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Connecticut Wildlife

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

Eye on the Wild

Now Is the Time to Get Involved with Connecticut's Wildlife Action Plan!

The Wildlife Division is contacted daily by residents and others through phone calls, emails, letters, and Facebook posts. Some people report wildlife sightings, others have questions or want more information about a certain animal, and still others ask what they can do to help wildlife. If you are one of those people who wants to do something to help wildlife and habitat, NOW is the perfect time to get involved with planning the future of wildlife and habitat conservation in Connecticut. DEEP is currently updating the Connecticut Wildlife Action Plan and we are seeking public input and participation in this process. Public participation was a huge part of creating the original plan, which was finalized in 2005 and called the Connecticut Comprehensive Wildlife Conservation Strategy. During the development process of the original plan, concerned residents were encouraged to attend public meetings and submit comments about the plan to DEEP.

The final plan that was approved by the U.S. Fish and Wildlife Service almost a decade ago has allowed the Department and its partners to integrate the management of natural resources, build valuable partnerships, and support regional and national efforts to secure long-term funding for fish and wildlife conservation. The plan also identified species of greatest conservation need and their affiliated habitats, as well as priority research needs and conservation actions needed to address problems facing these species and habitats.

The Wildlife Action Plan must be updated every 10 years to reflect changing conditions. This first revision is ongoing and will be completed by October 1, 2015. Through this effort, DEEP, with help from conservation partners, residents, and others, is reviewing and revising priority conservation actions and the list of species of greatest conservation need. As revisions are made, drafts of the plan will be posted on the DEEP website at www.ct.gov/deep/WildlifeActionPlan. The public is encouraged to review these documents and provide comments. DEEP also is inviting residents to participate in a series of meetings to learn about revisions to Connecticut's Wildlife Action Plan and provide input. Meeting dates and locations also can be found on the DEEP website. We hope you join us and take this opportunity to participate in this important effort to create a vision for the future of fish and wildlife conservation in our state, and to help keep common species common. (Learn more by reading the article on page 3.)

Kathy Herz, Editor

Cover:

Habitat restoration work being conducted on Charles Island is funded by the Connecticut Endangered Species/Wildlife Income Tax Check-Off Fund. Connecticut residents support this Fund by voluntarily donating a portion of their income tax refund to help Connecticut's endangered species, natural area preserves, and watchable wildlife. One species benefitting from this project is the snowy egret (see the article on page 4).

Photo courtesy of Paul J. Fusco

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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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Connecticut Wildlife Action Plan -- Protecting Pollinators

Written by Laura Saucier, DEEP Wildlife Division

Did you know that DEEP is updating the Connecticut Wildlife Action Plan for 2015-2025? The Wildlife Action Plan will set the course for conservation for the next decade, identifying a new list of species of greatest conservation need and drafting plans to protect their habitats. Stay tuned to "Connecticut Wildlife" magazine and www.facebook.com/CTFishandWildlife to learn about conservation actions initiated under the first plan approved in 2005.

On June 20, 2014, President Obama released an urgent presidential memorandum on the severe decline of our nation's pollinators, which include bees, certain bats, and butterflies. The memorandum highlights pollinators' $15 billion value to the nation's agricultural sector and warns how the loss of pollinators poses a threat to the sustainability of our food system. In his memorandum, the President created a Pollinator Task Force and specifically charged the Department of the Interior with assisting "*States and State wildlife organizations, as appropriate, in identifying and implementing projects to conserve pollinators at risk of endangerment and further pollinator conservation through the revision and implementation of individual State Wildlife Action Plans. The Department of the Interior shall, upon request, provide technical support for these efforts, and keep the Task Force apprised of such collaborations.*"

Since 2005, Connecticut has been progressive with using State Wildlife Grants (funding which supports State Wildlife Action Plans) to conserve its pollinators. State Wildlife Grants provided funding for Dr. David Wagner, from the University of Connecticut, and other collaborators to compile, survey, and update information on bees. Because of Dr. Wagner's work on bees, there is now a clearer picture of what species are endemic to Connecticut, as well as which ones need protection under Connecticut's Endangered Species Act. It is now known that Connecticut is home to over 300 native bee species. In 2010, Connecticut became the first state in the nation to offer legal protection to bees by adding five bee species to Connecticut's List of Endangered, Threatened, and Special Concern Species.

State Wildlife Grants also partially funded entry of Connecticut bee specimens into the American Museum of Natural History BEE Database Project. This project focused on compiling information collected on bee specimens in a national database and mapping specimen locations on Discover Life's website. The ability to easily retrieve specimen and location data has allowed scientists to analyze and document the declines of bee species in North America. The Wildlife Division will continue its efforts to protect pollinators in the next decade with State Wildlife Grants funding.

President Obama recently released an urgent presidential memorandum on the severe decline of our nation's pollinators, which include bees (like this bumblebee), certain bats, and butterflies.

More information on the Pollinator Task Force is available at: www.whitehouse.gov/the-press-office/2014/06/20/presidential-memorandum-creating-federal-strategy-promote-health-honey-b. More information on the BEE Database Project is available at: www.amnh.org/our-research/invertebrate-zoology/resources/collections-databases/bee-database-project.

Connecticut Wildlife Action Plan

DEEP is updating Connecticut's Wildlife Action Plan — a strategic plan to conserve wildlife and their habitats for the future. The plan is reviewed and revised every 10 years to ensure it reflects current needs and priorities for species of greatest conservation need and their habitats. The revision will be completed by October 1, 2015.

Participation by conservation partners, academic institutions, municipalities, and the public is a key to making the Wildlife Action Plan an effective tool for conserving Connecticut's wildlife diversity for future generations.

How You Can Help

Read the original 2005 Plan, as well as updated and revised portions of the Plan. All of these documents can be found on the DEEP website at www.ct.gov/deep/WildlifeActionPlan. Then submit your comments to deep.wildlifeactionplan@ct.gov. Plan to attend informational meetings. The meeting schedule is available on the DEEP website and the Connecticut Fish and Wildlife Facebook page (www.facebook.com/CTFishandWildlife). Share your wildlife observations on Twitter @CT_SWAP and #CTSGCN.

State Wildlife Grants

Habitat at Charles Island to Be Restored for Wading Birds

Charles Island, a 14-acre wooded island off the coast of Milford near Silver Sands State Park, was designated both a Natural Area Preserve in 1999 and a Long Island Sound Stewardship Site in 2006 by DEEP due to its significant wildlife and coastal resources. It also has been designated an Important Bird Area by Audubon Connecticut. DEEP has been collaborating with Audubon Connecticut, Connecticut Audubon Society, and Connecticut Agricultural Experiment Station on a science-based, multi-step approach to restore critical habitat on Charles Island essential to the long-term success of one of Connecticut's largest heron and egret rookeries, or nesting areas.

Management efforts are aimed at preventing the loss of nesting habitat used by great and snowy egrets, both state threatened species, and many other state-listed birds, such as the glossy ibis. The rookery sustained significant damage from hurricanes Irene and Sandy, coupled with increasing numbers of invasive plants and a soil fungus. Intensive restoration efforts are needed to preserve this critical area.

Trees on the island are used by herons and egrets for nesting and raising young. However, many of these trees are being smothered by oriental bittersweet and other non-native, invasive plants that grow aggressively and outcompete native plants, resulting in the direct death of nest trees and preventing regeneration of future nesting trees and shrubs. This problem is further compounded by the presence of a soil fungus (*Armillaria*) that attacks and weakens tree roots. Strong winter storms and hurricane winds have caused the blow-down of most of the trees needed by these long-legged wading birds to raise their young. Taken together, these issues are having a devastating effect on the perpetuation of the rookery, and some species, such as the snowy egret, have begun to disappear from the island.

2003 DEEP, OFFICE OF LONG ISLAND SOUND PROGRAMS

2004 DEEP, GIS IMAGERY

Aerial views of Charles Island Natural Area Preserve and Silver Sands State Park in Milford.

P. J. FUSCO

Snowy egrets nest in the woodland shrub layer on some of Connecticut's offshore islands, including Charles Island in Milford.

DEEP began the next phase of this project in early September 2014. Restoration efforts involved the clearing of downed woody debris and diseased trees, as well as the control of non-native, invasive plants. Follow-up herbicide applications will be conducted by licensed DEEP personnel. Later this fall and again during the 2015 growing season, DEEP staff will be planting a variety of native trees and shrubs selected for their salt tolerance, general growth characteristics, and fungal resistance.

Funding for the Charles Island habitat restoration project is being provided by Connecticut's Endangered Species/Wildlife Income Tax Check-Off Fund. Connecticut residents support this Fund by voluntarily donating a portion of their tax refund to help Connecticut's endangered species, natural area preserves, and watchable wildlife. Some project materials are being provided in lieu of payment of civil penalties as a supplemental environmental project resulting from an enforcement action taken by DEEP in 2010.

Due to its significance as a critical breeding site for endangered and threatened herons and egrets, Charles Island is designated as a Natural Area Preserve and is closed to public access from late May through early September every year.

Waterfowl Training Day a "Honking" Success!

Written by Greg Chasko, Retired DEEP Wildlife Division

P. J. FUSCO

The Connecticut Waterfowl Association (CWA) conducted the first ever Training Day for its Waterfowl Hunter Mentor Program this past July at the Bozrah Rod and Gun Club. This event, held in cooperation with the DEEP Wildlife Division, was attended by 20 youths and two adult novices – a great first time turn out! The day began with a short classroom session led by CWA Mentor Program Leader Greg Chasko, who discussed the unique opportunities and challenges of waterfowl hunting, as well as such topics as conservation, ethics, and regulations. Wildlife Division Conservation Education/Firearms Safety Program Coordinator Charles Bruckerhoff gave instructions on safe gun handling, and then the rest of the day was hands-on field activities!

Attendees were divided into three groups and rotated through stations on shooting, duck hunting, and goose hunting. The shooting station provided a simulated "waterfowl hunt" with shots at crossing and incoming clay targets. Shooters were coached by Bruckerhoff and CWA member Rich Chmiel.

The goose hunting section was taught by Min Huang, Wildlife Division Migratory Bird Program Leader and CWA member, and Billy Wolf, a former professional goose hunting guide. The future waterfowl hunters learned about decoy set-ups and witnessed an expert display of various goose calling techniques by Billy. The highlight was the exercise of setting up in lay out blinds and then rising up and taking a simulated shot at a training dummy thrown from a launcher. This was followed with a retrieve by a trained Labrador retriever handled by CWA member Paul Young.

Dave Proulx, CWA member and Director, provided information on duck hunting. With decoys set out on a pond, Dave demonstrated spreads for both dabbling and diving ducks and talked about everything that goes into a successful duck hunt. Dave and Paul Young used their highly trained dogs to demonstrate what an asset a good dog can be to waterfowl hunting. Other CWA members that participated were Pete Revicki and Paul Capotosto (also a DEEP Wildlife Division staff member) who prepared an outstanding lunch that included grilled duck and goose sausage. A good time was had by all!

This worthwhile program could use more mentors – please consider volunteering! The future of waterfowl hunting and conservation lies with our youth. Find out how you can become a mentor or participate in a future training day by visiting the CWA website at www.ctwaterfowlers.org.

G. CHASKO for CT DEEP WILDLIFE

The Connecticut Waterfowl Association and the Wildlife Division have developed a Waterfowl Hunter Mentoring Program which pairs up experienced volunteer mentors with novice youth and adult hunters.

CT State Parks – A New Decade Plus, 1960-1971

Written by Alan Levere, State Parks Division

By 1960, the boom in outdoor recreation was entering a new decade of vigorous growth. Demands by park visitors were increasingly diverse. Expectations increased for hiking, fishing, birding, and skiing. More pronounced than any of these was the demand for camping. Meanwhile, millions were coming to state parks. Five million people visited in 1963, a level surpassed two years later when the new record of six million was set. Pressures on the park system were many, but this decade of distant war and social turmoil would be highlighted in state parks by unique acquisitions and the evolution of camping.

ALL PHOTOS FROM CT STATE PARKS ARCHIVES

Tidal frontage along Palmer Cove, fields of wildflowers, and verdant foliage dominate the landscape at Groton's Haley Farm State Park.

Without a doubt, beachfront recreation continued to be, as it had been since the 1920 opening of Hammonasset Beach, the target of most visitors. Before 1960 was four months old, State Parks completed the first of many purchases that, together, would accumulate into Silver Sands State Park in Milford. The nexus actually began early in 1956 when the City of Milford decided to demolish beachfront houses in hopes of turning the area into a state park. Though it took years to clear the land, groom the beaches, and open the gates to the public, the new 3,300 feet of Silver Sands shoreline became, and has continued to grow as, a vibrant state park beach location.

While the initiative to create Silver Sands was the first of the 1960s, the Town of Groton turned out to be the big winner in terms of acreage set aside. The uniquely peninsular Bluff Point in Groton is, to date, the longest lady-in-waiting of the state parks in the system. First suggested by Albert Turner, field agent for the Commission, in his 1914 cross-state coastal reconnaissance, Bluff Point's initial 246 acres joined the ranks of coastal parks in 1963 – 49.5 years after its recommendation. Bluff Point today preserves exceptional topographic, geologic, and biologic niches. Even before the Bluff Point acquisition was official, another Groton property agreement was being worked out. Just southeast of Bluff Point is the long-fought-for Haley Farm State Park. In a classic case of a neighborhood committee being passionately dedicated to the preservation of a community treasure, the Groton Open Space Association wrote the book on getting it done. Using undying persistence, the Association's pursuit of the state park goal took seven years and paid off in terms of today's picturesque, flora and fauna diverse, 275-acre park.

It wasn't just the shoreline locations that drew the attention of Park Commissioners. High atop Talcott Mountain, where Bloomfield, Simsbury, and Avon converge, was an opportunity to preserve acres of ridgeline. In what would ultimately become a 500-acre park, the Commissioners gave full attention to this rare opportunity, with one meaningful caveat. Along the ridge line, and rising 135 feet skyward from it, was the one-time summer home of mixed-drink magnate Gilbert Heublein. The home,

The Talcott Mountain/Heublein Tower transaction came to its successful conclusion in 1966, adding new acreage to the existing Talcott Mountain State Park (which was originally established in 1935).

however, was a structure of which the Park Commissioners wanted no part. "Valueless from a standpoint of park operations" was the exact terminology they used and which steered the negotiations from the start. Thousands of dollars in immediate structural repairs were a formidable stumbling block, but in the end, one that fortunately was not insurmountable. It took four years to conclude the Tower negotiations; and the end was not actually foreseeable at the start.

Just the opposite was true on West Street in Rocky Hill where an interesting run of six days in August 1966 put the next state park on the fast track. Site preparation for the new State Highway Department laboratory was getting down to bedrock when bulldozer operator Edward McCarthy split open a block of sandstone he was clearing from the site. Once split, McCarthy observed the distinct, outlined impression of a three-toed footprint. Close investigation revealed many similar imprints and, as digging continued and those first track laden slabs were pushed aside, it became clear that the excavations were yielding a remarkably historic find. It didn't take long for scientists to realize the extent and value of the discovery, which was all the more significant because it existed literally in the place where the original impressions had occurred. The science inherent in the site resulted in the decision to cease construction and begin the search for a new building location. By the sixth day there was talk of a new state park, and by the middle of December, it was officially so. It took just 113 days from McCarthy's rock-splitting discovery for the location to become Dinosaur State Park. No plan could have been brought to conclusion with any more rapidity than that.

On the recreation side, accommodating the explosive growth in camping proved to be a formidable undertaking. The post-war boom of the fifties saw the increased demand for outdoor recreation in parks, especially in the campgrounds.

Lightweight tents and increased use of comfortable recreational vehicles, as seen here at Rocky Neck State Park, were the hallmarks of state park camping in the 1960s.

As early as 1920, when Hammonasset Beach State Park opened, thousands came to enjoy the fresh air and boardwalks. The new park also had camping provisions, though at the time it was not a primary objective. Albert Turner described the early campground as rough and crude, but "… as well as we knew how [to build it] in the short time we had to prepare."

It did not take long for the Commission to perceive and respond to the increasing demand. Originating in the twenties, large rectangular grid-like lots dominated the campgrounds with bathroom buildings convenient to every four campsites. This general layout dominated for decades with improvements to facilities and drinking water availability. By the mid- to late 1960s, public demand for camping reached its zenith as summer-long campers reserved 80% of all campsites for the entire season.

To meet demand for short-term or weekend campers, the Commission created a new campground at Hopeville Pond State Park in Griswold. However, more campsites ended up creating more demand. When no more park area could be committed to campground expansion, the Park Commission enacted its only option: limiting many long-term camps to a three-week term, thereby making tens of thousands of camp-nights available for those who could not stay for the entire season.

With the camping dilemma finally reconciled by the end of the decade, the Park Commission turned its attention to ongoing rumors regarding its future. For a few years there had been talk of merging several state commissions to increase efficiency of state services. The rumors ultimately turned to fact and, on September 15, 1971, the Connecticut Park and Forest Commission held its final meeting, just one mile from where the first meeting was held in September 1913. The Park and Forest Commission officially ended with the start of business on October 1, 1971, as "Parks" became one of the many divisions that made up the new Department of Environmental Protection. This department would have a telling effect on the future of Connecticut's state parks and the new leadership was ready for the change. Reshaping the way Connecticut's state parks and the public interacted was on the horizon and would lead to the park system we have become so familiar with today.

Heavy equipment still worked on site as scientists examined the unique 200 million-year-old dinosaur track find in Rocky Hill. Today, approximately 600 of the 1,500 tracks can be observed under the dome at Dinosaur State Park.

Deafening Silence from the Incredible Roar

The Passenger Pigeon - 100 Years Later

Article by Paul Fusco, DEEP Wildlife Division

P. J. FUSCO / BIODIVERSITY RESEARCH COLLECTION DEPARTMENT OF ECOLOGY AND EVOLUTIONARY BIOLOGY, UNIVERSITY OF CONNECTICUT (2)

While scant records exist, passenger pigeons were known to nest in Connecticut.

September 1, 2014, marked the 100-year anniversary of the extinction of what was once the most abundant bird on the planet, the passenger pigeon. One hundred years ago, the last surviving passenger pigeon, named Martha, died in a cage at the Cincinnati Zoo putting an end to decades of greedy market hunting that has since become an American travesty. Not only was the species pursued to its last flocks, but the massive clearing of its forest habitat, which was occurring at the same time, left no doubt as to the power that humans can have over the natural world.

Their flocks were hard to imagine and so is their story.

The Great Flocks

With long, pointed wings and a long tail, passenger pigeons were streamlined and elegant. Their plumage was colored in varied shades of glossy grayish blue on top and reddish brown on the underside. They were slightly larger than their close relative, the mourning dove.

At one time, passenger pigeons numbered in the billions. By all accounts, their hoards were innumerable and their flights were astounding. Early writings describe flights that were hundreds of miles long. Sometimes, flocks blocked the sun, darkening the sky and lasting for hours or even days.

Their normal flight was powerful and direct. At 60 mph, high velocity flocks were said to roar through the landscape, creating their own wind with a sound that many likened to a tornado. Flocks would sweep low to the ground, twisting and turning in a burst of fire storm energy. At great heights, these flocks would sometimes fly several strata deep, with each layer holding countless individuals.

Notable naturalists and conservationists described the flight of the passenger pigeon:

"The pigeon was a biological storm." "Yearly the feathered tempest roared up, down, and across the continent." "Sucking up the laden fruits of forest and prairie, burning them in a traveling blast of life." - Aldo Leopold

"I was suddenly struck with astonishment at a loud rushing roar, succeeded by instant darkness, which, on the first moment, I took for a tornado..." - Alexander Wilson

"The air was literally filled with them." "The light of noonday was obscured as by an eclipse." "A continuous flock of pigeons overhead with no beginning and no end. The flock flew over head unbroken for three days." - John James Audubon

"Their incredible multitudes were like thunder clouds in heaven." - Unknown

Deforestation

The great deciduous forests that stretched across the eastern half of North America were the home of the passenger pigeon. It was here that the birds found an inexhaustible food source in the form of hard mast, especially beechnuts and acorns. They nested and raised their young almost exclusively in super colonies within the forest. These super colonies typically would hold hundreds of thousands, if not millions, of breeding pairs. Nesting in such large and dense colonies allowed the pigeons to saturate any local predators while the colony was nesting, thus providing protection for the great majority of the colony. Passenger pigeons typically laid only one egg per nest. It is uncertain, but unlikely that they raised a second brood.

The true nature of these highly gregarious birds is that they were perfectly adapted nomads of the eastern forests. Their nesting colonies settled into areas with ample food supplies to take advantage of cyclical abundance of beechnut and acorn crops wherever mast was plentiful. There needed to be huge forests that could support the billions of birds from year to year. If beechnuts or acorns were not plentiful in one region of forest, the nomadic birds would find where they were plentiful and relocate accordingly.

But, the great eastern forests were on the chopping block as they were cleared on an immense scale to make room for agriculture in the mid- to late 1800s. This practice left the flocks with fewer and fewer large blocks of forest in which to find food, nest, or roost. The first evidence of disappearing pigeons came along the Atlantic seaboard where forest clearing was widespread. Facing this habitat loss, the birds gradually shifted to the north and Midwest.

The Slaughter

At nesting colonies, the squabs

(chicks) especially were targeted by market hunters. Passenger pigeon chicks would leave the nest before they could fly well. These squabs were heavy and fat, so many ended up on the ground for a few days where they were easily killed. In a natural setting, the grounded squabs would be protected by the shear size of the colony until they were strong enough to fly well.

Day and night, pigeons were mercilessly slaughtered by the tens of millions at breeding colonies and wintertime roosts. Through the means of netting, gunning, clubbing, and fumigating, the unregulated exploitation was greedy and unsustainable. The netting was worst of all. Using bait and live "stool pigeon" decoys, netters lured birds to large spring loaded nets where vast numbers were caught and killed.

The impact from market driven pigeon hunters escalated in the mid- to late 1800s after telegraph and railroad became widespread. The pigeoners were then able to pass along word of flock nesting locations and follow the colonies. Whenever a flight of pigeons left one nesting locality to set up at another, the pigeoners would follow.

With railroads came the ability to ship barrel upon barrel of pigeon to market in a fast and convenient manner. The large scale killing became systematic as every colony that was accessible to people was targeted. Because of unrelenting disruption of the large nesting colonies, there was little to no recruitment of young birds into the population for extended years. In some years, no young were raised.

The End Came Fast

A combination of habitat loss, market hunting, and human disruption of the large nesting colonies brought a quick end to the pigeon's existence. By the late 1800s, there were practically no successful mass nestings, which the species needed to sustain the population. The end came quickly as the pigeons were unable to successfully reproduce or persist in low numbers.

The last super colony nesting took place near Petoskey, Michigan, in 1878. It was said to cover 100,000 acres. The colony was estimated to be 40 miles in length and three to ten miles in width. Once the professional market hunters arrived, the colony was decimated. An estimated 50,000 birds were killed each day for nearly five months. The slaughter was tremendous as was reported in The Detroit News "*... the pigeoners were stretched out alongside the birds for 40 miles. They killed birds from daylight to dark, hauling wagon after wagon of dead and live birds for 50 days. It was estimated that they may have killed a billion birds.*"

Two more large nesting attempts were made in 1881 in Michigan. The birds were pursued by pigeoners in both instances and few if any young pigeons survived. The last known great nesting aggregation was in 1887 in Wisconsin. That colony was abandoned when pigeoners disrupted the nesting attempt, leaving what remained of the species scattered and on the brink of existence. Some believe this was the true year of the extinction as there was never another large nesting attempt.

The species was persecuted to the point that a once a highly successful and thriving species became tattered and vulnerable. Nesting was disrupted on a massive scale, preventing the birds from raising any young. They would never be able to adapt away from their niche, and hence would never be able to recover as a species once their numbers were reduced.

Meager protective legislation was passed by some states, but the laws were rarely enforced. Most people at the time did not believe the pigeon needed any protection – their numbers were said to be so vast that protection was unnecessary. The protective laws that came were too little and too late to stop the slide.

In the end, what happened to the most abundant bird on the planet was nothing less than the systematic extermination of a species. Between unregulated market hunting and habitat clearing, the vibrant roaring storm was eliminated from the landscape in what amounts to a few short tragic decades. In the wake of the extinction, along with what was occurring to other birds and wildlife in North America at the time, a public awareness rose which became the country's first conservation movement. Beginning with the Lacey Act, and leading to the Migratory Bird Treaty Act, federal conservation laws were passed. Refuges were established, and hunting regulations were put into place. It was too late for the passenger pigeon but it was just in time to protect most shorebirds, egrets, and others that were also being exploited.

Dates of Interest

(Based on available records)

1800: The passenger pigeon population is estimated to be more than five billion. Flocks estimated to contain more than one to two billion birds were observed.

1813: John James Audubon experienced his largest flock of pigeons, which he tried to count, putting his estimate at over one billion, one hundred and fifteen million birds.

1840s: Large scale commercial killing begins.

1850s: Last mass nesting in Massachusetts.

1860: The number of professional pigeon netters stood between 400 and 1,000.

July 23, 1860: 235,000 pigeons were shipped to eastern markets from Grand Rapids, Michigan.

1866: A flock later estimated to contain 3.7 billion pigeons passed through Ontario over several days.

1870s: Last mass nesting in New York.

1871: Nearly the entire population of 135+ million nested in a single Wisconsin colony.

1878: An estimated tens of millions were slaughtered near Petoskey, Michigan. It was the last of the huge nesting colonies.

1880: An estimated 80% of the original forest in New England had been cleared.

1881: Two large failed nesting attempts were recorded in Michigan.

1887: The last year pigeons came to Manitoba in considerable numbers.

1889: The estimated surviving population was 5,000. All large colonies had been destroyed, yet hunting for sale at market continued.

1892: Majority of scattered wild pigeons were no longer breeding in colonies.

1895: Flocks of 10 birds were noteworthy as the total population was estimated between 500-1,000.

1898: A flock of about 200 pigeons was said to have been seen in Michigan.

1900: The Lacey Act is signed into federal law imposing penalties for interstate transportation of wildlife taken illegally.

March 24, 1900: The last known wild passenger pigeon was killed in Pike County, Ohio.

September 1, 1914: The last remaining passenger pigeon, Martha, dies in her cage at the Cincinnati Zoo.

1918: The Migratory Bird Treaty Act became federal law. The law decreed that all migratory birds were to be fully protected.

Passenger Pigeon Records in Connecticut

While scant records exist, passenger pigeons were known to nest in Connecticut. They also migrated through and sometimes wintered in our state. Migrant flocks would arrive in the beginning of April. There was said to have been a nesting in the Portland area in 1875. A sizable flock was recorded in 1876 near New London. That flock was said to contain 75,000 to 100,000 birds, of which 5,000 were said to have been killed. Although they rarely wintered in Connecticut, there is one record of a winter roost north of Hartford in 1882.

Connecticut's population was impaired by the clearing of forest habitat into the late 1800s.

Survivor Browns—The Farmington River's Special Strain

By Kierran Broatch

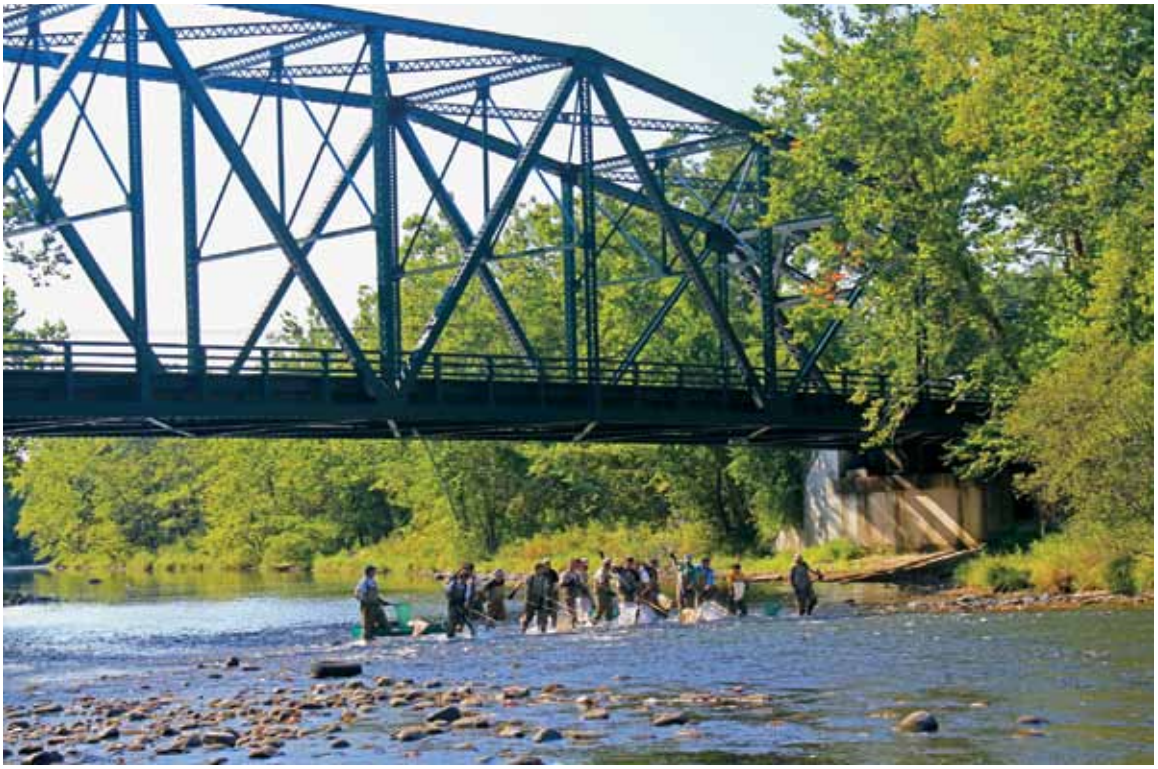
Over the years, Connecticut's West Branch of the Farmington River (WBFR) has gained a well-deserved reputation as one of the best trout fishing destinations in the Northeast. Part of WBFR's success is due to the fact that it is a "tailwater" fishery, meaning that its waters are immediately downstream of a hydraulic structure, in this case the Goodwin Dam in Colebrook. This is good for trout and trout anglers alike because cold, clean, well-oxygenated water from West Branch Reservoir (aka Hogback) feeds the river all year-round through the base of the 135-foot high dam. So, even during the dog days of a New England summer, the water temperature in the WBFR is ideal for cold-water species like brown trout, brook trout, and rainbow trout.

The Farmington's chilly waters cannot take all the credit for its top-notch fishing, however. For nearly a decade, DEEP Inland Fisheries Division biologists have been perfecting a strain of brown trout known as "Survivors," which have become a highly sought-after quarry by trout anglers visiting the Farmington River. The goal of the "Survivor" strain is to increase the proportion of fish hatched within the river to self-sustaining levels.

K. BROATCH(2)

After collecting hundreds of trout from a sampling segment, biologists carefully select a handful of the best fish, based on overall condition and color, that are ripe with sperm or eggs.

The reoccurring story of the Survivor strain begins each September when dozens of Inland Fisheries Division staff amass on the banks of WBFR to sample multiple standard segments within the finest trout habitat between the Route 219 bridge in New Hartford and People's State Forest in Barkhamsted. The method of sampling, known as "electrofishing," uses electric currents in the water to temporarily stun fish so they can be easily captured. It is a sight to behold, watching the large crew donning waders and carrying long-handled nets marching upstream in unison. In tow are canoes with generators that provide electricity to electrodes on long wands that are waved through the water as they make their way upstream. As fish come within range of the electrodes, they experience muscular convulsions and then zig-and-zag while the crew frantically nets and transfers them into floating holding pens that are safely out of range of the electrofishing gear.



Each September, staff from the Inland Fisheries Division use electrofishing gear to collect hold-over and wild hatched brown trout to be used for making the next generation of "Survivor" brown trout.

Electrofishing is an effective way to assess fish populations. The technique sounds worse on the fish than it actually is. When electrofishing is done properly, fish snap out of their stunned state in just minutes. After the shocking crew has filled the holding pens with fish, they shut the electrofishing gear

down in order to count, measure, and document all of the netted trout.

While handling these fish, biologists are on the lookout for the very best brown trout of the bunch. These are often the biggest and most beautiful specimens that were either hatched in the river (wild) or stocked a previous year and survived, earning them the title of "holdover." A mix of wild and holdover male and female candidates are chosen, anywhere from 60 to 120 in all, and rushed from the holding pens to a hatchery tanker truck waiting nearby. To help determine if the fish were raised at the hatchery or in the river, several scales are collected for review. Fish scales develop differently in the hatchery than in the wild, so using a microscope, biologists can determine origin. The scales also can be used to age the fish—as fish grow, a ring is added to scales each year (just like growth rings in trees). The quality trout are then whisked away to the Burlington State Fish Hatchery where their work begins as breeders in the Survivor strain stocking program.

Their stay at the hatchery is short, just long enough to collect a sufficient amount of eggs and sperm. The breeders are released back to the wild a few weeks later, where they habitually move back to the general area of capture, sometimes to the same exact lie. Their high quality offspring are raised at the hatchery as two different size classes—adults or yearlings. The adult Survivors are stocked as two-year-olds and are typically between 14 to 18 inches in length. The yearlings are stocked after just one year in captivity and on average are between six to 12 inches.

Survivors get stocked into the WBFR each spring. On average, about 1,000 adults are put in every April, along with anywhere from 3,000 to 5,000 yearlings. While the trout stocked as adults usually max out in length under 22-inches, the Survivors stocked as yearlings can reach much larger sizes. With WBFR's fish-friendly regulations, including a seasonal 21-mile Trout Management Area, these fish are given the chance to be caught and released over and over again, growing wiser with each angler encounter. The longer Survivors live in the river, the more they resemble the beautiful wild browns which have successfully spawned within the Farmington River.

The Survivor program has been so successful in the Farmington that it is now one of the best sources for fry stocking in other rivers in Connecticut where the Inland Fisheries Division would like to reinforce existing brown trout populations. In the Housatonic River in Cornwall, for example, approximately 500 adult and 3,000 yearling Survivors have been stocked each fall for the last three years, and they are taking quite well to their new environs.

The result of years of selective crossbreeding the finest specimens from the WBFR, Survivors are the thoroughbred race horses of the trout fishing world. These unique fish have delighted anglers for many years with their size, beauty, and holdover capabilities. The next time a quality Farmington River brown trout graces your net, keep an "eye" out for an elastomer tag (see sidebar).

Kierran Broatch has been a volunteer for the Inland Fisheries Division in recent years and is an avid year-round angler. You can read about his fishing trips on his blog, The Connecticut Yankee.

A. SWANSON

Fly fishing the West Branch Farmington River is an activity enjoyed by thousands of anglers each year. The main draw is the quantity of large colorful brown trout.

T. BARANOWSKI

K. BROATCH

An elastomer tag can often be found just behind the eye. The color and location of the tag can identify the year and age when the fish was stocked. These fish (2 photos) are tagged with "orange" and "left" and are adults stocked in 2014.

WBFR Elastomer Tags

The next time you land one of these tremendous fish, check behind the eyes for a small thread-like line. To differentiate Survivor offspring from other trout, their adipose fin is clipped and they are given colored identification marks called elastomer tags. These tags are implanted into the transparent tissue behind one of the trouts' eyes. Adult Survivors receive elastomers behind the left eye and the yearlings are injected behind the right eye. Each year, biologists use a different color tag, allowing fisheries staff and anglers to conveniently keep track of Survivors' age and how long they have lived in the river.

Year	Amount / Size	Elastomer Color / Eye
2014	1,000 adults	Orange / Left
	5,000 yearlings	No elastomer, just fin clip*
2013	1,000 adults	Dark Green / Left
	5,000 yearlings	No elastomer, just fin clip*
2012	1,000 adults	Red / Left
	3,000 yearlings	Dark Green / Right
2011	1,000 adults	Chartreuse-Yellow / Left
	3,000 yearlings	Right / Red
2010	1,000 adults	Orange / Left
	3,000 yearlings	Chartreuse-Yellow / Right

** CT DEEP was unable to mark the yearling survivors in 2013 and 2014.*

The Submarine Bird - Pied-billed Grebe

Article and photography by Paul Fusco, DEEP Wildlife Division

Although duck-like in appearance, grebes are small to medium-sized diving birds that are more closely related to loons than to ducks. With their flat, lobed toes, they are expert swimmers and divers. Their short legs are set far back on the body, a feature that makes them well suited for diving but also makes it awkward to walk on land or to take flight. Grebes spend almost their entire life on the water.

Grebes have short tails and narrow wings. Their flight is weak and labored. In fact, two grebes from South America have such underdeveloped wings that they are flightless. When taking flight, grebes will skitter across the water to gain the momentum needed to lift off. They are easily recognized in flight by their posture with head held low, giving them a drooped neck appearance.

Pied-billed grebe in breeding plumage showing the distinctive black ring around the ivory bill, black chin, and signature puffy white rump.

Description

There are 22 species of grebes in the world, seven of which can be found in North America. But only one, the pied-billed, breeds in Connecticut. The pied-billed is a small, stocky grebe of shallow freshwater wetlands. It measures about 12 to 15 inches in length, with a wingspan of 18 to 24 inches. The adult plumage is an unmarked, drab, gray/brown color punctuated by a white puffy cottonball back end.

While other members of the grebe family have thin pointed bills, the pied-billed grebe has a stout, not-so-pointed bill. Breeding birds have a black throat patch and black ring around an ivory bill. The black throat patch and black bill ring are absent in nonbreeders. Males and females are alike; juveniles have striped heads.

During most of the year, including the breeding season, this shy bird favors quiet ponds, marshes, lakes, and slow moving streams that have large areas of thick emergent vegetation, including cattails. Freshwater wetlands are the most commonly used habitat, but some grebes may be found in brackish waters.

In winter, cold temperatures and freezing water force most pied-billed grebes to move farther south than Connecticut, but a few may remain in estuarine habitat near the coast. These birds are rarely seen on open salt water. Quiet waters near the mouths of rivers, including the Connecticut and Housatonic, are good places to look for them.

Swimming along with only its head above water, this pied-billed grebe is using its ability to trap air with its feathers to control its buoyancy.

Behavior

Grebes will escape danger by diving or slowly sinking under the surface like a submarine. This remarkable behavior is made possible by their unique ability to control their buoyancy. Their body feathers grow in such a way as to trap air against the body. By adjusting the way the feathers lay against the body, grebes have the ability to trap or release air pockets, giving them the ability to lower themselves in the water quickly and inconspicuously. The birds can sometimes be seen swimming along with only their head sticking out of the water.

Nests are built over shallow water in vegetation bordering open water. The nest platform is constructed with floating vegetation anchored to nearby emergents, such as cattail reeds. The water depth is shallow, but it must be deep enough to allow for escape from predators. Four to seven eggs are laid and incubated for about 23 days. Once hatched, the precocial downy chicks will follow the adults on foraging expeditions, frequently riding on their parents' backs. These birds may have two broods per season.

Pied-billed grebes get most of their food by diving underwater where they capture small fish and crustaceans, such as crayfish. They also will seize insects that can be reached at or above the water's surface. The varied diet may consist of frogs, tadpoles, snails, beetles, spiders, and leeches.

Conservation

Grebes have feet with lobed toes, giving them the ability to easily propel through the water, both above and below the surface.

Pied-billed grebes are fairly common and widespread. Their range extends across most of North America, including the southern half of Canada, all of the United States, Mexico and Central America. They also are found on Caribbean islands and in South America, excluding most of the Amazon drainage and the high Andes. Birds breeding in northern latitudes migrate to more southern areas for winter to avoid freezing water. Migration takes place at night.

Although pied-billed grebes are fairly common throughout most of their range, they have been dramatically declining in the Northeast for many years. Surveys conducted by the DEEP Wildlife Division have documented very few breeding records over the last 10 years. This species is especially difficult to detect during the nesting season because of its secretive nature and habit of using thick vegetation for concealment.

With few recent breeding records, the pied-billed grebe is listed as endangered in Connecticut. New England populations have declined to the point where pied-billed grebes are listed as endangered, threatened, or special concern in all but Maine. Rhode Island classifies this bird as extirpated, and it is endangered in New Jersey and threatened in New York.

Habitat loss and wetland degradation are primary reasons for the declining grebe population. The filling, dredging, and draining of freshwater wetlands continues while wildlife species, such as the pied-billed grebe, have become less common. Because grebes require clean, good quality freshwater habitat, degradation of wetland habitat by pollution and siltation also have impacts.

A young pied-billed grebe finds late day shelter in a brackish pond close to the Connecticut shoreline.

Giving Urban and Municipal Trees a Second Life

By Chris Donnelly and Gabriela Doria, DEEP Division of Forestry

In late 2013, Bruce Lindsay accepted the position of Tree Warden in Westport. One of his first assignments was to evaluate 11 tulip poplars and four Norway maples along a town road, adjacent to Longshore Club Park. The trees were

huge – Bruce estimated them to be about 50-80 years old – and, in his determination, ready for removal. He knew this would be a difficult decision for some to accept, due to the size of the trees, as well as their location. They were part of a well-liked and well-cared for row of trees leading into a popular town park.

However, Bruce knew that his first duty as tree warden is to public safety and so he arranged for the removal of these trees. Rather than simply disposing of the trees, Bruce saw this as an opportunity to continue the legacy of giving by these trees to the town. Bruce contacted Zeb and Ted Esselstyn of City Bench and asked if they would be interested in the wood. The two brothers quickly agreed.

City Bench, based in Higganum and New Haven, has as its tag line "Furniture from the Urban Forest." It is a furniture-making company with a vision that encompasses the full range of what urban trees can be. City Bench begins with the tree itself, with the idea that the trees that line our streets and are in our parks each have a story to tell. For some trees, part of that story is that tree's continued useful life as a piece of high-quality furniture. The appreciation of the furniture is enhanced by an appreciation of the tree it is made of and what the tree contributed to those of us who dwell in the urban forest.

Ted, Zeb, and others at City Bench mill the wood from these trees themselves and then decide its use. Because each tree carries the tale of its unique history in its wood, the furniture made from these trees help people make that connection between their everyday lives

(Above) A portable sawmill in action. (Left) City Bench uses these wide boards from harvested trees to create furniture that also captures the story of each tree.

and the natural world that exists at our doorsteps. It strengthens the understanding of our dependence upon, and our participation in, this natural world. Just as each piece of furniture has a use, each tree has a story. Tying the two together, using trees people know well, sets up a powerful message.

It is, in large part, a recycling message. City Bench is also, as Zeb puts it, about "turning waste streams into value streams." Over the years, City Bench has produced some 150,000 board feet from trees that grew in 29 Connecticut towns. They also got a few surprises. City Bench has found all sorts of items in trees, including metal bolts, concrete used to fill cavities, nails of all sorts, and more. These have cost the company more than a few bandsaw blades and has damaged numerous chainsaw chains, but City Bench continues on in business, accepting this loss in equipment as part of what happens when giving urban trees a second life. City Bench continues to be busy. Besides working with Westport, they have active projects with the City of New Haven, Yale University, the City of West Haven, and additional private clients. More can be learned from their website at www.city-bench.com.

This is an excerpt from the DEEP publication, "The Use of Wood from Urban and Municipal Trees," which is available on the DEEP website (www.ct.gov/deep/forestry) or as a hardcopy (e-mail deep.forestry@ct.gov).

C. DONNELLY, DEEP FORESTRY DIVISION

Table and benches created by City Bench out of a removed New Haven street tree. The brass marker at the lower end of the table indicates the address where the tree was growing before removal. The table is located at the Yale Farm on the Yale campus in New Haven.

Be a Mentor to a New Hunter!

One of the biggest impediments to the recruitment and subsequent retention of new hunters is a lack of mentoring. Study after study has demonstrated that the mentoring of novice hunters is critical for recruitment. Traditionally, a mentor has been a parent, relative, or close friend. However, more and more new hunters do not have someone who can take them hunting and teach them the necessary skills. Numerous studies from across the country and data from Connecticut indicate that a significant number of hunter education graduates do not participate in hunting after completing the training program. The main reason is that they lack someone to take them hunting. It is challenging and even intimidating for someone to go hunting for the first time, especially if there is no experienced hunter to take them. The new hunter needs to know how to scout a hunting area and then set up, how to take a proper shot if it presents itself, and how to handle anything else that might happen unexpectedly.

E. YESCOTT for CT DEEP WILDLIFE

A junior hunter poses with a buck she harvested during the 2013 hunting season. She was fortunate that her father took her out in the field and spent time teaching her the necessary skills. Many junior hunters are in need of a mentor to help them get started.

How You Can Help

- *Consider becoming a mentor to a junior hunter or even another adult interested in learning about hunting.*
- *Be a mentor to a junior hunter for one or more of several Junior Hunter Training Days scheduled for deer, turkeys, pheasant, and waterfowl. These training days provide junior hunters with an opportunity to learn safe and effective hunting practices from experienced hunters. Information about Junior Hunter Training Days is available on the DEEP website (www.ct.gov/deep/hunting) or the current Connecticut Hunting and Trapping Field Guide.*
- *Become a volunteer instructor for Connecticut's Conservation Education/ Firearms Safety Program. This program provides the perfect opportunity for experienced hunters to reach out to new hunters and share their knowledge. Learn more about being an instructor at www.ct.gov/deep/hunting or call the Wildlife Division at 860-642-7239.*
- *Waterfowl hunters can participate in a new Waterfowl Hunter Mentoring Program sponsored by the Connecticut Waterfowl Association (CWA) and DEEP which pairs up experienced volunteer mentors with novice youth and adult hunters (see article on page 5 to learn more). Waterfowl hunting, compared to hunting for other species like deer and small game, requires a substantial amount of equipment and specialized skills. Even experienced hunters find that breaking into waterfowl hunting can be difficult. Studies have shown that recruiting new waterfowl hunters takes a great deal of mentoring. Those who would like additional information or are interested in participating as a mentor or mentee should visit the CWA website at www.ctwaterfowlers.org.*

P. J. FUSCO

Volunteer Junior Instructors for CT's Conservation Education/Firearms Safety Program recently assisted with the teaching of a firearms hunting course under the guidance of adult instructors. This opportunity provided valuable experience for these young, aspiring instructors and also encouraged younger students in the class who are eager to pursue hunting.

Wildlife Division Bids Farewell to Longtime Employee

This past July, Supervising Wildlife Biologist Peter Good retired from a long and dedicated career with the Wildlife Division. His accomplishments and contributions have been many, particularly with the Division's Outreach Program. The Wildlife Division would like to thank Peter for his dedication over the past 31 years and we wish him the best in his retirement.

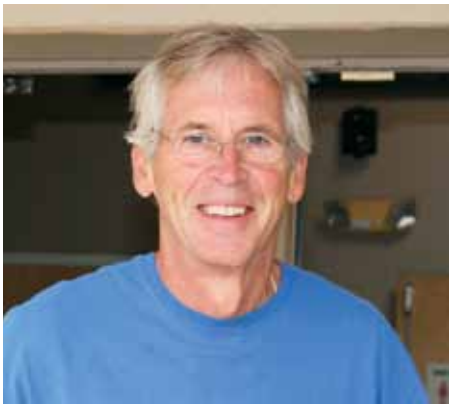


PHOTO BY P. J. FUSCO

As supervisor of the Wildlife Division's Outreach Program, Peter Good was involved with *Connecticut Wildlife* magazine behind the scenes. His input and direction were invaluable. The magazine staff wanted to honor Peter upon his retirement by having him answer some questions about his career in his own words (essentially this is his last *Connecticut Wildlife* article). Peter may have ended one chapter of his life upon retiring from state service, but we wish him well in his next chapter, in which we are sure he will still be involved with wildlife issues.

What year did you begin working for the Wildlife Division and what were the different positions that you held?

I started as a small game biologist in June 1983. As my career progressed, I also worked as a survey and data management biologist, and supervisor of Endangered Species, Nonharvested Wildlife, Furbearer, and Data Management Programs. Lastly, I was the supervisor of the Wildlife Division's Outreach Program.

Briefly describe some of your job responsibilities during your time with the Wildlife Division.

My responsibilities were wide-ranging from field work to administrative duties, database management, staff supervision, and outreach and education. Examples of some of my duties include conducting small game population surveys; radio-collaring and tracking wildlife; trapping and handling wildlife; coordinating and administering hunter use surveys; assisting program personnel in the management and analysis of data; preparing long-range plans, federal assistance applications, and program performance reports; creating and maintaining the Wildlife Division's section of the website; development of data management applications; and overseeing the operations of the Sessions Woods Conservation Education Center in Burlington.

What were some of your major accomplishments?

Four accomplishments stand out in my mind:

1. I never had any formal training in computers. But, apparently, I have a knack for it. I developed many applications for the Wildlife Division that greatly streamlined operations and increased efficiency.
2. I was part of the team that drafted Connecticut's first endangered species legislation.
3. I also created the Wildlife Division's website, which has grown and developed into a great asset for the public.
4. I oversaw and coordinated the development of the Sessions Woods Conservation Education Center as a premier educational facility.

What was your favorite wildlife species to work with?

I really couldn't say I have a favorite species. This might sound corny, but it's like asking a parent who is their favorite kid. Every species has different behaviors and adaptations that make them interesting in their own way.

What part of your job will you miss the most?

Of course I will miss the friendship and interaction with my co-workers. I will also miss helping people who have questions or problems with wildlife.

What part of your job will you not miss?

As with any big organization, public or private, there tends to be a lot of bureaucracy in accomplishing what should be straight forward tasks. I definitely will not miss that. It stifles the creativity, initiative, and efficiency of employees.

What do you see as the three major issues currently facing the Wildlife Division?

DEEP WILDLIFE FILE

During his 31 years with the DEEP Wildlife Division, Peter Good's responsibilities were wide-ranging from field work to administrative duties, database management, staff supervision, and outreach and education.

First, managing the bear population: The amount of time and resources spent dealing with bear concerns and complaints has grown dramatically and I believe it will continue to do so. Eventually the Department will have to look more closely at intensively managing this species.

Second, maintaining and expanding outreach efforts: The public has a great need and desire for all types of wildlife information. The Wildlife Division's outreach efforts must keep pace with that need. This will build strong support for the stewardship of Connecticut's wildlife resources.

And third, maintaining a one-on-one connection with the public: Modern technology is great. But, you have to be careful not to over rely on it. People are always happy when they call our offices and a person, not a machine, answers their call and responds to their questions or concerns.

P. J. FUSCO (2)

Some of Peter Good's field work opportunities involved helping the Furbearer Program with black bear research. Here, Peter is holding an ear-tagged bear that has been immobilized so biologists can collect data that help give insight on the health and size of Connecticut's bear population.

Peter Good weighs a deer that was brought to a deer check station during the hunting season. Most deer check stations have been phased out in recent years because hunters can now report their harvests online or by telephone.

What major differences/ changes have you seen since you first joined the Wildlife Division?

The biggest change has definitely been how the internet has changed how we do our job. These days, it is so much easier to research wildlife topics and also provide the public with wildlife information.

Has anything remained the same?

There is an old adage in the field of wildlife management. Ninety percent of wildlife management is people management. That never changes.

What is the most memorable event that happened during your time with the Wildlife Division?

There are lots of memorable events. But, one of my first was responding to a black bear incident in Southbury. It was the early 1980s, and a bear in Connecticut was big news. How things have changed since then!

What advice do you have for your colleagues at the Wildlife Division?

When things at work get you down, remember how lucky you are to have a job in a field you love.

What are your plans after retirement?

My immediate plans are to go on a cruise to the Baltic Sea with my wife and friends. After that, I am going to play it by ear. I am looking forward to having the free time to fish, kayak, bike, hike, garden, and do home improvement projects whenever I want.

Any other thoughts you would like to add?

I have always considered myself fortunate to have landed a job in the field of wildlife biology. I have enjoyed the job and my co-workers immensely. Hopefully my retirement will be as fulfilling.

More Summer Sojourners in the Sound

By Penny Howell, DEEP Marine Fisheries Division

PHOTO COURTESY A. VARIAN

Alison Varian with the trophy size black sea bass she caught in Long Island Sound in July 2014.

CT DEEP MARINE FISHERIES DIVISION

Adult spot captured in the Marine Fisheries Division's Long Island Sound Trawl Survey. The fish gets its name for the large black spot above the pectoral fin.

Recent years have seen an increased abundance of mid-Atlantic species that used to be rare in Long Island Sound. In addition to the usual summer migrants that come into the Sound in big numbers to feed and spawn – bluefish, striped bass, scup – anglers are now encountering many more black sea bass, spot, and northern kingfish. These fish used to be common only south of Long Island in ocean waters off New Jersey and Maryland. Now, black sea bass and spot rank among the most abundant species captured in the DEEP Marine Fisheries Division's Long Island Sound Trawl Survey (see an article on the Trawl Survey in the January/February 2011 issue of *Connecticut Wildlife*). In the early 1980s when the Survey began, only a handful of these fish were recorded in annual fall catches from 80 half-hour tows with the trawl net. By the 1990s, catches of black sea bass and spot more than doubled, and in the last decade black sea bass abundance averaged 10 times greater than in the 1980s, while the abundance of spot has increased six-fold. Sea bass are now captured, on average, in a third of all fall survey tows, and spot show up in a quarter of the fall tows.

Newly-hatched juvenile black sea bass also are frequently captured in the Marine Division's Coastal Seine Survey. Seine catches at eight beach sites from Groton to Greenwich taken every September since 1988 have seen sea bass increase in abundance from nearly absent to an average catch in 2013 of five per sample. Sea bass juveniles have become more common in these intertidal catches than juveniles of our native winter flounder. One reason why these species are now more abundant is the presence of many healthy, low salinity and fairly warm nursery areas in the Sound, where these young fish can feed and rapidly grow large enough to survive the winter when they move offshore. These young fish take several years to grow large enough to be caught by anglers, but adults in the Sound are already providing anglers with good catches and good eating. Anglers also have the exciting adventure of seeing many new species when they reel in their line.

PHOTO COURTESY PROJECT OCEANOLOGY

Northern kingfish are now large and abundant enough to be frequently captured by anglers, as well as by many other types of bottom gear. This one was captured in a research trawl net by students participating in Project Oceanology.

Four-toed Salamander

Hemidactylium scutatum

P. J. FUSCO

Background and Range

The four-toed salamander is Connecticut's smallest salamander. As a member of the lungless salamander family (Plethodontidae), it absorbs oxygen through its skin. This species is found statewide in Connecticut, most frequently in low-lying, non-calcareous areas. The population is currently assumed and listed as secure in our state.

Four-toed salamanders occur in the eastern portion of North America from Nova Scotia, coastal Maine, southern Quebec, to the Florida panhandle, west to Minnesota, Illinois, Missouri, Arkansas, eastern Oklahoma, and Louisiana. In some areas, widely separated and quite localized populations occur.

Description

This small terrestrial salamander ranges from 2-3.5 inches in length (females are larger than males). The back is reddish brown, appearing slightly rough, granular, and dry. The belly is enamel white with black flecks. The cylindrical tail has a distinct constriction at its base (the point where the tail would break off if grabbed by a predator). As its name implies, this salamander has only 4 toes on the hind feet, unlike most of the lungless salamanders which have 5.

Juveniles resemble adults but the tail constriction is poorly defined. Larval salamanders possess long bushy gills and a blunt head. Females have a more rounded snout, while males have a shortened and square-shaped snout.

Habitat and Diet

Four-toed salamanders are found in both moist and dry woodlands, as well as in wooded swamps. Preferred sites include sandy, acidic deciduous woodlands adjoining red maple swamps. They are found under rocks, logs, and debris, often along the edges of swamps as well as on hummocks surrounded by water. Sphagnum moss is usually present nearby and is often used during nesting by the female.

The four-toed salamander's diet has been studied little, but the following prey have been noted: spiders, ticks, springtails, small flies, true bugs, ground beetles, small caterpillars, ants, and snails.

Life History

This salamander breeds in autumn during September and October. Eggs are generally laid the following April. Each female lays between 18-41 eggs, depositing them in sphagnum and other mosses as well as in rotten wood. Often, the eggs are laid 2-6 inches above water so that the larvae can drop into the water upon hatching. The four-toed salamander has been observed nesting communally. Females often defend the eggs until they hatch about 5 weeks after being laid. The larvae wriggle into the water for an aquatic life stage that lasts about 6 weeks.

Interesting Facts

It takes about 2-3 years for a four-toed salamander to reach maturity.

If a four-toed salamander's tail is roughly handled or grabbed by a predator or a person, it detaches at the distinct basal constriction. After detaching, the tail vigorously wiggles, thereby distracting potential predators while the salamander crawls away. The tail will eventually grow back.

Four-toed salamanders often overwinter inside of rotting logs, sometimes in very large congregations.

Conservation Concerns

Though the four-toed salamander population is secure in Connecticut, populations can still be affected by the loss and degradation of breeding pools and their upland habitats.

What You Can Do

Awareness and education of the four-toed salamander's life history and habitats are invaluable tools for conservation. Work within your community to protect open space and water quality so as to preserve areas this salamander and other wildlife species live.

Avoid the use of fertilizers, herbicides, and insecticides in your yard, especially those containing the chemical glyphosate. If you need to use these products, purchase ones that are natural and organic and use sparingly.

If you happen to find a four-toed salamander, leave it where you found it and only take photographs. Salamanders should never be collected from the wild. If you lift any logs or rocks while rummaging through habitats, remember to place them back exactly how you found them.

Additional information about salamanders is available on the DEEP website at www.ct.gov/deep/salamanders.

Slimy Salamander

Plethodon glutinosus

P. J. FUSCO

Background and Range

The northern slimy salamander is a medium-large sized member of the "lungless" salamander family (Plethodontidae). This salamander gets its name from a glue-like secretion it emits from glands in its skin as a defense against predators or when disturbed. The substance is difficult to remove from hands or clothing.

There are at least 16 subspecies of slimy salamanders which look the same but are genetically variable. Overall, this species ranges from Texas to Florida, north into Missouri and Illinois and northeast into New York and Connecticut. In Connecticut, only the northern slimy subspecies exists. The subspecies is at its northernmost range in Connecticut, with only a few populations in western Fairfield and Litchfield Counties. With such few populations, the slimy salamander is listed as a threatened species in Connecticut.

Description

The slimy salamander is mostly black with white flecks and blotches along the sides and top portion (dorsum) of the body. The belly is typically lighter in base color than the rest of the body. The slimy has 15-17 (typically 16) costal grooves (vertical flanks along salamander's sides). The tail accounts for half or more of the total body length, which ranges between 4.5-6.5 inches. The tail also is cylindrical (distinguishing it from the laterally flattened tail of the similar-looking Jefferson and blue-spotted salamanders). Juveniles look similar to adults.

Habitat and Diet

The slimy salamander is restricted to old second growth deciduous or hemlock forests with steep, rocky slopes. It hides under rotten logs and thick duff layers on the forest floor. Slimy salamanders require wet or moist areas for breeding purposes.

This amphibian feeds at night on a variety of invertebrates, such as earthworms, snails, slugs, spiders, centipedes, millipedes, as well as larval and adult insects.

Life History

Slimy salamanders are late spring-time breeders, much like many other Connecticut amphibians. Not much is known about the breeding activities of slimy salamanders. It is suspected that they are sexually mature at 5 years of age and that the females only breed every other year. Unlike most other salamanders, open water is not needed for the laying of eggs. Instead, the 13 to 34 eggs (average 16-17) are usually deposited in decaying logs or attached underneath rocks. All development takes place within the eggs, including metamorphosis, so that the emerging juvenile salamanders appear as smaller versions of the adults. The juveniles may have just as many, if not more, white flecks on their bodies.

What You Can Do

Awareness and education of the slimy salamander's life history and habits are invaluable tools for conservation. Consider the preservation of important mature growth forests. Not only are salamanders important, but their presence indicates a healthy habitat.

If you happen to find a slimy salamander, leave it where you found it and only take photographs. You take the risk of getting "slimed" if you handle a slimy salamander, and the slime is difficult to remove. Salamanders should never be collected from the wild. Collection or removal of any slimy salamander is strictly prohibited by the Connecticut Endangered and Threatened Species Act. If you lift any logs or rocks while rummaging through forests, remember to place them back exactly how you found them.

Avoid the use of fertilizers, herbicides, and insecticides in your yard. If you need to use these products, purchase ones that are natural and organic and use sparingly.

Additional information about salamanders is available on the DEEP website at www.ct.gov/deep/salamanders.

Interesting Facts

This nocturnal salamander emerges from its burrow at dusk and retreats at dawn. It is occasionally active on rainy days. During a drought, the slimy salamander can be found deep underground or under rotting logs. The species hibernates underground from November to March.

When threatened, the slimy salamander will lash out with its tail, secreting a sticky, gluey substance. Potential predators that come into contact with this substance may experience mastication (sticky jaw binding), thus reducing the movement of the jaws.

Conservation Concerns

The major threat facing the slimy salamander is the loss of undisturbed mature forests in western Connecticut to urban and suburban development, road fragmentation, and habitat degradation. Preservation of these habitats is crucial for the survival of this species in our state.

Drawbacks to Drawdowns

Written by Patrick Pennarola, DEEP Wildlife Division

As the days shorten and temperatures drop, lake and pond associations across the state get ready to draw down the water levels of waterbodies. By lowering water levels during winter, unwanted vegetation may be controlled, ice damage to waterside property can be lessened, and structures may be more easily maintained. In Connecticut, the process typically begins mid-autumn and waterbodies may not be refilled until spring. While this practice certainly has benefits, it also poses a threat to these aquatic ecosystems. Water quality may be negatively impacted, as can lake sediments, non-target aquatic vegetation, and a variety of aquatic animals.

Changes in Water Quality

When water levels are drawn down, nutrient concentrations from organic matter can change the quality of the remaining water. Excess nutrients can be released into the water from organic materials, which can lead to the increased chance of algal blooms. Also during winter, lake water has little exposure to the atmosphere due to ice cover, thus excessive amounts of decomposing matter can deplete oxygen levels in the water. Fish, frogs, salamanders, turtles, and invertebrates may die due to the lack of oxygen in the water.

Sediment

Changes in the sediments of a pond also can be detrimental. Lowered water levels expose lake bed sediments to the elements, subjecting them to wind, wave action, and ice. This exposure alters the physical and chemical properties of sediment. The distribution of those sediments can change by the movement of finer materials with receding water, leaving behind coarser sediments in the exposed area. Aquatic plants and animals that normally rely on sediment-rich shallows are impacted, as are the organisms that feed on them.

Vegetation Changes

While exposure to winter conditions can push back invasive and nuisance plants, it also kills non-target vegetation. There is no way to discriminate between wanted and unwanted plants when using winter drawdowns as a vegetation management tool. These culls change plant distribution and diversity and, if done year after year, can drastically change the fauna of a lake or pond.

Faunal Impacts

Connecticut's lakes and ponds are home to many animals of various shapes and sizes. Fish come to mind quickly, but many turtles, salamanders, and frogs rely upon our waters for at least some stage of their lives. Dragonflies and damselflies, as well as mayflies, caddisflies, dobsonflies, and certain beetles, all have aquatic larvae that can spend several years maturing in these ponds. Freshwater mussels, like the eastern pond mussel, and freshwater snails, several of which are species of special concern in our state, will spend their entire lives in these lakes and ponds. Slow-moving species or ones that hibernate may not be able to keep up with dropping water levels, even if they have some ability to withstand short periods of time out of the water. Being stranded in sediments also leaves them vulnerable to opportunistic predators like raccoons. Fewer numbers of these aquatic animals in the food web causes a ripple effect which can have implications higher up the system on animals such as fish and waterfowl which feed on them.

Can These Impacts Be Minimized?

These negative effects may just be an intrinsic part of winter drawdowns; however, some of these effects may be minimized. Animal species with limited mobility may benefit when water levels are dropped slowly. Research suggests that a maximum rate of six inches per day would allow many species to migrate safely to deeper areas. It also is important that this process begins before these species enter dormancy, as they might not be able to respond at all if the drawdown is done too late in the season.

Winter drawdowns are a low-cost management tool for lake management that can ease ice damage, allow for dock maintenance, and be a tool against nuisance vegetation. With these benefits come recognized costs to the health of the ecosystem and the animals that are a part of it. Keeping wildlife in mind when deciding on when, how much, and how often to draw down, we lessen the long-term impacts to our lake and pond ecosystems.

Where Do Wildlife Hibernate in Ponds?

Turtles, such as the painted turtle and musk turtle, hibernate on the bottom of lakes and ponds during winter. They settle down in areas of the pond that do not freeze (below the ice line). Turtles will burrow into the mud, and their metabolic rate slows down to the point where they can hibernate in that location without needing to surface for air until spring. Some oxygen exchange occurs through the skin, which is enough for the turtles to survive submerged all winter long. Aquatic frogs, such as bullfrogs and green frogs, will spend winter in streams and on the bottom of ponds. They too, like aquatic turtles, will slow their metabolism down and exchange oxygen through the skin.

Celebrate Salamanders! *Learn all about Connecticut's salamanders and find out about upcoming salamander events on the DEEP website at www.ct.gov/deep/salamanders.*

Drawdowns During the Year of the Salamander

Connecticut's lakes and ponds are home to the red-spotted newt. This interesting salamander begins life as an aquatic larva before transitioning to a distinctive terrestrial juvenile (called the red eft) for multiple years. However, the newt has one final trick up its sleeve. It transforms again, reentering the water as an adult newt, where it will mate, lay eggs, and allow the process to begin again. Adults are usually mobile enough that a drawdown will not strand them if conducted early enough in autumn, though they may suffer if oxygen levels of the remaining water get too low.

FROM THE FIELD

Plant Milkweed for Monarchs

Monarch butterflies are struggling. Counts of the familiar orange-and-black insects, admired for their flights of up to 5,000 miles a year, are trending down so sharply that their migration is now under threat. That means fewer monarchs to pollinate crops, spread seeds, and feed birds.

So how can we help? One simple way is to consider collecting and sowing milkweed seed. Why milkweed? Milkweed is the host plant for monarchs—the lone plant on which the butterflies lay their eggs in spring and the only food source for monarch larvae. One reason monarchs are failing is that milkweed is disappearing from the American landscape. Scientists blame land-use practices such as farming with crops genetically modified to resist herbicides. The herbicides kill plants such as milkweed that grow around farm fields and have no such protection. Urban sprawl and development have also chewed up monarch habitat.

While conservationists weigh broad-scale rescue options, individual efforts can make a difference. Every little bit helps. It doesn't take a huge number of plants in any one place to help monarchs, especially during migration.

How do I collect seed? Milkweed pods are typically ripe for picking in early fall. Wear gloves and avoid touching your face; milkweed sap can injure your eyes. Seek permission before harvesting seed on private, federal, or state property. Collect only the gray seed pods, not the green ones. If you squeeze the pod and it pops open, it's ready to pick. When gathering pods in any one spot, leave a few behind on each plant. Don't collect seeds unless you plan to sow them.

What do I do with the seed pods I've collected? You can send the pods to MonarchWatch (University of Kansas, 2021 Constant Ave, Lawrence, KS 66047) for processing and planting. Or you can process and plant seeds yourself. To separate seeds from milkweed silk – the white fluff inside a milkweed pod to which seeds attach – place a few coins in a clean, empty plastic container. Add the contents of the milkweed pod and close the container tightly. Shake the container until the seeds fall to the bottom and the fluff forms a ball on top. Unscrew the lid and remove the ball of silk fluff. Either sow the seeds outdoors on bare soil before the first snow, or place them in a labeled, rodent-proof container that has air flow and store them in a cool, dry, ventilated area. In early spring, germinate the seeds indoors in potting soil (with the seeds planted just below the surface), and then plant the seedlings outdoors after danger of frost has passed.

Where can I learn more about monarchs and milkweed?

monarchwatch.org/bring-back-the-monarchs/
www.monarchjointventure.org
www.fws.gov/pollinators/

Information provided by the U.S. Fish and Wildlife Service

P. J. FUSCO

The monarch butterfly was petitioned for listing as a federally threatened species in August 2014. East of the Rocky Mountains, monarchs have declined by more than 90% since 1995, and the population continues to decline.

P. J. FUSCO

Recycle Fishing Line to Protect Wildlife

Carelessly discarded fishing line can seriously harm or kill wildlife. Animals can become entangled in or ingest the line, whereby starvation, strangulation, or deep wounding are possible. Wildlife usually cannot survive the injuries they sustain from entanglements.

DEEP has installed monofilament fishing line recycling receptacles at inland and coastal sites around the state to encourage less waste line in the environment. The disposed fishing line is collected by volunteers and Master Wildlife Conservationists, and then sent to a company that recycles it to make underwater habitat structures for fish.

Other volunteers and conservation organizations, like the Menunkatuck Audubon Society which serves the shoreline from Madison to West Haven, also have installed several recycling receptacles at local fishing areas. You can find a list of fishing line recycling receptacle locations on the DEEP website at www.ct.gov/deep/lib/deep/wildlife/pdf_files/outreach/FishingLineRecycle.pdf.

Fishing line, hooks, lures, sinkers, kite string, helium balloons, plastic bags, and other carelessly discarded trash are deadly threats to wildlife. Make a difference by retrieving these items and discarding them in covered trash or recycling containers. We all can help further by picking up other people's trash, especially along our waterways. It's the responsible thing to do!

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 calling 860-675-8130 (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. 1 ..... **Yoga and Hike**, starting at 9:00 AM. Join Friends of Sessions Woods Director, Jan Gatzuras, for a short yoga session, followed by a 5.5 mile-hike on the Tunxis and Sessions Woods Beaver Marsh Trails. This pretty woodland loop includes "The Great Wall," a steep rock escarpment nearly 70 feet high. Meet at the pavilion behind the Sessions Woods Conservation Education Center. Please call Jan (860-212-6067) with questions. Heavy rain will cancel the program. Participants should wear sturdy shoes and be physically fit for the hike.

Jan. 17 ..... **The Bobcat: CT's Secretive Wild Cat**, starting at 1:30 PM. Wildlife Division Natural Resource Educator Laura Rogers-Castro will provide an introduction to the bobcat, Connecticut's only wild cat. This PowerPoint presentation will include information on the natural history of bobcats, including diet, breeding habits, and habitat requirements. Participants also will learn how to identify bobcat tracks. This program is suitable for ages 10 and older.

Hunting Season Dates

Sept. 15-Nov. 18	First portion of the deer and turkey bowhunting season on state land
Sept. 15-Dec. 31	Deer and turkey bowhunting season on private land and state land bowhunting only areas
Oct. 4-31	Fall Firearms Turkey Season
Oct. 18	Opening Day for the small game hunting season
Nov. 8 through 15....	Youth Deer Hunter Training Days
Nov. 19-Dec. 9	Statewide Firearms Deer Hunting Season on private land. Consult the 2014 Hunting and Trapping Guide for specific dates for the shotgun season on state lands.
Dec. 10-23	Muzzleloader Deer Hunting Season on state land
Dec. 10-31	Muzzleloader Deer Hunting Season on private land
Dec. 24-31	Second portion of the turkey bowhunting season on state land

Consult the 2014 Connecticut Hunting & Trapping Guide and the 2014-2015 Migratory Bird Hunting Guide for specific season dates and details. Printed guides can be found at DEEP facilities, town halls, bait and tackle shops, and outdoor equipment stores. Guides also are available 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 deer, turkey, and migratory bird permits and stamps. The system accepts payment by VISA or MasterCard.

Stay up-to-date with events, programs, volunteer opportunities, hunter safety classes, hunting season dates, and other important information by regularly visiting the DEEP website (www.ct.gov/deep/wildlife) and CT Fish and Wildlife Facebook page!

Find us on Facebook **www.facebook.com/CTFishandWildlife**

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P. J. FUSCO

Migratory bird stopover areas are not always large properties in remote places. These semipalmated plovers are resting during their fall migration on a small, but important patch of beach along the Connecticut coast.