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





# From the Bureau Chief's Desk



#### Celebrating 150 Years: A Legacy of Progress and Change

This year we will be celebrating the 150<sup>th</sup> Anniversary of Natural Resource Conservation in Connecticut. We are humbled and inspired by the accomplishments of the many dedicated fisheries, wildlife, forestry, and law enforcement professionals who have preceded us and we are honored and privileged to be entrusted to advance this mission into the next 150 years.

Our mission is "To conserve and enhance Connecticut's fish, wildlife and forest resources and to enhance opportunities for public use and appreciation." While not formally adopted until 2011, this mission statement has been implicit in our actions ever since the creation of the Fish Commission in 1866. It was central to the establishment of the Board of Fisheries and Game and the appointment of the first Game Wardens in 1895, and the designation of our first State Forest in 1903. It is why we replanted forests, established fish hatcheries, introduced game species, restored native species, and it is why we continue to conserve land, improve habitat, and scientifically manage and harvest fish, wildlife, and forest products.

Connecticut in 1866 was a very different place than it is today. The Civil War had just ended and much of North America was in the latter stages of the Industrial Revolution. There was a need to rebuild our nation and restore the natural resources on which the Northeast depended. The Connecticut landscape in 1866 resembled neither the wilderness encountered by early European colonists or the mosaic we see today. Forests were largely absent, agricultural development was extensive, and our waterways had been harnessed for water power.

However, the work undertaken by the three-person Fish Commission in 1866 was not, at its essence, any different from that facing managers today: To conserve and enhance our natural resources for the benefit of fish, wildlife, forests, and people. In so doing, our predecessors began to regulate fisheries, re-connect habitats, and introduce game species believed to be better suited to Connecticut in the late 1800s (e.g. freshwater bass from the Midwest, brown trout from Europe). This was all done in the same spirit as our more recent efforts to scientifically manage harvests and timber production, improve habitats, and restore native wildlife populations (e.g. bald eagles and turkeys).

Today, this legacy of progress and change continues as our talented biologists, foresters, and EnCon Officers, along with our many partners, grapple with the new challenges of invasive species, climate change, conserving habitat in the face of development, and managing the interface between people and restored wildlife. Together, we can keep moving the needle to ensure that future generations have the opportunity to enjoy the outdoors in the manner in which we have been blessed. Please join us in making 2016 a year for celebrating our past and for setting the stage for the next 150 years of resource conservation in Connecticut.

William Hyatt, Chief, Bureau of Natural Resources

#### Cover:

CT's first female Deputy Warden, Edith A. Stoehr, at the "Woman's Fishing Cabin" (with an unidentified female angler) located near the Branford River where a section was set aside specifically for women anglers (see page 11). Photo courtesy of retired Connecticut Conservation Officer Pat Hayes.



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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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# **Celebrating 150 Years of Natural Resource Conservation**

Written by Mike Beauchene, Judy Prill, Alan Levere, and Kathy Herz, DEEP

From the coastline of Long Island Sound, to the central river valleys, and across the eastern and western highlands, Connecticut is a state rich with natural resources. Our diverse landscapes provide habitat for a remarkable number of fish and wildlife.

In the 1600s, the state's colonists viewed the natural world as both a provider and an adversary. For these settlers, the land and water offered all they needed, with plenty to spare. Unfortunately, this abundance would not last.

Over the next 200 years, a growing population placed a greater demand on the state's natural resources. Forests were cleared to establish farmland and provide wood for fuel and lumber for housing. Many rivers were dammed and streams were choked with sediment from eroding soil. Fish and wildlife were harvested at will to provide food and fur. Some wildlife, such as wolf, bobcat, and bear, were viewed as "harmful beasts" needing to be eliminated to protect livestock and crops. By the mid-1800s, most of the state's forest, fish, and wildlife resources, which once seemed limitless, were gone.

Connecticut's leaders took action and, in 1866, passed legislation creating a Fisheries Commission. Over the next 30 years, this commission and its wardens worked to restore fish populations by establishing catch limits and stocking millions of native fish, such as salmon, shad, flounder, and brook trout. They introduced new fish, including bass, walleye, bluegill, carp, and rainbow and brown trout. In 1895, efforts were expanded to protect Connecticut's wildlife, and the Commission was renamed the "State Commission of Fisheries and Game." Soon after, Special Game Protectors were appointed to assist local wardens in the enforcement of fish and game laws.

In 1901, a State Forester was designated to address the reforestation of barren lands. Connecticut had a solid foundation to move forward with restoration, conservation, and preservation of its natural resources. This led to many successes over the next few decades -- lakes and ponds were once again brimming with fish, white-tailed deer were on the increase, and cleared land was returning to forest. Commission records documented a vibrant commercial fishery, with Connecticut ports landing over 15 million pounds of fish and shellfish annually.

Following World War II, the nation ex-



Rob Klee (right), DEEP Commissioner, and Bill Hyatt, Chief of the Bureau of Natural Resources, pose with a Governor's proclamation for the 150th Anniversary at a recent kick-off event.

perienced unprecedented industrial growth. Advances in chemistry, engineering, and power supply enabled mass production of many goods. Waste products from manufacturing and everyday life were treated by simply burying, discharging to rivers, or burning. By the late 1960s, environmental problems had reached a crisis point. Smoggy cities and polluted rivers were an increasingly common sight. Toxic chemicals were killing fish and wildlife. Connecticut addressed this new challenge by passing innovative legislation, such as the Clean Water Act of 1967 that required improved treatment of sewage and industrial wastewater.

To further address air, water, and waste pollution, Connecticut created the Department of Environmental Protection in 1971. This new agency also brought together a number of separate boards and commissions, including those focused on fish, forests, and wildlife. Advances in technology enabled its scientists to better track and collect data on the range, population sizes, and health of our plants and animals.

Connecticut has enjoyed great successes, such as the return of osprey, wild turkey, and bald eagle, and the restoration of habitat for many other animals and plants. Today, almost 60% of our state is covered in forest, and some species are reaching numbers that have not been seen for over 300 years. Each year, our natural resources support over 9,000 jobs and contribute more than one billion dollars to the state's economy.

Being densely populated, Connecticut is continually presented with challenges to its natural resources, such as loss, degradation and fragmentation of habitat, and competition from invasive plants and animals. DEEP's Bureau of Natural Resources continues to foster the partnerships developed over the past 150 years. Wildlife and Forestry Action Plans, created and supported by these diverse groups, provide the direction and guidance needed to addresses problems now facing our resources. We must continue to work together and share this information so that future generations can enjoy Connecticut's natural beauty.

The words of the State Board of Fish and Game Commissioners in 1926 still resonate today: "Our policy must therefore lie along the line of ... providing opportunity to all who appreciate the best things in life [and] go afield for the benefit of body, mind, and spirit. Youth and old age have a right to demand this of us. We must not disappoint them for we are the trustees of their generation."

# A History of Wildlife Conservation in Connecticut

Written by Paul Fusco, based in part on writings developed by former Wildlife Division Director Dale May

rom the early days when the Connecticut Fish Commission was created in 1866, to 1895 when the Commission was expanded into the Board of Fisheries and Game, and then to the DEEP Wildlife Division of today, Connecticut's wildlife has faced many challenges and successes. With the depletion of wild populations by the 1800s, there came an awakening that led to protective legislation and regulation. By the 1930s, many felt it was necessary to find a way to pay for wildlife conservation, resulting in landmark legislation - the Federal Aid in Wildlife Restoration (Pittman-Robertson) Act - which created stable and dedicated federal funding that is allocated to the states for wildlife restoration and management. Building on this early legislation, wildlife conservation went through a period of environmental quality and species awareness. Today, advanced methodology and specialized staff play key roles in maintaining and improving on past conservation successes.

#### Late 1800s – Exploitation

By the late 1800s, once abundant natural resources were diminished due to unsustainable use, and many wildlife species were on a fast track to extinction. The high demand for wildlife from market hunting and the millinery trade led to greatly reduced populations and even the extinction of some animals, including the passenger pigeon, once thought to be the most numerous bird on the planet. Other birds were at high risk, including egrets, terns, and plovers, whose feathers, and sometimes whole bodies, were used to decorate fashionable hats. Many shorebird populations have not recovered to this day.

During this time, wildlife habitat in our state was lost to agriculture and human development. So much forest had been cut that some animal populations declined severely or were virtually eliminated from Connecticut, like the beaver and wild turkey.

- 1813: Wild turkeys were extirpated (gone) in Connecticut.
- 1842: Beavers were extirpated in Connecticut.
- **1850:** Connecticut became one of the first states to enact a law protecting nongame birds.
- 1866: The Connecticut Fisheries Commission was established.
- *1882:* The last passenger pigeons in the state were documented from a roost north of Hartford.
- **1895:** The Board of Fisheries and Game began and the first state game wardens were appointed.

#### Early 1900s – Regulation

By the turn of the twentieth century, public apathy towards wildlife was replaced by growing concern, leading to the establishment of laws that would protect and regulate wildlife in Connecticut and the nation. Citizens, mainly sportsmen and bird advocates, began to voice their concerns, which were heard by politicians and others. During this time, state agencies assumed a role to protect and regulate some wildlife. As this movement gained momentum, the federal government began taking on a greater role. Laws started to take shape, beginning with the landmark Lacey Act of 1900, which banned interstate traffick-ing and trade in illegally taken wildlife (and plants). The country had its first "Conservation President" in Theodore Roosevelt, who authorized the nation's first national wildlife refuge, Pelican Island, off the east coast of Florida in 1903.

In 1916, the U.S. government signed a treaty with Great



Wood ducks recovered from near extirpation with the help of federal laws and the installation of special nest boxes.

Britain (on behalf of Canada) to protect birds that spend time in both countries. It was the first time two nations had acted to protect birds across borders. The Migratory Bird Treaty (and the resulting Migratory Bird Treaty Act of 1918) is one of the oldest wildlife protection laws and is celebrating its centennial this year. The treaty has been expanded to include Mexico, Japan, and Russia (and to address the tribal use of bird feathers).

- **1907:** The sale of hunting licenses began in Connecticut.
- **1907:** The spring hunting season for waterfowl was closed in the state.
- *1914:* Beaver reintroduction began with the establishment of a colony in Union by a private individual.
- 1914: The passenger pigeon officially became extinct.

#### Mid-1900s – Restoration and Management

Laws and regulations alone could not help depleted wildlife populations recover; science and management practices also were needed. Once Aldo Leopold's ground breaking book, *Game Management*, was published in 1933, the science of wildlife management became widely accepted.

Adequate and stable funding was needed to accomplish wildlife and habitat management projects and protect habitat. The federal Migratory Bird Hunting (Duck) Stamp Act (1934) and Federal Aid in Wildlife Restoration Act (1937) set the framework to pay for wildlife and habitat protection and restoration. Under the Duck Stamp Act, all waterfowl hunters 16 years of age and over must annually purchase a federal Duck Stamp. The money goes directly into a dedicated fund for the purchase and management of wetland habitat across the country. These properties became the building blocks of the National Wildlife Refuge system, and were central to waterfowl and bird conservation throughout the twentieth century. The Federal Aid in Wildlife Restoration Program is the nation's oldest and most successful wildlife restoration program. Through the purchases of firearms, ammunitions, and archery equipment, the Program is a successful user pay, user benefit program, providing grant funds to state fish and wildlife agencies for projects to restore, conserve, manage, and enhance wild birds and mammals and

their habitats. Projects also include providing public use and access to wildlife resources, hunter education, and development and management of shooting ranges. The Federal Aid in Wildlife Restoration Act included a prohibition against the diversion of license fees paid by hunters for any other purpose than the administration of state fish and wildlife agencies.

- **1932:** A waterfowl restoration program was initiated in Connecticut. Wood ducks had almost disappeared from the state. Nest boxes were erected in wooded swamps to provide nest sites and help the wood duck population recover.
- *1935:* Predator control was a common practice. The state began paying bounties for bobcat pelts.
- **1950s:** Nesting bald eagles disappeared from Connecticut.
- 1956: A hunter safety program began in Connecticut. (It eventually became the Conservation Education/Firearms Safety Program in 1982.)

# Late 1900s to 2000s – Conservation and Awareness

The late 1900s saw a popular awareness take root that led to modern day environmental and wildlife conservation. This movement was built upon previous successes in conservation but added a real concern for environmental protection. The 1960s and 1970s brought environmental quality into the mix, starting with the classic book from Rachael Carson, *Silent Spring*, in 1962. Toxic chemicals and pollution became the new emerging battleground. The first Earth Day, celebrated on April 22, 1970, set the stage with a channeling of 1960s energy to bring environmental concern to the forefront. New federal laws – the Clean Air Act of 1970, Clean Water Act of 1972, and Endangered Species Act of 1973 – brought wildlife and habitat conservation into the modern age.

Use of the organochlorine pesticide DDT was banned in Connecticut in 1969 and the United States in 1972. DDT contamination of food items eaten by raptors, like the osprey, bald eagle, and peregrine falcon, is widely accepted as a major reason why populations of many raptor species declined in the mid-twentieth century. DDT accumulated in the food chain and, when contaminated food was ingested by the birds, it caused them to lay eggs with weakened shells that cracked when the birds incubated their eggs. Ospreys were at a record low in Connecticut in 1974 when there were only nine active nests. With DDT no longer being used, ospreys were able to reproduce successfully and, with the help of nesting platforms, the population began to grow rapidly into the present day where nesting pairs number well over 200.

Gone from Connecticut since 1813, wild turkeys were reintroduced to the state beginning in 1975. Through the management technique of release, trap, and transfer, wild turkeys were successfully reestablished in the state.

Projects were initiated to provide nest boxes and wood to build boxes so that the public could have a role in bringing back the eastern bluebird, which had long suffered from a lack of natural nest cavities.

- **1963:** The first coyote was documented in Connecticut when one was killed in Kensington.
- *1971:* The Connecticut Department of Environmental Protection was established.

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1975: Connecticut held its first regulated deer hunting season.



As part of a Pittman-Robertson project, Wildlife Division biologist Steve Jackson releases one of the first wild turkeys to be reintroduced in Connecticut.

- 1986: The Nonharvested Wildlife Program was established.
- **1992:** Connecticut's Endangered and Threatened Species Act was established.
- **1992:** A pair of bald eagles nested successfully for the first time in almost 40 years.
- 2011: The Connecticut Department of Energy and Environmental Protection was launched.

#### Today and into the Future

The DEEP Wildlife Division of today faces some difficult challenges now and into the future, including a lack of adequate funding, continuing habitat loss and degradation, climate change, emerging wildlife diseases, invasive species, and a public that spends less time outdoors and is losing its connection to nature. As the Wildlife Division attempts to tackle these challenges, there are a number of actions people can take to help.

#### You Can Make a Difference

- Support efforts to connect people with nature and increase wildlife viewing opportunities.
- Support funding for natural resource conservation.
- Become involved with local conservation organizations and sportsmen's clubs.
- Purchase Duck Stamps (federal and state).

#### **Education and Outreach Are Essential**

The need for wildlife information by the public has increased through the years. The Wildlife Division sometimes finds itself interacting with a public with varying interests that often conflict with management goals. Many of these conflicts result from a misunderstanding of wildlife management practices and principles by a growing urban population that is lacking a connection with the natural world. In response, the Division's Outreach Program develops educational materials, reports, magazines, informational exhibits, special events, and news releases to foster a better understanding and respect for wildlife. The program also spreads information through the DEEP website (www.ct.gov/deep/wildlife) and the Connecticut Fish and Wildlife Facebook page (www.Facebook.com/CTFishandWildlife). The Wildlife Division's volunteer Master Wildlife Conservationists have been instrumental in providing wildlife education and outreach at countless events and other public venues.

## **Inland Fisheries – Never Better!**

Written by Pete Aarrestad and Mike Beauchene, DEEP Inland Fisheries Division

Fishermen are famous for their stories, many of which begin with "Back in the day...," leading the audience to believe from the storytellers' account that fishing in current times pales in comparison. It is a reasonable approach, as reflection allows us to put today's concerns on hold for a bit – to escape the here and now – in exchange for playing a highlight reel of catches and fishing trips gone by, with all of the legendary big ones that got away.

In reality, today's Inland Fisheries Division has developed a diversity of fishing opportunities within a 10-minute drive or short bus ride for almost every resident of the state. Our mission is to "advance the conservation, enhancement, restoration, use, and appreciation of Connecticut's inland and diadromous (migratory) fisheries and fish habitats." Our programs, financed by the revenue from fishing licenses and Federal Sport Fish Restoration Fund dollars, have supported our mission and the outcomes have created a win-win for people and fish.

#### **Getting Started**

The Inland Fisheries Division can trace its roots back to May 1866 when the General Assembly, in response to the extirpation of Atlantic salmon from the Connecticut River and the fear that American shad would follow a similar fate, granted the authority to the Governor to create a "Fish Commission." Three commissioners were appointed and charged with: 1) protecting sea fish in the Connecticut River; 2) introducing new



Inland recreational fisheries are continually improving. Decades of conservation, preservation, and water quality improvement now provide incredible fishing opportunities in our rivers (above) and lakes (next page).

species of fish; 3) protecting fish generally in our waters; 4) reporting such facts and suggestions as may be material to the next session of the legislature; and 5) communicating with fish commissioners in other New England states on the restoration of sea fish.

The commissioners took their charge seriously and, within a decade, had implemented a series of fishing regulations on gear type, harvest, and seasons while concurrently stocking millions of American shad and Atlantic salmon fry (recently hatched fish that are capable of feeding on their own) to re-populate waters. Several new species also were stocked to diversify the fisheries (see table of first introductions). These early fish commissioners were fish culturists with an insatiable urge and mandate to



Fish introductions were intended to create a source of food as well as recreation. Some fish types did not become established, while others are now a major part of our inland fish populations.



Just over 500,000 people currently fish Connecticut's waters each year, contributing \$446 million to the economy and supporting 6,625 jobs.

experiment with new species, leading to the stocking of a diversity of fishes across the state. Seth Green, S.F Baird, John W. Titicomb, and Reverend William Clift were early leaders in the field, advising fisheries decisions in Connecticut and eventually playing key roles in the formation of the American Fisheries Society (1870) and the U. S. Fish Commission (1871).

#### **Fisheries Created and Restored**

With time, our waters became well populated with fish. Previous fish restoration functioned under the assumption that all stocking was beneficial. The commissioners thought if a new species could be introduced into a pond, then better fishing would follow. Information on fish population dynamics was not yet available and, as a result, the feeding habits and amount of forage (food items) available in a waterbody were not considerations. This created waters where multiple game species had to compete for the same prey. Competition among the game species for food often created stunted populations (fish have slow growth rates and do not reach a large size) in many lakes and ponds.

By the 1930s, recreational angling began to gain popularity when many waters were "restored" and "filled" with fish. With this growth came the demand for the commissioners to stock larger, catchable size fish versus small fry and

Introduction of Fish Species to Connecticut					
First ntroduced	Established vs. Self-sustaining				
1860s	Yes				
1873	No				
1881	Yes				
1884	No				
1890s	Yes				
1893	No				
1893	Yes				
1911	No				
1920s	No				
1920s	No				
1921	No				
Unknown	Yes				
1950s	Yes				
1950s	Yes				
1950s	Yes				
1950s	Yes				
	First ntroduced 1860s 1873 1881 1884 1890s 1893 1893 1893 1911 1920s 1920s 1920s 1921 Unknown 1950s 1950s 1950s				

fingerlings. Stocking switched from a "put-grow-andtake model" to a "put-and-take" model. To obtain the larger fish, the state acquired several trout hatcheries and purchased harvestable size warmwater species from commercial fishermen. For approximately 10 years (1920s to 1930s), additional warmwater species were collected by seining public drinking supply

reservoirs, which just as today, were generally off limits to the public.

#### Fisheries Management As a Science

An increase in awareness of environmental quality in the 1960s and 1970s, coupled with new technologies available to biologists, such as "electrofishing" and computers, changed the way fisheries were managed. With access to new types of data, fisheries could be managed more efficiently by determining the potential of a waterbody, then stocking an appropriate number of fish. In addition, the combination of fisheries population data with harvest data enabled modification of early regula-

tions (minimum sizes, creel limits, and seasons) on a waterbody specific basis.

Today's Inland Fisheries Division staff continue to use the latest tools and science for the collection and analysis of fish population data. These data are used to conserve species, reconnect fish to formerly inaccessible habitat, and enhance recreational angler satisfaction.

#### Now and into the Future

Just over 500,000 people currently fish Connecticut's waters each year, contributing \$446 million to the economy and supporting 6,625 jobs. Connecticut's fisheries will face many challenges over the next 50 years, including an increase in human population and development; shifts in air and water temperatures; and expansion and contraction in the distribution of fish species. The Inland Fisheries Division will continue to provide for high angler satisfaction rates and actively recruit, retain, and reactivate anglers. Effectively managing our inland fisheries and aquatic habitat while serving societal needs will require the continued collaboration between the sporting community, environmental advocates, members of the fishing industry, and policy makers. So, the next time a fish story starts with "back in the day...," keep in mind that the best may be yet to come.

Some of the information for this article was obtained from: 2015. Southwick Associates. Economic Contributions of Recreational Fishing: U.S. Congressional Districts. Produced for the American Sportfishing Association.

#### Introduction of Fish Species to Connecticut

## Celebrating a Long History of Fishery Resource Protection

Written by Penny Howell, DEEP Marine Fisheries Division

his year, 2016, will mark the 150th anniversary of the state legislature's establishment of a commission responsible for protecting the state's fisheries. The year will be marked by several special events to commemorate Connecticut's leadership role in natural resource conservation and management. The state agency tasked with supporting and protecting the ecological services provided by Connecticut's natural resources has been given many names over the past 150 years. The original Connecticut Fisheries Commission, established in 1866, was transformed into the Connecticut Board of Fisheries and Game in 1895. It was then enlarged in 1959 to the Department of Agriculture and Natural Resources, and eventually becoming the Bureau of Natural Resources in the Connecticut Department of Environmental Protection (DEP) in 1971 (now known as the Department of Energy & Environmental Protection). The first DEP Commissioner, Dan Lufkin, went on to guide the development of a newlyestablished federal Environmental Protection Agency (EPA), and, in 2009, former DEP Commissioner Gina McCarthy followed in Lufkin's footsteps to take over as the current EPA Administrator.

#### Following are a few historical highlights of marine and anadromous resource protection:

1866: The Connecticut Fisheries Commission was tasked

with assessing the shad and salmon fisheries in order to rebuild and sustain those valuable fisheries. The commissioners repeatedly reported that fishways were needed on all major rivers and streams, and that "refuse matter from mills and factories" needed to be cleaned up.

1916: A hatchery built in the Noank section of Stonington produced millions of lobster juveniles in summer and billions of winter flounder larvae in winter. The hatchery was totally destroyed in the 1938 Hurricane and rebuilt farther inland in 1940, but fell vacant after World War II.

**1946:** The Atlantic States Marine Fisheries Commission was formed by all 15 Atlantic coastal states as a governing body to man-



(Top photo) Robert Huey of Essex holding his shad catch sometime in the 1930s.

PHOTO COUTESY OF ARCADIA PUBLISHING

(Bottom photo) A yearling Atlantic sturgeon captured by CT DEEP researchers in the Connecticut River in May 2014. This fish represents the first evidence of a reproducing population of endangered Atlantic sturgeon in the river in 150 years.

PHOTO: CT DEEP MARINE FISHERIES

age state fisheries resources on an interstate level. 1976: The U.S. Congress passed the Magnuson-Stevens Fishery Conservation and Management Act (Magnuson Act), which established rules for stock restoration and sustainability for fish harvested by commercial and recreational fisheries. The Federal Aid in Sport Fish Restoration Act, first established in 1950, was strengthened and expanded.

In the same year, the ongoing Connecticut River Shad Monitoring Program began. This monitoring program involves the collection of juvenile American shad and blueback herring at seven stations on a weekly basis from July through October. The 2015 shad index was the eighth highest in the 38-year time series.

1984: The ongoing Long Island Sound Trawl Survey began. To date, the Survey has identified 108 finfish species in their catches, with two new species observed in 2015. Mid-Atlantic and tropical species are becoming more common as the Sound's water warms. In the same year, the coast-wide Marine **Recreational Fisheries Statistical Survey** (MRFSS) began. In 2008, it was revamped as the Marine Recreational Information Program

2011: A world record striped bass was caught in Long Island Sound. Connecticut angler harvest of black seabass exceeded 300,000 fish, one of many mid-Atlantic species increasing in abundance in the Sound.

(MRIP).

2014: Juveniles of the coastwide endangered Atlantic sturgeon were caught during DEEP surveys of the Connecticut River. Genetic testing confirmed that the sturgeon were most likely produced locally in the river. This was the first confirmed reproduction of this species in the Connecticut River since the mid-1800s when the original Fisheries Commission was established!

Learn more about 150 Years of Natural **Resource** Conservation at www.ct.gov/deep/ NaturalResources150 and www.Facebook.com/ CTFishandWildlife.

# U.S. Fish and Wildlife Service Proposes New Wildlife Refuge in Connecticut

### Agency invites feedback on draft plan and environmental assessment

Over the past century, many shrublands and young forests across the Northeast have been cleared for development or have grown into mature forests. As these habitats have disappeared from much of the landscape, the populations of more than 65 songbirds, mammals, reptiles, pollinators, and other wildlife that depend on them have fallen alarmingly.

The U.S. Fish and Wildlife Service, state wildlife agencies, private landowners, and dozens of conservation organizations have responded to this urgency by restoring and protecting shrublands and young forest throughout the landscape of New England and New York. Despite significant progress, conservationists have determined that more permanently protected and managed land is needed to restore wildlife populations and return balance to Northeast woodlands.

To address this need, the Service is proposing to establish Great Thicket National Wildlife Refuge -- dedicated to managing shrubland habitat for wildlife to benefit Connecticut residents and visitors. Through coordination with conservation partners, the Service has determined that areas of southeastern New London and western Litchfield counties could provide important habitat for shrubland wildlife and help connect existing conservation areas. Additionally, the agency identified nine areas in Maine, Massachusetts, New Hampshire, New York, and Rhode Island.

"This exciting region-wide effort will also assist in local conservation work," said Rick Potvin, Refuge Manager of Stewart B. McKinney National Wildlife Refuge. "The Service has worked with the Connecticut Department of Energy and Environmental Protection to focus this proposal where we can best conserve wildlife. If this proposed plan is approved, the option to sell, place a conservation easement or to enter into any habitat agreement with our agency would be totally up to the landowner."

"We've had incredible success in restoring New England's only native rabbit and its habitat. Yet our work is far from done," said Rick Jacobson, New England Cottontail Executive Committee chair and DEEP Wildlife Division Director. "We need to preserve and manage



New England cottontail PHOTO BY P. J. FUSCO

more land as shrublands and young forest to continue to advance conservation for the cottontail. But this isn't just about a rabbit. It's about American woodcock, ruffed grouse, golden-winged warblers, monarch butterflies, and a whole suite of wildlife that depend on this habitat."

Other wildlife that would benefit include box and spotted turtles, whippoorwill, and blue-winged warblers.

Executive Director Stewart Hudson of Audubon Connecticut noted that the organization's Audubon Center in Sharon could be within the potential focus area. "We look forward to working with the U.S. Fish and Wildlife Service to achieve our common conservation goals on our property, and to protect adjacent parcels through partnerships with local landowners," Hudson said. "Audubon has played a lead role in working with private owners in this area-the creation of Great Thicket Wildlife Refuge by the Service would provide additional tools for working with them to improve habitat for golden-winged warblers, ruffed grouse, and other shrubland species, while also helping protect forest birds, such as wood thrush and scarlet tanagers."

A land protection plan and environmental assessment is an early step in a public process that examines whether the Service can establish a national wildlife refuge. The draft Great Thicket National Wildlife Refuge Land Protection Plan explains the need for land conservation, complements existing conservation activities, and describes each of the 10 focus areas



across the six states. At this stage in the process, the Service invites public comment on the draft plan, which will shape the final decision.

If the plan is approved after the public comment period, the agency could begin working with willing and interested landowners in Connecticut to acquire up to 4,000 acres through conservation easements or fee-title acquisition. Current refuge staff would manage all acquired lands within existing resources.

This process would take decades, as the Service works strictly with willing sellers only and depends on funding availability to make purchases. Lands within an acquisition boundary would not become part of the refuge unless their owners sell or donate them to the Service; the boundary has no impact on property use or who an owner can choose to sell to.

Connecticut DEEP and the Service have already partnered with private landowners in the Sharon and Ledyard areas to improve habitat for shrubland and young forest wildlife, including the New England cottontail. The state has also improved habitat in the Pachaug State Forest.

The Service will accept comments through March 4, 2016 by:

- Email at <u>northeastplanning@fws.</u> <u>gov</u> with "Great Thicket LPP" in the subject line;
- Mail to Beth Goldstein, Natural Resources Planner, U.S. Fish and Wildlife Service, 300 Westgate Center Drive, Hadley, MA; 01035-9589
- Fax to 413-253-8480

The draft plan and all related documents are available at <u>http://www.fws.</u> <u>gov/northeast/refuges/planning/lpp/great-</u> <u>thicketLPP.html</u>.

### From "Special Protectors" to EnCon Police Officers

Written by Bill Myers, Retired State Conservation Officer and Curator, CT Conservation Officer's Association Archives

n the mid-1800s, Connecticut's abundant fish and wildlife were beginning to suffer distress and decline due to a variety of reasons. One reason was a lack of regulatory management for the taking, harvesting, and possession of fish and wildlife. To correct this situation, a realization came to be that fish and wildlife needed laws for management and protection. A concerned attitude was



transportation was furnished to Special Game Protectors or Deputy Game Wardens. Much of his patrol was on foot or bicycle, with the occasional use of a bus, trolly, or train. He was in excellent physical condition due to his employment as a farm hand in Guilford and participation in bicycle racing at the Lighthouse Park Race Track in New Haven. Being an ardent hunter and fisherman,

Deputy Warden Robert White (left) and Deputy Warden Eugene Johnson (right) stocking trout in the Mill River in Hamden, circa 1948, from a wooden stocking boat with a live well. PHOTO TAKEN BY DEPUTY WARDEN DONALD DEANE

developing towards the protection of fish, wildlife, and wildlife habitat. By the mid- to late 1800s, a trend began to emerge to protect fish and wildlife populations in Connecticut, as well as across the entire country.

On June 21, 1869, the first bill passed by the Connecticut General assembly became law, which allowed the towns of the state to appoint "Fish Wardens" to apply and enforce fishing regulations protecting the various species of fish. Thus began the era for "Wildlife Law Enforcement and Protection" in Connecticut.

In 1895, legislation was passed to allow the Connecticut Board of Fisheries and Game to appoint "Special Protectors" for state fish and wildlife protection and enforcement. Over many decades, having evolved through numerous titles, functions, and duties, we now have the present "State Environmental Conservation Police," which is part of the DEEP Bureau of Outdoor Recreation. Of all of the various titles given over the years, the title of "Fish and Game Warden" seemed to perpetuate in time, lasting for generations, including today, and is clearly well-liked and understood.

#### A True Story About Deputy Warden Eugene H. Johnson

Eugene H. Johnson, from East Haven, was born in 1883. He was hired and first served as a part-time "Special Protector" for the State Board of Fisheries and Game before later being appointed on June 1, 1923, as a full-time State Deputy Game Warden. Johnson started work under the old "fee" based system which he remembered with great distaste. Special Protectors were "rewarded" and paid with a fee, based on the number of arrests that were made by wardens.

During Deputy Johnson's early days of employment, no

Johnson would combine his patrol with hunting and fishing trips. He owned about 60 acres and a camp at West Lake in Guilford, which served as his headquarters. Deputy Johnson spent a great deal of his time at this camp. He would hike on foot across Connecticut on trips lasting a week or more, staying at camps he knew of, such as the "Coal-Pit-Hut" which was erected by charcoal burners near an old charcoal kiln on Race Hill Road in North Madison. This hut was quite a crude affair made of wood slabs leaning against a stone wall. Another camp he used was located off the West River in Guilford, which consisted of boards taken from a nearby sawmill. During these trips, Johnson lived off the land as much as possible with fish and game, berries, fruit, and an occasional stop at a farmhouse to purchase eggs and raw milk.

Transportation was a problem. The State Game Warden (the supervisor, one for each county) was assigned a car, but deputy wardens were not at this time. The State Warden would pick up his deputy on occasions when extra help was needed, but usually it was up to the deputy warden to get to and from places the best way he could. For example, Deputy Johnson would meet the fish stocking truck in New Haven, and then stock the area brooks in lower New Haven County, ending up on Beacon Hill Brook late in the day on the Naugatuck town line. From this point, the stocking truck would return to the hatchery and Johnson would have to walk into Beacon Falls to take a bus back to New Haven so that he could eventually return to his home in East Haven.

Songbird hunting (which became illegal with the passing of the federal Migratory Bird Treaty Act of 1918) was quite prevalent in the New Haven area at this time, and Deputy Johnson recalled making many arrests for this type of violation.

Deputy Johnson also recalled that while checking two

illegal deer poachers in the East Haven/North Haven area, one of the men shoved a loaded double barrel shotgun into his stomach. Deputy Johnson was able to get out his revolver and a short struggle ensued until he got possession of the shotgun without injury and placed the two poachers under arrest.

Deputy Johnson knew the New Haven/Middlesex County areas better than most. He was well liked and well known by everybody, and had extensive knowledge of the terrain. With decades of experience, he knew where to be at the right place and time.

When Deputy Warden Eugene Johnson retired in 1954 at the age of 71, one of the last "old time" Game Wardens was gone. While countless others have retired since that time, few

### Edith A. Stoehr: Connecticut's First Female Game Warden

In the "Twentieth Biennial Report of the State Board of Fisheries and Game, for the years 1932-34," Arthur L. Clark, Acting Chief of the Division of Wildlife Restoration, covered the topic of "Women in Sports:"

"To encourage women to take a more active interest in the sport of fishing, a trout stream was leased in North Branford and maintained for their exclusive use in the spring of 1933. Miss Edith A. Stoehr was appointed warden and assigned to the Branford River. In the fall she was assigned to the public shooting ground in Farmington of which a small portion was reserved for the exclusive use of women.

Miss Stoehr was the first woman to be uniformed and appointed to regular active duties as a game warden. She is particularly fitted for these duties which are mostly concerned with offering encouragement and instruction in the sports of fishing and hunting with particular reference to the skillful use of fishing tackle and firearms.

The action by the Board has been met with encouraging response and many women have used these training areas. Since that time, Pennsylvania, New Jersey and other states have adopted a similar program and policy."

Miss Stoehr, who was from South Wethersfield, won the appointment as the first female game warden in Connecticut by winning a fly-casting contest against four other women. Chief Game Warden Joseph Williamson decided that the contest would be the best way to select the new warden after a number of women applied for the job. A section of the Branford River, where Miss Stoehr was assigned, was stocked with trout and a nearby spacious log cabin lodge was built in 1940 to act as the headquarters for the "fisherwomen" who used the area A clever photo caption from 1941 about the female only trout stream stated "Remember when men used to be able to get away from women for a spell by going fishing? Well, now women anglers don't want any men around and they can get their wish on the Branford River, reputed to be the only stream of its kind in New England and one of three in the country, where fishing is exclusively for women.'

Efforts to encourage women to participate in hunting and fishing were just as ambitious in the 1930s as they are today. Although state hunting and fishing areas for exclusive use by women no longer exist in Connecticut, women have the opportunity to be introduced to hunting and fishing through DEEP's Conservation Education/Firearms Safety (CE/FS) and Connecticut Aquatic Resources Education (CARE) Programs, as well as through the efforts of local sportsmen's clubs and mentoring programs.

The first female game warden in Connecticut was hired in 1933. In 2016, DEEP's Environmental Conservation Police Division currently has seven female officers in the field. can boast of the varied experiences Johnson had during his 30 plus years of time with the State Board of Fisheries and Game as a deputy game warden. About this same time, all of the Deputy Wardens changed titles and became known as Conservation Officers, and the old eight district system was changed to a four district system. The duties and responsibilities of the new Conservation Officer were considerably different from that of a Deputy Warden. Speed and diversity were emphasized to fit the needs of an accelerating urbanized society and state. It is quite difficult in today's world to visualize the relatively unhurried way in which Deputy Johnson patrolled as a Special Fish and Game Protector, in a by-gone era that once existed, but is now forever gone.



Edith A. Stoehr as she appeared in the casting contest held in the Branford River in 1933 to determine the first female game warden in Connecticut.



Chief Warden A. Joseph Williamson pinning badges on Edith Stoehr (left), Deputy Warden, and Miss Lois Stevens, Assistant Warden, after the two had won a fly-casting contest to determine the holders of the position to supervise and also act as angling instructors for women anglers on a section of the Branford River.

PHOTO COURTESY OF RETIRED CONNECTICUT CONSERVATION OFFICER PAT HAYES

# **Connecticut's Spirit of the Sound – The Herring Gull**

Article and photography by Paul Fusco, DEEP Wildlife Division



Early on a flat-water morning, with tiny waves lapping at the beach, the herring gull's intrepid call brings alive the stillness as if to be the bearer of reveille for all to start the day. Being a standard year-long fixture along the Connecticut shoreline, the herring gull is one of our state's most familiar birds. Known in vernacular terms as a "seagull," the herring gull would more properly be called a "coast gull," as it is strongly associated with coastal habitat and not so much with the open sea.

Everyone that has been to a Connecticut beach has encountered the opportunistic herring gull. Its diet not only consists of fish, mollusks, and crabs, but at times the bird is known to take handouts from people and also raid picnic lunches. It will scavenge as well.

#### **Description**

This large, heavy set, white gull has a light gray mantle (topside of back and wings). The outer primary wing feathers are tipped in black with white spots. In winter, dusky dark spots and streaks are visible on the head and nape. The bill and iris of adults are yellow. During the breeding season, adults have a bright red spot toward the tip of the lower mandible. The legs are flesh colored, although in the breeding season there may be an uncommon occurrence of a bird showing a yellowish tint to the legs.

Herring gulls are four-year gulls, meaning that it takes four years to reach maturity and attain full adult plumage. Immature birds are highly variable and sometimes difficult to identify to species and age in the field. Generally, immature

birds have plumage with varying amounts of brown, according to their age, with younger birds having the most brown.

#### **Behavior**

Herring gulls are bold and at times aggressive. They have a strong, heavy bill that is used as a weapon in predatory instances to kill prey with a series of stab, grab, and shake actions. The sharp, slightly hooked tip of the bill is used to tear Herring gulls are short distance migrants. Some birds will move south for winter, while others move into Connecticut from farther north.

Winter plumage in adults is characterized by dusky dark streaking on the head, nape, and upper breast.

#### into food.

Herring gulls are predators of nests, eggs, young, and adults of other coastal birds, including plovers, terns, sandpipers, and alcids. In some locations, their impact on breeding bird colonies can be devastating, requiring that management action be taken against the gulls to protect the other usually less common birds.

Well-known for their

opportunistic scavenging behavior at landfills and along waterfronts, these gulls will also sometimes follow boats, waiting for garbage or fish scraps to be thrown overboard. When foraging on shellfish, herring gulls will carry their quarry up to a height of 30 or more feet and then drop the mollusk onto a hard surface, such as rocks or a paved road, to break open the shell.

Nesting takes place singly or in loose colonies, mainly on offshore rocks and is-



Herring gulls have a varied diet. Along the shoreline they will consume fish, crabs, mollusks, and as seen above, sea stars. They are also known to prey upon the eggs and young of other coastal birds, including tern, plovers and sandpipers.

lands that offer protection from mammalian predators. The nest is normally a shallow hollow in sand or gravel, or on rocks. It may be built with grasses, seaweed, feathers, and plastic. Two or three bluish, greenish, or gravish eggs spotted with dark brown or black are incubated for about 26 days before they hatch. The young will fledge in six to seven weeks.

Ranging over large expanses of northern North America during the breeding season, these birds will migrate short distances to more milder parts of the continent for winter. Wintering habitat includes coastlines, large lakes and rivers, and landfills.

#### **Conservation**

Victimized by feather and egg hunters in the late 1800s, the Atlantic Coast population of herring gulls came close to be-

ing eliminated. Following bird protection laws that were enacted in the early 1900s, herring gull numbers were able to steadily grow until the late 1960s when the population was found to be in decline. The decline since then has been steep, averaging over three percent per year, resulting in a cumulative decline of approximately



Vocalizations are varied and include a loud laugh-like "yucca, yucca," as well as a softer "mew, mew" and also a short "keeyer."

78%, according to North American Breeding Bird Survey data from the National Audubon Society and U.S. Geological Survey. Reasons for the decline are thought to include a combination of the closing of landfills, reduction in offshore commercial fishing operations and their waste, competition with the larger great black-backed gull, nest site competition

with cormorants, and possible nest disturbance by humans and pets. Although the population is in decline, herring gulls are still numerous.

The next time you are at the beach on an early summer morning, take a moment to note the raucous call of kyuk,-kyuk,kyuk given by this lively denizen of Connecticut's shoreline, the herring gull.



This herring gull displays its breeding plumage, with a clean, white head and bright red bill spot.

Below: A transitioning second winter bird.

# Forest Action Plan Revision Latest Tool for Protecting Connecticut's Forests

Written by Daniel Peracchio, DEEP Division of Forestry

n 2010, the DEEP Division of Forestry completed the Connecticut Forest Resource Assessment and Strategy, now known as the Connecticut Forest Action Plan. This plan was required by the U.S. Forest Service and described and analyzed the current conditions of Connecticut's forests, identified issues and challenges facing these landscapes, and laid out a set of visions for the future of our forests and strategies and action steps to meet these visions. In 2015, the Division of Forestry completed an internal review and revision of the 2010 Forest Action Plan to make sure the plan was relevant and also describe some success stories related to the U.S. Forest Service's national priorities. The Forest Action Plan is a useful



The last large virgin forest in Connecticut shortly before it was harvested in 1912. Property of Mr. Carrington Phelps in Colebrook, CT.

PHOTO COURTESY OF THE CONNECTICUT AGRICULTURAL EXPERIMENT STATION ARCHIVES

tool to try to best manage Connecticut's ever-changing forested landscape.

#### Looking Back

Once trees returned after the retreat of the glaciers, Connecticut was almost entirely forested until the arrival of European settlers. These settlers slowly began clearing the forests for wood products and establishing small farms and homesteads. As the state's population increased, the amount of forest clearing greatly accelerated to the point that Connecticut was only about 25 percent forested by about 1820. This landscape looked much different than the Connecticut of today. Large virgin forests were few and mostly in hard to reach places, and forest-dwelling wildlife populations had dropped dramatically.

Forests began to retake the land in the mid- to late 1800s as agricultural land was abandoned for more productive land to the west. As forests became more prominent in the landscape, many in Connecticut saw a need for research, education, conservation, and management to protect this burgeoning new resource from degradation. In the 1860s, the State Board of Agriculture started discussing forestry topics. Early forestry research got underway when the Connecticut Agricultural Experiment Station was founded in 1875, the first of its kind in the nation. Around the turn of the century, several other important events occurred, such as the establishment of the Connecticut Forest and Park Association (1895), Yale School of Forestry (1900), State Forester position (1901), original Tree Warden Law, first state forest (1903), first forest fire law (1905), 10 Mill Tax Law (1913), and original Arborist Licensing Law (1919), which encourages proper forestry techniques and forest protection, as well as educates the public about the importance of forestland.

Throughout the 20th century, many challenges arose that threatened the character of Connecticut's forests. Fires, diseases, insects, storms, poor harvesting techniques, and conversion to non-forest all required some sort of planning response so that Connecticut's forests could remain abundant and healthy. Throughout this time, what is now the Division of Forestry and its partners have been working to protect this great resource through education and outreach, laws, conservation, and on-the-ground work.

The Forest Action Plan is the latest tool to engage stakeholders and provide a vision and direction for managing Connecticut's forest resources in the short and long-term. The five-year review and the next major update, which will be completed in 2020, are important steps to make sure we are best using limited resources to manage, conserve, and protect the forested landscape. Connecticut is currently about 55 percent forested, much of which is under threat of development, and planning and coordination with partners and stakeholders is needed to retain as much of that forest as possible.

More information on the plan can be found at <u>www.ct.gov/deep/</u> <u>ForestActionPlan</u>.

# Got Wood?

Article and photos by Jerry Milne, DEEP Division of Forestry

he Connecticut Grown Program for Forest Products now includes heat-treated firewood from Back to Basics, a company located on Main Street in Terryville. Owner Dave Perugini began using a kiln to treat firewood in June 2015, and has seen a steady increase in demand. He purchases truckloads of 20-foot long logs harvested from sustainably managed forests in Connecticut, and then cuts and splits the logs to firewood size. The pieces are dropped into metal bins that hold a half cord. Twelve bins (six cords total) are placed in the kiln and heat treated for 48 hours. The core temperature of the wood reaches 200 degrees F, well beyond the U.S. Department of Agriculture recommendation of 160 degrees F for 75 minutes.

"The heat treatment kills all insects, including invasive exotics such as emerald ash borer and Asian longhorned beetle," said Perugini.

Moving firewood from one location to another is the main reason why invasive insects have spread so quickly around the country. Unlike "seasoned wood," for which there is no standard measurement, Perugini can document how long his wood has been treated with computer printouts for each batch. Because the wood is dried to a low moisture content, it can be burned immediately.

"We can deliver one cord of firewood at a time, which is convenient for customers because they don't need a lot of room in their yard to store wood," continued Perugini. "We also sell shrink wrapped packages of one cubic foot at our store."

By law in Connecticut, firewood can only be sold by the cord (128 cubic feet) or fraction of a cord, unless packaged in quantities of less than 1/8 cord (16 cubic feet), as regulated by the Department of Consumer Protection (<u>www.ct.gov/dcp</u>).

In 2011, the Connecticut Grown Program added forest products to the more traditional list of agricultural goods, such as fruits and vegetables. "I have to keep records of where the wood I buy is coming from to qualify for the program," said Perugini. A list of businesses in the Connecticut Grown Program for Forest Products, including contact information for Back to Basics, can be found at <u>www.ct.gov/deep/</u> forestry.



(Above) The processor cuts and splits logs to 16-inch lengths. (Bottom) Bins of firewood ready for heat treating in the kiln.

The heat treatment kills all insects, including invasive exotics such as emerald ash borer and Asian longhorned beetle.



## New Projects Funded by Income Tax Check-off Program

Connecticut residents who are passionate about wildlife and the state's natural area preserves have a great opportunity to support those programs through the Endangered Species/Wildlife Income Tax Checkoff Fund. The tax check-off program is an important way for state taxpayers to donate a portion of their tax refund to directly benefit endangered and threatened wildlife, other nongame wildlife, natural area preserves, and watchable wildlife.

Since the fund's inception in 1993, donations have helped finance habitat restoration, species monitoring, public outreach, construction of wildlife viewing areas, and a variety of other activities. Following are short descriptions of projects that will be conducted in 2016 and are partially or totally funded through the Connecticut Endangered Species/Wildlife Income Tax Check-off Fund.

#### State-Listed Plant Field Work

Connecticut's Endangered, Threatened and Special Concern Species List includes 331 plants. Botanical field work will be conducted with emphasis on locating new populations of state-listed plant species and updating known locations of priority species. All populations of state-listed plant species that are found during the field work will be documented with photos and reporting forms, and submitted to DEEP's Natural Diversity Data Base. This information is critically important to the process of updating the state Endangered Species List. It also is used in the evaluation of property reviews for state land acquisition and in the environmental permit review process.

#### Monitoring Ospreys Using Citizen Science

After experiencing historic lows in the early 1970s, Connecticut's osprey population has made a dramatic comeback following the ban of the pesticide DDT. The number of nests has increased into the hundreds across the state. Documenting and monitoring these nests would be impossible without the help of volunteer nest monitors and *Osprey Nation*, a citizen science project launched by the Connecticut Audubon Society in partnership with the DEEP Wildlife Division in 2014 to catalog and collect information about the state's nesting ospreys. This project will provide resources to continue to coordinate volunteers and com-

pile observations.



(Left) Brown bog sedge (*Carex buxbaumii*) is an endangered denizen of fens and wet meadows. (Right) Once more common, yellow-fringed orchid (*Platanthera ciliaris*) is threatened by development, natural succession, and invasive species.

#### Stream Salamanders Living within Exurban\* Watersheds

Small mammals, amphibians, and many other kinds of wildlife that live in woodlands are often displaced or experience high mortality rates when those areas are developed for new homes. Over time, the forest regrows and populations may rebound; however, habitat quality may slowly decline. This project examines the impacts of these habitat changes and the ability of stream salamanders to



Bog rosemary (*Andromeda polifolia*) can be found in bogs or fens associated with lakes.

persist over time. Information obtained from this project will help with future management and land-use decisions.

\* Exurban is a semirural region lying just beyond the suburbs of a city.

#### Connecticut's nesting ospreys are monitored with the help of a citizen science project known as Osprey Nation. PHOTO BY P. J. FUSCO

#### Installation of Monofilament Fishing Line Receptacles

In 2008, tax check-off funding was used by DEEP to construct and install monofilament fishing line recycling receptacles at several popular fishing locations and boat launches. Since then, monofilament line has been recovered from every receptacle by volunteer monitors and the waste line was sent to a company for recycling. The success of these receptacles prompted a number of conservation groups to put up and monitor their own at additional areas. DEEP continues to receive inquiries about putting up more receptacles, so this project is an extension of the original effort. To continue to heighten public awareness about the negative impacts of fishing line debris on aquatic life, especially birds (gulls, osprey, etc.), this project will provide educational signs detailing these hazards and more receptacles to lessen the amount of waste line that enters the environment. The receptacles will be installed at select boat



Two-lined salamanders are a common stream species that may be at risk from development.

launches and fishing areas where stewards and volunteers are able to monitor and maintain them. Line will be disposed of by shipping it to a recycling center.

# Conservation and Stewardship of State Endangered and Threatened Species

Connecticut's Endangered, Threatened and Special Concern Species List includes large, charismatic animals like the bald eagle and more elusive ones like the timber rattlesnake, both of which can engage public interest. However, because the bald eagle and timber rattlesnake are sensitive to human disturbance, this interest sometimes leads to intrusion at nest and den sites that can be detrimental to the conservation and recovery of these listed species. This project will involve the use of video and still photos to help limit illegal collection of rattlesnakes and disturbances to both bald eagles and rattlesnakes. Cameras will be installed at certain bald eagle nests and rattlesnake dens so that DEEP staff can monitor and evaluate the degree of any threats, enforce laws, and engage public outreach. Footage obtained from the cameras will be shared with the public so that they can safely watch the animals without causing disturbance. It is anticipated that being able to observe bald eagles

and rattlesnakes up-close through photos and video will foster a sense of stewardship critical to wildlife conservation.

#### Assessment of Heavy Metal and Organic Contaminants in Snapping Turtles

Snapping turtles are a long-lived and poorly understood species in Connecticut. Heavy metal and organic contaminants that build up over time in these aquatic turtles can have dramatic effects on their reproductive success. This study will provide a better understanding of the current types and amounts of contaminants in snapping turtles and also help biologists understand the biological effects of these contaminants in wildlife populations. Information from the study will be essential to ensuring that this iconic reptile remains part of Connecticut's wildlife heritage.

#### You Can Make a Difference

Connecticut residents have a unique opportunity to make a difference for our state's wildlife and natural area preserves by donating to the Endangered Species/Wildlife Income Tax Check-off Fund, thus supporting important projects and research. To contribute, residents can choose one of the following

options:

• Donate when submitting your 2015 Connecticut Income Tax Return; or

• Contribute directly by sending a check payable to DEEP Endangered Species/Wildlife Fund to DEEP Bureau of Financial Support Services, 79 Elm Street, Hartford, CT 06106-5127

Thank you for your support!



Using waste receptacles like the one above can help prevent situations where wildlife become entangled and die, as seen in the photo on the right of an osprey in Old Lyme. PHOTOS: ABOVE: P. FUSCO, RIGHT: COURTESY H. GOLET

January/February 2016











(Left) During the 1950s through the 1970s, many anglers measured their success on the traditional opening day by being able to harvest their "daily limit." Beginning in the 1980s and still growing in popularity today, many anglers now favor "catch and release." While eating a healthy meal of freshly caught fish is still very popular, many anglers prefer to release their catch unharmed.

(Right) The future of our sport lies with our youth. In recent years, the number of people participating in fishing has been steadily increasing, reversing the continual decrease experienced over the past 20 years. The Bureau of Natural Resources is proud to offer free "learn to fish" classes, our youth fishing passport, a 50% reduction in license fees for 16-17 year olds, and electronic distribution of fish-related information via newsletters and social media. Today's anglers still seek the thrill of the catch. Help us to grow the sport that we all enjoy so much – take someone fishing!



The first recorded release of ring-necked pheasants for the purpose of hunting was in 1908 when 88 birds were released in Windsor Locks. Pheasants, which could be produced on game farms, were brought into Connecticut to reduce hunting pressure on native gamebirds, which were declining due to population cycles and changing land uses. During the early days of pheasant stocking, helicopters were occasionally used to release pheasants at hunting areas.

Today's pheasant program focuses on the release of adult birds by DEEP Wildlife Division staff during the fall hunting season and is funded through the sale of pheasant stamps and hunting licenses. No helicopters are used in the process! Pheasant liberation by helicopter in Suffield, October, 1949. Photo by D. N. Deane



On September 15, 1956, Victor Piecyk took the first photograph ever of a moose in Connecticut. The moose was observed on his farm along Route 44 in Warrenville (Ashford). Although moose had been seen in the state before that time, none of the moose had been photographed. Therefore, the Connecticut Board of Fisheries and Game considered this the first official record of moose in Connecticut. The Board passed an emergency regulation on September 18, 1956, that gave full protection to moose. Unfortunately, this protection did not extend to the Warrenville moose which was reportedly shot on September 17, two days after being photographed. The next time a moose was observed in the state was in October 1964.

It is unclear whether moose were ever native to Connecticut. If moose did exist here during colonial times, they occurred in small numbers because Connecticut is at the southern fringe of their range. In 1935, George Gilbert Goodwin wrote in *The Mammals of Connecticut*: "The moose, if ever native to Connecticut, has long since disappeared from within the limits of this state."

During the 1980s and 1990s, moose populations in Maine, Vermont, and New Hampshire increased dramatically because of favorable habitat conditions and limited hunting. This resulted in a southerly expansion of New England moose populations and an increased frequency of dispersing moose wandering into Connecticut. Evidence of a resident, breeding moose population in our state was first documented in 1998. Today, the Wildlife Division estimates that population has grown to approximately 100 moose, mainly in extreme northern Connecticut. Biologists have been studying the distribution of moose in Connecticut, as well as whether or not the conditions and habitat in the state can support an increasing moose population. (The moose in the photo on the right was immobilized and fitted with a radio collar for the research.)



Electrofishing is a common, efficient, and non-lethal tool biologists use to collect fish from a waterbody. A controlled amount of electricity momentarily stuns the fish that are within the electric field. Biologists often only have a few seconds to net a fish before it swims away. Once netted, biologists identify the species, collect measurements, take a sample of scales or fin clip, and safely return the fish unharmed.

The photo on the left represents the early days of the technology. Advances in electrical circuitry enabled biologists to safely control the use of electricity to collect fish. Connecticut was one of the early leaders in developing the science. Robert Jones, a leading fisheries biologist, led this Northeast Electrofishing Clinic in Lakeville in 1961.

Today's fisheries staff uses a combination of portable electrofishing equipment (right) and specially designed boats to sample fish populations. The data generated from electrofishing surveys are used in a variety of ways, such as determining species occurrence and abundance, population structure, the distribution of species, genetic relationships, and growth rates.

# FROM THE FIELD

# CT's Wildlife Action Plan Approved by the U.S. Fish and Wildlife Service

DEEP recently received federal approval of Connecticut's revised Wildlife Action Plan (WAP) – the blueprint for proactively conserving our fish and wildlife, including their habitats, for the next decade. The approval of the WAP by the U.S. Fish and Wildlife Service builds on the knowledge gained over the last 10 years through implementation of the first Plan and establishes a framework for collaborative conservation efforts by many partners at local, statewide, and landscape scales. Approval of the plan also allows Connecticut to remain eligible to receive federal funding through the State Wildlife Grants Program for wildlife management and conservation projects.

The WAP revision was completed by DEEP with the assistance of numerous scientific experts and conservation organizations throughout Connecticut. During development of the WAP, scientific experts and stakeholders reviewed the best available scientific information on the status of wildlife species and identified those species with the greatest conservation need. The strategy identifies 469 species of "Greatest Conservation Need," including 28 mammals, 95 birds, 31 reptiles and amphibians, 73 fish, and 242 invertebrates.

Conservation actions to address threats to Connecticut's wildlife will be coordinated with key partners, including the U.S. Fish and Wildlife Service, U.S. Forest Service, Natural Resources Conservation Service, U.S. Army Corps of Engineers, Office of Policy and Management, The Nature Conservancy, Partners In Flight, Connecticut Audubon Society, Audubon Connecticut, Connecticut Forest and Park Association, many sportsmen's and conservation organizations, tribal groups, watershed groups, land



trusts, private landowners, and many others.

Since 2001, Connecticut has received more than \$8.5 million in federal funds under the State Wildlife Grants program. These funds – along with money allocated by the state, and dollars raised through the sale of a special wildlife license plate and a state income tax check-off – have been used to support programs aimed at protecting declining species. To maintain eligibility for the federal wildlife grants, all of the states, U.S. territories, and the District of Columbia were required by Congress to develop and obtain U.S. Fish and Wildlife Service approval of a comprehensive wildlife conservation plan.

Connecticut's Wildlife Action Plan can be viewed on the DEEP's web site at: <u>www.ct.gov/deep/WildlifeActionPlan</u>.

#### **DEEP Chimney Watch Monitoring Translates to IBA Designation**

Based on the past five years of CT DEEP organized chimney swift roost inventory and monitoring, Audubon Connecticut has designated chimneys of Mitchell Elementary School and Woodbury Middle School, both in Woodbury and part of Regional School District 14, as Important Bird Areas (IBA) for chimney swifts. The chimney swift has been identified by the International Union for the Conservation of Nature as near threatened. Chimney swifts are aerial insectivores that are most known for their amazing flight demonstrations when they gather in enormous flocks around large chimneys during migration. Chimneys are used as night-time roosts. The Mitchell Elementary School chimney hosts 100 or more swifts during summer, while the Woodbury Middle School chimney serves as a major fall migration roost with close to 800 birds observed on one occasion. Known as the "Woodbury chimney swift roost," both of these schools and the surrounding area have also been designated as a globally Important Bird Area.

According to Corrie Folsom-O'Keefe, Audubon Connecticut Important Bird Areas Program Coordinator, by recognizing this area as an IBA, awareness about chimney swifts will increase among Regional School District 14 students, parents, and teachers. Increased awareness leads to good stewardship and conservation. Audubon Connecticut is organizing a June event so that students and their families can watch these amazing birds as they swirl into the chimneys at the schools.

Chimney swifts have been declining since the 1960s possibly because of a shift in diet that coincided with the use of the pesticide DDT (DDT was banned nationwide in 1972) and increased threats to migratory and wintering grounds.

The Woodbury chimney swift roost is the 28th addition to Audubon Connecticut's Important Bird Areas inventory, but the first focused on chimney swift conservation. The IBA program is a voluntary, non-regulatory global effort coordinated in the United States by the National Audubon Society. More details about IBAs can be found at www.audubon.org/bird/iba/index.html.

The overall goal of Audubon Connecticut's IBA program is to identify a network of key areas in the state that support sustainable populations of birds in greatest need of conservation. For official recognition as an IBA, the site must meet one or more of a set of standardized scientific criteria that were developed by a committee of bird experts from throughout the state. Once an area is identified as an IBA, Audubon Connecticut works with local residents and other conservation partners to increase awareness about birds and the importance of the area to greatest conservation need species, improve habitat in the area, and find funding to support these efforts.

How can you help chimney swifts? If you have nesting swifts nearby, keep residential chimneys open for nesting. The birds pose no health risk and eat a third of their body weight in insects each day! When landscaping your yard, choose native species, and avoid pesticide use. You will promote a better balance of native invertebrate food for the birds. Also, identify and protect important roosting areas, such as the roost sites in Woodbury. Roost sites provide a place where swifts can rest and conserve enough energy to finish their 3,000 mile trip to the Amazon Basin every year. Best of all, it is quite entertaining to watch dozens of swifts swirl through the sky as they enter roosting chimneys.

Learn more about DEEP chimney swift research at www.ct.gov/deep/chimneyswift.

#### 2016-17 Migratory Bird Hunting Season Frameworks Proposed Earlier this Year

As a result of steady or improving population numbers, the U.S. Fish and Wildlife Service (USFWS) recently announced it is proposing continued liberal game bird season lengths and bag limits for the 2016-17 hunting seasons.

Each year, the USFWS works in partnership with states from four Flyway Councils (Pacific, Central, Mississippi, and Atlantic) to establish regulatory frameworks for hunting season lengths, dates, and bag limits. States select their individual seasons from within the federal frameworks.

The USFWS recently implemented a streamlined process for setting annual migratory game bird hunting seasons and bag limits. Beginning with the 2016-2017 hunting seasons, the previous two-cycle regulatory practice is now compressed into a single, annual process. Biological data from the past year are now used to set hunting season dates and project appropriate harvest limits for each game species. The change gives biologists more time to analyze bird survey data that inform the USFWS's regulatory decisions and gives the public more time to weigh in on proposed rules. The change will also ensure administrative procedures do not delay the opening of state hunting seasons.

The 2016-2017 federal frameworks propose duck hunting season lengths of 60 days in the Atlantic Flyway, which includes Connecticut. Proposed regulations for geese also are largely unchanged from 2015-2016 seasons, and in several cases are very liberal in an attempt to reduce the abundance of geese (e.g., resident Canada geese).

Although most migratory game bird populations remain abundant, when and where birds will be encountered depends on many factors. Food availability, habitat and weather conditions, and other factors all influence local bird abundance, distribution, behavior, and ultimately, hunter success. The USFWS's reports on the status and harvest of migratory game bird populations and information about migratory bird management across North America are available at <u>www.fws.gov/birds/surveys-and-data/</u> reports-and-publications/population-status.php.

Every year, DEEP holds a public meeting to provide interested parties

#### Wild Turkey Hunting Safety Seminars

Two Wild Turkey Hunting Safety Seminars are scheduled for Saturday, April 2, and Saturday, April 24, 2016. These annual events are coordinated by the DEEP Wildlife Division's Conservation Education/Firearms Safety (CE/ FS) Program and the public is invited to attend. Both seminars are offered free-of-charge.

Both experienced and first-time turkey hunters stand to benefit from attending one of these seminars which provide "A-Z" hunting information, including safe hunting practices, specialized equipment, calls and decoys, site setup, and other strategies for harvesting turkeys. The seminars have valuable information for every participant. A Wildlife Division biologist will also present information about wild turkey biology, population trends, and management history in Connecticut.

Participants will have an opportunity to pattern their shotguns for turkey hunting following classroom instruction. Those who wish to do so must bring the shotgun they intend to use during the upcoming spring turkey hunting season, ammunition and a shotgun choke appropriate for turkey hunting, and eye and ear protection. Interested individuals **are required to register** for one of these seminars by calling the DEEP Wildlife Division at 860-424-3015, Monday through Friday, from 8:30 AM to 4:30 PM.

- April 2; 8:00 AM to 2:00 PM, at the Fairfield County Fish and Game Protective Association, 310 Hammertown Road, in Monroe.
- April 24; 8:30 AM to 12:30 PM, at the DEEP Wildlife Division's Franklin Wildlife Management Area, 391 Route 32, in North Franklin.

#### 2016 Spring Turkey Junior Hunter Training Days: April 16-23

Regulations designate certain days for youth hunting in Connecticut. On these days, licensed junior hunters (12 to 15 years of age) may hunt when accompanied by a licensed adult hunter 18 years of age or older. The adult mentor may not carry a firearm and, at all times, must remain within physical contact in a position to provide direct supervision and instruction. These training days provide junior hunters with an opportunity to learn safe and effective hunting practices from experienced hunters.

#### SPRING TURKEY - SATURDAY, APRIL 16 through SATURDAY, APRIL 23 (excluding Sunday)

**Private Land:** Licensed junior hunter must have a valid spring season private land turkey permit and written consent from landowner. Adult mentor must have a valid spring season turkey permit and written consent from the landowner. Adult mentor may assist in calling turkeys.

**State Land:** Licensed junior hunter must have a spring season state land turkey permit. Adult mentor must have a valid spring season turkey permit. Adult mentor may assist in calling turkeys.

Hunting hours for Junior Hunter Training Days only: 1/2 hour before sunrise to 5:00 PM. Harvested turkeys must be tagged and reported.

*Learn more about Junior Hunter Training Day opportunities on the DEEP website at <u>www.ct.gov/deep/juniorhunter</u>.* 



for the upcoming migratory bird seasons. In past years, the meeting was typically held in late July or early August. With the new process for setting migratory bird season frameworks, the meeting will be held earlier this year – it is scheduled for Friday, April 1, 2016, from 6:00 PM-8:00 PM at the upstairs conference room at Cabela's (475 East Hartford Blvd. N, East Hartford). During the meeting, DEEP will present their proposed regulations and take all public comment. Final hunting season dates will be formulated shortly after the comments are compiled and evaluated. Hunters are reminded that DEEP takes comments on the migratory bird hunting regulations and is being held just prior to when DEEP will make its final season selections to the USFWS.

an opportunity to comment on the proposed hunting season regulations

# Frank Shaw Retires from State Service After 28 Years

Written by Roger Wolfe, DEEP Wildlife Division

n October 1, 2015, DEEP's Wildlife Division and Engineering and Field Support Services Division announced the retirement of Francis (Frank) Shaw after 28 years of state service. A native of Madison, Frank and his family have a long history of living and working along the shoreline. He and his brothers used to help their grandfather farm salt hay on some of the marshes that today make up Hammonasset Beach State Park. Coincidentally, Frank's brother Dan retired from DEEP as a Mosquito Control Specialist in 2009.

Frank started his career with the state as a Mosquito Control Specialist in 1987 when the Mosquito Control Unit was part of the state Health Department. During this time, Frank performed field inspections for mosquitoes in coastal marshes from the Rhode Island border to the Connecticut River and applied larvacides and adulticides to those communities when mosquito numbers were high. The crews also deployed and maintained light traps for adult mosquito surveillance and followed up on mosquito complaints that came into the office. In addition, they maintained many of the ditches, drainage ways, and water control structures along the coast to ensure tidal circulation and prevent flooding and stagnation of water which could produce mosquitoes. Much of this was done by hand, but specialized low ground pressure equipment that could traverse the soft marsh soils also was used.

During a budget crisis in late 1991, Frank and the rest of the Mosquito Control Unit were temporarily laid off; they were rehired in January 1992. However, it remained a rocky time for the Unit, and for state government as a whole, because during 1992, the Mosquito Control Unit was removed from the state budget and the entire crew was to be laid off on June 30. Fortunately, a number of visionary people in the DEP Office of Long Island Sound Programs and the Bureau of Natural Resources were able to seize this opportunity to gain an experienced crew and the specialized equipment necessary to perform wetland restoration on Connecticut's tidal marshes. On July 1,



Frank Shaw holds a proclamation from Governor Dannel Malloy thanking him for his 28 years of state service.

1992, the Mosquito Control Unit of the state Health Department was transferred to the DEP Bureau of Support Services as a Wetland Restoration Unit under the supervision of Paul Capotosto. Later, with the retirement of Ed (Buzz) Spencer in 1998, Frank was promoted to Wetland Restoration Supervisor. The new unit did not perform operational mosquito control per se, yet worked on coastal wetland restoration projects, including culvert replacement and tidal flow restoration, wildlife habitat enhancement, and control of common reed (Phragmites). Much of the funding for this unit came from grants and non-state funds.

Although this wetland restoration program flourished and gained national notoriety, with no state-organized mosquito control program in place, mosquito populations went essentially unchecked for the next four years. In summer 1996, high levels of Eastern equine encephalitis (EEE) virus were detected by the Connecticut Agricultural Experiment Station in mosquitoes in southeastern Connecticut, resulting in the aerial application of pesticides to several towns in that part of the state. The following year, Public Act 97-289 was passed which appropriated general funds to recreate a Mosquito Management Unit in the DEEP Wildlife Division. The Unit was then blended with the Wetland Restoration Unit of DEEP's Bureau of Support Services to create the Wetland Habitat and Mosquito Management (WHAMM) Program, which still exists today.

Although Frank supervised employees in both units on a day-to-day basis, he was often pulled in two directions, being called on to do tasks from both the Wildlife Division and Field Support Services Division. Despite the changes throughout his career, Frank's dedication and work ethic remained steadfast and his local knowledge and experience in Connecticut's tidal marshes were often called upon to help make wetland restoration and mosquito management decisions. In 2000, this knowledge and experience earned him the Northeastern Mosquito Control Association's David Scott Memorial Award. Frank Shaw's 28 years of experience, knowledge of local coastal history, and connections with landowners have been an invaluable asset to the DEEP's WHAMM Program, and he will be missed.

# Conservation Calendar

Dec-March	. Observe eagles at Shepaug Hydro Eagle View in Southbury – The Eagle View is open on Wednesdays, Saturdays, and Sundays from late December through mid-March, from 9:00 AM-1:00 PM. To schedule a free visit, go to <a href="http://reservations.shepaugeagles.com">http://reservations.shepaugeagles.com</a> or call 1-800-368-8954.
January-April	Donate to the Endangered Species/Wildlife Income Tax Check-off Fund on your 2015 Connecticut Income Tax form. Learn more on page 16 and at <a href="http://www.ct.gov/deep/EndangeredSpecies">www.ct.gov/deep/EndangeredSpecies</a> .
April 3	The Friends of American Legion and Peoples State Forests (FALPS) is sponsoring a program by DEEP Inland Fisheries. Biologist Edward Machowski about the " <b>History of Fisheries Projects in Connecticut</b> ." The presentation will be held from 1:00 PM-2:30 PM at the Barkhamsted Senior Center, 109 West River Road, Barkhamsted. The program is FREE and no registration is required. Everyone is welcome to attend. For questions, please refer to the FALPS Facebook page ( <u>www. Facebook.com/ctfalps</u> ), call 860-882-9632, or email <u>ctfalps@gmail.com</u> .
May 7	. Free Fishing Day and No Child Left Inside: Great Park Pursuit and CARE Family Fishing Day at Stratton Brook State Park, in Simsbury. More details can be found at <a href="http://www.ct.gov/ncli">www.ct.gov/ncli</a> .

#### Fishing and Hunting Season Dates

April 9Opening Day of Trout Season; 6:00 AM
April 16-23Junior Spring Turkey Hunter Training Days (excluding Sunday)
April 27- May 28 Spring Turkey Hunting Season
May 7Statewide Free Fishing Day (no license needed)
June 19First Free Fishing License Day (free 1-day license is needed and is available starting 3 weeks prior to the event at <a href="http://www.ct.gov/deep/sportsmenlicensing">www.ct.gov/deep/sportsmenlicensing</a> ).

Consult the 2016 Connecticut Hunting & Trapping Guide and the 2016 Connecticut Angler's Guide (available by mid-March) 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 (<u>www.ct.gov/deep/hunting</u>; <u>www.ct.gov/deep/fishing</u>). Go to <u>www.ct.gov/deep/sportsmenlicensing</u> 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.



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Although coyotes had been observed in Connecticut since the 1950s, this coyote was the first official one documented in the state when it was killed in 1963 near the Kensington State Fish Hatchery in Kensington. Look for a more detailed story about the first coyote in a future issue of *Connecticut Wildlife*.