to a [webinar series on GI in parks](#), and related reports and articles about green infrastructure in parks. This suite of resources will be of interest to anyone working on green infrastructure stormwater management projects on public lands or in parks. For expanded descriptions, [Click here](#)



Tools & Resources Webinar: Urban Background

January 17, 2018 | 3:00 PM ET [Register](#)

Identifying the source of soil contaminants is vital to decision-making during an environmental cleanup.

EPA researchers are collecting data that can

be used to inform decision-making in urban settings in the Southeastern United States and establish methods that can be used elsewhere.

This webinar will present the methodology developed for collecting a city-wide or

urban area background data set and general results of southeastern cities data collected to date, and it also will highlight a case study that used the sampling methodology and data to inform decision making.



Reports

CRS for Community Resilience—Green Guide

The goal of [CRS for Community Resilience](#) is to increase the number of communities making voluntary, effective measures to increase flood resilience. This project promotes CRS participation, provides guidance on actions that increase a community's rating, and works directly with communities to increase their resiliency through the CRS process.

This project aims to:

- Get more communities to partic-

ipate in the CRS, and

- Increase resiliency by having a road map to undertake activities that strengthen the natural ecosystems and reduce growing vulnerability to floods.

One component of this [website](#) includes the [Green Guide](#).

The purpose of the [CRS Green Guide](#) is to highlight 25 of the 94 elements in the 2017 CRS Coordinator's Manual, which have beneficial impacts beyond flood risk

reduction. The "co-benefits" this Green Guide seeks to feature include but are not limited to protection of the natural and beneficial functions of floodplains, creation of habitat for fish, fowl, and wildlife, enhanced air and water quality, restoration of natural ecosystems, a more sustainable environment, and creation of additional opportunities for recreation and interaction with nature.



Colleagues,

The National Municipal Stormwater Alliance (NMSA) is leading the charge to raise awareness on the fact that the stormwater sector is under-represented and/or under-represented in the American Society of Civil Engineers (ASCE) Infrastructure Report Card.

This campaign is based on the premise that the stormwater sector should be accounted for in the Report Card along with others in the water sector. We are asking that you show your support for this effort and go to the link at the end of this email to give a grade for stormwater both current conditions as well as "smart" conditions, which represents a scenario where

we imagine making all the potential investments we can make into making stormwater infrastructure better and "smarter" - this can give us a window into areas where we can make the biggest improvements over current conditions.

Please note that this exercise is NOT at all intended to compete with the actual ASCE Infrastructure Report Card. Our grade development is based upon a quick survey-based assessment of professionals with an interest in stormwater - but the ASCE Report Card is based upon robust data collection and a scientifically-focused methodology - this is what has helped to give this product such strong credibility over the years.

Additionally, ASCE is fully aware of this effort by NMSA, and they are supportive and coop-

erative in working together to find ways to integrate stormwater into the actual Infrastructure Report Card in the future.

Our interest in asking you to get involved is to provide us with a show of support as well as providing a basic understanding of the view of professionals interested in stormwater issues what their view of the sector is at this time. We are looking to end this campaign by the end of January, so please don't hesitate in taking action.

With the above in mind, please go to the link below - it should take less than 5 minutes to complete - and thank you for your support:

<http://nationalstormwateralliance.org/reportcard/>

What about a Stormwater Infrastructure Report Card? *Please Consider Completing a Short Survey!*



A Developer's Guide to Post-Construction Stormwater Regulation

The [National Association of Homebuilders](#) has published a [Developer's Guide To Post-Construction Stormwater Regulation](#).

Stormwater regulations are changing quickly. Builders and developers must understand both the minimum requirements established by federal rules as well as the different approaches states

use to implement them.

NAHB conducted research to identify the different approaches that states use to regulate post-construction stormwater runoff. This study is intended to help NAHB's more than 700 state and local HBAs have a stronger voice in stormwater program development and implementation.





Mississippi River/Gulf of Mexico Hypoxia Task Force Report

The Hypoxia Task Force is releasing its 2017 Report to Congress on the actions the federal, state, and tribal members have taken toward the goal of reducing nitrogen and phosphorus pollution in the Mississippi/Atchafalaya River Basin and shrinking the size of the Gulf of Mexico hypoxic zone.

The Report to Congress:

- Discusses the environmental, economic, and social impacts of Gulf of Mexico hy-

poxia and harmful algal blooms;

- Provides information about the size of the hypoxic zone since 1985 and sources of nutrient loading in the MARB;
- Describes the progress of state nutrient reduction strategy development and implementation;
- Discusses federal agency programs that support state implementation of nutrient

reduction strategies;

- Evaluates and highlights lessons learned by presenting broader HTF successes and successful state projects; and
- Focuses on recent HTF efforts to track the environmental results of state strategy implementation.

To learn more about the Hypoxia Task Force, [Click Here](#).

New 'blue-green' roof design demonstrates promising results

A demonstration project in Amsterdam testing a new 'blue-green' roof system has revealed data that suggests greater thermal cooling potential. Built on top of a former naval hospital, the new roof concept — which combines rainwater storage with living plants — was developed by Dutch engineer Joris Voeten of Urban Roofscapes (Amsterdam, Netherlands) as part of a 2-year research study under the Dutch government's Topsector Water program to evaluate the cooling capacity of blue-green roof designs. According to Voeten, the new roof is different from traditional green roofs in that water is not stored in soil, but rather in a 76-mm (3-in.) 'Permavoid' drainage layer underneath the soil.

"This way, more water can be stored with less soil, enabling for a larger portion of the roof's load bearing capacity to be allotted to water storage as opposed to 'soil storage,'" he said.

On-demand plant-powered pumping

The design is also unique in that capillary fiber cylinders are inserted in the drainage layer and function by transporting water from storage back to the soil for plant growth. "These fi-

bers convey water naturally and on demand, only when the plants are transpiring, without the use of pumps, hoses, valves, or tanks, and even more importantly, without the use of energy," Voeten said. By allowing water to be available for plant growth through capillary subsurface irrigation, Voeten said the new roof design eliminates the extreme dry-wet cycle plants would otherwise endure on rooftops. "The moisture content in the soil stays constant, which improves plant growth, increases the plant species selection, and allows for edible crops to be more reliably grown — even with a minimal soil layer," he said.

Comparing to the traditional

The demonstration project includes the use of highly sensitive load cells that are built into sections of the roof, allowing researchers to measure plant evaporation directly. Based on measurements recorded over a 2-week dry period, the blue-green roof system evaporated 43 L/m² (11.4 gal/m²); a conventional green roof evaporated 18 L/m² (4.8 gal/m²) over the same period. Thus, by ensuring greater evaporation through consistent water availability, the blue-green roof system demonstrated higher potential

cooling capacity, Voeten said.

Further results revealed an average surface temperature difference of 40°C (72°F) between the blue-green roof and an adjacent roof covered in black bitumen, based on readings taken during one of the hottest days of the summer. The new roof design also has strong potential for reducing sewer system loads during peak rain events. During the growing season of 2017, the system did not discharge any rainwater to the sewer except for one day in September when more than 65 mm (2.6 in.) of rain fell in 12 hours.

"Weather data monitoring valves can also be used with the roof system to release a computed amount of water from storage prior to an anticipated rainstorm, thus maximizing the system's water retention capacity during peak rain events," Voeten said.

Jeff Gunderson is the founder and owner of Waterstone Writing (Portland, Ore.).

[View Article Here.](#)



iCreek—Watershed Health Interactive Tool

iCreek is an interactive tool developed by the [Cumberland River Compact](#) and [The Nature Conservancy of Tennessee](#).

If you live in the Cumberland River Basin, the tool will tell you if your neighbor-

hood waterway is healthy. If your waterway is unhealthy, the tool will also list activities you can do and resources you can use to help your stream.

WEF announces winners of 2017 StormTV competition

The Water Environment Federation (WEF) today announced the winners of its sixth annual stormwater video competition. The StormTV Project is a video contest recognizing innovative stormwater practices, programs, products, and public outreach.

The 2017 StormTV Project received 40 submissions and had 25 expert judges review the videos. The judges — primarily members of the WEF Stormwater Committee — scored each video on: message clarity, visual appeal, audio quality, technical accuracy, originality and vision, length, and distribution methods.

The judges awarded three prizes for the 2017 StormTV Project:



Grand Prize Winner – Washington Environmental Council with their video Polluted Puddles: Arlo's quest to clean up our mess.

Filmmaker Award – Independence Television, Independence Township, and the Clinton River Watershed Council with their video Water is Worth It, EPI: An Introduction

Communicator Award – Independence Television, Independence Township, and the Clinton River Watershed Council with their video Water is Worth It, EP2: An Environmental Demonstration

[View the full StormTV 2017 Playlist](#)

How To Make An Effective Stormwater Outreach Video

During its 6-year history, the intention of



the StormTV project has evolved to highlight the work of stormwater professionals utilizing video presentations to communicate and educate. The project seeks to collect and share examples of best practices in action for stormwater management.

To that end, this year's judges provided extensive comments on what worked well in the videos reviewed. These comments were compiled into the fact sheet, [How To Make An Effective Stormwater Outreach Video](#).

Energy-Water Policy Database—**BETA**

A database of U.S. state-level water policies and programs affecting energy systems **BETA**

Present-day energy and water systems are in many cases interconnected. Water is used in most phases of energy production and electricity generation. Energy is required to extract, convey, and deliver water of appropriate quality for diverse human uses, and then again to treat wastewaters prior to their return to the environment.

Historically, energy and water systems have been developed, managed, and regulated independently and without significant acknowledgement of the connections between them. The energy and water policy landscape is thus highly fragmented, which can make it difficult for industry, utilities, government, and other stakeholder groups to effectively balance energy and water goals.

The database is being developed by DOE's Office of Energy Policy and Systems Analysis (DOE-EPISA). The beta version of the database is presented as a web tool at <http://energywaterpolicy.org>. Categories of policies in the database include surface water rights; groundwater rights; water

discharge regulations for power plant cooling water effluent, stormwater, and wastewater from oil and gas production; Underground Injection Control (UIC) program regulations; state water plans; regional watershed commissions; reservoir and river operations; and integrated energy and water policies. The goals of the database are to facilitate improved policy analysis, modeling, visualization, and communication by states, industry, utilities, academia, federal agencies, and other stakeholders

This draft database is a "beta" version and a work-in-progress. To submit comments, feedback, or ideas related to the draft database, please send an email to EPISA.database@hq.doe.gov.

Overview

This draft database provides an extensive source of key information about state-level water policies and programs that are relevant to energy systems in the United States. The goals of the database are to facilitate improved policy analysis, modeling, visualization, and communication by states, industry, utilities, academia, federal agencies, and other stakeholders. There are more than 1,900 policy entries in the draft database, including:

- State and national pollutant discharge elimination system (PDES and NPDES) permitting programs affecting electricity generation and oil and gas production facilities
- Underground injection control permitting for the oil and gas sector
- Policies affecting surface water rights and groundwater rights
- Water quality standards affecting energy systems
- Oil and gas development and hydraulic fracturing water regulations
- River and/or dam operations affecting hydropower and/or thermoelectric cooling
- Water regulations impacting electric generation

Each policy entry includes searchable fields such as jurisdiction, dates enacted, energy subsector affected, water body affected, relevant statute, contact information of implementing authority, and a concise summary of the policy. The full draft database is also downloadable in spreadsheet format.

[Explore the draft database](#)

Article: Clean Water Act may offer 'magic key' for dam removal

Greenwire: When environmentalists press for the removal of river-choking old dams, George Howard can smell the money.

Howard's company is tearing down the Milburnie Dam on the Neuse River outside Raleigh, N.C. The 15-foot impoundment stretches 625 feet across the river, blocking fish runs and creating a deadly hydraulic trap that's drowned 15 swimmers.

Milburnie is Howard's third North Carolina dam removal. As with the other two, he will turn a profit using a tool called mitigation banking.

"This could create a long-term mechanism that could slowly drive dam removals across the country that cannot be funded now," he said in an interview.

Howard's company, Restoration Systems, capitalizes on provisions in the Clean Water Act that aim for "no net loss" of wetlands and streams by requiring anyone wanting to destroy riverbed, marshes, bogs or swamps to offset the damage by creating and restoring habitat elsewhere.

Howard was among the first to recognize dam removals make good mitigation banks. He does restoration up front then sells credits to developers or highway builders who need Clean Water Act permits.

Almost 250 miles of the Neuse River will be dam-free after Milburnie is torn down in the next few months. The only remain-

ing impoundment will be Falls Lake Dam upstream, whose reservoir holds most of Raleigh's water supply. It's not going anywhere.

The Milburnie removal will directly revive 6 miles of the Neuse. North Carolina will likely buy that mitigation to offset the expansion of the state capital's outer-loop highway, Howard said.

He views his work as the future of environmentalism.

"Ultimately, we can't pay to fix everything we screwed up, and we can't stop everything in the future," he said. "The best we can do is leverage what is going to occur — it's unavoidable. Leverage the inevitability of well-regulated development to do the restoration that we need to do."

It's a philosophy that others — including some environmentalists — are beginning to appreciate for dam removals.

The Nature Conservancy recently concluded in a white paper that removing dams and culverts provide more successful mitigation than other efforts.

"If you remove a dam, you realize a lot of benefits for people and nature, and those benefits are usually enduring and sustainable," said Jessica Wilkinson, an author of the report. "Dam removals — improving connectivity — can be and should be an appropriate method" for mitigation.

To some, mitigation represents a silver bullet

for financing dam removals.

Public and private investments in compensatory mitigation is "conservatively" estimated at \$3.8 billion annually, according to a widely cited 2015 paper on the "restoration economy" by University of North Carolina professor Todd BenDor. Some in the industry estimate that figure is now as high as \$5 billion.

"Conceptually, it's a great idea," said Steven Stockton, former director of civil works and dam safety officer for the Army Corps of Engineers.

But Stockton pointed out the obstacles, the biggest being that someone's got to foot the bill for mitigation that typically must take place in the same watershed as the development. Another is that mitigation banking has never had broad political support needed to make it a Clean Water Act fixture.

Nonetheless the number of for-profit dam removals is growing. Serena McClain of American Rivers counts about two dozen dam removals for mitigation and nine others under consideration.

Annapolis, Md.-based GreenVest LLC, another mitigation firm, has been behind removals in New Jersey, Pennsylvania and Maryland.

"It should be considered more often," said Doug Lashley, GreenVest's CEO.

Dam removal for mitigation also appears to be a rare example of environmental work that has bipartisan appeal. For the rest of the story, [Click Here](#).

NOW ACCEPTING: 2018 Governor's Environmental Stewardship Award Nominations

Nominations are currently being accepted for the 2018 Governor's Environmental Stewardship Awards, and TDEC is asking you to draw on your knowledge and experience to help us identify organizations and individuals who are improving the quality of Tennessee's land, air, and water.

The Governor's Environmental Stewardship Awards include ten categories: Building Green, Clean Air, Energy and Renewable Resources, Environmental Education and Outreach, Environmental Education

and Outreach (school category), Land Use, Materials Management, Natural Heritage, Sustainable Performance, and Lifetime Achievement.

Any individual, business, organization, educational institution, or agency is eligible, provided it is located in Tennessee and the project was completed during the 2017 calendar year. All nominees must have a minimum of three consecutive years of overall environmental compliance with the Department of Environment and Conservation. Self-nominations are encouraged.

A panel of judges representing agricultural, conservation, forestry, environmental, and academic professionals will select award recipients based on criteria including level of project or program completion, innovation, and public education. **The deadline for nominations is March 30, 2018.** Award recipients will be announced in May 2018. [Click Here for more Info.](#)



TDEC Public Participation Opportunity

DRAFT 2018 List of Impaired and Threatened Waters in Tennessee

The Draft 2018 List of Impaired and Threatened Waters in Tennessee, required by Section 303(d) of the federal Clean Water Act, is now available for public review.

The List is a compilation of the lakes, rivers, and streams in Tennessee that either fail to meet, or are soon expected to fail to meet, one or more water quality standards. In addition, the list provides pollutant information and TMDL prioritization for impaired and threatened segments. The

new version of the List reflects the results of a reassessment of the Group 4 watersheds that took place in 2016 and 2017. The 2018 Draft List is being provided as a spreadsheet with color coded tabs for each watershed in the state. Additionally, rationales have been prepared for proposed delistings.

Comments will be accepted until February 16, 2018. (Gregory.Denton@tn.gov). The Division of Water Resources has scheduled a public meeting on January 4, 2018, to facilitate public comments. After the public com-

ment period has ended, the List will be revised according to the comments received and will be submitted to EPA as a proposed final version by the statutory deadline of April 1. The List and companion documents can be accessed at the links below:

[Public Notice of Availability of List and Notice of Public Meeting](#)

[Draft 2018 List of Impaired and Threatened Waters](#)

[Rationales for Waterbodies Proposed for Delisting](#)

\$16 million project would fix 'Grand Canyon' of Fayette County

Commercial Appeal: Tom Charlier, USA TODAY NETWORK – Tennessee Published 10:00 p.m. CT Dec. 17, 2017 | Updated 5:40 a.m. CT Dec. 18, 2017

A century after it was rerouted into a man-made channel with a highway-straight alignment, Cypress Creek continues to carve a ever-deepening, ever more threatening gash across the landscape of western Fayette and eastern Shelby counties.

Nowhere is its deteriorating condition more apparent than at the Tenn. 194 bridge in Oakland. Tons of rock have been dumped into the creek there to shore up areas of the banks and stream bed scoured away by decades of erosion.

It's not much better elsewhere. The creek in recent years has washed away culvert crossings and threatened municipal sewer facilities while providing almost no habitat for fish and wildlife.

"This channel has turned into a Grand Canyon ecological desert – just a big, big gully," said David Salyers, executive direc-

tor of the West Tennessee River Basin Authority.

Federal and state officials, however, believe the creek can be restored to a more stable, ecologically sound condition. They're pursuing plans for a \$16.3 million project involving the installation of 20 or more stone structures – each up to 200 feet wide and 200 feet long – in the creek and its tributaries.

The project would be the first growing out of two decades of planning and studies by the Corps of Engineers that assessed flood-control treats and ecological problems attributable to urban development in the Memphis area.

Under the Memphis Metropolitan Storm Water Management project, Congress in 1996 authorized the corps to work with state and local officials in parts of West Tennessee and North Mississippi to improve water resources in the watersheds of the Hatchie, Loosahatchie, Wolf and Coldwater rivers as well as Horn Lake and Nonconnah creeks.

Those streams and their tributaries originally meandered slowly through forested bottom lands, but by the 1920s most had been channelized – or funneled into large, straight channels – in an effort to improve drainage. As a result, "habitat degradation is extensive and rivers are unstable and unlikely to recover without intervention," the corps said in a subsequent report.

In a 2009 study, the corps identified \$120 million worth of possible improvements just along the main stems of the six rivers and creeks that would restore thousands of acres of wetlands and improve water quality and wildlife habitat.

The first stream chosen for improvements, Cypress Creek is a tributary of the Loosahatchie that drains a 40,000-acre watershed. Not to be confused with at least two other creeks of the same name in Memphis, It flows from southeast of Oakland along a mostly westerly course before emptying into the Loosahatchie west of Arlington.

[Click here for the rest of the article.](#)

2018 TNSA Board Members

Continued from pg. 1

Secretary: Steve Casey

Treasurer: Shelia Huffmire

Ad-Hoc Secretary: John Chlarson

Outgoing board members: David Edwards - City of Kingsport, Doug Noonan – City of Franklin, Michael Scott – Williamson County, Jimmy Temple – City of Union City & Tracy Jones – Knox County

Thank you to all of our board members who dedicate their personal time and energy into making TNSA the best it can be. We are growing into a sustainable long-term non-profit with your help!

Report: EPA Efforts Increase Use of Green Infrastructure

Green infrastructure uses natural processes and materials to slow stormwater so it is absorbed and filtered by the soil, reducing pollution to surface waters.

EPA provides multiple resources to educate and assist municipalities on the use of green infrastructure.

In 2016, the agency launched a pilot project with five municipalities to encourage states, communities, and municipalities to develop long-term stormwater plans to increase their use of green infrastructure.

GAO reviewed the pilot project and surveyed municipalities that have entered into consent agreements with EPA to reduce the incidence of combined sewer overflows, when raw sewage is discharged into waterbodies (GAO-17-750). GAO issued a report that:

(1) describes the extent to which selected municipalities are incorporating, and funding, green infrastructure in stormwater management efforts;

(2) describes what challenges, if any, municipalities reported facing in incorporating

green infrastructure into stormwater management efforts; and

(3) examines efforts EPA is taking to help municipalities use green infrastructure. GAO recommends that EPA document agreements, when working with municipalities and other stakeholders, on how they will collaborate when developing long-term stormwater plans.

EPA generally agreed with GAO's recommendation and plans to implement it over the next 12 to 18 months.

[Source: USACE, Southern Review](#)

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WOTUS Excerpt from EPA's FY2018 Statement of Priorities

The Clean Water Act seeks "to restore and maintain the chemical, physical, and biological integrity of the Nation's waters." Among other provisions, the CWA regulates the discharge of pollutants into "navigable waters," defined in the CWA as "the waters of the United States."

The question of what is a "water of the United States" is one that has generated substantial interest and uncertainty, especially among states, small businesses, the agricultural communities, and environmental organizations, because it relates to the extent of jurisdiction for Federal and relevant State regulations.

The EPA and the Department of the Army have promulgated a series of regulations defining "waters of the United States." The scope of "waters of the United States" as defined by prior regulations has been subject

to litigation in several U.S. Supreme Court cases, most recently in its 2006 Rapanos decision. Subsequently, the EPA and the Corp of Engineers issued the "Clean Water Rule: Definition of 'Waters of the United States.'" (2015 WOTUS Rule.) On October 9, 2015, the Sixth Circuit stayed the 2015 WOTUS rule nationwide pending further action of the court.

On July 27, 2017, the EPA and the Army issued a proposed rulemaking to repeal the 2015 WOTUS rule and reinstate the regulations in place prior to its issuance. As indicated in the proposed withdrawal, the agencies are implementing clarifying changes in two steps to provide as much certainty as possible as quickly as possible to the regulated community and the public during the development of the ultimate replacement rule.

In Step 1, the agencies are seeking to estab-

lish the legal status quo in the Code of Federal Regulations, by recodifying the regulation that was in place prior to issuance of the 2015 WOTUS Rule. Currently, these prior regulations are being implemented under the U.S. Court of Appeals for the Sixth Circuit's stay of the 2015 rule.

In step 2, the agencies plan to propose a new definition that would replace the prior regulations and the approach in the 2015 Clean Water Rule. In determining the possible new approaches, EPA and the Corps of Engineers are considering a definition for "navigable water" in a manner consistent with the plurality opinion of Justice Antonin Scalia in the Rapanos decision as instructed by Executive Order 13778, "Restoring the Rule of Law, Federalism, and Economic Growth by Reviewing the 'Waters of the United States' Rule." [Click here for report](#)

TENNESSEE
STORMWATER
ASSOCIATION



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Purpose

The mission of the Tennessee Stormwater Association (TNSA) is to assist local government entities in their efforts to comply with State and Federal clean water laws and Stormwater Regulations promulgated by the Environmental Protection Agency and the Tennessee Department of Environment and Conservation; and through such assistance, to protect and improve the quality of the waters of Tennessee. This mission will be accomplished through TNSA members' exchange of information and knowledge regarding the design, construction, maintenance, administration and operation of stormwater facilities. The TNSA will promote the dissemination of information in stormwater control measures and the adoption of improved practices in stormwater administration.

Members

TNSA membership is composed of designated Municipal Separate Storm Sewer Systems (MS4s) including local governments (city and county), universities, military installations, and other entities such as TN Department of Transportation (TDOT). Associate members include environmental advocacy groups, non-profits, Tennessee State, sub-state or federal government entities consultants. Private sector membership is available to for-profit engineering, scientific and management firms or other organizations with an interest in stormwater.

Roseberry Creek Receives Watershed Improvement Grant

Knox County Stormwater has recently been awarded a Clean Water Act grant from the TN Department of Agriculture to improve water quality in the Roseberry Creek watershed in Northeast Knox County.

shed for septic system repairs and for Agricultural best management practices (fencing, watering facilities) to be installed.

Contact Tracy Jones at (865) 215-5811 for more information .

Cost-share funds are now available to landowners in the water-



Knox County's 2017 Storm Drain Style-Off Contest

The 2017 Storm Drain Style-Off was a huge success! Thanks to promotional efforts by the artists, the Knox County Public Libraries, Sherwin-Williams, local media outlets and Knox County Stormwater, over 2,300 votes were cast during the 1-week voting period at the end of July.

Congratulations to Carson Whittaker, who took first place with her "Clean Water, Happy Otter" design; Eric Johnson, with another adorable otter, and Julia Widby, with her Tennessee native wildlife mural. Knox County sure loves their local wildlife! Stay tuned for more amazing storm drain art coming in 2018!



To see all of this year's painted storm drains, [click here](#)