



Cathance River Education Alliance
 PO Box 187
 Topsham, Maine
 04086



What's Inside: Warming Winters | 2022 Camp Memories | and more...

Remembering John Rensenbrink

The CREA community mourns the loss of John Rensenbrink who passed away this summer. John was a visionary who played an essential role in protecting Cathance River Nature Preserve and who, with John Wasileski, co-founded CREA to lead environmental education at the Preserve.

It's not easy to start a nonprofit, but John was determined and had a knack for seeking out people with the talent and grit needed to work through the challenges and uncertainty of the early days. He served as CREA's first President and continued on its Board for many years, most recently serving on its Advisory Council.

Today, his legacy is realized in the joyous shrieks of summer campers immersed in outdoor discovery, the "Wows!" of schoolchildren learning at the Preserve, the robust science curricula experienced by local elementary students, the delight of people introduced to startling natural wonders at the Preserve, and so much more.

As a community, we owe a huge debt of gratitude to John for turning his talents and attention to the natural wonders of our region, protecting the hidden gem that is the Cathance River, then taking steps to ensure that future generations would know and value this incredible resource. We invite visitors to the Cathance River Nature Preserve and CREA Ecology Center to celebrate John's vision and leadership.



John Rensenbrink on August 27, 2019 at the dedication of Rensenbrink Way, the road that leads to CREA's Ecology Center.



'Concrete Frost' and 'Winter Whiplash'?

If you're not familiar with these terms, they describe some new features of our winter seasons. Maine's winters are warming faster than other seasons, with implications – some known and many unknown – for our beloved trees and forests. In September, UMO Professors Ivan Fernandez and Jay Wason III educated the CREA community about our changing winters and their impacts. The following is drawn from their presentations.

Over the last 100 years, Maine's air temperatures have increased by 3.2°F, warm seasons extend two weeks longer, high heat days have increased, precipitation has increased by 15% with more coming in intense downpours, snow has decreased by 7% (and will decrease by 20% to 40% more by 2050), ocean temperatures are rising steadily, and sea level has risen by 0.62 ft.

Our changing climate affects the entire forest environment – soil, trees, and creatures. A University of Maine study explored how heavy vs. light snowpack affects soil. It found that heavy snowpack largely prevents underlying soil from freezing and delays the date of 'snow-out' in spring by almost two months. In contrast, light snow cover exposes underlying soil to cycles of rain, thaw, and freezing. Soil gets saturated by rain during thaws; then, when freezing temperatures return, it freezes hard into so-called 'concrete frost'. This concrete frost damages soil microbes, mycorrhizae, tree roots, and more.



A horse and sleigh come down Elm Street, beyond the fairgrounds in Topsham. Photo from ice storm on April 2, 1887. Over the past 100 years, snow fall has decreased by 7%. Photo printed with permission of Pejepscot History Center.

What about our trees? First, we have to understand how trees know winter is coming. Their primary signal is daylength. As days get shorter, trees initiate biological functions that prepare them for winter. They store sugars to fuel next season's growth. Deciduous species 'resorb' nutrients, pulling them out of leaves and back into the tree before leaves drop. (Even trees recycle!) And, they prepare their tissues to tolerate winter cold.

How well our forests can tolerate drastically fluctuating temperatures in winter is an ongoing experiment. In February of 2017, Wisconsin experienced an extreme mid-winter warm-up – six consecutive days in which temperatures reached above 60°. Fifty percent of woody species initiated budburst, with subsequent damage when freezing temperatures returned. Closer to home, do you recall the day last winter (Feb. 24) when Maine experienced a 50° temperature change overnight? Many organisms are not adapted to this level of 'winter whiplash'.

The natural world is elegantly synchronized. The functions and life

cycles of many organisms are carefully timed to coincide with food sources, habitat, and other factors – many of which are tied to climate. This synchronicity is no longer an advantage when weather patterns that have been present for thousands of years change in short periods of time.

Warm-adapted species may thrive in our warming climate. However, Maine's boreal species, principally the conifers, likely will not. And drought, a common feature of our changing climate, causes declines in most species. The growth of Maine's signature white pine is particularly compromised by warming combined with drought.

Because trees are long-lived, our landscapes will not change overnight, but climate change adds more stressors to ecosystems that are already stressed by human use. The best thing we can do for our forests and the many organisms that live within them is to educate ourselves about climate change and actively pursue changes needed – especially at the policy level – to slow and hopefully, reverse it.



Our mission is to deepen ecological awareness through nature-based learning among students, educators, and the public; to promote environmental stewardship; and to foster wise use of the Cathance River Nature Preserve.

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CREA

P.O. Box 187
Topsham, ME 04086
(207) 331-3202
www.creamaine.org

Ecology Center

28 Rensenbrink Way
Topsham, ME 04086

Office

179 Neptune Dr.
Brunswick, ME 04011

A Message from Our Leadership

We are always looking for ways to increase our impact and bring you the best possible nature-based educational experiences. To that end, over the past year, CREA and our frequent partner Brunswick-Topsham Land Trust have been exploring ways to work together more closely, with the goal of achieving efficiencies and avoiding duplication of services. We believe that by more intentionally aligning our work, we can better meet the needs of the community.



Ellen Bennett,
Board Chair



Caroline Eliot,
Executive Director

Both organizations formed around a strong commitment to the natural world. BTLT was formed in 1985 to protect valued local landscapes and resources. CREA launched in 2000 to educate people about the ecology and environment of our region. Our missions and programs are mutually reinforcing, compatible yet complementary. Education about the natural world is an investment in conservation – ensuring current and future generations understand, value, and actively safeguard the environment.

As the Boards of Directors and staff of CREA and BTLT undertake a thorough exploration of both organizations, we are working under the premise that we can accomplish more together than we can separately. We are enthusiastic about the potential for greater capacity to serve you through these efforts, and look forward to sharing more with you as we move forward in the coming weeks and months.

Volunteer Spotlight

This fall, we celebrate the **SEVENTY-TWO** people who gave their time and expertise in 2022 to bring knowledge, wonder, engagement, and connection to the CREA community.

Our speakers and walk leaders make it look effortless, but preparing for these virtual and in-person events is a significant undertaking. We are so grateful to these people, near and far, whose passion for their topic inspires them to inspire us.

View all our upcoming programs and events at creamaine.org/events.



I love CREA Camp because "of all the memories we make here!"

At CREA Camp our mission is to provide rich, nature-based experiences that cultivate delight, curiosity, respect for diversity and a strong sense of collaboration and stewardship in youth. Our dedicated camp team brought this mission to life this past summer, providing memories that will last a lifetime!

Our days at camp are packed to the gills with outdoor exploration, hands-on science and nature-based art activities. From following the river trail along beautiful forested banks to our secret salamander hunting spot, to lying on bellies on the dock scooping pond muck to see what little invertebrate friends it holds. We engage campers, help them discover the wonders of the natural world, ask 'what?' and



"I love CREA Camp because we get to catch frogs and hold turtles and play in the clay!"
2022 CREA Camper

'why?' and then work together using all five senses to explore our findings.

CREA Camp was enhanced by our amazing Wilderness Wisdom speakers that visited camp each Wednesday this summer. Entomologist Emily Baisden from the Wild Seed Project brought huge Polyphemus caterpillars, Carrie Asselin from Growing to Give brought in unique native plants (and seeds to take home!), while Steve Pelletier talked about Maine mammals, Sarah Rodgers delved into Herpetology and Tom O'Brien taught Leave No Trace best practices.

Although everyday was an adventure, our most memorable time at camp is Thursday's gratitude circle. This is where we share how grateful we are for camp friends – connecting each of us in a circle of appreciation and kindness.

Our 2022 Counselors and CIT's made all of these magical memories possible. They got covered in dirt and splashed with river water, showed campers how to carefully hold our wildlife, and so much more. We can't thank them enough for their hard work in the hot summer sun, and dedication to connecting your kiddos with nature. We can't wait for the memories to come!



"For the second year in a row, CREA has been our daughter's favorite camp. CREA incorporates the most important summer camp features of enjoying nature, being active, getting dirty, learning to respect the environment, and making and sharing adventures with new friends. We can't wait for next year!"

2022 CREA Camper Parent



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