

November/December 2016

# Connecticut Wildlife

CONNECTICUT DEPARTMENT OF ENERGY AND ENVIRONMENTAL PROTECTION  
BUREAU OF NATURAL RESOURCES  
DIVISIONS OF WILDLIFE, INLAND & MARINE FISHERIES, AND FORESTRY



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# From the Director's Desk



As our celebration of 150 years of fish and wildlife conservation comes to a close, it is a time to reflect and look to the future. While hunting with my German shorthaired pointer, Dakota, on a recent weekend, I enjoyed thinking of the connectedness of the generations. My Dad, Alex, who came into this world in 1908, was the last of 11 children born to an immigrant Swede of modest means. Grampa Carle came to the U.S. in the 1880s, not long after the Civil War. Settling in the Fox River Valley of Wisconsin, he did what he knew best, he started a small dairy farm. Dad spent his youth tromping through the fields and woodlands around the farmstead, carrying a trusted Montgomery Ward 20-gauge shotgun. Whatever the farm didn't provide for the table, Dad's Western Field likely did.

The Great Depression hit just as Dad was about to get his start in the world and, like for everyone, it exacted a price. Dad had to leave his beloved fields and forests for work in the big city – Milwaukee – taking whatever meager jobs he could find. The things that kept him grounded were his love for the family farm, the surrounding wild lands, and a young woman back home whom he couldn't ask for marriage until he was settled and could support a family. Though times were tough, Dad joined a growing chorus of voices to support a concept hatched by Nevada Senator Key Pittman and Virginia Congressman Absalom Willis Robertson to create a funding source for restoring the country's wildlife resources. That funding source is now known as the Pittman-Robertson Federal Aid in Wildlife Restoration Act.

The Pittman-Robertson Act was one in a series of landmark actions, preceded by the formulation of fish and wildlife agencies like our own and followed by events like adoption of the Federal Endangered Species Act. Each in its way addressed critical needs facing a maturing nation and dealt with threats to our greatest treasures: fish and wildlife resources.

Our next great challenges – climate change and sea level rise – are on the immediate horizon. It is troubling to contemplate the implications if we fail to act. Even still we have reason for hope. There are new voices ready to be heard. Among them my daughter, Alexa, and the cast of thousands of young, energetic people who have developed their own love for our natural resources. From those first days spending time with Alexa, casting a worm and watching a red and white bobber, waiting for a bluegill to bite, and now to casting a field, with Alexa carrying a beat-up, hand-me-down Western Field 20-gauge and anticipating Dakota on point, we are making connections with our natural world that will last lifetimes. Alexa and her fellow 2017 high school graduates will be starting college next fall. For her it will be pursuing a degree in environmental studies with aspirations of a law degree and advancing natural resource policy. So, as Dakota and I tromp through the forest, a smile crosses my face as I recollect Dad and now see Alexa, joined by so much more than a name, but to a love for and commitment to our natural resources. We are off to a good start on the next 150 years.

Rick Jacobson, DEEP Wildlife Division Director

## Cover:

A barred owl stretches its wings as the sun sets on a cold winter afternoon. Barred owls are common residents in the more heavily forested areas of Connecticut. Learn more from the article on page 12.

Photo courtesy of Paul J. Fusco

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Published bimonthly by

Connecticut Department of  
Energy and Environmental Protection  
Bureau of Natural Resources

Wildlife Division  
[www.ct.gov/deep](http://www.ct.gov/deep)

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Wildlife Diversity, Birds, Furbearers, Outreach and Education, Habitat Management, Conservation Education/Firearms Safety, Connecticut Wildlife magazine

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State Land and Private Land Habitat Management

Connecticut Wildlife magazine (ISSN 1087-7525) is published bimonthly by the Connecticut Department of Energy & Environmental Protection Wildlife Division. Send all subscription orders and address changes to Connecticut Wildlife, Sessions Woods WMA, P.O. Box 1550, Burlington, CT 06013. Subscription rates are \$8 for one year, \$15 for two years, and \$20 for three years. No refunds. Periodical postage paid at Bristol, CT. Postmaster: Please send all address changes to Connecticut Wildlife, P.O. Box 1550, Burlington, CT 06013.

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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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# The Ups and Downs of White-tailed Deer

Written by Brendan Zielinski, DEEP Wildlife Division

When people think of wildlife in Connecticut, deer are often one of the first animals to come to mind because they are so abundant throughout the state. However, if you had lived in Connecticut in the 1700s through 1800s, deer would have been far from your mind. In fact, white-tailed deer were so rare before the start of the 20<sup>th</sup> century that they were protected from hunting, and numerous laws were enacted to protect the dwindling deer resource. The extensive legal protection and improvement to deer habitat as abandoned farmland grew into forests allowed the state's deer population to grow. Before long, the Connecticut Board of Fisheries and Game began receiving complaints from farmers about crop damage caused by deer and, according to a report in 1912, deer were starting to become a problem:

*“The deer problem is a complicated one. The General Assembly of 1911, extended the closed season until June 1, 1917. From the point of view of many people, the sight of a wild deer*

*is very attractive. To the farmer and fruit grower, to the nurseryman and gardeners, deer are a costly and unmitigated nuisance ... The law permitting deer to be shot when found damaging any crop has resulted in the killing of a great many, which supplemented by a considerable number killed by trolley cars, trains, and other accidents together with a large number illegally killed, have, to considerable extent, held them in check from a very great increase during the past year.”*

In the late 1930s, Connecticut had an estimated deer population of 3,000. For the next 35 years, harvest regulations were gradually liberalized in response to the growing population and increasing deer damage problems. At the time, deer hunting was restricted to agricultural properties only, with the exception of bowhunting on state land. Consequently, public participation in deer hunting was limited, while deer populations continued to rise to between 6,000 and 8,000 by the early 1960s.

The passage of the Deer Management Act in 1974 had a profound impact on the state's deer resource, changing the status of white-tailed deer from agricultural nuisance to game animal. Deer management authority was mandated to professional biologists in the Wildlife Unit (as it was then called), and archery, muzzleloader, and shotgun deer sea-

sons were established on state land.

Today, Connecticut's healthy deer population has become more of a suburban problem than an agricultural problem. Because of high deer populations in some suburban areas where hunting is restricted, over-browsing, landscape destruction, and deer/vehicle accidents have become the norm for many Connecticut residents. The Wildlife Division's Deer Program continues to focus on stabilizing or reducing deer population growth for the best long-term interest of the deer resource, native plant and animal communities, and the public.



PHOTO COURTESY E. YESCOTT

**At the start of the 20<sup>th</sup> century, white-tailed deer numbers were so low that total protection was warranted. Numbers slowly grew to the point where the Deer Management Act of 1974 was signed into law. Today, Connecticut has numerous deer hunting opportunities and the white-tailed deer occupies a place at the top of the list of Connecticut's significant wildlife resources.**

DEEP WILDLIFE DIVISION ARCHIVES



**Former Wildlife Division Director Paul Herig, who retired in 1992 after 23 years of service, was instrumental in implementing a biologically sound deer management program in the early 1970s after recognizing a future problem posed by a growing deer population.**

# Great Thicket National Wildlife Refuge Established

## *New opportunities for land conservation*

Written by Lisa Wahle, Contractor to the Wildlife Management Institute working with the CT DEEP Wildlife Division

In October 2016, the U.S. Fish and Wildlife Service (USFWS) announced that it is moving forward with the creation of Great Thicket National Wildlife Refuge (NWR), primarily to conserve declining wildlife species that depend on shrubland and young forest in the Northeast. Over the past century, this type of habitat has suffered great losses as it was cleared for development or grew into mature forest. During the public comment process earlier in the year, the USFWS received over 6,000 comments – 90% supportive.

Unlike most wildlife refuges with defined boundaries, Great Thicket establishes broad areas in which properties can be acquired and preserved over time. These Refuge Acquisition Focus Areas (RAFAs) cover 257,639 acres in six states – Connecticut, Rhode Island, Massachusetts, eastern New York, New Hampshire, and Maine. Within the large acreage of the RAFAs, the USFWS is authorized to acquire up to 15,000 acres by direct purchase (fee), donation, or conservation easement from willing landowners. The process of attaining the target acreage will be slow-going, probably lasting decades, but will be critical to permanently protect and manage important habitat.

In Connecticut, there are two RAFAs: the Pachaug-Ledyard RAFA in the southeast corner has an acreage attainment goal of 3,500 and the Northern Housatonic RAFA, most of which lies over the western border in New York, has a goal of 2,000 acres. The final configuration of the RAFAs is a result of many months of collaboration between USFWS and state and local conservation partners.

One of the main considerations in creating a new refuge is to provide permanent protection for federal trust resources. For Great Thicket, those resources include the New England cottontail (NEC), shrubland-dependent migratory birds (e.g., American woodcock, blue-winged and prairie warblers), and species listed as federally endangered or threatened. Given that a main driver for this refuge was to contribute to habitat goals for NECs, it followed that Great Thicket RAFAs would be within NEC restoration focus areas (See the Conservation



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P. J. FUSCO (3)

**Great Thicket NWR will offer new opportunities to conserve and manage young forest and shrubland habitats in focal areas to protect New England cottontails, among other species.**

Strategy for NEC at <http://newenglandcottontail.org>). USFWS sought input from states and partners on how to further refine the RAFA boundaries where federal acquisition and management of lands would provide the greatest benefit.

When delineating the Pachaug-Ledyard RAFA, those areas



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**One of the main considerations in creating a new refuge is to provide permanent protection for federal trust resources. In the case of Great Thicket NWR, it would provide protection for shrubland-dependent migratory birds like the blue-winged warbler.**

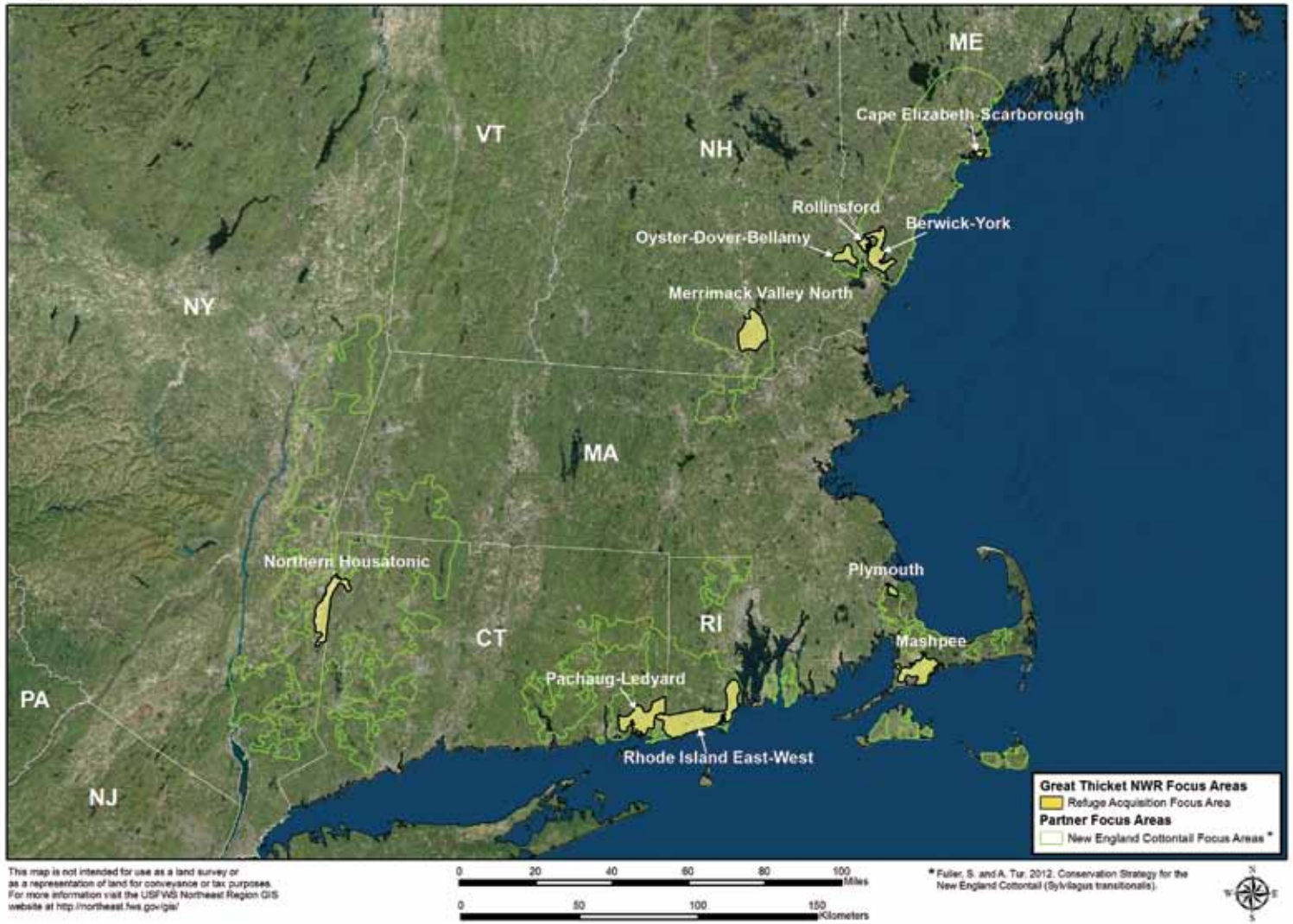


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**Conservation of young forest habitat, so important to the survival of woodcock and other wildlife, is a goal of the new refuge.**



### Great Thicket National Wildlife Refuge



Map showing New England Cottontail Restoration Focus Areas as green outlines and Great Thicket National Wildlife Refuge Acquisition Focus Areas in gold. Courtesy of the U.S. Fish and Wildlife Service, Northeast Region.

that were most valuable and most vulnerable were considered. This part of Connecticut still has much valuable thicket habitat in the form of reverting fields and understory, and several documented populations of NECs. But, it is largely privately-owned and open to development. The RAFA boundary includes an area without major state or municipally protected lands. It avoids Pachaug State Forest, Assekonk Swamp Wildlife Management Area (WMA), Barn Island WMA, and Bluff Point WMA. Because the State (DEEP) is more likely to acquire properties that abut existing state-owned lands, it was thought to be more effective for the USFWS to focus in an area where the state is unlikely to be able to contribute.

For the Northern Housatonic RAFA, the strategy was a bit different. This part of the state has a fair amount of protected lands. The part of this RAFA that falls in Connecticut is largely unprotected and also has soil and wetland characteristics that may make it important not only for NECs, but also for state and federally listed species.

Initial discussions about parcel acquisition and eventual

management of acquired parcels will be done by existing NWR staff. Parcels in the Pachaug-Ledyard RAFA will be managed by staff based at the Stewart B. McKinney NWR in Westbrook, while the Northern Housatonic RAFA will be covered by staff from the Wallkill River NWR on the New York side and by McKinney NWR staff on the Connecticut side.

Great Thicket NWR will complement land conservation efforts by local land trusts and conservation groups. In some cases, the refuge may be able to bring financial and management resources to the table that local land trusts cannot. But, it should be clear that land acquisitions for Great Thicket will not be a rapid process.

To learn more about Great Thicket NWR and also read the full Land Protection Plan, go to [www.fws.gov/northeast/refuges/planning/lpp/greatthicketlpp.html](http://www.fws.gov/northeast/refuges/planning/lpp/greatthicketlpp.html). Landowners within a RAFA that are interested in selling or donating land can fill out and submit the Landowner Interest Form, also available on the website.

# 150 Years of Fisheries:

## Where did we come from and where are we going?

Written by Mike Beauchene, DEEP Inland Fisheries Division, Photos from DEEP Fisheries Division Archives

*“What we – as an individual, state or nation – become will be a direct reflection of what we allow or cause our natural resources to become.”*

– 1966 Connecticut Wildlife Conservation Bulletin, Vol. 12, No. 6

Throughout this past year, we published interesting articles, photos, facts, and trivia about various aspects of fisheries management in Connecticut. We have also focused on current issues – economic and environmental – which influence the future of our fisheries. This article, our final during our 150th Anniversary, highlights some interesting quotes regarding challenges and opportunities for our fisheries.

*“Man’s early food supply, the native animal life of forest and stream, which a century ago seemed inexhaustible and was so treated by the murderous waster, has been largely destroyed. We can never again depend upon an annual output of wild animal life for an important part of our food supply...”*

– 1926 Fish Commission letter to Governor Trumbull

**Early need:** The first colonists viewed the new world as both an adversary and provider with the land providing all that they needed, resources seemed endless. Unfortunately, the rapidly growing nation would quickly deplete important fish populations.

**Early action:** In reaction to the loss of salmon and concern that American shad may be next, the Connecticut Legislature formed a Fish Commission (est. 1866) to address “man’s pursuit of fish, for food or sport, had always been reckless (1866)” and to feed a new growing nation recovering from the recent Civil War.

**Flowing waters:** One of the immediate legislative charges was to restore runs of salmon and shad to the Con-



American shad (our state fish) have always been an important resident of our major rivers, supporting commercial and recreational fisheries for many years.

necticut River by stocking millions of fry annually. Brown and rainbow trout were introduced to help fill the empty rivers.

Native brook trout also were in trouble. “25 years since, this state was famous for its many fine trout brooks and it was easy to catch a fine basket of this excellent fish in almost any part of the state. Owing to excessive fishing and the various improper modes of taking trout, they have been nearly exterminated in streams where they were formerly abundant.” –



American shad populations were augmented through hatching millions of eggs, as seen here at the shad hatchery on the Salmon River in “Leesville,” and then stocking the fry.

1880 Fish Commission Report

To restore the “brookies,” the Fish Commissioners purchased fry and distributed them in lots of 3,000 to 4,000 to any person who was willing to care for the small fish until their release into local brooks (1860s-1880s). Hundreds took advantage each year and “once again our brooks are brimming with fish.” (1885)

*“It has always been my opinion that the State made a mistake in stocking the streams with trout, as for some reason or other, our trout brooks have run out, and I doubt very much if they can be successfully brought back. Pickerel and black bass seem to be prolific and to thrive if put in the right places, and I believe in a few years our rivers and lakes would fairly teem with fish if these were substituted for trout.”* – 1886 Hon. Judge W.M.B Glover in a letter to the Fish Commissioners

**Still waters:** With a few “new introductions” (largemouth and smallmouth bass, bluegill, calico bass, and common carp) now well established in many waters, the Fish Commissioners initiated efforts to bolster public lake and pond fisheries. These included stocking fish that were obtained through seine netting reservoirs that were closed to fishing (1922-1932), the purchase of large fish from commercial carp fishermen, the purchase of fry from neighboring states (walleye, largemouth and smallmouth bass), and rearing yellow perch, bullhead, calico bass, and forage fish at our state fish hatcheries (Burlington and Kensington), as well as in ponds on state properties across the state (1930s-1940s).

### How to pay for the work demanded by the public?

The success of stocking trout, bass, and panfish led to increased demand

from the public to provide more fish, bigger fish, and better fish. From its creation, funding for the Fish Commission was allocated by the legislature (in some years it was greatly reduced). To help provide additional resources, sportsmen licenses were established for hunting (1907) and fishing (1924), with the revenue from sales going to support fish and game (free licenses for those 65 and older were established in 1972). Today, 100% of the money collected from fishing licenses goes to the DEEP Bureau of Natural Resources (BNR), totaling over \$6 million for hunting and fishing licenses combined in 2015. Thank you sportsmen and women – you make a huge difference!

Shortly after states began implementing licenses, major federal legislation for wildlife (Pittman-Robertson Act of 1937) and fisheries (Dingell-Johnson in 1950 and Wallop-Breaux in 1984) created the “North American Model for Fish and Wildlife Management.” This has provided billions of dollars to support fish and wildlife programs since its inception. The legislation continues to provide significant funding for fish and game programs in many state agencies. During the first year (1939), Connecticut received \$2,499.22 from the fund, whereas current annual funding for both fish and wildlife is over \$6 million. In addition to these important sources of funding, the BNR also receives some money from the state General Fund.

*“A wildlife interest that is not expressed in license sales is found in the ranks of those to whom a quiet walk in the fields and forests*



**Connecticut has long been known for great trout fishing; however, the state has a diverse list of species that can challenge and inspire anglers.**



**The future of fisheries needs everyone. Now more than ever, educating and encouraging families to make fishing an activity of choice is critical.**

*provides recreation and relaxation equal to that of those who hunt and fish. License sales figures therefore are not a true index of utilization of the recreational aspects of our wildlife. As our human population pressures build up, it can be expected that more and more people will enjoy, without harvesting, our rapidly dwindling CT wildlife resources.”*  
– 1955 Connecticut Wildlife Conservation Bulletin, Vol. 1, No. 2.

### ***The Future of Fisheries – Better Together***

Today, this legacy of progress and change continues as our talented biologists, along with our many partners, grapple with the new challenges of invasive species, climate change, development, and managing the interface between people and the environment. Together, we can keep moving the needle.

The future of fisheries needs everyone. Now more than ever, educating and encouraging families to choose fishing as an activity of choice is critical. The first outdoor curriculum was introduced to Connecticut schools in the 1930s with concern that “not as many youth are taking up the tradition of the great outdoors.” Today, our Connecticut Aquatic Resources Education (CARE) program (est. 1986) continues the tradition by introducing thousands of families and youth to the many benefits fishing has to offer.

We continue to bring high quality fishing opportunities to everyone, whether

it is stocking fish into neighborhood community fishing waters, trout parks, and trout management areas, or by offering quality opportunities to catch wall-eye, northern pike, broodstock Atlantic salmon, and common carp.

Our focus is to inspire the next generation through the Youth Fishing Passport program and collaborate with our partners on Salmon in Schools and Trout-in-the-Classroom programs. We look to remove barriers to fish passage via fish ladders, dam removals, and other methods, as well as innovative engineering and construction for road culverts. We engage in land acquisition to find places that are optimal for maintaining and conserving our unique list of native fish species, and we listen to you, our dedicated and passionate supporters of our fish and wildlife. Thank you!

*“Sportsmen continue to be the informed constituency that provides much of the political will and financial backbone to conserve our resources and protect fishing and hunting access. Simply put, we need to add to our ranks if we are to guarantee that future generations will have the opportunity to enjoy the outdoors in the manner in which we have been blessed.”*

– 2016, Bill Hyatt, Bureau Chief, CT DEEP, Bureau of Natural Resources

# Thirty Years of Monitoring and Managing Piping Plovers

Written by Rebecca Foster, DEEP Wildlife Division

**2016** marked the 30<sup>th</sup> year of piping plover management by the DEEP Wildlife Division. In 1986, when the piping plover was added to the federal Threatened and Endangered Species List as a threatened species, only 20 pairs nested on nine Connecticut beaches. Thirty years later, in 2016, Connecticut had a record 63 pairs of plovers nesting on 15 beaches!

Since 1986, the number of people actively involved with protecting piping plovers in Connecticut has increased exponentially. In the beginning, the Division hired one to two seasonal research technicians to assist a wildlife biologist in monitoring and protecting plover nests. Today, efforts are augmented by many conservation partners, including Audubon Connecticut, Roger Tory Peterson Institute, The Nature Conservancy, the U.S. Fish and Wildlife Service (USFWS) Stewart B. McKinney National Wildlife Refuge, and over 100 volunteers.

Volunteer shorebird monitors are trained by DEEP and USFWS and coordinated by the Audubon Alliance for Coastal Waterbirds. These volunteers collect hundreds of hours of observation data, patrol beaches all summer



Due in large part to intensive management and protection efforts, the piping plover population in Connecticut has remained fairly stable over the past few years.

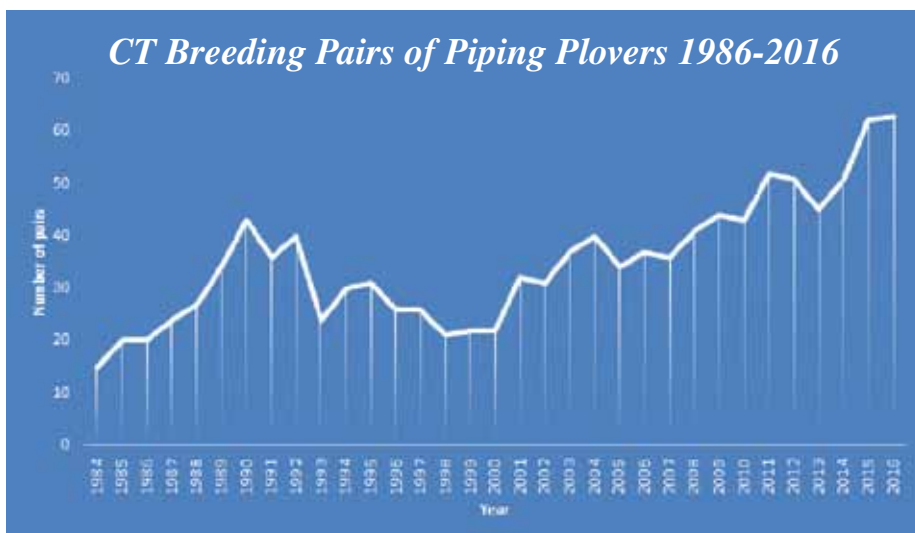
for disturbances, and educate the public about the vulnerability of ground nesting shorebirds on our beaches. They also contribute much needed manpower to the efforts of installing, maintaining, and removing protective fencing throughout the season. Critical nesting times for plovers fall during the Memorial Day, Fourth of July, and Labor Day holidays – typically the busiest beach days of the year. The volunteers devote their time to protect the birds from additional human

disturbance during these holidays. From April to early September, the assistance provided by these fantastic people is both necessary and greatly appreciated.

## Management Strategies

The Division and our conservation partners actively manage the federal and state threatened piping plover and state threatened least tern. During the breeding season, nesting sites are roped off and signs are posted asking beachgoers to “**Stay Away**” from these sensitive areas and to refrain from bringing dogs onto the beach. Once eggs begin to hatch, “**Watch Your Step**” signs are placed where tiny plover and tern chicks are vulnerable to being stepped on. In some areas that are accessible primarily by watercraft, “**No Landing**” signs may be used. Fencing and signage have been successful, also benefitting other nesting shorebirds, like the state threatened American oystercatcher.

Currently, piping plovers nesting on Connecticut beaches receive additional protection through the installation of metal fences, called enclosures, around nests. Enclosures prevent wild animals and free-roaming cats and





unleashed dogs from preying on plover eggs or attacking adults while they are incubating eggs. Exclosures can be used because plovers generally walk on the beach (versus flying) and are able to easily move in and out through openings in the fence.

Most years, the success rate for exclosed nests versus unexclosed nests is always higher. In 2016, the hatching success of exclosed nests was 59% while the hatching success for unexclosed nests was 48%. Unfortunately, it also has been demonstrated that an exclosure may sometimes draw unwanted human attention, and some predators have learned to “key in” on the exclosures, associating them with a guaranteed meal. Because of these potential drawbacks, the Wildlife Division uses this management tool on a beach by beach basis. Human traffic, predator history, and documented predator presence and activity are all considered when gauging the likely benefit versus cost of using



P. J. FUSCO

**Least tern chick production in Connecticut has been down for consecutive seasons. Many factors are being evaluated in the hope of finding a way to stop this decline.**

an exclosure. For the past two years, researchers from the State University of New York College of Environmental Science and Forestry have been col-

lecting exclosure-related data from Atlantic Coast states to create a scientific model that can be used to determine

*continued on next page*



R. FOSTER

**Piping plover and least tern nesting areas that are roped off are also marked by informational signs that ask beach visitors to give the nesting birds some space.**

## Plovers

continued from previous page

the likelihood that an enclosure will be successful at a particular site.

### Crowded Quarters

The number of piping plover pairs attempting to nest in Connecticut has been increasing over the last 30 years, while human population, recreation, and shoreline development have also been increasing. Sea level rise and beach erosion will lessen the amount of sandy beach available, and there is only so much good “real estate” for piping plovers. Historically productive beaches seem to be experiencing overcrowding, with many plovers concentrating on particular beaches. Overcrowding has a negative effect on productivity because too many birds in close quarters leads to more time spent defending territories rather than incubating eggs, foraging for food, or protecting young. These changes in behavior have been noticed over the past couple of seasons. In 2015, 62 piping plover pairs used 21 beaches for nesting, compared to 2016 when 63 pairs shared 15 beaches. Connecticut saw a record high 13 pairs attempt to nest at one site; only nine of those pairs

## Least Tern Nesting Season Results

The 2016 least tern nesting season in Connecticut was disappointing, and productivity numbers were similar to those from the last several years. After a surge of 530 pairs of terns that nested on our shores in 2013, the count fell to 257 pairs in 2014, 241 pairs in 2015, and 230 pairs in 2016. Nesting data collected in Connecticut and neighboring states show both high and low pair count years, but the population has remained relatively stable in the Northeast since biologists began looking at regional least tern productivity in 2006. The least tern fledge count fell from 97 in 2013 to 75 in 2014, then to a low of 27 in 2015. This past season, tern adults were able to fledge 87 chicks. The cause of consecutive seasons of nest abandonment and the inability to successfully fledge more young is unclear and being investigated by researchers. Potential theories to explain the lack of success for this state threatened species on Connecticut beaches include a large increase in predators on nesting beaches, increased human disturbance, and lack of available food during critical chick-rearing periods.

successfully hatched chicks.

### Nesting Results

Although the number of plover pairs that nested in Connecticut this year (63) was similar to 2015 (62), high tide nest wash-outs, human disturbance, and predation contributed to a reduced number of successfully hatched and fledged (learned to fly) chicks. The number of eggs hatched fell from 160 (60% success rate) in 2015 to 152 (49% success rate) in 2016. The number of chicks that fledged fell from an all-time high of 112 (70% success rate) in 2015 to 87 (57% success rate) in 2016.

Despite the lower numbers, this

year’s plover season is still considered successful. An average productivity of 1.21 fledged chicks per pair is needed to maintain a stable plover population in New England. The average number of chicks fledged per pair in Connecticut in 2016 was 1.38. From a regional perspective, Connecticut fares well in protecting our portion of the Atlantic Coast plover population. Most years, our state produces enough plover chicks to reach that threshold for a stable population. With great partnerships, Connecticut usually produces more. Thanks are extended to our conservation partners for another successful season!

## Threats to Continued Success

This past nesting season, two incidents resulted in the mortality of piping plovers and eggs from direct human disturbance. Unlike predation, human-induced mortality is not considered natural and is almost always avoidable. One incident occurred when a group of teenagers played football in the cordoned-off bird nesting area. Sadly, part of a piping plover nest was trampled. The second incident occurred when unleashed dogs that were being walked near a nesting area likely caused the death of a piping plover chick. These unfortunate incidents illustrate that the continued success of fragile threatened shorebird populations ultimately depends on the education, concern, and stewardship of all citizens.



Crushed plover egg within a human shoe print.



Trampled piping plover chick surrounded by dog tracks.

**Correction to a Correction:** In the July/August 2016 issue of *Connecticut Wildlife*, the article “Saving the Puritan Tiger Beetle in Connecticut” incorrectly listed the Richard Cronin Aquatic Resource Center in Sunderland, Massachusetts, as the Richard Cronin National Salmon Station. The facility started as a state trout hatchery about 60 years ago, and in 1982 ownership was transferred to the U.S. Fish and Wildlife Service to become a national salmon station and hatchery for Atlantic salmon in the Connecticut River watershed. That program ended in 2012. The facility was recently renamed to be more in line with its current responsibilities.

# Remembering James V. Spignesi: Former Biologist and CO

Written by Julie Victoria, Retired Wildlife Division Biologist

If you did not know James V. Spignesi, Jr., and had only heard that he was a DEP Conservation Officer that was fatally wounded while on patrol in eastern Connecticut on November 20, 1998, then you may not have known that Jim was a 22-year DEP veteran at the time of his death. Jim became a Conservation Officer in 1990 and, prior to that, spent over 14 years as a wildlife biologist with the Wildlife Division's Deer Management Program.

The Deer Management Act of 1974 changed the status of deer in Connecticut from an agricultural nuisance to a game animal and, in 1975, the first firearms deer hunting seasons began. Jim began his service with DEP (now DEEP) as a seasonal employee in 1977 during the early days of the Deer Program and was upgraded to wildlife biologist in 1981. He accomplished much during his short tenure, at a time when mainframe computers were used instead of the personal computers of today. Actually, the state land deer permit lottery was originally run on the Connecticut Lottery mainframe computer and Jim would bring the large magnetic storage disks with hunter data to the CT Lottery computer and work with their personnel to select the "winners." The state's deer herd was small at the time and the number of applicants far exceeded the number of permits issued. Jim was always professional in fielding the complaint calls from hunters who were not selected, even though he really wished that he could have given them all permits.

Jim's dedication and perseverance were evident when he was analyzing data using the time-consuming software that was available at the time. During those early years, all department publications were designed by hand, not computers, and Jim was meticulous in pasting up and laying out the Deer Season Field Guide and many other booklets and applications. Jim also was instrumental in maintaining the original 14 to 16 mandatory state-operated deer check stations and overseeing all of the data collected at the stations. Later in his career, he inspected private facilities interested in becoming deer check stations. He also personally marked the boundaries and worked with private land neighbors at a controlled hunt in East Lyme so that the hunt would run smoothly. Jim conducted aerial deer surveys from a low-flying helicopter to monitor the deer population during winter. His rapport and friendship with the pilots



P. J. FUSCO

**Conservation Officer Jim Spignesi (standing left) talks with Wildlife Division former Director Dale May (standing center) and former Deer Program Biologist Mark Ellingwood (standing center right) at the Bluff Point Coastal Reserve controlled deer reduction in 1990.**

got the job done safely and efficiently.

A lasting tribute and evidence of Jim's time as a wildlife biologist is a paper co-authored by Jim and Mark Ellingwood (former CT Wildlife Division biologist and current New Hampshire Wildlife Division Chief) about the management of an urban deer herd and the concept of cultural carrying capacity (the maximum number of deer that can coexist compatibly with local human populations) that is cited often in research papers, journals, and statements.

Connecticut's deer herd expanded over the years, as did the Deer Program, and Jim had lots of help to gather data. Many former and current fish and wildlife biologists, State Park personnel, Environmental Conservation Police Officers, and seasonal staff spent time working with Jim. Some may say that Jim was quiet, but his pithy comments and observations were amusing and often made for congenial working conditions.

Jim did not spend all of his time working with deer. He participated in some of the first Midwinter Bald Eagle Surveys conducted in Connecticut, helped with the capture and relocation of nuisance geese, trapped and relocated nuisance wildlife, and participated in waterfowl surveys and banding projects. He was a well-rounded biologist and naturalist.

Jim also was an avid runner, cyclist, and

even a lacrosse referee. Though he seemed to subsist on yogurt, peanuts, and coffee, he was very fit and spent multiple winter vacations ice climbing Mt. Katahdin in Maine with friends. This conditioning prepared him for the rigors of being a Conservation Officer. In addition, Jim's tenacity showed through when he was awarded the DEP Medal for Meritorious Service in August 1998 for the return of a distraught runaway youth.

In 1999, after Officer Spignesi's death, the James V. Spignesi Wildlife Management Area (WMA), a 369-acre parcel located in Scotland and Canterbury, was dedicated in honor of Jim's memory. The WMA was one of Jim's favorite places. Also in 1999, a scholarship fund was established by a committee of Jim's friends, family, and coworkers to provide scholarships to: 1) a UConn upperclassman who aspires to a career in wildlife management or conservation law enforcement; 2) a graduating senior male lacrosse player from Conard High School, which Officer Spignesi attended; and 3) a graduating senior from Parish Hill High School located in the town Officer Spignesi lived in when he was killed. Those interested in contributing can mail checks, payable to the James V. Spignesi Jr. Memorial Fund, P.O. Box 156, Hampton, CT 06247.

# A Haunting in the Forest – The Barred Owl

Article and photography by Paul Fusco, DEEP Wildlife Division

With plumage colored in soft grays and browns and marked by streaks and spots of white, the barred owl so well mimics its forest surroundings that it becomes virtually invisible to the untrained eye. This owl is common in our state but, because they inhabit deep woods and are so well camouflaged, barred owls can be difficult to find and see.

Being one of Connecticut's most common owls does not mean it will be easy to observe. Barred owls are secretive and often use deep cover to hide. Luck favors the ready observer, so knowing some of the barred owl's behavioral habits can improve the chances of finding and seeing an owl. Barred owls will sometimes perch along forest edges, including roadsides, at dawn or dusk as they sit in wait for a hapless vole to scamper through the leaves or grass. On cold winter days, one may be found sitting in the sun to warm up. And, on dark cloudy days in winter a barred owl may be seen actively hunting.

## Description

Barred owls are stocky, medium to large owls with a large rounded head, prominent facial disk, and no ear tufts. They have dark gray/brown top side plumage with white spots. The underside is lighter with dark barring on the chest and heavy vertical streaking on the belly and flanks. They have large dark brown eyes and a pale bill. The spread wings and tail are rounded and flight is buoyant and silent.

At a length of 17 to 24 inches and a wingspan averaging 44 inches, the barred owl is second in size to the great horned owl within Connecticut forests. The only time you may see a larger owl in our state is in winter when snowy owls visit from the Arctic; however, these open country birds are rarely seen in woodland habitat.

## Habitat / Range

Barred owls typically inhabit the deep woods. They are most common in mature hardwood and dense coniferous forests, often associated with some type of wetland. Wooded streamsides, wooded swamps, and river valley lowlands are ideal. The best habitat has a sizable component of large snags and hollow trees. Barred owls are widely distributed in Connecticut, with the heaviest concentrations in the western and eastern portions of the state where extensive woodlands are present. Numbers are lower in the more developed central and southern parts of the state where large forest trees have been cut.

While fall and winter wanderings may occur, barred owls are chiefly a sedentary species. They do not migrate long distances. Any winter movement is likely a result of food scarcity within their territory.

## Behavior

All owls are birds of the night, but the barred owl is more nocturnal than most. While one may be encountered during the day, the usual behavior is to be active after sunset. Barred owls may be active during the day when there are dark, cloudy conditions and it is difficult to find food during winter.

The barred owl's most familiar hooting call is heard most often during late winter and early spring as paired individuals call vigorously back and forth to one another with "Who cooks for you? Who cooks for you-all?" Barred owl calls can be heard at any time of the year but more frequently during the breeding season. The owls have an extensive catalog of vocalizations, including a loud, unsettling human-like scream.

Nesting begins in late March or April in southern New England. Barred owls do not build a nest, rather they find tree hollows, broken off chimney trees, or other large tree cavities in which to lay their eggs. They may use the same nest site for a number of years. Barred owls sometimes use artificial nest boxes, but will rarely take over an old crow or hawk stick nest. The typical clutch size is two or three white eggs, rarely up to five. Incubation lasts about 28 days, and young fledge after about 42 days. Young owls will venture out of their nest cavities, walking on tree limbs (branching) before they are able to fly.



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Adult barred owls have a barred collar on the upper chest and strong vertical streaking on the belly and flanks. Note the dark eyes and pale bill.



A barred owl flies out from a woodland edge to begin its nighttime hunt. The barred owl is one of Connecticut's most common owls.

Being highly territorial, barred owls may fly at and chase intruders aggressively. During the nesting season, they may even strike intruders with their feet. The feet of the barred owl are smallish for a raptor of its stature, which limits the size of prey it can catch. In comparison, the great horned owl, which is slightly larger, has much bigger feet and talons, allowing it to catch more sizable prey.

Barred owls have a varied diet. Mice, voles, chipmunks, and small birds are their principle food, supplemented with snakes and frogs during the warmer months. Prey the size of rabbits and grouse may be taken. The owls will also catch and eat fish, crayfish, bats, and smaller owls.

### Conservation

Connecticut forests have been maturing over the last 100 years, which is benefiting forest wildlife, including the barred owl. Conservation of large forest tracts with mature trees will benefit these birds into the future. Barred owls are sometimes used as an indicator species for managing old forests in areas of concern. If you have not experienced the call or sight of a barred owl in Connecticut, try visiting a heavily forested wetland at dusk. The owls are highly vocal and, with a little patience, an observer may be rewarded with a call and perhaps a sighting.

Owls are remarkable creatures that always generate excitement in the birding and outdoor communities, in part because they are so difficult to find. Daytime roosting owls can be

subject to disturbance and may be put at risk unintentionally if their resting place gets too much attention. A flushed owl may be chased by mobbing birds, including crows, and blue jays. Once the owl leaves the safety of its resting spot, it becomes vulnerable to predators and other dangers. If the owl continues to be chased, it could leave the area and not likely return. Responsible owl viewing involves:

- *Not getting too close. If you cause an owl to flush, you are putting the owl at risk.*
- *Being quiet. Owls are very sensitive to noise.*
- *Limiting your movements and moving slowly. Owls are sensitive to rapid movement.*
- *Limiting the time you spend at an owl location to minimize any potential stress on the owl.*



A recently-fledged fluffy barred owl in a Connecticut forest.

# Scoring the Health of Long Island Sound

Written by Penny Howell, DEEP Marine Fisheries Division

The second “Eco Report Card” for Long Island Sound was recently published by the non-profit group *Save the Sound* and, although the grades given for 2015 are an improvement over the first grades given in 2013, Long Island Sound did not exactly make the Dean’s List. Based on four physical water quality indicators (dissolved oxygen, nutrients, chlorophyll, and water clarity), the Eastern Basin scored an A- (with help from the Atlantic Ocean) while the far Western Narrows scored an F. The central sections pulled up the Sound’s grades with a C-, B, and B+. It is not surprising that the Western Narrows suffers with a dunce-cap grade considering the water quality assaults it has endured for centuries. Even though much progress has been made in improving sewage treatment plants (one of the largest sources of problems) and industrial discharges (the worst historical source leaving “legacy” water quality problems), remedial help is still needed to bring the entire Sound up to target water quality standards.

But what about the animals that live in the Sound – can we give the Sound a grade for biological production? Biodi-

versity – or species richness – is a very good measure of how well the Sound can withstand damage and still remain productive. Many studies have shown that the more biologically diverse a community of animals is, the more productive and more stable it is over time.

The DEEP Marine Fisheries Division has been surveying the major basins of the Sound (exclusive of the Eastern and Western Narrows) for the past 33 years with the goal of tracking the abundance of finfish and invertebrates living in the Sound. Over that time, survey catches have catalogued a total of 102 finfish species, putting the Sound at the high end of fish diversity for a medium-sized estuary. And, equally important, the average abundance of finfish captured and counted in survey samples has stayed fairly steady over the past three decades. These data show that, on average, today’s Sound supports the same level of fish production as it did in the early 1980s. However, as many long-term Connecticut anglers know, the composition of the fish community has changed over the years. Abundance in the spring has diminished by about half, while abundance in the fall has more than

made up for that loss. And, if the focus is on the number of different species captured in each survey sample, the fall survey catches have gained an average of almost four species, increasing from about 11 species per sample in the 1980s up to 15 in recent years. Meanwhile, the spring survey catches have maintained their average at about 11 species per sample for the entire time series. So, the diversity in Long Island Sound has increased, most likely because warming waters are allowing fish species from the mid-Atlantic, like black sea bass and spot, to migrate to the Sound earlier in the year and in much greater numbers.

As the DEEP Bureau of Natural Resources wraps up the celebration of its 150<sup>th</sup> Anniversary this year by looking back over the history of loss and recovery in the abundance and health of our natural resources, we can point to numerous successes but with many goals yet to be reached. Long Island Sound’s mid-course grades show our progress and limitations, and especially point out the value of long-term continuous survey programs that provide a crucial link between the past, present, and potential future conditions.

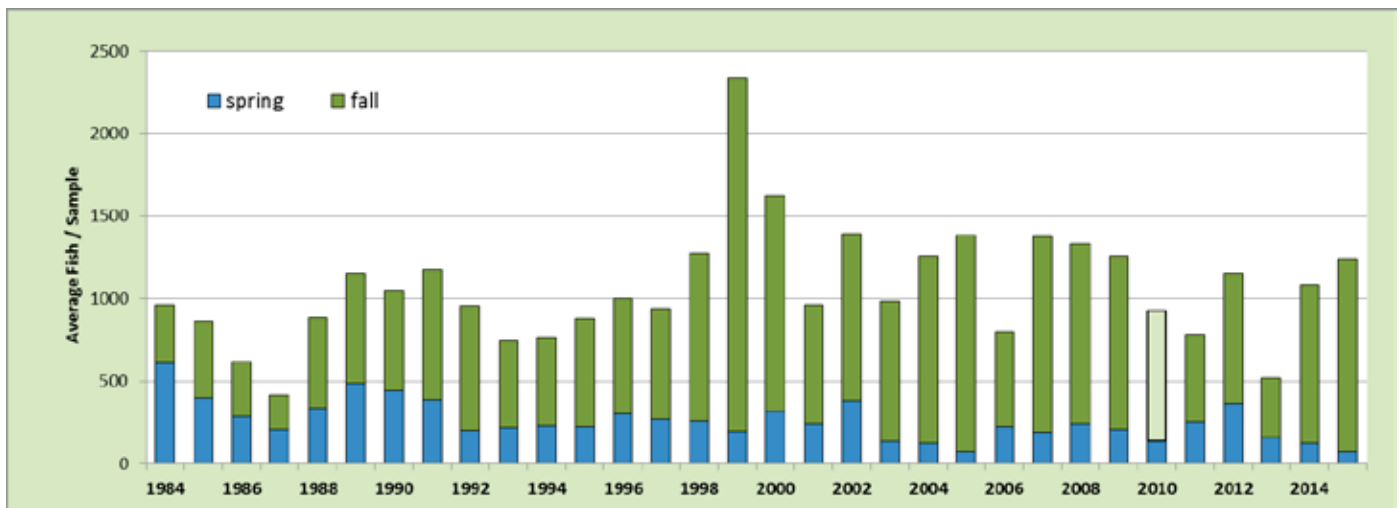


DEEP MARINE FISHERIES DIVISION

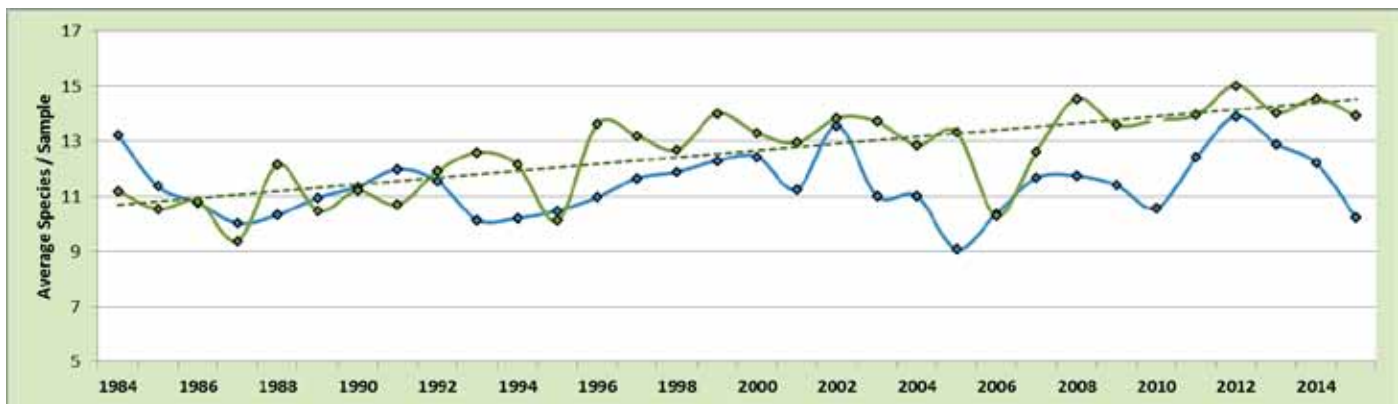
A commercial clam boat working in western Long Island Sound off of Milford. Despite water quality shortcomings, these waters remain very productive and are carefully monitored for seafood safety.



For water quality scoring, Long Island Sound was divided into five regions east to west: Eastern, Central and Western Basins, and Eastern and Western Narrows. The scoring procedure was developed by the University of Maryland and first applied to the Chesapeake Bay. The non-profit group *Save the Sound* now oversees scoring for Long Island Sound. For more details and maps, see their website at <http://ecoreportcard.org/report-cards/long-island-sound>.



CT DEEP Marine Fisheries Division's Long Island Sound Trawl Survey has recorded an index of abundance for finfish in the Sound since 1984 during spring (April – June) and fall (September – October) research cruises (above). While the average number of species per sample (below) in spring has been fairly steady, the average number of species in fall is increasing (below, dashed line). Note that sampling was suspended in fall 2010 due to breakdown of the research vessel; abundance and species numbers for that cruise are estimated.



# To the Rescue of an Injured Box Turtle

Written by Samantha Corbett, DEEP Wildlife Division

Eastern box turtles, although somewhat rare, can be found throughout Connecticut's terrestrial landscape. They typically have a home range of less than two acres where they will spend their entire lives. The box turtle is listed as a species of special concern under Connecticut's Endangered, Threatened, and Special Concern Species Act, mainly due to habitat loss, road mortality, and the illegal taking of turtles for pets or other purposes.

In early June 2016, Wildlife Division biologist Peter Picone received a report of a female box turtle that was having difficulty walking. Pete collected the turtle and, after taking a closer look at the injury, it was decided that additional care was needed. Seasonal Resource Assistant, Samantha Corbett, contacted Avon Veterinary Clinic where Dr. Tom Morganti offered to perform an x-ray and found not only a fracture in her rear right leg, but also that she was gravid (carrying eggs). The turtle was then transported to Roaring Brook Nature Center in Canton for further care by DEEP licensed wildlife rehabilitator Katelyn Stryeski and staff. After careful monitoring, it was determined that the turtle would not be able to lay the eggs on her own due to the nature of her injury.



An x-ray taken by Dr. Tom Morganti of Avon Veterinary Clinic revealed that a female box turtle not only had a leg injury, but was also carrying six eggs.



A rehabilitated female box turtle that suffered from a leg injury was released back into the wild with six hatchlings that were incubated and hatched from eggs that the female was carrying when she was rescued. Female box turtles do not provide parental care for their hatchlings, but it is hoped that these young turtles will survive to become breeding adults.

After being induced by a veterinarian, the turtle was able to lay all six of her eggs, which were then transported to Wildlife Sanctuary Curator Nick Barnett at The Children's Museum in West Hartford. Nick has been successful incubating reptile eggs and managed to hatch all six eggs in early August, an incredible accomplishment. After three months of rehabilitation, the female box turtle recovered from her injury. In early September 2016, the box turtle was released back into the wild in the same area where she was found, along with her six hatchlings. Female box turtles do not provide parental care to their hatchlings. However, after a slightly unorthodox start, we are hopeful that these hatchlings will survive to become breeding adults. This was a great success as many facets of wildlife conservation came together to rescue, rehabilitate, and release these seven eastern box turtles.

## Important Reminders!

This story illustrates how professional biologists, experienced veterinarians, and licensed wildlife rehabilitators working together can save a listed species like the eastern box turtle. Anyone who finds an injured turtle or a turtle nest should not attempt this on their own. You should contact the DEEP Wildlife Division so that the turtle can be given the proper care. Highly specific life history traits and susceptibility to diseases in captivity make professional care essential. Turtle nests are best left alone to hatch on their own in natural conditions. Turtles should never be relocated to a different location – they should remain in the area where they were found.

## Eastern Box Turtle Concerns

The eastern box turtle was once common throughout the state, mostly in the central Connecticut lowlands. Its distribution is now spotty, although where found, it may be locally abundant. Because of the population decline in Connecticut, the turtle was added to the state's List of Endangered, Threatened, and Special Concern Species when the list was revised in 1998. The eastern box turtle is currently listed as a species of special concern. Under state regulation, eastern box turtles cannot be collected from the wild.

Loss of habitat is the greatest threat to turtles. Some turtles may be killed directly by construction activities, but many more are lost when important habitat areas for shelter, feeding, hibernation, or nesting are destroyed. As habitat becomes fragmented into smaller pieces, turtle populations become smaller and more isolated. Roads bisecting turtle habitats can seriously deplete local populations due to vehicle kills.



# History of a Disappearing Habitat: Pitch Pine-Scrub Oak

Written by Emery Gluck, DEEP Division of Forestry

Connecticut's sand plains were once occupied by pitch pine and scrub oak, as well as grasslands. It is estimated that 95% of the state's pitch pine-scrub oak barrens have been lost, making this landscape the most decimated upland ecosystem. The sand plain barrens, along with ridge top pitch pine-scrub oak barrens and heathland, are the most important shrubland habitat for several rare and specialized species, such as buck moth and Gerhard's underwing. The small remaining portions of this habitat probably do not support many of these specialized species. The remnants are now overrun with taller white pines and other hardwoods; fire is no longer prevalent to keep invaders at bay or to help pitch pine reproduce.

Traprock ledges in the center of Connecticut and many smaller ledges provide limited sanctuary for pitch pines and scrub oaks because they get the sun exposure these trees need. In lower elevation areas, adjacent hardwoods close in, casting deadly shade. Ordinary forests are generally too choked with competing trees for the offspring of pitch pines to thrive.

U.S. Forest Service Forest Inventory and Analysis data corroborate the absence of new generations of pitch pine seedlings in Connecticut and a substantial mortality rate of older trees. Pitch pine-scrub oak ridge top and sand barrens are down to 0.04 of one percent of the Connecticut forest, and the conifer now comprises less than one percent of all pines that grow in the state.

## Historical Uses of Pitch Pine

Early colonists called pitch pine "candlewood," although other species, particularly in the South, also had that nickname. The wood was valuable for providing light because settlers lacked tallow for candles. They burned pitch pine knots (the most resinous part where the trunk meets the limbs). Many of Connecticut's landmarks, such as Candlewood Mountain in New Milford, Candlewood Hill in Haddam, and Candlewood Ledges in Lyme bear witness to this namesake.

Lumber from pitch pine was used in barns and for floorboards. Turpentine was another valuable product produced from pitch pine knots by tapping the trees for sap. The sap was spooned out into a container in a process known as "dipping gum." Spirit of turpentine was the aromatic product produced by distillation and rosin was the dense, waxy residue.

New England colonists in the 17<sup>th</sup> century started to produce pine tar from pitch pine, which was crucial for the shipbuilding industry. The tar was used as a preservative for the rigging and probably for oakum, a fibrous material that was caulked between ship planks to make the ship watertight. Tar was made by burning logs, stumps, and deadwood in an earthen kiln. A sloped gutter at the bottom of the kiln directed the oozing tar to a collection barrel. One cord of pitch pine was estimated to make 40 to 60 gallons of tar. England, which was largely deforested by the 1700s, needed shipbuilding material and tar to expand and maintain its merchant fleet and navy. During the first Dutch War, when England was prevented from obtaining needed supplies from northeastern Europe, the

country started importing tar and masts from the American colonies. But, the colonists also needed tar as they ramped up their own shipbuilding industry, which thrived in nearly all of the towns on the Connecticut coast and the navigable part of the Connecticut River. The high demand for tar began to affect the forest. As early as 1650, towns along the Connecticut River began prohibiting the use of candlewood for tar-making if gathered within six miles of the river. Families were allowed to use it for light and fuel. Tar burning was forbidden in Windsor in 1696, Glastonbury by 1700, and Hartford in 1709.

## Abandoned Farms: A Second Breath of Life

Pitch pine resurged following the widespread abandonment of farmland in the second half of the 19<sup>th</sup> century. The trees became large enough for logs in the early 20<sup>th</sup> century. The Connecticut Agricultural Experiment Station reported that 1.5 million board feet of pitch pine were cut in 1910. That is more pitch pine timber than existed in the entire state in 1998, according to the U.S. Forest Service. Pitch pine was ninth of all the species cut for lumber in 1910 (American chestnut was first).

## Resetting the Ecological Clock

Almost none of Connecticut's pitch pine-scrub oak barrens are sustaining themselves under current natural conditions. A major reason is that today, wildfire in Connecticut is a faint flicker of its past self. Historically, fires were relatively frequent. When there was a fire epidemic in the state in the early 20<sup>th</sup> century, as much as one of every 33 acres burned annually. Now, only one of approximately 4,000 acres burns annually, and the fires are generally less intense. Pitch pine cones have historically required fire to open and release seeds.

DEEP Division of Forestry implements controlled burns and tree harvests to sustain pitch pine-scrub oak and other disturbance-dependent ecosystems. Severe fires create seedbeds for the pine by devouring pine duff and exposing mineral soil. The harvesting of white pine timber makes the restoration of pitch pine with fire more feasible. Besides the lack of new pitch pines, there is another concern for older stressed trees – the southern pine beetle, which was recently documented in Connecticut and can infect and kill the rare pitch pine trees.

History describes a forest largely unfamiliar to Connecticut today. The conditions that established pitch pine ecosystems no longer exist for the most part. It is difficult for some to accept that human-made disturbances, such as judicious tree harvests or controlled fires, are needed to sustain diverse forest ecosystems and habitats. The pitch pine-scrub oak ecosystem might be the first casualty of the current Connecticut landscape.

**This was adapted from a more comprehensive article (*Pitch Pine-Scrub Oak Barrens*) in the spring 2015 issue of *Connecticut Woodlands*, a magazine published by the Connecticut Forest and Park Association (CFPA). Find the article and more on CFPA's website at [www.ctwoodlands.org](http://www.ctwoodlands.org).**

*It is estimated that 95% of the Connecticut's pitch pine-scrub oak barrens have been lost, making this landscape the most decimated upland ecosystem.*

# A Grand Opportunity for the Eastern Coyote

Written by Eric Runowicz, DEEP Wildlife Division

The howl of the eastern coyote is a familiar sound to most Connecticut residents. Coyotes can be heard and seen in just about every neighborhood in the state. This was not always the case, as coyotes are a relatively new resident of Connecticut. Most people do not realize these wily canids are not native to Connecticut. The coyote (*Canis latrans*) is actually a native of the western plains of North America. The presence of the eastern coyote in Connecticut is a direct result of the eradication of a native canid species: the gray wolf (*Canis lupus*).

The range of the gray wolf extended across most of North America (including Connecticut) until the early 19<sup>th</sup> century. European residents of Connecticut (and surrounding states) viewed wolves as a threat to human safety and livestock, as well as competition for wild game. Wolves were killed whenever possible by shooting, trapping, and poisoning in an attempt to eliminate the threat. Bounties were placed on wolves from 1647 to 1808. The wolf was extirpated from Connecticut by 1742 when the last documented wolf was shot in Pomfret by Israel Putnam. A combination of direct killing, changing landscapes, and loss of prey were to blame, but this created an opportunity for coyotes to expand eastward into new territory.

Coyotes are highly adaptable canids and with no competition from wolves, they eventually established a breeding population in the northeastern United States within the last century. They flourished in the human-altered landscape of the eastern U.S., even while under human persecution. Coyotes are much more adaptable than wolves, and were able to sustain themselves with smaller prey and a greater variety of available food. As coyotes migrated eastward, they hybridized with the few remaining wolves, which resulted in the larger eastern coyote we know today. While still a coyote, the eastern coyote does contain a



DEEP WILDLIFE DIVISION ARCHIVES

**Ted Myers of Meriden holds a coyote that was shot just south of the Kensington Fish Hatchery in Berlin in January 1963. Coyotes were first documented in Connecticut during the 1950s, but were still uncommon in the 1960s. The population has since grown and expanded throughout the entire state. Connecticut now holds regulated trapping and hunting seasons for coyotes.**

small amount of wolf DNA. The first coyote in Connecticut was documented in the mid-1950s, and since then, the population has steadily increased. Coyotes are now common across the entire state.

As coyote populations increased, concerns about public safety and threats to livestock and pets also increased. Coyotes have attacked livestock, pets, and occasionally people in Connecticut. There are roughly 20 to 30 attacks on dogs each year. Marauding coyotes are regularly attracted to pet foods, food scraps left outside, unsecured garbage, and bird seed. To prevent unwanted visits from coyotes, people should secure trash, refrain from putting food scraps in compost piles, and clean up fallen bird seed from under feeders. Cats should be kept indoors and dogs should be on a leash while under constant supervision to avoid any conflicts with wildlife. Most coyotes can be frightened away by using whistles and air horns, throwing rocks, and spraying water from a garden hose.

Connecticut currently has hunting and trapping seasons for coyotes, which are proven to be the most effective method to reduce coyote/human conflicts. In previous years, coyote hunting was closed during the spring turkey season and fall pheasant stocking period. New regulations allow hunting of coyotes throughout the year with no bag limit, giving property owners the option of harvesting nuisance coyotes. Trapping is limited to December through March, but there is no bag limit during these months. If Connecticut residents do their part, most conflicts with coyotes can be avoided. While not native residents of Connecticut, coyotes do serve an important ecological role as a top predator, helping to control prey populations such as white-tailed deer and many species of rodents.

## Wolf vs. Coyote, a Size Comparison



**At six feet in length, compared to four feet in length (including tails), a wolf is much bigger than a coyote.**

# Sunday Hunting: Making History in Connecticut

Written by Andrew LaBonte, DEEP Wildlife Division

In October 2015, a bill was passed to allow Sunday archery hunting on private land in deer management zones (DMZs) determined by the DEEP to have an overpopulation of deer. All DMZs, except DMZs 2, 3, and 4A, are currently open to Sunday archery deer hunting on private land.

In 2014, 29% of deer harvested during the regular archery season were harvested on Saturday, while in 2015, 25% were harvested on Saturday and an additional 11% were harvested on Sunday. From 2014 to 2015, combined harvest on weekends accounted for seven percent more deer during the regular archery season. As of October 25, 2016, the proportion of deer harvested on Saturdays and Sundays was similar to the 2015 season.

In spring 2016, the Wildlife Division sent an email to hunters who purchased an archery permit in 2015 to further assess archery deer hunter participation, equipment use, and harvest opportunities in Connecticut. When asked why hunters originally took up archery hunting, the top three choices out of 14 potential options were because they simply enjoy hunting (57%), desire spending time outdoors (50%), and enjoy the challenge of harvesting a deer (50%). When asked why they specifically purchased a 2015 archery permit given the same options, 20% of hunters indicated it was because they simply enjoy hunting, 19% indicated it was because of the opportunity to hunt deer on Sunday, and 19% indicated it was because the archery season is longer. Although, 28% of archery hunters indicated on the survey that they recently began archery hunting because of the opportunity to hunt on Sundays, only 13% indicated that 2015 was the first year in which they purchased a permit in the last seven years. Nearly all archery hunters indicated they purchased a permit in 2015 (98%), while 58% of hunters indicated they purchased a permit in 2009. The observed increase in archery permit sales may be more an artifact of a



P. J. FUSCO

Based on a Wildlife Division survey, it appears that the opportunity to hunt for deer on Sundays on private land in certain deer management zones may have increased private land archery deer permit sales in 2015.

hunter's increased ability to recall more recent years in which he/she purchased a permit, versus what was purchased six years ago. Regardless, it appears the opportunity to hunt on Sundays may have increased permit sales in 2015.

Of hunters who have permission to hunt in a zone which allows Sunday hunting, 56% of those hunters took advantage of it. When asked what reasons best describe when they hunted, about half of hunters (48%) indicated they took advantage of hunting on Saturdays and Sundays. A small percentage of hunters indicated that if they had a scheduling conflict (11%) or if weather was bad (6%), they then took advantage of hunting on Sundays. Due to work limitations, some hunters (5%) can only hunt on Sundays. With limited time being reported as the main reason out of six choices why hunters did

not purchase an archery permit every year in which they could (60%), allowing hunting on Sundays may provide them with the time they need and an incentive for purchasing their license on a consistent basis. Because restrictions on Sunday hunting are related to DMZs being classified as having high deer populations, periodic changes could occur in the future as to which zones remain open on Sundays. Hunters should refer to the Wildlife Division's hunting webpage ([www.ct.gov/deep/hunting](http://www.ct.gov/deep/hunting)) for the most up-to-date information regarding Sunday hunting or information about deer hunting in general.

## Percentage of deer harvested during the archery season on weekends in 2014-2016

	2014	Year 2015	2016 <sup>b</sup>
Saturday	1,520 (29%)	1,114 (25%)	506 (25%)
Sunday <sup>c</sup>	0	500 (11%)	213 (11%)
Combined	1,520 (29%)	1,614 (36%)	719 (36%)
Total	5,173 <sup>a</sup>	4,410 <sup>a</sup>	2,028 <sup>b</sup>

<sup>a</sup> Does not include January

<sup>b</sup> Through Oct. 25, 2016

<sup>c</sup> Sunday hunting allowed starting Oct. 2015

# What Does the Future Hold for Wildlife Conservation in CT?

*In this column, Editor Kathy Herz offers her reflections and observations on the future of resource protection and wildlife management in our state.*

Throughout 2016, the Bureau of Natural Resources has been looking back at our rich and fascinating 150-year history. The conclusion of this anniversary is the ideal moment to look ahead to the future of natural resource protection and wildlife management in our state. As should be expected, DEEP's Wildlife Division of today is markedly different from the initial Board of Fisheries and Game, which came to life in 1895 (after officially starting as the Fish Commission in 1866). No one can be certain what further changes the future will bring for the Wildlife Division, but there are some critical trends and issues that will shape its work as we move forward.

## Technology

Computers, Global Positioning Systems (GPS), Geographic Information Systems (GIS), and radio telemetry are some of the modern day tools now used by today's wildlife biologists. These tools have increased our ability to collect important data about wildlife populations, thus improving management efforts. They have also resulted in biologists spending less time in the field and more time with computers. The days of the early biologists routinely handling animals and getting their hands "dirty" from physical, outdoor work are often rare and much anticipated events for biologists managing and conserving Connecticut's wildlife populations in 2016.

## Evolving Threats

Wildlife populations continue to face serious threats, including several that are challenging for biologists to tackle. Loss of wildlife habitat has always been the biggest concern, especially as human development continues to spread, pushing wildlife into smaller and smaller spaces. This is compounded by the influence of climate change on seasonal life cycle events of plants and animals. The impacts of climate change, and how to deal with them, will be foremost in the efforts of present and future wildlife biologists and other environmental professionals.

Also related is the spread of non-

native, invasive plant and animal species that can displace native species and completely alter habitats and resident wildlife populations. Failing to control or eliminate the most destructive of these species could result in the extinction of several native species.

An increase in more common wildlife species and a decline in more specialized animals are also related to the loss and/or change of habitats. Human conflicts with various common wildlife, such as coyotes, resident Canada geese, and black bears, are on the rise as these populations grow and adapt to living close to people. On the flip side, as specific habitats disappear or become more rare (pitch pine-scrub oak, young forest, grassland, etc.), many specialized plant and animal species are experiencing slow, steady population declines. A recent report issued by the Connecticut Audubon Society (CAS), "State of the Birds 2016: Gains, Losses and the Prospect of Extinction," details the decline of some birds as it looks back over 10 years of trends and data. The report can be viewed on CAS's website: [www.ctaudubon.org](http://www.ctaudubon.org). Biologists and agencies must continue to focus on habitat management, as well as acquiring and protecting threatened habitats, in an effort to stop or reverse the decline of certain wildlife species.

Biologists are also concerned about the threat posed by several emerging diseases, such as white-nose syndrome (WNS) in bats, snake fungal disease, and the chytrid fungus in amphibians, just to name a few. WNS has decimated cave-dwelling bat populations in Connecticut and other states, causing several bat species to be added to our state list of threatened and endangered species. Snake fungal disease has been documented in a few snake species in Connecticut, including the critically endangered timber rattlesnake. The chytrid fungus causes an infectious disease that is affecting amphibians worldwide, including in Connecticut, and can result in mass die-offs of frogs and other amphibians. Wildlife Division biologists and other researchers have been and will remain active in documenting and studying these diseases, hoping to find a way

to help affected populations recover and not succumb to their devastating effects.

## Public Outreach

Not all conservation efforts are focused on just animals and their habitats. The role that people play has become even more important over the years. Human attitudes and perceptions of wildlife are often key factors when developing effective conservation strategies. There has been much discussion in recent years about "Nature Deficit Disorder," which is a growing gap between people and their connection to and knowledge of the natural world. Combine this phenomena with what seems to be a growing skepticism of science and government, and there is the potential for more controversy to arise over wildlife management and conservation practices undertaken by state and federal agencies.

The success of modern conservation relies on effective communication and building a consensus between the conservation community and the public. Wildlife agencies have made progress in expanding outreach and education efforts, but more needs to be done. Gone are the days of relying exclusively on press releases, brochures, and magazines. These tools have been augmented by websites, social media, video, blogs, mobile applications, and electronic newsletters. Using the internet, however, has drawbacks – people may not always be getting their natural history information from reputable sources. And, it appears that more and more people believe they are "experts," regardless of their level of experience or expertise. This has been demonstrated in recent controversies on social media where the knowledge and decisions of professional biologists, who have years of training and hands-on experience, have been discounted. Biologists and administrators are now tasked with expanding and improving communication efforts, along with providing educational, recreational, and interactive experiences that allow people to develop connections with the natural world. Dr. Michael Hutchins, who was interviewed for the blog, National Geographic Voices, offered this interesting comparison of past and

present wildlife professionals: “Whereas wildlife professionals of the past tended to be independent loners who enjoyed spending time alone in nature, today’s wildlife professionals must like dealing with colleagues, the public and the media and be excellent communicators and collaborators.”

### **Funding**

Fish and wildlife management have historically been funded largely by the users of the resource: hunters and anglers. Their purchase of angling equipment; firearms, bows, and ammunition; and licenses, permits, and special stamps have provided significant funding to fish and wildlife agencies for research, management, and habitat acquisition. These funds limit what species benefit from conservation work, mainly game species. “Nongame wildlife,” like bats, songbirds, reptiles, and amphibians, receive very little funding for conservation and management. At the same time, the number of hunters and anglers is declining, resulting in less revenue. Adding to the mix, many state wildlife agencies, including Connecticut, receive minimal financial assistance from state coffers. With current and future cuts in government spending, wildlife agencies are struggling as they lose lifetime professionals to retirements and are unable to hire new staff or initiate new projects due to a lack of funding and personnel. With wildlife professionals doing more with less, it is becoming difficult to accomplish core responsibilities, let alone take on new projects and also think about the future. As this trend continues, wildlife agencies must find new sources of revenue to fund both game and nongame programs, and everyone who appreciates and cares about wildlife, not just hunters and anglers, will need to contribute. Efforts to find innovative ways of funding wildlife and habitat management have been ongoing for decades, and one may be close to becoming a reality with the support of federal legislators and the public for recommendations proposed by the Blue Ribbon Panel on Sustaining America’s Diverse Fish and Wildlife Resources ([www.fishwildlife.org/files/Blue\\_Ribbon\\_Panel\\_Report2.pdf](http://www.fishwildlife.org/files/Blue_Ribbon_Panel_Report2.pdf)). Now is the time to work together to garner support for adequately funding wildlife!

### **Working Together**

While we face new and amazingly



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complex challenges as we enter the next century of resource conservation in Connecticut, we are also presented with tremendous opportunities. Advances in technology allow us to monitor wildlife and microhabitat use at unprecedented levels of detail. Scientists and biologists studying the current threats facing wildlife are in the process of finding tools and techniques to face these challenges head on and try to minimize their impact. With expanded outreach through social media and other means, it is anticipated that there will be a greater awareness of ecosystems and complex interrelationships, and thus more understanding and support. Ways of funding wildlife management and conservation into the future are being examined, with the recommendations of the Blue Ribbon Panel being the most promising.

Working together with the conservation community and others, it is possible to tackle the challenges. You can do your part by volunteering, joining and becoming active in a local conservation organization, participating in public meetings and providing input, attending a conservation-oriented event, donating to the Connecticut Endangered Species/Wildlife Income Tax Check-off Fund or other similar fund, purchasing a Connecticut Migratory Bird Conservation Stamp, and following the work of the Bureau of Natural Resources through *Connecticut Wildlife* magazine, electronic newsletters (Wildlife Highlights and Fishin’ Tips), our Facebook page ([www.Facebook.com/CTFishandWildlife](http://www.Facebook.com/CTFishandWildlife)), and the website ([www.ct.gov/deep/wildlife](http://www.ct.gov/deep/wildlife)). We thank you for your support!



## Update: 2016 Deer Season and CWD Testing

At the conclusion of the 2015 deer season, many hunters were left with their heads hanging low. The abundance of acorns and warm fall temperatures made the season extremely challenging for even some of the most seasoned veteran deer hunters. Due to the abundance of white oak acorns, the deer's most desired food, deer barely had to leave the comforts of their beds to search for food, and why would they want to when the fall temperatures were well above the average. The abundance of white oak acorns in fall 2016 was much lower than last year and temperatures were a little more fall-like. During the first month of the 2016 archery season, hunters reported harvesting 29% more deer than during the 2015 season and 12% more deer than the 2014 season during the same time period. The expectation is that final harvest numbers will be somewhere between the 2014 and 2015 season, as long as temperature and weather conditions remain favorable during the rest of the season.

With a great start to the season, deer heads for chronic wasting disease (CWD) testing were collected regularly. CWD, a fatal disease found in captive and free-ranging deer, has not been detected in New England, including Connecticut, since testing first began in 2003. Due to financial and logistical support from the U.S. Fish and Wildlife Service's McKinney National Wildlife Refuge, the Wildlife Division's Deer Program plans to collect a minimum of 298 deer heads. Several deer management zones (DMZs) are nearing the target collection quota, with the remainder of samples expected to be collected during the shotgun-rifle season, which started on November 16. Hunters, especially in DMZs 1, 3, and 6 are urged to contact Bill Embacher at 860-418-5989 if they harvested an adult deer and would like to submit it for CWD testing.

*Andy LaBonte and Bill Embacher, DEEP Wildlife Division*



### Deer harvested during Connecticut's regulated hunting seasons, 2014-2016

Season	Harvest 2014	Harvest 2015	Harvest 2016	% Change from 2014 to 2015
1st Month Archery	1,650	1,434	1,851	-13%
Archery	5,433	4,566	NA	-16.0%
Muzzleloader	770	472	NA	-38.7%
Shotgun/Rifle	4,104	3,373	NA	-17.8%
Landowner	1,087	702	NA	-35.4%
<b>Total</b>	<b>11,394</b>	<b>9,113</b>	<b>NA</b>	<b>-20.0%</b>

### CWD Testing

DMZ	CWD Totals	CWD Quota
1	10	27
2	6	8
3	19	32
4A & 4B	13	15
5 & 9	39	82
6	22	30
7 & 8*	37	32
10	4	5
11*	50	48
12*	21	19
<b>Totals</b>	<b>221</b>	<b>298</b>

\*Samples complete

## What's New in Wild Turkey and Resident Game Bird Management

As of July 1, 2016, new legislation established a Resident Game Bird Conservation Stamp, which is required to hunt wild turkeys, ring-necked pheasants, ruffed grouse, Northern bobwhite quail, chukar partridge, and Hungarian or gray partridge. This new stamp has several notable positive attributes. Previously, if hunters wanted to pursue pheasants and turkeys, they would have to purchase a pheasant stamp and a separate permit for each turkey season (Spring Private Land, Spring State Land, Fall Firearms Private Land, Fall Firearms State Land, Fall Archery). Hunters that participated in the pheasant and all of the turkey seasons would have paid \$123.00. With the new stamp, hunters can now participate in all of the turkey seasons and legally harvest the aforementioned game birds for a fee of \$28.00. All revenue from the sale of Resident Game Bird Conservation Stamps will be deposited into a non-lapsing, dedicated fund to provide a stable funding source for the Pheasant Program, establish new game bird habitat improvement projects, and maintain existing turkey brood habitat. This is an exciting new prospect and is sure to pay large dividends into the future.

*Michael Gregonis, DEEP Wildlife Division*



# Conservation Calendar

Dec. - March ..... Observe eagles at the Shepaug Eagle Observation Area in Southbury. The viewing area will be open on Saturdays, Sundays, and Wednesdays from 9:00 AM to 1:00 PM starting on Saturday, December 17, 2016, through Sunday, March 12, 2017. Visitation to the observation area is by reservation only. To schedule a free visit, go to [www.shepaug eagles.info](http://www.shepaug eagles.info) or call 1-800-368-8954.

January-April ..... Donate to the Endangered Species/Wildlife Income Tax Check-off Fund on your 2016 Connecticut Income Tax form. Learn more at [www.ct.gov/deep/EndangeredSpecies](http://www.ct.gov/deep/EndangeredSpecies).



## 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](mailto: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.

- Jan. 28 ..... **Children's Program: Wildlife Stories**, starting at 1:00 PM. Learn about the return of the wild turkey to Connecticut. Discover fun facts about fisher. Find out what bears do in winter. Make a wildlife track to take home. All this and more during a hands-on presentation for children and their caregivers with Wildlife Division Natural Resources Educator Laura Rogers-Castro. Enjoy a complimentary mug of hot chocolate, too!
- Feb. 25 ..... **Wildlife Tracks**, starting at 1:00 PM. Join Master Wildlife Conservationist Ray Hardy for a walk in the woods to look for animal tracks and signs. Wildlife may not be readily seen in winter but with good observational skills, evidence of their presence can be found. Ray will provide tips for identifying wildlife tracks, including looking at the shape, size, and pattern of animal tracks. The approximately 2 mile roundtrip walk will be on unplowed trails. Participants should wear proper footwear and dress for cold weather. Please meet in the exhibit area.
- March 26 ..... **March Mushroom Madness**, starting at 9:30 AM. Join the Connecticut Valley Mycological Society's (CVMC) Annual Meeting at Sessions Woods for a free program on mushrooms. The meeting provides an opportunity to talk with others interested in the field of mycology and view some of the resources available to learn more about mushrooms. The CVMC meeting will include a coffee and refreshments period at 9:30 AM, with the presentation from 10:00 to 11:00 AM. Questions and answers will follow the program.
- April 30 ..... **Talons! A Birds of Prey Experience**, starting at 12:30 PM. The 2017 Friends of Sessions Woods Annual Meeting will be on Sunday, April 30, beginning at 12:30 PM with the infamous Dessert Extravaganza Potluck. At 1:00 PM, there will be a brief, 10-minute business meeting before the featured presentation. This year's program will be "Talons! A Birds of Prey Experience" with Master Falconer Lorrie Schumacher. Lorrie will provide an up-close opportunity for the audience and enlighten attendees about the conservation of these beautiful birds.

## Hunting Season Dates

Jan 1.-31, 2017 ..... Deer bowhunting season on private land only in Deer Management Zones 11 and 12.

Jan 25-Feb. 15 ..... Special late Canada goose hunting season in the south zone only.

Consult the 2017 Connecticut Hunting and Trapping Guide and the 2016-2017 Connecticut Migratory Bird Hunting Guide for specific season dates and details. The guides are available at DEEP facilities, town halls, bait and tackle shops, and outdoor equipment stores, and also on the DEEP website ([www.ct.gov/deep/hunting](http://www.ct.gov/deep/hunting)). Go to [www.ct.gov/deep/sportsmenlicensing](http://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.

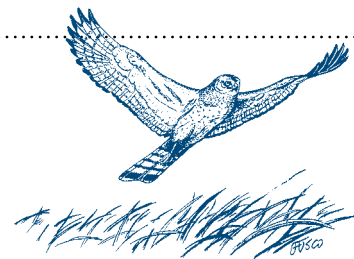


Sign up to receive **Wildlife Highlights**, a free electronic newsletter for anyone interested in Connecticut's wildlife and the outdoors! [www.ct.gov/deep/WildlifeHighlights](http://www.ct.gov/deep/WildlifeHighlights)



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PHOTO COURTESY WARNER FAMILY

Grouse hunting on the Warner family property in New Hartford, Connecticut – 1903.

Winfield Warner uses a Winchester model 1897 12-gauge pump shotgun to hunt grouse, with help from his Irish setter.