September/October 2017

CONNECTICUT Wildlife

Wild Thoughts

Respect. The dictionary defines it as considering something worthy of high regard or to refrain from interfering with something. It is probably not a word immediately associated with wildlife conservation, but arguably it probably should be—in both contexts. I have been struck lately by examples of a lack of respect for wildlife. In some cases, this has an impact on an individual animal; in others the impacts may be less clear, but far broader. Two recent examples help illustrate the issue.

We were recently sent a video of a snake to identify. This kind of inquiry is welcome as it helps us provide more information on the animals people are curious about. This was not your typical identification clip. The video was done in slow motion and showed a recently-hatched northern watersnake coiled in a defensive posture as a human foot entered the view and moved downward as if to step on the snake. Clearly afraid of this large "predator," the tiny snake lunged forward to try and strike the bottom of the shoe. The action then repeated several more times. Clearly, the juvenile snake was being baited into this defensive behavior primarily for the purpose of capturing an "entertaining video" of it lunging forward in a defensive strike. Simple snake identification surely did not require repeated clips of a fearful snake striking at a perceived threat. While it may seem harmless on the surface – the snake wasn't actually stepped on after all – this lack of respect had unintended consequences. The size of the snake indicated it was newly-hatched and probably had not eaten much since hatching. Repeated defensive strikes takes a lot of energy and, without energetic reserves to handle the expenditure, this young snake's survival could have been in jeopardy.

Another example involves an amazing migratory phenomenon unfolding each year along the Connecticut River. In mid- to late September, thousands of tree swallows form surging masses, twirling and turning mid-air in a profound aerial display over the river as they migrate south for the winter. Wildlife watchers and nature enthusiasts annually gather to witness the air show. This year, the natural spectacle was interrupted—more than once—by drone flights through the flock of migrating birds. Whether the intent was to actually harm the birds or, more likely, to make them swoop and move in more elaborate ways simply because someone could, this lack of respect again had unintended consequences. To the swallows, the drone was a fast moving "predator" and, as a unit, they were forced into defensive flight patterns. Once again, it comes back to energetics. A swallow will travel thousands of miles to winter in Florida and south into Central America. Weighing a little under an ounce, the birds need all of their fat reserves simply to make the journey to their wintering grounds. Each calorie spent defending themselves against a "predator attack" depletes their total energy stores reserved for coping with increment weather, high head winds, and limited food supplies for refueling. Forcing these beautiful birds into defensive flights by flying a drone through their midst could very well mean the difference between life and death. Again, what may seem fun, harmless, or a way to get a cool video clip or photo can have serious impacts.

By learning about wildlife and why they behave in certain ways or use specific habitats at different times of the year, we can come to recognize our actions may have unintended consequences. Acknowledging our motives for getting a perfect video or image for social media may negatively impact the wildlife we enjoy watching is the first step toward respect. Without it, our best efforts at conservation will fail to succeed and future generations will not have the privilege of enjoying the natural world the way we do.

Jenny Dickson, Supervising Wildlife Biologist

Connecticut Wildlife

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The Federal Aid in Wildlife Restoration Program was initiated by sportsmen and conservationists to provide states with funding for wildlife management and research programs, habitat acquisition, wildlife management area development, and hunter education programs. Connecticut Wildlife *contains articles reporting on Wildlife Division projects funded entirely or in part with federal aid monies.*

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P. J. FUSCO

Cover:

Although still listed as a threatened species in Connecticut, the bald eagle was removed from the federal list of threatened and endangered species 10 years ago, marking the species' recovery from the brink of extirpation.

Photo courtesy of Paul J. Fusco

Connecticut Bobcat Project Needs Your Help!

Written by Brandon Bernhardt, DEEP Wildlife Division

Connecticut's dwindling bobcat population was facing extirpation until 1972 when unregulated exploitation was halted and the bobcat was reclassified as a protected furbearer with no hunting or trapping seasons. The population has since recovered, and bobcats are now regularly observed in the state. As top predators, it is important to monitor their population because their presence affects many other species, including competing predators, prey species, and animals in direct competition with prey. The DEEP Wildlife Division is currently conducting a bobcat study within the state for precisely these reasons.

The purpose of the study is to evaluate diet and habitat use and also estimate the statewide abundance of bobcats. The Wildlife Division is currently live-trapping bobcats and fitting them with GPS collars and ear tags. This year, our goal is to collar 50 bobcats and ear tag every bobcat captured. To determine bobcat abundance and distribution, we are relying on help from Connecticut residents to report observations of bobcats. Observations can be reported in three different ways:

- Record observations through the app *iNaturalist* (available for free on Android and iOS).
- Send an email message and any photos to *deep.ctwildlife@ct.gov*.
- Post sightings on our Facebook page at *www.Facebook.com/CTFishandWildlife*.

iNaturalist will hopefully become the quickest and best way to record a sighting. It is a free phone app that allows you to record observations and add them to scientific projects, share them with other users, and discuss findings with experts and others. If you would like to help the Connecti-

P. J. FUSCO

Seasonal Resource Assistants Brandon Bernhardt and Melissa Ruszczyk set up a camera to monitor animals visiting a bobcat trap site.

Seasonal Resource Assistants Melissa Ruszczyk and Brandon Bernhardt demonstrate a bobcat live-trap. The door closes after an animal steps on the pan towards the back of the trap. The trap is covered with brush to make it look natural, and scents and visual attractants are used to draw bobcats to the trap. PHOTO BY P. J. FUSCO

P. BENJUNAS, DEEP WILDLIFE

DEEP Wildlife Division biologists discuss which sized collar would fit best on this immobilized bobcat.

cut Bobcat Project, sign up for free on the app or online at *www.inaturalist.org*. Once you have created an account, you can search for our project – CT Bobcat Project – to join and start recording your bobcat observations. Just make sure you use the **"Add to a project"** tab on the observation form to add it to our project! When reporting an observation through iNaturalist, make sure to click the map where the sighting occurred. This automatically generates coordinates for the database and saves time for the researchers.

When recording a sighting by any of the three ways mentioned, it is important to

P. BENJUNAS, DEEP WILDLIFE (2)

A bobcat immobilized with drugs is about to be weighed, ear-tagged, and radio-collared. Physical measurements, such as length and girth, and hair and tissue samples are collected.

provide information on the date and location of the sighting, the town in which the sighting took place, the number of bobcats observed, and whether you saw ear tags or collars on any of them. Sightings can be from a trail camera if you are able to positively identify the animal as a bobcat. Additional comments or contact information with your observations also are useful. Observations from the public are greatly appreciated and will be invaluable contributions towards understanding the current bobcat population in Connecticut.

To help determine the diet of bobcats, Division biologists will also be collecting road-killed bobcats so that stomach contents can be examined. Anyone who finds a road-killed bobcat is urged to call the Wildlife Division at 860-424-3011 and provide location details. In addition, if it is at all possible to safely cover the bobcat with branches or a bag, or move it further from the road, it would help ensure that the bobcat is still there by the time DEEP staff are able to collect it.

New ear tags and GPS collar can be seen on this bocat after just being released. Biologists will continuously monitor this collared bobcat.

We greatly appreciate the time and effort of Connecticut residents to report their bobcat sightings. This study would not be possible without volunteer assistance.

P. J. FUSCO

An Endangered Species Act Success Story: Bald Eagle

Written by Brian Hess, DEEP Wildlife Division

Ten years ago, on June 28, 2007, Secretary of the Interior Dirk Kempthorne signed paperwork to remove the bald eagle from the federal list of threatened and endangered species. The order went into effect August 8, 2007, marking the species' recovery from the brink of extirpation in the nation that adopted it as a symbol. The event was heralded as a sign that with the proper protection and effort, species pushed to the edge by humans can be brought

B. HESS, DEEP WILDLIFE

P. J. FUSCO (2)

The bald eagle is only found in North America. Golden eagles are distributed across the entire Northern Hemisphere. Only the bald eagle nests in Connecticut.

back. The National Audubon Society called it "one of the greatest achievements for conservation in American history." The National Wildlife Federation said, "This is a man-on-the-moon moment for wildlife."

Since the mid-nineteenth century, bald eagles had been on a steady decline. People routinely cut down nesting trees and shot eagles to protect poultry and livestock. The 1940 Bald and Golden Eagle Protection Act protected birds and their nests from direct persecution, but soon after, a chemical threat emerged. The use of DDT as a broad spectrum insecticide ramped up dramatically from the 1940s through the 1960s. DDT interfered with the thickness and function of eggshells of eagles and many other predatory birds. In 1963, due in part to very low reproductive success, only 417 bald eagle nesting territories remained in the lower 48 states.

In response, bald eagles were protected under the Endangered Species Preservation Act, the precursor to the Endangered Species Act. When the latter act was enacted in 1973, the bald eagle was on the inaugural list of protected species.

In addition to providing an additional layer of protection for the birds and their habitats, the law gave state and federal agencies directives and resources to protect habitat, pursue policies toward clean waters, and use captive breeding and other techniques to restore eagles to areas where they had been extirpated.

These actions, along with prohibiting most uses of DDT in 1972, paid off. By 1981, the number of breeding territories had grown to 1,188. By 1995, that number had swelled to approximately 4,500, and the species was moved from "endangered" to "threatened" status. When the order was finally signed to remove the bald eagle from the endangered species list altogether, there were nearly 10,000 breeding pairs known in the lower 48 states.

Number of Breeding Pairs of Bald Eagles in the Lower 48 States, 1963-2007

Year	No. of Breeding Pairs
1963	417
1981	1,188
1995	4,500
2000	6,400
2007	9,789

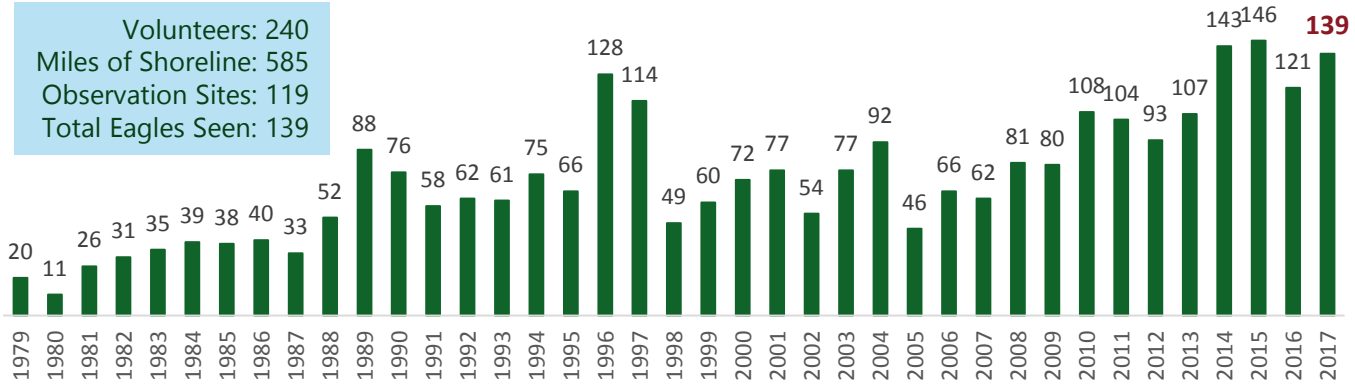
This success represented the tireless work of several generations of biologists and conservationists. It was evidence the Endangered Species Act worked. The poster child for endangered species no longer belonged on the poster. In the 10 years since their delisting, bald eagles have continued to flourish. Connecticut's population has grown from 15 active nesting territories in 2007 to 53 active territories in 2017. Nationwide (including Alaska), models estimate a population around 200,000 bald eagles.

I recall days from my youth when a bald eagle was a rare sight; noteworthy and almost unbelievable. I am glad my daughter is growing up in a world where a bald eagle is much more common but no less spectacular.

Midwinter Eagle Survey Results

The Midwinter Eagle Survey was January 14, 2017. More eagles were counted in 2017 than 2016, likely a result of a record number of volunteers, clear weather, and a colder winter. The mean daily average at Bradley International Airport during December was 32°F in 2016, much colder than the 43°F in 2015. More ice to our north pushes eagles south into Connecticut. Next year's Midwinter Eagle Survey will be January 13, 2018.

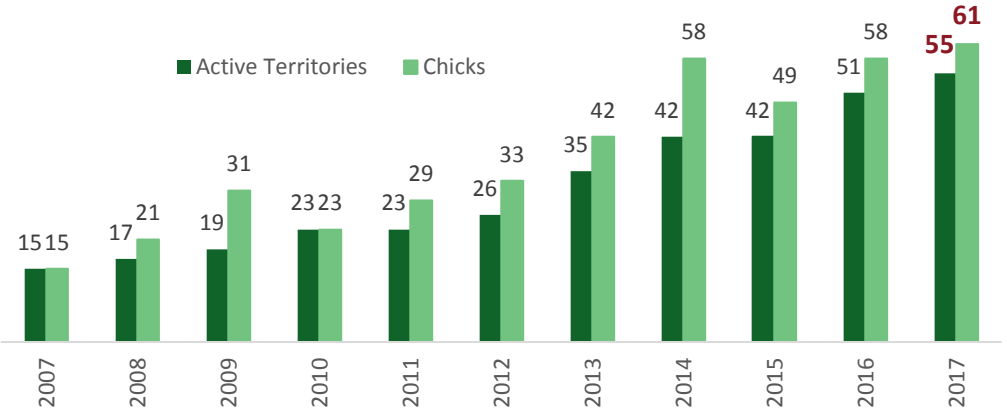
Volunteers: 240
Miles of Shoreline: 585
Observation Sites: 119
Total Eagles Seen: 139



Breeding Season Results

The 2017 breeding season saw new record highs for the numbers of active territories, successful nests, and chicks produced. This includes nine new nesting territories, some on lakes with no modern record of nesting eagles. In August 2007, the bald eagle was removed from the federal endangered species list. In the intervening decade, the number of territories in Connecticut has increased nearly fourfold. Since the bald eagle was added to the endangered species list in 1973, Connecticut nests have produced at least 488 chicks. Of those, 405 chicks have been produced since the eagle was delisted in 2007.

Active Territories: 55
Successful Nests: 38
Failed Nests: 8
Territorial Only: 3
Unknown: 6
Chicks Produced: 61



Wildlife Division biologist Brian Hess climbs a tree to capture a five-week-old bald eagle chick in a nest. The chick will be lowered to the ground to be banded, and then returned to the nest.

PHOTO COURTESY J. SEDLOCK

COURTESY B. BENNETT

On the ground, biologists measure the feet and beak to determine the sex of the chick. The chick also gets an aluminum band with a unique nine-digit number and a black band with two large characters.

What Is DDT?

DDT (Dichloro-diphenyl-trichloroethane) is a synthetic chemical in the family of organochlorine compounds. It is a persistent organic pollutant with long-lasting effects.

The use of DDT as a nuisance insect pesticide was widespread in the 1940s, 1950s, and 1960s. Its unintended effect on raptors, particularly North American populations of peregrine falcons, ospreys, and bald eagles, was devastating. Once DDT made its way into the food chain, concentrated levels of the pesticide built up in these top predators when they ate contaminated prey. High levels of DDE, a metabolite (breakdown product) of DDT, prevented normal calcium deposition during eggshell development, resulting in thin-shelled eggs that easily broke while being incubated. The birds were not able to reproduce successfully and their populations crashed.

The U.S. Environmental Protection Agency banned the use of DDT nationwide in 1972 based on its adverse environmental effects, such as those to wildlife, as well as its potential human health risks. DDT is still used in many tropical countries as a cheap and effective insecticide. In these places, where malaria is a major human health concern, disease-organism carrying mosquitoes are fought by using DDT. There are some parts of the world where targeted mosquitoes have become resistant to DDT.

A Hardy Migrant –
The Yellow-rumped Warbler

Article and photography by Paul Fusco, DEEP Wildlife Division

One of the more numerous migrant songbirds to be found in Connecticut during fall is the yellow-rumped warbler. At times, the birds can be very abundant, especially in thickets and weedy edge habitat along the shoreline.

Yellow-rumped warblers are large-bodied, five to six inches in length, and have a thin, pointed bill. Males in breeding plumage are blue-gray on top with a bold, black breast patch and heavy streaking that extends down the sides of the white underside. They also have a black facial mask that extends from the base of the bill, through the eye and to the ear. Females and immatures are similarly patterned but with dull brown plumage replacing the blue-gray of the male. Adults show white wing bars and lemon-yellow patches on the sides of the breast. Both sexes have a yellow crown patch, which is more distinct on the male. They also have a noticeable yellow rump patch, the size and shape of a pat of butter, which leads to their colloquial nickname of "butterbutt."

Yellow-rumped warblers are found across almost all of North America, including the Greater Antilles, at one time of year or another. Their breeding range encompasses the entirety of the boreal forest belt that extends from northern New England west and north through Canada and to the Bering Sea in Alaska. The breeding range extends south into mountainous regions wherever there is coniferous habitat. The wintering range includes all of the southern United States, extending south through Mexico and Central America.

On the nesting grounds, yellow-rumped warblers are birds of coniferous forest habitat. Spruce, hemlock, and/or pine with nearby edge or forest openings are most often used. Nests are built in conifers, typically at a height above 15 to 20 feet. The cup-shaped nest is woven with twigs, grasses, and rootlets, sometimes containing lichens and hair from large mammals. Females lay three to five creamy white eggs with brown speckles and blotches. Incubation takes 12 to 13 days, and fledging happens after 12 to 14 days.

The birds are an uncommon and local breeder in Connecticut, primarily due to the limited amount of coniferous forest habitat in the state and also because the species is at the southern edge of its breeding range in our state. Breeding activity in the state is most frequent in the mature conifer forests of the northwest hills.

This very active bird can be seen during summer darting out from a perch to catch flying insects, showing its yellow rump patch as it flutters.

Berries from red cedar are a favorite food for yellow-rumped warblers in fall and winter.

Yellow-rumped warblers eat primarily insects and other invertebrates in summer, including such morsels as caterpillars, beetles, ants, and spiders. They are known to consume spruce budworms, a serious forest pest. During migration and in winter, they switch their diet to fruits. Favorites include the berries of red cedar, dogwood, poison ivy, and northern bayberry. They also will eat some seeds from grasses and goldenrods.

The yellow-rumped warbler's distinctive call note is a sharp "*tchep!*" which is given often as a way of communicating with others in the vicinity. The springtime song is a trill, similar to that of a junco.

Conservation

Yellow-rumped warblers are a

Spring male (above) showing strikingly bold plumage. The yellow-rumped warbler is an early spring migrant.

common, widespread, and familiar species. Their biggest conservation concern is habitat loss and degradation. This is especially true for shoreline stopover sites where migrating birds need to find food and rest during their journey.

The continuing maturation of Connecticut's forests is beneficial to the yellow-rumped warbler during the breeding season. Early spring migrants or overwintering birds in Connecticut will sometimes come to backyard feeders for raisins or suet.

The yellow-rumped warbler *Setophaga coronata* classification is made up of four closely related subspecies: the eastern myrtle warbler (*S. c. coronata*); western Audubon's warbler (*S. c. auduboni*); northwest Mexican black-fronted warbler (*S. c. nigrifrons*); and Guatemalan Goldman's warbler (*S. c. goldmani*). The subspecies were formerly considered to be two species, the myrtle and Audubon's group, which was made up of the western and southern subspecies. All four subspecies were lumped into one conspecific yellow-rumped warbler classification by American Ornithologists' Union scientists in 1973. Recent improvements in genetic work have shown evidence to once again split the birds into three or possibly four different species. The western population would be known as Audubon's warbler and the eastern form would be called myrtle warbler. The two southern subspecies may gain full species status as well.

Migrant birds on the East coast are especially fond of berries from wax myrtle and bayberry, giving the eastern subspecies the common name of "myrtle" warbler. Myrtles differ from western and southern subspecies by being the only one of the four subspecies with a white throat, and they are the only warbler able to digest the rich, waxy coating of bayberry and wax myrtle berries. This allows them to spend the winter at more northern latitudes than other warblers. Only the eastern subspecies of the yellow-rumped warbler has this ability.

New Tick Concerns in Connecticut

Written by Andrew LaBonte, DEEP Wildlife Division

If concerns about blacklegged (deer) ticks (*Ixodes scapularis*) and their associated diseases (i.e., Lyme, babesiosis, ehrlichiosis) are not already high enough, an additional tick-related concern is on the horizon. It is the lone star tick (*Amblyomma americanum*), a southeastern species whose range has been slowly moving north.

In late June 2017, a report came in to the DEEP from a South Norwalk resident about a white-tailed deer that was acting strangely. By the time State Environmental Conservation Police Officer Jesse Nivolo arrived on the scene, the animal had already died. However, he noticed a severe infestation of ticks completely covering the deer's eyes, ears, head, and neck. It could not be determined if the tick infestation was ultimately the cause of death, but certainly based on the amount of ticks covering the deer's eyes, it must have been challenging for the deer to see, probably causing stress and discomfort. Heavy infestations of lone star ticks have previously been associated with increased mortality in white-tailed deer fawns in Oklahoma.

Upon receiving photographs of the deer, we immediately passed them along to the Connecticut Agricultural Experiment Station (CAES). The following day, State Entomologist Kirby Stafford examined the deer and confirmed it was covered by lone star ticks; a less commonly reported species in Connecticut. No deer ticks were evident.

"It is definitely a well-established population to generate that kind of tick load on the deer and, with numerous nymphal ticks as well, reproduction is and has been going on," explained Kirby Stafford, chief tick expert for CAES. "This is the first confirmed established breeding population of lone star ticks reported in Connecticut. There is no way to know for how long, but it can't be too recent."

According to experts, reports of lone star ticks have occurred in a number of Connecticut towns, mainly in Fairfield County. Lone star ticks make up only about one to three percent of the ticks submitted to CAES for identification. However, the population may be increasing due to the milder winters Connecticut has been experiencing over the past few years. Lone star ticks have slowly been expanding their range northward and westward from their historic range in the southeastern United States and they became established on eastern Long Island, New York, a couple of decades ago.

Adult lone star ticks are brown with eight legs and similar in size to the American dog tick. Adult females have a silvery-white spot near the center of the back, while males have varied white streaks or spots around the top edge of the body. The lone star tick is very aggressive and non-specific

COURTESY J. GATHANY, CDC

Female lone star tick.

K. STAFFORD, DEEP

Female lone star ticks on a sock.

Blacklegged (deer) tick

The blacklegged (deer) tick is associated with the transmittance of at least six disease agents, including the spirochete that causes Lyme disease. The female blacklegged tick has a reddish body but also a dark brown scutum ("plate") on its back, near the head.

American dog tick

The adult American dog tick is reddish brown with gray, silver, or whitish markings on its dorsal (top) side. Its preferred host is dogs but this tick will feed on other medium to large-sized mammals. The adult stage feeds on people and their pets.

Brown dog tick

The adult brown dog tick is easily recognized by its reddish-brown color and absence of ornamentation, such as white markings. It feeds on many mammals, occasionally humans, but primarily is associated with domestic dogs. It is capable of completing its entire life cycle indoors.

Lone star tick

The female lone star tick sports a whitish-yellow spot on its dorsal (top) side. All stages of this tick will feed on humans. Its northern range now extends to Long Island, lower coastal Connecticut, and parts of Cape Cod, but it can be found occasionally throughout New England hitching a ride on migrating birds.

when seeking hosts, and will use various types of birds, most frequently wild turkeys, small mammals such as squirrels, larger mammals such as coyote and white-tailed deer, and humans during various stages of its life cycle. Adult activity runs from April through August, peaking in June. Nymphs may be active from March to October, but peak activity is April through early July. Larvae are active mainly in August and September. Engorged female lone star ticks will typically lay about 3,000 eggs, but can lay as many as 8,000.

The lone star tick is associated with a number of human and animal diseases, such as ehrlichiosis, southern tick-associated rash illness (STARI), spotted fever rickettsiosis, tularemia, theileriosis in deer (related to human babesiosis), and, more recently, red meat allergy. Bites from lone star ticks may produce or generate a hypersensitivity allergic response that causes a food allergy to a red meat protein called alpha-gal that is found in most mammals, but not humans or other primates.

Many management practices have been evaluated for the reduction of tick numbers. Typical practices are acaricide (insecticides for ticks) applications, vegetative management (controlled burning or mechanical removal of understory brush and other plants), and host exclusion.

Use of a repellent or pesticide following specific product label instructions and correctly applied to clothing and gear is considered the best tick-bite prevention measure. Wearing light-colored clothing; inspecting clothing, gear, and pets; conducting a full-body tick check; and showering after being outdoors are all recommended steps toward preventing tick bites.

The Tick Testing Laboratory at the Connecticut Agricultural Experiment Station will identify lone star tick specimens, along with deer tick and other tick specimens, submitted from Connecticut residents. Anyone who has encountered a lone star tick and has questions about the tick and diseases it may carry can contact Kirby Stafford with CAES at 860-974-8485, *Kirby.stafford@ct.gov*.

J. NIVOLO, CT DEEP

Young male deer with lone star tick infestation in South Norwalk, CT.

Thanks are extended to Dr. Kirby Stafford, Chief Entomologist at The Connecticut Agricultural Experiment Station, for the review of this article.

Map and tick images courtesy of Centers for Disease Control and Prevention, United States Department of Health and Human Services

Selective Harvest – Beneficial for Fisheries and Your Health

Written by Justin Wiggins, DEEP Fisheries Division

Connecticut's abundant lakes, ponds, rivers, and streams and bountiful Long Island Sound offer anglers ample opportunity to bring home some fresh fish fillets for the dinner table. Fish is a delicious, low-cost food choice that can be locally sourced. It is low in fat and cholesterol, and high in protein and Omega-3 fatty acids, therefore being a very healthy, beneficial part of your diet. Harvesting fish for the table provides fresh, healthy meals for you, your family, and friends and can leave you with a great sense of pride and self-sustainability!

"**Selective Harvest**" is a sustainable practice in which you, the angler, wisely choose how many, what size, and what fish species to harvest for food. This educated decision provides benefit to the fishery and your belly. Selective harvest is a happy medium between strict "catch and release" and "limiting out" every time you fish. In addition, it balances the role of humans as one of the top predators and promotes active stewardship of the resource. Following are some tips for practicing selective harvest.

COURTESY P. BROPHY

Selective harvest of smaller-sized fish actually helps produce a greater number of large-sized fish.

Select "Panfish"

Some fish species – bluegill, pumpkinseed, yellow perch, white perch, and calico bass (collectively called panfish) – are prolific spawners; they begin reproducing at a young age and can quickly overpopulate a waterbody. Selective harvest by humans and predation by other fish help keep the ecosystem in balance and reduce competition for food resources.

Panfish are a tasty and healthy choice for harvest. They are short-lived and low on the food chain so they tend not to accumulate harmful chemicals in their body. (For information on fish consumption advisories and guidelines, visit the Connecticut Department of Public Health website at *www.ct.gov/dph/fish*).

Harvest Helps

There is a misconception that the harvest of any bass will be harmful to the fishery. The opposite is true. Many of the state's waterbodies, including many designated as "Bass Management Lakes," have too many small bass. In these waters, the best way to increase the number of larger bass is to actually "thin" (remove) the overabundant small-sized bass. The remaining fish end up with more space and food, enabling them to grow faster and larger. Fisheries biologists have implemented a slot limit regulation in some lakes to encourage the harvest of fish less than 12 inches and limit the harvest of larger, more desirable fish. Striking the right balance for fish and anglers is a focus of warmwater fisheries management.

Select "Medium or Small" Fish

Large, predatory fish, like largemouth and smallmouth bass, northern pike and walleye, are very popular with anglers. Selective harvest for these types of fish involves choosing to take those just above the minimum length (small to medium size individuals) and limiting consumption or releasing the very large ones.

According to Bob Jacobs, warmwater fisheries project supervisor for the DEEP Fisheries Division, selectively harvesting smaller individuals and releasing larger ones is almost always the best management strategy. In Connecti-

cut, bass and panfish populations tend to be "stockpiled," meaning there are too many small fish in the population, which results in slower than optimal growth rates. Thinning out the smaller fish can result in improved growth rates, which can actually help increase the numbers of larger fish eventually produced.

Take from "Put-and-take" Fisheries

Stocked trout are one of the most sought after fish anglers pursue in Connecticut, and one of the best options for eating. Each year, approximately 500,000 catchable sized trout (8-12 inches) are stocked in rivers, streams, lakes, and ponds across the state. These fish are an excellent choice for the table, essentially being "farm raised" in one of our three state fish hatcheries.

According to Tim Barry, coldwater fisheries project supervisor for the DEEP Fisheries Division, "put-and-take" (as opposed to "catch-and-release") is a phrase used in fisheries management to describe the practice of raising fish in a hatchery and stocking them into public fishing waters so the fish can be caught and harvested by anglers. He explained that the vast majority of Connecticut's waters are managed as put-and-take trout fisheries due to the fact that most of our year-round, coldwater habitat for trout has been greatly diminished or lost and is unable to support trout through the hot summer months.

Wherever trout are stocked and if there are no special trout management regulations in place to restrict harvest, anglers are encouraged to practice selective harvest and "take a few fish home for the frying pan!"

DEEP FILE PHOTO

There is a misconception that practicing catch-and-release with stocked trout in many Connecticut waters will increase or sustain trout populations. The majority of stocked waters provide a seasonal trout fishery and are not able to support year-round survival (too warm) for hold-overs and spawning. The majority of stocked trout are done so to support "put-and-take" fisheries.

Release Large Trophy Fish

Catching a large "trophy-sized" fish is a significant accomplishment and motivates many anglers to fish. Selective harvest involves releasing large trophy-sized fish. This benefits the fishery by keeping the large predator active and reduces the potential for eating a fish that may have accumulated harmful chemicals. Additionally, releasing trophy fish allows additional anglers to experience the catch of a lifetime. Please note: Keeping a large fish (or any fish that is legal) is a personal choice and we encourage all anglers to respect and support each angler's right to choose to release or harvest fish.

Catch and Release

"Catch-and-release" is the voluntary practice or a fisheries regulation where an angler returns a fish to the water without avoidable harm. This method increases the likelihood the same fish will provide a positive experience to multiple anglers, thus maximizing the reach of the resource and making it a popular management tool.

Right: A very happy angler releasing a nice striped bass back into Long Island Sound.

PHOTO COURTESY B. ANDERSON

Select the Fish You Can Use – Release All Others

This is the number one rule of harvesting fish! Only keep fish that are of legal size, within your daily creel limit (maximum number of fish an angler can keep per day), and those you will consume or gift to friends and family (before they become "freezer burned"). Once you commit to harvesting a fish, take proper care to prevent spoilage by putting it directly on ice or keeping it alive. Please do not keep a fish

DEEP FILE PHOTO

Selective harvest of prolific species, like yellow perch, help keep the fish community in balance.

just to fill a "limit" or to brag about the "big one."

The next time you are having a productive day on the water, consider practicing "selective harvest" with your catch! Keep some panfish or those small and medium size fish for the frying pan, and when you catch that trophy fish take a quick picture and let it go. Your fellow anglers and future generations will thank you when they experience the thrill of catching that same fish, or its offspring!

M. BEAUCHENE, CT DEEP

Panfish are abundant in Connecticut waters and can be caught readily year-round. These bluegill fillets were tossed in a dry batter, and after a quick bath in some hot oil made for a delicious meal!

CASEBOOK

Recent Reports from DEEP EnCon Police Division

Connecticut's State Environmental Conservation (EnCon) Police Officers wrapped up a busy summer season patrolling the state parks, forests, beaches, recreation areas, campgrounds, and waterways, while starting to focus on scouting out possible poaching locations for the fall hunting seasons. Just in the month of August, officers logged in over 1,062 park and forest patrols investigating numerous cases. One of those cases is highlighted here. You can learn about other interesting cases by following the EnCon Police Facebook page at www.Facebook.com/CTEnConPolice.

In June 2017, EnCon Police Officers were called to assist the Waterbury Police Department with an investigation into the killing of a gaggle of geese while they were crossing Lakewood Road in Waterbury. Officers were advised that 13 geese – two adults and 11 goslings – had been struck while crossing the road between 5:00 and 6:00 AM. Officers found tire tracks swerving off the road and onto the shoulder, where the geese had been struck. The tracks also led to an abandoned rear bumper with the registration plate still attached. Officers contacted the registered owner who stated she registered the vehicle for a friend. They then contacted the vehicle owner who denied striking the geese and stated the vehicle had been stolen the previous night. However, the vehicle had not been reported as stolen. The registered owner refused to speak to police in person. Two days later, the accused turned himself in to the Waterbury Police Department on related arrest warrants. While being processed, EnCon Police Officers spoke with him and he again denied striking the geese and stated his vehicle had been stolen the night before. Two more days later, the vehicle was found abandoned in Buck Hill Park in Waterbury. EnCon Officers responded and processed the vehicle for evidence and located a goose feather still stuck in the grill of the vehicle. Officers submitted search warrants for phone record information, which was later approved by Waterbury Superior Court. The records showed that the accused's movements were consistent with the time, direction, and location where the geese were killed. Officers submitted an arrest warrant and the accused was arrested on August 29, 2017, and charged with Cruelty to Animals (13 Counts), Taking Canada Geese Out of Season (13 Counts), Illegal Method of Take (13 Counts), False Statement, Interfering with an Officer, and Operating a Motor Vehicle While Under Suspension.

FROM THE FIELD

DEEP MARINE FISHERIES

Sand Tiger Shark Found in Trawl Survey

Sand tiger sharks (*Carcharias taurus*) can be found in Long Island Sound, although encounters with anglers are fairly rare. They are commonly found in coastal waters and shallow bays from the Gulf of Maine to Florida. This specimen was captured during CT DEEP's Long Island Sound Trawl Survey on October 12, 2016 – the first sand tiger captured during the Trawl Survey's 33-year time-series. It measured 153 cm (60 inches) and weighed 21.8 kg (48 pounds). Sand tiger sharks are popular with aquariums because of their "toothy" appearance, but they usually are not a threat to humans because they typically feed on small fish (around 6 inches). The above shark was quite docile while being handled by the Trawl Survey crew and was released unharmed after being weighed, measured, and photographed. The DEEP biologist in the photo is Kurt Gottschall.

Participation in Fish and Wildlife Activities Rising

The National Survey of Fishing, Hunting, and Wildlife-Associated Recreation is a partnership effort with state agencies and national conservation organizations and one of the most important sources of information on fish and wildlife recreation in the United States. The survey has been conducted nearly every five years since 1955. You can read the preliminary report at *https://wsfrprograms.fws.gov/Subpages/NationalSurvey/National_Survey.htm*. Takeaways include:

- In 2016, 101.6 million Americans 16 years of age and older (40% of the U.S. population) enjoyed some form of fishing, hunting, or wildlife- associated recreation.
- More than 35.8 million Americans fished in 2016, while 11.5 million hunted and 86 million watched wildlife.
- Sportsmen and women spent $41.7 billion on equipment, $30.9 billion on trips, and $7.8 billion on licenses and fees, membership dues and contributions, land leasing and ownership, and plantings for hunting. On average, each sportsperson spent $2,034 in 2016.

Hemorrhagic Disease Detected in CT Deer

A die-off of over 50 deer discovered primarily in Portland and Middletown, and recently in Chester and Lyme, in September and October 2017 appears to be linked to hemorrhagic disease. The cause of death for many of the animals could not definitively be determined due to their condition when discovered, but the manner in which the deer were found led DEEP biologists to suspect hemorrhagic disease may have been the cause. Dozens of dead deer were found in various stages of decay near or floating in small waterbodies. Infected deer head to water to relieve themselves of the high fever associated with the disease.

Recently, four deer in better condition were submitted to the Connecticut Veterinary Medical Diagnostic Laboratory for analysis and then sent to the Southeastern Wildlife Disease Study Group for final analysis. On October 16, results came back on one of the deer as positive for Epizootic Hemorrhagic Disease Virus 6 (EHDV-6), a virus serotype only recently documented in the United States. Hemorrhagic disease is transmitted by biting midges (commonly referred to as sand gnats, sand flies, or no-see-ums). All documented outbreaks tend to occur during late summer and early fall due to an increase in midge numbers and cease with the onset of a hard frost, which kills the midges carrying the virus.

Symptoms in deer include swollen head, neck, tongue, or eyelids with a bloody discharge from the nasal cavity; erosion of the dental pad or ulcers on the tongue; and hemorrhaging of the heart and lungs, causing respiratory distress. Additionally, the virus creates high feverish conditions. There has not been a significant negative impact on the long-term health of deer herds in states where the disease has been detected because only localized pockets of animals tend to be infected within a geographic area.

Hemorrhagic disease does not infect humans, and people are not at risk by eating venison from or handling infected deer, or being bitten by infected midges. The disease rarely causes illness in domestic animals, such as cattle, sheep, goats, horses, dogs, and cats. Hunters should observe normal precautions around any sick or strange-acting animals.

James V. Spignesi, Jr. Wildlife Management Area Grows by 54.7 Acres

Written by Laurie Fortin and Elaine Hinsch, DEEP Wildlife Division

P. J. FUSCO

The 469-acre James V. Spignesi, Jr. Wildlife Management Area (WMA) in Scotland has diverse wildlife habitats, including a mix of woodlands, agricultural fields, and wetlands which support a wide array of species. This WMA is located within a key focus area for regional restoration of the New England cottontail. Two properties have been added to Spignesi WMA, which were purchased by the DEEP Wildlife Division with the help of a Federal Aid in Wildlife Restoration (Pittman-Robertson) grant. The additional 54.7 acres provide an opportunity to protect and manage one of the last remaining blocks of undeveloped land contiguous with current state ownership. The acquisition includes 520 feet of frontage along Palmer Road (State Routes 14 and 97) at its southern boundary, thereby providing an additional access point for public use.

Part of the property slopes moderately to the east and is primarily mixed forest with extensive wetland soils that has been managed for timber and fuelwood production. A timber harvest was conducted five years ago, adding to the overall diversity of habitat on the WMA.

The new parcels also include an unnamed tributary to Merrick Brook, which is a Class 1 wild brook trout stream, a critical but declining habitat of statewide significance. DEEP ownership now affords protection of the headwaters to Merrick Brook.

A 151-acre parcel, which is under a perpetual hunting easement for public hunting access, is included in the management of Spignesi WMA. This permanent easement is the first and only one of its kind in Connecticut, ensuring public access will be maintained on the parcel into the future.

Spignesi WMA is used for a variety of wildlife-based recreational opportunities; it is open for hunting of small game, pheasant, waterfowl, spring and fall turkey, muzzleloader, and non-lottery shotgun deer. The WMA is also home to endangered, threatened, and special concern plants and animals.

Maps of public hunting areas on state forests, wildlife management areas (including Spignesi WMA), and other similar properties can be found on the DEEP website at *www.ct.gov/deep/huntingareamaps*.

Honoring a Fallen Officer

In 1999, the James V. Spignesi WMA was dedicated in honor of State Environmental Conservation (EnCon) Police Officer and former Wildlife Division biologist James V. Spignesi, Jr. Officer Spignesi, a 21-year veteran of DEEP, became the first EnCon Police Officer to die in the line of duty when he was killed while on routine patrol in Scotland, Connecticut, on November 20, 1998. This area was one of Jim's favorite places.

DEEP FILE PHOTO

Federal Aid Dollars Working for Wildlife

The DEEP Wildlife Division receives the majority of its funding through federal grants. The Federal Aid in Wildlife Restoration Program has been particularly important. It was initiated by sportsmen and conservationists to provide states with funding for wildlife management and research, habitat acquisition, and sportsmen education programs.

Funds are derived from a federal excise tax on sporting arms, ammunition, and archery equipment. These funds are collected from the manufacturers by the Department of the Treasury and are apportioned each year to the States and Territorial areas by the U.S. Department of the Interior on the basis of formulas set forth in the Act. Appropriate state agencies are the only entities eligible to receive grant funds.

National Archery in the Schools Program Off and Running in CT

Written by Keith Hoffman, DEEP Wildlife Division

The National Archery in the Schools Program (NASP) is back in Connecticut! The DEEP Wildlife Division is supporting the relaunch of NASP in the state and is working with new schools, as well as with schools already active in the program to help strengthen their efforts. NASP lessons teach archery to students in a safe environment during school hours, usually as part of physical education classes, and is presented by teachers certified by NASP through training they received from the DEEP. The program boasts a curriculum which meets or exceeds national standards and can be implemented into a school's existing offerings.

National Archery in the Schools (NASP) lessons teach archery to students in a safe environment during school hours, usually as part of physical education classes, and is presented by teachers certified by NASP through training they received from the DEEP Wildlife Division.

PHOTO COURTESY NATIONAL ARCHERY IN THE SCHOOLS PROGRAM

NASP is designed to be safe for participants, teachers, and facilities. It uses equipment which is universally fit to make participation accessible to all students. To ensure safety, teachers presenting the program must attend eight hours of Basic Archery Instructor training to become NASP certified before working with students. This training introduces safe practices for running an archery range in a gymnasium by use of simple whistle commands and taped lines directing students through the lessons and additionally making instructions easy to understand and follow. Once a teacher is certified, the NASP curriculum provides a framework to lead archery units during regular school hours. By offering archery during the school day, NASP hopes to promote participation of students who may not otherwise be introduced to the sport of archery. Surveys conducted by NASP suggest that the program increases students' attention spans and improves self-esteem. The program also offers state and national tournaments as culminating events for students who participate.

NASP was first offered in Connecticut in 2008. Ten schools participated in a pilot program held by NASP's founder and staff. The three-day training was hosted by a Connecticut high school. It prepared the 10 pilot schools to implement the program in the following year. Since this first training, schools in the state seeking to start a program or have their staff and teachers become certified have looked to trainers outside of Connecticut, causing the program to be out of reach for many.

With the support of DEEP, four Basic Archery Instructor trainings have been held to date in 2017. From these trainings, 30 teachers have been certified in 20 new schools and three existing programs. This certification allows these teachers to conduct NASP lessons as part of their existing physical education program. Many of those who have participated have already purchased equipment to teach their first archery lessons during the 2017-2018 school year.

As the new school year gets underway, further Basic Archery Instructor trainings will be continually offered, giving schools the opportunity to take the first step of getting involved in NASP. Those interested in learning more about the program or educators interested in participating in a training session should contact Connecticut NASP Coordinator Keith Hoffman at *DEEP.CTNASP@ct.gov*, or visit *www.naspschools.org*.

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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. Please pre-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.*

Nov. 11.....**Turkey Tales**, starting at 1:30 PM. Families are welcome to join Wildlife Division Natural Resource Educator Laura Rogers-Castro during this holiday season for an informative program on wild turkeys! Laura will tell the story of the return of wild turkeys to Connecticut and talk about the life history of one of the largest birds found in our state. Children are welcome to create a turkey feather craft following the program. This program is suitable for families with children over 5 years old.

Nov. 29.....**Children's Program: Black Bears**, starting at 4:00 PM. Join DEEP Master Wildlife Conservationist Katerina Hutchins for an interactive after school program featuring black bears. Learn about one of the largest and most interesting mammals that call Connecticut home. This program is geared to children 5 years and older. All children must be accompanied by an adult.

Hunting and Fishing Season Dates

Sept. 15-Dec 30.....Deer and turkey bowhunting season on state land bowhunting only areas (and private land for turkeys).

Sept. 15-Dec 31.....Deer bowhunting season on private land.

Oct. 21 .....Opening day of the small game hunting season.

Nov. 4.....Junior Waterfowl Hunter Training Day – Go to *www.ct.gov/deep/juniorhunter* for more information.

Nov. 4-11.....Junior Deer Hunter Training Days (excluding Sunday) – Go to *www.ct.gov/deep/juniorhunter* for more information.

Nov. 15-Dec. 5 .....Statewide firearms deer hunting season on private land. Consult the 2017 Connecticut Hunting and Trapping Guide for specific dates for the shotgun season on state lands.

Dec. 6-19 .....Muzzleloader deer hunting season on state land.

Dec. 6-30 .....Muzzleloader deer hunting season on private land.

Dec. 20-30 .....Second portion of the turkey bowhunting season on state land.

*Consult the 2017 Connecticut Hunting and Trapping Guide and 2017-2018 Connecticut Migratory Bird Hunting Guide for specific season dates and details. The 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 running tally of the deer hunting season results at **www.ct.gov/deep/hunting**.

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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P. J. FUSCO

One of our larger shorebirds, a marbled godwit, stands tall over a flock of much smaller sanderlings along the Connecticut shoreline. Shoreline stopover habitat is critically important to migrating shorebirds so they can find food and rest along their southbound journey.