July/August 2003

Connecticut Wildlife

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BUREAU OF NATURAL RESOURCES ● WILDLIFE DIVISION

From the Director

*The eastern mountain lion (*Puma concolor*), also known as puma, panther or cougar, is an animal that captures the public's attention. Mystery cat, ghost and phantom are other terms that have been used to describe America's largest native cat that supposedly was eliminated from the eastern United States and Canada more than 100 years ago. But if mountain lions are indeed gone, what are those large, long-tailed cats the public persistently reports year after year? Could it be that the skeptical scientists are wrong? Could it be that a few of these animals survived the human onslaught over the centuries and maintained a toehold on their survival? Could those large predators still be lurking out there? Crikey, America loves a wildlife mystery.*

North America was a much different place when the first colonists arrived nearly 500 years ago. Wolves and mountain lions roamed the Connecticut hills, along with black bear, moose and deer. However, in short order, the Europeans cleared the forest, hunted out the game animals and persecuted the predators, especially the wolves and mountain lions that presented the greatest threat to life and livestock. While the ranges of moose and bear were reduced to remote areas of northern New England, it is generally assumed that the extirpation of the mountain lion was more complete. If the last animals were not killed outright, their populations in the eastern United States and Canada were reduced to unsustainable levels.

The forest has returned to Connecticut, as have many wildlife species. With reforestation, protection and management contributing to their recovery, black bear and moose have methodically expanded their range southward year after year, generation after generation. Their recovery has been well documented by sightings, tracks, signs, photographs and other evidence. However, the closest documented wild populations of mountain lions are in central Canada and Florida, at least a thousand miles from Connecticut. Reoccupation of their range in southern New England through natural expansion is highly unlikely, at least in the foreseeable future.

So if populations did not persist here and recolonization is not occurring, what is it that people are seeing? We have visited many sites where "mountain lions" were seen under good snow conditions and we have concluded in every case that the animal was misidentified, usually a coyote or a bobcat. The tracks have been definitive. Furthermore, we have not documented any other evidence to conclude that mountain lions live in the wild here. In particular, no road kills have been reported, which one would suspect given the large home range of a mountain lion and the high density of roads in the state. Certainly some reports from credible observers are difficult to refute, and we don't. However, the most likely explanation for these sightings is the presence of an illegally possessed mountain lion that escaped or was released into the wild. While clearly against the law, we know from experience that can happen.

Dale W. May

Cover:

Found in most forested areas of Connecticut, the red-eyed vireo is our most common and widespread vireo species. To learn more about vireos, see page 10.

Photo courtesy of Paul J. Fusco

Connecticut Wildlife

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

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Four Successful Peregrine Nests this Year

Written by Julie Victoria, Wildlife Diversity Unit Biologist

2003 will be remembered as a great year for nesting bald eagles (see page 3) and nesting peregrine falcons. While it is unfortunate that the Traveler's Tower peregrine pair did not nest this year, four other pairs did nest and produce young.

The P. T. Barnum bridge pair in Bridgeport produced chicks for the fifth year in a row. This year three chicks were banded by DEP Wildlife Division biologist Julie Victoria, with assistance from Mary Baier, of the Connecticut Department of Transportation, Bill Tweed (tugboat operator), Dave Oliveri and Andre Yeldell (safety boat operators), Jon Fronte (labor foreman) and Edward Paulick, L. S. (DMJM & Harris, Inc. Party Chief). The Division extends thanks to all who helped in the peregrine banding process.

A nest box that was put up last year in the Devon section of Milford at an NRG power plant along the Housatonic River (see the July/August 2002 issue) was occupied by a peregrine pair that produced four chicks! Unfortunately, only three chicks lived to be banded. These three were banded with the assistance of Wildlife Division biologist Howard Kilpatrick and Tom Nurse from NRG.

The third peregrine pair was discovered by DEP conservation officer Bill Meyer (recently-retired) while he was checking fishermen on the Connecticut River. This pair produced three chicks that were banded with the assistance of Bill Hallene and Francis Saunders (Providence-Worcester Railroad), Bill Meyers and Ken Roach.

M. BAIER - CT DOT

A DEP wildlife biologist prepares to band three peregrine falcon chicks raised on the P.T. Barnum Bridge in Bridgeport.

The fourth peregrine pair caused quite a commotion during a roofing project on Bayview Towers in Stamford. The pair terrorized the roofing crew with their aerial dive-bombing and caused the project to be suspended until after the nesting season. Peregrines have been present on and off in Stamford for over a decade. In 1994, DEP biologists put a nest box on the Marriott Hotel that was never used by a pair. However, Bayview Towers are located a few buildings away from the Marriott. This pair produced a chick and two unhatched eggs. The eggs were collected during the banding process. Thanks are extended to Bayview Towers maintenance manager Victor Llanos for his assistance and monitoring and to Wildlife Division technician Geoff Krukar.

The Division does not disclose the exact locations of the nests to protect the peregrines from disturbance. In addition, all nests are located in areas that cannot be accessed by the public.

Friends of Sessions Woods Annual Meeting Held in May

Written by Laura Rogers-Castro, Natural Resources Educator

The Friends of Sessions Woods (FOSW) held its annual meeting in May, with about 80 people in attendance. Participants enjoyed a potluck lunch followed by a report given by President Clark Spencer. Announcements by the President included the publication of a new guidebook to Sessions Woods written by Tess Bird, a student at Lewis Mills High School in Burlington. The impressive guidebook tells the history of Sessions Woods and provides a listing of butterflies, birds, mushrooms and plants found at the wildlife management area. The printing of the guidebook was made possible through a grant distributed by the James R. Parker Trust and the Main Street Community Foundation. Guidebooks were made available to members and are being offered to the public through the DEP Wildlife Division's Sessions Woods office at a suggested donation of $5.00. For more information, call the office, Monday through Friday, between 8:30 AM-4:30 PM (860-675-8130).

Officers were also elected during the meeting. Following the business procedures, Division biologist Paul Rego gave an informative presentation on the status of bears in Connecticut that elicited several questions from the audience. Paul described the black bear research project (see the May/June 2003 issue) and talked about some of the experiences he has had recently with the project. Participants left the presentation with some considerable knowledge about bears and expressed appreciation for an afternoon well spent!

The FOSW is an all volunteer organization which facilitates projects and programs that are designed to enhance the value of the Sessions Woods Conservation Education Center as a resource for education, research and the enjoyment of nature. For more information on the organization, contact Laura Rogers-Castro at 860-675-8130 or send an email message to laura.rogers-castro@po.state.ct.us.

It's All in a Day's Work

Helping piping plovers and least terns

Written by Kathy Herz, Editor

Spring 2003 will be remembered for its chilly temperatures, cloudy days and rain that never seemed to end. While we were all grumbling about washed out picnics, lost time in the garden and missed days at the beach, small, brown and white shorebirds known as piping plovers were busy trying to find a place to nest on Connecticut's beaches. Spring is the time when staff from the DEP Wildlife Division and U.S. Fish and Wildlife Service and volunteers from conservation organizations and the Master Wildlife Conservationist Program head to the beach to work before the arrival of hot, sunny summer days, which bring people out in droves to lay on the beach, go fishing or enjoy the great outdoors. The mission of these workers is to initially fence off areas of the beach where state and federally threatened piping plovers and state threatened least terns attempt to nest and raise their young over the summer months. Once these critical areas are fenced off, workers and volunteers check the beaches every day to locate nests, protect them from predators and human disturbance and monitor the birds' nesting success.

P. J. FUSCO (2)

String fencing and informational signs were placed around the piping plover nesting area at Morse Point in West Haven in late April with the help of (from l to r) Wildlife Division biologist Julie Victoria, volunteer Joan Meek, Division research assistant Rebecca Foster, volunteer Dave Skoczylas, Division biologist Kathy Herz, Natural Resources Educator Laura Rogers-Castro and Division photographer Paul Fusco (who took the photo).

The low number of least tern chicks being fledged in recent years is a major concern of biologists. Efforts to help terns have included improving habitat at nesting sites and erecting fencing around large areas where wooden least tern decoys have been placed to lure pairs into these protected sites.

Being a DEP research assistant for the plover and tern project is a tough and sometimes frustrating job, but fortunately it has its rewards in the end. Sure, you get to spend every day at the beach over the spring and summer. But your day is spent walking for miles up and down the beaches, many times while you are carrying heavy fencing that needs to be placed around individual plover nests. The exercise and scenery are great, but the labor can be hard. In April, when string fencing and warning signs are first placed around plover and tern nesting areas, the beaches seem so quiet. Only a few anglers or walkers may be encountered. The plover pairs have arrived from their spring migration and can be seen darting across the sand as they attempt to establish a nesting territory. It's hard to imagine what these birds will have to face when warm, sunny weather arrives.

During the sunny days of late spring and summer is when the job of both the DEP research assistant and the plover monitors can get frustrating. Just as the birds seem to settle on their nests, the chaos begins. The beaches become filled with people. And, with these people comes garbage, which ends up attracting raccoons, rats, gulls and other predators. The people also bring along their dogs, which are not allowed on most beaches but are often left to roam and either end up trampling a nest or scaring off the birds.

The good news is that most people respect the fencing and heed the signs that say "please keep away." Beach visitors are usually even more cooperative after a plover monitor explains the importance of the fences and of not disturbing the birds. However, it just takes a few "bad eggs" who ignore the signs and fences to ruin a whole nesting season for these small birds. The plover monitor's job is to either try to prevent disturbances from happening or to minimize their effects. However, there is only so much a monitor, or even a sign or fence, can do to protect the birds. Every spring and summer the nesting plovers and terns have to contend with trash on the beaches, crowds of people, bonfires, racing ATVs, roaming dogs and house cats, fireworks displays, predators and people who just don't care. It's amazing that they are able to successfully rear their young at all.

And, actually, if you look at the numbers, these birds haven't been faring too well over the years, especially least terns. Although the number of pairs of nesting plovers has increased over the past 12 years and stabilized, the population is still far from recovered. Least terns have been having an even more difficult time. For example, in 1986, 1,141 pairs of least terns fledged 660 young. The numbers have fluctuated over the years, but within the last three years alone, fewer and fewer pairs have nested and only about 26 to 38 young terns have fledged in Connecticut. This has biologists concerned. Human disturbance may not be the only reason why these birds are struggling, but disturbance should be much easier to control than predators, the weather or the tides. All it takes is a little effort from everyone who uses Connecticut's beaches to give these birds the space they need.

So, what is so rewarding about being a plover monitor? If you ask the dozens of people who have volunteered their time to patrol the state's beaches for the sake of plovers and terns, you will probably get a wide variety of answers. But, the one that may stick out the most is the opportunity to make a difference. All of the effort that has gone into the fencing and the patrolling over the years has made a difference. Although exclosing the nests is a time-consuming and labor intensive task, in areas with high predator populations or human and dog activity, it has been very effective. As long as the funding and the volunteer help are available, the Wildlife Division plans to continue its fencing and monitoring efforts for the sake of piping plovers and least terns.

American Woodcock Research Underway

Written by Min T. Huang, Waterfowl Program Biologist

As was mentioned in the March/April 2003 issue of *Connecticut Wildlife*, the DEP is collaborating with the U.S. Fish and Wildlife Service Stewart B. McKinney National Wildlife Refuge and the Wildlife Conservation Research Center at the University of Connecticut on a four-year study of American woodcock. Budgetary cutbacks within the federal government, however, will not allow full implementation of all phases of the study in 2003. The DEP Wildlife Division did not receive the federal funding to live-capture woodcock and fit them with radiotelemetry equipment to assess survival rates and habitat use. The Division is hoping to find alternative funding sources so that this aspect of the study can begin in 2004.

The Wildlife Division did, however, begin a three-year population assessment. Excellent progress also was made on the Geographic Information System (GIS)-driven habitat assessment of the state. The current habitat base in the state was delineated. This was based upon cover type, hydrology and soil type. A summary on the population assessment aspect of the 2003 work is provided below. As the GIS work is refined, and preliminary data on the contaminants analysis is received, there will be further reports.

Population Assessment Study

Thirty woodcock singing ground routes were established throughout the state. These routes were laid out based upon an initial GIS analysis of existing woodcock habitat in the state. Suitable habitat was identified by the GIS analysis. Routes were then established along roads throughout that habitat. Routes were 3.6 miles in length and consisted of 10 listening points. Prior to the actual survey period, the habitat present at each listening point was rated as either poor, good or excellent. Observers conducted the surveys during the evenings in late April or early May.

During the 2003 survey, 76 woodcock were heard. There were significant differences in the average number of woodcock heard at the various sites. Woodcock were heard at 67% of the sites classified as "excellent," while woodcock were heard at 31% of the "good" sites and eight percent of the "poor" sites.

With only the first year of data from Connecticut's surveys, it is difficult to make comparisons with existing USFWS routes. However, the average number of woodcock heard per route on the state surveys (2.53) is higher than the average number on the USFWS routes since 2000 (1.0). As the three-year assessment work is completed, more can be inferred about the data.

The first year of survey results indicates that woodcock were found to be using sites where the habitat was reasonably good. Further research will be conducted to determine why woodcock are found at some sites classified as good or excellent and not at others. If funding can be secured for a seasonal research assistant, habitat characteristics will be quantified along each route.

Long Island Sound: Home to Sea Turtles, too

Compiled by Kathy Herz, Editor

Have you ever wondered if there are sea turtles in Long Island Sound? Because these marine creatures are better known for breeding and nesting in the tropics, most people may not know that sea turtles frequent the waters of the northeastern United States. There are seven different species of sea turtles in the world; four of those have been documented in Long Island Sound during the warmer months. But, once colder weather arrives, the turtles move farther south. All of the sea turtles that frequent Long Island Sound are on both the federal and Connecticut Threatened and Endangered Species Lists. Two are threatened—the Atlantic green and the loggerhead—and two are endangered—the Kemp's ridley and the leatherback. Only bits and pieces are known about the life history of sea turtles. Because these solitary creatures rarely interact with each other outside of courtship and mating, they are difficult to study.

T. GAGNE - THE MARITIME AQUARIUM

The loggerhead is the most abundant sea turtle species in New England waters.

Nesting Habits Best Known

The nesting of sea turtles along beaches in the southern Atlantic coast is a well-documented and much publicized event. The nesting season occurs at different times around the world, but in the United States, it occurs from April through October. Before the nesting season begins, sea turtles make a remarkable migration of hundreds of miles from their feeding grounds to their nesting beaches.

Only females come ashore to nest, usually every second or third year. Males rarely return to land after entering the ocean as hatchlings. Most females return to nest on the same beach where they were born. Female turtles leave the water, usually during the night, and crawl to a point above the high tide line. Using their rear flippers, the turtles dig a teardrop-shaped egg chamber where 80 to 100 eggs are laid. The turtles then cover the eggs with sand and conceal the nest. After nesting, the females head back to the ocean, never returning to tend the nest.

The eggs incubate for about 60 days, depending on the temperature of the sand. The hotter the sand around the nest, the faster the embryos will develop. At hatching time, the young turtles break open the egg shells by using a temporary egg-tooth, called a "caruncle." The young turtles then dig their way out of the nest as a group. The hatchlings leave the nest, usually at night, and head toward the light along the horizon or light reflected off the surface of the ocean. However, if artificial lights are on or near the beach, the hatchlings may become disoriented, travel in the wrong direction and possibly never make it to the water. The hatchlings must get to the ocean quickly before dying from dehydration or predation. Once in the water, the young turtles swim out to sea and are then caught in the currents.

It is not known how long young sea turtles spend in the open ocean, or where they go. Sea turtles grow slowly and may be between 15 to 50 years old before they are able to reproduce. Some sea turtles can live over 100 years. More needs to be learned about the distribution and natural history of sea turtles. What is known is that these animals face many natural and human-caused hazards that threaten their survival.

Threats Faced by Sea Turtles

Sea turtle populations have been seriously reduced worldwide because of human factors. According to the Florida Marine Research Institute, the number of dead and debilitated sea turtles found in Florida has been the highest in the past two years since monitoring began in 1980. The threats to sea turtles are many:

- Recreational and industrial development on Atlantic beaches, along with beachfront and seawall construction, have reduced natural nesting habitats.
- Pollution (oil spills, runoff of chemicals and fertilizers) can seriously impact sea turtles and their food.
- Boat propellers, which often inflict serious wounds on sea turtles, have been responsible for many turtle deaths.
- Population declines in the past have also been caused by overharvesting for food (eggs, meat) and turtle products (leather, tortoise shell).
- Each year, thousands of turtles become entangled in fishing and shrimp nets and drown. In the past, shrimp trawling probably accounted for the incidental death of more juvenile and adult sea turtles than any other source, worldwide. Fortunately, United States regulations now require all shrimp trawlers in the Gulf of Mexico and the Atlantic Ocean to use turtle excluder devices (TEDs) year-round. TEDs enable turtles accidentally caught in nets to escape through a trap door. However, the openings that are currently allowed are not big enough for many loggerhead sea turtles to fit through.
- Discarded plastic bags and wrappers and helium balloons that end up in the ocean can be deadly to sea turtles, as well as to other marine wildlife. These items, when floating in water, resemble the main prey of many sea turtles, jellyfish. When turtles mistakenly eat the plastic or balloons,

their digestive systems become blocked and the turtles eventually die.

You can help sea turtles by not purchasing illegal turtle products, such as leather and tortoise shell items, and by properly disposing of plastic bags, fishing line and balloons. Many sea turtles are tagged for research with metal or plastic markers. Tags are usually on the inside edge of the front flippers; sometimes the rear flippers or the shell may be tagged. If you observe a tagged turtle, **do not remove** any tags. Tag numbers should be reported to the address on the tag or to the DEP Wildlife Division's Wildlife Diversity Unit, 391 Route 32, North Franklin, CT 06254, (203) 642-7239.

Loggerhead

Even though the loggerhead is the most abundant sea turtle species in New England waters, it has rarely been seen or documented in Connecticut waters. However, cold-stunned turtles have been reported on the north shore of Long Island. Loggerheads formerly nested on Atlantic beaches from Virginia to the Gulf Coast. However, today, the breeding range extends from North Carolina to the east and west coasts of Florida. Nesting also occurs on some beaches and bays in the Caribbean.

The loggerhead measures from 31 to 45 inches and can weigh between 170 to 350 pounds. It is readily identified by its reddish-brown carapace (top shell) and broad head. The skull of the loggerhead is broad and massive, providing an anchor for the strong jaw muscles that are needed to crush shellfish, such as horseshoe crabs, clams and mussels. Besides shellfish, the loggerhead also eats jellyfish, sponges, shrimp, squid, barnacles, sea urchins and occasionally seaweed.

Atlantic Green

The Atlantic green turtle lives in shallow ocean waters inside reefs and in bays and inlets. Individuals can weigh between 220 and 441 pounds. It feeds almost exclusively on seaweed (turtlegrass) and green algae as an adult.

Adult turtles have an oval-shaped, smooth carapace without keels (ridged scales). The shell color varies widely from light to dark brown, olive green or bluish black, with brown mottling.

It has been estimated that green turtles migrate with precise navigation up to 1,400 miles between nesting beaches and feeding areas. They seem to make use of a sun/compass orientation similar to that of bees.

An Atlantic green turtle has never been found on the Connecticut shoreline to date. However, the species may occasionally migrate through Connecticut waters during the warmer months. Major nesting grounds are in Mexico, Costa Rica, Guyana, Suriname and Ares Island off Dominica, in the West Indies. In the United States, small nesting populations occur on the eastern coast of Florida.

Kemp's Ridley

As the world's rarest sea turtle, the Kemp's ridley only nests on a single nesting beach in Rancho Nuevo, Mexico. By the mid-1980s, the nesting population had fallen from an estimated 40,000 females in 1947 to 500 to 750. Uncontrolled egg collection, predation, beach erosion and drowning in shrimp trawler nets were the major causes of this species' decline. Nesting adults are usually concentrated in the Gulf of Mexico, while juvenile turtles may extend along the Atlantic coast of the United States. In a recent New York study, the Kemp's ridley was found to be the most abundant species of sea turtle along the shores of New York.

The Kemp's ridley is the smallest of sea turtles, weighing between 80 to 100 pounds. It has been confused with the larger but similar-looking loggerhead turtle. However, the Kemp's ridley can be identified by a yellow plastron (bottom shell) and broad, gray carapace, which is heart-shaped and keeled. The triangular gray head has a hooked beak.

Spider crabs, other hard-shelled sea animals (shrimp, snails) and occasionally marine plants make up the diet of the Kemp's ridley.

Leatherback

The leatherback is the most ancient species of living sea turtle, as well as the largest turtle in the world. Adults can weigh anywhere between 650 and 1,200 pounds and measure five to six feet. The flipper span is enormous, about nine feet on a seven-foot turtle.

The leatherback has a smooth shell covered with leathery skin and lacking horny scutes. The dark brown to black carapace is elongated and triangular. Irregular patches of white may appear almost anywhere; white is predominant on the plastron. The leatherback's proportions and streamlined shape are advantageous for long distance swimming.

In the United States, the leatherback nests mainly along the Florida coast, but nesting has been documented as far north as North Carolina. This turtle may occur in concentrated numbers in the Northeast. Turtles are frequently observed off Stonington and in Block Island Sound during the summer months.

Although turtles do not have teeth, the leatherback has a well-defined projection on each side of the upper jaw. The jaw is used to hold and cut soft-bodied prey (jellyfish). The mouth and esophagus are lined with long, backward-projecting spines that help the turtles swallow jellyfish. The leatherback can even eat the Portuguese man-of-war jellyfish whose poisonous nematocysts (stinging organs) are dangerous to humans. Besides jellyfish, leatherbacks also eat sea urchins, crustaceans, squid, fish and floating seaweed.

The leatherback has the extraordinary ability to maintain a warm body temperature in colder waters. Leatherbacks are pelagic (live in the open ocean) except when nesting on tropical and subtropical beaches. They seem to follow jellyfish migratory patterns, seasonally moving north along the Atlantic coast as far as Canada, then inshore and back south in autumn through the bays and sounds of New England. They winter in the Gulf of Mexico and along the Florida coast.

Want to See a Live Sea Turtle?

The chance of seeing a sea turtle along Connecticut's coastline is pretty slim. However, an exhibit at the Maritime Aquarium, in Norwalk, provides the opportunity to see this magnificent creature up close. Loggerhead sea turtles in a 15,000 gallon habitat are the centerpiece of an exhibit that also includes interpretive displays on sea turtle conservation, life history, behavior, migration and the latest studies. For more information, contact the Maritime Aquarium at 203-852-0700 or www.maritimeaquarium.org.

To learn more about sea turtles, obtain fact sheets from the Sessions Woods office or at the DEP's website: www.dep.state.ct.us. The website for the Florida Marine Research Institute (www.floridamarine.org) is a good resource on sea turtles and it provided some of the information for this article.

New Legislation to Improve DEP's Ability to Manage Wildlife

Written by Dale May, DEP Wildlife Division Director

The 2003 Connecticut General Assembly passed important legislation that will significantly improve the Department's ability to manage Connecticut's wildlife. Public Act 03-192 is comprised of twelve sections that affect a wide variety of wildlife management activities.

Several of the sections provide the DEP Commissioner with additional tools for managing overabundant species of wildlife. In some locations, particularly heavily populated areas, traditional hunting methods are no longer practical for controlling burgeoning populations of wildlife, such as deer and Canada geese. The additional tools will allow the DEP to work with communities and landowners to maintain healthy populations of wildlife at levels compatible with human tolerances. In short, they will allow us to maintain wildlife resources as public assets rather than liabilities. Other sections of this Act provide increased protection for rare species and their habitats.

Some of the highlights of P.A. 03-192 are summarized below. (Note that these summaries do not reflect the actual or complete language in the Act.)

- Improves protection for bald eagles by establishing fines of up to $1,000 and/or up to 30 days in prison for disturbance of any active eagle nest;
- Holds owners financially responsible for all costs associated with the confiscation, care, maintenance and disposal of any illegally possessed, potentially dangerous animal;
- Includes invertebrates as the types of wildlife whose importation, transport and possession are regulated by the Department;
- Requires persons to obtain a permit from the DEP Commissioner prior to administering any chemical or biological substance or making any physical alteration or affixing any device to any free-ranging wildlife;
- Allows the DEP Commissioner to designate areas where attractants can be used for deer hunting;
- Allows municipalities, homeowners associations or nonprofit landholding organizations to take deer or Canada geese at any time, place or method consistent with professional wildlife management principles when a severe nuisance or ecological damage can be demonstrated. As part of the approval process, municipalities, homeowners associations or nonprofit landholding organizations are required to submit a plan describing the problems and the methods being proposed;
- Authorizes the DEP to allow compositions of nontoxic shot for waterfowl hunting as fixed by the regulations of the U.S. Fish and Wildlife Service;
- Removes protection from crows, monk parakeets, rock doves and brown-headed cowbirds when those species are in the act of depredating on crops, wildlife, livestock or when concentrated in such numbers to constitute a public health or public safety hazard;
- Includes farms classified as limited liability corporations as being eligible for free landowner deer permits.
- Allows the DEP Commissioner to take any wildlife, using methods consistent with professional wildlife management principles to protect public health or safety, natural or agricultural ecosystems, listed species or their essential habitat, or when such wildlife is causing severe property damage; and,

Another bill passed by the Legislature (Public Act 03-265) creates tremendous opportunities for wildlife diversity funding. A section of this Act establishes a wildlife conservation commemorative license plate with a purchase fee of $50. A total of $35 from the sale of each plate is to be deposited in a wildlife conservation account that will be used to benefit those wildlife species in the greatest need of conservation. These plates will also have an additional $15 renewal fee. Ten dollars of this fee will be deposited in the wildlife conservation account. Connecticut thus becomes one of many states to use license plates as a way for the public to voluntarily contribute to wildlife conservation. The wildlife conservation account will create a state funding source to match federal grants, such as the State Wildlife Grants program, enabling Connecticut to take better advantage of federal nongame funds.

Public Act 03-192 was proposed by the DEP and had a broad base of support, including conservation organizations, sportsmen, farmers, public health and safety officials, municipalities and land trusts. Public Act 03-265 was initiated by the National Audubon Society and also enjoyed a broad range of support from the conservation and sportsmen communities. The DEP Wildlife Division thanks those who supported these bills, including the legislators who passed them. The management capabilities and funding enhancements created by the 2003 Legislature will benefit Connecticut's wildlife for many years into the future.

Snake ID Made Easy!

Hundreds of snakes are needlessly killed each year because of mistaken identity, fear and misunderstanding. Very often when a snake is found near a home, people panic and may even assume that the snake is dangerous or venomous. Few Connecticut residents realize that they are unlikely to encounter a venomous snake around their home. All of the snake species found in Connecticut are not aggressive and will only bite if threatened or handled. If left alone, snakes pose no threat to people.

To help educate people about snakes, the DEP Wildlife Division has developed a snake identification guide that includes color photographs. The Division hopes that once people are able to properly identify the snakes that live around their homes, they will be more understanding and tolerant of these beneficial animals.

To obtain a copy of the *"Snakes of Connecticut"* guide, contact the Wildlife Diversity Unit at either the Franklin or Sessions Woods offices (address information is on page 2).

Wildlife Habitat in Connecticut: *Shrubland*

Written by Laura Saucier, Habitat Management Program

Shrubland habitat, like many early successional habitats, is a declining habitat type across the New England region. This decline is attributed to residential and commercial development, ecological succession and the absence of fire within Connecticut's landscape.

Colonial Connecticut was primarily forested, but did have areas of early successional habitats due to clearing by Native Americans and the presence of beaver dams and natural fires. By the early 1800s, most of the state's forests had been cleared for agriculture or to make charcoal for the iron industry. However, with the downsizing of farms and the waning of the iron industry, Connecticut's forests grew back. Connecticut is currently 60% forested, the majority of it being mature forest. Fewer acres of young forest and shrubland habitats remain in the state.

P. J. FUSCO

The prairie warbler can be found in old fields and other early successional habitats.

What Is Shrubland Habitat?

Shrubland habitat is characterized by the presence of dense woody vegetation, the majority being shrubs and saplings less than 20 feet tall. The multi-stemmed, woody shrubs create a thicket that is valuable to wildlife. It provides cover from predators and offers excellent nesting sites for birds. The vegetation itself creates many food sources for wildlife in the form of berries, buds, catkins and seeds.

Shrublands are considered a disturbance-dependant habitat type. Some form of disturbance is needed to maintain the low, woody vegetation. Shrublands are in forested areas where the overstory of trees has been removed by a forestry operation, disease or storm damage. This creates a temporary forest opening in which the understory of shrubs and saplings flourish in the newly available sunlight. Common shrub species in the forest understory include blueberry, huckleberry, witch hazel, sweet pepperbush, viburnums, spicebush and mountain laurel.

Eventually, succession marches on and seedlings and saplings grow up into mature trees and the overstory is restored. These forest openings are ephemeral but important because they create different feeding and nesting opportunities for wildlife.

Sometimes shrubland habitats are maintained for long periods by frequent bouts of natural disturbance. Fire and weather conditions, such as wind, salt spray and frost pockets, can maintain an area as shrubland. Wetland soils and poor soils, such as thin, rocky soils found at higher elevations, that are unable to support trees might support persistent shrublands instead. Examples of persistent shrubland communities are riparian zones, scrub oak barrens, coastal/maritime dune shrublands and alpine dwarf shrublands.

Wildlife

Shrubland habitats support various bird species, such as American woodcock, prairie warbler, brown thrasher, blue-winged warbler, chestnut-sided warbler, common yellowthroat, field sparrow, eastern towhee, red-tailed hawk, indigo bunting, gray catbird, golden-winged warbler and yellow-breasted chat. The structure of vegetation in a shrubland is more important to birds than the species of vegetation.

Shrublands are also a habitat abundant with insects. The open canopy offers sunlight, which is important for insects to regulate their body temperature. Grasshoppers, beetles, moths and butterflies that can be found in shrublands are also a primary food source for many birds and mammals.

Many species of mammals will make use of shrublands. The New England cottontail relies on this habitat type for its needs. Other mammals, such as the black bear, bobcat, white-tailed deer, white-footed mouse, masked shrew, eastern mole, woodland vole and various species of bats, can also be found using this habitat.

In Connecticut, transmission line right-of-ways are a major source of shrubland habitat. Electrical companies use herbicides or manually cut out larger trees (but leave shrubby vegetation), keeping these right-of-ways clear for access to the lines for maintenance.

Little Green Birds of the Forest - The Vireos

Written by Paul Fusco, Wildlife Outreach Unit

P. J. FUSCO (2)

Blue-headed vireos have white eye rings that continue to the front of the face. These prominent "spectacles" are one of their diagnostic field marks.

Vireos are small neotropical woodland songbirds similar to warblers. All of Connecticut's species are grayish or greenish above and whitish or yellow below. Some species have wing bars and spectacles and others have eye stripes and no wing bars. Their plumage keeps the same appearance year long.

At first glance, vireos may be mistaken for warblers. Warblers and vireos are both about the same size and they are found in the same habitats. They may also be found traveling together in mixed flocks during their migrations. While warblers have thin, pointed bills, vireos have a heavier bill with a slight hook at the tip. Another difference to look for in the field is their activity level. Warblers move about almost nonstop, hurriedly flitting from branch to branch, while vireos are much less active and more relaxed in their movements.

The white-eyed vireo is the only vireo species with pale colored eyes.

Vireos are beneficial consumers of insects. They may be seen gleaning many kinds of insects, including caterpillars, from the foliage of trees. They will often hop along branches, stopping to investigate the underside of leaves in their search for food. At times when insects are not available they will consume berries.

There are five species of vireos that breed in Connecticut. One other species, the Philadelphia vireo, is an uncommon migrant that breeds to the north.

White-eyed Vireo

The white-eyed vireo is widespread throughout the southeastern United States. However, it is at the northern extent of its range in southern New England. It is most likely to be encountered in the southern part of Connecticut at lower elevations and along river valleys. Lower New London County hosts the highest density of breeding white-eyed vireos in Connecticut.

This bird favors overgrown fields and shrubby habitats containing thickets and saplings with nearby taller trees. It is frequently found along streams and power line right-of-ways.

White-eyed vireos are grayish above and white below. They have yellow on their flanks and yellow around the eye (spectacle), as well as white wing bars and characteristic white eye color (iris).

Blue-headed Vireo

The blue/gray hood of this species contrasts with its olive back and white underside. It has yellowish wing bars, yellow sides and pure white spectacles.

During the breeding season, the blue-headed vireo is normally found in coniferous or mixed coniferous/deciduous habitats. It is the most likely vireo to be associated with coniferous habitat. Except during migration, the blue-headed is the least likely vireo to be found close to human development. In Connecticut, it breeds primarily in the northwest hills of Litchfield County.

The blue-headed vireo, as well as two other western species, the plumbeous and Cassin's vireos, were formerly known as the solitary vireo. The three forms were deemed to be distinct and were split into separate species in 1998. The eastern form of the solitary vireo became the blue-headed.

Yellow-throated Vireo

Frequently encountered singing high in the canopy of the tallest trees, the yellow-throated vireo is a fairly common breeder in Connecticut. Its rising "*three - eight*" song is loud and rings through the understory.

This species has yellow spectacles and a bright yellow throat and breast that contrast with its white belly. It also has two white wing bars.

Yellow-throated vireos are found in deciduous woodlands that have a mix of

P. J. FUSCO (2)

One of Connecticut's most common vireos is the warbling vireo. It is most recognized by its plain, dull markings.

The yellow-throated vireo is our only vireo species showing bright yellow plumage. Also note the yellow spectacles and wing bars.

mature, tall trees and an understory with varying heights. Their territories frequently contain riparian habitat and edges of fields, roadsides or wetlands that are bordered by mature trees.

Warbling Vireo

Warbling vireos are nondescript birds, with dull, grayish-olive plumage above and white below. Their most noteworthy field mark is a whitish eyebrow that borders the crown, which is slightly darker than the back. They do not have spectacles or wing bars. The continuous warbling song of the warbling vireo is easily recognized once the bird is identified in the field.

This widespread species is a fairly common breeder in Connecticut. It prefers open deciduous woodlands, frequently near water. Warbling vireos are found in more open parklike areas than the other vireos.

Red-eyed Vireo

Besides its red eye color, the red-eyed vireo is recognized by its black-and-white eye stripe, plain olive green back, white underside and blue-gray crown. This species does not have spectacles or wing bars.

Red-eyed vireos are one of the most common birds found in Connecticut forests. Their preferred habitat is deciduous woodlands with a mix of small saplings and shrubs, such as witch hazel. They breed in all parts of the state that have suitable habitat. Because they have small breeding territories, red-eyed vireos can be found in large numbers within those forests.

Red-eyed vireos are tireless songsters. Their song is a monotonous series of robin-like phrases that are repeated continuously, sometimes for hours at a time.

Migration

Vireos are considered neotropical migratory birds. That is, their winter range is mainly in Latin America and they migrate to breed in North America. The winter range of the white-eyed and blue-headed vireos includes part of the southern United States, south to Central America. Red-eyed vireos winter as far south as the Amazon River basin, while warbling and yellow-throated vireos winter mainly in Central America.

The movements of vireos coincide with the migration of other neotropical migrants, with most birds arriving in Connecticut from late April to mid-May. In the fall, most have departed by early October. Blue-headed vireos are more tolerant of cool temperatures, and may arrive earlier in spring and depart later in fall than the other vireos.

Conservation

Some vireos, including the warbling and yellow-throated, were once very common in suburban shade tree and orchard areas, but are no longer. The large-scale spraying of insecticides that occurred from the early 1900s into the 1960s is thought to have caused their decline in these areas. The insect-eating vireos were either killed outright by eating poisoned food, or were forced to more remote areas where spraying did not occur.

Nest parasitism by brown headed cowbirds is known to have a negative impact on vireos. Cowbirds parasitize many species, but the open cup nest of a vireo is frequent target for them.

Most species of vireos have shown a population increase in Connecticut since the late 1960s. The only species showing a notable decline over that period seems to be the blue-headed vireo. Because the blue-headed vireo is dependant on coniferous habitat, its population may suffer further from the decline in hemlock forests that is currently happening in Connecticut.

The reforestation of Connecticut that has occurred over the last 100 years has benefitted vireos, especially the red-eyed. Continued good management of the state's forest habitats by the DEP and private landowners will be beneficial to vireos, as well as to many other woodland birds.

The identification and protection of important migratory stopovers sites are critical to the future of all migratory birds, including vireos. The Wildlife Division is working with other government and nongovernment conservation groups to ensure a healthy future for these birds in Connecticut.

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Inch by Inch, Mile by Mile

The Story of the Silvio O. Conte National Wildlife Refuge

Written by Carolyn E. Boardman and Beth Goettel, U.S. Fish and Wildlife Service

Connecticut can take pride in the dozens of wildlife management areas managed by the DEP Wildlife Division. The state is also very fortunate to have two national wildlife refuges managed by the U.S. Fish and Wildlife Service (USFWS), an agency of the Department of the Interior. While similar in some ways to state wildlife management areas, the primary focus of national fish and wildlife refuges is to provide habitats for species that migrate across multiple states. Many Connecticut residents may be familiar with the Stewart B. McKinney National Wildlife Refuge (see previous 2003 issues), which stretches along the state's coastline. However, some may not yet be aware of the newest refuge, the Silvio O. Conte National Fish and Wildlife Refuge, which was established in 1997. This is its story.

Growing Wildlife

Most people think of wildlife refuges as wild places where wildlife is fully protected and nature is allowed to take its course. Actually, most refuges are more comparable to gardens. Just as a gardener picks a sunny spot for some plants and a shadier corner for others, refuge managers target lands for purchase that provide the right conditions to support the species they most want to conserve. A gardener tests the soil, adjusts its pH and adds fertilizer and water to create ideal conditions for producing larger and healthier crops. The refuge manager alters habitats to create ideal conditions for producing larger and healthier populations of desired species. The manager may do this in a variety of ways -- by manipulating vegetation to provide food or cover, by reducing predation pressure or by correcting some other stress that is limiting the populations. A gardener removes undesirable weeds; a refuge manager removes exotic invasive species. Just as some garden plants are robust and will grow anywhere while others must be pampered, habitat generalists like raccoons will thrive almost anywhere, while habitat specialists like orchids or Puritan tiger beetles may be quite rare and a challenge to make flourish.

The Connecticut River watershed probably does not strike you as a wild place that is suitable as a refuge. This 7.2 million acre area stretches through about one third of Vermont, New Hampshire, Massachusetts and Connecticut and hosts 2.3 million people, along with their cities, suburbs and roads. However, there are also rivers, forests and fields that provide various habitats for 59 species of mammals, 250 birds, 22 reptiles, 23 amphibians, 142 fish, 1,500 invertebrates and 3,000 plant species! There are plenty of opportunities to grow wildlife in this garden. So how did this garden grow?

Choosing a Site

Silvio O. Conte, a western Massachusetts congressman, was an avid outdoorsman who enjoyed hunting and fishing. And, he loved the Connecticut River. He was familiar with the USFWS and the National Refuge System and wanted to establish a refuge that would protect the Connecticut River. Staff that penned the Act to establish such a refuge realized that to protect the river, the watershed must be protected, too. In 1991, the U.S. Congress honored the late congressman by passing the Silvio O. Conte National Fish and Wildlife Refuge Act. The seed Silvio O. Conte had planted would grow.

P.J. FUSCO

The lower Connecticut River Valley provides important stopover habitat for migratory birds.

Making a Plan

The Act required the USFWS to "conserve, protect and enhance the natural diversity and abundance of plant, fish and wildlife species and the

ecosystems upon which these species depend . . .” throughout the Connecticut River watershed -- a huge challenge. Up and down the 407-mile length of the Connecticut River, planners and biologists spent several years looking at the land, censusing the species, collecting biological data, determining the threats and designing a new landscape approach that would meet the challenge. Based on the final research, 133,000 acres in 48 Special Focus Areas were selected, representing important habitats for protection of species and habitats at risk.

However, biologists knew that land acquisition alone would not be effective. Many native species are under assault from so many threats. As part of the extensive public input solicited during the planning of the refuge, hundreds of people spent hours discussing diverse opinions about how this refuge could act to fulfill its mission and integrate its activities into the existing framework. A final Environmental Impact Statement and Action Plan was published in 1995. It laid out an ambitious program that recommended providing multiple partnership education centers; technical and financial support for partners (for doing more environmental education and improving habitat management on private lands); and land acquisition.

Recruiting Help

The planners knew success would depend on involving citizens, as well as the conservation agencies and organizations already active in the watershed. The only way to effectively protect native species was to get more people to care and act. Effective citizen ‘guardians’ were needed in every town. Refuge staff made an effort to develop, encourage and support such citizens. From universities to grade schools, garden clubs to snowmobile clubs, land trusts to landowners, timber companies to utility companies, commercial radio and TV to local access, state agencies to municipalities, Conte Refuge partners were thinking regionally and acting locally.

Test Plots

The refuge began with a Challenge Cost Share Grant program in 1996, seeding the watershed with funds for research, inventory, habitat management or education programs. By requiring partners to provide a 1:1 match, the refuge has been able to support about 20 to 25 projects each year, with grants ranging from $500 to $10,000. As local as the study of a town’s biodiversity, or as regional as a workshop for teachers throughout the watershed, the grants started the refuge moving toward its goal. The results of some grants are seen or heard by many, like weekly radio programs. Others, like surveys for rare dwarf wedge mussels or studies on the Puritan tiger beetle, may be less obvious. All the projects have supported people who understand what needs to be done, enjoy doing the work and share their enthusiasm with others. Although much has been learned from testing this pilot grant program, budget difficulties have caused a temporary suspension of grants.


P. J. FUSCO

During migration to and from nesting areas, migratory birds, like the hermit thrush, use habitats in the lower Connecticut River Valley as stopover sites.

Conte Refuge’s conservation work is also accomplished through cooperative agreements with partners that support longer-term activities. For example, to guide future land acquisition and management, USFWS biologists and partners needed to prove whether or not songbirds concentrate along the mainstem of the Connecticut River during migration, as was long speculated. It took three years for the Migratory Bird Stopover Habitat Study, led by Tom Litwin of Smith College, to provide statistically sound data on this question. Over 100 skilled birders were recruited as volunteers to monitor 48 different sites in the four watershed states, six times during each of three different spring migrations. Manomet Center for Conservation Sciences managed the data. The Vermont Institute of Natural Science, the Audubon Society of New Hampshire, Massachusetts Audubon Society and The Nature Conservancy in Connecticut recruited, trained and scheduled the all-volunteer crew. This project established roots for future work that will help protect stopover habitat.

Germination

In 1997, the Connecticut River Watershed Council, one of the refuge’s staunchest supporters, donated the 3.8-acre Third Island in the Connecticut River in Deerfield, Massachusetts, to the USFWS. This first piece of land made the refuge official. The seed had sprouted. Conte Refuge became the 513th national fish and wildlife refuge in the 100-year-old National Wildlife Refuge System!

Growing Season

The refuge has supported hundreds of conservation projects. Here is just a sampling of the early crops:

- One of the partnership outreach projects has touched the hearts and minds of thousands right where the American people spend the most time, watching television and surfing the Internet. A bald eagle pair that has a nest at Barton Cove near the refuge’s headquarters in Turners Falls, Massachusetts, became famous when MassWildlife worked with the Conte Refuge, Northeast Utilities (NU) and others to set up the first “eaglecam” over the active nest in 1996. Five communities in western Massachusetts can watch the daily lives of these spectacular birds and read educational messages that scroll over the cable TV

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Silvio O. Conte Refuge,
continued from previous page

image. With the development of NU's eagle Web page (www.nu.com/eagles/default.asp), nest images taken by the camera were seen all over the world. Immense support and understanding for the importance of protecting threatened and endangered species has grown from this unusual outreach project.

- Another project, dealing with a relatively unknown, tiny species, is the partnership effort to conserve the federally-threatened Puritan tiger beetle. This beetle exists nowhere else in the world but on the shores of the Chesapeake Bay and along the Connecticut River. Once occurring at 11 sites along the river, they have been lost from all but two sites--one in Connecticut and one in Massachusetts. The refuge has been supporting research on the Massachusetts site, with the cooperation of the landowners, MassWildlife and the City of Northampton. Each summer, naturalists mark, observe and follow the adult beetles as they emerge and mate. They do this amidst crowds of beach visitors who have never even heard of the beetle and do not want it to interfere with their activities. Outreach is important to get beach visitors to understand that they can coexist with the beetles if they avoid areas of the beach that are particularly critical to the survival of the larvae.

Weeding

Gardeners know they must vigilantly remove weeds or these aggressive plants will overrun their garden. Refuge managers have the same problem. Exotic invasive plants can become established in natural areas. If they are not controlled, they can out-compete native plants and drastically reduce the value of an area to wildlife. In addition, it is almost impossible to "defend" a natural area that is surrounded by lands where invasives are rampant. How can you weed a whole landscape?

Conte Refuge has been hard at work, building a large partnership effort, the New England Invasive Plant Group (NIPGro), to tackle this problem across New England. The group has decided to stop new invasions into the area and, with the help of funding from the U.S. Department of Agriculture, is busy constructing an early warning and rapid response system. The University of Connecticut is researching historic distributions of invasive plants by examining herbarium records and an on-line atlas is being built. The New England Wild Flower Society is training volunteers to look for invasive plants in natural areas to document their location and extent in habitats across the landscape. This information will be incorporated into the atlas. Conte Refuge staff keeps all NIPGro members informed and will help form local coalitions to stop newly-reported invasions.

As an example of the effectiveness of early detection and rapid response, Conte Refuge staff tackled the infestation of the invasive aquatic plant, water chestnut when it was first reported from a cove in Holyoke, Massachusetts. This plant can cover the water surface, choke out native plants and make swimming, boating and fishing impossible. With the assistance of the City of Holyoke, NU, the Massachusetts Executive Office of Environmental Affairs, the Natural Resources Conservation Service and the Sweetwater Trust, special machines have been brought in to harvest this annual plant from the 16-acre cove each year to keep it from producing new seeds.

Meanwhile, flyers describing the plant were distributed and volunteers were recruited to check surrounding lakes and ponds. Other small, new infestations have been found at three locations in Connecticut and a dozen spots in Massachusetts. Citizen volunteers are assisting with hand-pulling at all these sites, and great progress is being made at extinguishing them.

Growth and Flowering

The Conte Refuge experienced a growth spurt when Champion International Paper sold all of its holdings in New York, Vermont and New Hampshire to the Conservation Fund, which then resold the holdings (with protective easements on some parts) to conservation agencies and timber interests. In Vermont, the USFWS bought 26,000 acres of the lands, which became the Nulhegan Basin Division of the Conte Refuge. Overnight, the refuge went from the smallest to one of the largest in the Northeast. Refuge staff has worked closely with adjacent landowners, the Vermont Agency of Natural Resources (which owns 22,000 acres of former Champion land) and Essex Timber (which bought the remaining 84,000 acres) to inventory resources and coordinate plans for public access to this large land area.

In order to inform and involve citizens so that they can help conserve native species across this large area, it is critical that the refuge be able to deliver effective environmental education and outreach. During planning, citizens asked that the refuge work in partnership with existing education centers rather than build new centers, and so it did. Two cooperative centers opened just last year: one at the Great North Woods Interpretive Center in Colebrook, New Hampshire (in cooperation with the N.H. Department of Transportation), and one at the Montshire Museum of Science in Norwich, Vermont. A third, the Great Falls Discovery Center in Turners Falls, Massachusetts, is still under development. Life-size watershed habitats are being constructed inside historic mill buildings owned by the Montague Economic Development Corporation and the Massachusetts Department of Environmental Management. The word is starting to get out!

Harvest to Come

As the conservation efforts of the Conte Refuge and its partners continue in the watershed, more land will be protected, more habitats will be restored and more native species will live and grow, while more invasive plants will be weeded out. More people will decide to help out, do what they can and let others know about it. As the visitors see the exhibits, attend programs or participate in event at the various education centers, they will see that there is something different about this refuge. It seems to be sprouting up all over the watershed!

Conte Refuge Plans for CT

Connecticut residents should note that the Conte Refuge staff plans to work on a collaboration with the many nature centers and museums in Connecticut to provide outreach and education through that existing network. In addition, three land acquisition projects are currently in progress to add more land to the Refuge in Connecticut. Stay tuned!

The Wildlife Observer

Mansfield Cub Scouts Complete a Conservation Project

From reader Patrick Enright, of Storrs:

"The Cub Scouts of Mansfield, Pack 61, Den 4, recently completed the requirements to earn their World Conservation Award. The scouts learned about recycling and conservation of our natural resources. They learned about different species of birds and fish, and participated in a day of ice fishing on Coventry Lake.

The scouts also needed to complete a den conservation project. Through their scouting experiences, the boys had learned about the American kestrel and its rapidly declining population in Connecticut.

The boys in Cub Scout Den 4, from Pack 61 in Mansfield, constructed nest boxes for American kestrels. From left to right is den leader Patrick Enright, Shane Enright, Connor Coffee, Robert Fusco, Andy Gardiner, Matt Marcellino, Chan-soo Kim, Mitch Vildavs and Jason Murphy.

The Cub Scouts of Den 4 decided to build American kestrel boxes for their den conservation project and place them in a town park that had suitable habitat. The scouts learned that the kestrel does not excavate its own holes and large woodpecker holes may be hard to find. However, the kestrel is attracted to man-made bird boxes.

Over the winter, the scouts gathered the necessary supplies and constructed eight kestrel boxes. A meeting was held with the Mansfield Parks Advisory Committee and, with their cooperation, permission was granted to place the boxes at Mount Hope Park in Mansfield. The park is located in a rural area. It has hay fields bordered by woodlands and the Mount Hope River.

The boxes were placed 15 to 20 feet high in trees bordering a large hay field during the month of March, just in time for the spring breeding season. The scouts plan to monitor the boxes for activity and they plan to maintain them on a yearly basis. It is our hope that this will help the recovery effort of the American kestrel in Connecticut."

Do you have an interesting wildlife observation to report to the Wildlife Division?

Please send it (and any photos) to:

Wildlife Observations
DEP - Wildlife Division
P.O. Box 1550
Burlington, CT 06013

Email:
katherine.herz@po.state.ct.us

(submitted photos will be returned at your request)

Ten Bald Eagle Chicks Fledge in 2003

Written by Julie Victoria, Wildlife Diversity Unit Biologist

The DEP Wildlife Division is pleased to report that the eight bald eagle pairs that set up territories last year returned to the state this year. Six of these pairs produced young, while two pairs lost their eggs early in the nesting season, probably due to the cold weather. One pair of eagles in New London County produced three chicks (see "From the Field" in the May/June 2003 issue). Pairs in Litchfield County, Middlesex County and Hartford County all produced one chick each and two pairs in Hartford County produced two chicks each, for a grand total of 10 chicks! The Division does not disclose the exact locations of the nests to protect the eagles from disturbance and out of respect for the landowners who do not want trespassers on their land.

In order to band and examine the eagle chicks, nesting trees were climbed by Wildlife Division technician, Geoff Krukar, who has been the Division's primary climber since 2001 (see the July/August 2001 issue). Division biologist Julie Victoria examined and banded all 10 chicks, as part of the protective management program for this state endangered species.

H.GOLET

One of Connecticut's newest bald eagle chicks!

FROM THE FIELD

C. YOUELL

Connecticut Envirothon 2003 winning team from Norwich Free Academy. Team members are (from left): Theresa Hart, Team Advisor Heather Botelle, Bryan Dawley, Amanda Hansell, Caroline Church-Reed and Christian Banker.

Norwich Free Academy is Top CT Envirothon Team

The skies were cloudy and it drizzled for most of the event but that didn't dampen the enthusiasm of 31 high school teams as they competed in the 12th annual Connecticut Envirothon competition held at the Tolland Agricultural Center in Vernon. This year's top scoring team was Norwich Free Academy, which edged out last year's winner, Litchfield High School, by three points.

This year's event was located in an agricultural setting, as the special topic was farmland preservation. Bruce Gresczyk, acting Commissioner of the Department of Agriculture, opened the event with a short talk about the importance of agriculture to Connecticut.

During the Envirothon, the school teams visited five testing stations that were located throughout the center's property. Each station contained questions for a separate topic, which included forestry, wildlife, soils, aquatics and farmland preservation. Preparation for the Connecticut Envirothon occurs during the school year when each team of five students studies the five environmental subjects and attends workshops to hone their knowledge of the environment and how it is managed. Subject matter contains not only definitions of terms, but also hands-on identification and applied science questions. The teams had 30 minutes to answer a 100-point test in each subject, using their knowledge and teamwork skills. This year, each team also had to prepare an oral presentation on farmland preservation.

The Envirothon team from Norwich Free Academy will go on to the National Envirothon competition to be held in July in Maryland. We wish them lots of luck.

The mission of the Connecticut Envirothon is to promote environmental awareness, knowledge and active personal stewardship among Connecticut high school students through education and team competition.

Peter Picone, Western District Biologist

Coverts Project Looking for Concerned Forest Owners

The Coverts Project, sponsored by the Ruffed Grouse Society, University of Connecticut Cooperative Extension System and Connecticut Forest and Park Association, is looking for woodland owners and other interested individuals who want to learn more about their forests and the wildlife that live in them in exchange for a commitment to share that knowledge with others in their community. Participants attend an in-depth, three-day seminar which combines indoor and outdoor training. All costs of the seminar, including meals, lodging and educational materials, are covered by the project. In exchange for receiving the training, participants are asked to return to their communities and share what they've learned with others.

This year's seminar will be held at the Yale University Forestry Camp on the 6,000-acre Great Mountain Forest in Norfolk, from September 4 to 7. Anyone interested in participating in the program, or who would like more information, should contact a local Coverts Project Cooperator, their local Extension System office, or Steve Broderick, Extension Forester, at the Cooperative Extension Center, 139 Wolf Den Road, Brooklyn, CT 06234, (860) 774-9600.

Sharon Audubon Festival: August 9-10, 2003

Audubon Sharon and the Housatonic Audubon Society will be hosting the 36th annual Sharon Audubon Festival on Saturday and Sunday, August 9 and 10, 2003, at the Sharon Audubon Center, on Route 4 in Sharon. Both days will be filled with exciting nature walks and presentations, live animal programs, on-going hands-on exhibits, workshops, crafters, music, food and more!

Through a wide variety of programs, activities and exhibits, presented by some of the region's top experts, the Festival strives to increase people's awareness of the natural world.

The Sharon Audubon Festival offers programs for adults, children and families, with topics ranging from birds and reptiles, to the ancient art of charcoal-making and the mystery of bubbles. The event is held rain or shine from 8:30 AM until 5:30 PM. Admission is $6.00 for adults and $4.00 for children. No pets will be allowed on the Audubon grounds. For more information about the event, contact the Sharon Audubon Center at (860) 364-0520 or visit the website www.audubon.org/local/sanctuary/sharon for a full listing of events closer to the date.

Breeding Waterfowl Counted in Annual Survey

Written by Min T. Huang, Waterfowl Program Biologist

DEP Wildlife Division staff completed the annual breeding waterfowl surveys in April. Since its inception in 1989, the states from Virginia north to New Hampshire have participated in this important survey. The survey is ground-based and targets randomly placed square kilometer plots. In the northern states and Canada, breeding waterfowl surveys are conducted from the air along fixed transects. The spring breeding waterfowl survey provides part of the data that drives the Eastern Mallard Adaptive Harvest Management (AHM) models. Outputs from these models determine the lengths and bag limits of duck hunting seasons in the Atlantic Flyway. As the Black Duck and Canada Goose AHM processes become formalized, the data derived from these surveys will be used in those models. Additionally, the survey provides managers with an index to both habitat condition and waterfowl production.

Spring habitat conditions in 2003 were much improved over the dry conditions that prevailed in 2002. A wet winter, followed by a wet spring, resulted in good waterfowl nesting conditions throughout the state. All survey plots contained wetland habitat, a far cry from last year, when 9% of all wetlands were devoid of water and many others were very low. Despite a late spring, timing of waterfowl nesting was fairly typical. In parts of northwestern Connecticut, however, nesting was delayed by a couple of weeks from normal.

As is typical, mallards and Canada geese dominated the survey. Mallard breeding pair estimates were 13,737. This is a 32% decrease from 2002 and 18% below the five-year average. Mallards remain Connecticut's most abundant breeding species and the one-year drop in the estimate is no cause for concern. Canada goose pair estimates were 11,499. This represents a 10% increase from 2002 and does not differ from the five-year average. Despite liberal resident goose hunting seasons and increasing use of permitted control practices, resident goose numbers show no significant downward trend.

Wood ducks benefited from the good water conditions in 2003, and were estimated at 5,476 pairs. This is 31% higher than last year and 12% above the five-year average for this species. Increasing numbers of beavers have resulted in excellent wood duck habitat throughout the state. It is likely that Connecticut now has more wood duck habitat than it did in the early 1900s.

For the second straight year, black ducks were not observed inland. The coastal black duck estimate was 240 pairs. Statewide, the pair estimate was twice last year's estimate but still below the five-year average of 611.

Mute swans were observed in only 7% of the plots. This is half of the observed occurrences from 2002. Only one nesting pair in 2003 was observed in an inland plot, compared with three in 2002. All of the inland observations in the 2002 survey were made on private ponds or lakes. Failed nesters from 2002 may have relocated to other areas which were not covered by the plot surveys this year. Nesting swans continue to be present along the coast, where they were detected in half of the coastal plots. This is an increase from last year, where swans were detected in only one of the coastal plots. In 2001, no swans were detected in any of the coastal plots.

Rare Connecticut breeding waterfowl, such as gadwall and blue-winged teal, were observed during the survey. Interestingly, several ruddy ducks and a pair of lesser scaup also were observed. These two species do not nest in Connecticut, and their presence is further testimony to the dogged persistence of old man winter this year.

Since the beginning of the survey in 1989, there has been annual variation in breeding pair estimates of all species, but particularly with black duck and wood duck counts. These changes in estimated breeding pairs do not correlate with harvest estimates, and are thus likely the result of bias. Much of the variation is likely attributable to bias

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P.J. FUSCO

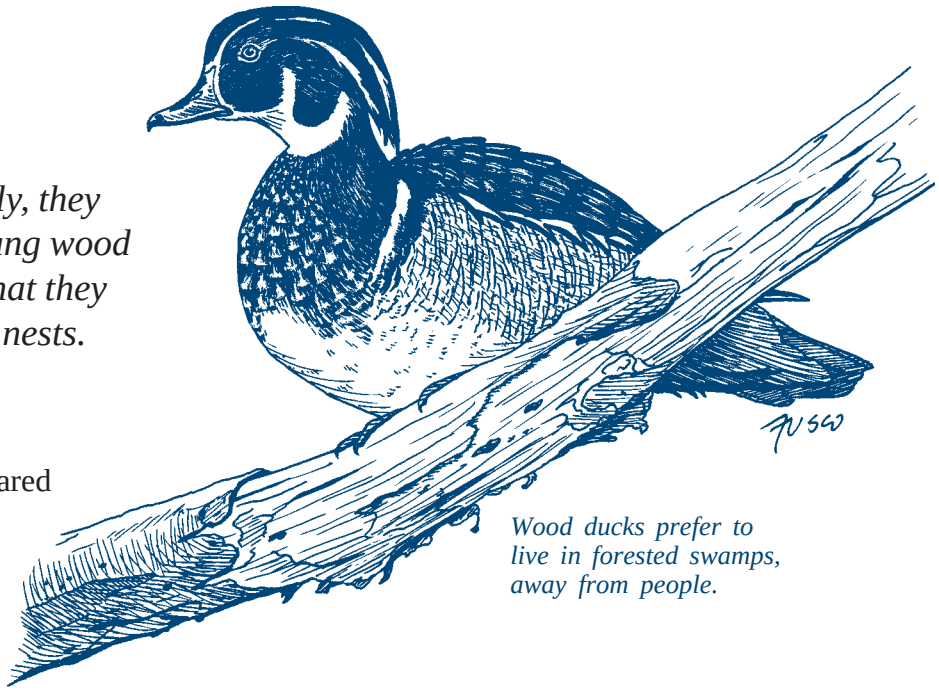
During the breeding waterfowl survey, black ducks are most often observed in coastal areas and rarely at inland locations. This year's pair estimate (240) was twice the estimate for 2002, but still below the five-year average.

Just for Kids

Wood Ducks

A Duck that Nests in Trees?

Yes, wood ducks nest in trees. Actually, they nest in cavities, or holes in trees. Young wood ducks are born with a special claw that they use to climb up out of their tree hole nests.



Wood ducks prefer to live in forested swamps, away from people.

Numbers Game

1. How many wood duck nest boxes are cared for each year by the Wildlife Division and volunteers?

2. How many months of the year are wood ducks found in Connecticut?

3. How much does a wood duck weigh?

4. How big is a wood duck?

Answers below

Prettiest Duck Award

Male wood ducks are very impressive. Their feathers are green, purple, bronze and white and they have bright, red eyes. Female wood ducks, or hens, are mostly gray and light brown, with a white, teardrop-shaped eye ring.

Nest Boxes Help Wood Ducks

In the early 1900s, wood ducks were in danger of becoming extinct due to loss of their wetland habitat, market shooting (the birds were shot and sold to eat) and long hunting seasons. Later, through protection, carefully regulated hunting seasons and the construction of nest boxes, wood ducks have come back!

Twelve Brothers and Sisters!

A wood duck hen usually lays 12 eggs. Although all may hatch, not all will survive to adulthood. Many predators, including snapping turtles, bull frogs and bass will eat young wood ducks. It is not uncommon to see less young with the hen wood duck as days go by.

Answers:

1. 1,000; 2. 9 months, from March to November; 3. 1½ pounds; 4. 15 to 21 inches

Waterfowl Survey,
continued from page 17

introduced by different observers from year to year, changing habitat conditions and the secretive nature of these two species relative to mallards and Canada geese. Mallards and Canada geese readily use park and backyard ponds and large lakes; all highly conspicuous areas. Black ducks and wood ducks typically use more forested wetlands for breeding. Ground surveys can be difficult to conduct, and species using habitats with thick cover can easily be overlooked.

In order to assess some of this variation, 30% of the inland plots and all of the coastal plots were flown by aircraft immediately following the end of the ground surveys. Aerial survey results differed significantly from the ground survey results in both number of birds observed and, in some cases, species. This was the second year aerial versus ground counts were assessed. It is becoming apparent that in certain habitats (i.e., red maple swamps, forested beaver impoundments), aerial surveys provide better data than ground counts.

In Connecticut, breeding waterfowl and all species dependent upon healthy wetland systems face an increasingly uphill battle. Wetland loss, the effects of exotic species invasions and the overall degradation of wetlands have and continue to result in a gradual decline in both species abundance and diversity. The continued acquisition, conservation and enhancement of remaining fresh and saltwater wetlands are of paramount importance to the future biodiversity of Connecticut.

Wildlife Calendar Reminders

July ..... Federal Duck Stamps are available at post offices.

July-August ..... Keep dogs off of Connecticut beaches to avoid disturbing nesting shorebirds. Herons and egrets are nesting on offshore islands in Long Island Sound. Refrain from visiting these areas to avoid disturbing the birds.

..... Dispose of fishing line in covered trash receptacles. Discarded fishing line is a hazard for wildlife.

July 29 ..... **Beaver Marsh Walk**, starting at 9:30 AM, at the Sessions Woods Conservation Education Center, in Burlington. Children and accompanying adults are welcome to join Wildlife Division Natural Resources Educator Laura Rogers-Castro on an interpretive walk to the beaver marsh at Sessions Woods. Stops will be made along the 1.5-mile round trip walk to talk about wildlife habitat. Call (860) 675-8130 to preregister.

August ..... Insects in full chorus in Connecticut's fields.

August 2 ..... **Insect Field Walk**, starting at 10:00 AM, at the Sessions Woods Conservation Education Center, in Burlington. Join Wildlife Division Natural Resources Educator Laura Rogers-Castro for a field excursion at Sessions Woods into the world of insects. Learn about the amazing diversity of insects and how they provide the primary food source for much of Connecticut's wildlife. Call (860) 675-8130 to preregister.

August 9-10 ..... **Sharon Audubon Festival** (see page 16)

August 19 ..... **Teacher Workshop: Insects of Connecticut**, from 9:00 AM-12:00 PM, at the Sessions Woods Conservation Education Center, in Burlington. Call (860) 675-8130 for more information and to obtain a preregistration application.

Aug. 29-Sept. 1 ..... Visit the DEP Wildlife Division's display at the Woodstock Fair.

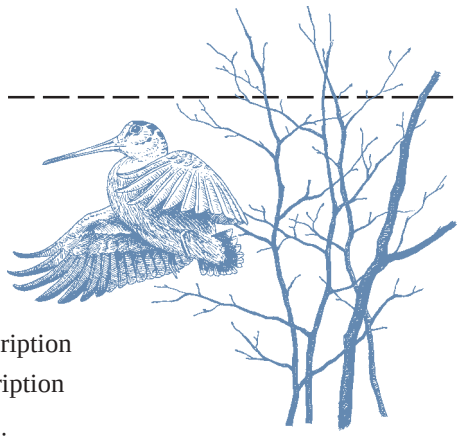
Sept. ..... 2003 pheasant tags available from town clerks' offices ($14.00 for 10 tags).

Sept. 1 ..... Early squirrel hunting season opens.

Sept. 15 ..... Report use of bluebird nest boxes by sending a Bluebird Nest Box Network survey card to the DEP Wildlife Division. Cards are available by calling (860) 675-8130.

Sept. 15-Nov. 18 ... First portion of archery deer and turkey hunting seasons.

Sept. 30 ..... Report use of bat houses to the DEP Wildlife Division. Call (860) 675-8130 for more information.



During late spring and summer, turkey poults stay with the hen turkey, feeding on insects that provide protein for growing young birds.

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