

Learn How Conservation Commissions Can Increase Climate Change Resiliency in Your Town

The State of Connecticut is rich in natural resources and diversity of wildlife, plants, and landscapes, making it an attractive place to live, work, and play. Unfortunately, climate change poses specific threats to Connecticut such as increased precipitation, flooding, along with high heat and long periods of drought. Municipalities have the



Severe rainstorm road washout, Town of Manchester

opportunity to enhance climate resilience through the utilization of their Conservation Commission's ability to address site-specific solutions with research-based advocacy. Natural resource conservation can be used as an adaptation strategy to slow the rate of climate change

and help protect against its damaging effects. When undertaking their duty of conservation, these commissions should consider the effect of climate change on natural resources and the importance of solutions these resources provide at present and in the course of time.



Severe rainstorm parking lot flooding, Town of West Hartford. Photo by CIRCA.

Collaboration across Connecticut town commissions and boards is an essential function in building climate change resilience into local decision making. Conservation Commissions have the authority to advise land use boards and can contribute to the increase of climate resiliency by

CIRCA, continued on page 6

Exacerbating Public Health Challenges of Ticks and Tick-borne Diseases

By Noelle Khalil, Research Technician and Goudarz Molaei, PhD, Chief Scientist, Tick Testing Laboratory, Connecticut Agricultural Experiment Station

Ticks and tick-borne diseases continue to pose a major health concern for Connecticut residents. In recent years, populations of native ticks have progressively increased, and established populations of invasive tick species have been discovered in the state, including the Lone star tick [see figure 1]. As a result, an increasing number of communities are at risk of exposure



Lone star tick (*Amblyomma americanum*)

Figure 1. Lone star tick, image courtesy of the CAES Tick Testing Laboratory

to ticks and tick-borne pathogens. Among the factors that contribute to the changing dynamics of tick and tick-borne disease activity are reforestation, rising temperatures, an increase in trade and travel, and a rise in the abundance of animal hosts. Increases in population densities, geographic range expansion, and the ensuing potential of greater interactions with humans and wildlife highlight the importance of ticks as a public health threat. It was estimated that 90% of the U.S. human vector-borne disease cases in 2017 were those transmitted by ticks. Based on recent estimates, 476,000 people have been treated for Lyme

ticks, continued on page 6

CACIWC

Board of Directors



Officers

Alan Siniscalchi	President
Peter Bassermann	Vice President
Charles Dimmick	Treasurer
Maureen Fitzgerald	Secretary

County Representatives

Alicia Mozian	Fairfield County
Ann Beaudin	Hartford County
Jeremy Leifert	Litchfield County
Marianne Corona	Middlesex County
Maria Kayne	New Haven County
Laura Magaraci	New London County
Rodney Parlee	Tolland County
Vacant	Windham County

Alternate County Representatives

Aleksandra Moch	Fairfield County
Vacant	Hartford County
Abby Conroy	Litchfield County
Kathy King	Middlesex County
J. David Rauch	New Haven County
Gary Gregory	New London County
Vacant	Tolland County
Vacant	Windham County

At-Large Representative(s)

Vacant	
Darcy Winther	DEEP Liaison

The Habitat is the newsletter of the Connecticut Association of Conservation and Inland Wetlands Commissions (CACIWC). Materials from *The Habitat* may be reprinted with credit given. The content of *The Habitat* is solely the responsibility of CACIWC and is not influenced by sponsors or advertisers.

Interim Editor: Alan Siniscalchi
Associate Editor: Ann Letendre

Correspondence to the editor, manuscripts, inquiries, etc. should be sent to Alan Siniscalchi at TheHabitat@caciwc.org.

www.caciwc.org

CACIWC News

As we recruit workshop speakers for our **2023 Annual Meeting and Environmental Conference**, we think back to our 2022 conference, our first in-person event since the onset of the COVID-19 pandemic. This conference focused on celebrating the *50th Anniversary Connecticut Inland Wetlands and Watercourses Act (IWWA)* and recognizing the many commissioners and staff who have dedicated their time and efforts to protect our inland wetlands habitats since the original IWWA bill was approved by the Connecticut General Assembly on May 1972.

While last year's conference honored our inland wetlands commissions and staff, the theme of this year's conference, ***Celebrating Connecticut's Conservation Commissions***, will focus on the important work of our conservation commissioners and staff, while recognizing the anniversaries of several key Connecticut legislative initiatives which expanded the scope and size our state's municipal Conservation Commissions.

The record temperatures and other **extreme weather** observed throughout much of the world this summer emphasize the important roles of conservation commissions in helping to assess, document, and increase resilience to **climate change**. This issue begins with an article describing a new fact sheet prepared by the Connecticut Institute for Resilience and Climate Adaptation (CIRCA), designed to help Connecticut conservation commissioners work toward increasing climate change resiliency within their towns.

Our 2023 conference will include an informational workshop on activities outlined in this fact sheet along with workshops covering other important topics such as monitoring our changing ecosystems and habitats, wildlife population health and the latest updates on stormwater

CACIWC news, continued on page 12

In This Issue

	PAGE
CACIWC News	2
Journey to the Legal Horizon	3
CT State of the Birds	4
CACIWC Member Ann Letendre Honored	5
Save the Date - Nov. 11, 2023 Annual Meeting	16
Member Contact Information and Surveys	16



Journey to the Legal Horizon

by Attorney Janet Brooks

Another Look at Municipal Upland Review Areas: Looking Back and Looking Forward

Ten years ago, this fall I conducted a review of every set of municipal wetlands regulations that were posted online, with the assistance of a law intern, and then hunted down the remaining 15% of agencies which at that time did not post their regulations online. In 2013 80% of agencies adopted a unified upland review area – the same distance from the boundaries of wetlands as waterbodies. And in 60% of those agencies the distance was 100 feet. I am aware that some agencies are currently re-examining their upland review areas and considering increasing them. I thought I would check the outliers from 2013 and see if those towns still occupy those same positions.

In the “land of steady habits” the status quo remains constant. The two municipalities which did not have upland review areas in 2013 have still not adopted

these areas. They, of course, are accompanied by the state Department of Energy and Environmental Protection (DEEP) which also has no upland review area for applications it reviews of wetlands applications from state agencies. As for the outliers on the other end of the spectrum, three towns still have a 500-foot upland review area from a vernal pool in place.

What has changed is the ease in finding wetlands regulations online – due to the intervening pandemic. But I am repeatedly surprised how many agencies still have a definition of “regulated area” and rely on that for their jurisdiction. In 2006 the DEP issued the latest set of revisions to the Model Inland Wetlands and Watercourses Regulations. In that version all references to “regulated area” were eliminated. Why? First, the state wetlands law does not use the phrase “regulated area” at all. The crux of the wetlands act is the requirement for a permit for regulated activities. Second, if agency members think they regulate “areas,” i.e., wetlands and watercourses AND upland review areas, they can easily slip into over-regulation. For instance, upland review areas are not regulated because those areas are in and of themselves valuable to protect. Activities in those areas are regulated *when* the activities conducted there have an impact on a wetland or waterbody. If agency members think they regulate “areas” it is harder to implement the exemptions correctly, if they think it is their duty to protect an area. Turn it around: if a regulated activity (which by statutory definition excludes exempt activities) has an impact on wetlands or watercourses, no matter where it is conducted, it requires a wetlands permit.

Of the five municipalities mentioned earlier in this article four continue to have a definition of “regulated area.” While a random group of 5 towns (out of 169) is not statistically significant, it is consistent with my experience that a majority of towns still speak of “regulated areas” and many retain a definition in their municipal regulations.

legal, continued on page 13

HALLORAN SAGE

Our Practice Areas:

- Wetlands Permitting and Enforcement
- Regulation Amendments
- Special Permitting and Variances
- Zoning Enforcement
- Site Plans
- Subdivisions
- Administrative Appeals
- Siting Council Approvals
- Complex Land Use Litigation

Our Team:

Mark K. Branse	Kenneth R. Slater, Jr.
Andrew R. Morin	Matthew J. Willis
Richard P. Roberts	Michael A. Zizka

860.522.6103 | halloransage.com

Connecticut State of the Birds: 125 Years of Bird Conservation Through Local Action

Connecticut Audubon's most recent *State of the Birds* report, published in December 2022, looks at the health and future of five groups of birds, in Connecticut and beyond, whose conservation history is tied closely to the history of environmental conservation in the United States. The report is titled "125 Years of Bird Conservation Through Local Action."



Nesting Ospreys, photo by Anastasia Zinkerman

It marks the 125th anniversary of the Connecticut Audubon Society, which was founded in January 1898.

Connecticut Audubon has published its *State of the Birds* report annually since 2006. Each year, the report examines an aspect of bird life or conservation in Connecticut.

The report is conceived of, planned, and edited by Connecticut Audubon staff, and written by regional and national experts. Its goal is to help set the conservation agenda for the state's non-profit organizations and for state and local governments.

"This report shows that the work to conserve birds is never over," said Patrick Comins, Connecticut Audubon's executive director. "Connecticut Audubon is proud to have been among the leaders of that work since the start. But there's more to be done, and we will be just as involved in the future as in the past."

The 2022 report opens with a survey of 125-plus years of threats to birds. In the late 1800s, for example, birds were shot and sold in markets for food. "Audubon once reported a flight of 'millions' of golden plover," wrote Peter Matthiessen, in *The Wind Birds*, "of which some 48,000 were killed in a single day. The golden plover was thought to have been even more numerous than the Eskimo curlew, whose

birds, continued on page 13

PLANTERS' CHOICE NURSERY



You want to provide nothing but the best for the cultivated landscape. For over 50 years, Planters' Choice has been doing just that.

When your project needs top quality natives, other northern grown product, and plants carefully sourced from top-tier nurseries, trust in our team to consistently make that happen.

140 Huntingtown Road
Newtown, CT 06470
(203) 426-4037

1201 Bunker Hill Road
Watertown, CT 06795
(860) 945-6588

www.planterschoice.com

CACIWC Member Ann Letendre Honored for 50 Years of Service to Town of Vernon



Ann Letendre speaks at honors dinner in Bolton.

In April, the Vernon Democratic Town Committee honored Ann Letendre for 50 years of service on Vernon town

commissions. The annual memorial dinner, named in honor of Vernon's first woman mayor, Marie Herbst, was held in Bolton. Dignitaries in attendance included Lieutenant Governor Susan Bysiewicz, 56th District House Representative Kevin Brown and former 56th District House Representatives Claire Janowski, Mike Winkler, and Thomasina Clemons. The event included remarks by keynote speaker, Bill O'Neill; former Director of Parks and Recreation for Vernon, Bruce Dinnie, and event MC, Nancy Steffens, a Friends of Valley Falls board member.

Ann's 50 years of service includes 34 years with the Hockanum River Linear Park Committee, 24 years with the Open Space Task Force, 18 years with the Vernon Conservation/Inland Wetlands Commission and nearly 10 years on the Vernon Town Council.

Additionally, she served for 20 years as a Director of the Friends of Valley Falls, Inc., in Vernon and 18 years as a board member of the Connecticut Association of Conservation and Inland Wetlands Commissions

(CACIWC), along with serving as a CACIWC Executive Director and Associate Editor of the CACIWC publication, *The Habitat*.

Ann's work included helping draft an Open Space Plan for Vernon in 1998. The plan reached its goal of preserving 21% of Vernon lands, including 2,000 acres of protected open space in the Tankerhoosen watershed. She assisted in instituting aquifer protection regulations for the town; preserving Valley Falls Farm and the Strong Farm pastures and completing 90% of the master plan to create a linear park the length of the Hockanum River. Over the course of these efforts, she managed grant projects totaling over 1.1 million dollars.

Ann worked for the United Technologies Research Center as financial project manager for over 30 years,

and with her husband, Bob, raised four daughters, while dedicating time to the various commissions.



Lieutenant Governor Susan Bysiewicz congratulates Ann Letendre.

She has been previously honored by the State of Connecticut Greenways Council, the Connecticut Recreation and Parks Association, and CACIWC. 🍁

Enhancing properties and communities through exceptional land use services.

REDNISS & MEAD

LAND SURVEYING
CIVIL ENGINEERING
PLANNING & ZONING CONSULTING
PERMITTING

203.327.0500 | www.rednissmead.com

Principal:
Michelle Ford, CWB®, PWS, CESSWI

ECOmaps LLC

- Delineation of inland, tidal, and federal (USACE) wetlands
- Municipal third-party review
- GPS & GIS data collection / natural resource inventories
- Wildlife / rare species surveys and evaluations
- Trail maps and trail guide development

www.ecomapsllc.com | michelle@ecomapsllc.com

Small/Minority Business Enterprise (SBE/MBE) / Woman-owned Business

CIRCA, continued from page 1

encouraging nature-based solutions and developing townwide education and participation efforts.

Would you like to learn more on how best to use the existing roles and authority that Connecticut Conservation Commissions have in land, water, forest, and wildlife preservation to both promote natural resource conservation along with helping to build climate resilience in your town? Please review the Connecticut Institute for Resilience and Climate Adaptation's (CIRCA) new Factsheet for guidance: "*Conservation Commissions and Natural Resource Resilience.*"

Additional information will be provided in workshop hosted by CIRCA's Kayla Vargas and Louanne Cooley in the upcoming CACIWC 46th Annual Meeting and Environmental Conference scheduled on Saturday, November 11, 2023! Please also see information on other *Resilient Connecticut* projects at: [UConn CIRCA](#).

Prepared by Kayla Vargas Research Technician, Connecticut Institute for Resilience and Climate Adaptation (CIRCA) & Chair, Pomfret Conservation Commission. 🍂

ticks, continued from page 1

disease annually from 2010 to 2018, though this estimate is based on commercial insurance claims and may not reflect the unequal access to healthcare or the presumptive treatment of patients in the absence of a proper diagnosis. With a total of 13,004 disease cases from 2014 to 2021, Connecticut is among the 14 states from which 95% of all Lyme disease cases are reported and had the 9th highest incidence rate (disease cases per 100,000 population) of 17.3 in 2020, following Maine, Rhode Island, West Virginia, Delaware, New Jersey, Pennsylvania, Wisconsin, and New Hampshire. Similarly, the number of other important tick-borne disease cases, including anaplasmosis and babesiosis, has steadily increased, with 1,142 and 2,182 human disease cases, respectively, from 2014 to 2021. In response to the growing challenges of ticks and tick-borne diseases, the Connecticut Agricultural Experiment Station (CAES) has established active and passive tick and tick-borne pathogen surveillance programs. These programs provide information on the abundance, distribution, and

ticks, continued on page 7

Kerin & Fazio Valuation Group


Real Estate Appraisals

Conservation Easements


Open Space

Farmland

Yellow Book Appraisals



Serving Connecticut Municipalities



203.259.9500 | [WWW.KFVG.COM](http://www.kfv.com)



Michael Fazio, MAJ
Christopher Fazio, MAJ
David Herold, MAJ





Wetland & Coastal Invasive Species Control Specialist

- Wetland Mowing - Low Ground Pressure Amphibious Unit
- Aquatic Herbicide Applications & Permitting
- Surveys, Soil Sampling
- Mosquito Abatement
- Personnel & Equipment Transport
- Wetland Trenching, Beaver Dam & Debris Removal
- Phragmites Treatment, Mowing & Chopping

NY #15201 - NJ #999729 - CT #2764 - MA #CC-0048047 - RI #6781

The Pond And Lake Connection
1112 Federal Road Brookfield, CT 06804
1-800-305-3277 | www.thepondconnection.com

ticks, continued from page 6

infection of tick vectors to assess the risk of human infection and track the range expansion of exotic and invasive tick species and their associated pathogens in the state.

Active surveillance: The statewide active tick and tick-borne pathogen surveillance program at the CAES was established in 2019. This program monitors tick distribution and abundance and the prevalence of emerging tick-borne pathogens of human concern. Ticks are collected by dragging cloth through vegetation at 40 sites throughout the state from April through October, which coincides with peak adult and nymphal tick activity.

Although the primary focus of the active surveillance is the collection and testing of blacklegged ticks (*Ixodes scapularis*) [see figure 2], other tick species are also collected and recorded. Since its establishment in 2019, a total of 10,500 ticks have been collected, including blacklegged ticks (87.3%), American dog



Blacklegged or deer tick (*Ixodes scapularis*), female

Figure 2. Blacklegged or deer tick, image courtesy of the CAES Tick Testing Laboratory



American dog tick (*Dermacentor variabilis*), female

Figure 3. American dog tick, image courtesy of the CAES Tick Testing Laboratory

ticks (*Dermacentor variabilis*, 11.0%) [see figure 3], lone star ticks, (*Amblyomma americanum*, 1.5%) [see figure 1], and Asian longhorned ticks (*Haemaphysalis longicornis*, 0.2%) [see figure 4].

Passive surveillance: The passive tick and tick-borne pathogen surveillance program was established in 1990 following the first discovery of Lyme disease in Connecticut and several years of pioneering research

on this disease at the CAES. The objectives of this program are to: 1) screen ticks for pathogens; 2) monitor the distribution and spread of both native and invasive ticks; 3) develop mathematical and statistical models to better predict the presence, abundance, and

ticks, continued on page 8



Environmental Planning & Permitting

We bring collective knowledge, technical excellence, and a wide network of trusted relationships to deliver value.

- Wetland Delineation & Assessments
- Vernal Pool Surveys
- Ecological and Wetland Restoration
- NEPA & CEPA Analysis
- Rare Species Surveys
- Environmental Permitting
- Drone Flights



Jeffrey Shamas, CE, CSS, SPWS
jshamas@vhb.com | 860.807.4388

www.vhb.com
Engineers | Scientists | Planners | Designers



DELIVERING VALUE TO CLIENTS IN THE BUILT ENVIRONMENT

BL Companies specializes in Natural & Cultural Resource studies related to:
Land Development • Energy • Telecommunications • Infrastructure • Transportation • Regulatory Compliance

Wetlands & Soils Scientists • Biologists
Ecologists • Archaeologists



BL Companies, Inc.
800.301.3077
blcompanies.com
Meriden | Hartford

ticks, continued on page 6

ticks, continued from page 7

range expansion of ticks and their associated pathogens; and 4) investigate the effects of environmental factors such as climate change on the spatiotemporal patterns of tick species. Within the framework of the passive surveillance program, the CAES Tick Testing Laboratory (TTL) was initially mandated to screen the blacklegged tick for evidence of infection with *Borrelia burgdorferi*, the causative agent of Lyme disease. However, in 2015, the program was expanded to include testing for *Anaplasma phagocytophilum* and *Babesia microti*, the two important tick-borne pathogens responsible for human granulocytic anaplasmosis and babesiosis, respectively. The CAES-TTL receives nearly 3,000 tick submissions each year from residents, health departments, and physician's offices; however, this number has recently increased to 6,000. Over the years, the CAES passive tick and tick-borne pathogen surveillance program has developed into one of the most important surveillance programs in the region.

Of nearly 16 species reported in Connecticut, the blacklegged tick is the most abundant, comprising


84% of ticks submitted to the CAES-TTL from 2010 to 2021. Other tick submissions during this time period included American dog ticks (13.0%) and lone star ticks (2.8%). The blacklegged tick is currently known to transmit seven pathogens of human health concern, including those responsible for Lyme disease, anaplasmosis, babesiosis, ehrlichiosis, tick-borne relapsing fever, and Powassan virus disease.

Of the 4,196 blacklegged ticks tested in 2021 by the CAES-TTL, 31.8%, 4.5%, and 9.7% tested positive for the pathogens responsible for Lyme disease, anaplasmosis, and babesiosis, respectively. Moreover, co-infections of blacklegged ticks with two and three pathogens have increased to nearly 6% in recent years, promoting the potential exposure of Connecticut residents to multiple disease agents after a single tick bite and complicating diagnosis and treatment. Although Powassan virus disease is rare, reported cases of this disease have increased in recent years. There have been 12 reported human disease cases of Powassan virus in Connecticut from 2017 to 2021. In 2022, there have been two confirmed cases of Powassan virus disease, including a middle-aged man from Windham who was hospitalized for neurological symptoms in March, and an elderly woman in New London County, who later died from the disease.

The American dog tick has extended distribution in the east of the Rocky Mountains and a presence in limited areas on the Pacific coast. In Connecticut, up to 15% of submissions to the CAES-TTL have been comprised of this tick species, but it appears that the population of this tick species is also increasing. The American dog tick is involved in the transmission of *Rickettsia rickettsii* and *Francisella tularensis*, the causative agents of Rocky Mountain spotted fever and tularemia, respectively, but these diseases are rare in the Northeast.

In addition to providing Connecticut residents with information on tick species, engorgement, and infection status, and assisting in making informed decisions concerning treatment of tick-borne diseases, the CAES-TTL conducts targeted investigations of areas suspected of harboring invasive tick species. In recent years, the CAES-TTL has discovered the establishment of three invasive species, including the lone star

ticks, continued on page 9



CONNECTICUT BOTANICAL SOCIETY

*Documenting, protecting, and educating
about our state's diverse flora*



Since 1903, the Connecticut Botanical Society's mission has been to increase knowledge of the state's flora and promote conservation and public awareness of our rich natural heritage. We organize many field trips each year, as well as plant identification workshops, lectures, and publications. New members are welcome!



www.ct-botanical-society.org

ticks, continued from page 8

tick, the Gulf Coast tick (*Amblyomma maculatum*), and the Asian longhorned tick.

The lone star tick [see figure 1] has had established populations in the southeastern U.S. for well over a century. However, in recent years, established populations of this tick species in the northeastern U.S., including Massachusetts, New Jersey, New York, Rhode Island, and Connecticut, have been reported. In Connecticut, established populations of this tick were identified in Fairfield County in 2017 and 2018 and in New Haven County in 2019 and 2020. The lone star tick is associated with several human diseases, including ehrlichiosis, tularemia, rickettsiosis, Heartland virus disease, Bourbon virus disease, southern tick-associated rash illness, and Alpha-gal syndrome (AGS), also known as red meat allergy. AGS is caused by exposure to a sugar molecule found in most animal cells and is introduced to a host's immune system through the saliva of a lone star tick during a bite. After subsequent exposures to the sugar molecule, the host develops a heightened immune response that varies in intensity and could potentially be fatal. From 2010 to 2018, more than 34,000 individuals in the U.S. were believed to have been affected by AGS. However, most recent estimates exceeded 5,000 cases and AGS was identified as the leading cause of anaphylaxis in a southeastern registry of patients.

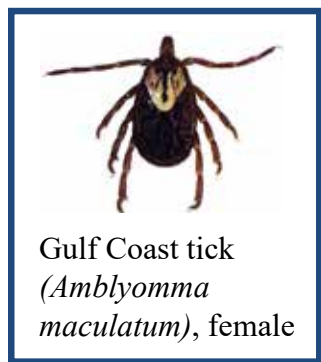


Figure 5. Gulf Coast tick, image courtesy of the CAES Tick Testing Laboratory

The Gulf Coast tick [see figure 5] has recently been identified in more northern states relative to its historic range, including Arkansas, North Carolina, Kentucky, Illinois, Virginia, Maryland, and Delaware. In August 2020, an established population of this tick species was discovered in Fairfield County, Connecticut, marking its northernmost

establishment. Following the discovery of this tick in Connecticut, additional populations of this species were also reported from Staten Island and Brooklyn, New York, in 2021 and 2022. The immature life stages of the Gulf Coast tick are associated with birds

and smaller rodents, while adults feed on larger mammals, though it is important to note that all life stages can readily feed on humans. The Gulf Coast tick is a known vector of pathogens of veterinary and medical importance, most notably *Rickettsia parkeri*, a pathogen that causes a milder rickettsiosis in humans, and *Hepatozoon americanum*, the causative agent of American canine hepatozoonosis in dogs.

The Asian longhorned tick [see figure 4] is native to the Korean peninsula, Japan, and eastern regions of China and Russia and is invasive in Australia, New Zealand, and several Pacific islands. In the U.S., the Asian longhorned tick was first discovered on a farm in New Jersey in 2017 and has since been found in 19 mostly eastern states. The first established population of this species in Connecticut was discovered in Fairfield County in September 2020.

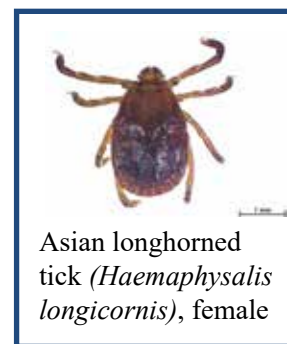


Figure 4. Asian longhorned tick, image courtesy of the CAES Tick Testing Laboratory

As this species can survive in a wide range of climatic conditions, feeds on a variety of vertebrate hosts, and produces several thousand eggs at a time without mating, it has the potential to become established in other regions of the country as well. In its native range, the Asian longhorned tick is known to carry pathogens including spotted fever group rickettsiae, Anaplasmataceae, *Borrelia burgdorferi*, *Babesia*, *Francisella*, *Bartonella*, *Coxiella*, *Toxoplasma*, and viral pathogens, and infection of field-collected specimens of this species with pathogens responsible for

ticks, continued on page 10



Collaborating with Clients on Environmental Projects Since 1986

Wetland Delineation | Natural Resource Permitting | Cultural Resources | Peer Review
Wildlife Habitat & Rare Species Evaluations | Sediment & Erosion Control Plans
Stormwater Management Compliance | Ecological Restoration | Vernal Pool Assessments

413.256.0202 | www.swca.com

SWCA
ENVIRONMENTAL CONSULTANTS

ticks, continued from page 9

Lyme disease, anaplasmosis, babesiosis, and Bourbon virus disease has also been reported in the U.S. However, its competence to transmit many of these pathogens remains uncertain. This species takes partial bloodmeals more frequently than other human-biting tick species, highlighting its ability to acquire pathogens from an infected host during the first blood meal and transmit them to a new host while acquiring a second bloodmeal within the same life stage.

The CAES-TTL has also documented the introductions of several invasive ticks parasitizing human travelers returning to Connecticut, including a Bontlegged tick (*Hyalomma truncatum*) and a Cape brown tick (*Rhipicephalus capensis*), both from southern Africa, and an *Amblyomma coelebs* and an *Amblyomma oblongoguttatum*, both from Central America.

Factors contributing to the increase in ticks and tick-borne diseases: Several factors are supporting the activity of ticks and tick-borne diseases in Connecticut and throughout the Northeast. Increasingly warmer climatic conditions contribute to the

geographic range of ticks by creating new territories conducive for tick survival and establishment. Other environmental conditions may also promote a transformation of the tick-borne disease landscape. Encroachment of wildlife habitats by humans has resulted in an increased chance of tick-human and -wildlife (e.g., white-tailed deer, white-footed mice, and other small mammals) interactions. White-tailed deer serve as prominent reproductive hosts for blacklegged ticks and several other tick species, and the population of this angulate has increased substantially throughout the region, in part due to hunting restrictions, abandoned farmlands, and a decrease in carnivorous predators. Warming temperatures might have contributed to the expansion of rodent populations such as the white-footed mouse, a competent reservoir for the Lyme disease, anaplasmosis, and babesiosis pathogens. Additionally, accelerated international trade and travel have supported the introduction of exotic ticks and tick-borne pathogens into Connecticut and the northeastern U.S., where they have the potential to proliferate and pose a threat to human and veterinary health.

Conclusion and Recommendations: Supported by changes in climatic and other environmental conditions, globalization, and the frequency of trade and travel, it is expected that populations of native tick species will continue to increase, and additional exotic tick species will invade and establish new populations in the U.S. The increased likelihood of tick interactions with humans and wildlife, in conjunction with the ability of ticks to carry numerous pathogens, highlights the importance of proper surveillance and accurate identification of ticks and tick-borne pathogens to protect human and veterinary health. Continuous training of government officials who oversee imported goods and livestock in accurate identification of tick species, accompanied by strict monitoring and detailed inspection practices at ports of entry, would prove beneficial in intercepting exotic ticks. Additionally, increasing awareness among the general public, public health officials, and clinicians of the different tick species and tick-borne diseases and how to properly monitor associated symptoms is of vital importance to preventing serious illness from a tick bite. Individual action can also be taken to mitigate exposure to ticks and tick-borne diseases. In areas with pervasive populations of

ticks, continued on page 11

*We're
always
growing!*



Cephalanthus occidentalis

New England Wetland Plants, Inc.
Wholesale Native Plant Nursery

Your source for:

- Trees, Shrubs, Ferns, Flowering Perennials, and Grasses
- Coastal and Inland Wetland Plants
- Specialty Seed Mixes
- Coir logs, Straw Wattles, Blankets, and Mats


New England Wetland Plants, Inc.
820 West Street, Amherst, MA 01002
Phone: (413) 548-8000 Fax: (413) 549-4000
Email: info@newp.com Web: www.newp.com

ticks, continued from page 10

ticks, personal protection practices are also important to reduce the risk of tick encounters. These practices might include but are not limited to wearing long light-colored pants tucked into socks, spraying clothing with approved pesticides, and the application of tick repellents to skin when venturing into common tick-infested areas. In order to reduce tick habitat, it is best to keep a well-manicured lawn and clear out brush areas and tall grasses that ticks can use as a hunting ground. Performing daily tick checks of the body, hair, and clothing of oneself, family members, and pets will help to prevent bites and ensure quick removal of embedded ticks. With the ongoing introduction and establishment of invasive ticks and tick-borne pathogens as well as the range expansion of native ticks, it is unclear if and how these changes will alter the tick-borne disease landscape in Connecticut and the Northeast.

References

1. Eisen, R. J., K. J. Kugeler, L. Eisen, C. B. Beard, C. D. Paddock. 2017. Tick-Borne Zoonoses in the United States: Persistent and Emerging Threats to Human Health. *ILAR J.* 58: 319–35.
2. Eisen, R. J. and L. Eisen. 2018. The Blacklegged Tick, *Ixodes scapularis*: An Increasing Health Concern. *Trends Parasitol.* 34: 295–309.
3. Schappach, B. L., R. K. Krell, V. L. Hornbostel, N. P. Connally. 2020. Exotic *Haemaphysalis longicornis* (Acari: Ixodidae) in the United States: Biology, Ecology, and Strategies for Management. *J. Integr. Pest Manage.* 11: 21.
4. Molaei, G., E. A. H. Little, N. Khalil, B. N. Ayres, W. L. Nicholson, C. D. Paddock. 2021. Established Population of the Gulf Coast Tick, *Amblyomma maculatum* (Acari: Ixodidae), Infected with *Rickettsia parkeri* (Rickettsiales: Rickettsiaceae), in Connecticut. *J. Med. Entomol.* 58: 1459–62.
5. Stafford III, K. C., G. Molaei, E. A. H. Little, C. D. Paddock, S. E. Karpathy, A. M. Labonte. 2018. Distribution and Establishment of the Lone Star Tick in Connecticut and Implications for Range Expansion and Public Health. *J. Med. Entomol.* 55: 1561–8.
6. Molaei, G., E. A. H. Little, S. C. Williams, K. C. Stafford III. 2019. Bracing for the Worst – Range Expansion of the Lone Star Tick in the Northeastern United States. *N. Engl. J. Med.* 381: 2189–92.
7. Pattanaik, D., P. Lieberman, J. Lieberman, T. Pongdee, A. T. Keene. 2018. The Changing Face of Anaphylaxis in Adults and Adolescents. *Ann. Allergy Asthma Immunol.* 121: 594–597. 🍀



Ferrucci & Walicki, LLC
www.fwforesters.com
6 Way Road, Middlefield, CT 06455
CT and MA Certified Foresters
NRCS Technical Service Provider

Forest management, timber harvest,
recreation and wildlife habitat plans

Boundary and GIS mapping services

PA 490 and Chapter 61

860-349-7007 – fw@fwforesters.com

Restoring the Native Habitat





800-873-3321
sales@ernstseed.com



<https://ernstseed.co/adHab>



The Quality Stormwater Management System

BMP's products like the SNOUT®, Bio-Skirt®, and our new Turbo Plate® help you reduce stormwater pollution with simple solutions.



Made in Connecticut with over 90,000 installations since 1999

For more information on how to solve solve your stormwater quality issues contact us at **800.504.8008** or visit bmpinc.com.

New PDH Webinar at bmpinc.com!

CACIWC news, continued from page 2

management and inland wetlands regulation. Please see our website for additional information on these workshops and additional conference news.

This issue contains several other articles from important Connecticut partners in scientific assessment and conservation that help introduce topics to be discussed at our 2023 annual conference, such as the impact of warming climate, habitat loss, and other factors on both plant and animal populations. These include an article from the Connecticut Agricultural Experiment Station on the impact of tick populations including newly emerging invasive species, along with the status of our native and migratory bird populations by Connecticut Audubon Society, celebrating their 125th Anniversary.

This issue also highlights a key member of the CACIWC community, Ann Letendre who has served as board member, Executive Director, and Associate Editor of *The Habitat*. The article on page 5 describes the special recognition dinner given to honor Ann for her decades of service to the Town of Vernon. All of us who serve on the CACIWC board offer our congratulations to Ann on this well-deserved recognition!

In other news:

1. While our CACIWC Annual Meeting Committee has reviewed the many comments and suggestions submitted on the survey distributed at our 2022 conference, there is still time during the next few weeks to send us any new ideas for workshop topics and speakers that you would like us to recruit for our **46th Annual Meeting and Environmental Conference**, scheduled on **Saturday, November 11, 2023**. Please contact us at AnnualMtg@caciwc.org with your suggestions. Watch for additional conference news on our www.caciwc.org website and in upcoming issues of *The Habitat*.

2. Although our expenses for organizing our conferences and preparing issues of *The Habitat* have grown, the Board of Directors decided to maintain our **CACIWC 2023-24 membership dues** at the 2022-23 rates. We thank all of you who have already renewed your 2023-24 dues. Please see the links to our current online and mail-in membership renewal and conference registration forms on our website: www.caciwc.org.

3. We also appreciate all of you who answered our new **membership surveys of all conservation and inland wetlands commissions** in response to the email with survey link sent with out to our commission members. The inland wetlands agency survey will follow our celebration of the Inland Wetlands and Watercourses Act (IWWA) by assess ability of inland wetlands commissions and staff to conduct their work including the need for additional wetlands training, while the conservation commission survey will evaluate the ability of these commissions to conduct their work while responding to climates change impacts and other evolving new challenges.

The completion of these member surveys will provide CACIWC with important information to help promote your work and help receive additional resources. Early completion of these surveys will help us provide you with initial summaries at our 2023 annual conference!

4. Please be certain to provide us with updated and expanded emails and other contact information to help Our Membership Coordinator & Database Manager Janice Fournier maintain an **up-to-date membership list**. This information will help expand distribution of *The Habitat* and our new and expanded **CACIWC Listserve**.

The CACIWC Board of Directors continues to appreciate the work that you and your fellow commissioners and staff conduct on behalf your town and our state habitats. We look forward to continuing to work with you as we organize our **46th Annual Meeting and Environmental Conference!**


Thank you,
Alan J. Siniscalchi, President, CACIWC 🌿



legal, continued from page 3


A number of commissions and, on occasion, individual commission members have consulted with me when facing local public opposition to increasing the distance in their upland review areas. The overwhelming majority of towns have adopted the language which establishes that a commission may regulate activities which occur outside of wetlands, watercourses, or upland review areas. I ask them to tell me of their experiences doing that. If that is done consistently, neutrally, and publicly, it will send a clear message to property owners that it is the activity and its impact which triggers the need for a permit not the area where it is occurring. If that proves ineffective at getting property owners in for examining their activities, then the agency can incrementally increase the upland review area to the point where the Goldilocks effect is realized – just enough new applications are required by the increase in the upland review area to protect wetlands and watercourses, but not so many new applications that activities with no effect on wetlands or watercourses must come before an agency.

Janet P. Brooks practices law in East Berlin. You can read her blog at: www.ctwetlandslaw.com and access prior training materials and articles at: www.attorneyjanetbrooks.com.



MCA CONSULTING ENGINEERS & SURVEYORS
MARTINEZ COUCH & ASSOCIATES, LLC

Partnering with clients in Connecticut for successful outcomes for over 20 years...



Regulatory Compliance & Permitting
Site/Civil Engineering
Survey & Mapping
Water & Wastewater Engineering
GIS & Asset Management
Construction Phase Services
Subsurface Utility Engineering

Contact: Richard Couch, PE
860.436.4364
couchre@martinezcouch.com

martinezcouch.com

Downtown Danbury Streetscape Renaissance Project

birds, continued from page 4

multitudes have been compared to the great flights of the passenger pigeon.”

Birds were killed for feathers to adorn women’s hats. Great Egrets and Snowy Egrets in Florida suffered the worst. *Audubon Magazine* reported in 1955: “... in the nesting season of 1892, just one of the many ‘feather merchants’ in Jacksonville shipped 130,000 bird ‘scalps’ (skins with the feathers on) to New York for the millinery trade!” Frank Chapman of the American Museum of Natural History walked along Manhattan’s 14th Street in 1886 for a macabre birding expedition. “There, notebook in hand, I recorded ... the names of birds which, usually entire, were seen on the hats of passing women.” His list? Forty species, including Sanderling, Greater Yellowlegs, and Green Heron.

The report’s survey of the last 125 years concludes with the report published in *Science* in 2019 that over the last five decades, the population of birds in North America has fallen by 30 percent, or three billion birds. That population drop was the subject of the 2021 *Connecticut State of the Birds* report, titled “3 Billion Birds Are Gone. How Do We Bring Them Back?”

You can find links to this year’s report (including its recommendations) and others on [Connecticut Audubon’s website](#).

Grassroots organizations like Connecticut Audubon, which are now the foundation of environmental advocacy, were formed in the late 1800s to stop the slaughter of herons, egrets and other birds for the plume trade. Milan Bull’s *Connecticut State of the Birds* article on the subject is called “Hats Off to the Conservationists Who Saved the Egrets and Started a Movement.” He reports that by the early 1980s coastal wading birds such as egrets and night-herons made a remarkable comeback in Connecticut only to have their nesting colonies reduced to a mere five islands in Long Island Sound.

Wading birds need isolation from people and predators, as well as a combination of habitats that include thick understory and taller trees and shrubs.

birds, continued on page 14

birds, continued from page 13

Following the peak populations, the major Connecticut heronries have fallen off. This decline is largely human-related. The exponential increase of raccoon populations in the 1970s was mostly due to that animal's habituation to humans and its ability to adapt to suburban environments. This eventually led to their occupation of nearby offshore islands, where they found a poultry market of wading-bird eggs and young, easily accessed by these tree-climbers. Similarly, and during nearly the same time period (and for the same reasons), white-tailed deer flourished and found the islands within easy swimming distance. They helped themselves to the understory vegetation, so critical to the protection and nesting cover of the birds.

Elizabeth Amendola, coastal program coordinator for Audubon Connecticut, wrote about the shorebirds that nest on the state's beaches, in an article titled "Connecticut's Oystercatcher Revival Has an Increasingly Murky Future."

When Connecticut Audubon was founded, the chief threat to oystercatchers and other shorebirds was market hunters. Now they are vulnerable to shoreline development and climate change. Nonetheless Connecticut has become a stronghold of the American Oystercatcher.

Invasive species, epitomized by the European Starling, have long been reviled as a threat to native birds. Julia Zichello, Ph.D., a doctoral lecturer at Hunter College, the City University of New York, tackled the issue in an article called "The Decline of Native Birds? The Fault Lies Not In Our Starlings But In Ourselves."

She reported that recent studies have shown that European starlings are not responsible for the decline of birds such as native bluebirds but are themselves suffering from falling populations worldwide.



American Oystercatcher.
Photo by Scott Kruitbosch

Connecticut State of the Birds concludes with two success stories, waterfowl and raptors, and shows how science, timely legislation, and the investment of money and time helped both groups of birds.

Wetlands protections helped ducks and geese. Paul Schmidt, director of Road to Recovery (a project that grew out of the Science article that demonstrated the 30 percent population decline), and former chief conservation officer for Ducks Unlimited, writes that waterfowl have recovered across the continent from decades of wetlands destruction. And yet seemingly common species such as Mallards and American Black Ducks are suffering through hard times in Connecticut.

His article is called "Vulnerable to Wetland Loss, but Responsive to Conservation Work, Waterfowl Are Doing Well in North America. For Now."

Brian Hess, a wildlife biologist with the Connecticut Department of Energy and Environmental Protection, looked at Ospreys, Bald Eagles, and Peregrine Falcons in an article titled "Raptors Are Back and in Good Shape. The Effort It Took Was Enormous."

Bald Eagles, Peregrine Falcons, and Ospreys have been the focus of successful conservation work over the past half-century. Before that, they were shot for sport, had their habitats encroached upon by humans and, along with many other species, experienced massive population declines caused by the insecticide DDT.

Their recent history is evidence that with proper, timely action, imperiled species can recover. Following a concerted effort by individuals, private organizations, and regulatory agencies to establish policy solutions and legal protections based on solid science, the birds are now found statewide and throughout their historic ranges.

Hess reports that Bald Eagles have made a strong comeback and they now nest in 67 of Connecticut's 169 towns. Connecticut Audubon's Osprey Nation citizen science program has mapped almost 1,000 Osprey nests in the state.

Peregrine Falcons were not found in the Connecticut Breeding Bird Atlas surveys from the 1980s,

birds, continued on page 15

birds, continued from page 14

but by 2022 there were 12 known active nesting territories, in 12 towns.

The 125th anniversary is significant because Connecticut Audubon was founded by a group of women in Fairfield led by Mabel Osgood Wright, who helped start the modern bird conservation movement, which led to the protection of songbirds, hawks and owls, shorebirds, waterfowl, and gamebirds.



Bald Eagle, photo by Christopher Bousquet

Connecticut Audubon has remained an independent organization since its founding. It has centers in Fairfield, Pomfret, Old Lyme, Milford, and Sherman, a

program in the greater Hartford area, and an EcoTravel program based in Essex. Its state headquarters are at Birdcraft Sanctuary in Fairfield. Birdcraft, considered the first private songbird sanctuary in the country, is now a National Historic Landmark.

Needless to say, the overarching crisis and challenge now is climate change. No statewide conservation organization or its members can do it all. But success might be measured in local progress that adds up to big achievements.

Prepared by Tom Anderson, Editor, Connecticut State of the Birds & Director of Communications Connecticut Audubon Society. 🍂

Please Report Any Sightings of the Spotted Lanternfly

The Connecticut Agricultural Experiment Station (CAES) renewed its Notice of Order of Quarantine on January 1, 2023, to help prevent and slow spread of the Spotted Lanternfly *Lycorma delictula*. This introduced insect species was first identified in Fairfield and New Haven Counties, but has now already established populations within Fairfield, Litchfield, Hartford, New Haven, and New London Counties with increasing sightings in other counties. This invasive pest, a type of planthopper insect, can feed on the sap of more than 70 plant species and has the potential to threaten half of Connecticut trees along with many agricultural crops including grapes and hops.



CACIWC joins CAES is urging our members to report all sightings of this invasive insect pest, especially in counties where populations have not been established. A photo along with the detailed location of your sighting will be extremely useful to CAES and federal investigators. You can submit your information by completing the reporting form available at the following link:

[Connecticut Spotted Lantern Fly \(SLF\) Reporting Form.](#) 🍂





Connecticut Association of Conservation and
Inland Wetlands Commissions, Inc.
27 Washington Street
Middletown, CT 06457

Non Profit Org
US Postage
PAID
Hartford, CT
Permit # 158

Summer 2023

THE HABITAT

*Dedicated to constant vigilance, judicious management
and conservation of our precious natural resources.*
www.caciwc.org



Printed on
recycled paper

Save the Date for our 2023 Annual Meeting and Environmental Conference!

This year's 46th Annual Meeting and Environmental Conference will celebrate the anniversaries of several key Connecticut legislative initiatives affecting conservation commissions, along with the 50th anniversary of the federal Endangered Species Act.

New guidance on climate change resiliency, storm water management, and wetland regulation will be presented. Please watch for additional conference news on our www.caciwc.org website. We hope you will join us at our 2023 conference, scheduled for Saturday, November 11, 2023! 🍁

Updated Contact Information Needed Please Respond to Our 2023 CACIWC Member Commission Surveys!

CACIWC has been reaching out to you for **updated contact information** to ensure that we have information on the current commission chairs and staff with updated emails and office phone numbers for accurate distribution of *The Habitat*, as well as news from our revised ListServ.

We also have sent you emails with links to **commission activity surveys** that are specifically targeted to address the needs of both Connecticut Inland Wetlands Agencies and Conservation Commissions. These targeted surveys will help us evaluate the activities and training needs of inland wetlands agencies along with the ability of today's conservation commissions to assess and protect important habitats in their towns while responding to responding to climate change impacts and other evolving new challenges. Please complete the member surveys so we can provide initial summaries at our 2023 annual conference! 🍁