

September/October 2018

CONNECTICUT Wildlife



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Wild Thoughts



An Enthusiastic Crowd Discovered Outdoor Connecticut!

The DEEP Bureau of Natural Resources' (BNR) traditional "Hunting and Fishing Day" was expanded and renamed **Discover Outdoor Connecticut** in 2018 to include a wider variety of outdoor enthusiasts. Joining in this year's celebration in September were the DEEP's Bureau of Air Management; Bureau of Outdoor Recreation State Parks and Public Outreach, Boating, and Environmental Conservation Police Divisions; BNR's Wildlife, Fisheries, and Forestry Divisions; and more than 25 other groups, such as hunting and fishing clubs, environmental education centers, and conservation organizations. The ultimate goal was to expose youths and adults to a variety of outdoor-related activities and raise awareness about resource conservation and preservation. By introducing residents to our state's diverse natural areas and the fish and wildlife that live within, it is hoped they develop an appreciation, a sense of stewardship, and an interest in becoming involved. Time spent outdoors benefits both our physical and mental health, and connecting people with nature is of tremendous importance.

Connecting with the outdoors cannot be accomplished virtually through a smart phone or tablet. Nothing can replace a first-hand outdoor experience, such as harvesting one's own food for the table, spending the day on the water in canoe or kayak, or hiking through the woods with a camera or binoculars. These opportunities not only increase awareness of our agency's role in managing wildlife and habitats, they also help build an understanding of the value and importance of fish, wildlife, and our natural resources as a whole. One way that value can be captured and appreciated is through the lens of a camera. This year was the first time we held a photo contest in which we received over 330 entries (see page 16 to learn more).

Events like **Discover Outdoor Connecticut** would not be possible without the tremendous support of various sportsmen and conservation groups. These groups have been long-time participants bringing their support, knowledge, and expertise. Local chapters of the National Wild Turkey Federation, Rocky Mountain Elk Foundation, and Trout Unlimited also supported the event, along with national retailers, such as Cabela's, Bass Pro Shops, L.L. Bean, and Home Depot. They not only brought volunteers with additional skills and knowledge, but also provided generous donations for door prizes that contributed to the enjoyment of those who attended. All of the shooting and archery activities were supported by the volunteer instructors with our Conservation Education/Firearms Safety Program. DEEP staff and volunteers with expertise in fisheries, wildlife, trapping, forestry, boating safety, outdoor education, and working with a variety of dogs, all played a critical role in sharing their knowledge about our environment.

The 1,000 plus attendees got to sample venison and turkey donated by our staff that was prepared by Adolf's Meats and Butcher Shop of Hartford; had close-up views of Aurora the bald eagle and many other species of birds; learned about harvesting trees, milling logs, marsh management equipment, bees and other insects, fly tying and casting, and turkey and moose calling; and had the opportunity to try kayaking and a wide variety of kids activities.

A special thank you goes out to all the staff and volunteers who are too many to name here but know who they are.

Andrew LaBonte, Coordinator of *Discover Outdoor Connecticut* and Deer Program Biologist for the Wildlife Division

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Cover:

The DEEP Wildlife Division records approximately 150 beaver conflicts annually. Division staff routinely works to provide comprehensive beaver damage control assistance, including problem beaver trapping and population management guidance (see page 14 for more).

Photo courtesy of Paul Fusco

Controlling Invasive Phragmites in Connecticut's Wetlands

Written by Roger Wolfe, DEEP Wildlife Division

Common reed, or Phragmites (*Phragmites australis* subsp. *australis*), is a marsh plant with worldwide distribution that has invaded thousands of acres of wetlands in Connecticut. Although there are small populations of a native strain (*P. a.* subsp. *americanus*) around the state, an exotic, invasive form dominates much of our coastal and inland wetlands. The DEEP Wildlife Division's Wetlands Habitat and Mosquito Management (WHAMM) Program has been the lead agency managing Phragmites throughout the state since 1997.

Native Phragmites

The subspecies *Phragmites australis* spp. *americanus* is native to North America and its range extends throughout Canada and the United States, except for the Southeast where a Gulf Coast subspecies fills that niche. The native and non-native forms are genetically distinct and do not hybridize. In Connecticut, much of the historic *Phragmites* is controlled to reduce the extent of monotypic stands in brackish and freshwater wetlands.



New shoots form at each node along Phragmites rhizomes.

coverage of native Phragmites has been taken over by the non-native form, but stands of native Phragmites can still be found along the lower Connecticut River and in other wetlands. The native form does not grow in the dense, monotypic stands characteristic of the non-native, invasive form, but is often found interspersed with other wetland plants, such as wild rice, big cordgrass, narrow leaf cattail, and rose mallow.

Unless you have them side by side, it is difficult to differentiate the two species. DNA analysis is the most reliable method of telling them apart; however, some morphological differences can be used. Variances in leaf color,

stem color, leaf sheath attachment, and flower or plume can help identify the species of Phragmites. These differences can be subtle and subjective, so no one characteristic should be used to determine identification. Field guides and reports can be referenced to distinguish the two species; however, a taxonomic expert should be contacted to confirm identification.

Ecology of Phragmites

Phragmites is a perennial grass that grows 6 to 15 feet (2 to 5 meters) tall in tidal and non-tidal freshwater and brackish wetlands. The native form of Phragmites may have had a minor presence in Connecticut's tidal marshes



Phragmites forms dense, monotypic stands.

as early as 3,000 years ago. The native form grows sparsely as a stable component of wetland communities. The invasive form was introduced to North America during the late eighteenth and early nineteenth centuries in ships' ballast. It is genetically different from our native plant and, while commonly found in Europe, is believed to have originated in the Middle East. In the last 50 to 100 years, the non-native form of Phragmites has begun spreading at rates as high as one to three percent per year in areas such as the lower Connecticut River. Scientists, environmental managers, and conservationists are increasingly concerned about the potential threat the spread of Phragmites poses to wetlands throughout Connecticut.

Phragmites is intolerant of soil salinities greater than 18 parts per thousand (ppt) and is, therefore, not typically found in true salt marshes, unless the salinity regime has been altered through impounding or some other means of restricting tidal saltwater flow. Phragmites is most abundant in brackish and tidal freshwater marshes. Other factors that may contribute to the spread of Phragmites include increasing nutri-

ent concentrations and disturbances, such as excavation and sedimentation.

Non-native, invasive Phragmites forms dense, monotypic colonies or clones that spread mainly through thick underground rhizomes and airborne seeds. New shoots form at the nodes along the rhizomes. The plant is also adept at colonizing disturbed soils and along highways where seeds can be

blown from great distances. In nutrient rich areas, such as tidal marshes, this simple and rapid method of spread allows Phragmites to out-compete native plants for space, nutrients, and sunlight. Studies have shown that following the formation of Phragmites monocultures, plant diversity is greatly reduced and the overall ecological function of tidal wetlands is ultimately diminished. The density and slow rate of decomposition of dead Phragmites stems create hazardous conditions in the winter. This is due to the fact that they provide an ample supply of combustible material, creating a serious fire hazard, particularly in urban and suburban areas.

Dense stands of Phragmites form nearly impenetrable barriers to the movement of mammals and large birds, such as waterfowl, shorebirds, and wading birds. Established stands can build up a thick duff layer, actually raising the marsh elevation and eliminating open water areas, resulting in further degradation of habitat. This loss of habitat impacts the diversity of birds in a marsh. Birds, such as seaside sparrow (state threatened species) and saltmarsh sparrow (state species of special concern), as well as willets and American bitterns, are less abundant in



Phragmites will grow up to 20 feet tall.

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Phragmites marshes. Although a few wildlife species, such as the Virginia rail, red-winged blackbird, white-tailed deer, and muskrat, often take advantage of the cover provided by Phragmites, most birds and mammals avoid it. As a potential food source, Phragmites has little nutritional value compared to native wetland plants.

Control Methods

While complete eradication of Phragmites from a wetland may be attainable on a small, local scale, it is very difficult to achieve at the landscape level. In fact, by providing some structure and helping prevent shoreline erosion, its limited presence may con-

tribute to the overall habitat diversity of tidal wetlands. Therefore, on a statewide level, the objective of Phragmites control is not to eradicate the species, but rather to reduce the extent of monotypic stands found in brackish and freshwater wetlands. Two methods are commonly used by habitat managers to control Phragmites.

Restoring Tidal Salt Water Flows

The Connecticut's WHAMM Program uses tidal flow restoration as a method for restoring degraded tidal wetlands. Many of Connecticut's tidal creeks and rivers have suffered restricted estuarine flows from the installation of undersized culverts and flood control structures. Where feasible, reintroduction of salt water results in a gradual decline of Phragmites and replacement by native vegetation. This can be accomplished by the outright removal of obstructions, such as berms, culverts, and tide gates (which is seldom possible in urban or suburban settings); replacing undersized culverts with larger pipes; or, if upstream flooding is a concern, by manipulating tide gates and weirs to allow increased, but limited, tidal flow. While effective, it may take 10 to 20 years before these methods yield the desired results.

Enhanced hydrology and salinity will gradually reduce the size and density of Phragmites and allow native vegetation to recolonize. Planting of native vegetation is usually not necessary because of abundant natural seed sources. Since 1980, this technique of restoring tidal flow has been used in over 1,500 acres along Connecticut's coastline.

Herbicide Application and Mowing

Aquatic herbicides can be used safely and effectively to control dense stands of Phragmites. An aquatic surfactant (sticking agent) is typically mixed with the herbicide prior to its application to increase contact time with the plant. Application of herbicides is done at

R. WOLFE (2)



A systematic herbicide is used to kill Phragmites all the way down to the roots.



Self-regulating tide gates (SRTs) increase tidal flow without causing upstream flooding.

recommended label rates and occurs during the mid-summer and fall until the first frost. To apply herbicides in wetlands, an aquatic permit must first be obtained from the DEEP Pesticide Division and the application must be made by a licensed applicator. A month or more after the herbicide application, the dead stems can be mowed with hand-held trimmers or low ground pressure equipment. This encourages faster decomposition of the dead stems and allows sunlight to penetrate the marsh surface for native seed germination. This method of ground spraying and mowing is generally conducted for three successive years and has been found to be very effective in controlling Phragmites. Annual monitoring and retreatment of the site may be needed to prevent Phragmites from becoming reestablished beyond a tolerable level.



R. WOLFE

The amphibious Marsh Master is used to access soft marshes to apply herbicides to stands of Phragmites.



R. WOLFE

Dead Phragmites stems are mowed with an amphibious Marsh Master and deck mower.

Connecticut's Crayfish: *Surprisingly Diverse*

Written by Mike Beauchene, DEEP Fisheries Division; Photos by Robert Jacobs, DEEP Fisheries Division (Retired)

Over many years of collecting benthic macroinvertebrates to assess water quality in Connecticut, DEEP staff and citizen scientists routinely encountered crayfish. Because these gigantic macroinvertebrates (as compared to mayfly, stonefly, and caddisfly nymphs) are often classified as pollution tolerant and ubiquitous, they were written off as providing little value to assess water quality. Their presence was noted on data sheets as “crayfish” and efforts moved to more in-depth focus of the information-rich insect community. However, collaboration with the Fisheries Division on a project to collect baseline information on Connecticut’s crayfish species revealed that the generic “crayfish” were actually somewhat diverse, each with its own story to be told.

Crayfish are one of Connecticut’s most recognizable freshwater inverte-

brates and are found in almost every body of water across the state. DEEP recently published an interactive map, *An Atlas of the Crayfish of Connecticut*, which is largely comprised of crayfish occurrence data collected by the DEEP Fisheries Division and the Bureau of Water Protection and Land Reuse’s Water Quality Monitoring Program. The Atlas can be found on the DEEP website at www.ct.gov/deep/crayfishatlas.

This article details some of the more common crayfish found in Connecticut’s waters. Crayfish, also known as mudbugs, crawfish, or crawdads, are aquatic invertebrates (animals without a backbone) and are closely related to other 10-footed (Decapod) crustaceans, including shrimp, crabs, and lobsters. The epicenter for crayfish species diversity is in the southeastern United States, which has hundreds of species. In Connecticut, we have documented a

total of nine species within three genera: *Cambarus*, *Faxonius* (formerly *Orconectes*), and *Procambarus*. The majority of our nine species have been introduced (unknown when or how). Crayfish are usually herbivores or omnivores, have a relatively short lifespan (up to 4 to 5 years), and are an important food source for many fish, reptiles, amphibians, mammals, and birds.

Anglers are aware that crayfish are a favorite food of many fish and, therefore, often use them as bait. Current Connecticut fishing regulations allow crayfish (except for the rusty crayfish) to be used as bait. To prevent the spread of crayfish to waters outside of their current distribution, as well as inadvertent ecological disruption, crayfish should only be used for bait in the water they were obtained and not transported to other waterbodies.



While the majority of crayfish species currently established in Connecticut are introduced, only the rusty crayfish (above) is considered invasive.

Crayfish can reach impressive sizes and have large claws. These characteristics have earned them the nickname “freshwater lobster”. In fact, crayfish are edible and can be steamed (right) or used as a key ingredient for etoufee and jambalaya.



Current Connecticut fishing regulations allow the use of crayfish (except for the rusty crayfish) as bait. To prevent the spread of crayfish to waters outside of their current distribution and inadvertent ecological disruption, crayfish should only be used for bait in the water they were obtained and not transported to other waterbodies.

More Common Crayfish of Connecticut

Big River Crayfish (*Cambarus robustus*): This introduced species is very common in many of our small brooks to medium-sized rivers. It has a crisp-looking appearance, uniformly brown/gray color, and thick claws. Small-sized big river crayfish can be confused with a much less common, but native species, the Appalachian brook crayfish (*Cambarus bartonii*).

Rusty Crayfish (*Faxonius rusticus*; formerly *Orconectes rusticus*): This introduced and invasive species has a telltale “red/orange fingerprint” on each side of the back part of the body (carapace) just before the start of the tail. Rusty crayfish tend to be more aggressive and will outcompete other crayfish for food and space. Females also tend to have larger numbers of eggs, meaning the population can grow more quickly than other species.

Spiny-Cheek Crayfish (*Faxonius limosus*, formerly *Orconectes limosus*): This is one of our few native species. It is named for a patch of 8 to 15 forward-facing small stout spines on the “cheek” or front part of the body (carapace), just below the eyes. Spiny-cheek crayfish are found in all types of aquatic habitats across Connecticut.

Virile Crayfish (*Faxonius virilis*, formerly *Orconectes virilis*): This introduced species is one of the larger crayfish found in Connecticut. It can have very large, blue-colored claws



White River Crayfish

with yellow bumps. The virile crayfish appears to prefer medium to large rivers with low to moderate gradients found in lower elevations of the state.

White River Crayfish (*Procambarus acutus*) Another native to Connecticut, this crayfish is found along the coastal plain from Maine to Georgia. Unlike the previously mentioned species of crayfish, the white river crayfish has long and slender claws, which are much different from other species of crayfish in Connecticut. It can grow very large. The color can vary from brown to gray in smaller-sized specimens to brilliant red in the larger specimens. The white river crayfish is more commonly found than a close relative, the introduced red swamp crayfish (*Procambarus clarkii*).

More Information Needed

There is a small volume of high-quality research related to the crayfish of Connecticut and much remains to be learned and/or refined. The occurrence data used to create the Crayfish Atlas and this article were compiled from rou-

tine fish community samples, benthic invertebrate community samples, and a project put in place to collect crayfish, which was funded by the Connecticut Endangered Species/Wildlife Income Tax Check-off Fund. If you have any questions or would like to contribute to this data set, please contact Mike Beauchene of the DEEP Fisheries Division at mike.beauchene@ct.gov.

Native or Introduced?

Because Connecticut was covered with ice during the last glaciation, the diversity of fish, amphibians, reptiles, and crayfish species is relatively low when compared to non-glaciated regions of North America.

Crayfish are popular as fishing bait, human food, and in home aquariums. As such, many species have been purposefully transported and introduced to waters well outside of their native range. Whenever a species is released into an area outside of its native range, there is concern about negative impact to the native community. Invasive species are those that have been introduced, either accidentally or purposely, to an area outside of their native range and have a negative effect on the native species.

BNR Chief Bill Hyatt Retires

After 36 years with the DEEP, Bureau of Natural Resources Chief Bill Hyatt retired at the end of September 2018. Bill joined DEEP in 1982 as a Senior Fisheries Biologist after receiving a B.S. degree in Ecology and a Master's degree in Fisheries Biology from the University of Connecticut. His career path included serving as a Supervising Fisheries Biologist from 1986-2001, Director of the Inland Fisheries Division from 2001-2008, and Bureau Chief of Natural Resources from 2009 until his retirement.

Along the way, he served on numerous state, regional, and national boards and commissions. These included the Association of Fish and Wildlife Agencies, Northeast Association of Fish and Wildlife Agencies, Connecticut River Atlantic Salmon Commission, Connecticut Invasive Plants Council, American Fisheries Society, Northeast Fisheries Administrators Association, Federal Invasive Species Advisory Council, and Northeast Aquatic Nuisance Species Panel. Bill also found time to serve as a mentor and Associate Advisor to nine graduate students at UCONN in the Department of Natural Resources and Engineering and the Department of Ecology and Evolutionary Biology.

Bill's enthusiasm for the work of natural resource conservation and his abilities as a leader gave him the skills to work collaboratively with his colleagues at DEEP, as well as those from other states, various agencies, and federal partners, for successful conservation outcomes. Some of his best days were spent in the field tagging and measuring wild brook trout, assisting staff in a winter bear den check, and holding an immobilized bobcat as part of a bobcat distribution study.

We wish Bill all the best in his new adventure of retirement!



Bill Hyatt made an effort every year to participate in DEEP's Great Park Pursuit fishing events, and he never missed an opportunity to share his passion for reptiles and amphibians with the families that attended.

M. BEAUCHENE DEEP FISHERIES

Describing Former Natural Resources Bureau Chief Bill Hyatt

Those who worked for or with Bill Hyatt in various capacities over the years were asked to describe Bill in one word during his retirement send-off:

- Laid-back
- Easygoing
- Unflappable
- Transparent
- Dependable
- Dedicated
- Kind
- Smiling
- Thoughtful
- Patient
- A Rock
- Affable
- Caring
- Steady
- Jovial
- Genuine
- Reliable
- Mr. Wonderful!



C. COLLIBEE DEEP COMMUNICATIONS

Kudzu Found in East Haddam

Article and photography by Roger Wolfe, DEEP Wildlife Division

In September, staff from the DEEP Fisheries Division notified the Wildlife Division's Habitat Management Program that a large stand of exotic, invasive kudzu was found growing near the Salmon River in East Haddam. Kudzu (*Pueraria montana* var. *lobata*), also known as Japanese arrowroot, or more colloquially referred to as "the vine that ate the South", is in the pea family. It is native to Asia, but was first introduced to the United States in 1876 at the Philadelphia Centennial Exposition. It was later widely planted throughout the eastern United States for erosion control and livestock feed.

Kudzu is found throughout the Southeast and Midwest, and as far north as Massachusetts. It has also been found in Hawaii and parts of Oregon. Over the past several years, kudzu has been found sporadically in Fairfield and New Haven counties in Connecticut. The recent discovery in September is the first known account of kudzu in Middlesex County.

Kudzu is a climbing, deciduous vine that can grow up to a foot a day and reach lengths of over 100 feet. It spreads primarily through roots and rhizomes. It is unknown whether the pod-like seeds are viable this far north. Well-established kudzu tap roots are large in size, sometimes growing up to 12 feet deep and weighing as much as 400 pounds, making removal difficult. As many as 30 vines may grow from one root crown. This vine grows in sun to partial shade and prefers open, disturbed areas like roadsides, rights-of-way, forest edges, and old fields.

In early October, staff from the Wildlife Division's Habitat Management Program (in cooperation with the Town of East Haddam) safely applied herbicides to nearly an acre of kudzu-infested land near the Leesville Dam. For successful long-term control of this vine, the extensive root system must be destroyed, which could take several years. Any surviving root crowns can lead to reinfestation. Staff from the DEEP Fisheries and Wildlife Divisions will continue to monitor the site. Additional cutting and herbicide applications are expected to occur in an effort to control this exotic, invasive plant.



Wildlife Division biologist Peter Picone holds up a long kudzu stem.



Invasive kudzu will cover an entire area, including trees.

Each node along the kudzu stem can put down new shoots and leaves.

Connecticut's Versatile Duck

The Mallard

Article and photography by Paul Fusco, DEEP Wildlife Division

Once a rare bird in Connecticut, the mallard is now our most common nesting duck. Not only is the mallard common to abundant in the state, but it is abundant over most of the northern hemisphere as well. Many attribute this, in large part, to the high adaptability of the species. Mallards are tolerant of human disturbance and often nest in suburban habitats, unlike most other ducks. They are state-wide breeders and are found in Connecticut at all times of the year and in almost any type of wetland habitat. In winter, mallards will use both freshwater and coastal habitats. Many will also use urban and suburban park habitats.

Description

Male mallards have a glossy green head, white neck-ring, and chestnut chest patch on grayish body plumage. Their legs are orange and the bill is yellow. Females have mottled brown plumage, orange feet, and a patchy orange and dark bill. Both sexes have a blue speculum trimmed in white. The speculum is a brightly-colored patch found on the secondary wing feathers, and is most visible when the duck is in flight.

Nesting takes place sooner than many people believe. By mid-April, most hens are sitting on eggs. Eight to 12 eggs are laid in a dry ground nest that is made with grasses, leaves, and small twigs. The hen will also pluck downy breast feathers to line the nest and cover the eggs while she incubates. She may also pull nearby tall grass stems over herself and the nest to help with concealment. Incubation of the eggs lasts about 28 days and young reach fledging age at about eight weeks. Peak hatching occurs in the last 10 days of May.

History

Mallards have an interesting history in Connecticut. In the 1800s, they were a species of the North American Midwest and were considered rare migrants in Connecticut. By the mid-1900s, the population began to expand eastward following large-scale releases across the eastern United States. The adaptability of the mallard quickly resulted in the species becoming well established across the continent.

In Connecticut, the first mallard propagation program began in Madison in 1915. In 1922, a 4,000-acre plot of land with ponds and lake frontage was leased as the Litchfield-Morris Sanctuary with the goal of rearing and releasing both mallards and wood ducks. By 1955, over 21,000 mallards had been raised and liberated in Connecticut.

In 1955, the Wildlife Division's Franklin Swamp Wildlife Management Area facility in North Franklin was chosen

as the site for the state's growing mallard project. This rearing and release program peaked from the mid-1950s to the mid-1960s, resulting in the establishment and expansion of a mallard breeding population in wild habitats across the state.

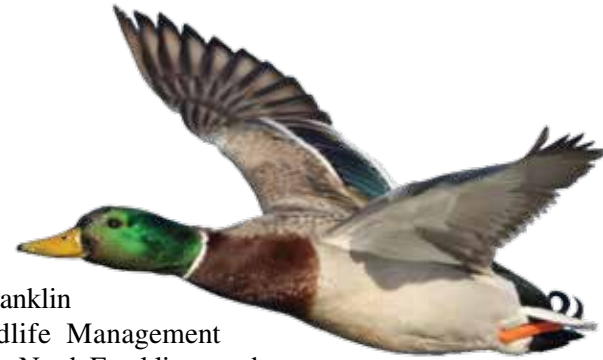
Concerns have since developed about dramatic declines in the number of American black ducks in eastern North America. The decline of the less adaptable black duck can, at least, be partly attributed to the expansion of the mallard. Over time, mallards readily adapted to new areas as the population grew. Even wooded swamps and tidal marshes that were used almost exclusively by black ducks became new haunts for the mallard. Mallards have also interbred with black ducks on a widespread basis, reducing the genetic purity of black duck populations in our region. The success of the mallard seems to have come at the expense of the American black duck in our area of the country.

Mallards are considered invasive in some parts of the world, including portions of the South Pacific, South Africa, and Florida where there are concerns about interbreeding with less common native waterfowl. The ability of mallards to hybridize with other duck species has caused concerns in many parts of the mallard's range. American black ducks are not the only species being affected. Some of the other less common ducks whose populations are being impacted by hybridization with mallards include:

- Grey duck - South Pacific
- Mottled duck - Florida and Gulf Coast
- Hawaiian duck
- Yellow-billed duck - Eastern and South Africa
- Meller's duck - Madagascar
- Mexican duck
- Spot-billed duck - Eastern China
- Laysan duck - Laysan Island

Conservation

The DEEP Wildlife Division conducts midwinter and breeding waterfowl surveys every year to collect population data for numerous waterfowl species, including mallards. This information helps determine long-term popula-





Mallards are one of our most abundant and adaptable types of waterfowl.

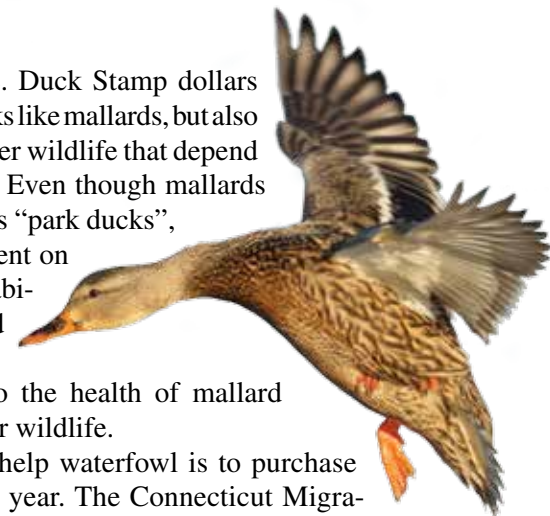
tion trends, as well as estimates used to set hunting season lengths and limits. Mallard populations in eastern North America have declined by approximately 25% since 1998. Even more alarming is the fact that mallards breeding from Virginia to Maine have declined 36% over the same time period. Harvest numbers from Connecticut show that 17,300 mallards were harvested in 1999 while 4,900 were taken in 2017. Many factors, including lower hunter numbers, can be attributed to this decline.

As a result of the population decline, the mallard bag limit in the Atlantic Flyway will be reduced starting in the 2019-2020 hunting season. Mallards are one of our most important game birds as they provide recreational hunting opportunities for many waterfowl hunters in our state. While harvest numbers have declined over the past 20 years, other opportunities for hunters abound.

All waterfowl hunters are required to purchase a Connecticut Migratory Bird Conservation Stamp (Duck Stamp). The money generated by the Duck Stamp program is used for wildlife and habitat conservation. These funds have been used for restoring and enhancing wetland habitat at over 50

sites across the state. Duck Stamp dollars work not only for ducks like mallards, but also for a multitude of other wildlife that depend on healthy wetlands. Even though mallards are known to many as “park ducks”, they are also dependent on a variety of wilder habitats. Conservation and protection of those habitats is critical to the health of mallard populations and other wildlife.

The best way to help waterfowl is to purchase a Duck Stamp every year. The Connecticut Migratory Bird Conservation Stamp can be purchased for \$17 wherever hunting and fishing licenses are sold: participating town clerks and retail agents, DEEP License and Revenue (79 Elm Street, Hartford), and through the online Sportsmen’s Licensing System (www.ct.gov/deep/sportsmenlicensing). Upon request, stamps can be sent through the mail.



Furbearer Management Relies on Trapping

Written by Chris Vann and Anna Toledo, DEEP Wildlife Division

The beaver is recognized as one of North America's most important wildlife species. It is renowned for its unique ability to dam watercourses, creating sizeable wetland habitats and giving rise to an extensive diversity of associated plant and animal species. Beavers also are a valuable natural resource harvested under strict trapping regulations by licensed fur trappers. Their valuable pelts and oils are used by furriers and perfume and wildlife scent industries.

Unfortunately, in densely populated Connecticut, beavers also frequently come into conflict with landowners. Damages caused by beaver activity can be extensive, sometimes causing hun-

dreds of thousands of economic impact annually. Damages include 1) damming and flooding of roads, railways, and utility and waste water treatment lines; 2) flooding of yards, wells, septic systems, and basements; 3) flooding of agricultural lands, parks, forests, and critical habitats; 4) plugging of flood control structures, private dams, and water control structures; and 5) substantial tree damage resulting in tree fall risks to buildings, roads, and trails.

Connecticut's beaver management program is based on a regulated trapping season. Over the last decade, annual harvests averaged approximately 800 beavers. Of significance, trapper surveys indicate that over 50% of har-

vested beavers were causing conflicts with landowners.

The DEEP Wildlife Division receives approximately 150 reports of beaver conflicts annually. Division staff routinely provides comprehensive beaver damage control assistance, including information on deterrents and population management guidance.

If necessary, trapping of problem beavers will be recommended. To facilitate the control of problem beavers when the regulated trapping season is closed, the Division relies on experienced DEEP Volunteer Beaver Trappers and qualified, licensed Nuisance Wildlife Control Operators (NWCOs) with special permits to trap beaver causing

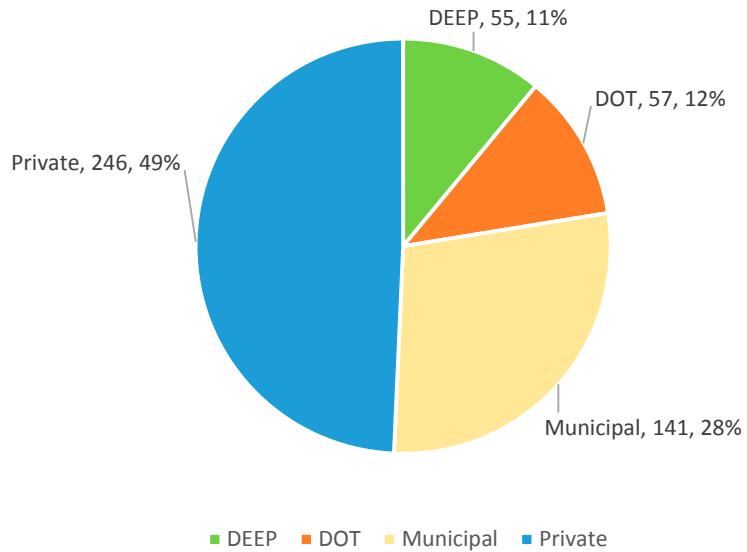


severe damage and public safety threats. All special permit trapping is conducted to safely and efficiently target problem beaver. No non-target animals, such as pets, have been trapped nor has any person been harmed; this can be attributed to the high degree of responsibility, professionalism, and experience of DEEP's approved beaver trappers.

Following the removal of beavers, dams are removed following all local wetland protection and flood safety practices to restore water levels to pre-existing flows.

Beavers are a valuable furbearing species that also cause severe property damage requiring responsive management through trapping and population control. DEEP's Volunteer Beaver Trappers, as well as NWCO Beaver Trappers, provide an invaluable service protecting property from severe damage that could lead to substantial economic costs and possibly loss of life. Based on recent history, protecting property from damage while maintaining viable beaver populations in suitable habitats will remain a significant challenge requiring the trapping expertise and

Beaver Permits by Landowner Type, 2011-2017

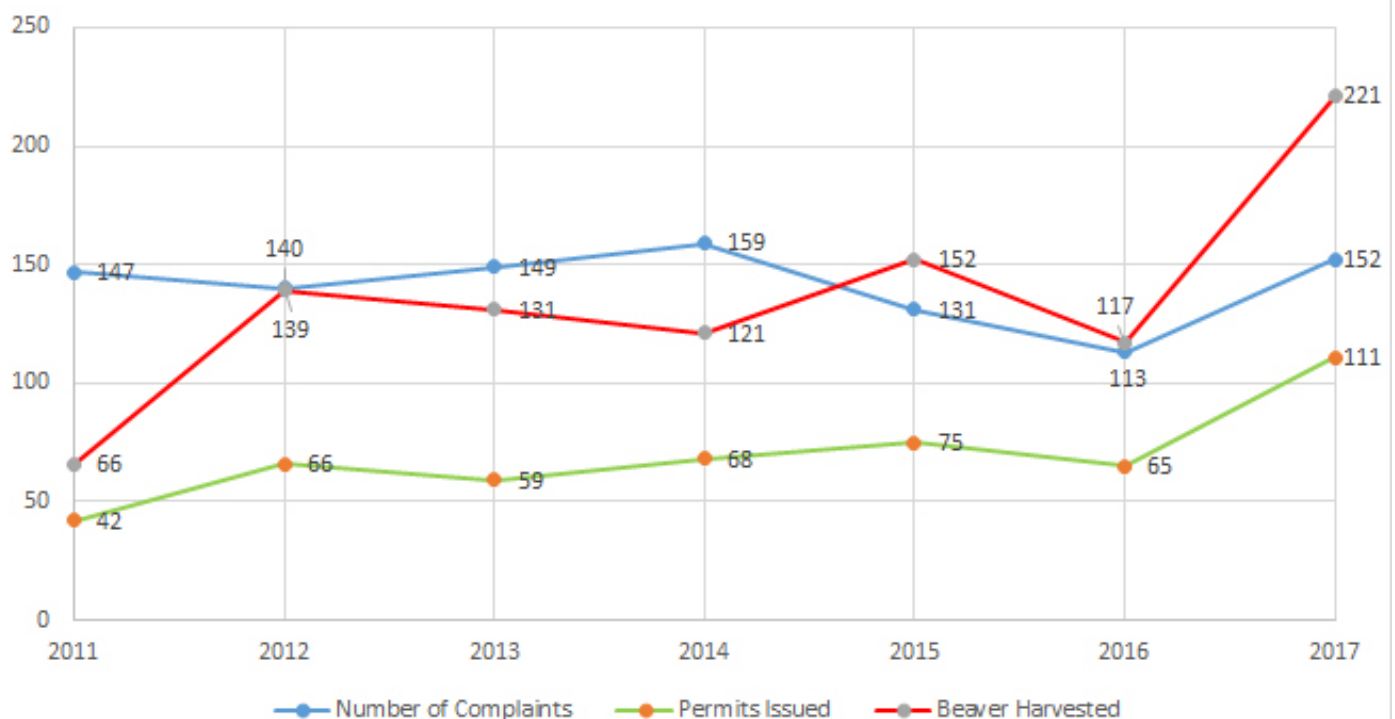


efforts of DEEP's Volunteer Beaver Trappers and NWCOs working closely with affected landowners and DEEP. Town officials, homeowners, farmers, water companies, railroads, utilities, Army Corps, DOT, DEEP, and those who have received assistance to control problem beaver know first-hand the importance of furbearer management

through trapping.

Information on beaver nuisance problems, as well as lists of volunteer beaver trappers and licensed NWCOs, can be found on the DEEP website at www.ct.gov/deep/wildlife (select "Nuisance and Distressed Wildlife" and then "Beavers").

Nuisance Beaver Data, 2011-2017



Winners of the First *Discover Outdoor Connecticut* Photo Contest

Over 330 Images Entered

The DEEP Bureau of Natural Resources recently held its first *Discover Outdoor Connecticut* Photo Contest. Photographers were invited to submit photos taken in Connecticut in four categories: Wildlife, Scenic (including flora), People Enjoying the Outdoors, and Youth (ages 15 and younger). Over 330 photographs were entered in the contest, and many of the high quality images made the judging extremely difficult for most categories.

All of the photographs, including the winning entries, were on display during DEEP's *Discover Outdoor Connecticut* Day, which was held on September 22, 2018, at the Franklin Swamp Wildlife Management Area in North Franklin. A steady stream of event participants

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Above:
Youth
Second Place
Grounded
Sabrina Lloyd-Taylor
Bristol

Left:
Scenic
Third Place
Meig's Point 2018
J. G. Coleman
Wolcott

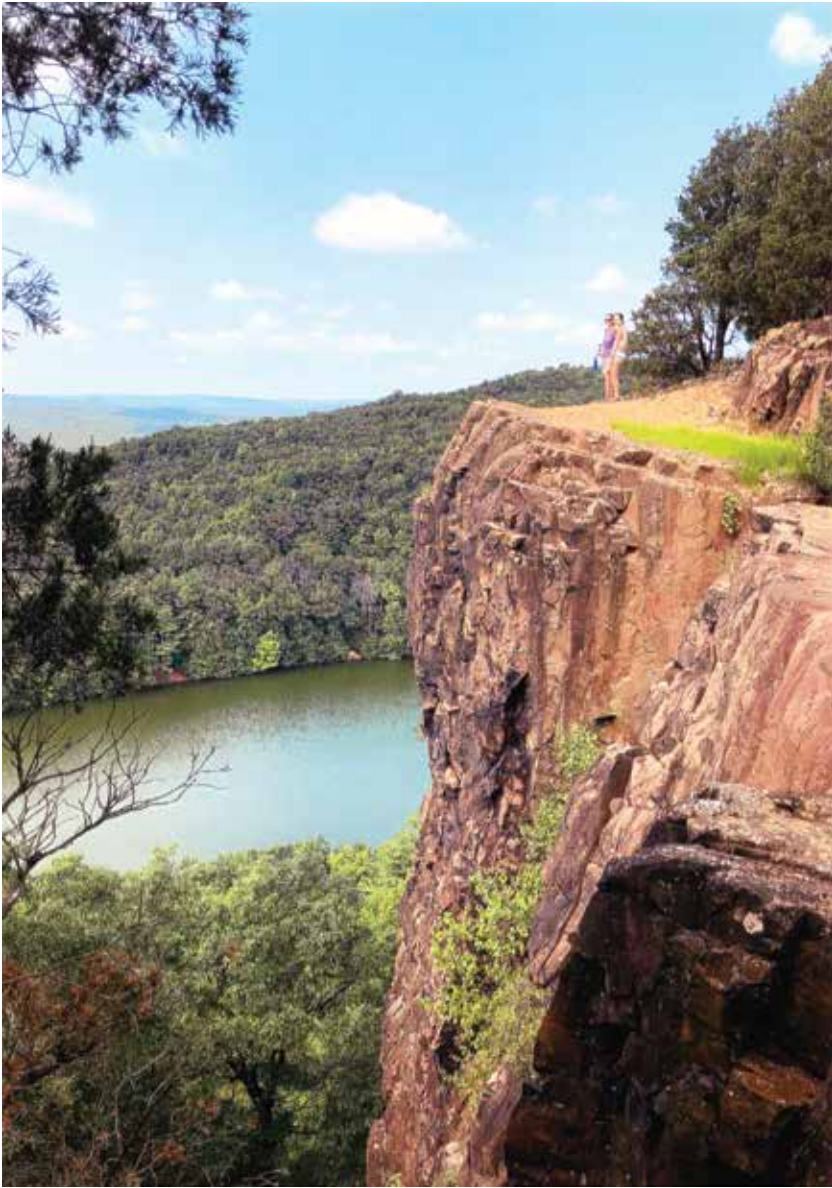


Above: Wildlife, First Place, *Snowy Egrets*, Bill Canosa, Branford

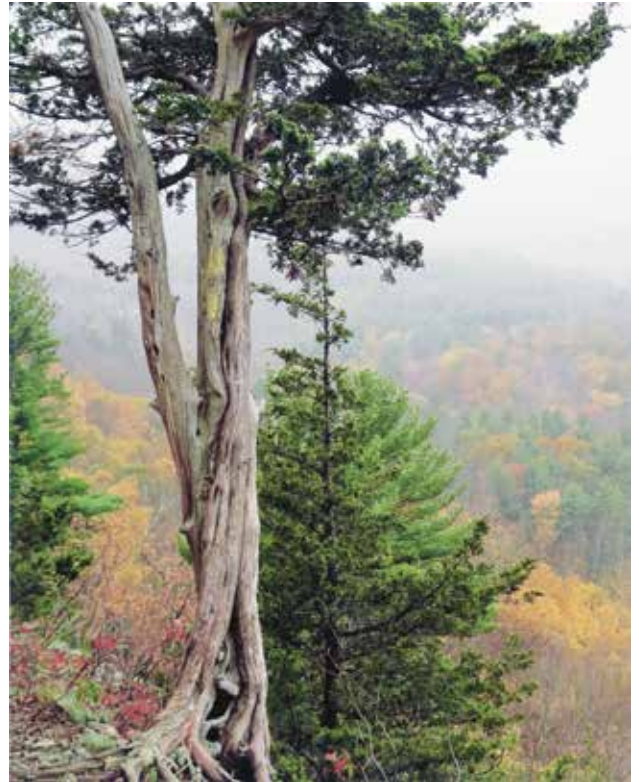
Below left: Youth, First Place, *Barn in the Snow*, Claribel Connor, Woodstock

Below right: People in the Outdoors, Second Place (tie), *Into the Fog*, Donna Kern, Hamden





People in the Outdoors, First Place, *Chauncey Peak*, Joel N. Lohr, Hartford



Scenic, Second Place, *Gnarly Elder*, Kristen L. Fallon, Bloomfield



Above: Wildlife, Second Place, *Bobcat*, Matt Balnis, Middlebury
 Right: Scenic, First Place, *Milky Way Over Harkness*, Jim Wheeler, Franklin



People in the Outdoors, Second Place (tie), *Kristin's Daisies*, Suzanne Kuenzig, Mansfield

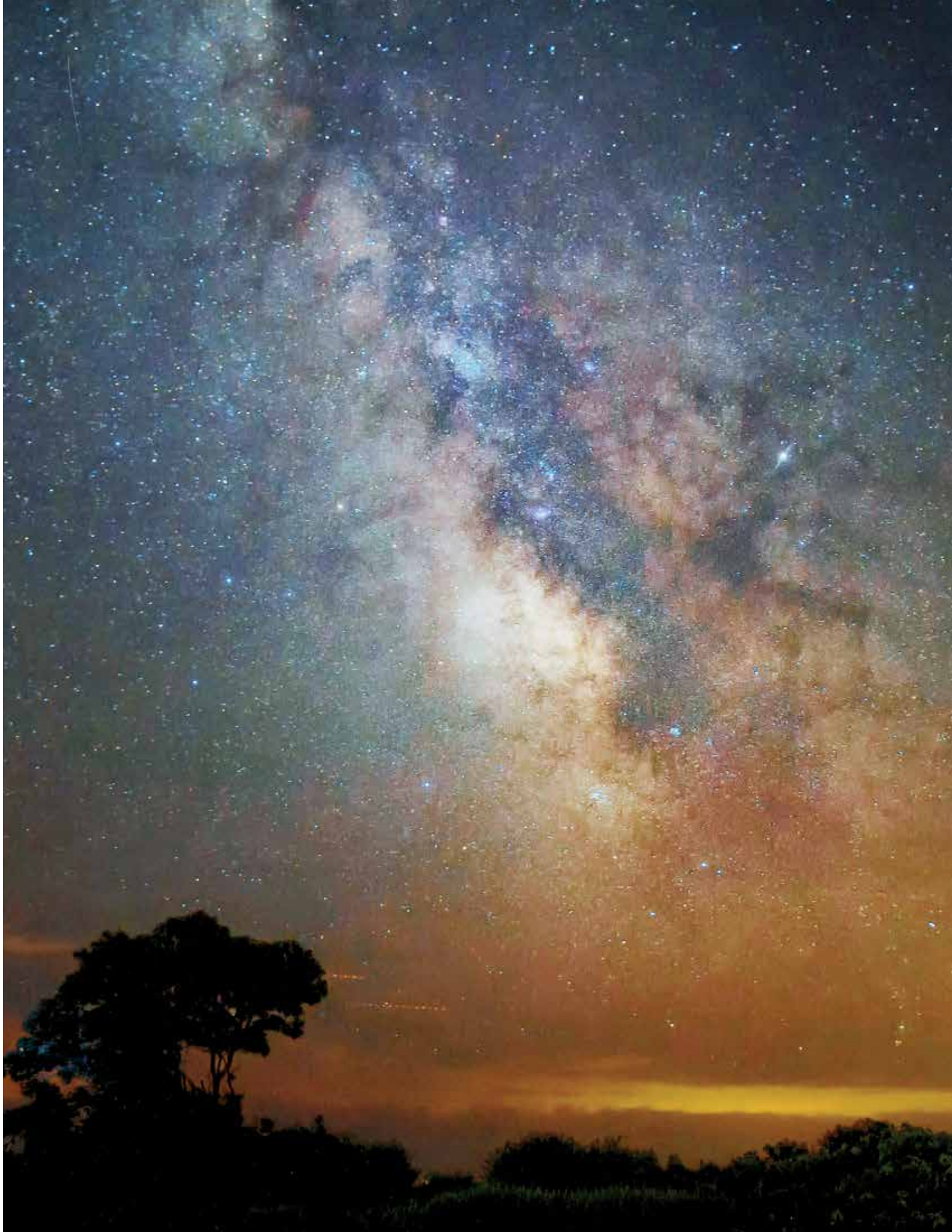


Photo Contest

continued from page 16

viewed the photos and were asked to vote on one photo to receive a “People’s Choice” Award. The photo contest was well received by attendees and contest entrants alike.

First place for the Wildlife category went to Bill Canosa of Branford for his action photo of two snowy egrets sparring. First place for the Scenic category went to Jim Wheeler of Franklin for his stunning image, *Milky Way over Harkness*. First place in the People Enjoying the Outdoors category went to Joel L. Lohr of Hartford for his breathtaking image, *Chauncey Peak*. The Youth category was won by Claribel Connor of Woodstock for a wonderful snowy scene, *Barn in the Snow*. The People’s Choice Award winner was John Chevalier of New Hartford with his captivating photo of a fox kit.

Winners received various prizes and ribbons, which were donated by the non-profit volunteer group, Friends of Sessions Woods.



Youth, Third Place, *Waterfall at Hopriver Linear*, Kyle Galvin, Burlington



Wildlife, Third Place, *Dragonfly*, Ali Parkes, Bolton

The DEEP Wildlife Division would like to thank all of the photographers who submitted their work for the first Discover Outdoor Connecticut Photo Contest!



People’s Choice (Voted on by attendees to Discover Outdoor Connecticut Day), *Fox Kit*, John Chevalier, New Hartford

Rediscovering a Long-lost Bat

Written by Kate Moran, DEEP Wildlife Division

Nothing is accomplished in a vacuum. We all rely on each other for the unique contributions we have to offer. Good intentions, technical skills, persistence, and a little good fortune all conspired to yield a new discovery in the world of Connecticut bats that is worth recounting.

In early July 2016, a tiny, newly-born bat was found clinging to the screened basement window of an apartment building in eastern Connecticut. A resident noticed the bat there on consecutive days and did the right thing. She called a wildlife rehabilitator, and thus began a journey of survival for this little bat.

Weighing only three grams (about the weight of three paperclips), and having been separated from its mother for at least three or four days, the chances of survival for this bat were slim. Despite the unfavorable odds, bat rehabilitator and DEEP Master Wildlife Conservationist, Maureen Heidtmann, took the bat into her care and immediately hydrated and fed the orphaned pup. After about a month of daily, and sometimes hourly attention, Maureen passed him off to Linda Bowen, another bat rehabilitator, who had access to a large flight cage. With six more weeks of development and time to exercise his wings, the young bat gradually gained the strength and agility it would need to live independently.

Bats of different species can be identified by examining a variety of physical characteristics. The features to consider when identifying bats include the size of the ears, tail, and forearms; color patterns in the fur; and even, as odd as it seems, the length of the hairs on their toes. With juvenile bats, however, it is not as simple as following a dichotomous key. Before they are fully developed, bats do not always exhibit their distinguishing characteristics. In the case of the orphaned pup, until his true identity could be discerned, we agreed to call him “our UFO”.

The big reveal came in mid-September when “our UFO” was fully grown. By taking measurements and examining all the telling features, it became clear that this was an eastern small-footed bat (*Myotis leibii*), the smallest bat species in the eastern United States. The last physical specimen documented in Connecticut was from the 1940s.

For nearly three decades, Wildlife Division biologists have employed survey methods, like mist-netting and hibernaculum surveys, to monitor bat populations, but none had produced any evidence of the eastern small-footed bat. Surveys were designed specifically to look for this bat in its favorite habitats, and bat experts from other states even joined us in



This eastern small-footed bat was rescued, rehabilitated, and released back into the wild. Notice the golden brown fur.



Wildlife Division biologist, Kate Moran, releases an eastern small-footed bat in Nehantic State Forest in September 2016, the first physical specimen of the species documented since the 1940s.

the search, all to no avail.

In 2011, the Wildlife Division began using bio-acoustic technology to keep track of bats throughout the state. This hands-off approach essentially casts a bigger “net”, allowing biologists to record bats’ echolocation calls as they freely forage in the night air. By analyzing these recordings, bats can be identified that might otherwise go undetected.

In summer 2015, some of the bio-acoustic data suggested the presence of eastern small-footed bats. To be absolutely certain, however, one would need a “bat in hand” to corroborate this evidence. The fortuitous rescue of the orphaned pup in 2016 is what ultimately provided the necessary proof. Additional acoustic surveys targeting specific habitats have since revealed scattered “hot spots” for the species across the state.



CT's Bobcat Project Continues

As DEEP Wildlife Division biologists gear up for the second year of the Bobcat Project, efforts are underway to live-trap more bobcats and fit them with GPS tracking collars. Data collected from this project will be used to determine the abundance and distribution of bobcats, as well as habitat use. You can assist the project by reporting observations of bobcats. Eligible reports can be live sightings, roadkilled or deceased bobcats, or signs and tracks. When reporting an observation, please provide a date of when the sighting took place, town, number of individuals observed, and whether any individuals had ear tags or a collar. Observations can be recorded at www.iNaturalist.org; by sending an email to deep.ctwildlife@ct.gov; or by posting a message or photo on the Connecticut Fish and Wildlife Facebook page (www.Facebook.com/CTFishandWildlife).

Kathy Herz, DEEP Wildlife Division



PHOTO BY WIL ITURRINO

Volunteers Build Wood Duck Nest Boxes

The annual wood duck nest box building day was recently held at Flaherty Field Trial Area in East Windsor. This event is a collaborative effort between the DEEP Wildlife Division and Connecticut Waterfowling Association (CWA). The Wildlife Division provided the wood and hardware and CWA members constructed boxes from the supplied materials. The Wildlife Division places finished boxes in wood duck habitat (forested wetlands, etc.) on state lands. This year was a great success, as 100 boxes were constructed. The Wildlife Division extends its thanks to all who participated and made this event a success.

Kelly Kubik, DEEP Wildlife Division

CT Eagle Found Dead in West Virginia

A juvenile male bald eagle who hatched and fledged from a nest in New Haven earlier this year was found dead in rural West Virginia on September 13, 2018. The bird had been scavenging a roadkilled deer carcass when it was accidentally struck and killed by a vehicle. The young eagle was banded as a nestling with the number S/7 on May 11, 2018. The band was recovered by a Virginia wildlife biologist who forwarded the information to Connecticut.

Bands provide information about the movements and origin of birds that would otherwise be unknown. Numbers and color combinations of bands on large birds, such as eagles, are intended to be visible to birdwatchers and reportable while the birds are alive. In some cases, bands are recovered after the bird dies.

Paul Fusco, DEEP Wildlife Division



The young male, S/7, is seen on the right, eating an eel that was caught by the adult eagle on the left.

PHOTO BY PAUL J. FUSCO

First Roseate Spoonbill in Connecticut

A roseate spoonbill was documented in Connecticut for the first time ever in September 2018. The bird was here from mid-September through at least early October before presumably moving south. First seen in Stratford, the juvenile spoonbill was also spotted in Milford in the marshes at the mouth of the Housatonic River. It is thought that strong south winds during summer helped push this wanderer north to our area. This same bird had been observed in northern Maine before showing up in Connecticut.

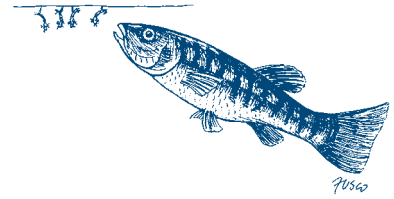
An easily-seen injury on the bill helped identify the spoonbill as the same individual. Nobody knows how the spoonbill got a hole in its bill, but it served as a unique field mark to help observers follow its journey.

Paul Fusco, DEEP Wildlife Division



P. J. FUSCO

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Conservation Calendar

Programs at the Sessions Woods Conservation Education Center

Programs are a cooperative venture between the Wildlife Division and the Friends of Sessions Woods. A complete list of programs can be found at www.ct.gov/deep/SessionsWoods. Please register by sending an email to laura.rogers-castro@ct.gov or calling 860-424-3011 (Mon.-Fri., 8:30 AM-4:30 PM). Programs are free unless noted. An adult must accompany children under 12 years old. No pets allowed! Sessions Woods is located at 341 Milford St. (Route 69) in Burlington.

Dec. 5 **Eastern Cougars**, starting at 6:00 PM. Eastern cougars historically ranged from Michigan, southern Ontario, eastern Canada, and Maine, south to South Carolina and west across Tennessee. Earlier this year, the U.S. Fish and Wildlife Service declared the eastern cougar subspecies (*Felis concolor cougar*) extinct in the United States. Join Wildlife Division biologist Jason Hawley at the Sessions Woods Conservation Education Center for a presentation on the eastern cougar. Jason will dispel some of the myths associated with cougars in Connecticut and provide an overview of the natural history of this intriguing animal.

Hunting and Fishing Season Dates

Sept. 15-Dec. 31 Deer and turkey bowhunting season on private land and state land bowhunting only areas.

Nov. 14-Dec. 4 Statewide firearms deer hunting season on private land. Consult the 2018 Connecticut Hunting and Trapping Guide for specific dates for the shotgun season on state lands and the landowner season.

Dec. 5-18 Muzzleloader deer hunting season on state land.

Dec. 5-31 Muzzleloader deer hunting season on private land.

Dec. 19-31 Second portion of the turkey bowhunting season on state land.

Consult the 2018 Connecticut Hunting and Trapping Guide and 2018-2019 Migratory Bird Hunting Guide for specific season dates and details. Guides are available at DEEP facilities, town halls, and outdoor equipment stores, and also on the DEEP website (www.ct.gov/deep/hunting). Go to www.ct.gov/deep/sportsmenlicensing to purchase Connecticut hunting, trapping, and fishing licenses, as well as required permits and stamps. The system accepts payment by VISA or MasterCard.

Check out the “2017 Connecticut Deer Program Summary” and “2017 Connecticut Wild Turkey Program Report” on the DEEP website at www.ct.gov/deep/hunting. The reports contain harvest statistics and other important information about these Wildlife Division programs. You will also find a tally of the fall deer harvest on the website. It will be updated periodically throughout the season.

Sign up to receive *Wildlife Highlights*, a free, electronic newsletter for anyone interested in Connecticut’s wildlife and the outdoors! www.ct.gov/deep/WildlifeHighlights



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Walkingsticks are masters of camouflage. This stick insect feeds on the leaves of forest trees.