

From The Director

Let's start this issue with a HUGE thank you to all our readers for their patience during lengthy delays in getting this issue finalized and ready for all of you to enjoy. As many of you know, the Wildlife Division



had many wonderful staff members retire in 2023, all within a few months. This created many gaps in coverage which we are slowly beginning to fill and caused delays in many things that were not critical tasks to the conservation of our wonderful wildlife species. One of the programs impacted most significantly was our Outreach Program—the folks who work hard to bring you not only Connecticut Wildlife, but also the myriad of other publications we offer, our Hunting and Trapping Guide, and all our web and social media content. With just half the staff and no administrative support staff to help, they have still managed to keep things going and work on rebuilding the program, and I want to thank them for their dedication and good humor through this challenging period.

Even though it was crafted for last fall, this issue is jam-packed with topics that are just as important this summer. You can learn more about monarchs as we start to see more of them in our fields, meadows, and flower gardens. Spongy moth caused significant tree defoliation in the northwest corner last year and how foresters monitor and address that challenge carries over into this year. The Connecticut Agricultural Experiment Station is reporting a lot of egg masses in 2023, but so far, our staff have reported the hatch has been limited. This is also the perfect time of year to start thinking about bear dens. While it may seem like hibernation is still a long way away, now is a great time to start identifying those areas around your home that could be attractive to bears this fall and begin to make modifications to keep the bears out.

One of the most important conservation topics in this issue focuses on illegal trade in our native turtles. Few people realize how big an issue this is for the turtles we are used to seeing in our yards, parks, forests, and wetlands. By learning more about the problem, sharing that information with others, and keeping our eyes open for suspicious activity, we can help protect this suite of long-lived and rapidly declining species. This is also peak nesting time for turtles, which can make females extremely susceptible to illegal collection. The Wildlife Division is fortunate to have one of our biologists helping to lead national efforts to combat illegal trade in turtles.

Enjoy this long-awaited issue—there are many more great conservation stories coming your way soon.

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Despite resembling a yellow-jacket wasp, this male sweat bee (genus Agapostemon) is not capable of stinging. The autumn blooms of New England asters are a valuable source of pollen and nectar for bees and other pollinators as the growing season winds down across Connecticut.

Photo credit: Kyle Testerman

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Monarch butterflies refueling on goldenrod during their migration south. Photo courtesy of Kyle Testerman

Migratory Monarchs Are Imperiled What can be done to reverse the decline?

Article and photography by Kyle Testerman, Wildlife Management Institute

This past July, the International Union for Conservation of Nature (IUCN) placed the migratory monarch butterfly (the subspecies found in Connecticut) on its Red List of Threatened Species, listing it as endangered. The IUCN based this decision on data that show how habitat destruction and the effects of climate change have had a detrimental effect on the long-term success of this subspecies of monarch, whose population has shrunk about 88% over the last two decades or so.

The specific drivers of this decline come primarily from deforestation and land conversion across the monarch's breeding range and overwintering grounds, and widespread herbicide and pesticide use in intensive agriculture that destroys caterpillars, butterflies, and milkweed (their larval host plants). Climate change has already led to more severe droughts, which limit growth of milkweed, cause more catastrophic fires, and trigger untimely migrations. Severe weather, like hurricanes, also kills multitudes of butterflies during key times, such as fall migration.



Monarch caterpillars grow through five stages, or instars, on their way to becoming butterflies. Each instar sheds its skin, allowing the next instar more room to grow. Their distinctive black, yellow, and white stripes are noticeable beginning in the second instar stage.

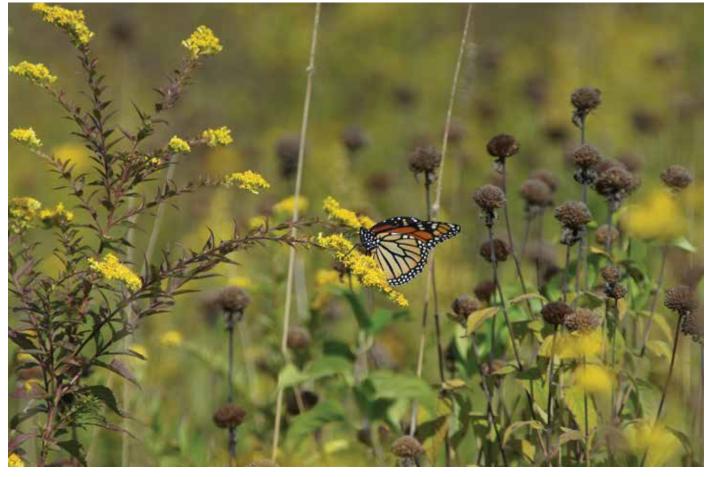
When the IUCN announced their listing decision, it caught many headlines, which helped bring more attention to the challenges migratory monarchs face. However, listing on the IUCN's Red List is very different than being listed as a threatened or endangered species by the U.S. Fish and Wildlife Service (USFWS) under the federal Endangered Species Act (ESA) or on individual states' lists of endangered species, and does not come with any sort of legal protections for a species.

However, the plight of the monarch has not gone unnoticed or unaddressed by states or the federal government. In December 2020, the USFWS completed a review of the monarch's status and determined that federal listing under the ESA is warranted but precluded by other higher-priority listing actions. However, not making the list at this time does not mean that actions and policies to conserve monarchs will not be developed and implemented.

In April 2020, a nationwide conservation agreement was approved, which involved dozens of stakeholders from across industries and government agencies to voluntarily commit time and funds to carry out monarch-friendly management actions across millions of acres of energy, industrial, and transportation rights-of-way across the United States. These preemptive actions may help monarchs enough to avoid ESA listing, or speed recovery should they be listed in the future.

In Connecticut, the General Assembly passed An Act Concerning Pollinator Health in 2016. This bill created numerous requirements related to pollinator health and pollinator habitats and involves multiple state agencies. Some of the important aspects of this bill include establishing an advisory committee to keep legislators informed, publishing a citizen's guide to creating pollinator habitat, developing best management practices, restricting certain pesticide usage, and requiring pollinator habitat be included in specified conservation plans for farm preservation programs. One ongoing success story resulting from this legislation is the Connecticut Department of Transportation's work to support pollinators along roadways, including using modified mowing plans, removal of invasive species, and creating large blocks of pollinator-friendly habitat along state highways.

The Association of Fish and Wildlife Agencies (AFWA), of which the CTDEEP is a member, is a partner in the Monarch



During the fall, after many other wildflowers are past their blooming time, several species of goldenrod and aster bloom in succession, providing monarchs with the nectar resources needed to fuel their long journeys. This migrating monarch is one of many species benefiting from the DEEP's recent prescribed burn at Suffield Wildlife Management Area.

Joint Venture. This partnership aims to advance monarch research, education, and conservation using the Monarch Conservation Implementation Plan, which identifies and prioritizes actions to help restore populations. In addition to this and other conservation partnerships, CT DEEP is also managing many areas to support monarchs and other species which need healthy early successional habitats. For example, nearly 100 acres of Suffield Wildlife Management Area, in Suffield, is actively managed as grassland and meadow habitat. In different years, blocks of habitat are purposefully burned outside the growing season to promote regeneration of grasses and other herbaceous plant species, while reducing above ground woody growth. These direct actions help milkweed species persist in the area, providing monarchs the necessary habitat for their larvae (caterpillars) to mature into adults. These areas also host numerous other flowering plants that bloom at different intervals throughout the growing season, which is important for adult butterflies that need reliable sources of nectar from spring through October.

Staff from DEEP, the Connecticut Agricultural Experiment Station, and Connecticut Department of Agriculture

also work with private landowners, municipalities, and nongovernmental organizations (NGOs) to protect and manage land towards achieving conservation goals, which includes habitat necessary for long-term monarch success.

While governments, businesses, and NGOs play a crucial role in species conservation, individual actions by private citizens are also essential. For many of us, our backyards are one of the few places where we have control over management decisions. Making your property a safe place for monarchs to prosper during the breeding and migration seasons can have a real and positive impact beyond one species of butterfly.

The following section describes some actions you can take at home to help monarchs recover:

- Plant native milkweed species to increase the number of plants where breeding butterflies can lay their eggs.
 While most eggs and larvae do not reach adulthood due to natural factors, such as predation, having more milkweeds will increase the total larvae that do make it to adulthood. Be sure the species of milkweed you plant is native to the northeastern United States.
- Preserve native species already on your property. Many







Egg (top) and larval (middle) stages of monarchs remain on milkweed until ready to pupate. Chrysalises are often found on nearby vegetation (bottom). Mowing milkweed and nearby plants during the breeding season is a common source of mortality.

- common "weeds" that are pulled in summer are native fall-blooming species that help monarchs refuel during migration. There is a good chance that species of goldenrod and aster are already volunteering somewhere in your yard.
- Plant regionally native flowering plants. Adult butter-flies need nectar sources from flower species they are familiar with, so planting wildflowers that are native to our region will fuel adults throughout the breeding and migration seasons. Make sure your native plantings are diverse with spring, summer, and fall blooming species so there is always something blooming from late spring through October. If your yard becomes a food-desert for nectar seeking insects, adult monarchs will have to work harder and look elsewhere to find food.
- Reduce or eliminate pesticide use to stop human-caused monarch deaths. Monarch caterpillars often move to nearby non-milkweed plants to pupate. While they move, they can be exposed to pesticides applied in other areas of your yard. Additionally, while monarchs lay eggs on milkweed, hundreds of other pollinator species use different native plants all over your yard and should not be subjected to indiscriminate pesticide use either.
- Do not collect monarch caterpillars to raise. Captivereared individuals have lower migration success than wild adults. Raising monarchs and other butterflies in captivity can also lead to diseases and parasites that spread to wild populations upon release. While more monarchs might survive from egg to adult with help from captive rearing, there may not be adequate habitat in the vicinity for that augmented generation to thrive. As well-intentioned as captive rearing may be, the most supportive actions are to grow more habitat, which will allow more monarchs to reach maturity each generation. Releasing butterflies into the wild in Connecticut is also illegal.

By making your backyard more useful to monarchs, it will also be more beneficial to other wildlife. Many of the best regionally native wildflowers are also important for other butterflies and native bees. Plan your property around certain keystone tree species, like oaks (*Quercus spp.*), willows (*Salix spp.*), cherries (*Prunus spp.*), and many others, that serve as host plants for over 300 species of native caterpillars, which harmlessly feed on the trees' leaves. As a bonus, healthy and abundant caterpillar populations benefit other wildlife, like small mammals and songbirds, during their breeding season and into winter.

You can explore native plants, and the moths and butterflies they host, by entering your zip code into the native plant finder from the National Wildlife Federation (https://www.nwf.org/NativePlantFinder/). The Native Plant Trust (https://www.nativeplanttrust.org/) and Audubon (https://www.audubon.org/) have similar databases to explore.

Did You Know?

Eastern populations of monarchs, like those found across Connecticut, typically go through two to three generations in the summer before a final, non-reproductive generation matures and migrates south to their wintering grounds. This final migratory generation lives for six to nine months and must make the entire trek south before winter. These migrants will become reproductive in early spring after leaving their overwintering sites. Their offspring will continue moving north, back towards the summer breeding grounds, and it may take more than one generation to finally reach Connecticut again and repeat the cycle.

Scan this QR code to see the Monarch Joint Venture's animation of monarch migrations.







Congregations of monarchs can often be seen migrating south along coastal peninsulas, where they are funneled together waiting for favorable breezes to carry them across the water to the next piece of land. While they wait, they fuel up on nectar from late-season wildflowers, especially goldenrod (above and top right) and aster species.

Statewide Salmonid Action Plan

Article by Mike Beauchene, DEEP Fisheries Division

Just about 32 years ago, the DEEP Fisheries Division embarked on an unprecedented effort to survey the fish community in at least one stream location within every subregional watershed in Connecticut. The project was called the "Statewide Survey of Rivers and Streams (1988-1995)". Over the course of seven years, fish, habitat, and basic water chemistry data were collected from 978 sites; aquatic macroinvertebrates data were gathered from 855 sites; and angler surveys were conducted on 53 streams. I was just starting out in my career and joined the project as an eager seasonal research assistant in 1990. What a job it was! Nearly every day from May to September, I was out in the field conducting threepass electrofishing surveys at three or more locations. I saw



The Salmonid Action Plan outlines steps to improve upon Connecticut's wealth of quality fishing opportunities.

LOTS of fish and insects, and had the pleasure of talking with many anglers.

The objectives of the stream survey project were many; however, one of the larger purposes for this study was to gain insight into the state's trout populations. The end goal was to develop the first ever "Trout Management Plan for Connecticut's Rivers and Streams", which would enable the Fisheries Division to sustain Connecticut's stream resources while meeting the needs of anglers. Some of the innovations in this plan were the creation of Trout Parks, Trophy Trout Areas, Wild Trout Management Areas (Class 1, 2 and 3), and expansion of the number of Trout Management Areas. These new and expanded categories provided significant diversity from prior trout management, with the majority being put-and-take fishing.

Just under two years ago, 30 years after the start of the stream survey project, the Fisheries Division published a second plan focused on trout and salmon (salmonids). The Statewide Salmonid Action Plan was based on thousands of fish community data collected over the last three decades, interaction with anglers via in person surveys and email, and links posted on social media. This second plan focused

on potential actions to improve salmonid fisheries over the next five years. The actions fit into one of four themes: Grow Fish, Catch Fish, Conserve Fish, and Public Engagement.

Grow Fish

Connecticut has a lengthy history of stocking trout, dating back to the first trout hatchery which opened in the mid-1800s in Windsor Locks. Currently, the state operates three hatcheries: Burlington (established in 1923), Kensington (established in 1932), and Plainfield (established in 1973). In total, they produce between 500,000 and 600,000 trout, which are stocked annually. Actions outlined in the plan focus on streamlining production, reducing energy consumption, gaining efficiency in stocking, and, of course, growing larger fish.

Catch Fish

Trout are one of the most sought after game fish in Connecticut. Trout fishing is immensely popular, as it offers opportunity from highly technical fly-fishing to simple pondside worm and bobber fishing. Trout also provide a healthy meal for folks interested in catching and preparing their



For over 100 years, Connecticut has been raising and stocking trout so our residents can enjoy the many benefits of fishing.

own food. Actions within the plan focus on how to maintain the diversity of fishing options so to appeal to the greatest number of people, and reviewing trout stocking locations, timing, and frequency to maximize availability to anglers.

Conserve Fish

While many waters are stocked with trout for immediate catch, Connecticut is fortunate to have thousands of miles of streams with self-sustaining wild trout. These fish are usually much smaller than stocked trout. Wild populations require a particularly narrow set of conditions to be successful; the

most limiting are summer water temperature and fall spawning habitat. When these conditions are met, which are usually in small brooks and streams, wild trout flourish. One action in this theme was the development of a plan specific to wild trout management, which will be presented in the next edition of *Connecticut Wildlife* Magazine.

Public Engagement

The actions in this theme are intended to increase awareness and relevancy of salmonid fisheries through engagement with both traditional fishing enthusiasts, as well as nontraditional audiences who may not be aware of the salmonid resources in their own backyard. The Fisheries Division staff understands the width and breadth of salmonid resources in



Scan this QR code to view Connecticut's Salmonid Action Plan.

our state. We have developed several tools to help spread the word, such as our interactive trout stocking map, a daily report on the agency's website, and our biweekly social media posts. The CARE (Connecticut Aquatic Resources Education) program brings FREE learn to fish events throughout the entire year, hosts a series of DIY videos on the CT DEEPYouTube Channel, and provides a self-paced

online introduction to fishing course in English and Spanish.

Whether it is walking or biking to fish in the neighborhood community fishing water or Trout Park, wading and fly-fishing in a remote and isolated section of river or stream, kayaking a quiet lake or pond, or simply knowing there are wild brook trout in the small babbling brook in your backyard, trout and salmon hold a special place in Connecticut. For over 150 years, the State of Connecticut has focused on providing restorative and quality recreational opportunities for trout and salmon. We are pleased to continue taking actions which support this tradition.



Ideally, every trout and salmon stocked by the Fisheries Division will have the chance to see a line pass before its nose.

Why Did the Northwestern Hills Look Like Christmas in July? Tree professionals adapt to severe defoliation

Article by David Beers, DEEP Forestry Division

For the past two springs, spongy moth caterpillars (formerly known as gypsy moth) have eaten the leaves on large swaths of forests in the Northeast. While most northeastern forests have been in the clear, there were pockets of severe spring defoliation throughout the Northeast that are of great concern. One of the largest pockets covered northwestern Litchfield County in Connecticut, southern Berkshire County in Massachusetts, and eastern Dutchess County in New York. The 2021 Litchfield County outbreak occurred in the towns of Sharon, Cornwall, the southern edge of Salisbury, the northern edge of Kent, and the southwest corner of Canaan.



Dead spongy moth caterpillars and old egg masses in June 2022. Photo by David Beers, CT DEEP.

In 2022, the outbreak expanded to include most of Sharon, Cornwall, Kent, Canaan, North Canaan, western Goshen, northern Warren, northwest Norfolk, and a few patches in Litchfield.

This all began with a dry summer in 2020 that lowered the endemic soil population of the *maimaiga* fungus and the NPV virus (nucleopolyhedroisi virus). These pathogens keep the spongy moth population in check most years. While the caterpillars prefer to eat oak and aspen leaves, they are happy to eat almost anything else when hungry enough. In the most severe outbreak areas, almost every leaf is eaten, except for striped maple, wild grape, tulip poplar, and, of course, invasive plants. Upper hillsides and upper tree canopy branches tend to be more defoliated than lower hillsides and lower canopy branches.

The caterpillars feed mid-May through June and then pupate into moths for mating and August egg laying. In July, defoliated trees will put out new foliage. The new foliage is vital for the tree to photosynthesize the food needed for basic survival. More defoliation for more years is detrimental. For weakened and diseased trees, a single year of severe defoliation can be the "straw that breaks the camel's back".

Defoliation severity varies widely across the landscape and from tree to tree. This, combined with the fact that about half of the areas that experienced defoliation this past spring also experienced defoliation in 2021, makes predicting future tree health difficult. According to Connecticut Agricultural Experiment Station (CAES) Scientist Jeff Ward, a rule of thumb is that a tree that is only able to releaf less than a third of its crown is a goner. Trees of poor vigor and health are often the first to go after a defoliation event. Healthy hardwood trees generally require at least two consecutive years of greater than 60% defoliation before they are at risk of death. Softwoods often succumb after a single year of heavy defoliation because they are not able to releaf like hardwoods.

In addition to the importance of the health and vigor of trees before defoliation, Ward emphasized the importance of secondary stressors after defoliation. The drought of 2022 is a serious secondary stressor. When a boxer is beat up and heads to the corner with his coach, he gets a drink of water. This drought is like giving the injured boxer a blast from a

blow dryer instead of water – not helpful at all. In addition, weakened trees are preyed on by advantageous insects, such as the two-lined chestnut borer and red oak borer. For this reason, trees can die from defoliation long after the spongy moth is gone.

Ward and this author noticed widespread caterpillar death in late June 2022 from the NPV virus and *maimaiga* fungus. We are hopeful there will not be another widespread spongy moth outbreak in spring 2023. Based on observations of new egg masses, Ward expects a few small 2023 outbreaks, particularly along the Route 8 corridor.

The loss of any type of tree is of concern, but particularly oak. Oaks overwhelmingly host the most species of moth and butterfly caterpillars (over 500). Oak forests have more bird abundance and diversity compared to other forest types. Oaks also produce the thickest, most ecologically beneficial, and longest lasting leaf litter. Oak leaf litter has the most abundant and diverse soil biology. The oak trees that do survive will not have the energy to produce acorns for a few years. This absence of acorns will be a huge loss of hard mast, which provides food for wildlife, in this region.

I had the pleasure of working with a private forester, Ian Branson, who lives and works in the northwest corner of Connecticut. We looked at a 60-acre timber harvest he was marking that is part of a much larger private property. Based on a 2020 forest stewardship plan, this harvest was scheduled for 2022. However, the originally planned thinning changed to a heavier cut to foster oak regeneration. Instead of marking and tallying the trees to be cut, Branson marked the trees to leave standing.

For Branson, deciding which trees to leave is a mental tug of war between two landowner goals: salvaging revenue from the most valuable timber that will likely die from two



Forester Ian Branson marking "leave" trees that are left to grow. Photo by David Beers, CT DEEP.



Defoliated forest in Sharon, Connecticut, on June 25, 2022. Photo by Andrea Urbano, CT DEEP.

years of severe defoliation and maintaining as much oak mast as possible – particularly white oak. To best do this, Branson waited until mid-July 2022 to start marking so that he could see which trees were best able to releaf, helping him make wise choices about which trees to leave standing. On average, he is leaving a quarter of the mature trees standing.

As we walked around the area, we noticed that many of the new second-growth leaves were ragged looking. I asked Ward about this, and he suspects that the hungry caterpillars also fed on some on the leaf buds that created the second flush of leaves, and this created the ragged look. Some trees completely releafed and others not at all. Overall, about half of the canopy was full of new leaves. In addition to looking up at tree crowns, Branson looked at the base of each tree when he did his painting and was pleased to see very few egg masses, whereas there were a lot in 2021.

After spending time with Branson, I visited the work yard of Arbor Services of Connecticut. Four of their plant health team sat with me at their al fresco meeting table surrounded by all sorts of equipment and wood piles. It had been a very busy May and June for them. They told me they had been spraying non-stop for spongy moth control for six weeks. They service mostly individual yard trees at residential properties. For the first half of the six-week spraying season, they used *Bacillus thuringiensis* (Bt) bacteria in a water-diluted spray. When the caterpillars were larger, they used an orchard pesticide called Astro. This synthetic pesticide is labeled for edible fruits. The team said that both methods have been very effective at getting rid of spongy moths on sprayed trees.

After banter around the picnic table, I had the opportunity to watch the sprayer in action. This sprayer has 300 feet of hose from the truck and pressure that can reach over 80 feet vertical and 300 feet horizontal. It was quite impressive. Hopefully, nature's antidote will kick in to control the spongy moths, and the sprayer can be used for other work next year.

Will Bears Find a Good Winter Den at Your Place?

Article courtesy of BearWise®; www.BearWise.org

You are probably not surprised that a nicely hollowed out tree, dense thicket, or handy cave might appeal to a bear in search of a winter den. But did you know the big pile of brush in your backyard, the crawl space or storm cellar you forgot to seal up for the winter, or the shed full of gardening tools and supplies can be just as – or even more – appealing?

Bears are curious, resourceful, and very adaptable. So, when their biological clock is telling them it is time to stop hunting for food around the clock and start hunting for a safe, snug place to spend the winter, they are willing to explore all the available alternatives.

Some People-Places Make Great Bear Dens

By late fall, bears are all about conserving energy and keeping as many of those pounds they have been putting on as possible. So, who can blame them for cleverly taking advantage of people-provided spaces, places, and features that offer move-in conditions?

It is not unusual for a bear to den up and even give birth under decks, in crawl spaces, or under bushes and hedges. Equipment you have parked for the winter, stacks of lumber and building materials, and other debris can all offer attractive possibilities. Bears may make themselves at home in vacant buildings, even when they are really garages, storage

sheds, or vacation homes that are only vacant over the winter.

To a bear, these areas can seem like the perfect winter home. They are dark, snug, and often come with at least one built-in wall. Bears do not have collarbones, so even adult bears can fit through what seems like an impossibly small opening – like your average dog door. The general guideline is that if a bear can get its head inside, the rest of the bear can follow. Many homes in bear country offer bears lots of possibilities. So, if you would rather not have bears as house guests, read on.



A black bear in New Hartford is discovered denning under a resident's front porch steps. Once this bear realized he had been discovered, he fled and the homeowner was able to properly close off the area to prevent the bear from returning. Photo credit: Kyle Testerman.

How to Keep Bears from Denning at Your Place

Walk around your home and property and think like a bear. Where would you den up for the winter?

Porches, Decks and Crawl Spaces: Crawl spaces and underneath decks and porches can be very appealing to a bear. But, bears can unin-

tentionally rip out wiring, pull down insulation, and do a lot of damage while making themselves a nice winter "nest". So, make sure your crawl space is closed up tight for the winter, and securely block off any small openings that might attract a bear. As a bonus, you will also keep out other critters looking for winter homes, including raccoons and skunks. If the space under your porch or deck is open or just has decorative lattice, consider installing an electric fence, or wood, brick, or stone barriers. Remember, if bears can wrap their claws around something, they can generally pull it open.

Outbuildings: Check garages, storage sheds, and outbuildings. Now is a good time to remove or safely store anything that might attract a bear, including bird seed, pet food, and livestock feed. Antifreeze smells sweet, but is highly poisonous to people, pets, and wildlife, including bears. Please store your antifreeze securely.

Vacation Homes: Lock all ground floor and bear-accessible windows and doors. Bear-accessible means any windows, doors, or sliding glass doors that bears could reach by climbing up a convenient tree, staircase, or support post that leads to a second-floor deck. Consider installing an electric fence for extra protection. Why push your luck? Bears can easily operate leverstyle door handles, but are stymied by round doorknobs. Extra bonus points: install doors to open out, not in.

Campers and RVs: These vehicles can make attractive winter homes for bears. If you have left windows or doors open even a crack to air them out, bears can easily let themselves in. Thoroughly clean, paying special at-

tention to vents. Remove all food and anything with an odor, and avoid using fruit or vanilla-scented air fresheners. Bears do not know those items are not good to eat. If your RV or camper is parked outside for the winter, consider protecting it with an electric fence, or unwelcome mats.

Nobody wants to discover a bear in the crawl space or under the porch come spring. So, please pass this article along to the neighbors. And, thanks for being BearWise.



Wood lattice (above) is not an effective barrier to exclude bears from crawl spaces and under decks. Bears denning in these places may potentially cause additional damage to wiring and ductwork (below). Photo credit: Kyle Testerman.



The more you know, the more you can do to keep people safe and bears wild.

BearWise®. Created by bear biologists. Supported by State Wildlife Agencies. Dedicated to helping people live responsibly with black bears.

Talking Turtles Understanding perceptions of illegal turtle collection and trade in CT

Article by Abigail R. Dunn and Anita T. Morzillo, University of Connecticut

While exploring Connecticut's many ecosystems, you may have spotted some small and well-loved reptiles – turtles. Connecticut is home to 12 different species of turtles, including four sea turtles. Some species you may see often, such as snapping turtles or painted turtles, whereas others, like the bog turtle, are more elusive or rare.

Nine of the 12 species are on the state's List of Endangered, Threatened and Special Concern Species. The turtles on this list experience many challenges, including habitat destruction, road mortalities, and habitat degradation from pollution and invasive species. However, illegal collection and trade of these species also contribute to population declines. Turtles are especially susceptible to population declines because it often takes five or more years for most turtle species to reach reproductive maturity, and there is a high mortality rate for juvenile turtles. To address the impacts of human-related pressures on turtle populations, it is beneficial to understand people's perceptions of challenges related to the issue, such as illegal turtle collection and trade.

In winter 2022, a small study was completed by University of Connecticut (UConn) researchers and the DEEP Wildlife Division to learn about public awareness of illegal wildlife collection and trade occurring in Connecticut, specifically

related to turtles. The goal was to assist wildlife managers in developing public information and outreach materials to help communicate effectively about challenges to native turtle populations. An online survey was distributed over the span of three weeks through the DEEP Bureau of Natural Resources' social media platforms, known as CT Fish and Wildlife on Facebook and Instagram. Thank you to the dedicated followers of those platforms -- nearly 500 responses were received!

Most of our respondents thought that turtles are interesting and important creatures, and more than 90% of respondents acknowledged turtles were an important part of Connecticut's ecosystems. Seventeen different challenges facing turtles were identified by respondents, and the three most frequently mentioned included (1) habitat loss and development, (2) road mortalities, and (3) poor water quality and pollution. Slightly more than half of respondents (52.7%) knew it was illegal to collect or possess wild species of turtle without a permit. Fewer respondents (39.1%) knew that illegal turtle collection and trade occur within Connecticut. The top three reasons people suspected someone would illegally take a turtle from the wild were (1) to keep as a pet, (2) to sell for profit, and (3) for con-





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sumption. Approximately one third (37.7%) of respondents reported that, before taking the survey, they were aware of DEEP's 24-hour Dispatch phone line used to report suspicious activity related to wildlife. After learning more about the topic, 99% of respondents indicated that they would be willing to report suspicious activities often associated with illegal turtle collection.

Respondents to the survey had good understanding of general challenges facing turtle populations, but less awareness of illegal collection and trade of turtles within Connecticut and the public resources available for reporting suspicious activity. Therefore, an outcome of this survey is that the Wildlife Division gained information about how to tailor messaging and promote available public resources related

to this wildlife issue based on public knowledge.

The DEEP 24-hour Dispatch phone line (860-424-3333) is a public resource, and members of the public are encouraged to call if they observe what they suspect to be illegal turtle collection. Signs of illegal activity include unmarked traps, someone with large number of turtles in a container, or cars near forested areas with people carrying nets, containers, or pillowcases. If you call the DEEP Dispatch phone line about potential illegal wildlife activity, note the exact location, what happened, and who was involved. However, always maintain a safe distance. For more information, visit the DEEP website at https://portal.ct.gov/DEEP-Combat-Illegal-Wildlife-Trade.

Help Combat Illegal Wildlife Trade

Freshwater turtles are some of the most commonly trafficked species in the United States. Many are already threatened by habitat loss and collisions with cars and cannot withstand the additional pressure of illegal collection. You can play an important role in combating the illegal collection and trade of turtles.

What to Look Out For

- People with bags, poking around in wetlands and along streams, or flipping over logs and rocks.
- Cars parked near forested areas with collection equipment (nets, containers, and pillowcases) visible inside.
- Unattended backpacks or bags left in the woods, along a trail, or near roads.
- Sheets of metal or plywood that have been laid on the ground to attract cold-blooded reptiles and amphibians.
- Unmarked traps set in wetlands. Traps for research will be clearly marked. (Note that snapping turtles, 13 inches or larger, may be legally trapped during July 15 and September 30 with a daily limit of 5 turtles and a possession and season limit of 10. A snapping turtle endorsement is required, and eggs and nests cannot be disturbed.)

What to Do If You See Something Suspicious

- Maintain a safe distance and protect yourself.
- Note the exact location, what happened, and who was involved (persons, vehicles, other witnesses).
- If it is safe to do so, take photographs that can corroborate your report -- for example, the license plate of a vehicle or serial number on a turtle trap.
- Do NOT confront suspicious persons or try to stop a crime yourself. Leave that to law enforcement officials.
- Notify DEEP Dispatch or the U.S. Fish and Wildlife Service (USFWS) as soon as possible.

Save these Numbers!

- USFWS anonymous tip line: 1-844-FWS-TIPS (397-8477) or email FWS TIPS@fws.gov
- CT DEEP Dispatch Emergency: 860-424-3333 or TIP Turn in Poachers Hotline: 1-800-842-HELP (4357)



Whip-poor-will Woods Forest Legacy Project

Awarded for Excellence in Conservation

Article by Dan Peracchio, DEEP Forestry Division

On September 1, 2022, the Whip-poor-will Woods Forest Legacy Project (WPWW) in Stafford received the 2022 Excellence in Conservation Organization Award for Outstanding Project from the Connecticut Land Conservation Council. The WPWW project is a landscape scale conservation effort that permanently protected 1,495 acres on seven tracts owned by six landowners through the Forest Legacy Program.

The Forest Legacy Program is a USDA Forest Service program that works with state and private partners to conserve important forestlands across the United States and its territories. This project used more than \$2.8 million dollars in funding from the USDA Forest Service Forest Legacy



Whip-poor-will Woods Forest Legacy Project landowners receiving an award from the Connecticut Land Conservation Council for Outstanding Project. Photo by Yaw Darko.

Program to complete the conservation easements, while the landowners provided more than \$875,000 in match through

bargain sales of the conservation easements.

WPWW abuts approximately 13,000 acres of protected

open space and contributes to Connecticut's target of protecting 21% of the state's land area as open space by 2023. This project furthers one of the main goals of the Governor's Council on Climate Change (GC3), the Policy on Resilient Forests For Connecticut's Future (PRFCT Future), and Connecticut's 2020 Forest Action Plan to keep forest as forest and minimize forest loss across the state.

These permanently conserved forests will make these areas more resilient to climate change, sequester and store carbon, provide clean drinking water and wildlife habitat, and



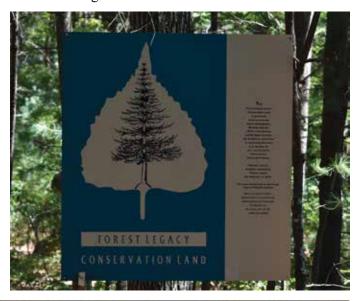
A fall view of a wetland on Whip-poor-will Woods Forest Legacy Tract 5. Photo by Dan Peracchio, CT DEEP.

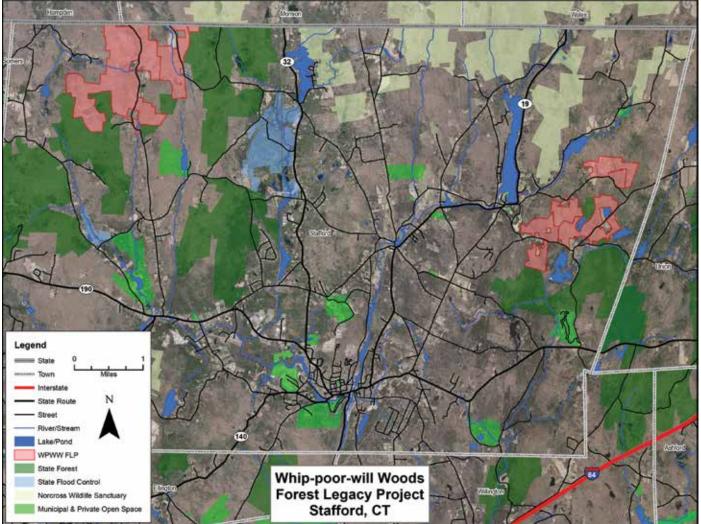
supply forest products, including maple syrup. These benefits are shared not just among the landowners, but throughout the town of Stafford and the larger region.

Many of the WPWW landowners have been working for years to conserve these properties (20 years in some cases), and thanks to their dedication, passion, and patience, Connecticut has protected a valuable resource in perpetuity. Without these landowners' commitment to land conservation, this project would not exist, and future generations would be worse off.

With the passage of the Great American Outdoors Act in 2020 that permanently authorized and fully funded the Land and Water Conservation Fund, which funds the Forest Legacy Program, and the recent passage of the Inflation Reduction Act, which provides \$700 million dollars in additional Forest Legacy funding, hopefully the Forest Legacy Program will be able to fund amazing projects like this in Connecticut and across the country for years to come. Nearly 10,000 acres in Connecticut have been protected through the Forest

Legacy Program since the late 1990s, and we will continue trying to conserve more of these important landscapes to benefit future generations.





This map shows the properties that are part of the Whip-poor-will Woods Forest Legacy Project (shaded in red) and other nearby state and municipal open space properties. Map prepared by Dan Peracchio, CT DEEP. (Top photo) The Forest Legacy Program sign on Whip-poor-will Woods Forest Legacy Tract 4. Photo by Yaw Darko.

Using Fire to Enhance Habitat A look back at 2022 prescribed burns

Article by Paul Benjunas, DEEP Wildlife Division

Earlier this spring, DEEP staff conducted prescribed burns at Machimoodus State Park in East Haddam, Suffield Wildlife Management Area (WMA) in Suffield, and Matianuck Natural Area Preserve in Windsor. This collaborative effort, led by the DEEP Forestry Division with assistance by other fire-trained personnel in DEEP's Wildlife, State Parks, and Support Services Divisions, helps maintain a diversity of ecosystems within our state. A prescribed (controlled) burn is an important management practice that can promote the growth of native warm season grasses, suppress aboveground vegetative growth (including invasive species), return important nutrients to the soil, and ultimately help improve wildlife habitat for a variety of species that depends on grasslands and shrublands.

Historically, fire had a profound impact on Connecticut's landscape. Periodic naturally-occurring wildfires were once essential to sustaining eastern grasslands, oak savannas, much of the oak forest, and pitch pine/scrub oak forests. The elimination of fire in recent times has led to instability in these ecosystems.

Naturally occurring fire was not the only cause for the creation of grassland habitats. Indigenous People purposely created extensive grasslands in southern New England by setting frequent fires. The Native Peoples also used fire in abandoned agricultural fields to provide habitat for game animals. Today, prescribed burns are planned for specific locations, at a specific time, and must meet proper environmental conditions before occurring.



A DEEP Forester uses a drip torch to initiate the prescribed burn at Suffield Wildlife Management Area, in Suffield. Prescribed fire is an effective management tool to maintain and enhance grassland habitat, benefitting a host of wildlife species. Photo by Paul Benjunas, CT DEEP.



Encompassing roughly 117 acres, the prescribed burn at Suffield Wildlife Management Area was the largest of the three burns that occurred in 2022. The photo on the left was taken immediately after the burn took place, and the photo on the right was taken three months later. Prescribed fire helps suppress woody vegetation and allows native wildflowers to flourish.

Machimoodus State Park

One of the goals of the prescribed burn at Machimoodus State Park was to not only promote the growth of native warm season grasses but also suppress above-ground vegetative growth, including invasive multiflora rose and Asiatic bittersweet. The park is noteworthy for its 300 acres of uplands, woodlands, meadows, river and cove waterfronts, hiking trails, bird watching, and scenic vistas.

Suffield Wildlife Management Area

The primary objective of the Suffield WMA burn was to sustain and enhance grassland habitat for a variety of grassland bird species, including the eastern meadowlark, upland sandpiper, and grasshopper sparrow. The results of the burn not only benefit birds but pollinators as well. Many of the wildflowers that quickly grew back included black-eyed Susan, bee balm (monarda), yarrow, white meadowsweet, and daisy fleabane.

Matianuck Natural Area Preserve

The grassy sand dunes of Matianuck Natural Area Preserve are some of the last remaining sand plain habitat in Connecticut, and the use of prescribed fire is an effective way to sustain and enhance the habitat for a variety of species. Several months after the burn took place, the area was teeming with native warm season grasses and other native plants, including several species of milkweed, which are important to monarch butterflies.



The prescribed burn at Matianuck Natural Area Preserve in Windsor encompassed 1.5 acres and will help sustain this rare sand plain habitat. Photo by Paul Benjunas, CT DEEP.



In less than three months after the prescribed burn took place, Matianuck Natural Area Preserve was teeming with native warm season grasses. Photo by Paul Benjunas, CT DEEP.



Bureau of Natural Resources Welcomes New Chief

Andrew Fisk joined the CT DEEP team as the Chief for the Bureau of Natural Resources in October 2022. Prior to coming to DEEP, he was the Executive Director of the Connecticut River Conservancy since 2011. At the Conservancy, he worked to significantly grow the scope and impact of the watershed organization. The Connecticut River Conservancy has worked in all four watershed states since 1952 to protect and restore the Connecticut River, its tributaries, landscapes, and communities. Andy also worked for the State of Maine in their conservation, marine resources, and environmental protection agencies for 13 years.

"I am honored and excited to be able to help implement the mission of the Bureau of Natural Resources and DEEP for Connecticut residents and visitors. I look forward to working with all of the agency staff and the many dedicated members of the public who are critical partners in our work. Public service is an honor and a privilege. I hope to meet and see many of you outdoors!" – Andy Fisk, Chief, Bureau of Natural Resources

New Freshwater Fishing Regulations

Following is a simple summary of the key changes to the regulations for sport fishing in the inland district. The full version of the regulations is at https://eregulations.ct.gov/eRegsPortal/Search/RMRView/PR2021-038.

Seasons

- Removes the closed season for fishing on all lakes, ponds, rivers, and streams. (Legal access still required, for example if a park is closed to all activity then fishing is not allowed).
- Establishes a statewide "Catch and Release" season for trout and kokanee salmon from March 1 to 6:00 a.m. on the second Saturday of April (Opening Day of harvest).
- Extends the season on Trout Management Lakes from March 31 to 6:00 a.m. on the second Saturday of April (Opening Day of harvest). (Previously the season was March 1 to March 31, then closed to fishing).
- Retains thermal refuge closures to protect trout seeking refuge in cold-water tributaries as indicated by signs posted by CT DEEP.

Species

• Revises the statewide daily creel limit for trout and kokanee to be 5 trout daily AND 5 kokanee daily (previously 5 of either, 8 in aggregate).

Waterbodies

• Establishes the following special trout regulations on East Twin Lake and Lake Wononskopomuc: During the period from 6:00 a.m. on the second Saturday in April through the last day of February, the daily creel limit for trout shall be 5, not more than 1 of which may be a brown trout, and the minimum length for brown trout shall be 22 inches. During the period



Andrew Fisk is the new Chief for DEEP's Bureau of Natural Resources, which includes the Wildlife, Fisheries, and Forestry Divisions.

from March 1 through 6:00 a.m. on the second Saturday in April, inclusive, the daily creel limit for trout shall be 1 and the minimum length limit shall be 22 inches.

- Adds Long Pond (North Stonington) and Lake
 Wononskopomuc to the list of Trout Management Lakes.
- Prohibits ice fishing on Factory Pond (Salisbury), Lake Chamberlain (Bethany), Lake Saltonstall (Branford, East Haven), Maltby Lakes (Orange, West Haven), Lake McDonough (New Hartford, Barkhamsted) and Shenipsit Lake (Ellington, Tolland, Vernon).

Gear

• Establishes a limit of 2 devices per person when ice fishing on East Twin Lake or Lake Wononskopomuc. This may be 2 tip ups, 2 jigging rods, or one of each.

Definitions

- Establishes a definition for Cast Net, Inline Circle Hook, and Culling.
- Revises the definition of Closed Season to conform with the definition provided in state statute.



Steve Rosa of the WHAMM Program Honored with Award

At the recent Northeastern Mosquito Control Association (NMCA) annual meeting, Steve Rosa, with the Wildlife Division's Wetland Habitat and Mosquito Management (WHAMM) Program, was presented with the David Scott Memorial Award. Congratulations Steve for your insight, dedication, and hard work!

The David Scott Memorial Award is dedicated to the recognition of the fact that many advancements in mosquito control work come from the rank-and-file...the worker...the field person, as a result of their time spent on the job, their experience, and common sense. The award may acknowledge an improvement in a procedure, a practice, any of the many operational strategies performed in mosquito control on a day-to-day basis.

Criteria worthy of nomination may include, but are not limited to:

- Improvement of a water management strategy.
- Development of a tool or mechanical device that improves existing equipment.
- Excellence in field surveillance or resolution to a chronic mosquito population problem.
- Noteworthy leadership as a mosquito control employee or Association member.
- Resolution of a mosquito control issue that would ordinarily be considered above and beyond the responsibility or credentials of the worker who resolved the issue.



Steve Rosa (left), with DEEP's WHAMM Program, receives the David Scott Memorial Award from Northeastern Mosquito Control Association President Dave Lawson. Photo courtesy of Roger Wolfe, CT DEEP.

Bats Count! Bat Cam

The DEEP Wildlife Division and White Memorial Conservation Center in Litchfield have cooperatively established a "Bat Cam" in a barn at White Memorial where female big brown bats give birth to and raise their young every year. The Bat Cam, which was installed in May 2023, provides a sneak peek into the amazing life of bats without disturbing them. Join us throughout the year as we share videos, images, updates, and data from this long-established maternity colony and also celebrate bats through several public events focused on bats and the Bat Cam. More information is at https://portal.ct.gov/DEEP/Wildlife/Bats-Count. You can also view a livestream from the four cameras at https://portal.ct.gov/DEEP/Wildlife/Live-Bats-Count-Bat-Cam and help us collect data as we watch the bats.

A ribbon cutting ceremony for the Bat Cam was held recently at White Memorial. Attendees had the opportunity to participate in fun activities and listen to presentations, but the hightlight was being able to watch the bats fly from the barn at dusk as they embarked on their nightly feeding frenzy.

The Bats Count! Bat Cam is partially funded by the Connecticut Endangered Species/Wildlife Income Tax Check-off Fund.



The Bat Cam allows biologists to monitor an active big brown bat maternity colony, while also providing the opportunity for students and others to follow along and learn about this amazing species.



New Online Submission Process for Natural Diversity Data Base Reviews

Requests for DEEP Natural Diversity Data Base (NDDB) reviews can now be submitted online, via DEEP's ezFile website. This new process enables many routine inquiries to be answered quickly and automatically, as well as improves the ability to obtain information for management and conservation plans.

DEEP's Natural Diversity Data Base program performs hundreds of environmental reviews each year to determine the impact of proposed development projects on statelisted species and help landowners conserve the state's biodiversity. State agencies are required to ensure that any activity authorized, funded, or performed by a state agency does not threaten the continued existence of endangered or threatened species. Other applicants for certain state and local permits



The wood turtle is a species of special concern in Connecticut. If you come across one of these turtles while in the outdoors, submit a Vertebrate Animal Survey Form to DEEP's Natural Diversity Data Base to record your find. Photo by Paul Benjunas, CT DEEP.

may also be required to consult with the NDDB as part of the permit process. The NDDB Request for Review process is designed to assist in complying with the Connecticut Endangered Species Act but is not a substitute for actual on-site surveys that may be required for environmental impact assessment. DEEP biologists will provide recommendations for avoiding impacts to state-listed species. More information can be found on the DEEP website at https://portal.ct.gov/DEEP-NDDB-Review-Requests.

You can help Connecticut's wildlife by submitting observations of state-listed plants, animals, and invertebrates that you may come across while outdoors. Learn how you can contribute data to the NDDB at https://portal.ct.gov/DEEP/NDDB/Contribute-Data-to-the-NDDB.

Northern Long-eared Bat Reclassified as Endangered

The U.S. Fish and Wildlife Service has reclassified the northern long-eared bat as endangered under the federal Endangered Species Act. The bat, listed as federally threatened in 2015, now faces extinction due to the rangewide impacts of white-nose syndrome (WNS), a deadly disease affecting hibernating bats across North America.

The northern long-eared bat was once very common in Connecticut, but in less than a decade, population levels dropped by over 95% in our state due to the effects from WNS. Due to this severe population decline, the bat has already been listed as endangered under the Connecticut Endangered Species Act, and the DEEP Wildlife Division will continue efforts to protect this species, such as installing cage gates at places where the bats hibernate, protecting summer maternity roosts, and monitoring population trends statewide.



A northern long-eared bat shows symptoms typical of white-nose syndrome. Photo courtesy of the U.S. Fish and Wildlife Service.

DEEP Unveils Fresh, Modern Look

The Connecticut Department of Energy and Environmental Protection (DEEP) recently unveiled its new agency seal, marking another exciting milestone in the growth and evolution of DEEP.

Designed with versatility in mind, the elements and composition of the new, modern brand—created in-house by the DEEP Communications team—will allow DEEP to expand communications cleanly and effectively into spaces that were not common a decade ago and position the agency to enter new channels and outreach initiatives with a bright, fresh, and energetic take on state government communications.

DEEP's previous seal was created over a decade ago when the State's energy programs and the Connecticut Department of Environmental Protection were merged. To minimize cost and waste, the agency will not be undertaking a broad replacement of items with the previous DEEP seal. Most immediately, we will shift over to the new seal on digital assets and other materials where the cost of transitioning is minimal, and then phase the new seal in on physical or printed materials over time as materials are retired or replaced.

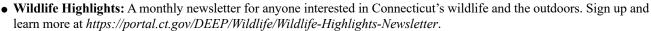


Reflective of DEEP's mission, with elements including sun, land, and water, the refreshed brand not only carries over recognition and equity from its predecessor, it does so in harmony, and with energy and vibrance. This combination lies at the heart of DEEP's day-to-day work between the three branches of the agency: Environmental Conservation, Environmental Quality, and Energy.

Subscribe to Our Free Online Newsletters

The CT DEEP Bureau of Natural Resources publishes three electronic newsletters, in addition to *Connecticut Wildlife* magazine. These newsletters are free and sent to your email address on a regular basis, providing important news and information related to wildlife, fishing, hunting, and the outdoors. You must sign up through the DEEP website, but you cancel at any time.

- **CT Fishin' Tips:** A monthly newsletter with information, pointers and tips, and news from DEEP's fisheries programs. Sign up and learn more at https://portal.gov/DEEP/Eiching/Control.
 - ${\it ct.gov/DEEP/Fishing/General-Information/CT-Fishin-Tips.}$



• **Hunter Highlights:** This quarterly electronic newsletter provides information on hunting, trapping, and the outdoors in Connecticut. Sign up and learn more at https://portal.ct.gov/DEEP/Hunting/Hunter-Highlights-Newsletter.



Conservation Calendar

2023 Hunting and Trapping and Fishing Guides

Consult the 2023 Connecticut Hunting and Trapping Guide, 2023-2024 Migratory Bird Hunting Guide, and the 2023 Connecticut Fishing Guide for specific season dates and details. Hunting guides are available in limited quantities at town halls and license vendors. The Migratory Bird Hunting Guide will be available in summer 2023. All guides can be downloaded and found on the DEEP website at https://portal.ct.gov/DEEP-CT-Outdoor-Guides. Go to https://portal.ct.gov/CTOutdoorLicenses to purchase Connecticut hunting, trapping, and fishing licenses, as well as required permits and stamps. The system accepts payment by VISA or MasterCard.



PERIODICALS POSTAGE PAID AT BURLINGTON, CT, AND ADDITIONAL OFFICES

Connecticut Department of Energy and Environmental Protection Bureau of Natural Resources / Wildlife Division Sessions Woods Wildlife Management Area P.O. Box 1550 Burlington, CT 06013-1550



Sherwood Island State Park in Westport and similar protected coastal areas support a diversity of native plants that benefits monarch butterflies and scores of other insect species, including this common buckeye. Photo courtesy of Kyle Testerman.