

Volume 14 • December 2018



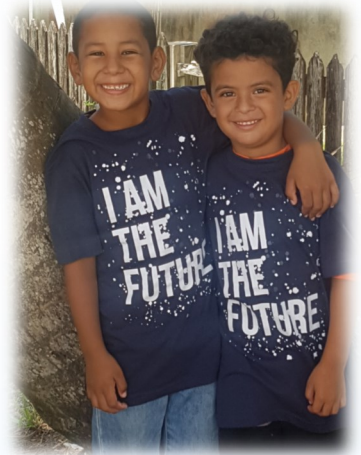
Newsletter of
Caribbean SEA and TenneSEA
(Student Environmental Alliance)



Our mission is to empower students to lead their communities to protect and restore their local environment through collaborative watershed projects. Our goal is clean water for all through grassroots community action.

Dear Friends of SEA,

Never underestimate the power of young people! I received this picture from our colleague, Cathy Power, while she and Berry Shults worked to provide Kids 4 Clean Water Camp for kids in San Mateo, Belize a very poor community on Ambergris Caye which was built on and is surrounded by trash. Despite their living conditions, they have hope. They see an ocean with more fish and no trash. They are optimistic for their future, for our future. They ARE the future! Whether we are working with young people in Belize, St Lucia, Red Bank or Dalewood, **kids are kids**and deserve the best chance to be optimistic for the future. I see such promise in kids like Ro'Shawn Holloway in Chattanooga, Pernill Joseph in St Lucia, and Cash, our youngest stream team leaderthat it also makes me optimistic for



our future. What can we do? Teach them, support their dreams, open their eyes to wider opportunities and these kids will shine. They ARE our future and I feel especially fortunate to have traveled just a little while with them on their journeys and feel very hopeful for our world in their care. So I give thanks to all our "Kids" for everything they do!



Sincerely,

Mary Beth Sutton, Executive Director

"In the end we will conserve only what we love, we will love only what we understand, and we will understand only what we are taught." — Baba Dioum

Notes from Saint Lucia

By Nadia Cazaubon, Programme Director

Caribbean SEA has been busy in Saint Lucia. There is a growing concern for healthy and resilient environments to enable small islands to better adapt to our changing climate. The importance of water as a resource is at the fore and this creates a great opportunity for Caribbean SEA to showcase our work here. The projects we are presently engaged in are very



relevant and the time for action is now.

Caribbean SEA recently coordinated clean up campaigns in five communities on the west coast of Saint Lucia resulting in the removal of over 500 pounds of trash that would have ended up in our corner of the Caribbean Sea. Volunteers from youth groups, vendors, boat boys, residents and children joined this clean-up effort which was organized in observance of International Coastal Clean-up Day.

We work in partnership with many agencies, non-profits, and communities. Accordingly, we continue assisting organizations implementing environmental projects in Soufrière and around Saint Lucia including the Integrating Water, Land and Ecosystems Management (IWEco) in Car-

ibbean Small Island Developing States and GIZ Caribbean Aqua-Terrestrial Solutions (CATS) projects. We also partner with the National Youth Council (NYC), who has a project geared at improving the environmental sustainability of schools. We are lending support to this project for schools to conduct environmental audits and develop management plans to improve water usage, energy efficiency and trash management.

Furthermore, our environmental clubs, including our bird watching club, are thriving with more schools requesting help all the time. These clubs also participate in the Science Fair and have been very successful for their schools. Most primary schools do not get a chance for hands-on science, so our clubs are very important! We are very excited to have Sarah and Sean, the St. Lucia based Peace Corps volunteers, working with us on our environmental education and community programs. Sarah and Sean helped with Rainforest to Reef camp and are also providing programs for our Marigot Pirates Environmental Club. Colleen, whose primary job is teaching literacy at La Croix Maingot Combined School, has now joined in to help. When we began working in communities, the Peace Corps volunteers helped make it successful, so we appreciate them so very much!



Our Kids 4 Coral Program is also active, teaching local youth about the marine ecosystems by teaching them snorkelling (and swimming!). GIZ CATS is partnering with us to also launch this program in Grenada and Dominica.

Save the date for our annual fundraiser!!



Join us for our most popular fundraiser, Save Water Drink Wine! Experience vino like never before. We pair wine with watersheds, so you can learn more about the water near you and enjoy some of our favorite (domestic and imported) wines. With great food, great wine, great people, and an even better cause, join us for Save Water Drink Wine 2019 at The Barn Nursery on February 9th.

Kids 4 Clean Water Camps

Belize

Despite getting a late start this year, Cathy, Berry and Devon provided a fabulous Kids 4 Clean Water Camp for the kids in San Mateo on Amergris Caye, Belize. While their community is getting more services, like electricity, the people still don't trust the "pipe water" and depend on their rain water cisterns for drinking water. Keeping the cisterns clean is a very important task! The kids at camp learned about bacteria, handwashing, and how to filter water. It was heartening to see that some of the water filters that Ann Kuffner and Rotary delivered years ago are still in use. We are working with our long standing team from Belize Community Conservation, the American Crocodile Education Sanctuary, and the Red Cross to improve the cleanliness of the drinking water as well as deal with the issue of trash and litter piled up everywhere.



St. Lucia

Our Rainforest Camp was attended by students and leaders from communities of Marigot to Dennerly to Soufrière. While at the rainforest cabin high above the village of Micoud, they enjoyed a pre-breakfast hike and bird watching, and later checked the quality of the streams there learning about freshwater life including crayfish and caddisflies. From the rainforest the camp, the class went to the sea, where they snorkelled among the roots of the red mangrove where so many young fish reside protected from predators. Right after camp, the students from Marigot participated in a plastics clean up in their village spurred on by a promise from the Mayor of Castries (the capitol of St. Lucia) to provide \$5 East Caribbean Dollars per bag of plastics collected! In the end, the class actually voted to receive their reward in school supplies instead of dollars. So, the astounded mayor was happy to oblige and the students were presented their school supplies during a special ceremony at their school.



Tennessee

Over this past summer, we provided five Kids 4 Clean Water day camps in Chattanooga. Our focus was to get kids learning about watersheds while having a blast outside! We really appreciate our partners who helped with these camps. The City of Chattanooga and Hamilton County Water Quality Programs as well as Green Steps (a litter pick-up program) provided staff and facilitated hands-on activities about stormwater and pollution in our creeks. We learned from a 3-D model watershed which depicts the different parts of a typical town. Each kid got to sprinkle or pour various "pollutants" like chocolate syrup and glitter over the model. Then they sprayed water on the model to simulate a rainstorm... "Whoah!" "Look at that!" "Eww!" The students all erupted into loud chatter about the dirty mess that they saw flow over the model town and into its lake. The kids ultimately decided they did not like what all went into the model's watershed, coming to the conclusion that protecting water quality is a very important responsibility! And as always at camp, we got wet, laughed, splashed in streams, spun circles in our canoes, and just loved being outside!



Mountain Creek Restoration Projects: You OTTER be involved!

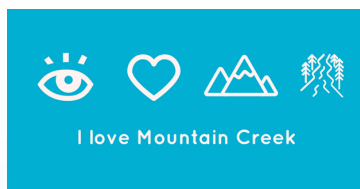
Our goal? Restore Mountain Creek so that it is taken off the dirty streams list for Tennessee. Is it working? Yes! Before starting our focus on Mountain Creek, the Tennessee Department of Environment and Conservation identified this stream as “dead,” meaning the water quality was so degraded that aquatic life could not be supported. Since that time, TenneSEA has documented major improvements! Our efforts to reduce sediment, stabilize the streambank, and restore riparian buffers has resulted in a significant improvements in the macroinvertebrate and fish communities, particularly in supporting enough fish to feed the family of otters that has been spotted several times on Mountain Creek. What does this mean? We are making positive changes but still have a lot of work to do. In partnership with other local groups, TenneSEA is coordinating two more bank stabilization projects and continuing to our urban stormwater management program called, My Tennessee:

Clean Water Starts Here. So what can YOU do to help? Try out My Tennessee: Get a free home assessment about your stormwater runoff and become certified as a creek friendly home! This is good anywhere in the watershed since we need more infiltration in the entire watershed. How can you do that? Reduce runoff, add a rain garden, reduce your grassy areas and use more native plants which have deeper roots and require minimal chemical usage. Make sure your driveways and downspouts don't send water to the sewer or storm drains, but is infiltrated in your yard. Use rain barrels. For our creek to be listed as CLEAN again, it will take us all working together. Do your part...Protect the creek and you protect everything in it, including our otters.



Stream Bank Repair at Red Bank Elementary

Mountain Creek was eating away the streambank behind Red Bank Elementary, bringing the creek closer and closer to the driveway of the school. It was a rapidly deteriorating problem and our Healthy Watersheds grant provided some funds for its repair. Adam Pierce, an Engineer from our Young Professionals Board, rallied many local companies, led by his own Propex Global, to help tackle the streambank erosion. Many of them also were graduates of the Red Bank Schools! Through the leadership of Propex engineers and donations from our amazing community partners, the streambank is repaired. They worked through the coldest time of 2018 to accomplish this task and it has held up through several flood events. Our Red Bank Elementary Stream Team learned engineering design and worked with the adults through the entire process. Since then, the students have helped replant the area with native trees and shrubs, many donated by Wild Ones. Thanks to EVERYONE who helped!



IMPROVING WATER QUALITY FOR THE MOUNTAIN CREEK WATERSHED

PROVIDED BY THESE COMMUNITY PARTNERS



TENNE-SEA



KIDS FOR CLEAN WATER



My Tennessee: Clean Water Starts Here!

Rewarding Homeowners Who Manage Urban Runoff

This spring, TenneSEA, along with partners from Chattanooga City and Hamilton County Water Quality Programs, launched **My Tennessee: Clean Water Starts Here** to celebrate homeowners who make a difference for our local creeks and rivers by positive actions taken at home. It is a certification and award program for homeowners who take care of our waterways by what they do in their own homes and yards. The overall goal is to reduce stormwater runoff from our yards, in turn reducing pollution in our waterways. While rainfall is not pollution, it can be one of the most significant pollution contributors to our streams and rivers when it hits impervious surfaces. Around the country and all over the world, folks are directing their attention to stormwater runoff. They are taking action by engaging local communities and teaching them how

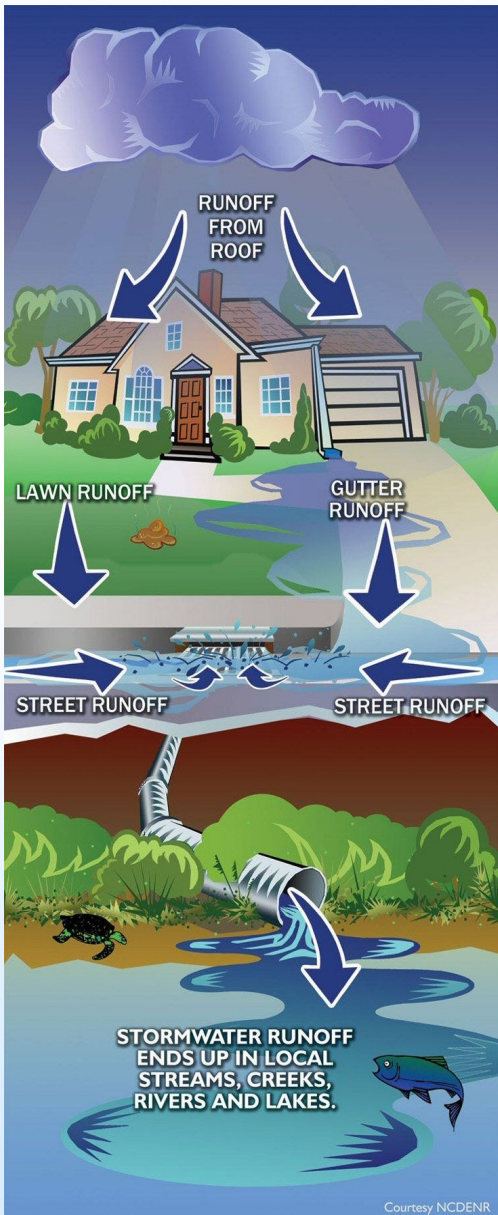


to implement best manage-

ment practices in an effort to mitigate stormwater pollution. TenneSEA is working with the Hamilton County and City of Chattanooga Water Quality Programs to give you the tools to properly manage the runoff on your very own property.

We received funding from the Tennessee Healthy Watershed Initiative and Lyndhurst Foundation to launch this award program, which includes a free residential evaluation for stormwater management. In our pilot year, My Tennessee focused its efforts on the Mountain Creek watershed which is threatened heavily by new development, stream bank erosion, and habitat loss for fish and all other aquatic life. Many residents in the Spring Valley and Reads Lake neighborhoods and East Brow Road area of Walden, through which Mountain Creek runs, stepped up as our program guinea pigs, filling out questionnaires and graciously accepting guidance on how to better capture and filter stormwater on their own properties.

It is actually quite simple to become a part of our fight to improve water quality in Chattanooga. It is as simple as planting native flowers or re-routing your gutters to flow in a different direction. We do not need engineers or specialists to make smart, impactful decisions to improve our local water quality. As a community and team, we have the ability to alter our urban setting to mimic its natural state and prevent pollution by storm water, taking responsibility and ownership over our personal contributions to local water quality.



Stormwater Runoff

How does it work? As rainfall flows off impervious surfaces like parking lots, streets and rooftops, it picks up a variety of pollutants along the way before entering storm drains and flowing to the creek. This runoff usually includes trash, fertilizers, weed-killers, automotive fluids, and even temperature differences, all of which negatively impact aquatic life. Because impervious surfaces in urban environments lack natural vegetation and filtering abilities, stormwater enters creeks at unnatural speeds and volumes which impairs habitat for fish and all other aquatic life.



(Above) Pernill Joseph, a former Lorax Club member from Denberry recently graduated university and is now an environmental leader in his community.



(Above) Wauhatchie Stream Team kids canoeing.



(Above) Chris Calhoun volunteering at the Bonnaroo cleanup.



(Above and Right) Bridge student Ro'Shawn at our Kids4CleanWater camp.



(Left) San Mateo, a Belizean community, is surrounded and built on trash and litter



(Above) Bridge Director Sarah Quattrochi and Bridge students Rayla and Nevaeh at Audubon Acres in Chattanooga.

(Right) People having fun at the Bonnaroo clean up sale at The Gear Closet in Chattanooga.



(Right) Caribbean Program Director Nadia Cazaubon sampling spring water in St. Lucia.



(Right) Kids4Coral participants snorkeling in St. Lucia.



Partner Spotlight

The work we do at Caribbean and Tenne- SEA is only made possible through partnerships with many different companies and agencies. Through our partnerships with the Hamilton County and City of Chattanooga Water Quality Programs, we have all reached more goals than we ever thought possible. It is a true synergistic relationship. We bring our individual strengths and accomplish something bigger by working together. From My Tennessee to streambank stabilization and a potential greenway, we work in partnership with these two government entities who happily work with us to help improve our water. We salute and thank Crystal Bishop, Program Manager at Hamilton County, and Don Green, Water Quality Supervisor, and Josh Rogers, Water Quality Specialist II, from the City of Chattanooga!



Crystal Bishop



Don Green



Josh Rogers

Bridge Chattanooga

This year, TenneSEA formed a new partnership with the non-profit program Bridge Chattanooga. Bridge is an afterschool program that connects Chattanooga's underserved youth to the outdoors; a concept we hold very close to our hearts. Bridge runs four days a week, Monday – Thursday. Each day is a new adventure and experience focused on exposing children to the natural world which includes our favorite subject – water!



“diving” into new worlds.

Every Thursday, our Watershed Coordinator, Melissa, meets with those involved in the Bridge program to embark on an aqueous adventure with the hopes of instilling an understanding of the importance of clean water, while helping the students learn more about the causes and effects of water pollution. From creek clean ups to critter catching, the Bridge kids are bravely

“[In Bridge], I learned I love nature and that I like being outside” – Israel Walker, 6th Grade, Dalewood Middle School.

In the face of luring electronic devices and children spending less time outdoors, we believe programs like Bridge Chattanooga are critical to the growth of these kids, and full heartedly know that if given the proper tools, they can influence the future of their local and global communities. Bridge Chattanooga is run by many dedicated people including Sarah Quattrochi at the First Cumberland Presbyterian Church and Dalewood Middle School. Bridge is supported by many other community partners and a truly amazing group of volunteers and donors. Visit the Bridge Chattanooga Facebook page for more information.



Stream Teams



Our Stream Teams are growing! This year, we have six student and community groups around Chattanooga. Their singular mission is to monitor and improve the quality of their adopted areas of streams. TenneSEA Staff facilitate Stream Team days, teaching the students how to test and monitor water quality and what the results may indicate.

Our first ever team occurred at Red Bank Elementary School last year. They learned engineering design and stream bank repair while working with our engineers from Propex and Chattanooga Engineering Group. This year's Stream Team is conducting an experiment to see if they can restore aquatic life to areas impacted by overuse. These 5th graders are measuring the water quality and aquatic life of the creek to determine the impact of their restoration projects. Our friendly engineer from Propex, Jeff Hoilman, also taught them how to create rock vanes in the creek to redirect the flow to keep it from scouring out the bank



where the students access Mountain Creek. After two days of experimenting, our stream teamers successfully diverted the heavy flow away from their new stone steps. Hands On Science lessons abound with our Stream Teams!

A new group, the Wauhatchie School Stream Team, created their own scientific tools to measure the turbidity of Look-out Creek and the ponds located on the Reflection Riding property. They made home made secchi discs and turbidity tubes then they spent two days collecting data at different locations around Reflection Riding. Bridge Chattanooga came out to Reflection Riding to pair up with the Wauhatchie Stream Team to investigate the water together. It was a great experience for the Stream Teams to teach their skills and learn new ones with each other!



The Signal Mountain Bible Church homeschool team is not only investigating the small streams in their back yard, which ultimately flow into Middle Creek, but may be able to help restore a small acid mine drainage area. Ivy Academy also has TWO Stream Teams on North Chickamauga Creek and Cash Daniel and his family are protecting an area on South Chickamauga Creek. It's so important for these stream adopters to accomplish something positive for their streams.



Want to help!? Let Melissa know if you want to adopt YOUR section of stream!

We often get asked, what's the best way to give?

The Answer? **There's no "best way"**. We're all different; we want you to give in a way that **makes you the happiest**.

Donations

Donate to CaribbeanSEA!

Resources

Help us build connections and give us feedback!

Time

Volunteer with us!

To learn more about how to help us impact communities around the world, visit www.caribbean-sea.org

The Gear Closet

The Gear Closet has settled happily into its newest location at 1510 Riverside Drive. We had our most successful Bonnaroo Sale ever this year (woohoo!!). People even line up at our "gate" before we open the sale! We love our volunteers who helped make that happen...Greg had so much fun cleaning up at the Bonnaroo site, he came back to help us sell the multitudes of tents we recovered this year. Our goal is to help Bonnaroo become a more sustainable, lower waste festival and bring camping gear back to share with our community. It was fabulous teaching folks who had never been camping how to put up a tent they got for \$20!



If you want to volunteer, contact us. Clean up date for 2019 is Monday, June 17!



What's happening at the store?

We are getting out the winter clothes and gear to help you prepare for adventures in cold temperatures! Stop by to find hats, gloves, ski equipment, boots, sleeping bags and more.

We are incredibly thankful for all of our donors, consignors, and customers (who are oftentimes one in the same!) for supporting us in reducing, reusing, and re-gearing!

Our staff changes frequently, but with Melissa as manager and Andrew as assistant manager, we have an amazing team leading the rest of our hard-working employees- Alex, Clayton, Isaac and Savanna, who collectively run and maintain the store day-to-day and for whom we are very grateful. We have also begun using our spacious parking lot to host outdoor events and fundraisers in partnership with our new neighbor and friend, the Brew Market and Beer Garden. With the Brew Market, we hosted Silent Disco with REI and Merrell in November! Partnerships like this are essential for us! Come visit!

Caribbean SEA Staff

Nadia Cazaubon, Caribbean Program Director



Nadia Cazaubon is our Caribbean Based Programs Director. She loves nature especially the sea. She enjoys watching children get excited when they discover and experience nature at its best be it snorkelling or hiking. She believes it is when they share that joy that they make the connection and fall in love with nature too.

Melissa Fitzpatrick, Watershed Coordinator



Melissa has a background in Water Resources, but most frequently can be found underground communing with the cave bats! Her focus is on the Mountain Creek Watershed, heading up the My Tennessee program and working on restoration projects as well as our liaison with the Bridge Program. (YES! She's very busy!).

Randal J. Hale, GIS Cruise Director



Randy does whatever needs doing. He is our GIS guru, our technical support, and a strong arm when we need it.

Randy can be found most days working at North River Geographic Systems, where he maps stuff.

Benjamin Wilt, Communications Specialist



Benjamin has a B.A in Communication and minored in Environmental Science. And is the reason you are seeing more emails from us. When he's not working at CaribbeanSEA, you are most likely to find him outside, running and hiking, or throwing something together inside the kitchen!

TenneSEA Young Professionals Board

By Crystal Bishop, President

The TenneSEA Young Professional Board has assembled a group of environmentally minded folks to guide and support the Caribbean SEA efforts in Tennessee. Officers elected for 2018 were Crystal Bishop (Hamilton County), President; Adam Pierce (Propex Global), Vice President; Rachael Bergmann (The Land Trust for Tennessee), Secretary; and Sara Neumann (Tennessee Aquarium), Treasurer. The TYP Board meets monthly to discuss projects and upcoming events. Our major accomplishments in 2018 included getting bylaws and officers established, volunteering at Save Water Drink Wine and the Paddling Film Festival, and providing leadership for the Stream Bank Stabilization Project. We also helped with native planting both for the stream bank and the rain garden at Red Bank Elementary School. We also met with stakeholders to generate interest and educated them about the value of establishing a greenway along Mountain Creek. Our day of service was great fun in which we refurbished the rain garden at The Gear Closet while we enjoyed a cook-out and libations provided for us by SEA Staff. We look forward to growth and prosperity in 2019. If you are interested in learning more, please contact CrystalB@hamiltontn.gov.



Caribbean & Tenne-SEA

P.O. Box 4437
Chattanooga, TN 37405 USA
www.caribbean-sea.org



@Kids4CleanWater



@Kids4CleanWater



@CaribbeanSEA

Thanks to our TVA Volunteers for helping get kids outdoors by rehabilitating the Red Bank Elementary Creek Trail!!



Save the date for our annual fundraiser!!



Join us for our most popular fundraiser, Save Water Drink Wine! Experience vino like never before. We pair wine with watersheds, so you can learn more about the water near you and enjoy some of our favorite (domestic and imported) wines. With great food, great wine, great people, and an even better cause, join us for Save Water Drink Wine 2019 at The Barn Nursery on February 9th.

****Special thanks to the Coolidge Family at Chattanooga Printing and Engraving****