SPECIAL REPORT - THOUGHT TO BE EXTIRPATED MUSSEL FOUND

September/October 2006

Connecticut Wildlife

PUBLISHED BY THE CONNECTICUT DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF NATURAL RESOURCES ● WILDLIFE DIVISION

From the Director

Crisp weather, shortening days and colorful foliage signal the arrival of a critical time in the wildlife world that is known as the "fall shuffle." While that term may imply child's play, it can better be thought of as a lethal game of musical chairs that winnows the fittest or the lucky from the rest. It is a seasonal redistribution of animals across a landscape that will be much less hospitable in winter than summer. As a result of this shuffle, the lifespan of the average wild animal is surprisingly short.

During summer, wildlife populations swell due to reproduction and plentiful food resources. Autumn portends a time of increasing hardship caused by food scarcity and severe weather. Young animals disperse from their natal range, either willingly or by force, in search of new territories. Many of these inexperienced juveniles perish while traveling through unfamiliar surroundings or they may be forced to settle in poor habitats that leave them vulnerable to predation, disease, or starvation.

In general, species that produce large numbers of young experience the highest mortality rates. Nonmigratory wildlife are spared the rigors of long-distance movements, but may suffer significant losses during a severe winter or when food is scarce. Conversely, migratory species gain the benefits of more predictable food resources at the cost of high energetic demands and hazards along their routes.

For all but the most recent centuries, humans have been intertwined with this seasonal balance between life and death. First as prey, then as predator, we not only coevolved with Nature, we were part of it. Though modern agriculture, industrialization, and technology have buffered us from the annual fluctuations between scarcity and abundance, these natural processes continue to occur with or without us, whether we choose to see it or not.

Humans continue to participate in the natural cycle of death and rebirth through modern hunting seasons that are designed to harvest the surplus. In other words, the seasons are administered to allow people to use a portion of game populations that would have otherwise succumbed to other causes. Hunting is the most predictable and controllable of the mortality factors and can be managed to soften severe fluctuations in population levels. The past century has shown that managing this compensatory mortality is a proven formula for assuring the wise use and long term sustainability of our wildlife resources.

Dale W. May

Cover:

This past summer, while Canada geese were undergoing their annual molt, DEP Wildlife Division staff and several volunteers herd a flock of geese into a portable net for banding (see article on page 3 for more information).

Photo by Paul J. Fusco

Connecticut Wildlife

Published bimonthly by

State of Connecticut
Department of Environmental Protection
www.ct.gov/dep

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

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2000+ Canada Geese Captured in Banding Effort

Written by Kelly Kubik, Migratory Gamebird Program

Staff from the DEP Wildlife Division, in conjunction with a very strong volunteer effort, captured and banded 2,074 resident Canada geese during late June and early July of this year. In early summer, geese undergo an annual wing molt when they simultaneously shed their flight feathers and temporarily become flightless, making them easier to capture. Geese can be herded across land or water and corralled into a portable net and then aged, sexed, and fitted with standard leg bands. The age and sex of each goose are determined using plumage characteristics in conjunction with cloacal examinations. Geese were banded at 48 sites throughout Connecticut and capture size at each site ranged from seven to 274 geese. All banding data were submitted to the U.S. Geological Survey Bird Banding Laboratory.

P. J. FUSCO

Canada geese are captured at various locations across the state during their annual molt. Once detained in a portable net, DEP staff and volunteers age, sex, and band the geese before releasing them.

An important tool for managing the state's resident goose population is regulated hunting. Connecticut was the first state to establish a season specifically targeted to curtail resident Canada goose numbers while not impacting migrant goose populations. Connecticut currently has two seasons that occur during different parts of the year to target resident geese. The first season is held in September and the second season occurs from mid-January to mid-February. Band returns and neck-collar observations are used by biologists to assess the overall efficacy of the seasons and identify any potential impacts they are having on migrant geese.

Anyone who encounters a banded bird is urged to report it to the Bird Banding Laboratory at 1-800-327-band (2263) or on the web at www.pwrc.usgs.gov/bbl/default.htm.

Why Are Birds Banded?

Written by Kelly Kubik, Migratory Gamebird Program

Information derived from bird banding is used by researchers for various reasons, including the determination of productivity, population size, survival rates, and assessing harvest distribution of gamebirds. Band recoveries also help to identify important breeding, staging, and wintering areas, along with migration routes and corridors.

The first record of an individual putting a metal band on a bird was in 1595. A banded peregrine falcon that was kept by Henry IV became lost and was located one day later in Malta, roughly 1,350 miles from Henry IV's residence in France.

The first recorded instance of bird banding in North America was by John James Audubon who placed silver cords on the legs of phoebes in the Philadelphia area. John "Jack" Miner, who moved from Ohio to Canada in 1878, pioneered Canada goose banding in North America. In 1904, Miner created a pond on his family's homestead and added several wing-clipped Canada geese in the hope of attracting migrating geese to his property. By 1913, Miner's entire property was designated a bird sanctuary. He banded his first Canada goose in 1915 in an effort to track migration routes and, today, his work is considered revolutionary. One unique aspect of his bands was that each one carried a verse of Biblical scripture. Miner banded over 50,000 ducks and 40,000 Canada geese before his death in 1944.

In 1920, the Bureau of Biological Survey (now the U.S. Geological Survey) and the Canadian Wildlife Service took over the organization of bird banding from the American Bird Banding Association. Renowned waterfowl biologist Frederick Lincoln was assigned the task of organizing the nation's bird banding program that, today, is the cornerstone for avian research worldwide.

In 2001, 1,049,646 birds were banded in the United States and Canada. This total included 355,364 ducks, geese, and swans. Also in 2001, 97,204 bird recoveries were reported to the USGS Bird Banding Laboratory. Researchers use 23 standard and five specially-sized bands to insure that each band is properly sized to the bird being banded. Some researchers also attach auxiliary markers to birds that allow them to identify individual birds from a distance.

The Migratory Bird Treaty Act requires individuals to obtain a federal banding permit to legally place bands on birds that are released within the wild of the United States. There are currently about 2,000 master banding permits and 3,000 subpermits in the United States. Waterfowl banding is usually only conducted by federal and state agencies. Private individuals are normally not issued permits to band waterfowl because the information derived from these banding efforts are used in part to set waterfowl hunting regulations.

Avian Influenza

Connecticut initiates migratory bird testing

Written by Min Huang, Migratory Gamebird Program

P. J. FUSCO

DEP Wildlife Division staff began live-capturing shorebirds along the Connecticut coastline this past summer to test the birds for the presence of avian influenza, specifically the Asian H5N1 strain. The birds were released (left) after test samples and measurements were taken.

An article in the July/August 2006 issue of *Connecticut Wildlife* gave an introduction to what is going on in Connecticut concerning the avian flu (AI), specifically the Asian H5N1 strain that is currently in the news. Type A influenza viruses cause infection in birds (referred to as avian influenza or "bird flu"), humans, and some other mammals, such as pigs. There are 144 identified strains of Type A influenza. Wild birds, especially shorebirds and waterfowl, are the natural hosts for all the known strains of Type A influenza viruses.

Avian influenza viruses are categorized as either low (LPAI) or high (HPAI) pathogenicity. These terms refer specifically to the effect of the virus on domestic poultry, not on humans. Most strains of Type A influenza have a low pathogenicity. Typically, wild birds do not become sick when they are infected with Type A influenza viruses and humans are not affected either. However, domestic poultry, such as turkeys and chickens, can become very sick and die from these low pathenogenic strains. Most of the time, strains of Type A influenza circulate in their bird hosts, passing from bird to bird and causing no disease to their bird hosts. Sometimes, however, the virus is introduced into a new host, such as domestic poultry, and evolves into a more lethal (high pathenogenic) strain. This is apparently what happened with Asian H5N1 in China around 1995 or 1996. Until early 2005, the Asian H5N1 strain in China only affected domestic and commercial poultry. In the spring of 2005, however, the virus jumped back to wild birds, killing approximately 1,500 bar-headed geese. Highly pathenogenic strains, such as the current Asian H5N1 strain, can cause serious disease and death in wild birds and in people who contract the disease after being in close contact with infected poultry. It should be stressed that human cases have been few and have only occurred in people who have had frequent, close contact with infected birds. Since 2005, the Asian H5N1 strain has been detected throughout Asia, parts of Africa, and in Europe.

DEP MIGRATORY BIRD PROGRAM

Wildlife resource assistant Erin King takes a cloacal swab from a semi-palmated sandpiper, caught along the Connecticut coastline, as part of the effort to monitor for the presence of the Asian H5N1 strain of avian influenza.

What Is Connecticut Doing About AI?

The method in which the Asian H5N1 virus has spread across the globe is unknown. It is likely that human trade of poultry has contributed more to the spread of the disease than migratory

birds. However, migratory birds certainly may play a role. Apprehensions among government agencies and the public are based on a range of possibilities that include sickness and mortality in wild bird populations, introduction of a disease that could devastate the poultry industry, and potential mutation of the virus into a form that could be highly infectious and pathogenic to humans—possibly the source of the next flu pandemic.

Currently, public concern has been heightened by extensive media coverage about this virus in Asia, its spread to Europe, Africa, and India, and the small number of documented human infections. This public concern also includes speculation that migratory birds are a primary vector for the disease and could be the vector that brings the virus to North America. Thus, government agencies, particularly state, provincial, and federal wildlife agencies, are being called upon to mount an early detection system to determine if and when the virus arrives here. As a result, Connecticut and most of the other states in the Atlantic Flyway will be sampling waterfowl and shorebirds for detection of the Asian H5N1 strain. As part of a national plan to monitor the potential spread of the disease into North America, Connecticut will collect at least 800 samples from live and hunter killed birds this fall and winter.

In conjunction with the Canadian Wildlife Service and U.S. Fish and Wildlife Service, the Atlantic Flyway developed a list of bird species most likely to come into contact with species from Asia or Europe. More than 150 bird species move between Asia and North America, generally in three categories: (1) species that winter primarily in Asia or migrate through Asia to breeding grounds in Alaska; (2) species that generally breed in Alaska with some portion of the population known to winter in Asia; and (3) species that intermingle seasonally (e.g., breeding, summer molt, staging) across the Russian Far East, Alaska, and parts of Canada. With the spread of Asian H5N1 to Europe and Africa, a second source of potential infection from transatlantic migrants also was considered.

The Atlantic Flyway's list of surveillance candidates reflects both "primary" species that could come directly from breeding in Asia or Europe, as well as "secondary" species that would likely intermingle with Asian/European migrants and could be subject to secondary transmission. Tertiary species are those that do not intermingle directly with Asian/European migrants but do mix with secondary species during migration or on the wintering grounds. Monitoring tertiary species, such as juvenile mallards and resident Canada geese, may be useful if Asian H5N1 is not detected in the northern breeding areas, but makes its way through the surveillance network. In addition, tertiary species that are more cosmopolitan in nature could serve as sentinels should Asian H5N1 arrive via poultry imports, the pet trade, or other means through United States/Canadian ports.

No Highly Pathogenic H5N1 Avian Influenza Detected in Alaska Bird Testing Efforts

The U.S. Department of the Interior (DOI) and U.S. Department of Agriculture (USDA), along with the State of Alaska, have tested more than 13,000 wild migratory birds for highly pathogenic avian influenza (HPAI) H5N1 in Alaska. No HPAI H5N1 has been detected in any of the Alaska samples. So far DOI (including the U.S. Fish and Wildlife Service and the U.S. Geological Survey) has tested more than 11,000 samples and USDA has tested more than 2,000 samples. Of those tested by DOI, approximately 113 have tested positive for some form of avian influenza. This is to be expected since there are 144 subtypes of "bird flu," most of which pose no threat to domestic poultry or humans and do not produce noticeable symptoms in wild birds. Of the 113 samples, all tested negative for the H5N1 virus. The Alaska samples were taken from 26 "target species." Because of their migratory patterns and habitats, these bird species had the highest probability of encountering H5N1 before arriving in Alaska.

The DOI, USDA, State of Alaska, and the University of Alaska have been involved with sampling wild birds in Alaska since April 2006. Within the auspices of a national wild bird surveillance and early detection plan, the USDA and DOI are working with Alaska, the other 49 states, as well as the U.S. Pacific Territories and Freely Associated States to collect 75,000 to 100,000 wild bird samples along with 50,000 environmental samples of wild bird droppings across the United States in 2006.

As birds from Alaska and Canada begin their southerly migration from these breeding grounds, state, federal, and university biologists in the lower 48 states and Hawaii have begun capturing and sampling various species under an expanded wild bird surveillance program for all national migratory bird flyways and states. This intensified migratory bird surveillance is carried out through cooperative agreements and projects with the states and Pacific Islands.

Migratory birds are only one possible pathway for HPAI H5N1 being introduced into North America. Other potential routes include international travel, and both legal and illegal commerce in poultry, poultry products, wildlife, and wildlife products. Federal and state governments also have bolstered efforts to monitor these other potential pathways for introducing the virus into North America.

Hunters Asked to Donate Waterfowl

In Connecticut, researchers are targeting resident Canada geese, mallards, greater scaup, long-tailed ducks, Atlantic brant, semi-palmated sandpipers, dunlin, sanderlings, and black-bellied plovers for sampling. Greater scaup, long-tailed ducks, and Atlantic brant are all considered primary species for targeted surveillance in the Atlantic Flyway. All of the species being targeted are abundant enough in the state to allow ample sampling opportunities. The Wildlife Division is live-capturing geese, mallards, Atlantic brant, and shorebirds. In addition, the Division also is soliciting hunter killed Atlantic brant, long-tailed ducks, and greater scaup. **Any hunters wishing to assist the Wildlife Division in this effort by donating either greater scaup, long-tailed ducks, or brant should send an email to min.huang@po.state.ct.us or call the Division's Franklin Wildlife office at (860) 642-7239. Whole carcasses are needed within 48 hours of harvest. Waterfowl to be donated should be kept cool and whole until they can be retrieved. The Division also can make arrangements to pick up donated waterfowl on the day they are harvested.**

With regards to other birds, particularly those that might be found dead in the wild, the DEP, at this time, is following its normal protocol for dead bird testing. That is, birds will be tested if several birds die at the same location at one time or over several days. Information regarding dead birds can be submitted to the state's Wild Bird Mortality Reporting Website at

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Avian Influenza,
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www.ct.gov/ctfluwatch. This site will be constantly monitored and, if wild birds that are reported warrant testing, the reporting person will be contacted for follow up information.

Should Hunters and the General Public Be Concerned?

Currently, the transmission of the Asian H5N1 strain from birds to humans has been exclusively from domestic poultry to humans who were in close contact with infected chickens or other domestic poultry. There have been no cases of transmission from a wild bird to a human. Regardless of this fact, hunters should take basic precautionary measures, if they don't already, when handling harvested waterfowl:

- *Do not handle birds that are obviously sick or birds found dead.*
- *Keep your game birds cool, clean, and dry.*
- *Do not eat, drink, or smoke while cleaning your birds.*
- *Use rubber gloves when cleaning game.*
- *Wash your hands with soap and water or alcohol wipes after dressing birds.*
- *Clean all tools and surfaces immediately afterward; use hot soapy water, then disinfect with a 10% chlorine bleach solution.*
- *Cook game meat thoroughly (165°F) to kill disease organisms.*

If you find any dead bird, avoid direct contact with it. Wear gloves or use a shovel to place the bird in a plastic bag. If you do not have gloves, put your hand inside a plastic bag, grab the bird through the bag and pull the bag back over your hand. Tie the bag off, place into another plastic bag and tie that bag off as well. Dead birds can be disposed of by burying or discarding in the trash. Always wash hands thoroughly after disposal.

For More Information . . .

Don't just rely on the news reports to learn about what is going on with Asian H5N1. There are several government websites that will post updates, background information, and precautions concerning Asian H5N1 and avian influenza in general:

Websites for the U.S. Department of Agriculture (www.usda.gov/birdflu) and U.S. Department of the Interior (www.doi.gov/issues/avianflu.html) contain information on the agencies' efforts to monitor wild bird populations for Asian H5N1.

For information about the U.S. Government's efforts and guidance related to human pandemic preparedness, go to www.pandemicflu.gov.

Center for Disease Control and Prevention: www.cdc.gov

The National Wildlife Health Center: www.nwhc.usgs.gov

P. J. FUSCO

The Wildlife Division is asking hunters to assist in the efforts to monitor for avian influenza by donating harvested Atlantic brant (pictured above), long-tailed ducks, and greater scaup. These are considered primary species for targeted surveillance in the Atlantic Flyway. Hunters wishing to assist the Division by donating whole carcasses of these species should call the Franklin Wildlife office (860-642-7239).

American Woodcock Research Continues to Yield Data

Written by Min T. Huang, Migratory Gamebird Program

The DEP Wildlife Division initiated an American woodcock research project in 2003. Comprehensive statewide surveys of the woodcock population were conducted from 2003 until 2005. In 2006, the Division began conducting surveys along 10 routes that are representative of the state's habitat. The results of these surveys will be used as the statewide woodcock index. In 2006, the Wildlife Division also continued with the radiotelemetry component of the on-going woodcock research effort.

Much of the current woodcock habitat in Connecticut is highly fragmented. Woodcock habitat consists of young second-growth hardwood forests, shrubby areas, and open areas, such as old fields and forest clearings. The objective of the radiotelemetry portion of the research project is to determine woodcock use of patchy habitat, and whether survival rates and cause-specific mortality factors differ in these types of environments compared to those in actively managed landscapes. It is hoped that this work will provide information

on what types of habitats woodcock use in the state and what the survival rates are in these habitats. This information is key in guiding habitat management efforts, not only for woodcock, but for other birds that use similar habitats. Predation by both avian and mammalian predators may be high in isolated habitat patches or in areas where suitable nesting, foraging, and escape cover are limited. Important in the analysis will be estimation of survival rates of woodcock in fragmented and, if possible, larger unfragmented areas.

State Survey Results

In 2003, 30 woodcock singing ground survey routes were established throughout the state. These routes were laid out based upon an initial Geographic Information System (GIS) analysis of existing woodcock habitat. Routes that were 3.6 miles long and consisting of 10 listening points were then established along roads throughout identified suitable habitat. Observers conducted surveys in the evenings during the survey window of April 20 to May 10. These 30 survey routes were run for three years.

Over the course of this three-year effort, it was found that, by and large, where woodcock habitat exists, woodcock are present. The number of displaying birds, however, was dictated by the quality of the habitat. Unfortunately, observers also witnessed, firsthand, the continual loss of woodcock habitat to development.

Statewide Woodcock Index

2006 marked the first year that 10 statewide routes were used as an index to woodcock population and habitat status. From 2003 to 2005, these 10 routes (Bartlett Brook Wildlife Management Area (WMA), Lebanon, Litchfield, New Hartford, Pomfret, Roraback WMA, Sharon, Union, Wallingford, and Westbrook) had reasonably consistent woodcock detection rates. The routes also have a good mix of habitat at each stop and are fairly well distributed across the state. Additionally, most are located in areas that are likely to experience some degree of development pressure in the next decade.

Mean number of woodcock heard per stop in 2006 was 0.24, which was not significantly different from 2005. Actually, since the surveys began in 2003, the number of birds heard on each of these 10 routes has been fairly consistent (see table). However, the gradual decline in birds heard on routes, such as Sharon, New Hartford, and Lebanon, is likely the result of increased development and differing land use along those routes.

Over the past four years, new houses have been built along these routes, along with new use of existing pasture and old fields. A total of 16 stops have been impacted by new development, representing 16% of the stops on the index. Houses have been built in areas that were originally quantified as being either "good" or "poor" habitat quality. Unfortunately, only six percent of the stops in the index are classified as "excellent" habitat. Therefore, the majority of the habitat along the index routes, and statewide for that matter, is of good or poor quality.

Radio Telemetry Update

In 2005, 26 woodcock (22 males and 4 females) were live-captured and equipped with metal leg bands and radio transmitters. Fourteen of the birds were captured in high quality habitat, while 12 birds were captured in low quality habitat. High quality areas were actively managed for woodcock. Low quality areas contained suitable woodcock habitat, but unlike the high quality habitats, were surrounded by residential housing and the woodcock habitat was patchy and disjunct.

From information provided by the radio transmitters, it is known that eight of the 26 woodcock died during 2005. Five of these birds were from lower quality habitats and three were from high quality areas. One bird died in April, one in May, and six in June. Survival rates differed significantly between birds inhabiting high quality (average of 62%) and lower quality (average of 22.5%) habitats.

Cause specific mortality was ascertained for all but one confirmed mortality. Avian predators accounted for one lost bird and mammalian predators accounted for the other confirmed mortalities. Evidence from the radio transmitters indicated that short-tailed weasels were the most likely predator of the woodcock.

The second year of the telemetry work began in March 2006. During trapping efforts, 49 birds were caught. Four of the birds were recaptures and 43 were equipped with radio transmitters. Three of the recaptured birds were caught in 2005, and they were captured near the same location as last year. This is consistent with other studies that indicated that male woodcock show an extreme affinity to displaying sites from year to year. Females, on the other hand, are more variable in their choice of nest sites from year to year, but generally nest within two miles of a previous nesting effort.

So far, in 2006, predation and mortality of woodcock are much higher than last year. As of July 2006, eight birds had already been lost to predation, including four females that were either nesting or had broods. There are five other birds that have not yet been found, but it is unclear as to whether they slipped the radio harness or died. Small mammals and house cats have taken six of the eight known mortalities, while avian predators accounted for the other two losses.

The final year of telemetry work will be in 2007. Information gathered from the population surveys, habitat work, and telemetry studies will be used to develop management guidelines and strategies for Connecticut's woodcock population.

Woodcock Index Results, 2003-2006

Route	2003	2004	2005	2006
New Hartford	11	5	4	3
Litchfield	4	3	6	2
Bartlett Brook WMA	4	4	2	3
Roraback WMA	1	4	2	NC*
Pomfret	0	0	2	0
Sharon	6	5	4	1
Union	6	8	8	7
Wallingford	3	2	3	2
Westbrook	3	3	4	4
Lebanon	4	4	2	0
Total Birds	**42**	**38**	**37**	**22**

** Not conducted*

Oiled Wildlife Rescued After Spill in Cheshire

Written by Jenny Dickson, Wildlife Diversity Program

On July 24, 2006, the DEP Wildlife Division received a phone call from the Agency's emergency dispatch staff about a 6,000 gallon machine oil spill at the Cheshire Industrial Park. Ken LeClerc, the DEP On-scene Response Coordinator, confirmed that wildlife impacts were likely. Therefore, a Wildlife Division biologist immediately traveled to the site to assess the situation from a wildlife-impact perspective. The spill site flows into the Ten Mile River and is one of several wetland areas within the Industrial Park, all of which were searched for wildlife use.

A large number of Canada geese and a pair of mute swans and their young were scattered along the banks of the man-made pond. Numerous turtles and fish were seen in the pond which, over time, had developed into excellent wildlife habitat. Clean-up efforts were underway for the oil itself, but the wildlife situation was still evolving.

P. J. FUSCO

Ian Gereg (left) and Olaf Saltau, of the Livingston Ripley Waterfowl Sanctuary in Litchfield, release Canada geese that were cleaned after getting oil on their feathers from a spill at the Cheshire Industrial Park. Several geese were cared for at the sanctuary until the oil spill was cleaned up and it was safe to return the birds to the site.

Part of managing wildlife at an oil spill involves preventing animals from entering contaminated areas. This not only keeps animals from becoming oiled, it also prevents them from moving the oil to other "clean" sites. To aid in this effort, propane canons were set up along the banks of the pond to keep waterfowl, wading birds, and mammals from entering the water or using the shoreline. The loud noise made by the canons at random intervals helps frighten animals away. Unfortunately, over the night, several geese and swans did enter the water, thus coating their feathers with the clear, insoluble oil.

The following morning, plans were made to capture and clean the oiled birds. With assistance from USDA Wildlife Services, staff from the DEP Wildlife Division captured the birds while plans were put in motion to organize specially-trained wildlife rehabilitators to wash them. An on-site cleaning area was established and rehabilitators washed the oil from 14 geese and two mute swan adults and their cygnet. After cleaning, the birds were transported off-site. They were housed and cared for at two locations until the oil was cleaned from the pond and the site was safe for their return.

In addition to the waterfowl, several oiled turtles were captured and cleaned by Wildlife Division staff. Most were painted turtles, but snapping and musk turtles also were collected and cleaned. Thankfully, the vast majority of wildlife living in the area—from kingfishers to great blue herons to raccoons and deer—avoided the area while the clean-up was underway. Rapid efforts using special vacuum trucks, water skimmers, and absorbent booms and pads, collected the floating oil. The insolubility of the machine oil helped prevent a major impact to fish or aquatic invertebrates.

After the clean-up activities were concluded, the area was monitored for several days. Once it was deemed safe for the return of the birds, 12 geese were released. The swans were released at a pond in Chester. Unfortunately, the impacts of ingested oil, exposure, and other secondary ailments resulted in the death of the cygnet and two geese. Turtles that had been cleaned were released in adjacent wetlands to let them slowly make their way back to the pond.

Thank You to Spill Responders

Meredith Sampson, Wild Wings Inc., CT Wildlife Rehabilitator

Katie Bell, USFWS, Stewart B. McKinney National Wildlife Refuge

Dawn Day & Daughter, CT Wildlife Rehabilitator

Penny Eastham, Twinbrook Wildlife Rehabilitation Center, CT Wildlife Rehabilitator

Ian Gereg, Livingston Ripley Waterfowl Sanctuary

Skip Hilliker, CT Wildlife Rehabilitator

Julie Netsch, CT Wildlife Rehabilitator

Melissa Baston, Volunteer

Karen and Peter Sullivan, Volunteers

Facilities that provided long-term care for oiled birds:

Julie Netsch, CT Wildlife Rehabilitator

Livingston Ripley Waterfowl Sanctuary, Litchfield

Facilities that donated medical supplies:

Cheshire Veterinary Hospital

Kensington Bird and Animal Hospital

Yalesville Veterinary Hospital

A special thank you to the USDA Wildlife Service for the loan of propane canons and equipment.

Freshwater Mussel Thought to Be Extirpated in Connecticut Recently Found

Written by Julie Victoria, Wildlife Diversity Program

Two naturalists on a canoe trip in the Connecticut River made an exciting discovery this past July when they found a freshwater mussel and, suspecting that it was a unique find, took photographs of it. After their trip, they went online to the DEP's website (www.ct.gov/dep) and used *A Field Guide to the Freshwater Mussels of Connecticut* to tentatively identify the mussel as a yellow lampmussel. Wildlife biologists later confirmed their identification. A yellow lampmussel has not been seen in Connecticut since 1961.

This yellow lampmussel was photographed in July 2006 by two naturalists canoeing on the Connecticut River. The photographs were used to positively identify this rare mussel, which hasn't been seen in Connecticut since 1961.

Historically, freshwater mussels were used for food, currency, jewelry, and buttons. Six out of Connecticut's 12 native freshwater mussel species are listed as endangered, threatened, or special concern – a clear message that this species group is in trouble. Current threats to freshwater mussels include loss of habitat by damming and impounding rivers, dredging and channelization of streams, degradation of water quality by polluted runoff of chemicals or fertilizers, and the introduction of non-native species like the zebra mussel.

Freshwater mussels are good biological indicators of what is occurring in a river system. When mussels start to disappear from an area, it could be a signal that the host fish for the larval stage of their life cycle are gone or that the river system is being polluted. When the yellow lampmussel was found in Massachusetts in 1998, Division biologists began to hope that the species still persisted in Connecticut. As filter feeders, freshwater mussels filter particulates, both good and bad, from the river system. This discovery indicates that the Connecticut River must be in good condition to sustain yellow lampmussels.

The Wildlife Division doesn't have a clear picture of the distribution of freshwater mussel species in the state and would like the help of interested citizens to fill in the information gaps. This need was highlighted in Connecticut's recently completed Comprehensive Wildlife Conservation Strategy. (Visit the DEP's website to learn more about Connecticut's Comprehensive Wildlife Conservation Strategy.) To help obtain a better understanding of freshwater mussel distribution, the Wildlife Division produced *A Field Guide to the Freshwater Mussels of Connecticut.* The guide highlights life cycle information, identification tips, and survey techniques and features color photographs of Connecticut's native freshwater mussels.

The field guide presents an opportunity to broaden conservation and education efforts by getting both adults and children outdoors to help find these special creatures. If you spend time in streams or rivers and are interested in helping out, or if you just want to learn more about freshwater mussels, contact the Wildlife Division's Franklin office (860-642-7239) for a copy of the guide or find it on the DEP's website (www.ct.gov/dep).

Not interested in getting your feet wet? You can still help freshwater mussels by:

- *Carefully using pesticides, fertilizers, and other chemicals. Remember that what you put on the land will eventually end up in our rivers.*
- *Leaving vegetated buffer strips along the water's edge when developing and managing a property.*
- *Keeping livestock out of streams.*
- *Getting involved in your local watershed group or river watch program.*
- *Slowing down the spread of nonnative zebra mussels. If you are a boat owner, you should always inspect trailer frames and boat hulls for the presence of zebra mussels, remove aquatic weeds from trailers and boats, drain all water from boats, and wash boats with clean water.*

"Freshwater mussels are a fascinating group of animals that live on the bottom of streams, rivers, ponds, and lakes. They spend most of their lives partially buried, sucking water into their bodies, filtering it to remove food, and pumping the rest back into the environment. These "living filters" play an important role in natural ecosystems by helping to clean our water bodies, eating algae and zooplankton, and providing food for many types of fish and mammals. Mussels often comprise the largest proportion of animal biomass in a waterbody and they store enormous amounts of minerals and nutrients."

"Freshwater mussels are very vulnerable to disturbance and pollution. Anything that threatens our lakes and rivers also threatens mussels, such as pollution from our cars and industries, erosion caused by land use management and construction, water diversions and dams, and exotic species." **Excerpts from A Field Guide to the Freshwater Mussels of Connecticut**

Marathon Travelers - Godwits in Connecticut

Article and photography by Paul Fusco, Wildlife Outreach Program

Sandpipers, along with plovers, avocets, stilts, and oystercatchers, are part of the larger group of birds referred to as shorebirds. The sandpiper family is a large and diverse group with 86 species represented worldwide, of which 28 species are considered to be regular visitors to Connecticut.

Godwits belong to the genus *Limosa* within the sandpiper family. Globally, there are four species of godwits, and two of those are regular, but uncommon, visitors to Connecticut. They are the Hudsonian godwit and the marbled godwit. Each occurs in our state primarily during fall migration and usually in small numbers.

The other two godwit species, the black-tailed and the bar-tailed, are primarily found in the eastern hemisphere. The bar-tailed godwit has a breeding population in Alaska that winters in the western Pacific region.

Godwits are among the largest sandpipers. They are elegant, long-legged wading birds with long, slightly upturned bills. Their plumage is brownish or gray in color. They have long, pointed wings and short tails. Females generally have duller plumage than males, are larger, and have longer bills. Godwits have a habit of walking in a hunched posture, with head drawn in close to the body.

Habitat

Like almost all sandpipers, godwits are wetland-dependant birds. They favor marshes, shorelines, mudflats, flooded fields, and wet tundra habitats.

Godwits are swift and powerful flyers. This adult Hudsonian godwit is shown molting in late summer from its colorful breeding plumage to a duller gray winter plumage. Also, note the black underwing.

Hudsonian godwits breed in widely scattered locations with wet tundra/muskeg habitat from Alaska to Hudson Bay in Canada. Marbled godwits breed in grasslands with nearby wetlands, primarily in the northern Great Plains from South Dakota and Montana north into Alberta and Ontario.

Godwits use their long bills to probe deep into the substrate for their principal food, invertebrates. The bills have a flexible tip that allows them to grasp prey in the mud. Among their food items are worms, mollusks, crustaceans, and insects. They also may eat plant tubers at certain times of the year.

Migration

Most shorebirds are medium to long distance migrants. Many make yearly trips between the North American arctic breeding areas and South American wintering grounds. Of all the shorebirds, godwits are perhaps the masters of long distance migration. Of the four godwit species worldwide, only the marbled is considered a short distance migrant. The others all travel great distances. The Alaskan population of bar-tailed godwits undertakes a fall migration that brings it nonstop over the Pacific Ocean to Australia and New Zealand, a distance of 6,000 miles.

Hudsonian Godwit

Bold black and white tail markings and black underwings identify the Hudsonian godwit. It also has a whitish wing stripe, which can be seen in flight. Males have rich chestnut breast plumage during the breeding season.

Spring migration takes the Hudsonian godwit from South America, up the Gulf Coast to Texas, then north through the Great Plains and on to subarctic nesting areas in Canada and Alaska. In fall, this species gathers in its largest flocks in southwestern parts of Hudson Bay and James Bay in central Canada. From there, most migrate south and east, off the New England coast and west of Bermuda. In a spectacular migration, these birds fly directly to South America, over open ocean until they touch down north of the Amazon River in Brazil. They then gradually continue to the southern Argentina coast for the winter. Smaller numbers normally migrate to the Canadian maritime provinces and the northeastern United States, including Cape Cod, before undertaking the over water trip to South America. Some of these birds may show up in our area during their fall migration after a period of strong easterly winds that may bring them on shore.

Hudsonian godwits are considered to be an uncommon species with a total

The rich breeding color of the Hudsonian godwit is seldom seen away from its tundra breeding grounds.

estimated population of less than 50,000. They have a relatively low population and a small breeding distribution. Their fall migration and winter staging areas have high concentrations of birds. Combine these traits with their long and potentially dangerous migration and it becomes clear that this species' population may be at risk from catastrophic events.

Marbled Godwit

Mottled buff and brown plumage with cinnamon wing linings are characteristic of the marbled godwit. This species does not have white in the tail or wings as does the Hudsonian godwit. Marbled godwits are the largest godwit species, being about the size of a small gull.

Marbled godwits have a shorter migration than the other godwit species. From their northern prairie breeding grounds, they migrate primarily to the Pacific coast of north and central America from Oregon to Costa Rica. Smaller numbers also winter on the Atlantic and Gulf coasts of the United States from New Jersey south, but with most in Florida and Texas.

Marbled godwits are more numerous than their Hudsonian relatives. Their population is estimated to be over 150,000. They can be fairly common at certain critical wintering areas, primarily on the California and Baja coasts. They are much less common on the east coast.

In all plumages, the marbled godwit has an overall buffy color and cinnamon wing linings.

Conservation

By using a prioritization method based on a combination of species abundance, threats, and distribution, the Manomet Center for Conservation Sciences, through a partnership with state and federal agencies and non-governmental organizations, produced a plan that serves as a framework for shorebird conservation in North America. According to the plan, both Hudsonian and marbled godwits are species of high conservation concern throughout their range, meaning that they have declining populations and have known or potential threats to their populations.

In Connecticut, the protection of shoreline migration staging areas is essential for the conservation of all shorebirds, including godwits. Some of our major shorebird stopover sites include Milford Point (Milford), Sandy Point (West Haven), and Griswold Point (Old Lyme), where some of the largest concentrations of shorebirds are to be found in the state during fall migration. Experiencing large flocks of sandpipers at these places, with the sound of wind rushing through their wings as they repeatedly wheel and turn in remarkable unison, is one of Connecticut's most impressive natural events. Conservation of these sites and others like them is important to maintaining flocks of godwits and other shorebirds in Connecticut.

Marbled godwits are rare, but regular visitors to the Northeast in late summer and fall.

Shorebird Migration

The Importance of Stopover Habitats and Staging Areas

Shorebirds are among the most extraordinary migrants. They are swift and powerful flyers, making use of the winds of changing seasons to help power their flocks over great distances. Their migrations take them on tremendous and remarkable journeys. Most species breed in arctic and subarctic regions, and winter in the southern hemisphere, some as far south as Tierra del Fuego. Some species routinely fly nonstop over open oceans for extended distances that may be in the thousands of miles. For instance, the fall migration of the Hudsonian godwit may take it from the shores of New Brunswick to South America, in a single flight that may cover 3,000-5,000 miles.

In order to make long distance journeys, shorebirds must build up their fat reserves to provide them with the energy needed for these physically demanding migrations. They must feed continuously in a food-rich habitat, usually shorelines and wetlands, while building their energy reserves. These important habitats are called "stopover" areas, where the birds stop along their migration to find food and to rest. Some stopover areas are particularly important because large numbers of migrating shorebirds gather there. Flocks of birds build their numbers at these "staging" areas before they move on to the next stop.

Shorebird migration routes are made up of a series of stopover and staging areas. This series of wetland areas forms a chain. The loss of any wetland along the migration route (or link in the chain) will put additional stress on the migrant shorebirds by forcing them to fly longer distances between links. As wetland habitats continue to be lost or degraded, more and more birds may become physically stressed during their long journey. Protection and restoration of wetland habitats are critical to the conservation of shorebirds, including the godwits.

Butterflies Abound at Belding!

Written by Jane Seymour, Belding WMA Steward

Last summer, the Vernon Garden Club created a butterfly garden at Belding Wildlife Management Area (WMA) in Vernon. Members of the garden club planted host plants for caterpillars and nectar sources for adult butterflies. This year, the garden filled in and provided nectar sources for a variety of butterflies and moths. Bumble bees and hummingbirds frequently visited the garden as well. As the season progressed, different plants flowered, providing a steady source of nectar from spring to fall.

Columbine is one of the first plants in the garden to bloom. New England aster may bloom into October. Wild bergamot is a favorite among butterflies and bumblebees. Skippers and fritillaries are almost always present on these plants while they are in bloom. Other common visitors to this plant include monarch, tiger swallowtail, black swallowtail, and sphinx moths.

Another very popular plant in the butterfly garden is butterfly weed. Last year, garden club members planted three butterfly weed plants. Seeds from these three plants germinated and this year the garden was graced with dozens of these beautiful orange plants that bloom in July and August.

J. SEYMOUR (2)

Bee balm, wild bergamot, mountain mint, and swamp milkweed are some of the flowers in bloom at the Belding WMA butterfly garden.

Visit the butterfly garden at the Belding WMA where you can learn how to create your own butterfly garden. Bring your camera, sketch pad, or butterfly journal as you are sure to see several species of butterflies and probably a hummingbird or two. Belding WMA can be found in Vernon on Bolton Road. From Interstate 84, take exit 66 to Bolton Road.

Butterflies Soar at Sessions Woods, too!

Written by Laura Rogers-Castro, Outreach Program

The butterfly garden behind the Sessions Woods Conservation Education Center in Burlington delighted "people" visitors this year, in addition to attracting several different kinds of butterflies, many other insects, and even ruby-throated hummingbirds! The garden was started about 10 years ago and was expanded a few years back. This year, the joe-pye weed was especially beautiful. Joe-pye weed is a native perennial with purple flowers and a growth form that can reach more than six feet. It is found in meadows and is attractive to many butterflies.

Other plants, including mountain mint, *Coreopsis*, bee balm, and New England aster also are found in the Sessions Woods garden. Mountain mint provides nectar for bees and, this year, these plants were always "buzzing" in the garden. Hummingbirds visited the bee balm consistently while it was in bloom. Monarchs, silver-spotted skippers, great spangled fritillaries, and pearl crescents were the most common butterflies seen at Sessions Woods. Goldenrod and milkweed, planted by "nature," appeared in several areas of the garden. People who venture outdoors to watch butterflies know to always check stands of milkweed, not just for monarchs, but also for delicate hairstreak butterflies.

A fritillary sips nectar from wild bergamot (*Monarda fistulosa*) at Belding WMA's butterfly garden.

Butterfly gardens are great places to spend some time on a sunny day. They do, however, require some work to get them started and maintained through the years. The Wildlife Division extends its appreciation to Master Wildlife Conservationists Reed and Christine Cass who have tended the Sessions Woods garden for the past few years.

Deer Being Tested for CWD and Cadmium Levels

Written by Andrew M. LaBonte, Deer/Turkey Program

The DEP Wildlife Division actively monitors Connecticut's deer herd for diseases and contaminants. Recently, Chronic Wasting Disease (CWD) has become a great concern to hunters. CWD is a neurological disease of deer, elk, and moose that has the potential to dramatically affect their populations. Since CWD testing first began in Connecticut in 2003, over 1,200 deer have been tested and all results have been negative.

CWD was first documented in Colorado in the late 1960s, and currently is found in 13 other states and two Canadian Provinces. In spring 2005, CWD was first documented in five deer at two captive cervid facilities in New York within 180 miles of Connecticut's border. Intensive monitoring by the New York Department of Conservation documented two free-ranging deer within a mile of the facilities that tested positive for CWD.

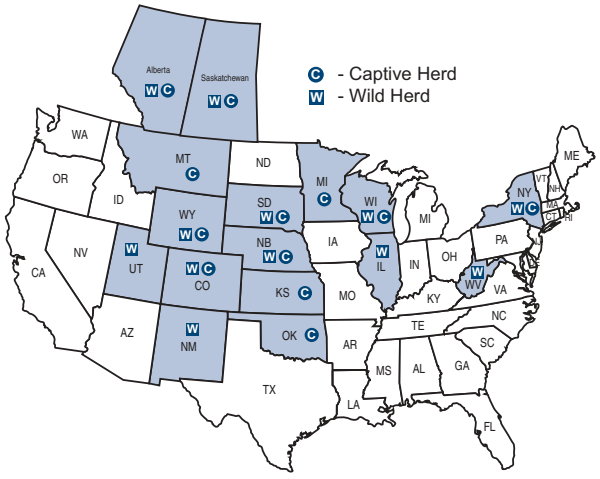
CWD belongs to a family of diseases known as transmissible spongiform encephalopathies (TSE), which includes scrapie in sheep, bovine spongiform encephalopathy (BSE) in cattle, and Creutzfeldt-Jakod Disease (CJD) in humans. To date, scientists have found no link between CWD and humans. Concern over CWD should not limit hunter willingness to harvest deer during the hunting season. No evidence exists that CWD affects humans or that it is present in Connecticut. Even in states where CWD is found, no human has ever contracted CWD. Studies have shown that the abnormal prions that cause CWD do not transmit to species other than members of the deer family. However, as a precaution, public health officials recommend that humans avoid consuming meat from deer suspected of being infected with CWD. Higher levels of infected prions accumulate in tissues, such as the brain, spinal cord, spleen, lymph nodes, tonsils, and eyes, and, as a precaution, contact with these items should be minimized. Hunters should follow the precautions for processing venison as outlined in Connecticut's CWD brochure, which is available on the DEP's website (www.ct.gov/dep) or from any Wildlife Division office.

To minimize the potential of CWD entering Connecticut from deer harvested in New York and other states with CWD and transported back to Connecticut, the DEP enacted emergency regulations in 2005. The regulations prohibit the importation and possession of whole carcasses or parts (excluding meat that is de-boned, cleaned skullcaps, hides, or taxidermy mounts) from any deer or elk from wild or captive herds from states or Canadian Provinces where CWD has been confirmed (see the September/October 2005 issue of *Connecticut Wildlife* or the 2006 Hunting and Trapping Guide for details). In addition, the DEP increased CWD monitoring efforts by intensively collecting deer samples along the Connecticut/New York border (high risk areas include deer management zones 1, 6, and 11) and collecting samples, less intensively, throughout the remainder of the state (moderate risk areas).

In 2005, 643 samples were collected and all tested negative for CWD. Additionally, no reports were received of hunters illegally transporting deer into the state. Hunters should continue to do their part to protect the future of deer and deer hunting in Connecticut. In addition to Connecticut's sampling efforts, no additional deer tested positive for CWD in New York following the initial surveillance period or in any other New England state since intensive sampling efforts began in 2003.

Known Distribution of Chronic Wasting Disease

as of October 2005



Testing for Cadmium

In addition to collecting CWD samples, the DEP initiated a follow-up study in 2005 on cadmium contamination of deer livers in Connecticut. In 1991, Connecticut analyzed deer livers from 49 hunter-killed deer and found that 10% of the samples had unacceptably high levels of cadmium. Cadmium is a naturally occurring trace element that is filtered out by the liver. The liver concentrates toxicants at levels far above other parts of the body. Finding high levels of cadmium in deer livers is not unusual in the northeastern United States. However, the primary toxic effect of cadmium in humans is kidney damage and long-term exposure may lead to kidney failure. Hunters who consume deer livers are advised to only consume livers of young deer to minimize their exposure to cadmium contamination.

A total of 67 livers were collected from road-killed deer in 2005 and sample collection will continue in fall 2006. The objective of the study is to compare cadmium levels in deer living today compared to 15 years ago. This study will provide more up-to-date information on cadmium levels so recommendations can be made to hunters who consume deer livers.

Anyone interested in donating deer heads or livers for testing should store them in a cool place or refrigerator and call the Franklin Wildlife office (860-642-7239) to arrange for a pickup (typically the next day). Additionally, anyone who observes deer displaying symptoms associated with CWD (abnormal behavior, staggering, lowered head and ears, and emaciation) should contact the Environmental Conservation Police Division (860-434-3333), or the Wildlife Division's Franklin Wildlife office (860-642-7239) or Sessions Woods office (860-675-8130).

Fall Hunting Seasons at a Glance

White-tailed Deer Season

Connecticut's deer population remains healthy and harvest rates are expected to be high during the 2006 deer hunting season. The abundance of acorns and weather conditions during the hunting season will likely influence hunter success.

During the 2006 season, hunters who harvest an antlerless deer on private land and have permission to hunt on private land in deer management zones 11 and 12 will be eligible to obtain a free replacement antlerless tag (see the 2006 Connecticut Hunting and Trapping Guide). Replacement tags will be available for use during the shotgun/rifle, archery, and muzzleloader hunting seasons. The replacement tag program has resulted in an increased harvest of female deer in southwestern Connecticut and in many shoreline towns.

Last year, the Earn-A-Buck program was initiated in zones 11 and 12. The program provides incentives for hunters to harvest additional antlerless deer. Under this program, any hunter who harvests and checks in three antlerless deer during the same season (archery, shotgun, muzzleloader) will be eligible to earn an extra bonus buck tag (either-sex) to use during the same hunting season.

Hunters are reminded that bowhunting is permitted on state land during the shotgun/rifle hunting season only in designated deer bowhunting areas and on private land in deer management zones 11 and 12. Bowhunters also can hunt deer during January 2007 on private land in zones 11 and 12. These liberalizations, combined with the ability to use bait during the deer hunting seasons in zones 11 and 12, will likely contribute to increased deer harvest rates in these areas.

P. J. FUSCO

During the 2005 hunting season, 12,663 deer were legally harvested. Hunters are becoming more aware of and are taking advantage of the replacement antlerless tag program and the January archery season.

Wild Turkey Season

Hunters should expect to observe fewer young turkeys during the 2006 fall turkey season because of the impact of weather conditions during this past spring. Much of Connecticut encountered wet and cool conditions during the nesting (May) and hatching (June) periods. These conditions may have reduced nesting success and poult survival. Despite the potentially limited productivity during spring, Connecticut maintains an abundance of wild turkeys statewide.

Fall firearms turkey hunters have many opportunities to harvest a bird. Individuals can obtain both a private land permit (2 either-sex tags) and a state land permit (1 either-sex tag). The fall firearms season is open statewide, running from October 7 through October 31.

Fall archery season runs concurrent with the regular archery deer season, starting September 15 through November 14 and December 20 through December 30. Hunters can harvest two birds of either sex from either state or private land. Many archers hunting principally for deer also purchase a fall archery turkey permit to take advantage of a chance encounter with a wild turkey while sitting in their deer stand.

During the fall seasons, turkey hunters should concentrate their hunting on oak ridges, cut cornfields, and forest openings. Each of these areas contains a food source that turkeys use during fall. Hunters should scout several locations, prior to the season, to find scratching, feathers, and droppings to determine whether turkeys are using the area. Also, hunters can locate turkeys by listening at sunrise and sunset for birds calling from the roost.

If turkey hunters purchase all available fall firearms and archery permits, they will be allowed to harvest a total of five birds. Although fall turkey hunting is a challenge, the effort can be very rewarding.

P. J. FUSCO

Hunters should expect to observe fewer young turkeys during the 2006 fall turkey season because of the impact of weather conditions during this past spring. However, despite the potentially limited productivity during spring, Connecticut maintains an abundance of wild turkeys statewide.

Waterfowl Season

Ducks, Mergansers, and Coots: Hooded merganser populations are on the increase and the bag limit for this species has been raised from one to two. Black duck populations continue to show stability, so one black duck will be allowed during the early season in both the north and south zones. Concern, however, over decreasing productivity of black ducks may warrant future changes. The daily bag limit of sea ducks is five, while the daily bag limit for long-tailed (oldsquaw) ducks has been reduced from seven to four. Declining numbers of wintering sea ducks and increased hunting pressure on these long-lived species warrants more conservative regulations.

Regular and Late Canada Goose Seasons: The North Atlantic Population (NAP) hunt zone for Canada geese continues to be split into two zones—the NAP L-Unit, and the NAP H-Unit—based on differences in the proportion of resident to migrant geese between the two areas. These zones were created to exert more harvest pressure on resident geese in areas (primarily southwestern Connecticut) where there have been persistent nuisance problems. The seasons for these two units are identical to last year: a 70-day season with a three-bird daily bag limit in the NAP-L unit and a 60-day season with a two-bird daily bag limit in the NAP-H unit.

The Atlantic Population (AP) of Canada geese continues to recover. Breeding pair estimates for 2006 were 160,000. Although this estimate is less than last year, the 2006 survey was conducted late, in the midst of nest hatching, and the results are biased due to the late timing. Production in 2006 appears to be good. The regular season in the AP Unit will be 45 days, with a three-bird bag limit.

Descriptions of the hunting zones for Canada geese are in the 2006-2007 Migratory Bird Hunting Guide, which is available at most town clerks' and DEP offices, as well as on the DEP's website (www.ct.gov/dep).

Sportsmen also will have the opportunity to harvest resident Canada geese during the early September season and the special late season (in the south zone only; January 15-February 15, 2007). No special permits are required for either special goose season.

Hunters are reminded to report waterfowl bands. Band returns provide vital information for the continued management of the waterfowl resource. Additionally, the Wildlife Division is concluding a four-year resident Canada goose study. Anyone observing yellow neck collars on geese is urged to call 860-642-7239 with the location and individual collar code information (see article on page 3 for more information).

Pheasant Season

Opening day for most small game hunting will be Saturday, October 21. The DEP will purchase 17,153 adult pheasants for the upcoming fall season, a decrease of 1,989 birds from 2005. In addition to adult pheasants, 1,000 eight-week-old pheasants were purchased and delivered to the Norwich Fish and Game and Sprague Rod and Gun Clubs for eventual release on permit-required hunting areas.The Pheasant Program budget is determined by the net revenue collected in the previous year. The 2006 stocking program was directly affected by a decrease of nearly $14,000 in the net revenue collected from pheasant hunters in 2005, and an expected annual increase in the average cost of pheasants. Rising fuel and grain costs continue to impact commercial growers. Despite the reduction in the number of pheasants stocked, sportsmen should recognize that the ratio of pheasants stocked per hunter has actually increased over the years and the prospects for pheasant hunting are as good as they have been in several years.

A total of 48 areas will be stocked during the fall season. A number of lower quality/lower public use areas will not be stocked so that adequate allocations are maintained on the higher quality sites. The areas not being stocked include the Wood Creek Flood Control Area (Norfolk), Paugussett State Forest (Newtown), Ellithorpe Flood Control Area (Stafford), and Waldo Tract (Mohegan State Forest, Scotland). The stocking period has been shortened by one week this season due to the later season opening. Stocking will occur two to three times per week during the six-week distribution period. Pheasants will be nearly evenly distributed with one-half of the allocations released in October and one-half during November. All stocking will conclude by Thanksgiving Day.

To provide opportunities for the weekend, family, and youth hunters, volunteers for the DEP will release pheasants on Friday evenings and variable Saturdays on selected sites. Sportsmen's clubs that provide public hunting access to permit-required hunting areas will continue to stock state-purchased birds on several areas.

A pilot program to provide youth hunters with special access to select permit-required hunting areas will continue. For details and a complete listing of all major stocking areas, visit the DEP website at www.ct.gov/dep. Pheasant tags ($14 for 10 tags) can be purchased at town halls or the DEP's License and Revenue office, at 79 Elm Street, in Hartford.

Details on all hunting seasons can be found in the 2006 Connecticut Hunting and Trapping Guide and the 2006-2007 Migratory Bird Hunting Guide, which are available on the DEP's website (www.ct.gov/dep) and at DEP offices and local town halls.

Resident Canada geese continue to pose problems throughout Connecticut. The September hunting season has resulted in stabilization and, in some areas of the state, a reduction in the resident goose population.

State of Connecticut

By Her Excellency M. Jodi Rell, Governor: an

Official Statement

WHEREAS, hunting and fishing have always been important parts of the American tradition. These activities are still relevant today; and

WHEREAS, for over 100 years, sportsmen have been at the forefront of the conservation movement. Not content with merely vocalizing their support for conservation, hunters and anglers have requested special taxes and special fees on their equipment to help fund wildlife and fish management, habitat restoration and other conservation programs; and

WHEREAS, having raised over $23 billion, hunters and anglers also volunteer countless hours of their time for local conservation projects. Over the years, programs financed by hunters and anglers have led to the dramatic comeback of many fish and wildlife species. In Connecticut, these include striped bass, wild turkey and fisher; and

THEREFORE, I, M. Jodi Rell, Governor of the State of Connecticut, would like to take this opportunity to commend hunters and anglers in our State for their efforts on behalf of Fish and Wildlife and their contributions to conservation, by officially designating September 23, 2006 as

HUNTING AND ANGLING FOR CONSERVATION DAY

in the state of Connecticut. I urge all of our citizens to join with sportsmen and conservationists in their efforts to ensure the wise and proper management of our natural resources to benefit future generations.

M. Jodi Rell
Governor

In recognition to the contributions that sportsmen have made to conservation, Governor Rell designated September 23, 2006 as Hunting and Angling for Conservation Day.

FROM THE FIELD

DEP WHAMM PROGRAM

Donald Hargreaves, of the WHAMM Program, operates a specialized excavator along the Mount Hope River in Ashford, while Brian Murphy, of the DEP Fisheries Division, uses a stadia rod to determine the rock depth for a cattle crossing.

WHAMM Project to Benefit Fish Habitat

This past July, the Wildlife Division's Wetlands Habitat and Mosquito Management (WHAMM) Program began a cooperative wetland restoration project with the DEP Fisheries Division along a portion of Mount Hope River in Ashford. Specialized wetland restoration equipment is being used to restore riparian habitat, streambanks, and in-stream habitat. The Natural Resources Conservation Service engineered and designed the plans for the project. Federal EPA 319 NPS funds and Department of Transportation Mitigation funds are providing the financing.

Reptile and Amphibian Meeting Held at Sessions Woods

Northeast Partners in Amphibian and Reptile Conservation (NEPARC) is a regional working group of Partners in Amphibian and Reptile Conservation (PARC). Both the regional group (NEPARC) and national group (PARC) are dedicated to the conservation of herpetofauna - reptiles and amphibians - and their habitats. The Northeast region includes Connecticut, Delaware, District of Columbia, Maine, Maryland, Massachusetts, New Jersey, New Hampshire, New York, Pennsylvania, Rhode Island, Vermont, Virginia, and West Virginia. Membership comes from all walks of life and includes individuals from state and federal agencies, conservation organizations, museums, the pet trade industry, nature centers, zoos, the energy industry, universities, herpetological organizations, research laboratories, forest industries, and environmental consultants.

Meetings are held annually and provide a forum to discuss NEPARC projects, hear presentations on various herp conservation and research activities, network, and enjoy the company of like-minded herp enthusiasts. The 2006 meeting was held August 15-17 at the DEP Wildlife Division's Sessions Woods Conservation Education Center in Burlington. Attended by over 50 people, presentation topics included: Spatial and Temporal Patterns of Amphibian Disease in Acadia National Park Wetlands, Demographic Impacts of Road Salt on Vernal Pool-Breeding Amphibians, Habitattitude Program, Local Land Use Planning and Herpetofaunal Conservation, Farmington Valley Biodiversity Project, Maine's Forestry Habitat Management Guidelines for Vernal Pool Wildlife, and Habitat Management Guidelines. The minutes from the 2006 meeting will be posted on NEPARC's website at http://www.pwrc.usgs.gov/neparc/.

Managing Grasslands, Shrublands, and Young Forest Habitats for Wildlife: A Guide for the Northeast

The staff of the Wildlife Division's Habitat Management Program are members of the Northeast Upland Habitat Technical Committee, which is a regional organization of habitat biologists from state wildlife agencies from Maine to Virginia. Recently, the committee, with assistance from the Massachusetts Division of Fisheries and Wildlife, completed a valuable book on grasslands, shrublands, and young forest habitats (collectively referred to as early successional habitats).

Early successional habitats have been declining throughout the Northeast for decades, as have the wildlife species associated with them. For instance, 12 of 16 shrubland birds and seven of 10 grassland birds have declining population trends in the region. Many are listed as threatened or endangered in Northeastern states and as greatest conservation need species in states' Comprehensive Wildlife Conservation Strategies. Additionally, American woodcock have declined by 40% over the past 30 years, and New England cottontails occur in only 20% of the area that this species was historically found. Given that more than 73% of forestland in the region is privately owned, it is imperative that landowners and the professionals that provide guidance to them address the decline of these habitats.

Written primarily by state and federal wildlife biologists and foresters, this guide provides important information on how to maintain and restore these habitats. Whether you are a novice or an experienced land manager, this guide will provide helpful information to better manage early successional habitats. The document can be downloaded on the DEP's website (www.ct.gov/dep), or call the Wildlife Division's Sessions Woods office at 860-675-8136 or the DEP's Eastern District office at 860-295-9523 for additional information.

Show your support for Connecticut's Wildlife! Order your wildlife license plates today.

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

First Year for Owl Surveys

Five species of owls regularly breed in Connecticut: the barred, Northern saw-whet, great horned, Eastern screech, and barn. Although these five are identified as species of Greatest Conservation Need in Connecticut's Comprehensive Wildlife Conservation Strategy, little information is available about their exact status and population distribution in the state. Because of the secretive and nocturnal behavior of owls, they are not likely to be counted in large-scale bird monitoring programs, such as the Breeding Bird Survey. This means that alternative efforts must be made to monitor these species. In 2006, as part of a regional monitoring effort, the DEP Wildlife Division established an owl monitoring study. Using Maine Audubon's protocol as a framework, the DEP created its own protocol, and established 39 survey routes across the state that will be revisited year after year.

Each route is surveyed once during the period from March through April, between the hours of midnight and 4:00 AM. Routes consist of 10 points where the surveyor plays a 20-minute callback tape and records any owl responses, seen or heard. Tapes consist of a 20-second call of each owl, separated by periods of silence, in a specific order so that calls of more aggressive owls do not scare the others into silence.

The information gathered from these surveys will tell us more about the occurrence and distribution of owls in Connecticut. In addition, a better understanding will be gained about habitat preferences, activity with respect to time of night and weather conditions, and yearly variation. The information that can be garnered from these monitoring efforts will be used by the DEP to identify and maintain critical habitat and to evaluate the needs of these species on a yearly basis.

DEP staff members, with the help of seven volunteers, were able to cover 13 routes this past survey season. For the 130 survey points conducted, owls were recorded at 30 of the points. The Wildlife Division is currently recruiting volunteers for the 2007 owl survey season. If you are interested in assisting, please contact Wildlife Technician Shannon Kearney-McGee, at 860-675-8130 or send email to: shannon.kearney@po.state.ct.us.

Number of Individual Owls Recorded

Northern Saw-whet Owl	6
Eastern Screech Owl	3
Barred Owl	14
Barn Owl	0
Great Horned Owl	5
Unknown Owl	4

P. J. FUSCO

Volunteer Mike O'Leary holds a bald eagle chick hatched in Connecticut while Wildlife Division biologist Julie Victoria (left) and Bald Eagle Study Group volunteer Donald Hopkins place bands on the chick's legs.

Twelve Bald Eagle Chicks Raised this Year

Nine bald eagle pairs set up territories this year in Connecticut and six of these pairs produced a total of 12 young eagles. Unfortunately, two pairs lost their chicks in the nesting season, probably due to the rainy spring weather, and one pair did not lay eggs.

The six successful nests were distributed as follows: two in Litchfield County (4 chicks), one in Middlesex County (3 chicks), two in Hartford County (3 chicks), and one in New London County (2 chicks). The DEP Wildlife Division does not disclose the exact locations of the nests to protect the eagles from human disturbance and out of respect for landowners whose land is not open to the public.

The Division examined and banded 10 of the 12 chicks. To reach the eagle chicks, wildlife technician Geoffrey Krukar, a six-year veteran of the eagle project, climbed the nest trees and carefully lowered the young birds to the ground. Once on the ground, the eagle chicks were given unique leg bands to aid in future identification. Leg bands are a useful tool for wildlife managers because they allow you to trace local movements, estimate population changes, and determine a bird's lifespan. The use of leg bands has provided important information to the recovery program for this federally threatened and state endangered species and has added to our knowledge of eagle life history in Connecticut. The Wildlife Division has been placing leg bands on most of the eagle chicks hatched in the state since 1992.

Rabid Deer Found in Thomaston

On July 27, 2006, DEP EnCon Police Officers responded to a call regarding a white-tailed deer in a yard in Thomaston that had been lying in the same area for a 24-hour period and was unable to get up. The deer was dispatched and tested for Chronic Wasting Disease (CWD) and rabies. Test results indicated the deer was positive for rabies. This is the second confirmed case of rabies in a free-ranging white-tailed deer in Connecticut. The first case of a wild deer testing positive for rabies was documented in Stamford in the summer of 2005.

Birds of Prey Featured at The Connecticut Audubon Society Center at Glastonbury

Birds of prey will featured through December at the Center, as well as in programs and activities. Visit the Discovery Room and Zone for interactive educational fun with birds of prey through exhibits, games, and learning experiences.

A **Birds of Prey Family Day** is scheduled for Oct. 21 (11AM-3PM). Help build an eagle's nest. Learn what distinguishes birds of prey. Dissect an owl pellet. Build a kestrel or screech owl house. Admission is free, but some activities may have a materials fee.

To learn more about other programs, contact the CT Audubon Center at Glastonbury by calling 860-633-88402.

Just for Kids

The Skunk

With white stripes down its black back, everyone recognizes the skunk! Striped skunks are furbearers and can be trapped in Connecticut.

An Awful Aroma!

Unlike other animals, skunks can spray in defense. This chemical spray can be "shot" up to 10 feet or more away. Tomato juice or vinegar may remove the odor from people or pets. Skunks usually stamp their feet and raise their tail as a warning before they spray.

Which animals are related to skunks?

Weasel
Fisher
Otter
Mink

The answer is all of them! These animals are members of the Mustelid family of mammals. Each mustelid can make a strong, smelling liquid from certain glands in the body.

Unscramble these words to find what skunks like to eat:

BRGUS

ERTTUL SGEG

ERGAAGB

RMWSO

STNU

URFIT

What makes good skunk habitat?

Skunks like open fields with short plants in them. They can live in towns and cities with parks. Often, they make their homes under buildings, sheds, and porches. Skunks also are found near garbage dumps!

Answers to scramble

GRUBS, TURTLE EGGS, GARBAGE, WORMS, NUTS, FRUIT

Wildlife Calendar Reminders

Public Program Series at the Sessions Woods Conservation Education Center

The Public Program Series is a cooperative venture between the Wildlife Division and the Friends of Sessions Woods. Please preregister for these programs by calling the Sessions Woods office at 860-675-8130 (Monday-Friday, 8:30 AM-4:30 PM). Programs are free unless noted and all children under 12 years old should be accompanied by an adult. Sessions Woods is located on Route 69 in Burlington.

Oct. 14 ..... **Children's Workshop: Fall Photo Spectacular,** from 9:00-11:00 AM. The Friends of Sessions Woods, on behalf of donations given in memory of dedicated board member Paul Peterson, is offering a special children's photography workshop. Children will be given photo tips and a camera for picture taking while being led on a walk to view the special features of Sessions Woods. In return, parents agree to process the film and provide three photos for a future display in the Conservation Education Center. Preregistration is **required** for this unique program and all children must be accompanied by an adult. Due to the nature of this program, registrants must be 7 years or older. Wildlife Division Photographer Paul Fusco and Natural Resource Educator Laura Rogers-Castro will present the workshop.

Nov. 4 ..... **Habitat Hike**, starting at 10:30 AM. Connecticut is home to a wide array of wildlife habitat. Changes in habitat impact wildlife in many ways. Explore Sessions Woods and learn about wildlife habitat on this two-mile hike. There also will be a discussion on the Wildlife Division's role in habitat and wildlife management. Meet in the lobby of the Conservation Education Center.

Educator Workshops at the Sessions Woods Conservation Education Center

Those interested in participating in the Educator Workshops also must call the Sessions Woods office (see above) to obtain a registration form. Educators can obtain CEUs by fully participating in the workshops. For more information, contact Laura Rogers-Castro at Sessions Woods.

Oct. 23 ..... **Educator Workshop: Wildlife and Wildlife Habitat** (Grades 3-8), from 4:00-6:30 PM. Participants will learn about Connecticut's wildlife and their habitat needs through indoor and outdoor activities.

Nov. 2 ..... **Educator Workshop: Black Bears in Connecticut** (Grades 3-8), from 4:00-6:00 PM. Why have bear sightings increased in Connecticut? What type of bear research is being conducted by the Wildlife Division? What are the habitat needs of Connecticut's black bear population? Discover a new bear outreach kit available for loan through the Wildlife Division that will answer each of these questions and more.

Programs and workshops at Sessions Woods are sometimes scheduled between issues of *Connecticut Wildlife* and cannot always be advertised in the magazine in a timely matter. To stay informed about fun and interesting programs offered by the Wildlife Division and the Friends of Sessions Woods, regularly check the calendar section of the DEP's website (www.ct.gov/dep) or call the Sessions Woods office during business hours.

Hunting Season Dates

Sept. 15-Nov. 14 .... First portion of the fall turkey and deer bowhunting seasons on state and private land (statewide).

Sept. 15-Dec. 30 .... Deer bowhunting season on state land bowhunting only areas and private land in deer management zones 11 and 12.

Oct. 7-31 ..... Fall firearms turkey season.

Oct. 21 ..... Small game hunting season opens

Nov. 15-24 ..... Deer shotgun season on state land (A season)

Nov. 15-Dec. 5 ..... Deer shotgun/rifle season on private land.

Nov. 25-Dec. 5 ..... Deer shotgun season on state land (B season) and state land no-lottery season.

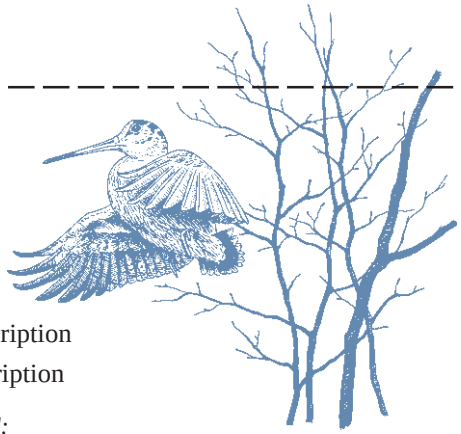
Dec. 1 ..... Beaver trapping season opens.

Dec. 6-30 ..... Deer bowhunting season on private land (deer management zones 1-10).

Dec. 6-19 ..... Deer muzzleloader season on private and state land.

Dec. 20-30 ..... Second portion of the deer bowhunting season on state land.

..... See the 2006 Connecticut Hunting and Trapping Guide for specific season dates and details. The 2006-2007 Migratory Bird Hunting Guide contains information on duck, goose, woodcock, rail, and snipe seasons. Both guides are available at Wildlife Division offices, town halls, and on the DEP's website, www.ct.gov/dep. The 2007 Connecticut Hunting and Trapping Guide will be available by mid-December.



Shorebirds are among the most extraordinary migrants. They are swift and powerful flyers, making use of the winds of changing seasons to help power their flocks over great distances. Their migrations take them on tremendous and remarkable journeys. Most species, including semipalmated plovers (above), breed in arctic and subarctic regions, and winter in the southern hemisphere, some as far south as Tierra del Fuego.

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