

May/June 2016

Connecticut Wildlife

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



From the Director's Desk

A Year of Many Conservation Milestones

This is a year of significant anniversaries in natural resource conservation and management, especially for marine fisheries. As we celebrate the 150th anniversary of

natural resource conservation in Connecticut with the creation of the Connecticut Fish Commission in 1866, the Atlantic States Marine Fisheries Commission (ASMFC) will be holding its 75th annual meeting this fall. At the same time, we are celebrating the 40th anniversary of the federal Magnuson-Stevens Fishery Conservation and Management Act (MSA), signed into law in 1976. The work conserving and enhancing our state fisheries resources which began in 1866 – and earlier – including the 1796 “Act for encouraging and regulating (Connecticut) Fisheries” was followed up with more coordinated efforts between states and with the federal government.

ASMFC, a compact of the Atlantic coast states working with federal partners, has served to coordinate the conservation and management of the states’ near shore fishery resources for sustainable use since 1942, when the nation was entering World War II. Although the war years curtailed fishing on marine stocks, the pressure on fish populations mounted over the decades, driven by technical innovation and the demands of feeding a growing human population nationally and worldwide. Concerns over large-scale foreign fishing on the U.S. continental shelf led Congress to pass the Magnuson-Stevens Fishery Conservation and Management Act in 1976. The Act, commonly known as the “200 mile limit” law effectively excluded foreign vessels from fishing within 200 miles of our coast.

Despite the work of states individually and collectively through ASMFC and a new federal fisheries law in place by the mid-1970s, effective conservation and management of marine fisheries remained elusive as long-time fishermen know too well. However, sparked by the dramatic success of the Atlantic Striped Bass Act of the 1980s, Congress passed the Atlantic Coastal Cooperative Fisheries Management Act in 1993, mandating all states fully comply with conservation measures in ASMFC fishery management plans. Three year later, in 1996, Congress passed the Sustainable Fisheries Act. This tough new rewrite of the MSA required an immediate end to overfishing of all federally managed fish species and set strict time limits for fishery managers to rebuild those stocks to healthy levels.

In the 20 years since, these laws in combination with the efforts of the fisheries management community and the sacrifices of sport and commercial fishermen nationally have resulted in 91% of the nation’s fish stocks being declared sustainably fished and 84% of stocks declared rebuilt to healthy levels of abundance. While management efforts continue, we are learning how variable and ever-changing the marine environment is. Climate change is now a major force shaping the distribution and abundance of marine fishery resources, elevating abundance and productivity of some species, such as scup and black sea bass, while greatly diminishing productivity of others such as lobster and winter flounder.

This is an exciting and challenging time in the history of marine fisheries management. Critical to informed and successful management is public engagement. Please join us in taking on this challenge to conserve and enhance our natural resources for current and future generations. – David Simpson, Director, DEEP Marine Fisheries Division

Cover:

These red fox pups may look cute, but they are still wild animals and should not be handled. Young foxes are cared for by both adults. Therefore, the death of one adult does not necessarily mean that the young foxes are orphaned and need assistance (see page 20).

Photo courtesy of Paul J. Fusco



Dave Simpson and his grandson Drew fluking on the Niantic River.

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DEEP Announces Winner of 2016 Connecticut Duck Stamp Art Contest

Wildlife artist Mark Thone's depiction of canvasbacks at the mouth of the Thames River is the winner of the Department of Energy and Environmental Protection's (DEEP) 2016-2017 Connecticut Migratory Bird Conservation (Duck) Stamp Art Contest. Mark hails from Shakopee, Minnesota, and is new to Connecticut's Duck Stamp contest. His painting was chosen out of 18 entries submitted by artists from across the country, including seven from Connecticut.

Thone's artwork has placed in the top group in numerous state stamp competitions, and he was recently the winner for the 2016 Nevada Duck Stamp. When Mark saw a picture of the New London Ledge Lighthouse, he was inspired to paint a group of canvasbacks flying by the lighthouse as his entry for the Connecticut Duck Stamp Contest.

A pair of common mergansers with their brood painted by Frank Dolphens of Omaha, Nebraska, was selected by judges for second place. A tie for third place was between a painting of two gadwall by Broderick Crawford and a blue winged teal painted by last year's second place artist, Christine Clayton.

Paintings entered in the contest were judged in five categories: originality, artistic composition, anatomical correctness, general rendering, and suitability for reproduction. The DEEP Wildlife Division encourages local artists to submit paintings for next year's contest for the 2018 Duck Stamp.

A slideshow of all the entries for the 2016-2017 contest are on the DEEP website at www.ct.gov/deep/ctduck-stamp, as well as details on how to enter the contest. The top four paintings will be on display through the end of August 2016 at the Sessions Woods Conservation Education Center, 341 Milford Street, Burlington. Sessions Woods is open to the public on Mondays through Fridays from 8:30 a.m. to 4:00 p.m.



Mark Thone's painting of canvasbacks at the mouth of the Thames River, with the New London Ledge Lighthouse in the background, will be the image for the 2017 Connecticut Duck Stamp.

Purchase Duck Stamps at participating town clerks and retail agents, DEEP License and Revenue (79 Elm St., Hartford), and the online Sportsmen's Licensing System (www.ct.gov/deep/sportsmenlicensing).



Second place awarded to artist Frank Dolphens.



Christine Clayton's blue-winged teal tied for third place.



Broderick Crawford's gadwall tied for third place.

Connecticut's Commercial Fishing Industry: Then and Now

Written by Penny Howell, DEEP Marine Fisheries Division

Many life-long residents are not aware that Connecticut has had a unique and lucrative commercial fishing industry since before the state was founded. Along with whaling products, finfish, lobster, and shellfish have been important state exports since the early 1800s. Concern for the welfare of the state's shad and salmon fisheries was the motivation in 1866 for establishment of the Connecticut Fish Commission, precursor to today's DEEP Bureau of Natural Resources and whose 150th anniversary we celebrate this year.

Commercial fishing for wild Atlantic salmon is now limited to waters of the North Atlantic due primarily to the long history of dam building in New England that cut the fish off from their spawning habitat. Connecticut's shad fishery still markets fresh fish for local shad bakes, but recent landings are a small fraction of historic numbers. However, the good news is the Shad Monitoring Program – the longest ongoing program of the DEEP Marine Fisheries Division – has recorded a recent recovery in the Connecticut River shad population to abundance levels comparable to the 1980s.

Although these first two species of concern no longer dominate commercial activities in the state, several other species



Connecticut commercial fishing as it was in the 1950s. The captain lends a hand at washing the catch.

have taken their place. Since 1980, seafood landings in Connecticut ports have totaled five to 15 million pounds annually and generated five to more than 20 million dollars in annual dockside value (exclusive of shellfish aquaculture harvest). In recent years, fewer pounds have generated more dollars as the value has risen for some of the more than 75 harvested species; the peak value of over \$10 per pound goes to sea scallops landed in Stonington.

Going back in history, an interesting comparison between 2010-2014 to 1939 landings reflects the effects of extended economic down turns. Commercial landings (reported, respec-

Top 10 Species Landed at Connecticut Ports Then and Now: 2010-2014 average compared to 1939.

Species	2010- 2014		
	Pounds	Value	Price/lb
whiting	1,909,259	\$ 1,444,901	0.76
sea scallop	1,011,613	\$ 9,781,753	10.05
skates	979,988	\$ 671,525	0.73
squid	959,506	\$ 1,127,917	1.22
scup (porgy)	776,203	\$ 558,694	0.74
monkfish	642,567	\$ 822,465	1.32
summer flounder	312,590	\$ 923,713	3.01
lobster	228,651	\$ 1,015,962	4.52
red hake	171,911	\$ 94,244	0.55
butterfish	101,868	\$ 76,429	0.74
Total Top Ten	7,094,154	\$ 16,517,604	
Total All Species (78)	7,763,017	\$ 17,545,509	

Species	1939			Equivalent 2014 value	
	Pounds	Value	Price/lb	Value	Price/lb
yellowtail flounder	2,856,090	\$ 67,892	0.02	\$ 1,129,723	0.40
mixed flounders	2,365,714	\$ 77,744	0.03	\$ 1,293,660	0.55
lobster	650,269	\$ 139,326	0.21	\$ 2,318,385	3.57
scup (porgy)	509,184	\$ 23,411	0.05	\$ 389,559	0.77
butterfish	405,874	\$ 18,658	0.05	\$ 310,469	0.76
shad	382,174	\$ 17,240	0.05	\$ 286,874	0.75
whiting	260,420	\$ 7,714	0.03	\$ 128,361	0.49
summer flounder	245,824	\$ 24,984	0.10	\$ 415,734	1.69
eel	50,141	\$ 5,229	0.10	\$ 87,011	1.74
striped bass	8,946	\$ 1,272	0.14	\$ 21,166	2.37
Total Top Ten	7,734,636	\$ 383,470		\$ 6,380,941	
Total All Species (48)	8,330,964	\$ 415,181		\$ 6,908,612	



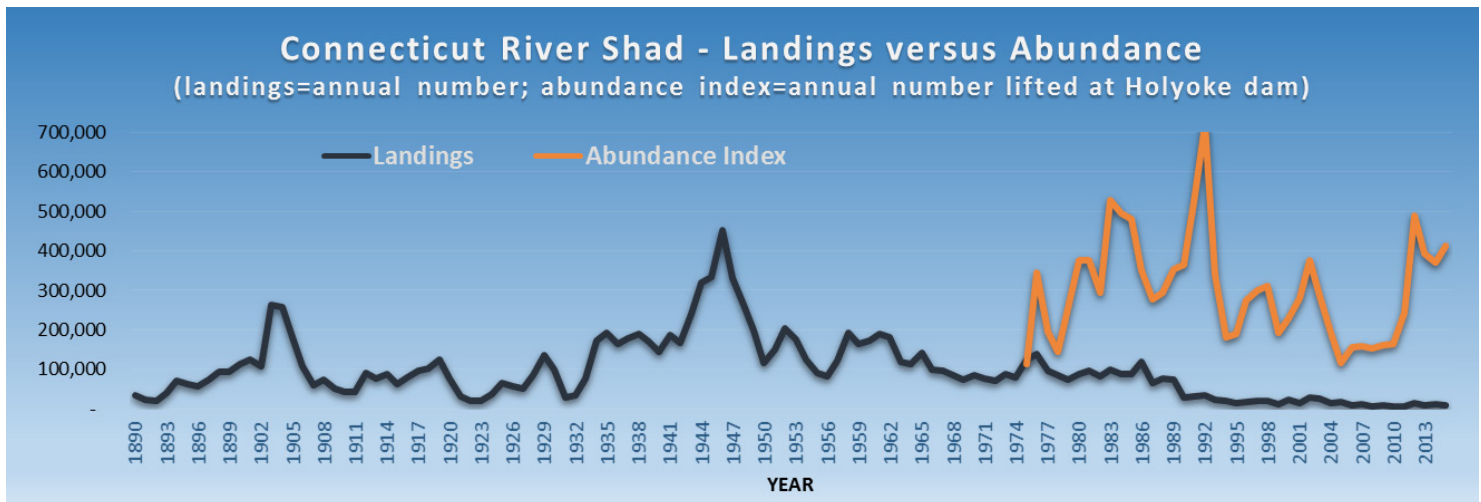
Connecticut commercial fishing in the 2010s is more mechanized and meets high sanitary standards.

tively, to DEEP and the Connecticut Board of Fisheries and Game) were about seven million pounds annually during both periods. However, annual dockside value for the top 10 species was \$16.5 million in 2010-2014 but only \$6.4 million in 1939 (inflation adjusted to 2014 from \$0.4 million in 1939 dollars). Five of the top 10 species (whiting, scup, summer flounder, butterfish, and lobster) have not changed, although their rank order has. The remaining species reflect a change from small-scale fisheries targeting near-shore species in 1939 (mixed flounders,

shad, and eel) to larger scale fisheries for offshore species in 2010-2014 (sea scallop and monkfish). Additionally, between the two time periods, squid and skates replaced all the flounder fisheries except one (summer flounder, whose landings remain similar but are now strictly regulated by state-specific quota, and with a price/pound doubled in value). Squid and skates have grown in commercial value as niche market products and bait for other fisheries. Red hake also has become more popular

continued on page 6

Historic harvest and abundance trends of American shad, Connecticut's official state fish.

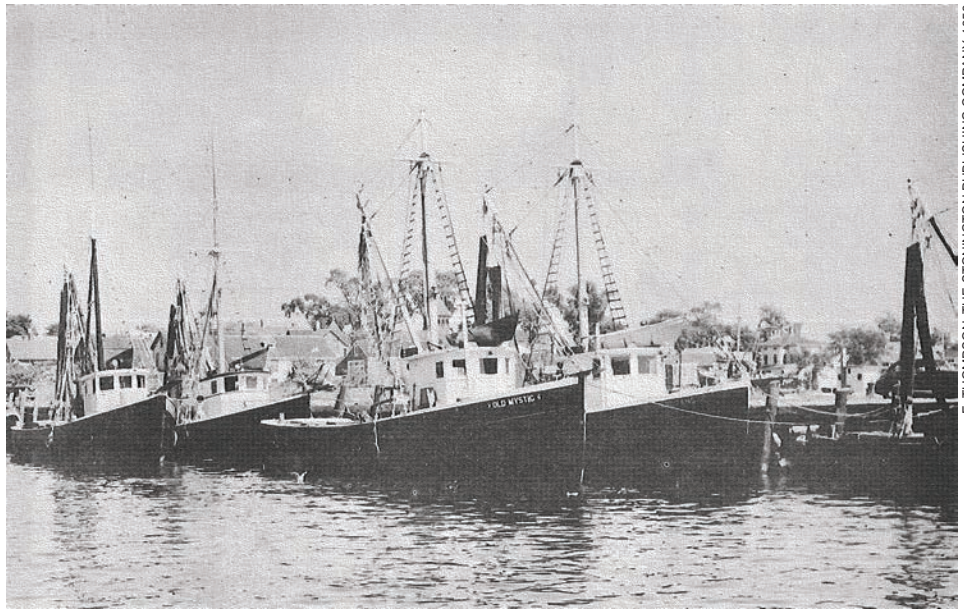


Commercial Fishing

continued from page 5

as processing techniques, especially for surimi, have expanded its marketability. Striped bass ranked in the top 10 in 1939; however, a 1967 state statute banned commercial fishing for this species in Connecticut waters. Striped bass still constitute a large portion of the commercial harvest in neighboring states and is a very popular target for Connecticut anglers.

In 2010-2014, an average of 181 commercial fishing vessels were licensed



Above: Dragger fleet of commercial fishing boats tied up in Stonington, circa 1950.

Below: Modern fishing vessels have electronic navigation equipment on their masts.

DEEP MARINE FISHERIES



Stacks of sea food refrigerator crates are filled dock side for efficient transport to markets near and far.

The Shad Monitoring Program has recorded a recent recovery in the Connecticut River shad population to abundance levels comparable to the 1980s.

in Connecticut (range 149-217), with an average of 395 total crew members. In 1939, only 34 vessels were large enough to be registered with the state. However, an additional 230 smaller motorboats and row boats landed sea food in the state, providing jobs for a total of 562 crew.



DEEP MARINE FISHERIES

So 75 years ago, more boats and more people harvested similar pounds of sea food but for much less value in dock side dollars. Today, a growing number of health conscious consumers are enjoying high quality seafood while supporting this historic Connecticut industry.

Back Story to this Photograph

This photograph accompanied a historical article about the DEEP Forestry Division (*Look Beyond the Trees*, in the March/April 2016 issue). Joel Elliot Bronson, current Forest Manager at Great Mountain Forest in Norfolk, was surprised to recognize his great-grandfather, Elliot B. Bronson, in the photo. Not only was Elliot B. a forest fire warden, he also was a former state representative and Connecticut state lands purchasing agent. A hiking trail in People's State Forest in Barkhamsted is named after him.

Forestry and natural resources run deep in the Bronson Family. Elliot B.'s son, Elliot P. Bronson was a former superintendent of Connecticut State Parks and Forests, and Elliot C. (Bud) Bronson (Joel's father) was a former Connecticut Park Ranger and Senior Environmental Analyst for the Department of Environmental Protection (now known as DEEP).

PHOTO COURTESY CONNECTICUT AGRICULTURAL EXPERIMENT STATION



It's All About Wildlife at Sessions Woods

Written by Laura Rogers-Castro, DEEP Wildlife Division

Where's the best place to learn about Connecticut's wildlife? The Sessions Woods Conservation Education Center and Wildlife Management Area on Route 69 in Burlington. Sessions Woods is operated by the DEEP Wildlife Division and provides both an indoor and outdoor opportunity to explore Connecticut's diverse habitats and discover factual information on native wildlife.

The first stop on a tour of Sessions Woods is the Conservation Education Center where you will find exhibits featuring wildlife natural history and current research projects conducted by state biologists. Information is provided on moose, black bear, wild turkey, bobcat, and more. Visitors can learn about

Connecticut's past and present landscapes and how they influence the composition of wildlife species found in the diverse habitats in the state.

Several beautiful taxidermy mounts are on display throughout the center. A great-horned owl and beaver greet visitors in the entrance way, and a snowy owl, pileated woodpecker, and turkey vulture are a few of the mounts in glass cases lining the hallway. A fine collection of sea ducks and an interactive computer display provide additional information on Connecticut's waterfowl.

The exhibit area offers a good introduction to the wildlife management area and is open weekdays from 8:30 AM to 4:00 PM and select hours on some Saturdays. Before heading out on the trails, visitors should pick up a trail map and look up at the beautiful three-paneled painting in the foyer which depicts the Sessions Woods beaver marsh and was created by artist and Master Wildlife Conservationist Charlene Van Ness.

The beaver marsh is one of the most popular features of Sessions Woods and a hike to this location should be next on the agenda. The trails at Sessions Woods consist of wide gravel or developed footpaths.



Participants in a migratory bird workshop at Sessions Woods scan the tree tops for songbirds.

New interpretive trail signs, designed by DEEP Wildlife Division Outreach staff and paid for by a grant from the Newman's Own Foundation, Inc. through the Friends of Sessions Woods, provide insight on each of the habitats located at the wildlife management area. The beaver marsh habitat is strikingly beautiful with its picturesque pond lilies, pickerelweed, and cattails! A 40-foot boardwalk leading to a re-designed wildlife viewing blind allows easier access. This area is home to frogs, painted turtles, dragonflies, great blue herons, tree swallows, wood ducks, hooded mergansers, river otters, and of course, beavers. Several beaver dams and lodges are visible.

Other highlights at Sessions Woods can be viewed on the three-mile Beaver Marsh Trail loop. There is a demonstration site on the value of young forest habitat. In season, a short spur trail leads to an active vernal pool. A fire tower, originally from James L. Goodwin State Forest in Hampton, offers views of the surrounding hills. Another scenic stop is the "Summer House," which was recently renovated and dates back to when the Sessions family owned the property from the 1920s to 1957.

A visit to Sessions Woods also can be enhanced by attending one of the many free wildlife programs or special events offered during the year. A listing of events can be found on the Friends of Sessions Woods (www.fosw.org) or CT DEEP (www.ct.gov/deep) website. On September 24, the annual Connecticut Hunting & Fishing Day is scheduled from 10:00 AM to 4:00 PM at Sessions Woods and features a plethora of activities, speakers, and displays by conservation organizations.

The Sessions Woods Wildlife Management area is open for hiking from dawn to dusk and dogs must always be leashed on the property. School field trips are offered for groups of 50 or less. For more information, call 860-424-3011.



Thanks Friends of Sessions Woods

The Friends of Sessions Woods was established in 1998 to enhance and encourage the public use and awareness of Sessions Woods. This all-volunteer group has provided necessary funding for many projects, materials, signage, displays, and educational programs.

Some Like it Hot “Cold”

Written by Tim Barry, DEEP Inland Fisheries Division

Connecticut is an interesting place to live if you are a fish. Located in a transition zone between cold climates to the North and warm climates to the South, our state’s fish habitat has some cold and some warm water, but mostly coolwater. Because fish are cold-blooded, water temperature is one of the most important factors affecting their behavioral and physiological responses, such as migration, spawning, feeding, growth rate, and survival. When it comes to modern day fisheries, management decisions are based on analysis of sound data, especially temperature. However, there was a time not all that long ago, when fisheries

management simply meant “how many fish could you **manage** to fit into your bucket, sack, or wagon to take home to feed your family or to sell at market!” Fortunately, times have changed and attitudes along with them. The primary challenge with managing our coldwater fisheries is maximizing and diversifying recreational opportunities within the available habitat. This is not a new concept as evidenced in the 1932 State Board of Fisheries and Game report: “*The problem of maintaining trout fishing in CT is practically confined to the propagation of trout at hatcheries and planting them in streams for the sole*

purpose of having them caught before they are lost by other causes.”

Early Coldwater Fisheries Management: Put-Grow-Take

Beginning in 1871, the Fish Commission began attempts to restore and replenish populations of our two native salmonids (brook trout and Atlantic salmon) by passing laws that established rules for harvest, including minimum size, season, and daily limits. To diversify the types of coldwater fish, the Fish Commission introduced brown trout from Europe (1890), rainbow trout from the western United States (1897), and several other coldwater species such as lake trout, round whitefish, and three species of Pacific salmon (chinook, coho, sockeye, and the landlocked variety called kokanee) into many Connecticut waters. Early fish culture at the first state fish hatchery in Windsor Locks (1899), and subsequently Burlington (1923) and Kensington (1929), focused on producing and stocking fish as fry (1-2 inches) and fingerlings (4-6 inches). Stocking smaller, younger fish to grow to a larger size in the environment, before being harvested by anglers, is known as “put-grow-take.” Most of these introductions were successful at growing fish to catchable size, with several species being able to establish self-sustaining populations.

Change to Put-and-Take

With military personnel returning from World War II and the shift from an agricultural to a manufacturing society, citizens began to experience greater leisure time to pursue recreational activities, especially fishing. The put-grow-take strategy was not able to support the rapidly increasing number of anglers. Around this same time, advances in

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

– 1880 Fish Commission Annual Report

CT DEEP HISTORICAL ARCHIVES



Fish were typically transported to their stocking location in metal milk cans by horse and wagon as shown in this photo at the Pequonnock River near Bridgeport in 1937. Instructions were “no person should go to sleep while transporting fish, or leave them alone when in the cans, as it will serve death to them. Water in the cans require constant aeration either by dipping or shaking the cans.”



Today, over 600,000 catchable-sized trout are transported to over 200 rivers and streams and 100 lakes and ponds using slightly more “horsepower.” This truck is capable of transporting about 3,000 pounds of fish at a time while constantly aerating the tanks with oxygen.

fish culture allowed state hatcheries to grow trout to a catchable size in a shorter period of time than if the fish were in the natural environment. Supporting this shift was the opening of Quinebaug Valley State Trout Hatchery in Plainfield in 1972, at the time, the largest production trout hatchery East of the Mississippi River. The Quinebaug Val-

“Owing to excessive pollution and high temperatures caused by dams and denuded watersheds, no streams are suitable for year round trout, and few can support natural reproduction. All trout must be artificial. Ponds do not have this issue and management must be of natural factors habitat and food, no artificial propagation needed.”

– 1932 State Board of Fisheries and Game Biennial Report

ley facility increased the annual stocking of adult trout by over 500,000 fish annually.

A Plan for Trout Management

To expand the variety of angling opportunities for trout, the Inland Fisheries Division developed a plan. This plan, based on the results of a comprehensive statewide stream survey project (1988-1991), instituted a number of different management strategies and facilitated numerous studies to make the best use of the state’s coldwater fisheries resources and provide greater variety to anglers.

Trout Management Areas (TMA) are in sections of rivers that have adequate

water temperatures to support catch-and-release (C&R) angling year round. These areas are open to fishing year-round, each with a variety of seasonal regulations. TMAs promote the “recycling” of hatchery-reared fish, increasing the recreational potential of each fish produced. The first Trout Management Area (TMA) was established

on the Willimantic River in 1976.

Wild Trout Management Areas (WTMA) are in streams where populations of wild trout (brook, brown, or both) can support angling pressure. WTMA have special tackle restrictions (single, barbless hook, artificial lures, or flies only), creel limits (C&R, 2 fish/day), minimum length limits (9 or 12 inches), and seasons to best conserve and manage these valuable resources.

Trout Management Lakes (TML) have suitable year-round coldwater habitat. Special trout stocking and regulations were enacted to promote the ability of some trout to survive more than one year after stocking

and grow to a larger size (holdovers).

Trout Parks are designed with novice anglers in mind as these sites are family-friendly and easily accessible. Trout parks offer a high likelihood of catching a fish (important for recruiting new anglers to the sport) through frequent stockings and reduced creel limits.

Trophy Trout Areas (TTA) were established on a handful of rivers. A mix of standard adult (10-12 inches) and larger (greater than 12 inches) size trout are stocked. These areas are managed with reduced creel limits to provide anglers with an increased chance of catching larger fish.

Currently, a number of issues are threatening Connecticut’s healthy

wild trout populations and causing greater year-to-year variability in these vulnerable coldwater species. These include development near cold, headwater streams; changes in land use; increasing groundwater withdrawal; and changes in weather patterns resulting in more frequent drought and warmer air temperatures. On the positive side, stronger communication and collaboration with angler groups, such as the Housatonic Fly Fishermen’s Association, Farmington River Angler’s Association, Connecticut Fly Fisherman’s Association, and the many Chapters of Trout Unlimited have strengthened the oversight and management of Connecticut’s valuable coldwater fisheries resources and promoted habitat improvements. These groups are the most active and vocal when it comes to advocating for protecting critical coldwater habitat.

Trout fishing in Connecticut can be traced back to the first colonists and it is a deep-rooted tradition. Coldwater fisheries management continues to evolve to address threats and opportunities, and the Inland Fisheries Division is currently in the process of reviewing its original trout management plan. After a prolonged decline in licensed angler numbers, it appears that new anglers are being attracted and the angling constituency is slowly rebuilding. We thank you for your support!

Birds Without Borders: Continental Bird Conservation

Written by Judith Scarl, Association of Fish and Wildlife Agencies/North American Bird Conservation Initiative

One hundred years ago, North America united for birds.

August 2016 marks the 100th anniversary of the first Migratory Bird Treaty. This ground-breaking international agreement between the United States and Canada, signed by Great Britain on Canada's behalf, was our country's first international commitment to protect natural resources across political boundaries. This milestone set the stage for continent-wide, cooperative protection of migratory birds. Twenty years later, with Mexico in the aftermath of revolution, Mexican president Lázaro Cárdenas committed his country to a treaty with the United States protecting birds and other wildlife,

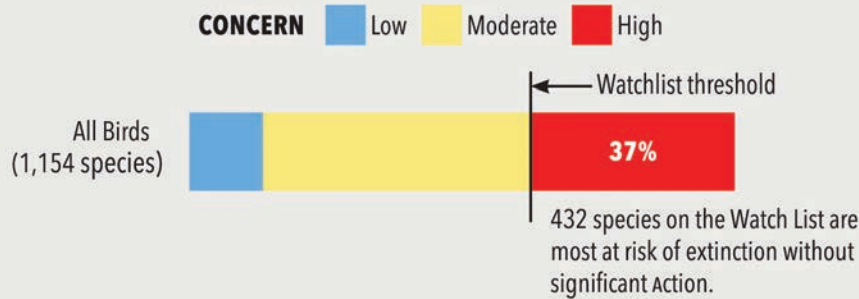
connecting all of North America in its efforts to protect our shared species. Even during times of tremendous economic and political instability, our three nations recognized the importance of migratory bird conservation and united to protect our shared species.

and climate change.

More than 50 boreal breeding bird species migrate to and through Mexico's tropical forests for winter. But while 80% of the boreal forest in Canada and the northern U.S. is still intact, tropical forests in Mexico suffer from dramatic

deforestation. Mexican tropical forests have suffered greater than 70% habitat loss since the 1970s. As a result, more than half of Mexican tropical forest resident bird species are on the Watch List. Birds connect our continent, which means that deforestation and agricultural development in Mexico threaten

ONE-THIRD OF ALL NORTH AMERICAN BIRD SPECIES NEED URGENT CONSERVATION ACTION



North American High Concern Watch List Species with Connecticut Connections

American black duck	Little blue heron
American oystercatcher	Long-eared owl
American woodcock	Marbled godwit
Bicknell's thrush	Nelson's sparrow
Black scoter	Olive-sided flycatcher
Black-billed cuckoo	Pectoral sandpiper
Bobolink	Piping plover
Buff-breasted sandpiper	Prairie warbler
Canada warbler	Prothonotary warbler
Cape May warbler	Red-headed woodpecker
Cerulean warbler	Roseate tern
Common eider	Rufous hummingbird
Connecticut warbler	Saltmarsh sparrow
Eastern whip-poor-will	Seaside sparrow
Eskimo curlew	Semipalmated sandpiper
Evening grosbeak	Short-billed dowitcher
Golden-winged warbler	Snowy owl
Horned grebe	Surf scoter
Hudsonian godwit	White-winged scoter
Kentucky warbler	Willet
King rail	Wilson's plover
Least tern	Wood thrush
Lesser yellowlegs	

In this Centennial year celebrating our earliest efforts towards international migratory bird protection, our three countries are uniting once again with a "State of North America's Birds" report – a ground-breaking collaboration to evaluate bird populations in nine key ecosystems across the continent. This report, developed by the North American Bird Conservation Initiative and built using data collected by tens of thousands of citizen scientists across North America, is a call to action to governments, private industry, and the public to come together to support a beloved shared resource: our migratory birds. This unprecedented, continent-wide analysis demonstrates the power of people to understanding conservation needs – and to make conservation happen.

Of the 1,154 bird species that occur in North America, one third are on the report's Watch List, which identifies high-risk species. In particular, birds that depend on oceans and tropical forests are most imperiled due to severe habitat threats, restricted ranges, and declining populations. More than half of our seabirds are on the Watch List. They are threatened by ocean pollution, over-fishing, energy extraction, invasive species on islands that depredate

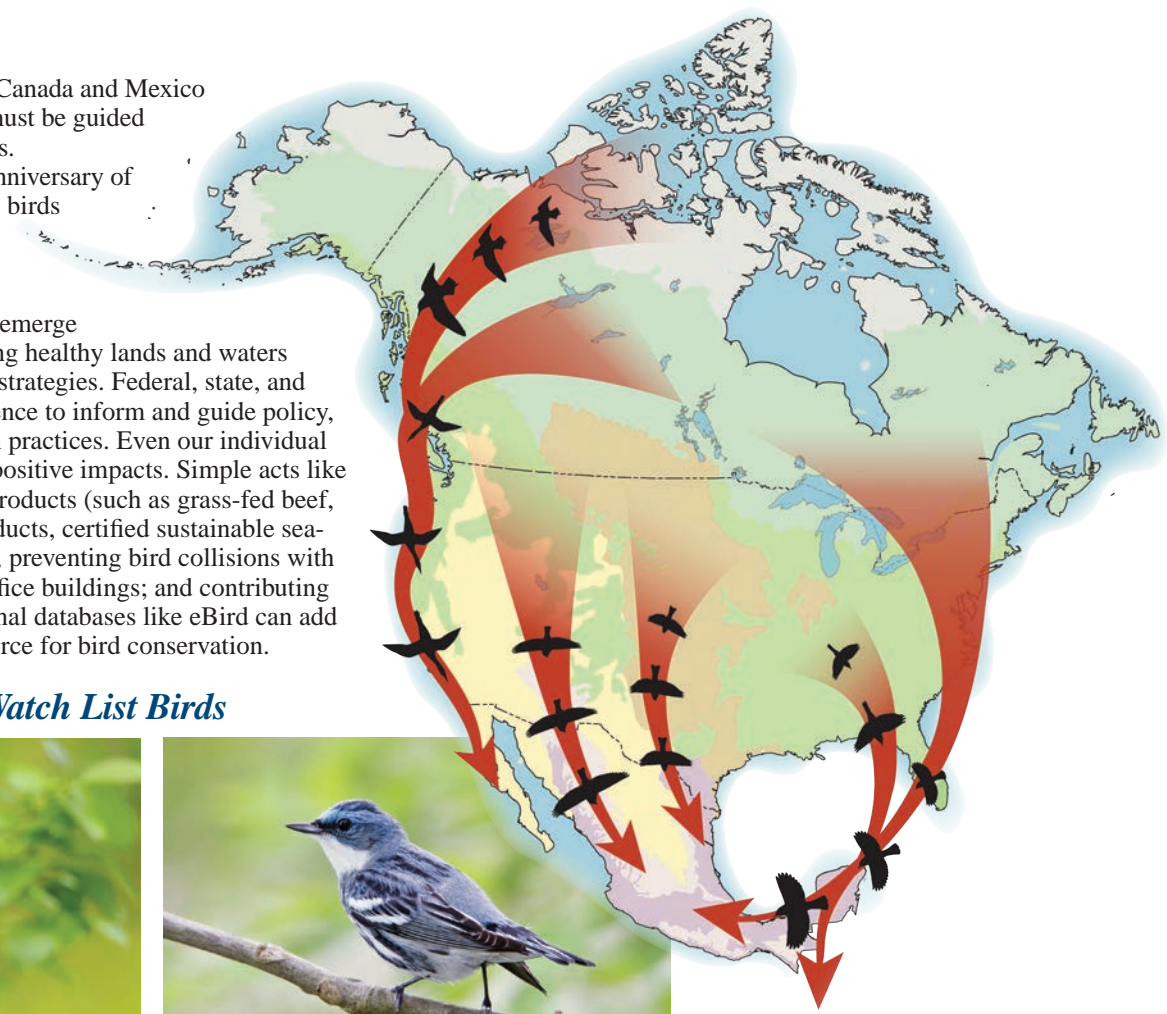
species across North America.

Grassland birds are facing some of the steepest population declines of any group, putting many species on the Watch List. The vast majority of our continent's pre-settlement prairie has been converted to agriculture and residential development. As a result, grassland birds cling to fragmented remnants of their original habitats.

In spite of these alarming numbers, we know that when people push for positive change, bird conservation succeeds. One hundred years ago, passionate wildlife supporters encouraged national leaders to invest in bird conservation by signing the Migratory Bird Treaty and putting an end to market hunting. Investments in wetlands have paid off, too. The 1934 Duck Stamp Act reflected commitments by hunters to protect waterfowl habitat, a key accomplishment that has created a strong positive outlook for ducks, herons, egrets, and many more birds. In the 1980s, the passage of the North American Wetlands Conservation Act (NAWCA) secured funding to conserve wetland and upland habitat continent-wide. Over the past two decades, NAWCA has provided \$1.4 billion in grants that acted as a catalyst for generating \$2.9 billion in partner funds for projects on 30 million acres of habitat in all three countries. Just

as waterfowl migrate between Canada and Mexico and back again, conservation must be guided by the birds, rather than borders.

As we celebrate the 100th anniversary of the first Migratory Bird Treaty, birds once again need our help. Fortunately, there are many ways to support strong bird populations. Corporations can emerge as sustainability leaders, making healthy lands and waters part of their long-term growth strategies. Federal, state, and local governments can use science to inform and guide policy, supporting strong conservation practices. Even our individual actions can have far-reaching positive impacts. Simple acts like choosing sustainably created products (such as grass-fed beef, certified sustainable paper products, certified sustainable seafood, and bird friendly coffee); preventing bird collisions with windows on our houses and office buildings; and contributing bird sighting data to international databases like eBird can add up to a powerful continental force for bird conservation.



Some of Connecticut's Watch List Birds



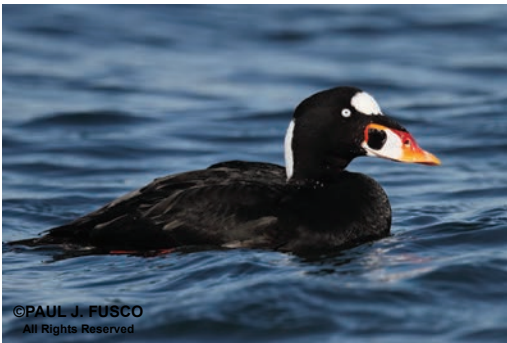
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Wood thrush



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Cerulean warbler



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Surf scoter



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Buff-breasted sandpiper



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Semipalmated sandpiper



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Prairie warbler

Over the last 100 years we have made great strides in tri-national bird conservation. But birds and their habitats are still threatened. It is time to recommit ourselves to this effort so we can look ahead to a bright future for birds in the next hundred years.

Read the full report at www.stateofthebirds.org. Learn more about the Migratory Bird Treaty Centennial celebration at www.fws.gov/birds/MBTreaty100. For more ideas about how you can support bird conservation, visit www.stateofthebirds.org/change.

Migratory birds connect people to nature and provide multiple benefits – ecological, economic, aesthetic, and recreational – to humans and the natural environment.

Red-eyed Vireo, the Woodland Songster

Article and photography by Paul Fusco, DEEP Wildlife Division

One of Connecticut's most common forest songbirds is the red-eyed vireo. Known for their persistent singing prowess, males habitually recite their cheery song in monotonous fashion, sometimes at a frequency of 40 times per minute. If a person were to take a trail walk in a Connecticut forest during the month of June, red-eyed vireos singing almost one after the other would be encountered along the entire walk. They are one of the easiest birds to find in the deciduous forest.

Description

At six inches in length, the red-eyed



Blending into its leafy surroundings, the red-eyed vireo is more often heard than seen.



The Perils of Migration for a Neotropical Songbird

Migration is a perilous time for songbirds. They must reach their breeding ground in an efficient amount of time to claim the best territory, avoiding all kinds of danger along the way.

Most neotropical songbirds will migrate at night, in part to avoid predators like hawks. But night flying comes at a risk of collisions with light towers, cell towers, wind turbines, guy wires, windows, high-rise buildings, and glass buildings. Bad weather can hamper migration. Fog and mist reduce visibility, making navigation difficult or impossible. Free-roaming cats are a constant threat whenever birds become tired and stop to rest and feed in unfamiliar places. Not only is good quality habitat on breeding and wintering grounds important, but safe stopover sites also are imperative for migratory bird conservation.

vireo is about the size of a sparrow. Its olive-green and white color is offset by a contrasting black-bordered white eye stripe and gray cap. It does not have wingbars, as many other small forest songbirds do. Like other vireos, the red-eyed has a strong bill with a slight hook at the tip. Young birds are similar to adults, but have brown eyes. Their iris does not become red until after their first winter.

Habitat and Distribution

The eastern deciduous forest, with broad-leaved trees and slender sapling understory, is the typical realm of red-eyed vireos. In some parts of their range, they also will use mixed deciduous and conifer habitat. The presence of an understory with saplings or forest shrubs is an important component for nesting. The breeding range includes all of the eastern United States and most of southern Canada, and westward to the Rocky Mountains in Canada and Washington.

During migration, red-eyed vireos will use almost any wooded habitat with large broadleaf trees or dense undergrowth, including city parks, cemeteries, and small woodlots where they can find a food source. Their migration path includes eastern Mexico, Central America, and the Caribbean islands. In winter, red-eyed vireos are found throughout northern South America and the Amazon River drainage.

In Connecticut, red-eyed vireos are found on breeding territories practically statewide, with a notable absence in urban areas. During late summer and fall migration, they can be found at most of the coastal migration hotspots that have thick cover and a food source that may include berries.

Behavior

Vireos are slow but active and deliberate when feeding, unlike the quick flitting behavior of some other forest songbirds, including warblers. Red-eyed vireos will constantly scan for insects among the small twigs and leaves, hopping and taking short flights as they glean from the leaves. Males maintain a steady pace between feeding and singing as they go. During summer, the diet consists largely of invertebrates, such as spiders, some caterpillars, beetles, moths, flies, wasps, and ants, some of which are considered harmful forest pests.

By late summer and fall, the diet of a vireo gradually changes. Fruits, such as berries from dogwoods, pokeweed, black cherry, Virginia creeper, sassafras, and spicebush, make up an increasingly larger part of the diet as the birds head into the fall migration period. By the time they arrive at their South American wintering grounds, they eat almost entirely fruits and it will remain that way through the winter.

Nesting

Red-eyed vireos construct a small, flimsy nest in shrubs within the forest understory. The cup is suspended in the fork of a small branch, similar to that of an oriole, though not as big or as deep. Held together with spider web and tent caterpillar silk, the nest is built with grasses, rootlets, grapevine bark, wasp nest paper, small twigs, and plant fibers. Small pieces of lichen are sometimes added to the outer wall. From three to five, usually four, lightly speckled white eggs are laid. Incubation lasts for 11 to 14 days, and young fledge after 10 to 12 days. Red-eyed vireos may raise two broods per season.

Conservation

Red-eyed vireos are common and widespread throughout most of their breeding range. They are not a species of high conservation concern, although there are a some factors that impact the population.

Red-eyed vireos are sensitive to habitat disturbances, including clearcut logging and forest fragmentation that leave behind an open forest canopy. Forest fragmentation affects many forest songbirds. It is a by-product of suburbanization and development. As roads are built and development spreads, formerly large forests are gradually broken into smaller and smaller pieces, resulting in fragmented forests that have a high ratio of edge to interior forest habitat. This has a negative effect on many species of forest-dependent wildlife, especially most forest songbirds, which depend on large expanses of forest habitat with an unbroken canopy. Red-eyed vireo nests are often victimized by brown-headed cowbirds. This parasitism happens with greater frequency when vireo nests are close to forest edges, and less so with nests in the interior of forests.

Migration is always a potentially hazardous time of year for birds. Those that travel by night, including vireos, will often encounter a number of hazards, chief among them are collisions with tall structures. Buildings, windmills, lighthouses,



One of the major impacts to forest songbird populations is nest parasitism by brown-headed cowbirds. Cowbird females lay their eggs in other birds' nests, leaving incubation and chick-rearing to the host. Cowbird chicks are bigger and more dominant in the nest. They often will out compete smaller nest mates, growing faster and fledging sooner. Smaller chicks are sometimes bumped out of the nest before they are old enough to fly. Rate of growth and speed of fledging can sometimes mean the difference between which chicks fledge successfully and which ones are taken by a predator before they have the chance to fledge. Red-eyed vireos are one of the most common victims of cowbirds. This photo shows the dominance of the much larger cowbird chick compared to the smaller vireo chick. In situations like this, the cowbird chick will have the greatest chance of survival, and this nest may not produce any young vireos.

power lines, and guy wires can all take a toll on these small birds every time they migrate. Mix in some bad weather and the potential for catastrophic loss is increased.

Next time you are out for a walk in the woods, take a minute to listen for the song of the red-eyed vireo. The bird will be easier to hear than to see. The cheerful song may add a touch of brightness to your day.

Preserving the Past – Connecticut Fish and Game Law Enforcement’s History

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

I began my career as a Connecticut State Conservation Officer in February 1983. Prior to this, I worked seasonally for three years for the State Parks Division as a State Park and Forest Patrolman. As a seasonal employee, I was exposed to our State’s Fish and Game Law Enforcement

Environmental Protection (DEP). Most of the officers, if not all, spoke highly about working in the “good old days,” for the “Fish and Game” department, which they really enjoyed. I heard countless amazing stories over many years about their job duties and daily tasks – a distinct style of

and Game law enforcement must never be forgotten! I could clearly see that the job duties, responsibilities, and the state itself was rapidly changing, and that the officer and patrol days of “yesteryear” must somehow be preserved. I decided to begin the monumental task of trying to

collect and preserve as much as I could from the early days of Connecticut Fish and Game Law Enforcement. A suitable location for display of the items was not available at the time, but I realized that the historical relics, archival items, and memorabilia were disappearing rapidly. I began to ask the remaining veteran officers still on the job if they had any “old time” memorabilia that they would like to donate for permanent preservation. The next step was to contact retired officers and ask the same of them. In other instances, many of the older officers had since passed away, so I made many attempts to contact relatives and family

members. I did extensive research, made countless phone calls, invested thousands of hours, and subsequently made many trips over the next 30 years to meet with the officers or their families to obtain officer memorabilia and historic archives. I have collected hundreds of items.

Because of my efforts, I became the Chairman and Curator of the Connecticut Conservation Officers Association. My goal was to collect any artifact that was involved in the history of Connecticut’s Fish and Game Law Enforcement. The items include, but are not limited to, old uniforms, shoulder patches, badges, neckties, hats, name tags, and uniform accessories. Countless other issued items

PHOTO BY J. WERONIK



This display assembled by Bill Myers shows all of the various shoulder patches that adorned the uniforms worn by state game wardens (now known as Environmental Conservation Police Officers) starting in 1934 through today.

Division. I had numerous opportunities to do “ride alongs” with several Conservation Officers (CO) in my district, and thus gained valuable exposure to our State’s Wildlife Law Enforcement programs. This employment background eventually laid the foundation for my passion, pursuit, and preservation of fish and game history.

During my early years as a CO, I was fortunate to have worked with many officers who were hired prior to 1971 under the old “State Board of Fisheries and Game.” In 1972, a large government reorganization came about, which dissolved the small departments and commissions, and gave birth to the State Department of

Conservation Officer duties that seemed considerably different compared to the overall duties I was performing in my position. For example, I was intrigued with much of their “hand me down” equipment, including used uniforms, and then having to buy their own uniform pants at Sears and Roebuck.

Fish and Game Wardens originated in Connecticut in 1895, then called “Special Protectors.” Now 121 years later, our present State Environmental Conservation Police now fill that same role as the “Environmental Protection Officers.”

A passion and determination developed quickly in the early years of my career – the decades and generations of Fish

which would be considered “tools of the job” also were collected.

The collection also includes a variety of old Fish and Game Department signs, which were used during that time and were rapidly disappearing. Old photographs were some of the most sought after and valuable items as they gave the most realistic visual aspect of a lost, irreplaceable time of our past. In most cases, I simply borrowed the original photograph from the officer or their family, and was able to reproduce and return the original copies. Many photos were damaged, faded, and had aged over time. I received valuable irreplaceable guidance and direction from the Connecticut State Police Photography Division, namely Mickey Gura and Joe Weronik, regarding the collection and restoration of these vintage photographs.

Of utmost and crucial importance was not only to collect vintage memorabilia, photographs, historical artifacts, and documents for permanent preservation, but also to conduct extensive research to determine the historical documentation about each donated item. With regard to photographs, I wanted to know as much information as possible about the photos – who, what, where, and why was just the beginning. I sent many old photographs to a motor vehicle expert to obtain the year, make, and model of the early cars and trucks used by the officers and the Fish and Game Department staff. I collected hundreds and hundreds of photographs and slides, and also have hundreds of discontinued, original vintage uniforms in the collection, the earliest from the early 1930s. One of the earliest photographs is of the “Special Protector Officers” assigned to Fairfield County in 1914.

I am indebted to the many people who provided assistance and donated to my pursuit of the preservation of the “Connecticut Game Warden.” Substantial donations



CO Bill Myers in his 2007 Ford F-250 pickup truck patrol vehicle

of historical artifacts were received from Conservation Officers Donald Deane, former Chief Frederick J. Pogmore, and Robert White, all who provided numerous photos and substantial historic information. Former Director of the Connecticut Board of Fisheries and



CO Myers is seen with a young white-tailed deer fawn that was brought in for rehabilitation in 2009.

Game, Lyle Thorpe, provided detailed department history from the 1930s into the 1950s. Dot Joray of Norwich, wife of the late District 4 Supervisor Harding Joray, and John Wraight of Rockville, grandson of Warden “Ted” Wraight, donated substantial and valuable irreplaceable memorabilia to the archives.

Unless the item was temporarily loaned, each and every item obtained and collected has become the property of the Connecticut Conservation Officers Association (CCOA) Archives. CCOA has an archive storage facility where the items are stored in a secure and humidity controlled atmosphere. In 1998, CCOA was given permission to construct and install three custom built display cabinets in the lobby area of DEEP’s main office at 79 Elm Street in Hartford for display of archive memorabilia. Recently, a fourth cabinet was obtained for use in the lobby, and now the CCOA proudly has hundreds of historic items out for public display. Cabela’s in East Hartford displays dozens of CCOA donated items on the walls of their store in East Hartford, and the new Bass Pro Shop in Bridgeport displays numerous large pictures of vintage game warden photographs supplied by CCOA. Archival items and memorabilia are always welcome for donation for permanent preservation.

Although retired since 2009, I currently remain active as the CCOA archivist and curator, continuously and tirelessly working on the archive collection. My goals continue to be that the archives and memorabilia remain dedicated to the many Connecticut Special Protectors, Game Wardens, Conservation Officers, and Environmental Conservation Police that have dedicated their lives and careers for the protection of fish and wildlife and their habitat, and these items are preserved for present and future generations of our state to learn from and enjoy.

Sitting in photo taken
Holding photo taken
bilitator Liz

History of Birds in Connecticut

Written by Brendan Zielinski, DEEP Wildlife Division; photography by Paul Fusco, DEEP Wildlife Division

Connecticut's Bureau of Natural Resources isn't the only one celebrating an anniversary in 2016! This year marks the 100th anniversary of the Migratory Bird Treaty, which in 1916, was one of the first major victories of the National Audubon Society. Since then, millions, if not billions, of nongame birds have been saved from human activities. These two celebrations go hand-in-hand; the history of wildlife in Connecticut has strong ties with the protection of migratory birds. In 1850, Connecticut was one of the first states to enact a law protecting nongame birds, years before the Connecticut Board of Fisheries and Game was established in our state. In the "1901-02 Report of Fish and Game Commissioners," the Board made note of the great work conducted in the United States regarding bird protection:

"Bird protection appeals to all persons and its importance is becoming more generally appreciated by the farmer who regards them as an inestimable benefit to agriculture, the sportsman who values birds for the pursuit as game, and to many people of every class who derive enjoyment from their presence, are all interested in the question of their preservation, and they all have long realized the necessity for stringent measures of protection."

The Audubon Society and the American Ornithologist union, all over the United States, are doing noble work towards securing better and more protection for non-game birds. These societies are unlike most organizations formed solely to protect game in order that the shooting harvest may be increased. The Audubon Society looks only to the saving of birds for the general good of mankind."

The idea of "saving birds for the general good of mankind" was revolutionary and developed into what is now the Migratory Bird Treaty Act, along with many other laws and regulations in Connecticut and throughout the country. These initial steps have provided us with the variety and enjoyment of birds that we take for granted today.

The following excerpts from past reports of the Connecticut Fish and Game Commission highlight the decline, conservation, and recovery of various Connecticut birds:

Ducks

During the 1800s, coastal and wetland habitat degradation, as well as overharvesting of ducks during migration, caused populations of many duck species to decrease dramatically. In 1907, a law was passed in Connecticut prohibiting the shooting of ducks during peak migration and the breeding season:

1908 Report: *"The law of 1907 prohibiting the shooting of ducks between January 1 and September 1, has given such excellent results, and so general is the satisfaction with the new conditions resulting from the working of this law, that too much cannot be said in favor of it. The effect that this law had against taking duck during the spring of 1908 has been something marvelous. Records are on file of many pairs of ducks, on their way north to the breeding grounds, having dropped out at various points within our state as the direct result their not being continually shot at as in former years, and large broods of young have been hatched out within our state, which has helped the fall shooting materially throughout the interior."*

1910 Report: *"The wild duck have been on the increase since the spring shooting was abolished. Immense flocks of broadbills are on the rivers and along the coast. Black duck have been given the opportunity to rear their young within the limits*



Once spring shooting was abolished with the law of 1907, many duck species, including the American black duck, began to recover.

of this state and their numbers have been materially increased. Wood duck are protected by law until August 31, 1919, and reports have come to the commission of noticeable increase in the numbers of this most beautiful waterfowl. The spring shooting law has come to stay and it is not expected that the thoughtless clamor of a few selfish persons will be permitted to affect the present excellent law."

1926 Report:

"Ducks are increasing in Connecticut and the duck hunters

are having better shooting than they have had for a number of years. This improved condition is due, first, to the application of the Migratory Bird Act which protects the birds during the breeding season, and second, to an improved quality of water along our shores which has resulted in a larger supply of food for these birds."

The wood duck was once plentiful in Connecticut, thriving in or near wetlands that had an abundance of snags (standing dead trees) that provided natural nesting cavities. However, by the early 1900s, wood ducks were on the brink of extinction. Unregulated hunting and habitat destruction had driven their numbers, along with many other migratory birds, to very low levels. In response, conservationists supported the passage of the Migratory Bird Treaty Act, which provided regulatory protection for wood ducks and other migratory birds. Despite, the regulation of harvest, the continental population remained low due to

the lack of natural cavities in snags.

Thankfully, the influx of dedicated funding from the Federal Aid in Wildlife Restoration Program was the real catalyst that turned the tide for the species. Stable funding made it possible for state wildlife agencies to devote needed resources for wood duck recovery. Many agencies, including the Connecticut Board of Fisheries and Game, began wood duck nest box programs. In 1953, over 3,000 wood duck nest boxes have been placed in suitable habitat throughout the state since the beginning of the program. Despite continued steady loss of wetland habitat, Connecticut's current wood duck population is at an all-time high.



Wood ducks were the beneficiary of the Federal Aid in Wildlife Restoration Program which allowed wildlife agencies to establish nest box programs.

also had a profound effect on shorebird and other waterfowl populations – a practice which today is no longer permitted.

1936 Report:

“There appears to be little hope for any substantial increase in shore birds. The salt marshes which they formerly frequented in great numbers, have been so thoroughly drained in a popular effort to control mosquitoes, that the environment that they require has been largely destroyed.”

Fortunately, several state and federal laws and regulations were passed to protect shorebirds and stop the steep population declines. However, some shorebird populations continue to face challenges, such as habitat loss and disturbance during the nesting season. The current DEEP Wildlife Division has focused recovery efforts on two shorebirds for decades: the state and federally threatened piping plover and state threatened least tern. This year marks 30 years of piping plover conservation – the bird

Shorebirds

1926 Report: *“Shore birds, such as greater and lesser yellowlegs, Wilson snipe and several plovers, appear to be on the decrease...”*

The sandy grounds in many instances have been turned into shore resorts and the places in this state for hunting shore birds are gradually decreasing... It would be no great sacrifice if all the shore birds were afforded a closed season in this state.”

According to the “1949-1950 Report of the Board of Fisheries and Game,” the state’s piping plover population

experienced a precipitous drop in the mid-1920s: *“A drop of over 70 percent occurred in 1924 followed by another drop in 1925. The season was closed in 1926.”*

The draining and ditching of wetlands to control mosquitoes



By 1926, it was recognized that shorebirds were declining due to widespread habitat loss and degradation, and would benefit from a closed hunting season. Many of these species, including the lesser yellowlegs are still recovering today.

was afforded protection through the federal Endangered Species Act in 1986. Every spring, the Wildlife Division, with the assistance of a dedicated volunteer corps, ropes off or fences plover and tern nesting sites along Connecticut’s beaches to prevent human disturbance, which may cause nest abandonment or the loss of eggs and chicks. Volunteers patrol the

nesting beaches throughout the summer to monitor plover and tern nests and chicks and provide information about the birds to beach visitors. These efforts have helped Connecticut’s nesting population of piping plovers grow over the past 30 years from 20

pairs and 39 chicks in 1986 (when the bird was added to the federal Endangered Species List) to 62 pairs and 112 chicks in 2015. Partners from private landowners to beach managers and many others have tirelessly worked to manage areas of beaches in ways that have been vital to this increase, including installing symbolic fencing around nests, requiring dogs to be on leashes or exercised off the beach, posting warning signs, and keeping human activities outside fenced nesting areas. The willingness of beachgoers to follow these steps has been instrumental, but there is still more work ahead to ensure that piping plovers will remain a part of Connecticut's beaches.

Herons and Egrets

1926 Report: *"It is appreciated that the herons do not properly enter into review of game birds... The unusual increase in the number of various species of herons reported from different parts of the state... is one of the results of the Federal Migratory Bird Act... Of these, the white herons, because of their rarity, have attracted special attention. Three species of white herons are found here, of which the largest, approaching in size the Great Blue Heron, is the American Egret. The two smaller species, are the Snowy Egret, and the immature or white phase of the Little Blue Heron... **These birds had been almost exterminated for their aigrette plumes."***

Egrets get their name from the French word *aigrette*, which means ornamental plume. Grown during the breeding season, these showy plumes almost led to these species' demise and thus sparked one of the most significant grassroots conservation initiatives in United States history. The initiatives resulted in landmark bird protection laws, the beginnings of the National Wildlife Refuge system, and the formation of the National Audubon Society.

The long breeding plumes were used in the millinery trade to decorate fashionable items like women's hats. Plume hunters killed egrets at their nests in order to supply big city markets. Under extreme pressure throughout their range, egret populations plummeted. Snowy egrets suffered a heavier loss because they were more numerous and their wavy, filamentous plumes were in higher demand than the straight, stiff plumes of the great egret. The demand was so high that at one point egret plumes were worth more than double their weight in gold. This unregulated market hunting began in the mid-1800s and peaked shortly after 1900, leaving both egret species near extinction. The plumage vogue took a heavy toll on other bird populations as well. Numbers of terns, gulls, plovers, shorebirds and other species also were disappearing at a fast rate.

A growing grassroots bird protection movement in the late 1800s led to the passage of bird protection laws in many states and the incorporation of many state Audubon societies into a national organization dedicated to the protection of birds. In 1900, Congress passed the Lacey Act, banning the interstate traffic of birds and wildlife killed in violation of state law. The fledgling National Audubon Society was able to hire wardens to enforce state bird protection laws at many breeding areas. As plume hunting continued, public outrage ensued when an Audubon bird warden was killed by illegal plume hunters in southwest Florida in 1905. President Theodore Roosevelt took notice with a statement of support for the Audubon's "efforts to stop the sale and use of the plumes from the white herons."

After protection was given to egrets and other avian species with the passage of the Lacey Act and eventually the Migratory Bird Treaty Act (see related article on page 10), the days of unregulated market hunting were over. After an absence of over 100 years, both great and snowy egrets returned to Connecticut by 1961 as breeding species when they were reported nesting at the Norwalk

Islands. Today, DEEP closes public access to Charles Island in Milford and Duck Island in Westbrook from May 24 to September 9 every year to prevent disturbance to nesting birds. Both islands have been designated by DEEP as Natural Area Preserves, primarily due to their importance as nesting habitats for several state-listed birds, including snowy and great egrets (state threatened species), glossy ibis, and little blue herons (state special concern).



The long breeding plumes of the great egret were used to decorate women's fashionable hats in the mid-1800s to early 1900s.

New Meigs Point Nature Center Opens

State officials and state park advocates cut the ribbon on May 26 to officially open a new nature center at Hammonasset Beach State Park in Madison. The 4,000-square-foot Meigs Point Nature Center replaces the existing, outdated facility, and provides a modern, year-round environmental education facility for use by the public and educators. The building has educational exhibits and an outdoor observation deck for environmental education classes. The Friends of Hammonasset have been partners in this project and raised funds to design, fabricate, and install all exhibits.

Staff from the DEEP Bureau of Natural Resources developed exhibit text and interactive programs for the touchscreen displays at the new center. Wildlife Division Media Specialist Paul Fusco and Natural Resource Educator Laura Rogers-Castro produced multiple educational display screens. One interpretive touchscreen was designed for all ages to tell the story of a year in the life of an osprey, one of the most visible birds along Connecticut's coast in summer.

The "first" nature center at Hammonasset had its beginnings in 1952 when the teenage daughter of the camp manager converted the first room of the old farm house, where she lived with her family, into an amateur nature center. In 1972, the Meigs Point Nature Center officially opened in the historic farm house as a summer facility. Then, in 2005 with help from the Friends of Hammonasset, the building was winterized and began a year round schedule. This has expanded every year until the current schedule. The nature center is host to a variety of native animals, including turtles, snakes, amphibians, crabs, and fish. Most of the animals living at the center cannot be released because of previous injuries or for other reasons, but all are well cared for. In season, a "Touch Tank" allows some of the smaller wonders of the sea to be brought inside for up-close viewing and learning. All creatures in the Touch Tank are regularly rotated and then returned to Long Island Sound.

The Meigs Point Nature Center offers programs and activities for all ages on a year round basis. It is operated by



P. J. FUSCO (2)

Governor Malloy, with assistance from DEEP Commissioner Robert Klee, Department of Economic & Community Development Commissioner Catherine Smith and park visitors cut the ribbon to open the new Meigs Point Nature Center. The Friends of Hammonasset State Park and "Ranger Russ" were instrumental in the development of the center.



The nature center features interpretive displays about Connecticut's wildlife, including this interactive touchscreen about ospreys.

the DEEP State Parks Division, but many of the programs are funded through donations from the Friends of Hammonasset. Center hours are 10:00 AM to 5:00 PM, Tuesday through Sunday, from April through October, and 10:00 AM to 4:00 PM, Tuesday through Saturday, from November through March. Contact the Nature Center at 203-245-8743 for information on programs.



If You Care, Leave It There!

Every year, the lives of many wild animals are disturbed by people who take young wildlife from the wild in a well-intentioned attempt to “save” them. These well-meant acts of kindness tend to have the opposite effect. Young animals may appear to be “abandoned” but the adult is likely close by, waiting for you to leave. The best thing you can do for young wildlife is to leave them alone.

If you are absolutely certain a wild animal has been injured or orphaned, before touching or moving it contact DEEP’s Wildlife Division at 860-424-3011 (weekdays, 8:30 AM-4:30 PM), DEEP’s Emergency Dispatch Center at 860-424-3333 (after hours or on weekends), or your local nature center. You also can find a DEEP authorized wildlife rehabilitator at www.ct.gov/deep/wildlife.

To protect vulnerable young wildlife, people are urged to keep cats indoors and dogs on leashes. Countless numbers of rabbits, squirrels, birds, and other wildlife fall prey to pets every year.



Eagle Scout Project to Build Bat Boxes

Nathan Lieske of Franklin Boy Scout Troop 15 recently completed the construction of 20 bat boxes as part of his Eagle Scout Service Project sponsored by Kate Moran, DEEP Wildlife Division biologist. Nathan started with a plan, raised the funds, obtained donated materials from local businesses, and rallied volunteers to follow through with this ambitious project. “These are among the highest quality bat boxes I have seen,” commented Jenny Dickson, DEEP Supervising Wildlife Biologist. Nathan also made a generous gift of over \$370 that he raised himself and donated, along with the bat boxes, to the Wildlife Division’s Wildlife Diversity Program. DEEP is very grateful for Nathan’s fine work and interest in bat conservation. Thank you, Nathan!

Kate Moran, DEEP Wildlife Division

Bald Eagle Returned to the Wild

On April 1, 2016, State Environmental Conservation Police Officers responded to a call about a sick or injured bald eagle at the Thomaston Dam. Upon arrival, it was obvious to the officers that the mature eagle was in need of assistance. Officers were able to capture the eagle quickly and immediately transported him to the Wildlife Rehabilitation Clinic at Audubon Sharon for medical care. The eagle was in critical condition but was stabilized under the supervision of Wildlife Rehabilitation Specialist Sunny Bettley and a dedicated core of volunteers. The first 24 hours were touch and go, but the next morning he was more alert, more aggressive, and standing on his own. It appeared that there was some form of toxin in the eagle’s system, and that his liver was being affected. A blood sample was collected by a veterinarian and sent out for a detailed analysis to determine the type of toxin. Other than the internal issue, the eagle was in very good physical condition with no physical injuries. This male eagle had been banded (#32-16) by the DEEP Wildlife Division in 2009 as a chick in a Connecticut nest.

The blood test revealed high levels of lead and mercury. These heavy metals likely accumulated in the eagle’s system through eating contaminated fish from rivers. Lead and mercury are long-lasting in the environment. These toxins tend to bioaccumulate in organisms (such as fish) that ingest them, meaning that the animal’s body retains the toxin in its tissues. If that animal is eaten, the toxin passes to the predator’s body. This is how toxins in river sediment disperse so far through the food web.

Another toxin identified in the eagle’s blood was pentobarbital, a controlled substance used by licensed veterinarians as a humane euthanasia injection for pets and livestock. Accidental secondary poisoning of pentobarbital is unfortunately frequent in eagles and other scavenging species that feed on the carcasses of animals euthanized with this drug. Improper disposal of a euthanized animal, such as leaving it in a field, putting in a landfill, or not burying it deep enough, poses a secondary risk of poisoning to wildlife, just like what happened with this bald eagle.

Part of the eagle’s medical treatment and rehabilitation involved intensive fluid therapy and vitamin supplementation. Final blood work results showed dramatic improvement! Due to his excellent recovery, the bald eagle was returned to freedom at the location where he was found (Thomaston Dam) on May 12, 2016. The release was smooth and successful.

Thanks to the combined efforts of Audubon Sharon’s dedicated staff and volunteers, Dr. Shary Siksay, DVM of Stone Veterinary Clinic, and the Connecticut Environmental Conservation Police, the bald eagle recovered and was able to be returned to the wild!

Learn more about Audubon Sharon’s wildlife rehabilitation facility – the only staffed facility in the Northwest corner serving Connecticut, Massachusetts, and New York – at <http://sharon.audubon.org/>.



J. KELLNER / SHARON AUDUBON

Special Thanks to the Connecticut Waterfowl Association

The Connecticut Waterfowl Association (CWA) has been a conservation partner of the DEEP Wildlife Division for many years. The organization's mission is "to preserve, reclaim, and enhance wetland and wildlife habitat in the state of Connecticut in a manner that promotes the wise use of our natural resources and the progress of society." Cooperative projects have included outreach efforts, a waterfowl mentoring program, assistance with the statewide wood duck nest box program, and funding assistance to the Wildlife Division for equipment and habitat enhancement projects.

Recently, 13 members from CWA, including E. Paul Daniels, Don Turecek, Rick Boucher, Wil Iturrino, Rich Chmiel, Brad Keltonic, Jim Gavin, David Lershc, Gary Stango Jr., Dieter Bromkamp, Heide Mizak, John Barry, and Paul Capotosto met at Deerborn Barn in East Windsor to build 89 wood duck nest boxes to donate to the Wildlife Division for use on state wildlife areas.

The Wildlife Division extends its gratitude to the CWA volunteers for donating their time and talents to a valuable conservation project!



COURTESY CONNECTICUT WATERFOWL ASSOCIATION

CWA volunteers E. Paul Daniels, Don Turecek, Rick Boucher, Wil Iturrino, Rich Chmiel, Brad Keltonic, Jim Gavin, David Lershc, Gary Stango Jr., Dieter Bromkamp, Heide Mizak, John Barry and Paul Capotosto recently built 89 wood duck nest boxes and donated them to the Wildlife Division for use on state wildlife areas. Wood ducks will readily nest in special boxes when natural tree cavities are not available.

Exploring the Natural World through a Camera Lens

Growing up in Connecticut, just outside the city limits of New Haven, my interest in the natural world stems back to my early childhood days when I spent most of my time observing wildlife in the field. Pursuing my passion for wildlife, I earned a Master of Arts degree in Ecology and Environmental Science from Central Connecticut State University and shortly thereafter, founded the environmental consulting firm, CTHerpConsultant, LLC, specializing in amphibian and reptile research, conservation, and preservation.

I have always had a fascination with photographically documenting nature and wildlife subjects. Capturing images that ignite interest and questions from viewers, I quickly realized the intrinsic value of photography in my pursuit of conservation. In 2014, I created www.ctherpetology.com to aid in the identification of Connecticut's amphibians and reptiles, which to date, has served over 2,000 Connecticut residents and 4,000 national residents. My most recent photographic endeavor has been the documentation of the astounding species diversity that surrounds our daily lives. This project developed into my first book – *Macrophotography: Capture Larger-Than-Life Photographs of Nature's Smallest Subjects* – to be published by Amherst Media and released in September 2016.

Macrophotography facilitates the capture of small photographic subjects in life-size or larger magnification, allowing viewers to experience the world around them in a way that is simply not possible with the naked eye. A magnified view allows us to see the distinctive composition of plants and animals, their textures, details, and features that otherwise go undetected.

In this book, I turn my macro lenses upon the natural world to show readers how to choose, identify, and use the tools they need to capture images of insects, flowers, amphibians, reptiles, and more. In this 60-section book, I detail 25 insects, 15 flowers, 10 amphibians and reptiles, and include 10 in-studio sessions. Readers will learn the "where and how" of locating subjects, incorporating backgrounds that accentuate the overall impact of the image, shooting insects in flight, and other skills that will increase the likelihood of capturing technically strong, visually rewarding photographs. In each section, readers will observe one to three images of a unique subject with

detailed instructions on how the image was shot – including the equipment used, selected camera settings, lighting conditions, camera angle, and more.

This book is more than an instructional photographic text; it provides an inspiring and enlightening blend of photographic technique and fascinating science lessons. In each of the 60 discrete sections, I present information about each subject – describing their life cycles, feeding habits, mating rituals, breeding, and much more.

For anyone interested in photography or nature and wildlife, *Macrophotography: Capture Larger-Than-Life Photographs of Nature's Smallest Subjects* is available for pre-order through Amazon.com by clicking on the book cover link on my website www.dennisquinnphotography.com. Keep an eye out for a gallery show featuring select images from this book and a nature photography program to be held at the Wildlife Division's Sessions Woods Conservation Education Center later this fall.

Dennis Quinn, Environmental Scientist/Nature and Wildlife Photographer. Dennis has assisted the DEEP Wildlife Division with various reptile and amphibian research projects.



Mutation of White Pine Blister Rust Is Cause for Concern

White pine blister rust (WPBR), caused by the fungus *Cronartium ribicola*, is an aggressive and non-native pathogen that was introduced into eastern North America in 1909. Since its introduction, the pathogen has killed millions of five-needle pines and has nearly eliminated western white pine throughout its native range. While New England has only one native five-needle pine, eastern white pine (*Pinus strobus*), this tree is abundant and widespread in forested and managed landscapes. The environmental conditions required for development of WPBR are not as easily satisfied here as they are in western North America, but the disease has killed countless white pines over the past century in New England.

Many, but not all, rust fungi require two botanically unrelated hosts to complete their life cycle. In New England, the WPBR fungus also infects *Ribes*, commonly known as gooseberry and currant. *Ribes* are small, woody shrubs that are native to New England forests. However, the introduced European black currant (*R. nigrum*) was widely planted for berry production after European settlement and is especially susceptible to the disease. As a result, the import, cultivation, sale, and planting of black currant was outlawed under a federal quarantine and eradication ban enacted in the 1920s. After an intensive program of manual eradication lasting from the 1920s through the 1950s, the *Ribes* population was reduced in New England. Consequently, the federal ban on *Ribes* cultivation and sale was lifted in the 1960s. Despite the relaxation of the federal ban, state quarantine and eradication laws still exist today in many eastern states. Connecticut currently does not have a ban on planting *Ribes*.

In the early 2000s, the pressure to lift the ban in some states on cultivation and

sale of *Ribes* intensified, led by commercial berry growers. Numerous cultivars of currants and gooseberries with immunity to WPBR had been developed and were marketed as safe for commercial production. Commercial production of currants and gooseberries continues to increase as berry growers expand into this niche market.

In 2008, researchers in Connecticut



Eastern white pine afflicted with white pine blister rust.

America. Through genetic mutation, the new strain of the pathogen is capable of infecting numerous cultivars of black current that were bred for immunity to the disease. The previously immune *Ribes* cultivar has been widely planted by commercial berry growers in the Northeast. Survey results confirm the new strain is present in Connecticut, New Hampshire, Quebec, New Brunswick, and Nova Scotia, in addition to Connecticut.

Widespread concern now exists that WPBR will once again become a serious threat for the long-term health of eastern white pine in New England. Young white pines are more susceptible to the disease because the environmental conditions required for disease development occur most often closer to the ground. While the majority of the white pine population is mature and less susceptible, a considerable number of young white pines exist in



This "blister rust camp crew" from 1919 in Norfolk, CT, was responsible for removing all *Ribes* plants within 900 feet of any white pines and destroying all European black currant plants within a mile of pine stands.

observed the WPBR pathogen on a black currant cultivar (*R. nigrum* 'Titania') bred for immunity to the disease. In light of this discovery, researchers in eastern Canada began surveying rust populations in New England and eastern Canada to determine if a new strain of the fungus had been introduced. The researchers determined that it wasn't a newly introduced strain, but a more troubling scenario; a new, virulent strain of the pathogen had naturally developed in northeastern North

forests and managed landscapes. Symptoms of the disease include top dieback, browning needles, and the presence of stem and trunk lesions accompanied by profuse resin flow. The stem and trunk lesions may appear as rupturing blisters with oozing and hardened resin. Insect infestation may often be visible near the lesions. The fungus invades the tree through the needles and slowly progresses downward to the twigs and branches before finally girdling the main trunk. No control measures exist for the pathogen on white pine and spores have been documented to travel several miles. However, chemical control of the fungus on *Ribes* is possible if performed properly by commercial growers.

Article reprinted with permission from UMass Amherst, the Center for Agriculture, Food and the Environment; author Nicholas Brazee.

Photos courtesy of the Connecticut Agricultural Experiment Station.

Conservation Calendar

Mid-April-August.....Respect fenced and posted shorebird and waterbird nesting areas when visiting the Connecticut coastline. Also, keep dogs and cats off of shoreline beaches to avoid disturbing nesting birds.

Connecticut Hunting & Fishing Days (two events this year!)

- Sept. 10 **CT Hunting & Fishing Day at Franklin Wildlife Management Area**, in North Franklin (391 Route 32), from 10:00 AM - 4:00 PM. DEEP will be hosting its first Connecticut Hunting & Fishing Day at Franklin WMA. A featured activity is a live birds of prey program by A Place Called Hope, from Killingworth. The day features additional activities for all ages, including target shooting; hunting dog and water retriever demonstrations; archery; kid's crafts and activities; hunting and trapping tips; fishing demonstrations; and more! Equipment vendors, sporting clubs, fish and wildlife exhibits, and conservation organizations will also be present. And, it's all FREE! Visit www.ct.gov/deep/HuntFishDay for more details and information about free parking and shuttle buses.
- Sept. 24 **CT Hunting & Fishing Day at Sessions Woods Wildlife Management Area**, in Burlington (341 Milford Street), from 10:00 AM - 4:00 PM. DEEP will be hosting the 6th Connecticut Hunting & Fishing Day at Sessions Woods. A featured activity is a live birds of prey program and a raptor meet-and-greet by Master Class Falconer Lorrie Schumacher from Talons. The day features additional activities for all ages, including target shooting; hunting dog demonstrations; archery; kid's crafts and activities; hunting and trapping tips; fishing demonstrations; and more! Equipment vendors, sporting clubs, fish and wildlife exhibits, and conservation organizations will also be present. And, it's all FREE! Visit www.ct.gov/deep/HuntFishDay for more details. Free parking and shuttle bus service will be available in Bristol at Depot Square across from Bristol City Hall (111 N. Main Street) and in Burlington at Lewis Mills High School.

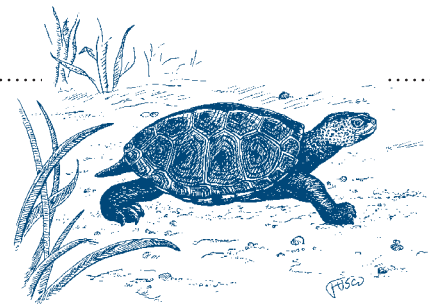
Programs at the Sessions Woods Conservation Education Center

Programs are a cooperative venture between the Wildlife Division and the Friends of Sessions Woods. Please pre-register by emailing laura.rogers-castro@ct.gov or calling 860-424-3011 (Mon.-Fri., 8:30 AM-4:30 PM). Programs are free unless noted. An adult must accompany children under 12 years old. No pets allowed! Sessions Woods is located at 341 Milford St. (Route 69) in Burlington.

- July 7 **Butterfly Talk & Walk**, 10:00 AM. Back by popular demand, Wildlife Division Natural Resource Educator Laura Rogers-Castro will provide participants with a lesson on the basics to butterfly identification, including tips on distinguishing the various butterfly families. Following a brief indoor program, Laura will guide the group on a walk to identify the local butterfly fauna at Sessions Woods. Meet in the classroom located in the exhibit room of the Education Center. Inclement weather cancels.
- July 16 **Forest Floor Exploration**, 1:30 PM. Hidden in the shadows of the towering trees and bustling wildlife, the forest floor is an intriguing place filled with life that is often overlooked. This program offers a lesson on the nutrient cycle, the resources that the forest floor provides to insects and animals, a hands-on investigation of the forest floor contents, insect identification, and a walk around the inner loop trail, 0.5 miles.
- July 30 **Stream Investigation**, 1:30 PM. Come to Sessions Woods for a hands-on exploration of our streams! This program provides a lesson on basic stream ecology, conservation techniques, invertebrates who live in these waters, and how these invertebrates can tell us about the health of our streams. The walk to the stream will be about 1.5 miles round trip.
- August 24 **Children's Program: Pollinators**, 10:30 AM. Children and their caregivers are welcome to join Wildlife Division Natural Resource Educator Laura Rogers-Castro for a look into the world of pollination! Participants will learn about the important bees, butterflies, moths, flies, and beetles visiting the flowers at Sessions Woods. This program is most appropriate for children over 10 years old and will include a one-mile walk. All children must be accompanied by an adult.
- Sept. 10 **Trail Hike**, 1:30 PM. Come to Sessions Woods for a guided trail hike led by Wildlife Division Outreach Program Assistant Kelly Cannon. This trek includes educational mini-lessons on different aspects of Connecticut's forests, research studies, management practices, ecology, as well as a children's scavenger hunt! The hike to the beaver marsh and back will be approximately two miles roundtrip.



Summer is the best time to sign up for a Conservation Education/Firearms Safety course. Plan ahead before the hunting seasons start.



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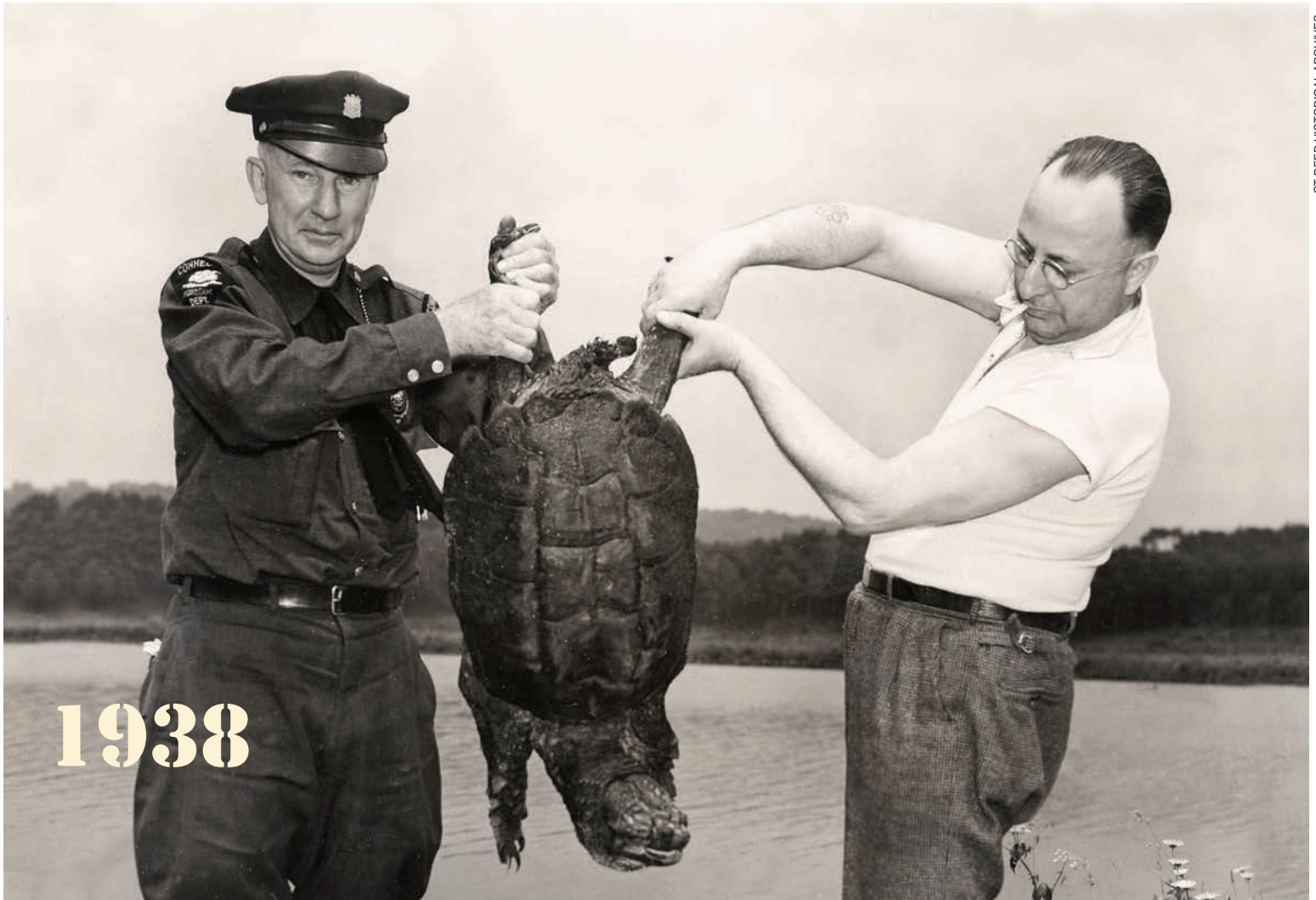
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This tail-less snapping turtle, which weighed 48 pounds, was removed from Lake Whitney in New Haven on June 16, 1938, by Deputy Warden Eugene Johnson and Patrolman Adam Montague. It was estimated that the turtle would have weighed 50 pounds if the tail had not been missing.