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Connecticut Wildlife

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From the Director



Eight years ago in this column I relayed an experience in which my son Jordan and I found an arrowhead on our family farm in northeastern Connecticut. As I passed that ancient hunter's crafted stone to my four-year-old's hand, I wondered if he would grow to carry on the hunting tradition that has been passed through mankind for thousands of generations. I recognized that he would be growing up in a modern world surrounded by friends, teachers, and media with different interests and perspectives. I realized that the odds might be against him, but vowed not to pressure him to hunt.

Recently, I gave a presentation about a national declining trend in the number of hunters. In general, old hunters are dying off at a greater rate than new hunters are being recruited. Should this concern everyone who cares about wild animals and wild places? You bet! Through the purchase of hunting licenses, tags, permits, and excise taxes, hunter revenues support more than 80% of the budget of most state wildlife agencies. Furthermore, regulated hunting seasons are the only effective way to manage potentially overabundant species, such as deer, so that habitats are protected. In North America, wildlife conservation is synonymous with hunting.

A well-intentioned person in the audience suggested we should evaluate video games as a way to interest modern day youths in hunting. But, in my view, electronic distractions are a problem, not a solution. There is no shortcut to becoming a good hunter. In Jordan's case it was a gradual assimilation into the natural world. Years of learning to walk quietly in the woods, looking up and looking down, identifying the signs and sounds of nature, and observing animal behavior. Studying and understanding the natural order of things through inconspicuous observation. Our schools do not provide this type of education; our mentors do.

On April 28th (Junior Hunter Training Day), after completing 40 hours of home study and an eight-hour field day course to earn his firearms safety certificate and buying his first junior hunting license, after learning to safely carry and shoot the heavy old 12 gauge without flinching, after practicing his turkey calling and doing his preseason scouting, and after getting up at 4:00 AM, my 12-year-old sat tight against a big black birch tree not far from where we found that arrowhead. A gobbling turkey was closing to within 25 yards as Jordan sat motionless, and surely breathless, with the shotgun braced on his left knee. He did not have to tell me how he felt at that moment during his first spring turkey hunt. I knew. (See photograph on the back cover of this issue.)

Dale W. May

Cover:

A northern parula pauses in its search for food. Neotropical migrants, like this warbler, are impacted during migration by such obstacles as communication towers, glass strikes, free-roaming cats, and more. See the article on page 8 to learn more about these bird conservation issues.

Photo courtesy of Paul J. Fusco

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2006/2007 Aerial Deer Survey Indicates Stable Population

Written by Michael Gregonis, Deer/Turkey Program

The DEP Wildlife Division monitors the statewide deer population by a variety of methods, including harvest data, deer hunter surveys, deer-vehicle collisions, homeowner complaints about deer damage, and aerial deer surveys. A statewide aerial deer survey is conducted by helicopter, once every three years, on calm days with complete snow cover to maximize ability to observe and count deer. When assessing aerial deer survey data it is important to remember that many parameters may affect the visibility of deer, including pilot skill, observer experience, wind speed, temperature, timing of survey, and snow conditions. Due to these parameters, there may be a high degree of variability between survey periods. In addition, the aerial deer survey samples about one percent of the total deer habitat in the state. Therefore, trends in aerial surveys should be interpreted using at least three to five survey periods (9 to 15 years) rather than comparing data from one period to the next. The current survey technique and sampling scheme have been used since 1993. Aerial survey information provides a minimum deer population estimate. The survey technique is most useful as a long-term trend index to assess whether the deer population is increasing, stable, or decreasing on a regional and statewide basis.

The most recent aerial deer survey began in January 2006 and was completed in February 2007. In general, the aerial survey is completed during a single winter season. However, in 2006 snowfall did not persist long enough to complete the survey. Survey results indicated that Connecticut's deer population is stable or slightly decreasing with an estimated winter population of 62,163 deer. The aerial survey population estimate was lower than past aerial surveys conducted in 2003 (75,771) and

1999/2000 (76,344). However, the 2006/2007 deer population estimate is significantly higher than the 1993 (49,472) and 1996 (53,955) estimates.

Although the deer population appears to be stabilizing or decreasing in some areas, additional surveys are required to confirm population trends. Harvest data, deer hunter surveys, deer-vehicle collisions, and homeowner concerns indicate that Connecticut's deer population is stabilizing. To continue the wise management of the state's deer population it is important to collect a wide variety of biological and non-biological information. The aerial deer survey is an important component of Connecticut's Deer Management Program.

Additional results from the 2006/2007 survey indicated that Connecticut had a mean deer density of 17 deer per square mile. In 1993, 1996, 1999/2000, and 2003, mean deer densities were 14, 15, 21, and 21 deer per square mile, respectively. In Connecticut's 12 deer management zones, the relative deer densities ranged from 3.6 to 29.4 deer per square mile for the 2006/2007 survey. The highest densities were found in zones 4, 5, and 11. The lowest densities occurred in zones 2, 3, and 12. Although some zones have low overall deer densities, these areas may contain pockets with high deer densities.

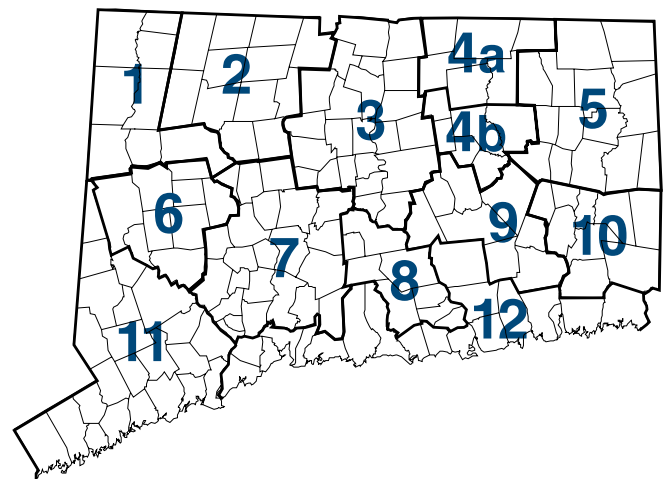
To maintain Connecticut's deer population at or near carrying capacity, the Wildlife Division has adjusted deer seasons, modified bag limits, and encouraged the harvest of antlerless deer in high deer density areas

Projected deer densities in Connecticut's 12 deer management zones based on the 2006/2007 aerial deer survey.

Zone	Average deer/ mi ²	Est. mi ² of deer habitat	Est. deer population
1	20.1	298.9	6,008
2	3.6	359.2	1,293
3	5.2	329.7	1,715
4	24.6	281.4	6,922
5	28.7	505.9	14,519
6	22.5	242.4	5,454
7	14.3	299.3	4,280
8	7.1	175.3	1,245
9	20.4	227.5	4,641
10	18.3	228.1	4,174
11	29.4	349.7	10,281
12	4.8	339.8	1,631
Total	17.0*	3,637	62,189

* Mean statewide deer density.

Deer and Turkey Management Zones



that have been identified through the data collection process. Wise deer management results in healthy deer populations and productive wildlife habitat.

Raptor Nesting Observations Wanted

In an effort to gain more information on nesting raptors, the Wildlife Division would like to hear about any hawk or owl nests you come across. The information needed includes: the nesting species; the location (note the nearest crossroads or property name); the date the nest is found; and your contact information. To report a nest, please contact Shannon Kearney-McGee at 860-675-8130 (Mon.-Fri., 8:30 AM-4:30 PM) or shannon.kearney@po.state.ct.us. There is a log form that is needed to report your information.

More Bears: Den Visits Show Population Growth

Written by Paul Rego, Furbearer Program

P. J. FUSCO (3)



After immobilizing the female bear, Wildlife Division biologist Paul Rego (left) and technician Jason Hawley remove a bear cub from a den.

From late February through March, Wildlife Division staff searched for and examined black bears in their winter dens in the forests of northwest Connecticut. These were not random searches. Radio-collars on the female bears emitted electronic beeps that guided these researchers, listening with receivers, to the spots in which sows chose to hunker



down for three to five months of the winter. The goal was to determine which of the sows had new litters and the number of cubs surviving from the previous year's litters. Cubs stay with the sow for about one-and-a-half years. As a result, sows breed every other year.

The mild weather in the first half of winter and an abundant acorn crop kept many bears active later than normal. In "normal" winters, most bears start denning by late November. This past winter, bears were being reported through December and January and some sows never settled into one den for the whole winter. Unlike pregnant sows, those sows with last year's cubs den later and are less likely to stay in a den. With little or no snow and lots of acorns on the ground, some bears chose to eat and store calories rather than sleep and slowly burn them.

Black bear cubs are typically born in January. The sow wraps around and covers the cubs, providing most of the protection from the winter elements. (Some dens are little more than a bed of leaves raked together by the sow.) Researchers can usually tell if a sow has a new litter by the surprisingly frequent screeches

and whines the cubs let out to express their moments of discomfort.

Days or weeks prior to handling denned the bears, researchers scouted most dens to pinpoint their location and determine if cubs were present. Subsequently, the researchers returned to the dens, used a syringe pole to inject an immobilizing drug into the sow, counted the number and sex of cubs present, and replaced old radio-collars.

Nine of 16 radio-collared sows had litters. Litter sizes ranged from one to three cubs, averaging 2.1 cubs per sow. Similar litter size averages were found over the previous four winters. In March 2006, researchers located five sows with litters. In March 2007, four of these sows were accompanied by yearlings, while one had new cubs, suggesting her 2006 litter was lost. Den visits over the previous four years revealed that more than 80% of cubs survived their first year. Black bears have a low reproductive rate compared to many wild mammals. This is offset by very high survival. Connecticut black bears are reproducing at levels similar to those seen in neighboring states. Given the breeding and survival rates witnessed in Connecticut, the bear population may grow by 10-20% per year.



(Above) Jason Hawley holds a radio collar that will replace a worn out collar from one of the female bears.

(Left) Research assistant Bob Bartholomew records data while biologists check the female bear and her cubs.

People's Actions Critical in Protecting Nesting Birds

P. J. FUSCO (2)



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Beach visitors can take precautions to protect nesting piping plovers and other beach nesting shorebirds.

With the arrival of warm weather, Connecticut residents and tourists begin to flock to the shoreline to enjoy the beaches or to take a boat trip to an offshore island in Long Island Sound. At the same time, some of Connecticut's threatened and endangered birds have already established their nesting territories in the same areas favored by outdoor enthusiasts. The result, depending on the actions of people, can be disastrous.

No one likes to go to a favorite recreation area and see portions of it fenced off from their use. However, this is necessary if piping plovers, least terns, and various species of herons and egrets are to continue to be an important part of Connecticut's biodiversity. Every year, shorebird and waterbird nesting areas, and even the individual nests of piping plovers, are fenced for their protection. And, every year the Wildlife Division tries to spread the word on what Connecticut residents should do or not do to protect the birds. This year is no exception.

Although the availability of suitable nesting habitat is still a limiting factor for plovers, least terns, herons, and egrets, the main problems faced by these threatened and endangered species are caused by the actions of people who use and visit Connecticut's beaches and offshore islands. When nesting birds are disturbed by people who wander too close to their nests or let dogs run off the leash, the birds leave their nests, subjecting the eggs and young to exposure and possible death. Disturbance can alter the feeding of young birds and stress them during their critical growth period.

Littering is another serious problem that not only pollutes Long Island Sound but also attracts predators, like raccoons, gulls, and cats. When picnic leftovers are gone, these predators turn to eggs, nestlings, and sometimes even adult birds as their next meal.

Although the majority of visitors to the shoreline and offshore islands respect the closures and fencing and heed the messages on the signs, there are still some people who do not and their actions have a profound effect on the nesting success of the protected birds. Once again, the Wildlife Division is asking Connecticut residents to help the birds by:

- *Respecting all nesting areas and not approaching or lingering near the birds or their nests.*
- *Picking up and not leaving litter, fishing line, or food scraps on the beaches or offshore islands.*
- *Keeping dogs and cats off nesting beaches and offshore islands. Dogs on beaches are a major disturbance. The birds view dogs as predators, whether or not dogs are on a leash, and flee their nests and young when a dog is in the vicinity. Unleashed, free-roaming dogs do further damage by running through nesting areas, harassing the birds, and crushing eggs and young. Keep cats indoors as they are responsible for countless deaths of nesting birds and their young each year.*
- *Respecting the temporary closures of heron and egret nesting areas in interior portions of Duck Island in Westbrook, Charles Island in Milford, and other offshore islands. Charles Island is designated as a Natural Area Preserve due to its significance in providing critical nesting habitat for the state-threatened great egret and snowy egret, as well as the glossy ibis and other protected herons and egrets.*
- *Contacting the DEP's TIP Hotline (1-800-842-HELP) or local authorities to report any violations or instances when nesting birds are being harassed.*

With the continued help of Connecticut citizens and the many people who volunteer to help protect nesting areas, a future for piping plovers, least terns, herons, and egrets can be ensured.



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Because someone did not properly dispose of fishing line, this six-month-old great black-backed gull ended up swallowing a fish hook, which likely led to a long, slow death for the bird.

Discarded Fishing Line Is Dangerous to Wildlife

The DEP Wildlife Division is asking all anglers to keep fishing areas free of debris and fishing line, and to take particular care in disposing of monofilament fishing line. Carelessly discarded fishing line can seriously harm wildlife. Animals can become entangled in, or ingest the line, whereby starvation, strangulation, or deep wounding are possible.

Ospreys and gulls, as well as other birds, collect line for nesting material, causing hazards for their young and themselves. The prevalence of monofilament fishing line can be seen in osprey nests throughout Connecticut. Most nests contain monofilament, balloon ribbons, and/or plastic that has been scavenged, and the birds can easily be entangled in it.

Most monofilament line is non-biodegradable and can persist in the environment for up to 600 years. Because it is thin and often clear, it is difficult for birds and other animals to see and they can easily become entangled in it. Most often wildlife cannot survive the injuries they sustain from the entanglements.

To dispose of fishing line, cut it into strands about six inches long before depositing it in a secure garbage container (it's a good idea to also cut up plastic six-pack rings, which are another danger to wildlife).

Although monofilament line is the greatest hazard, hooks, lures, and weights are often left behind at fishing sites and consumed by fish and wildlife, causing serious injury or illness. Help protect wildlife and keep your favorite fishing area clean by properly disposing of your trash. And, if you spot some that others have abandoned, properly dispose of that, too. It's the responsible thing to do.

Mount Hope River Restoration: *Using Natural Channel Design*

Written by Brian D. Murphy, Senior Fisheries Habitat Biologist, DEP Inland Fisheries Division

As a fisheries biologist in charge of protecting, enhancing, and restoring freshwater fish habitats in eastern Connecticut, I am often provided with very unique and challenging opportunities to restore stream habitats that have been altered by natural or man-made causes. One such case was the Mount Hope River Restoration Project, located in Ashford on the Out-of-Site farm owned by Mike and Sue Sibiga.

It may have taken years of streambank erosion and uncontrolled access by beef cattle to impact an approximate 1,000 linear feet section of the Mount Hope River, but it only required a brief period of time for the DEP Wildlife Division's Wetlands Habitat and Mosquito Management (WHAMM) Program, under the direction of the DEP Inland Fisheries Division and Natural Resources Conservation Service (NRCS) staff Todd Bobowick and Charles Galgowski, to restore and stabilize this pasture stretch of stream back to a healthy stream and riparian resource. The significant erosion and sedimentation problem in this area of the river allowed for funding by the U.S. Environmental Protection Agency 319 non-point source pollution program, under the direction of coordinator Stan Zaremba.

Objectives of this project were to: 1) restore and stabilize over 1,000 feet of streambank and channel of the Mount

Hope River, 2) restore over 2,000 feet of riparian buffer along the river with a variety of native vegetation, 3) exclude cattle from restored riparian areas, 4) restore instream habitats for fish and other riverine wildlife, and 5) incorporate soil bioengineering and fluvial geomorphology techniques into restoration design and construction, commonly referred to as natural channel design.

Natural channel design is based upon the science of fluvial geomorphology, which is the study of how streams form and affect landforms. Natural channel design uses an understanding of the natural processes of a stream to create a stable stream channel, rather than the "old-school" river engineering approach of forcing a channel into a riprap armored channel. It is based upon placing the subject reach of a river back into "dynamic equilibrium," a condition wherein the stream can effectively transport water and sediment so that streambanks do not excessively erode and the stream channel neither fills-in (aggrades) or downcuts (degrades).

Many different rock and log structures are used in natural channel restoration projects to help stabilize streambanks and maintain natural stream features. The Mount Hope River was stabilized with a combination of bank placed boulders, tree rootwads, logs, biodegradable erosion control fabric,

vegetation plantings, and large boulder structures called cross-vanes and J-hooks. These large rock structures serve key functions in that they help maintain grade control for the streambed, deflect and redirect high stream flows away from streambanks and towards the stream centerline, and create deep water pool habitats that are necessary for the survival of resident fish species. The Mount Hope River system supports a diverse mixture of native stream fish, such as fallfish, white sucker, blacknose dace, and common shiner, as well as a recreational coldwater fishery comprised of hatchery-reared adult brook, brown, and rainbow trout.

Over 250 boulders were used in this project, most of which were buried below the streambed's surface. That's a lot of rock, especially when restoration design often calls for placement of these large boulders to an accuracy level within one-tenth of a foot in elevation. This project could not have been completed without the expertise, diligence, and unwavering patience of equipment operators Steve Rosa, Donnie Hargreaves, and other WHAMM Program staff.

Streambank erosion had caused the channel of the river to severely over widen to as much as 50 feet in some areas. As a result, significant quantities of fine soils, sands, and coarse gravels and cobbles were continuously eroded from the streambanks and deposited in the stream channel, especially after storm events. Over time, the stream channel could not effectively transport these additional materials, further exacerbating river widening. Thus, the restoration blueprint called for filling much of the channel to create a restored and stable stream width ranging between 20 to 36 linear feet. In addition, a gentle sloped bankfull bench was created along the streambank. This portion of the channel/riparian zone interface was planted with wetland vegetation. The bankfull bench is designed to dissipate damaging high stream velocities associated with storm events and also help flood flows gain access to the river's natural floodplain, further dissipating flood energy.

Over 3,200 feet of electric fencing were installed by the landowner to control cattle access and protect restored riparian areas. NRCS Wildlife Habitat



Completed construction of a cross-vane rock structure (note upstream horseshoe shape) designed to deflect flow away from streambanks.

Improvement Program grant monies were used to support this agricultural best management practice. In addition, two engineered cattle crossings were constructed on the Mount Hope River and one on Basset Brook, a small tributary brook, so that cattle can cross these streams to access pasturelands without causing any additional streambank erosion or water quality impairments.

When a restoration project is completed, we don't just walk away from it. In reality, the work has just begun. The Inland Fisheries Division will periodically monitor the project after high stream

events and conduct a ground survey at several stream cross-sections to monitor channel stability. In addition, the resident fish population will be surveyed annually, comparing fish species diversity and abundance to instream habitat conditions prior to restoration. The restored riparian area also will be monitored for invasive plant species, which will be removed before having an opportunity to become established.

Since 1995, the DEP Inland Fisheries Division's Habitat Conservation and Enhancement Program has successfully completed several habitat restoration

projects in eastern Connecticut, using a natural channel design approach, including projects at the Blackledge River (Colchester), Hop River (Coventry/Columbia), and Merrick Brook (Scotland). It is hoped that stream habitat restoration efforts undertaken by municipalities, non-governmental organizations, and private landowners will incorporate the natural stream channel design approach to solve stream instability problems. For additional information on these projects, check out the Inland Fisheries Division section on the DEP website, www.ct.gov/dep.

Turkey Brood Survey Sheds Light on Status of Population

Written by Michael Gregonis, Deer/Turkey Program

In 2006, the Wildlife Division initiated a wild turkey brood survey to assess annual fluctuations in turkey populations. During June, July, and August, volunteers were requested to report all turkey observations, which were broken down into the following categories: hens, poults (young turkeys), gobblers, and unknowns. These observations were analyzed to obtain an annual productivity index and to evaluate recruitment into the fall population. It is well documented that spring weather plays a significant role in determining the rise and fall of wild turkey populations. By evaluating trends over time, changes in Connecticut's statewide wild turkey population can be quantified.

The Wildlife Division received 600 wild turkey observations from 72 cooperators in 2006. DEP staff and the public reported sightings of 3,077 individual turkeys composed of 814 hens, 1,378 poults, 605 gobblers, and 280 unknowns. Twenty-six percent of all hens were observed with poults. The mean statewide brood size (total number of poults/total number of hens) was 1.7 poults per hen. The low poult to hen ratio is probably a result of poor spring weather. However, other factors, such as poor visibility of poults, could also contribute to a lower

index. The survey results also indicated that turkey management zones 2 and 11 had the lowest productivity and zones 6 and 10 had the highest (see zone map on page 3 of this issue). Although, 2006 was the first year the survey was conducted, based on other states' literature, the statewide wild turkey productivity appears to be low.

The Wildlife Division will be conducting the brood survey on an annual basis. If you are interested in participating, contact Michael Gregonis at (860) 642-7239 or by email at michael.gregonis@po.state.ct.us to obtain survey protocol and data sheets.

Brood Survey Results for June 1 to August 31, 2006

	Turkey Management Zones													Total
	1	2	3	4a	4b	5	6	7	8	9	10	11	12	
# of observations	52	145	49	24	21	40	22	35	15	54	16	31	96	600
# of hens	89	181	82	49	24	79	18	47	16	75	18	26	110	814
# of poults	145	187	127	77	39	149	55	71	17	211	88	26	186	1,378
# of gobblers	67	168	64	6	39	36	15	18	30	33	12	26	91	605
# of unknowns	43	47	1	16	25	31	37	17	0	20	7	21	15	280
# of birds observed	344	583	274	148	127	295	125	153	63	339	125	99	402	3,077
# of hens with brood*	22	35	23	10	5	18	8	10	4	26	11	10	32	214
Mean brood size	1.60	1.00	1.50	1.60	1.60	1.90	3.10	1.50	1.00	2.80	4.90	1.00	1.70	1.70
% of hens with poults	24.7	19.3	28.0	20.4	20.8	22.8	44.4	21.3	25.0	34.7	61.1	38.5	29.1	26.3

Total number of cooperators = 72

* Any hen with at least one poult.

Help the Wildlife Division keep track of wild turkey broods by reporting your observations. Contact the Division to learn more: 860-642-7239 or michael.gregonis@po.state.ct.us.

Connecticut State of the Birds 2007

Written by Beva Nall-Langdon, Science Writer for the Connecticut Audubon Society

The Connecticut Audubon Society (CAS) publishes the annual report, *Connecticut State of the Birds*, providing topical information on the current status of Connecticut's native avian species. The reports are not simple "bird counts," but rather a compendium of articles on a common theme written by invited experts and reviewed by an independent editorial board.

Last year's (2006) inaugural issue "Connecticut's Birds and Their Habitats" delineated the six distinct habitats that are home to Connecticut's native bird species and explained how these habitats support their respective species. In 2007's *Connecticut State of the Birds* report, "Specific Threats to Connecticut Birds," the focus is on special hazards to bird populations that are independent of gross habitat loss; these human-induced threats are less obvious than habitat loss but degrade these environments and are surprisingly destructive to native bird populations.

The expert authors discuss what they consider are the five most important threats: 1) in-flight collisions with structural glass; 2) in-flight collisions with man-made towers and other tall structures; 3) predation by domestic cats, both household pets and feral animals; 4) the impact of non-native, invasive waterfowl; and 5) the impact of the increasing population of white-tailed deer.

Glass Strikes

The hazard of structural window glass to bird populations cannot be overstated. Extensive research has proven that in-flight collision with window glass results in traumatic death of more birds than any other single human-related mortality factor. The U.S. bird population is highest in the fall of the year and is estimated to be 20 billion individuals. The annual death rate from glass strikes is estimated to be 0.5–5% of the total population—as much as one billion individuals. In Connecticut, glass kills have been documented to affect many bird species, including 16 of the 21 endangered species, three of the nine threatened species, and nine of the 20 species of special concern.

One long-term solution to minimizing bird mortality from glass strikes is the development of a new glass product

that birds can recognize as a barrier to avoid. The best prospect, already under consideration by the building industry and conservationists, might be clear glass that can reflect long-wave ultraviolet (UVA) light, wavelengths that are visible to birds but invisible to humans. Currently, the only options that increase visibility of glass by birds unfortunately also decrease visibility through glass by humans; these include window screens and other physical screens. For the homeowner, one practical strategy is placing bird feeders close enough to windows to prevent high-speed fatal collisions. The report refers to several websites that help homeowners and building managers mitigate glass-strike mortality of birds.

Tower Strikes

A second threat is the impact of towers and other tall structures on migratory birds. In addition to buildings, communication towers are also of concern. There are currently 1,746 cell phone towers in Connecticut. Other broadcast towers are even taller and require guyed wires, providing even more obstacles to bird flight. Nationwide, communication towers are estimated to kill up to 50 million birds annually.

Collision with communication towers and similar tall structures is not a universal, constant threat. The location of such structures along migration routes, their height, the type of lighting used on the structures, and the presence of guy wires are all factors that affect the level of hazard to migrating birds. The time of year (migration season), time of day (most songbirds migrate at night), and weather are important risk factors. Inclement weather, such as fog and low cloud cover, forces migrating birds to fly at lower altitudes where the risk of collision exists. Under these conditions, the lighting of towers

(necessary to warn pilots of aircraft) is important because birds are actually attracted by the lights of the towers.

Electrical generating and transmission towers are additional threats to birds. Wind turbines are rare in Connecticut but are expected to increase significantly because of rising demand for renewable energy. Tall transmission lines are much more widespread and can



Ovenbirds are among the many bird species affected by multiple man-made threats.

endanger raptors and other species.

Mitigation of avian mortality from tower strikes is challenging. Locating structures away from sensitive areas, such as migration routes, is one step that can be taken. One promising mitigation program has been implemented in several cities located along important migration routes, including Chicago, Toronto, and New York. Nighttime lighting of tall buildings is reduced during migration periods, especially during inclement weather.

Cat Predation

Anyone with a backyard bird feeder can appreciate the impact that domestic cats have on wild birds. Although revered as a household pet, the domestic cat is an invasive species (descended from African wildcats) and a voracious predator of birds and small mammals. Especially damaging to wild birds is the population of feral cats (free-roaming domestic cats with no owners), estimated to number 500,000 in Connecticut. Cats kill at least 3.5 million birds (and probably as many as 45 million) in Connecticut each year.

Feral cats represent the greatest feline threat to Connecticut's wild birds. People frequently feed feral cats at locations that become the nucleus of feral cat colonies. Efforts have been made to reduce feral cat numbers through "trap, neuter, and release" (TNR) programs, but the results have been disappointing. Unless TNR efforts are comprehensive and intense, a feral cat colony will not shrink. A better solution is to trap and remove feral cats, especially those near important wildlife habitats.

Cat owners can take important steps to reduce the impact of their own pets on wild birds in their neighborhood. Contrary to popular belief, simply putting a bell on a cat's collar is of little value in protecting birds. Keeping cats indoors or in outdoor enclosures is the most important measure a pet owner can take to protect local wild birds. The Cats Indoors! Campaign of the American Bird Conservancy provides many useful resources for educating cat owners about how to maintain a happy and healthy indoor cat.

Invasive Waterfowl

The fourth threat discussed in the 2007 *Connecticut State of the Birds* report is that of invasive and non-native waterfowl affecting native birds and habitats. Among native birds, aquatic species are more vulnerable than terrestrial species to habitat degradation caused by exotic and invasive species.

In Connecticut, particular concern centers on the mute swan, mallard, and Canada goose. The mute swan is an exotic species originally from Europe and Asia. This large waterfowl overgrazes aquatic vegetation and aggressively displaces native waterfowl species. Another non-native species that has been introduced is the mallard; this species interbreeds with native ducks, diluting the genetic stock of the wild species. Non-

migratory Canada geese, a subspecies distinct from the migratory variety, have proliferated in recent years. This highly adaptable species that prefers grazing on short grass shoots has taken advantage of park lands, golf courses, and lawns throughout the state, and has increased the nutrient load in many of our wetlands. Their sheer numbers have stressed aquatic ecosystems as well as people's tolerance of their copious droppings on public and private property. Recommendations include increased management of Canada geese, removing mute swans from sensitive habitats, and prohibiting feeding of waterfowl.

Overbrowsing by White-tailed Deer

Overbrowsing of vegetation by white-tailed deer is the last threat discussed in the 2007 report. White-tailed deer eat shrubs, herbaceous plants, and woody seedlings. Increasing populations of deer result in overbrowsing of their preferred food sources. This feeding results in decimation of native plant species of the forest floor and favors growth of invasive shrubs. Native bird species dependent on a healthy forest understory have declined in overbrowsed forests. Meanwhile, species not dependent on the understory have increased, with an overall decrease in species diversity. To restore the natural

balance of plant and bird species, deer populations should be reduced.

Conclusion

Threats to our bird populations, as described in the 2007 *Connecticut State of the Birds* report, are a result directly or indirectly of human activity, whether due to man-made structures, introduced invasive species, or proliferation of native species to the level of nuisance. In conserving bird populations, we need to provide active management and thoughtful development decisions in our state. Specific recommendations by staff of the Connecticut Audubon Society that address these issues are discussed in the full report, which is available at www.ctaudubon.org.



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Guyed and lighted towers are the most hazardous for night-flying migrant birds.

Connecticut's General - The Red-tailed Hawk

Article and photography by Paul Fusco, Wildlife Outreach Program

Perhaps the most well-known and widespread raptor in Connecticut is the red-tailed hawk, a majestic and powerful bird. Red-tailed hawks can be seen almost anywhere in the state, from shoreline marshes to city downtowns. They are commonly seen hunting from a conspicuous perch along heavily traveled highways. There they appear to be master and commander, sitting like sentinels on light poles or other lookouts.

Powerful in all respects, red-tailed hawks are impressive birds. They are strong, agile fliers. They also have strong legs and feet armed with sharp talons, which are used for capturing and killing prey. Once killed, prey is easily ripped apart with the hooked bill.

Red-tailed hawks can have highly variable plumages, but most show a well-defined dark belly band, which can be readily seen from a distance. The topside of the adults' tail is uniformly rust-colored, while the bottom is pinkish. Immature red-tails have a finely barred brownish tail, most distinctly marked on top. Rare plumages include birds that are all white or all dark.

Most of Connecticut's red-tailed hawks are residents, but some may move south in winter. Northern red-tails also migrate through Connecticut. The fall hawk migration in Connecticut runs from September through mid-November. Red-tails usually migrate late in the season. Therefore, the latter half of October through the first half of November is the peak of fall migration in Connecticut.

Hunter

Edge habitat is typically favored by red-tails, providing them with good hunting opportunities. The hawks will hunt from the taller trees along an edge. Over the last 30 or more years, Connecticut has seen a large increase in development that has resulted in more and more forest fragmentation. Forest fragmentation creates edge habitat and red-tailed hawks have benefitted from this increase.

Red-tailed hawks hunt with a "sit and wait" method. By perching in a spot that gives them a view over an open area, they will wait for their quarry to expose itself. Once that happens, the hawks will swoop down to catch their prey. By sitting and waiting, a hawk is able to conserve its energy until the moment



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Red-tailed hawks are probably the most successful birds of prey in Connecticut.

it's needed. In the cold of winter, this method of hunting is most efficient and improves survivability for the hawk in times of low food availability.

All birds have keen eyesight, and hawks are no exception. Hawks locate their prey by sight, so having good eyesight is a life or death matter to them. The resolving power of most hawks' eyesight is far beyond that of humans. It is estimated that red-tails have a visual acuity that is eight times greater than that of a person, meaning that a hawk can see farther with greater clarity.

Vocalist

The characteristic call of the red-tailed hawk is a drawn out, raspy cry of "keeeeer-r-r." It's a distinct call that is easily recognized and often imitated by blue jays.

Sometimes the red-tail call is associated with other more menacing birds in movies and television. In an effort to give a scene a more dramatic impression to the viewer, cameras may show eagles or vultures on the screen, but dubb in the red-tailed hawk's fearsome keeeeer-r-r call.

What Makes a Bird a Buzzard?

The term “buzzard” is a commonly used alternate name for a number of different birds, primarily hawks from the genus *Buteo* and North American vultures. Both groups of birds have large, broad wings and similar soaring flight behavior.

Originally, the name “buzzard” was used in Europe referring only to soaring hawks. Early settlers to North America applied the term not only to soaring hawks (*Buteos*), but to any large soaring scavenger, including turkey vultures, black vultures and, in Florida, the wood stork. Today, those same species are still sometimes called buzzards.

Probably the species that is most often referred to as a buzzard is the turkey vulture. Every year in Hinckley, Ohio, March 15 is celebrated as “Buzzard Day” as that is the approximate day that large numbers of turkey vultures return to the Hinckley area for their nesting season.

Aerialist

Sometimes referred to as buzzards, buteos are powerful, large-bodied hawks with broad-wings and short to medium length tails. Their broad wing surface and fan-shaped tails are designed for soaring. The hawks can be seen using small adjustments in their tail angle and wing position to guide them in the wind.

Red-tails are often seen soaring gracefully over open areas and along ridges where they catch thermals. Thermals are rising currents of warm air that form in places where the sun heats the ground. Thermals allow hawks to gain altitude without expending a large amount of energy. As they soar, hawks can effortlessly cover long distances.

Buteos, including red-tailed hawks, hold their wings flat while soaring, as opposed to turkey vultures which hold their wings in a dihedral or “V” position. This trait is helpful in identifying a large soaring bird from a distance.

Most people have seen birds such as kingfishers and kestrels hover while hunting. Surprisingly, red-tailed hawks may also hover while hunting, with wings beating rapidly like a kingfisher. Although it happens infrequently, it’s a thrilling sight to see such a large bird hover in midair as it scans the ground beneath, looking to target a careless vole in a grassy field.

Courtship flights may be tremendously impres-

sive. Flying at great heights, both hawks will soar together in circles. Then several times, the male will dive down and climb up at steep angles around the female. He will then approach her from above. They touch and, then in a remarkable sight, they will grapple and interlock their talons, going on a spinning dive. Together they plummet to treetop levels before separating.

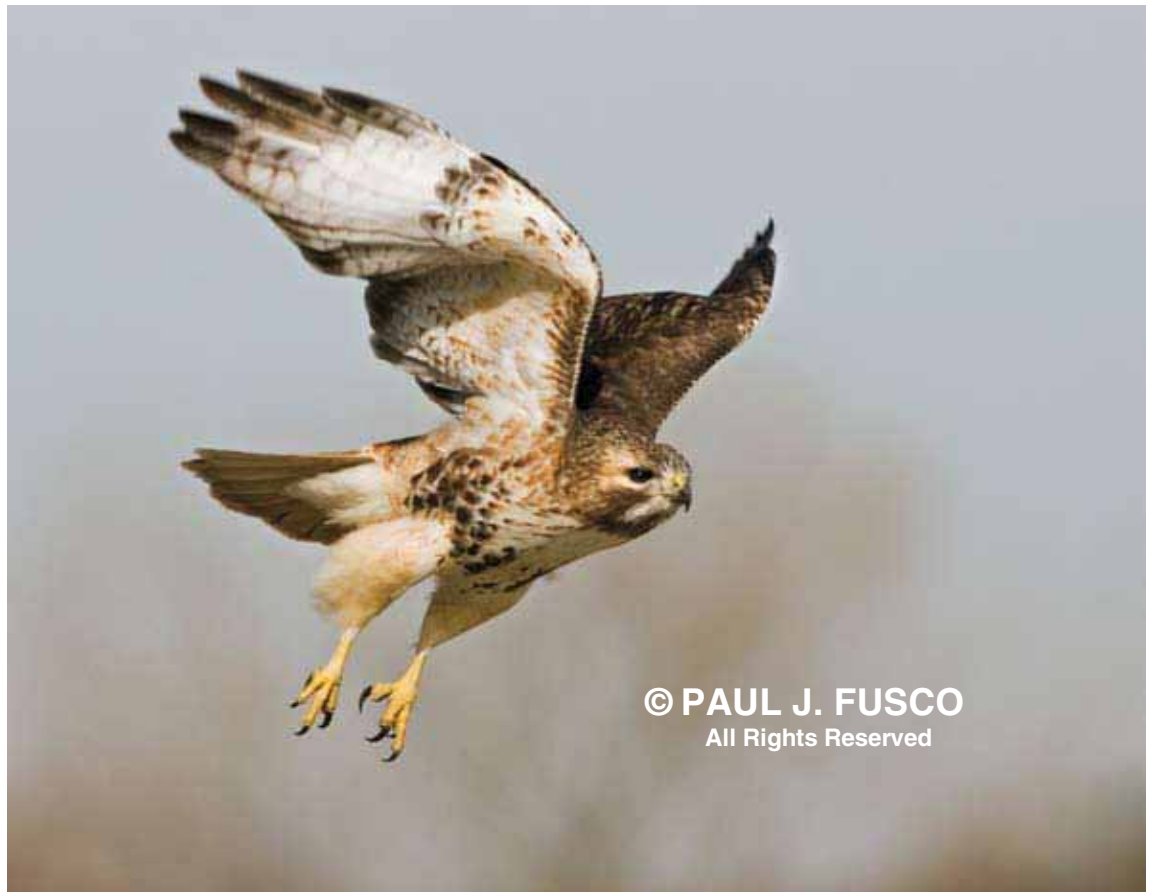
In flight, red-tails are frequently harassed by crows and blackbirds. Often they will remain stoic while under attack, but on occasion the hawk will roll with talons outstretched to ward off their tor-

menter. The attacks may be well justified as crows and blackbirds are sometimes on the red-tail’s menu.

Generalist

Using a wide diversity of both habitat and prey, red-tailed hawks are considered to be generalists. For comparison, ospreys are considered specialists because they feed almost entirely on fish and need to live close to open water. Generalists are usually more adaptable than specialists. Because of their adaptability, generalists can coexist more easily with humans and, in our state, with development.

Being a generalist, red-tailed hawks eat a diverse diet, which includes mice, voles, squirrels, chipmunks, rabbits, birds, snakes, insects, and a variety of other small animals. Red-tails may live in virtually any habitat type in the state. They have a preference for open areas, such as fields, meadows, and edge, but they are also able to thrive in other diverse habitats like woodlands and cities, making red-tailed hawks one of our most successful birds of prey.



Red-tailed hawks belong to the Order Falconiformes (diurnal birds of prey), Family Accipitridae, Genus *Buteo* (soaring hawks).

Farewell to Sara Williams of the Stewart B. McKinney National Wildlife Refuge

Written by Julie Victoria, Wildlife Diversity Program

Along the Connecticut coast, from Norwalk to Westbrook, are 10 pieces of the U. S. Fish and Wildlife Service's (USFWS) Stewart B. McKinney National Wildlife Refuge. For the past six years, USFWS wildlife biologist Sara Williams has been responsible for threatened and endangered species management at the Refuge and her efforts have been invaluable to the DEP Wildlife Division. Sara has been particularly effective in communicating with the public and educating them about the life history of Connecticut's threatened and endangered species.

Two of Sara's projects were focused on the federally endangered roseate tern colony on Falkner Island and the federally threatened piping plovers nesting at Milford Point. At Falkner Island, predation on roseate terns by black-crowned night-herons became a limiting factor on the production of the colony. Sara was instrumental in implementing many management activities to increase protection of the tern colony. Due to her efforts, vegetation used as cover by the black-crowned night-herons during nightly hunts has been removed and will continue to be managed. Implementation of new artificial nesting and hiding structures in the summer of 2003 has made it more difficult for the night herons to reach roseate tern eggs and chicks.

Areas of the Milford Point Unit and other adjacent public and private properties were managed by Sara, along with several partners (Connecticut DEP, Connecticut Audubon Society, and The



After spending six years at the Stewart B. McKinney National Wildlife Refuge, U. S. Fish and Wildlife Service biologist Sara Williams has moved on to new challenges at the Maine Coastal Islands National Wildlife Refuge in Milbridge, Maine.

Nature Conservancy), to benefit federally threatened piping plovers. In order to decrease the amount of disturbance around the nests and reduce the chance of accidental nest destruction, Sara organized volunteers to symbolically string the historic nesting areas each April. This closure of small sections of beach also aids state endangered least terns which are ground nesters like the plovers. Volunteers then monitored the birds and reported their findings to the Refuge. As soon as four eggs were laid in a plover nest, Refuge or DEP staff erected a wire enclosure around the nest. These enclosures are topped with netting and prevent avian and mammalian predators (such as crows, gulls, foxes, and coyotes) from attacking the nest and eating eggs or chicks. The piping plovers are able to fit through the holes in the enclosures to carry on their daily activities.

Sara also helped manage Connecticut's Partners for Fish and Wildlife Program, which restores grassland and wetland habitat throughout the state. In

restoration includes the removal of contaminated soil, dredge spoil, and exotic, invasive vegetation, and the reintroduction of historic hydrology. These activities benefit a number of native species, such as black ducks and spartina grasses.

Grassland restoration includes the tilling or burning of non-native vegetation and the planting of native grasses, such as switch grass, coastal panic grass, and little and big blue stem. Grassland succession is maintained through mowing or burning of these areas to benefit various wildlife species. In fact, the nine acres of grassland fields behind the McKinney National Wildlife Refuge headquarters are maintained for use by ground nesting woodcock.

In March, Sara relocated to the Maine Coastal Islands National Wildlife Refuge in Milbridge, Maine. The Wildlife Division offers best wishes to Sara and cannot thank her enough for her many contributions while she was at the McKinney National Wildlife Refuge.

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partnership with the Wildlife Division, and through the Partners for Fish and Wildlife Program, the Refuge restores an average of 200 acres of wetland habitat and 80 acres of grassland habitat a year. The Partners for Fish and Wildlife Program works with local communities and citizens to restore public and private lands to their historic natural uses. Equipment and technical advice from this program have been used extensively throughout New England and New York. Wetland

The Stewart B. McKinney National Wildlife Refuge conserves more than 900 acres of significant habitat for wading birds, shorebirds, songbirds, and terns. It was named in honor of the late U. S. Congressman from Connecticut who helped establish these protected areas.

Protect Yourself from Lyme Disease

Connecticut can be proud of its many contributions, but being the state where Lyme disease was first identified in 1975 is not one of them. Today, Lyme disease is the leading arthropod-associated disease in the United States with over 285,000 cases reported since 1980. Connecticut has reported over 41,000 cases in the same time period.

Lyme disease is an infection caused by *Borrelia burgdorferi*, a type of bacterium that is carried by deer ticks (also known as black-legged ticks). An infected tick can transmit the bacterium (also called a spirochete) to the humans and animals it bites. Untreated, the bacterium travels through the bloodstream, establishes itself in various body tissues, and can cause a number of symptoms, some of which are severe.

Ticks are bloodsucking external parasites that feed on humans, wild and domestic mammals, birds, reptiles, and others. The longer an infective tick feeds, the greater the chance of infection. Multiple diseases can be contracted from a single tick bite. However, not all ticks are infected. The deer tick is about the size of a poppy seed or the period at the end of this sentence when in its nymphal (immature) stage.

The prevalence of Lyme disease in the Northeast (including Connecticut) and the upper Midwest is due to the presence of large numbers of the deer tick's preferred hosts -- white-footed mice and deer -- and their proximity to humans. White-footed mice serve as the principal "reservoirs of infection" on which many larval and nymphal ticks feed and become infected with the spirochete. An infected tick can then transmit the bacterium the next time it feeds on another host (e.g. an unsuspecting human).

Ticks use carbon dioxide, scent, body heat, and other stimuli to find a host. They will rest on low-lying brush and "catch a ride" on a passing animal or person. The areas that have a high risk of tick infestation are wooded areas, low-growing grassland, and the seashore.

Symptoms and Treatment of Lyme Disease

Anyone can get Lyme disease. Early Lyme disease symptoms may include an expanding red ring-like rash that appears around the area of the tick bite. The rash can resemble a bull's eye with a clear center and distinct ring around it. Other

early symptoms may include flu-like symptoms: fatigue, headache, fever, and achy muscles and joints. The early symptoms of Lyme disease usually occur within the first month after the tick bite. Later symptoms may include arthritis, neurologic problems, and heart problems. These symptoms can occur several weeks to several months later.

Lyme disease may be difficult to diagnose because the symptoms can mimic many other disorders. Blood tests can be helpful in the diagnosis of Lyme disease but should not be used exclusively. It is important that medical attention be sought if Lyme disease is a suspected cause of illness.

Lyme disease is easily treated when it is detected in the early stages. Treatment with oral antibiotics taken for a few weeks are often effective. Intravenous antibiotic treatment may be necessary for patients with late symptoms.

Preventing Lyme Disease

To prevent Lyme disease and other tick-borne infections, the best protection is to avoid contact with ticks. When working or playing outside in areas that ticks inhabit (tall grass and weeds, scrubby areas, woods, and leaf litter) you should:

- Avoid sitting directly on the ground or on rock walls, and stay in the center of paths and trails.
- Wear light colored clothing (to spot the ticks easily), long sleeved shirts, and long pants. Create a "tick barrier" by tucking pants into socks and shirt into pants.
- Consider using insect repellent (those containing DEET are recommended), according to manufacturer's instructions, when planning to be outdoors. Wash off repellents when you return indoors.
- Check often for ticks on clothing and skin while outdoors and do a complete check upon returning indoors. Especially check thighs, groin, arms, underarms, legs, and scalp and remove any ticks promptly.
- Ticks can be killed by heat. Put clothes in a dryer at high heat for half an hour.
- Keep your lawn mowed, cut overgrown brush, and clear any leaf litter away from the home.
- Inspect pets daily and remove any ticks found. Pets can bring ticks in

from outside and put you and your family at risk for infection.

Removing Ticks

- The sooner the tick is removed, the lesser the risk of tick-borne infection. Grasp the tick mouthparts with tweezers, as close to the skin as possible, and pull the tick straight out with steady pressure. Do not yank it out and do not crush the body as it may contain infectious fluids.
- Do not use petroleum jelly, hot matches, nail polish remover, or any other substance to remove a tick. By using these substances, you may actually increase your chance of infection.
- Thoroughly wash the area of the bite with soap and water and put an antiseptic on it. Disinfect the tweezers.
- Place the tick in a small vial labeled with the victim's name, address, and the date. Mark the date on your calendar with the victim's name, place of tick attachment on the body, and general health at the time.
- Contact a physician for recommendations on testing and treatment.
- Watch the tick-bite site and the victim's general health for signs or symptoms of a tick-borne illness. Make sure you mark any changes in health status on your calendar.
- If possible, have the tick identified/tested by a lab, your local health department, or veterinarian.

For More Information

To learn more about Lyme disease and ticks, contact the following agencies or organizations:

Connecticut Agricultural Experiment Station, 123 Huntington St., P.O. Box 1106, New Haven, CT 06504; 203-974-8500 (www.caes.state.ct.us);

Connecticut Department of Public Health (410 Capitol Avenue, P.O. Box 340308, Hartford, CT 06134-0308; 860-509-7994; www.dph.state.ct.us);

American Lyme Disease Foundation (www.aldf.com);

Lyme Disease Foundation (www.lyme.org).

Information for this article was obtained from the sources listed above.

Read the July/August issue to learn more about two other tick-borne diseases -- babesiosis and ehrlichiosis.

The Great Park Pursuit: State Parks Family Adventure Back Again

Returning for 2007, The Great Park Pursuit is Connecticut's outdoor adventure to introduce families to the outdoors, build the next generation of environmental stewards, and showcase Connecticut's state parks and forests. The Great Park Pursuit was an instant success last year. More than 400 families took advantage of the opportunity to get away from their computers and television sets and spend some time together outdoors in Connecticut's great state parks.

"The return of The Great Park Pursuit clearly demonstrates that Connecticut is a national leader in recognizing the strong connection between the outdoors and the health and well being of our children," said Lieutenant Governor Michael Fedele. "Simply put, children are better off when they spend time outdoors. As a result, we are determined to make it easy

and fun for families to spend more time together outdoors."

The Great Park Pursuit, The Connecticut State Parks Family Adventure, is a central element of Connecticut's No Child Left Inside initiative.

The game will take Connecticut families to seven different state parks and forests this season. Families were encouraged to register for the game at: www.nochildleftinside.org.

The Great Park Pursuit kicked-off on Saturday, May 12, at Beardsley Park, in Bridgeport, and will conclude on June 23. Some of the events in the contest are scheduled to take place on specific Saturdays and will be guided by DEP staff. Other activities will be "self-guided" and families in the contest will be able to

visit these locations anytime during the seven-week contest period.

Clues to activities and locations of the contest will be available at the end of each week's activity and on the "No Child Left Inside" website. At each location, teams will be asked to complete at least one activity that highlights the opportunities in Connecticut's state parks and forests, such as hiking, letterboxing, fishing, archery, and more.

Participants are eligible for three grand prizes of outdoor equipment, donated by local retailers, including North Cove Outfitters in Old Saybrook and Ski Market.

Success of No Child Left Inside

No Child Left Inside and The Great Park Pursuit have been well received, not only by Connecticut families, but throughout New England and the nation.

In addition, the DEP has responded to requests to provide material on this initiative to a number of states and to various federal agencies. DEP is also actively involved in coordinating No Child Left Inside activities with neighboring New England states. Both Massachusetts and New Hampshire plan to implement The Great Park Pursuit this year in their own states.

DEP Commissioner Gina McCarthy said, "The No Child Left Inside initiative and The Great Park Pursuit contest are fun and exciting programs for our agency. There is, however, a serious side to it all. Today's youngsters do not have enough opportunities to get outside. We need to help make that happen. We also need to encourage youngsters to love the outdoors and our natural resources. If we fail in this mission, there will be few adults in the future willing to speak up and fight for our environment."

Additional Components of No Child Left Inside

In addition to The Great Park Pursuit, other components of No Child Left Inside include:

→ **Park Passes for Foster Families:** Bank of America is once again donating \$10,000 to the Connecticut Association of Foster and Adoptive Parents (CAFAP) to offer passes to approximately 2,500 foster families in the state. CAFAP will purchase the passes from the DEP and provide them to foster families. With the bank's donation last year, state park passes were provided to more than 1,300 foster families.



→ **State Park Passes at Libraries:** For the second year through a partnership with the Connecticut Library Consortium, public libraries across the state will have a Connecticut State Park and Forest day pass available for patrons. Library patrons may borrow the pass and use it for free parking at the major state parks where parking fees are charged. The pass is also good for admission to any museum located at a state park.

→ **Reading Contest:** DEP is partnering with the CT Library Consortium on their Collaborative Summer Library Program: Get A Clue! Each week throughout the summer, at state parks and forests where there are interpreters, programs and activities will be conducted that tie in with summer reading material available at public libraries.

→ **Park and Forest Interpreters:** Increased staff over previous years will make people's visits to Connecticut's state parks and forests more rewarding and enriching this summer. There are 47 seasonal park interpreters who serve as guides to the parks and teach educational and recreational programs.

Visit a state park, state forest, or wildlife management area this summer. Take a hike, go fishing, try birdwatching, or just enjoy the great outdoors. To learn about what these areas have to offer, visit the DEP website (www.ct.gov/dep).

William T. Hesselton Memorial Award Presented to Paul Rego

Written by Dale May, Wildlife Division Director

Every year at the Northeast Fish and Wildlife Conference (which was held in Mystic, Connecticut, this past April), the Northeast Wildlife Administrators Association presents the William T. Hesselton Memorial Award to a wildlife professional from the Northeast who has made significant contributions that further the ideals and integrity of the Federal Aid in Wildlife Restoration Program. This award was established to honor the memory of Bill Hesselton, an outstanding wildlife biologist, skilled researcher, prolific writer, and tireless advocate for both the wildlife profession and the Sport Fish and Wildlife Restoration Program. This memorial award is a reflection of appreciation for Bill's life-long commitment to the wildlife profession.

The recipient of the Hesselton Award for 2007 was Paul Rego, a Connecticut DEP Wildlife Division Biologist. Paul received his Bachelor's degree from the University of Wisconsin and his Master's degree in Wildlife Management from the University of Maine. For the past 21 years, he has performed the very challenging job of managing furbearers in a highly urbanized state. He has succeeded due to a variety of traits, including: 1) a calm, rational demeanor and an ability to interact positively with the entire spectrum of the general public, from trappers to animal rights activists; 2) a high degree of technical skill and woodsmanship that fosters credibility and respect; 3) an ability to work effectively with the media and policy decision-makers on complex, controversial issues; and 4) his ability to convey a passion for wildlife and the North American conservation model.

Some examples of his major accomplishments include:

→ **Restoration of the Fisher:** In the late 1980s, Paul led a project to restore this extirpated species by coordinating the soft release of fisher obtained from Vermont and New Hampshire. The released fisher were then monitored using radio telemetry and snow tracking. Paul continued to monitor the expanding fisher population and ultimately was successful in establishing a modern day trapping season in Connecticut for fisher. Trapping in the suburban Northeast is controversial and the regulations to establish the new trapping season were vigorously opposed. Paul presented biological data



P. J. FUSCO

Wildlife Division biologist Paul Rego weighs a bear cub as part of a research project to monitor the growth of Connecticut's bear population. Paul was recently awarded the William T. Hesselton Memorial Award by the Northeast Wildlife Administrators Association.

to demonstrate that the fisher population had recovered, that the restoration was a success, and that a trapping season could be administered responsibly with no negative impact on the fisher population.

→ **Black Bear Research and Management:** Paul is one of the Northeast's leading black bear experts and has worked extensively to educate the media and the public about co-existing with bears. He initiated an ongoing radio-telemetry project to assess the growth rate of Connecticut's bear population and the bear den work (see article on page 4) has resulted in a great deal of positive media exposure and public education. Paul is currently developing a statewide black bear management plan based upon his research.

→ **Implementing Trapping Best Management Practices:** As a member and longtime chair of the Northeast Fur Technical Committee, Paul has been active in promoting advances in trapping technology. He led the Furbearer Technical Committee during a time of great activity and change, including the development and implementation of trapping Best Management Practices (BMP) and the Committee's education packet and website. Using BMP results,

Paul developed state regulations to create a two-month land trapping season that provided additional tools for managing coyotes in Connecticut.

→ **Problem Animal Management:** Paul helped develop agency policies for responding to black bear and moose situations that require tranquilization and removal. He is proficient in the use of tranquilization equipment and has been involved in several high-profile, successful immobilizations of bear and moose that occurred within city limits under the glare of the media and large crowds. He trains Environmental Conservation Police Officers who serve on the wildlife immobilization team and his knowledge and experience has earned their respect.

While in his position with the Wildlife Division, Paul has run the Furbearer Program virtually on his own. He has mentored many seasonal assistants, several of whom have become professional wildlife biologists. He has served as an officer in the New England Chapter and Northeast Section of The Wildlife Society and has chaired the Northeast Furbearer and Black Bear Technical Committees. Paul exemplifies the professional dedication and competence that Bill Hesselton's name stands for.



Farmers' Opinions About Deer in Northwest CT

Results for the 2006 Fall Turkey Hunting Season

During the 2006 fall wild turkey seasons, hunters reported harvesting 135 birds from Connecticut woodlands. Harvest and permit issuance declined from 2005 to 2006.

Firearms hunters reported a harvest of 109 birds, representing a 30% decrease from the 156 birds harvested in 2005.

Overall, 2,926 firearms permits were issued

and 86 hunters took at least one turkey for a three percent success rate. Private land hunters (2,287) harvested 95 birds and state land hunters (639) harvested 14 birds. Fall firearms hunters reported taking at least one bird from 46 of Connecticut's 169 towns (27%). The highest harvest was recorded in Easton, where six birds were harvested, as well as in Cornwall, Lyme, Middletown, Sharon, Willington, Windham, and Woodstock, where five birds were harvested in each of the towns. The highest state land area harvest occurred at NU-Maromas Cooperative Wildlife Management Area (3). In addition, the highest zonal harvest was reported in turkey management zones 5 (21 birds) and 1 (17 birds). The final harvest included 35 adult males, 26 adult females, 17 juvenile males, and 31 juvenile females.

Archers reported a harvest of 26 birds, representing a 43% decrease from the 46 birds harvested in 2005. Overall, 2,034 archery permits were issued and 26 hunters took at least one turkey for a 1.3% success rate. Wild turkeys were taken in 20 of Connecticut's 169 towns (12%). The towns of Colchester, Ledyard, Newtown, Redding, Scotland, Stonington, with two birds each, reported the highest harvest. The highest and only state land archery harvest occurred at Cockaponset State Forest (1). The highest zonal harvest was reported in turkey management zones 11 (8 birds) and 12 (6 birds). The harvest included 15 adult males, seven adult females, and four juvenile males.

Although fall turkey harvest and hunter numbers declined during 2006, the firearms and archery seasons remain very popular with avid turkey hunters statewide. Hunters participating in the fall seasons enjoy the challenge of harvesting one of Connecticut's wariest game birds.

Michael Gregonis, Deer/Turkey Program



Hunters participating in the fall archery and firearms wild turkey seasons enjoy the challenge of harvesting one of Connecticut's wariest game birds.

P. J. FUSCO

Management of deer populations requires keeping the populations in balance with existing habitat and at levels acceptable to the public. This often requires surveying the general public, hunters, and specific interest groups or stakeholders, like commercial agriculturalists. In February 2007, the Wildlife Division's Deer Program randomly surveyed 40 farmers in northwest Connecticut to assess their experiences and opinions about the local deer population.

Farmers were evenly divided on their opinions about the growth of the deer herd over the past 10 years (increasing=32%, stable=37%, decreasing=30%). Half of all farmers (48%) would like to maintain the deer population at its current level, 32% would prefer fewer deer, and 20% would prefer more deer. Just over half of the farmers surveyed currently allow hunting on their farms (58%). Only 30% use crop damage permits to reduce damage caused by deer, and an additional 10% have used crop damage permits in the past.

Deer management zones 1 and 2 cover the northwest portion of Connecticut (see map on page 3). In zone 1, 50% of farmers believe the deer population is increasing, 85% allow hunting, and these farmers are divided on whether to expand (55%) or restrict (45%) the current hunting season framework. In zone 2, only 15% of farmers believe the deer herd is increasing, 30% allow hunting, and 70% believe the hunting season is adequate.

Overall, most farmers seem content with the size of the deer herd and the current hunting regulations. However, farmers in zone 2 seem to have fewer deer and were more content with the current deer hunting season framework than farmers in zone 1. Farmers in zone 1 were more likely to allow hunting and believed the deer hunting season framework should be changed, but there was no consensus on how to change it. The survey provides the Division's Deer Program with additional data to consider when evaluating deer management regulations.

Howard Kilpatrick, Deer/Turkey Program



Step Up to the Plate for Wildlife...

... and show your support by displaying a wildlife license plate on your vehicle

There are two great designs to choose from: the state-endangered bald eagle or the secretive bobcat. Funds raised from sales and renewals of the plates will be used for wildlife research and management projects; the acquisition, restoration, enhancement, and management of wildlife habitat; and public outreach that promotes the conservation of Connecticut's wildlife diversity.

Application forms are available at DEP and Department of Motor Vehicle offices and online at www.ct.gov/dmv.

Glastonbury Shooting Range Re-opens for 2007 Season

The DEP's Glastonbury Shooting Range re-opened for supervised public use in April 2007. The range is located within the Meshomasic State Forest off of Toll Gate Road in Glastonbury. It had been closed for the winter period. Following extensive renovations completed in 2004, the range has been open during limited weekend hours for the past two seasons. The range will remain open through November 25, 2007, and will be staffed by seasonal DEP employees that are certified range safety officers.

Hours of operation will be from 10:00 AM – 2:00 PM on Saturdays and Sundays only. There is no fee to use the range. The range will be closed to public use during all other times and DEP Environmental Conservation Police officers will strictly enforce hours of operation. Reservations can be made by contacting the DEP Eastern District Headquarters in Marlborough at (860) 295-9523, Monday through Friday, between the hours of 8:00 AM - 4:00 PM. Callers may make single time slot reservations for themselves and not more than one other person at any one time.

A total of 10 covered shooting positions are available during two time periods: 10:00 AM – 12:00 PM and 12:00 PM – 2:00 PM. Shooting position assignments will be made at the discretion of the range safety officer. Target stands will be provided at 25, 50, 75, and 100-yard distances, but shooters must supply their own targets and stapler or tape for target placement. Only paper targets will be allowed and shooters are required to bring eye and ear protection. Rifles, shotguns, pistols, and muzzleloading rifles may be used; however, fully automatic weapons are not permitted. The site is handicapped accessible, with a specially designed shooting bench for wheelchair access and includes portable sanitary facilities. Walk-in shooters are welcome and will be accommodated for unreserved positions or as space becomes available. The range may be closed due to severe weather and staffing availability.

Federal funding for site improvements, range equipment, and seasonal staffing is provided through Connecticut's Conservation Education/Firearms Safety Program. Federal funds available to the states through the Federal Aid in Wildlife Restoration Act (commonly referred to as the Pittman-Robertson Act), are derived from a federal excise tax on firearms, ammunition, and archery equipment. Connecticut receives a special allocation of federal funding that can be used for the construction, operation, maintenance, and enhancement of public target and shooting ranges.



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Nesting pairs of peregrine falcons are being monitored by volunteers and biologists. A nest on the Travelers Tower in Hartford can be viewed via a webcam on the Internet.

Bald Eagle and Peregrine Falcon Nest Update

Fifteen pairs of bald eagles have set up territories this year in Connecticut. The big news is that three of the pairs are active in New Haven County! The remaining pairs are nesting in Hartford County (6), Litchfield County (2), New London County (2), and Middlesex County (2). The DEP Wildlife 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.

Eight pairs of peregrine falcons have set up territories this year in the state. However, at a nest in New Haven County, where two eggs had been laid and were being incubated, the eggs were found broken. It is speculated that an avian predator scared the adult peregrine off the eggs and damaged them. Of the seven remaining pairs, Middlesex and New Haven Counties each have one pair while Hartford County has two pairs and Fairfield County has three pairs.

All of the peregrine and bald eagle nests are being monitored by the DEP Wildlife Division and several volunteers. Any young eagles or peregrines produced from these nests will eventually be examined and fitted with leg bands before they fledge, if the nest can be accessed safely. Stay tuned to *Connecticut Wildlife* to find out how the nesting season progressed.

Peregrines Return to Travelers Tower

In 2000, Internet surfers were able to watch, via a webcam, as Hartford's well-known peregrine falcon, Amelia, lay four eggs in a nest box on the Travelers Tower and successfully raised two young with the help of her mate. The webcam, *Peregrine Watch at Travelers Tower*, was established through a partnership among the DEP, Travelers Insurance, and The Children's Museum (formerly known as the Science Center of Connecticut).

Unfortunately, in the years since then, Amelia, was only able to raise one more brood of four in 2005. Last year, Amelia did not nest at the Travelers Tower. Her whereabouts remained unknown throughout the year, although there were a few reported observations of her flying about Hartford and roosting on buildings.

Starting around March 16 of this year, a pair of peregrines had returned to the Travelers Tower and the female had laid four eggs by March 28. Biologists have been unable to confirm from the leg bands if the falcon is indeed Amelia. With the onset of cold weather in early April, the falcon remained on the nest around the clock. As of this writing, one chick had hatched by early May and is expected to fledge by mid-June. Before the young chick fledges, DEP biologists will visit the nest site to examine it and place identification bands on its legs.

Web surfers can view the webcam and learn more about peregrine falcons by logging on to www.falconcam.travelers.com.

CT Bald Eagle Killed in Massachusetts

Two men residing in Western Massachusetts have been convicted in connection with the killing of federally protected bird species, including ospreys, great blue herons, and a three-year-old female bald eagle originally born in Hartford County, Connecticut. All three species of affected birds are protected by the Migratory Bird Treaty Act (MBTA), and the bald eagle is protected by the Bald Eagle and Golden Eagle Protection Act as well.

According to filed documents, and statements and evidence presented in court, Michael Zak owns and operates Mohawk Trout Hatchery in Sunderland, Massachusetts. In September of 2005, U.S. Fish and Wildlife Service (USFWS) Special Agents received information from the Massachusetts Environmental Police that Zak was suspected of unlawfully killing protected great blue herons and other federally protected migratory birds that are natural predators of trout. An investigation by the USFWS documented the remains of approximately 279 great blue herons, six ospreys, one bald eagle, one red-tailed hawk, and

three unidentified raptors, all in various states of decay, along the edge of the hatchery property. Forensic examinations conducted on 10 of the great blue heron carcasses collected by the USFWS revealed that all 10 had been killed by rifle shot.

“The individuals involved with the wanton killing of migratory birds at the hatchery showed no respect for wildlife, nor the federal and state laws protecting those birds,” said USFWS Special Agent in Charge Thomas Healy. “Our laws protect this nation’s natural resources to ensure their survival for future generations to enjoy. The people who committed these crimes made no effort to follow the legal and responsible procedures for dealing with the situation.”

On three occasions during the course of the investigation, while conducting surveillance of the fish hatchery property, USFWS agents observed Zak fire a rifle in an attempt to kill great blue herons and ospreys that had been in the area of his fish hatchery. On one occasion agents also observed Timothy Lloyd, who worked at the fish hatchery, fire

a rifle killing an osprey. The USFWS agents also recovered the carcass of a freshly killed immature bald eagle from the hatchery during one of their surveillances. Leg bands on the dead eagle identified it as one born and raised in Connecticut three years ago. A forensic examination of the eagle determined the bird had also been shot by a high-power rifle.

Both defendants face a maximum sentence of six months in prison and a \$15,000 fine on each of the misdemeanor Migratory Bird Treaty Act and conspiracy counts to which they pleaded guilty. Additionally, Zak faces a maximum sentence of one year in prison and a \$5,000 fine on the Bald and Golden Eagle Protection Act charge.

The MBTA allows for the hunting of certain migratory birds, including ducks and geese, within certain seasons and under specific regulations. The MBTA prohibits the capturing or killing of any non-game migratory birds unless authorized by permit. The Bald and Golden Eagle Protection Act prohibits the capture or killing of bald and golden eagles.

Wildlife Calendar Reminders

- May-August..... Respect fenced and posted shorebird nesting areas when visiting Connecticut beaches. Also, keep dogs off of shoreline beaches to avoid disturbing nesting birds.
- 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. Improperly discarded fishing line is a hazard for wildlife (see page 5 to learn more).
- June 24..... **Duck Day**, from 11:00 AM-4:00 PM, at the Livingston Ripley Waterfowl Sanctuary, on Duck Pond Road in Litchfield. The program includes live birds of prey, an educational comedy show, art exhibits, and other duck-related activities. There also will be exhibitions by various conservation organizations, including the Wildlife Division. The event is free. For more information, please visit www.lrws.org.
- July 4 While viewing fireworks displays at Connecticut coastal areas, respect fenced and posted shorebird nesting areas and offshore heron and egret rookeries.
- July 9-27 **WILD Kids Summer Programs** at the DEP’s Kellogg Environmental Center in Derby. This program is for students 12-16 years old who are interested in improving the environment and habitat for wildlife, learning lifelong nature skills, and in making new friends. There are three sessions that run on Monday through Friday, July 9-13, July 16-20, and July 23-27, from 8:00 AM-12:00 PM each day. Registration is on a single week basis and the cost of registration is \$40 per week. Registration is required. Please contact Donna Kingston at the Kellogg Environmental Center for more information: 203-734-2513, or send email to donna.kingston@po.state.ct.us.

Selection of Programs Offered by the Connecticut Audubon Society Center at Glastonbury

Summer Solstice, Wednesday, June 20, 8:00 p.m. Bring in the fire of summer with celebration, song, and dance. Civilizations over time and around the world have honored this longest day of the year with a variety of traditions. Musician and naturalist Kasha Breau and fire keeper Dave Magee are planning festivities to honor the summer solstice with stories, music, and food. \$5 CT Audubon members, family max. \$20. \$7 non-members

Family Campfire USA, Wednesday, June 27, 7:00 p.m. Sing songs about our country -- plus requests -- while the fire matures. Roast marshmallows and enjoy a good old-fashioned campfire. \$4 CT Audubon members with family max. \$16. \$6 non-members. Rain cancels

The Center at Glastonbury is located at 1361 Main Street, Glastonbury. Call for more information on these and other programs at 860-633-8402.

Connecticut Participating in Acorn and Beechnut Survey

Written by Michael Gregonis, Deer/Turkey Program

Acorns and beechnuts are an important food resource for a variety of wildlife species, including squirrels, deer, bear, wild turkey, and ruffed grouse. The availability of these foods can significantly influence the productivity of these species. States from Maine to Virginia are participating in a cooperative Northeast Regional Mast Survey, resulting in a single online database available to wildlife biologists and the public for the purposes of tracking annual hard mast productivity. (Hard mast is a term used to collectively describe the acorns and nuts produced by forest trees.) The goal of this survey is to gather regional information regarding hard mast production, which will aid in the management of wild turkeys and other wildlife species in the northeastern United States.

In Connecticut, 12 survey sites, one in each of the state's deer and turkey management zones (see zone map on page 3) will be identified. At each site, 25 trees from the red oak group (e.g., red, black, pin, and scarlet oak species), white oak group (e.g., white, chestnut, and swamp oak species), and beech (where available) will be selected for sampling. Sample trees will be at least 12 inches in diameter and in or near complete sunlight. Each sample tree will be numbered and ringed with a corresponding paint color: red paint for the red oak group, white paint for the white oak group, and blue paint for beech. Marking the trees with paint and attaching a metal numbered tag will assist with locating each tree on an annual basis.

To assess annual hard mast productivity, the crown of each tree will be scanned for 30 seconds with binoculars to detect the presence or absence of mast. All surveys will be conducted within the time frame from August 15 to September 1. This annual survey will determine the proportion of sample trees that have mast, which provides an index of productivity.

In 2006, six sites were

sampled. At these sites, 55% of the trees in the red oak group and 17% of the trees in the white oak group had acorns present. This represents an index of moderate mast abundance for the red oak group and poor for the white oak group. The remaining six sites will be established prior to the 2007 sampling period so that hard mast surveys can be completed statewide as well as within the 12 deer and turkey management zones.



Acorns are an important food source for white-tailed deer. The availability of acorns can influence the productivity of the state's deer population.

P. J. FUSCO

2006 Sample of Hard Mast Sites in CT

Site Number & Name	# of Trees		Mast Present		% Producing	
	White Oak	Red Oak	White Oak	Red Oak	White Oak	Red Oak
1 Yale Forest	25	25	5	23	20%	92%
2 Scantic River State Park		50	0	13	0%	26%
3 Hurd State Park	25	25	0	5	0%	20%
4 Barn Island WMA	25	25	2	13	8%	52%
5 Sessions Woods WMA	25	25	4	21	16%	84%
6 Housatonic River WMA	25	25	10	22	40%	88%

Connecticut Wildlife

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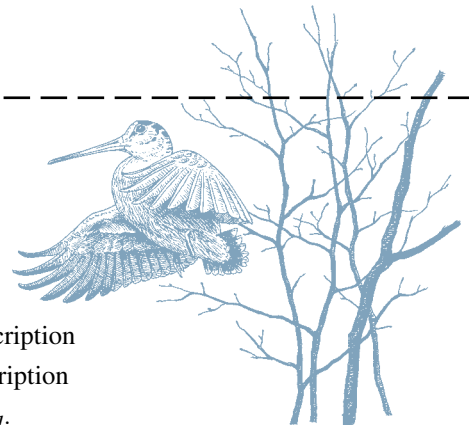
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Jordan May, a 12-year old junior hunter and conservationist, with a male turkey taken during Connecticut's 2007 spring season. (Read "From the Director" on page 2 of this issue.)

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