

in the mainstream

Norwalk River Watershed Association
Fall 2022 Newsletter

Drought Or Deluge, The New Reality

By Cathy Smith

For Alicea Charamut, the cool temperatures and soft autumn sunlight are a welcome change from this summer's heat and drought. As an avid outdoorsperson and kayaker, she found the dried-up streambeds, parched wetlands, and trickling waterfalls of the summer beyond disturbing. A sure sign of climate change in action.

But it's not just the drought that raises her antennae. It's the flip-flopping. In 2021, we were on the verge of a different problem. "Last July the Connecticut River was two feet short of flood stage. That was very unusual. In fact, that's usually connected to a tropical storm." And that was true for many of our rivers.

This boom-or-bust, drought-or-deluge cycle is one of climate change's signature tricks.

But Alicea is more than just a casual observer. She's Executive Director of Rivers Alliance of Connecticut, and also a member of the Resilient Infrastructure and Nature-Based Solutions committee that is part of



Lawn signs in Wilton remind citizens to conserve during the drought.

the Governor's Council on Climate change (GC3). And wearing both of those hats, she's actively involved in helping the state find ways to manage the impacts of climate change.

At this stage, it's too late to prevent it. Instead, we have to look at ways to reduce its momentum and minimize its effects. When Governor Dan Malloy established the GC3 in 2015, it was more focused on developing strategies

Ridgefield Takes Big Steps to Improve Water Quality

A major update to the wastewater treatment plant in Ridgefield is underway, which will mean the water it releases into the Great Swamp should be much cleaner—state-of-the-art clean! And NRWA is thrilled to announce a new partnership with Ridgefield to implement a model green infrastructure project focused on reducing stormwater runoff from the town center to the Great Swamp and Ridgefield Brook.

These waterbodies are the headwaters of the Norwalk River and have historically been hotspots for water quality impairments. Stormwater runoff is the main source of pollution to the river. It carries toxins like oils, gasoline, salts, pesticides, fertilizers, pet waste, and leakage from septic systems. Reducing runoff is key to a cleaner Norwalk River, Norwalk Harbor, and Long Island Sound. Cleaning up our waterways will require partnerships like this one engaging community members, conservation organizations, and municipalities. Follow us on instagram @norwalkriver-watershed for updates.

Drought continued...
to reduce greenhouse gases. However, under Governor Lamont, the Council has broadened its mandate to look at adaptation and resilience. “The concept of nature-based solutions and ecosystem services has floated to the top” of ways to manage climate change impacts, says Alicea.

It’s about letting nature do its thing – to both acknowledge the ways nature can handle the impacts of climate change and to empower it to do so, she says. An example of a nature-based solution is the protection and restoration of riparian (streamside) buffer zones and forested areas adjacent to watercourses. A buffer zone has layers of



As Executive Director of Rivers Alliance of CT, Alicea is helping to identify Nature-Based Solutions to our climate problems.

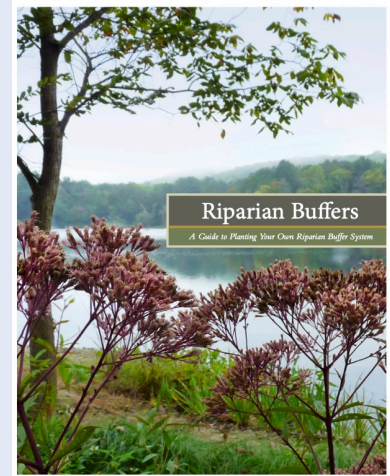
vegetation, leaf matter, fallen branches and twigs which slow the penetration of rainfall into the ground and allow the soil time to absorb and filter that water. They help reduce stormwater runoff, filter out chemical pollution, prevent sediment from being deposited into wetlands and waterways, and prevent flooding and erosion.

Another important nature-based solution is to protect our rivers’ and streams’ headwaters. Any significant development near the headwaters of the Norwalk River in Ridgefield, for example, will have consequences for the communities and ecosystems downstream and ultimately for Long Island Sound, including the potential for downstream flooding and pollution.

To be clear, Alicea is not suggesting engineering solutions, like green infrastructure, don’t have a place, but they are not the answer to everything, she asserts, and they should not necessarily be the first recourse. “Nature-based solutions are more cost effective than engineering solutions *and* a lot of nature-based solutions already exist.”

Build Your Own Buffer!

For tips, designs, and plant lists, visit norwalkriver.org.



So how to free up nature to do its work? For starters, we need to make better land-use decisions to protect natural areas that are going to protect our communities from the impacts of climate change.

The Connecticut Department of Energy and Environmental Protection (DEEP) does not have regulations and practices in place to specifically protect riparian buffers. Instead, Connecticut relies on an Upland Review Area concept and much of the responsibility ultimately rests at the local level. “One of the challenges we face in Connecticut is that we manage our wetlands and water courses in 169 different ways.

Continued...

Riverbank Restoration Spotlights!

Native Plant Trust Workshop at Oyster Shell Park!



The restoration work at Oyster Shell Park led by Nancy McClelland and her team of “Weed Warriors” was celebrated and studied during a workshop held by the Native Plant Trust over the summer. The park, landscaped with native plants, is a stop on the Pollinator Pathway and wildlife habitat in this urban setting along Norwalk Harbor. Join the fun—discover your inner Weed Warrior! Volunteers welcome every Wednesday and Saturday 9:30-11:30AM. NorwalkRiver.org/events for details.



Deering Kellogg Pond Area Invasive Plants Covered by 32,000 Square Feet of Tarp

This area along a newly connected section of the Norwalk River Valley Trail adjacent to the substation on Rt 123 in Norwalk used to be one of the most beautiful spots on the Norwalk River—a site for picnics and swimming. The Deering and Kellogg ponds there are still home to a surprising number of wildlife species including monarch butterflies, blue herons, tree swallows, box turtles, foxes, and the occasional beaver. But the area has suffered repeated disturbances--the building of the Route 7 Connector, the construction and then expansion of the substation, and contamination from industrial toxins (which were addressed in 1996 after the area was declared a Superfund site). More than 50,000 square feet of Japanese knotweed now covers the riverbank starting at Broad Street, and similarly sized colonies of mugwort and Chinese porcelain berry extend to the south.

The good news is that our intrepid volunteers are on it! NRWA teams, led by Dave Havens and Betsy Barosky, are battling the invasives without using pesticides by covering them with tarps (many are recycled banners) to smother the root systems. The plan is to remove the tarps after two years and plant native shrubs, wet meadow grasses, and wildflowers. If you would like to help, let us know! Info@norwalkriver.org.

Drought continued...

There's no consistency," says Alicea, referring to the 169 municipalities across the state. Connecticut has the least protective buffer protection standards of all the New England states.

At the watershed level, the current approach renders buffers, which are an effective and low-cost method of protecting our waterways, with so little protection that the benefits they could provide are being seriously undermined.

There is no one simple fix to ensure more consistent protections of riparian buffers and headwaters, but much of this comes down to investing resources at the state level. And at the top of the list is increasing staffing at DEEP. For example, there is currently only one person whose focus is wetland and inland watercourses. And this in a 'water rich' state with more than 5,800 miles of rivers and streams, according to DEEP itself.

"Now more than ever we need to *stop* making decisions that are making the problems climate change induces worse," says Alicea. "We're not looking at the long-term effects – 20 years down the line – of decisions we're making now."



Thanks to all of you who join us each year to plant trees, pull out invasives, pick up trash, and look for frogs, birds, butterflies, and bees along our river.



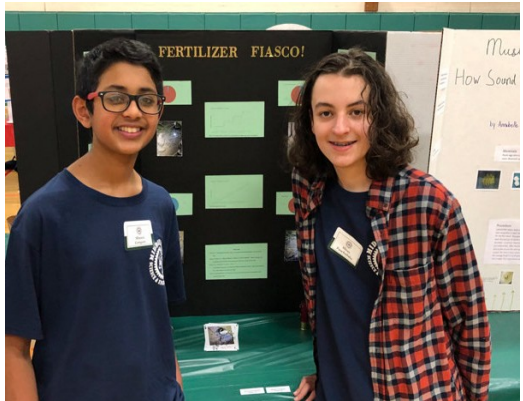
Fertilizer Fiasco! Award-Winning Science Fair Project Measures How Fertilizer Harms Water Quality

By Shawn Gregory, NRWA Intern

In 2018, the USA used a shocking 24,762 metric tons of chemical fertilizer (ourworldindata.org). This fertilizer has detrimental environmental effects. By running off into local waterbodies, it causes algae blooms and kills off much of the biodiversity in the waters.

Although completely cutting out fertilizer would solve this environmental problem, the earlier statistic illustrates this idea's impracticality for now.

This was the problem my friend, Illeas Paschalidis, and I attempted to solve with our science fair project on the impact of different types of fertilizer runoff on hypoxia (the deprivation of oxygen) in water, specifically Long Island Sound.



Wilton students Shawn Gregory and Illeas Paschalidis won 1st place in the 2020 CT Science Fair for Life Sciences, 4th place for Biotechnology, and qualified for nationals.

There are three main types of fertilizer: nitrogen-, potassium-, and phosphate-based fertilizer. In our experiment, we tested which type harms the environment the most and which the least. We created four identical bins, all with a dirt slope ending in a pool of water. Every Monday, we sprayed

dissolved fertilizer of each of the three types into their respective bins, spraying the fourth with water as a control. We also collected rainwater and poured one cup into each bin three times a week to simulate weather and runoff.

In terms of measuring hypoxia, the chemicals in fertilizer cause an overabundance of algae growth that then deprive the water of oxygen. Thus, we measured the surface area of algae per bin to find which fertilizer caused the greatest amount of algae and hypoxia.

At the conclusion, Potassium caused the least hypoxia. Therefore, when using fertilizer is necessary, using potassium-based fertilizer, will cause the least harm to the environment and its biodiversity.

Membership Form

Becoming a member helps NRWA continue to protect local water quality, hiking trails, and wildlife habitats.

Riparian Society

Steward	\$1000+
Protector	\$500 – \$999
Patron	\$100 – \$499

Membership

Supporter	\$50 – \$99
Friend	\$30 – \$49
Other	\$_____

☐ My company has a matching gift program
(company name) _____

Donate Online at NorwalkRiver.org

Or mail your tax-deductible Annual Membership gift of \$_____ to
NRWA, Inc. PO Box 7114, Wilton, CT 06897. Please make check payable to NRWA, Inc.

Name _____ Phone _____

Address _____ City _____ State _____ Zip _____

I would like to receive updates and events info. My email is: _____

Welcome Back Jayme Soyak!

Jayme spent last year as NRWA's AmeriCorps member, serving as Engagement Coordinator. During that time she also finished a Masters Degree in International Sustainable Development and Climate Change. With the help of a generous funder, NRWA has been able to contract Jayme part time for another year!



Thank You to Our Summer Volunteers & Supporters

Thank you to these volunteer teams

- Builders Beyond Borders
- Scout Troop 222 Norwalk
- Cranbury Elementary School
- Ridgefield Girl Scout Troop 50363
- Maritime Aquarium Interns



Thank you to these partners for grant support & volunteer planting!

Albourne
Empire Portfolio
FactSet (3 events this year!)
Melissa and Doug
Newell Brand



These projects were supported by a grant from National Fish and Wildlife Service with funding provided by the U.S. Forest Service and the U.S. EPA.

NONPROFIT
U.S. POSTAGE
PAID
Permit # 1203
Norwalk, CT

Norwalk River Watershed Association, Inc.
PO Box 7114, Wilton, CT 06897

