



MANCHESTER ESSEX CONSERVATION TRUST

PERMANENTLY PRESERVING NATURAL BEAUTY, WILDLIFE HABITAT AND RESOURCES

SPRING INTO SUMMER 2026



Native pollinators on native blueberries at Founder's Boardwalk
(*bombus* species)

Shingle Place Hill: Ebb and Flow

While we were getting ready to submit our brief for the appeal of the Essex Superior Court decision about the Shingle Place Hill development, the developer's lawyer filed a motion. They wanted to force MECT and the Town of Manchester to pay bonds—without saying how much—before our appeals could continue. Our legal team did a great job at the May hearing, and the judge made his decision quickly. The developer's request for bonds was denied. The Court also said it disagreed with the claim that our appeals are “so lacking in merit” that a bond is needed. Because of the developer's motion, the deadline for filing our “briefs and appendix” has been pushed back 90 days, to September 17, 2026.

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A Deeper Dive with eDNA

Environmental DNA—eDNA—is transforming how scientists and conservation groups detect and monitor wildlife in the places we care about most. For land trusts working to protect vernal pools, forested wetlands, ponds, and cold water streams, eDNA offers something we've never had before: a way to “listen” for the presence of elusive species without ever seeing them. Our interest in identifying if and where Blandings Turtles are located in Essex has led us to use eDNA to refine our search.

Every animal—from a Blanding's turtle to a blue spotted salamander to a wood frog—sheds tiny fragments of genetic material into the environment. Skin cells, mucus, eggs, waste,

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The Smallest Wonders: Why Exploring Nature with Children Matters

by Michael Carvalho, Esq., MECT Trustee

In the quiet, shaded corridors of the Wilderness Conservation Area, the air is thick with the scent of damp earth and the anticipation of spring. For a child, this isn't just a forest; it is a living laboratory where every overturned leaf and shimmering puddle holds a secret. As the Manchester Essex Conservation Trust (MECT) continues its mission to preserve these vital landscapes, we often focus on the ecological data—the acreage saved or the species protected. However, there is a profound, intrinsic value in the human connection to these lands, particularly when viewed through the eyes of the next generation.

On a recent Sunday morning, I had the pleasure of venturing into the heart of the Wilderness Conservation Area with my son, Zac. Sharing time together in nature over the years has provided many cherished memories. Our mission for this day was specific: to locate and document the ephemeral "jewels" of the spring woods—vernal pools. With a field guide in hand and boots sinking into the mud, Zac wasn't just walking through the woods; he was practicing the foundational skills of a naturalist. We spent hours peering into the tea-colored depths of these seasonal wetlands, documenting the translucent, gelatinous egg cases of wood frogs and spotted salamanders.

Watching him identify the creatures that exist only in these fleeting habitats—reminded me that the true value of conservation is often measured in moments of discovery.

Spotted salamanders, *Ambystoma maculatum*, migrate to vernal pools in early spring. The egg massess are often laid communally. and the colors range from milky white to almost clear. The very dense egg mass in the center of the photo will absorb water into its gel matrix and will expand. Water quality and quantity are very important for salamander egg and larvae development.

The Science of "Green Time"

The benefits of these excursions are backed by more than just parental sentiment. Evolutionary biologists often refer to "**biophilia**," a term popularized by Edward O. Wilson, suggesting that humans possess an innate tendency to seek connections with nature. For children, whose brains are in a state of rapid neuroplasticity, "green time" acts as a potent developmental catalyst.

Studies in environmental psychology indicate that "unstructured play" in natural settings significantly improves a child’s` executive function—the ability to multitask, follow complex directions, and regulate emotions. Unlike the "directed attention" required by screens or classroom settings, which leads to cognitive fatigue, nature triggers "soft fascination." This state allows the brain to rest and recover, reducing cortisol levels and increasing a child's capacity for focused learning, and an adult’s need to simply decompress and enjoy the wonders of nature.



Photo by Z. Carvalho

Being outside gets us out of our routine and nurtures our connection with nature. It makes us feel better.

Literacy in the Landscape

Beyond the psychological benefits, exploring areas like the Wilderness Conservation Area fosters a specific kind of literacy: Ecological Literacy. When a child like Zac documents the presence of egg cases, he is learning about the "indicator species" that signal a healthy environment. Vernal pools are unique because they are fish-free, providing a safe haven for amphibians that would otherwise be preyed upon.

Understanding these delicate cycles teaches children about the "interconnectedness" of biology. They begin to see that the forest canopy provides the leaf litter that feeds the pool, and the pool, in turn, provides the life that sustains the forest’s biodiversity. This science-based perspective shifts nature from being a "background" to being a complex, functioning system that requires our stewardship. These experiences also give parents and children powerful memories of shared discoveries to look back upon.



Photo by M. Carvalho

Building the Future Stewardship

We protect the things we love. The intrinsic value of these outdoor experiences lies in the transition from observer to protector. Science tells us that children who have significant positive experiences in nature before the age of 11 are statistically more likely to grow into adults who support environmental conservation. By taking our children to explore MECT’s trails, we aren't just giving them a hobby; we are ensuring the longevity of the land itself. When Zac finds a critter in a vernal pool, he isn't just seeing a "bug"; he is forming a bond with a creature that relies on the very dirt he stands on. That bond is the strongest tool we have in the fight for a sustainable future.

MECT’s Wilderness Conservation Area remains open for all—a place where the next generation of scientists, poets, and protectors can get their boots muddy and their minds open.

1 The Biophilia Hypothesis, by S. Kellert and E. Wilson, Island Press, 1993
2 <https://journals.uc.edu/index.php/cye/article/view/8702>
3 Ecological Literacy: Education and Transition to a Postmodern World, by D. Orr,
4 Nature and the Life Course: Pathways From Childhood Nature Experiences to Adult Environmentalism, N. Wells and K. Lekies, 2006.

Protecting More Vernal Pools

This year, MECT collaborated with the Cape Ann Vernal Pond team and private funders to certify vernal pools in Essex in an undeveloped area recognized by the state as an area with high vernal pool density and undisturbed land. The area carries the state ecological designation of BioMap Core Habitat Components: Vernal Pool Core. The field team, led by Rick Roth, conducted a grid search for vernal pools, covering over 100 acres. Documentation data for 10 vernal pools has been submitted to the state, and we await final acceptance as state “Certified” vernal pools. This will provide enduring protection to the pools, under the state’s wetland protection act, and bolsters the work that MECT has already done, which has thus far resulted in certification of 30 vernal pools certified in the past 5 years.

Listening to the Land: MECT Deploys Acoustic Monitoring Technology

by Victoria Esser, MECT Trustee

What's rustling in the reeds at dawn? Who's calling from the treetops before you've had your morning coffee? Thanks to a new technology initiative, MECT is beginning to answer those questions in real time — and the early results are already turning up surprises.

MECT has deployed two BirdWeather stations across our conservation lands. These compact, devices use an onboard microphone and



Photo by Robyn Lafata Photography @instagram

A Great crested flycatcher has been a frequent visitor to our Wilderness Conservation Area, and the bird acoustic devices helped us determine that a smaller but similarly colored Yellow-bellied flycatcher was also here during breeding season.

acoustic recognition software to continuously listen for and identify bird species by their calls and songs — 24 hours a day, rain or shine. Every detection is logged and shared through the BirdWeather network, building a living record of the birds using our properties.

Since deployment, the stations have recorded 200 species and logged 230k total detections — and the data is still coming in. Among the early finds: the green-winged teal, a species that, while not uncommon nationally, is rarely seen or heard in our corner of Massachusetts. Its detection is a reminder that our lands are doing quiet, important work that we're only just beginning to document.

That work matters for a reason close to MECT's mission. Manchester and Essex sit along coastal migratory corridors, and our conserved habitats offer critical food and rest stops for birds passing through during spring and fall migrations, as well as shelter for species that stay to nest. BirdWeather lets us capture this activity systematically — cataloguing not just the flashy rarities, but the full community of birds depending on this land.

The value of that baseline cannot be overstated. Knowing what species are here now — before populations shift or habitats come under pressure — reinforces our work protecting, prioritizing stewardship, and tracking change over time. Conservation begins with paying attention. With song bird populations decreasing world-wide, we're inspired by what we are “hearing” close to home.

Getting started with birding or just want to listen and enjoy? “My kids grew up listening to Lang Elliott’s Backyard Bird Walk and Music of the Birds CD’s playing in the car, and they still-mimic Lang’s diction as he taught them about the white breasted nuthatch “squeaky little wind up toy”. While I am not an accomplished birder, passive listening to bird song CD’s helped me to become more appreciative of the surround sound as if my ears had suddenly been “turned on”. To increase your enjoyment and knowledge of birdsong, Lang Elliot’s website www.musicofnature.com and his YouTube channel have many resources for passive listening. You may also consider real-time bird identification with phone apps like BirdNET and Merlin through it’s Sound ID.”
Patrice Murphy, MECT Executive Director



Photo by Robyn Lafata Photography @ instagram

Northern Parula

by Alec Woolf, MECT Staff

The Northern Parula is a small species of warbler known for its loud song and wide distribution across much of North America. They are a migratory species that winter in Central America, the Caribbean, and parts of southern Florida. Northern Parulas have bluish-gray upperparts with white wing bars, a yellow throat and breast, and a white belly. Males are also recognized by their distinctive rusty-colored chest band.

In New England, Northern Parulas are typically found in mixed woodlands and coniferous forests near swamps. They favor habitats with dense spruce-fir stands and abundant old man’s beard lichen. They are highly associated with healthy wet forest ecosystems because they rely on lichen-rich habitats for nesting. Nests are often built inside hanging lichens such as old man’s beard, which helps conceal them from predators. During the breeding season, females usually lay 4–5 eggs, although clutch sizes can occasionally reach seven. Both parents help care for the young, though the exact fledging period is not well documented. Breeding pairs often return to the same nesting sites each year. Their diet



Lichen grows as a symbiotic relationship between a fungi and an algae. One common name for this lichen is bushy beard lichen, also known as *usnea stigosa*. The discs are the fruiting bodies, or reproductive organs which produce fungal spores. This lichen grows in the canopy, but specimens may often be found on the ground after wind and rain events, including the vicinity of the Cedar Swamp trail in Manchester. There is a central “elastic cord” in *usnea* spp. which helps identify this species from the similarly colored Spanish moss

primarily consists of insects and berries.

Although the Northern Parula is considered a species of least concern throughout most of its range, it is listed as “Threatened” in Massachusetts due to its limited breeding population. Habitat loss, wetland degradation, and air pollution that reduces lichen growth are believed to contribute to population declines in parts of New England. Because the species depends heavily on mature, lichen-rich forested wetlands for nesting, the protection of these habitats is important for maintaining local breeding populations. This includes the Cedar Swamp in Manchester, where the parula were seen during migration and breeding season this spring!

Shingle Place Hill (continued)

As our work to protect Shingle Place Hill and the adjacent environmentally sensitive lands continues, it is easy to get lost in the ebb and flow of hearings, motions and legal decisions. Here’s a timeline to help you follow this defense. We thank the Town of Manchester and our community for cooperation and financial support throughout this marathon.

www.mect.org/SaveOurWoods

September 2020	Developer submits ANRAD Application to the Manchester Conservation Commission (Abbreviated Notice of Resource Area Delineation) which essentially summarizes wetland resources
October 2020	Developer presented development concept to Select Board
December 2020	MECT Board of Trustees unanimously votes to oppose the proposed development
January 2021	Select Board holds first official hearing on proposed development with “friendly 40B” negotiations
April 2021	Developer ends negotiations with Manchester Select Board, with no town endorsement for proposed development
April 2021	Developer applies for “Project Eligibility Letter” from state Housing Appeals Committee (HAC)
September 2021	HAC issues “Project Eligibility Letter” (PEL) for proposed development
October 2021	Manchester ZBA opens first official hearing on proposed development
August 2022	Manchester ZBA DENIES developer a comprehensive permit
September 2022	The Developer files appeal of ZBA decision with the HAC
December 2024	HAC overturns the Manchester ZBA Denial for comprehensive permit
January 2025	MECT, The Town and Ten Person Group File Appeal of HAC decision at the Essex Superior Court
July 2025	MECT files motion to remand case back to HAC to re-hear the appeal by SLV in the matter of the ZBA denying a comprehensive permit to SLV based on errors in law during first appeal hearing, including allowing MECT to have intervener status
August 2025	Developer files request for bond from MECT and The Town for \$150K each to proceed with appeal
October 2025	Superior Court DENIES Motion to Dismiss, and Bond Request
October 2025	Developer files motion to dismiss appeal
February 2026	Essex Superior Court Upholds the HAC decision
March 2026	MECT, The Town and Ten Person Group appeal the Superior Court’s decision to the Superior Court
May 2026	Developer files another request for bond from MECT and The Town
June 2026	Developer files Notice of Intent with the Manchester Conservation Commission
June 2026	Developer’s bond demand is DENIED. Appeal briefs deadline delayed by 90 days to September 17, 2026
June 30, 2026	Conservation Commission scheduled to hear developer’s Notice of Intent



Closing on Land Donation

In February, we completed the conservation aquisition of more than 30 acres in Essex through a generous donation.

The Essex land has been noted as “Owner Unknown” by the town assessors for decades, and is located off of Wood Drive, adjacent to Chebacco Lake. Our lengthy deed research and survey plan will help to define more of the “Owner Unknown” land in the vicinity as well as more clearly document the boundaries of already conserved land.

This area has been known by many names including Pine Swamp and Red Maple Swamp, and one of the outlets to Chebacco Lake was known as “Logging Cove”, referencing the prior use of these historical woodlots. We look forward to sharing not only the land, but the history of these woodlots which were allocated to the Commoners of Ipswich in approximately 1710, and divided, swapped, merged, purchased and passed on through generations.

If your family holds title to woodlots thru deeds or probate, and you are interested in conserving the land for generations to come, please contact us to discuss mutually beneficial ways to preserve the land, even if you are not sure where the parcels are located . You may hold some of the “missing pieces” to the conservation tapestry. Conserve@mect.org

MECT TurtleWatch Continues

We still need your help! While we are surveying the wetlands for environmental DNA, we still need photo documentation of the turtles on the move. After the egg-laying season concludes, female Blanding’s turtles typically return to the primary wetland habitat they occupied prior to their nesting migration. However, during the late summer months, they are also known to enter periods of dormancy, known as estivation. This behavior can occur either in upland forested areas or in wetland-adjacent habitats, depending on landscape context. During estivation, turtles have been observed creating shallow depressions in the ground and remaining concealed in vegetation for several days to avoid heat and desiccation. Blandings turtle eggs may begin to hatch in mid to late August. Send photos and location of any turtle sightings to conserve@mect.org. Go to mect.org/TurtleWatch/ for more information and to receive periodic updates on the turtles.

(eDNA Continued from Page 1)

and even microscopic sloughed tissue drift into the water. By collecting a small water sample and analyzing it in a lab, these genetic traces are detected, leading to species identification. This is helpful for detecting wildlife that is nocturnal, underwater, burrowed in mud, or present briefly during breeding season.

Traditional eDNA tests look for a single species. The DNA fragments are amplified using a laboratory technique called qPCR (quantitative polymerase chain reaction) Metabarcoding, however, scans for many species at once. It’s like running dozens of wildlife surveys from a single liter of water. With metabarcoding, we may be able to detect the presence of Blanding’s turtles and spotted turtles in shallow wetlands, blue spotted salamanders using vernal pools for breeding, mammals such as beavers, otters, muskrats, or raccoons and bat species, or birds frequenting ponds or vernal pools.

Under the guidance of Sean Beausoleil, PhD, MECT Trustee, Yuan Liu, PhD at GMGI, Mark Grgurovich, MS, Mike Jones, PhD at Mass Fisheries and Wildlife, we developed a protocol and target sites for a study which includes both negative and positive contol samples.

To date, we have collected 88 liters of water from eleven sites in Essex and Manchester. – 7 liters per location, and a control liter with

This ancient spotted turtle was found serendipitously-crossing Old School Street in Manchester this spring - probably on her way to or from her nesting site near Cedar Swamp, which has been conserved for decades.

commercial filtered water. Gloucester Marine and Genomics Institute in Gloucester, has filtered the water using 1 micron filters, and we are looking forward to the metabarcoding analysis results later this summer.

With the results, we will have a better idea of the presence of state-listed species at the time of our sampling. We can use the knowledge to prioritize old woodlot parcels for conservation, to develop conservation measures like man-made turtle nesting sites that eliminate the need for risky street crossings, request a modification in hay cutting operations, and reduce disturbance to wetland and upland sensitive habitats. Identification of non-listed species is also of importance to us, to demonstrate species presence, and adopt control measures BEFORE species become rare or extirpated.



“We are thrilled to be working with the Manchester Essex Conservation Trust on this project. Through GMGI's eDNA Service Platform, we're helping organizations use eDNA to better understand and protect local wildlife. I was especially excited to learn that identifying the wetlands and travel corridors used by Blanding's turtles can directly inform conservation actions to help protect this remarkable species.”

Yuan Liu, Ph.D., eDNA Service Platform Manager



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*Our dedicated members help protect the lands, trails,
and waters that make our communities special*

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As a member, you are an essential part of this work, helping protect over 1800 acres - 45 new acres since 2025 - and maintain 65 miles of trails for everyone to explore. Because of our amazing members, more wildlife habitat is protected, more water stays clean, and more beautiful landscapes remain open for future generations to explore and cherish. All of this was possible because of our community of supporters.

With growing pressures on our woods, waters, and wildlife, our open spaces need protection more than ever.

Will you
renew your
membership
today to ensure
this protection
for future generations? Use the enclosed envelope or make a secure transaction at www.mect.org/join



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