

November/December 2010

Connecticut Wildlife

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



Eye on the Wild

Connecticut Hunting & Fishing Appreciation Day 2010

After many months of hard work and planning, the Friends of Sessions Woods and DEP cosponsored a fun-filled day of free activities on Saturday, September 25, at the Wildlife Division's Sessions Woods Wildlife Management Area in Burlington (see page 9 to learn more). The idea to hold a "Connecticut Hunting & Fishing Appreciation Day" transpired with the non-profit Friends group. Friends wanted to show its appreciation to sportsmen and women for their contributions to the conservation of Connecticut's natural resources by sponsoring a special day to celebrate hunting and fishing. Why hold such an event at Sessions Woods? The acquisition of this property, which is used by hikers, school and scout groups, hunters, and anglers, was made possible through the Federal Aid in Wildlife Restoration Program. Federal aid also was instrumental in the establishment of the Sessions Woods Conservation Education Center. Hunters and anglers pay taxes and special fees on hunting and fishing equipment to help fund wildlife and fish management, habitat restoration, and other conservation programs.

One of the goals of CT Hunting & Fishing Appreciation Day was to hold a free event that would draw the participation of not only hunters and anglers, but families and others interested in the outdoors. The last Saturday in September was chosen for the event because it also is National Hunting and Fishing Day. However, several fairs and festivals also are held all over the state on the same day. The organizers of CT Hunting & Fishing Appreciation Day knew they had a tremendous task in front of them. Friends offered financial support and also obtained grants from the Main Street Community Foundation, and the Clinton S. Roberts Foundation. Organizers invited other DEP Divisions, sportsmen's organizations, and local outdoor equipment retailers to participate. They also planned a multitude of activities and presentations for all ages. Everyone did their best to spread the word about this new event.

When September 25 arrived with its warm, sunny weather, the people steadily came to Sessions Woods, curious about CT Hunting & Fishing Appreciation Day. They left happy and pleased with the activities and programs. Most surprising of all was the number of families with children that attended. CT Hunting & Fishing Appreciation Day turned out to be the perfect family outing. The organizers accomplished their objective of getting families outdoors and introducing them to a whole new world of wildlife and fisheries conservation and outdoor activities. Feedback from attendees and participants (volunteers, sportsmen's groups, retailers) has all been positive.

The Wildlife Division would like to extend its appreciation to everyone who worked hard to make CT Hunting & Fishing Appreciation Day a resounding success.

Kathy Herz, Editor

Cover:

Northern saw-whet owls spend the winter in Connecticut, roosting in dense evergreens near their hunting grounds. Read the article on page 3 to learn more about a project to improve their winter roosting habitat.

Photo courtesy of Paul J. Fusco

Connecticut Wildlife

Published bimonthly by

State of Connecticut
Department of Environmental Protection
Bureau of Natural Resources
Wildlife Division
www.ct.gov/dep

Commissioner
Amey Marrella

Deputy Commissioner
Susan Frechette

Chief, Bureau of Natural Resources
William Hyatt

Director, Wildlife Division
Rick Jacobson

Magazine Staff

Editor Kathy Herz

Art Director/Photographer Paul Fusco

Circulation Trish Cernik

Wildlife Division

79 Elm Street, Hartford, CT 06106-5127 (860-424-3011)

Office of the Director, Recreation Management, Technical Assistance, Natural History Survey

Sessions Woods Wildlife Management Area
P.O. Box 1550, Burlington, CT 06013 (860-675-8130)

Wildlife Diversity, Birds, Furbearers, Outreach and Education, Habitat Management, Conservation Education/Firearms Safety, *Connecticut Wildlife* magazine

Franklin Wildlife Management Area
391 Route 32, N. Franklin, CT 06254 (860-642-7239)

Migratory Birds, Deer/Moose, Wild Turkey, Small Game, Wetlands Habitat and Mosquito Management, Conservation Education/Firearms Safety, Wildlife Diversity

Eastern District Area Headquarters
209 Hebron Road, Marlborough, CT 06447 (860-295-9523)
State Land and Private Land Habitat Management

Connecticut Wildlife magazine (ISSN 1087-7525) is published bimonthly by the Connecticut Department of Environmental Protection Wildlife Division. Send all subscription orders and address changes to *Connecticut Wildlife*, Sessions Woods WMA, P.O. Box 1550, Burlington, CT 06013. Subscription rates are \$8 for one year, \$15 for two years, and \$20 for three years. No refunds. Periodical postage paid at Burlington, CT, and additional entry offices. Postmaster: Please send all address changes to *Connecticut Wildlife*, P.O. Box 1550, Burlington, CT 06013.

Web site: www.ct.gov/dep/wildlife

E-mail: dep.ctwildlife@ct.gov

Phone: 860-675-8130



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.



The DEP is an affirmative action/equal opportunity employer and service provider. In conformance with the Americans with Disabilities Act, DEP makes every effort to provide equally effective services for persons with disabilities. Individuals with disabilities who need this information in an alternative format, to allow them to benefit and/or participate in the agency's programs and services, should call 860-424-3051 or 860-418-5937, or e-mail Marcia Bonitto, ADA Coordinator, at Marcia.Bonitto@ct.gov. Persons who are hearing impaired should call the State of Connecticut relay number 711.

Copyright 2010 by the Connecticut DEP Wildlife Division. The Wildlife Division grants permission to reprint text, **not artwork or photos**, provided the DEP Wildlife Division is credited. Artwork and photographs printed in this publication are copyrighted by the CT DEP Wildlife Division. Any unauthorized use of artwork and photos is prohibited. Please contact the editor at the Sessions Woods office to obtain permission for reprinting articles.

Printed on recycled paper

Restoring Winter Roosting Habitat for the Saw-whet Owl

Written by Peter Picone

Habitat is the foundation of wildlife's existence and, for some species, special habitats can become even more important seasonally. This is the case with the Northern saw-whet owl, which uses evergreen roosting cover during late fall and winter.

The saw-whet is Connecticut's smallest owl. It hunts for white-footed mice in the darkness of night. After their hunting forays, the owls seek the protective cover of evergreens. Saw-whets winter in Connecticut, roosting in dense evergreens near their winter hunting grounds. Evergreens provide important thermal cover during the cold winter months and protection from larger avian predators during daylight hours. Saw-whets also occasionally store captured prey on evergreen branches for later consumption.

As forests age, evergreens like red cedar are displaced by oaks, hickories, and maples. Without forest management, shade-intolerant, early colonizers, such as red cedar, die off in 25 to 30 years.

The Wildlife Division received a U.S. Department of Agriculture Wildlife Habitat Incentives Program (WHIP) grant to restore evergreen habitat at a saw-whet owl winter roosting site on state land in New Haven County. Restoration and enhancement of evergreen habitat was accomplished by clearing away hardwood tree competition around existing evergreens (known as daylighting); and planting new evergreens in clusters near former and current winter roosting areas.

The daylighting of evergreens and site preparation for plantings was accomplished in 2008 with the use of a "brontosaurus" mower. This large apparatus has a drum-chop mowing head that chomps, grinds, and mulches woody vegetation to ground level. Habitat managers consider this machine one of the best tools of the trade to improve sunlight conditions and restore young forests.

In fall 2009 and spring 2010, red cedar, white pine, white spruce, and Norway spruce were planted by Division staff and volunteer Master Wildlife Conservationists in areas cleared by the brontosaurus. Fencing was placed around the cedars to protect them from deer browsing as they are a preferred winter food for deer. Some



P. J. FUSCO

The northern saw-whet owl uses evergreen cover for roosting and protection in winter.

of the planting stock (bare root white pine, Norway spruce, white spruce) was donated by Richard Jaynes of Broken Arrow Nursery, in Hamden. As the planted evergreens grow, they will improve and retain the Northern saw-whet owl's winter roosting sites on the property.

The Division is grateful to its partners who helped facilitate this habitat restora-

tion project, especially the USDA Natural Resource Conservation Service, DEP Parks Division, Master Wildlife Conservationists, and New Britain High School invasive plant management volunteers.

Peter Picone is biologist with the Wildlife Division's Habitat Management Program



P. PICONE, HABITAT MANAGEMENT PROGRAM

Master Wildlife Conservationists plant evergreens to improve winter roosting habitat for saw-whet owls.

The Future of Moose in Connecticut

Written by Andrew LaBonte

Moose are one of North America's largest land mammals and the largest member of the deer family (Cervidae). An adult moose stands six feet tall at the shoulder and can weigh up to 1,400 pounds. Moose are well adapted for the cold weather of the northern portion of their historic range, which includes the northeastern United States and eastern Canada (including Newfoundland), and westward to the Great Lakes.

Historic Accounts of Moose

Historic accounts suggest that moose existed in Connecticut, but were extirpated sometime in the early eighteenth century. According to the Connecticut State Archaeologist, no archaeological deposits of moose exist, indicating that moose, if truly ever native, likely occurred in low numbers. Beginning in the early 1900s, moose were reportedly seen on a few occasions throughout the state.

An emergency regulation that gave full protection to moose was passed



A. LABONTE, DEER PROGRAM

To better assess the future existence of moose in Connecticut, moose are being captured, radio-collared, and ear tagged as part of an ongoing project.

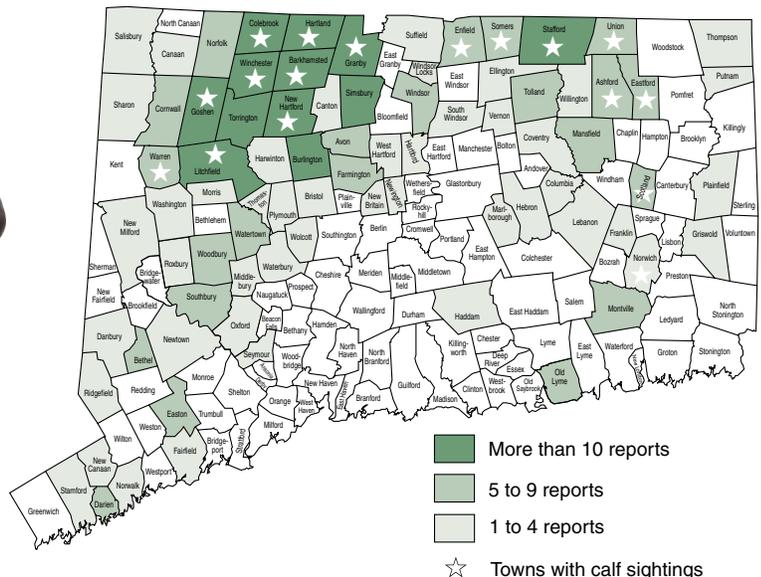


Moose are one of North America's largest land mammals. An adult moose stands six feet tall at the shoulder and can weigh up to 1,400 pounds.

P. J. FUSCO

in 1956. Wandering moose occasionally were reported through the early to mid-1990s; however, there was no evidence that a resident population existed. In 2000, the first sighting of a cow with a calf was documented, confirming the establishment of a resident population. Since 2000, a growing number of public and hunter sightings of moose and an increase in moose-vehicle accidents indicate the population continues to expand. The population was conservatively estimated at 74 moose in 2008.

Reported Moose Sightings 2000-2009



Limits to Population Expansion

Continued expansion of the moose population in Connecticut may be limited by several factors, including quality of habitat and food resources, weather, and disease. Optimal habitat has been described as areas dominated by early successional vegetation offering a wide variety of tree stand types and age classes that provide both mature conifer cover and open, disturbed areas for forage. Connecticut forests are primarily mature, with 78% percent of trees greater than 60 years of age. This condition provides plenty of cover from weather. However, during much of the year, moose prefer young forest stands with high stem densities and quality food that can meet the demands of their diet (40-50 pounds of food per day). Moose may expend more calories searching for food than they can consume if the density of optimal forage species is low.

Impact of Temperature and Habitat

Warm temperatures might restrict the southern range expansion of moose into areas with otherwise adequate forest habitat. Moose have difficulty dissipating surplus heat when there are warm temperatures, which can lead to heat stress. Heat stress can lead to reductions in overall activity, influencing feeding time and consumption rates, and can result in weight loss. Average daily temperatures in Connecticut exceed temperature thresholds for moose 200-300 days out of the year. Temperature readings recorded from a GPS-collared moose in northwest Connecticut revealed that the moose was exposed to temperatures above heat stress temperatures 86% of the time.

A model evaluating the suitability of Connecticut's landscape for moose was developed, based on quality and quantity of habitat and temperature. Three counties were classified as unsuitable for moose based on density of roads and humans. The total potential moose in Connecticut is 1,359, based on moose densities derived from the model. Potential moose concentration varied geographically across the state. The areas most suitable for moose exist along the Massachusetts border in northeastern and northwestern Connecticut.

Impact of Insects and Disease

In addition to the challenges associated with finding adequate food and keep-

ing cool throughout the year, moose also face the challenge of coping with insects and disease. Moose can be harassed by biting flies to the point where their health is impacted because they are forced to move into less desirable habitat to escape the flies. Winter ticks, also known as "moose ticks," can significantly impact the health of moose. Unlike the deer tick, the moose tick feeds on one host throughout its life cycle, which begins when eggs hatch into larvae in summer. Larvae are picked up when a moose passes by vegetation where eggs were laid. The larvae remain on the moose through the nymphal and adult stages where they continue to feed until they drop off in May. As many as 50,000 ticks have been reported on moose in several Canadian Provinces. The consequences of heavy tick loads are excessive grooming, hair loss, and even death. Moose with an extensive tick infestation are often referred to as "ghost moose" because they appear to be a light-colored, pale grey instead of dark brown.

A neurologic disease known as "moose sickness" is caused by a brain worm that is found in deer in eastern and central North America. Larval stages of the worm are shed by deer and found on their feces. Intermediate hosts, such as snails and slugs, pick up the larvae. As moose feed on vegetation, snails and slugs are incidentally ingested. The worms carried by the snails and slugs penetrate the wall of a moose's stomach during digestion and migrate along nerves until they reach the vertebral wall. There they enter the tissue of the spinal cord and continue to migrate towards the brain. Brain worm infestations are known to cause weakness in the hindquarters, turning of the head and neck to one side, fearlessness, lethargy, rapid eye movement, blindness, circling, and the inability to stand. Moose infected with brain worm may not always exhibit signs of infection. Brain worm also may not be the direct cause of death. However, the condition has been associated with declines in moose populations throughout North America since symptoms were first documented in Minnesota in 1912. Although

deer are the usual host for the worm, they rarely become ill from it.

During 2005, a Connecticut moose became sick and died in Burlington and another displaying symptoms associated with brain worm was euthanized in Goshen. In 2009, a third moose that was behaving oddly in Hartland was captured and later had to be euthanized after it was unable to regain mobility. All three moose were examined at the University of Connecticut and showed infestations of brain worm. This past August, an adult female moose that displayed signs of brain worm (lameness and limited ability to stand) was immobilized in Cromwell and relocated to northwestern Connecticut, where it had the best chance of survival. The moose died the following day. Although the ultimate cause of death was unclear, it is likely that stress from either disease or injury, in combination with stress associated with capture and relocation, was too much for the animal.



Moose and deer ticks found on a moose captured in Hartland in 2009.

PHOTO BY P. LEWIS, DEER PROGRAM

Collecting Data

To better assess the future existence of moose in Connecticut, moose are being captured, radio-collared, and ear tagged as part of an ongoing project between the DEP, University of Connecticut, and Northeast Wildlife Damage Management Cooperative, along with additional cooperation from the Metropolitan District Commission. Information is being collected on age, weight, general health, habitat use, and survival of moose.

A female moose that was captured in March 2009 and had been missing since May 2009 was recently observed with a calf in Hartland. The cow had given birth to a calf earlier this year and both have been seen with a bull collared in January 2010 for the past month.

Anyone who observes a moose in urban areas of Connecticut should contact the Wildlife Division's Franklin office at 860-642-7239 or Sessions Woods office at 860-675-8130 during office hours (Monday through Friday, 8:30 AM-4:30PM), or DEP Emergency Dispatch (860-434-3333) after hours. All other observations can be reported on the DEP Web site at www.ct.gov/dep/wildlife.

Andrew LaBonte is a biologist with the Wildlife Division's Deer Program



Blue Spots and Spade Feet:

DEP study is focused on two of New England's rarest amphibians

Written by Kevin J. Ryan

Bucolic eastern Connecticut, with its gently rolling hills and scenic farm fields, is a herpetological hot spot. The region is home to two of New England's rarest amphibians: the eastern spadefoot toad and the pure-diploid blue-spotted salamander.

If "spadefoot" and "pure diploid" are terms that leave you wondering, you're in good company. Although the DEP identified the spadefoot and bluespot as "Species of Greatest Conservation Need" in its 2005 Comprehensive Wildlife Conservation Strategy and both species are endangered in Connecticut, surprisingly little is known about either animal. So, in an effort to learn more about these animals' habits and preferred habitats and to better guide conservation strategies, DEP partnered with the University of Maine Department of Wildlife Ecology and CTherpConsultant, LLC, in 2008 to gather much-needed data on these species. The overarching goal of this study is to determine the best way to guide development in a way that supports persistence of these species. At the time of this writing, the study is in its third year, and a fourth and final season is planned for 2011.

Eastern Spadefoots: Desert Animals Stuck in Desert Ways

Little-known and somewhat misnamed, eastern spadefoots are not, in fact, true toads like our ubiquitous American and Fowler's toads. Somewhere between a toad and a frog, these desert amphibians are believed to have evolved from a common ancestor in the arid southwestern United States and northern Mexico. Over millennia, spadefoots expanded their ranges and evolved into separate species. Presently, there are six species west of the Mississippi River and one east – the eastern spadefoot. In New England, known spadefoot populations are usually found in river valleys at sites below 200 feet in elevation.

Even the most ardent spadefoot enthusiast will admit that they are odd-looking animals, and it doesn't take a trained eye to tell them apart from Connecticut's other anurans (frogs and toads). Eastern spadefoots are considerably less warty than true toads, have vertical pupils like those of a pit viper, and bear a whit-

ish, lyre-shaped pattern on their backs. They owe their name to the sharp-edged, spade-like projections on their hind feet called tubercles which are used for corkscrewing themselves into underground burrows. Digging burrows – which can be up to six feet deep – are a relic response to life in the deserts in which these animals evolved. Connecticut isn't exactly arid, but these burrows still allow spadefoots to avoid predators and desiccation.

Another trait that harkens back to desert origins is their arrhythmic, explosive breeding events. While every other amphibian in New England adheres to a predictable, annual breeding cycle, spadefoots wait for intense rains in spring or summer to initiate truly explosive events lasting anywhere from one night to several days. These events are best identified by raucous calling reminiscent of the cawing of crows. Yet, for all this sound and fury, a given population may go years without breeding. These periodic emergences gave rise to the myth that spadefoots remain underground, completely inactive, for years at a time. (Spadefoots do emerge periodically at night to feed.)

When they do breed, the resulting offspring bear yet another desert adaptation. Because water in the desert dries up quickly, larval spadefoots everywhere develop accordingly. Eggs can hatch in only a few days and, under the right conditions, it takes a mere two weeks for a tadpole to transform into a juvenile. Other "rapidly" developing anurans, wood frogs for example, take two to three months to develop into froglets.

While adapted to conditions other amphibians would find prohibitive, no amount of evolutionary conditioning has prepared the spadefoot for its current challenge—human-dominated landscapes. Spadefoot populations have been extirpated due to development, including one well-known population near New Haven which was extirpated in the 1930s



The eastern spadefoot toad has a characteristic lyre-shaped pattern on its back. This toad is listed as an endangered species in Connecticut.

– presumably to urbanization.

At the natural edge of their range and up against the ticking clock of seemingly inevitable land-use conversion, there is still time to safeguard the future of this odd little creature. Several populations are still known from the northern portion of the Central Connecticut Lowland, and more recently, spadefoots have been discovered in the Quinebaug River watershed in eastern Connecticut. As we learn more about their life history, we are better able to guide development for the mutual benefit of both species.

Pure-diploid Blue-spotted Salamanders: Normal Is Unique

Blue-spotted salamanders are one of several species of Connecticut salamanders belonging to the family Ambystomidae, the mole salamanders. Individuals



A pure-diploid blue-spotted salamander from the Quinebaug Valley. This amphibian is listed as an endangered species in Connecticut.

of this family are most often encountered on warm, rainy, spring nights when they undertake annual breeding migrations en masse to their ancestral breeding wetlands. Adult mole salamanders use wetlands only for several weeks during spring (with the exception of the marbled salamander, which breeds in the fall), spending the rest of their lives in forests adjacent to breeding wetlands.

The story of blue-spotted salamanders is a complicated one. Throughout much of New England, most salamanders we call “bluespots” are actually part of a genetic *mélange* which stemmed from the hybridization of two species millions of years ago. By and large, then, a bluespot isn’t just a bluespot... unless it is. To better understand this, let’s take a step back.

Most land-dwelling vertebrates are “diploid,” meaning they have two sets of chromosomes: one from an individual’s mother and one from its father. Salamanders in unisexual populations are “polyploid,” meaning that they have multiple sets of chromosomes – in some cases up to five. In a given ambystomatid salamander, these extra chromosome sets can be from several other closely-related species. For Connecticut’s bluespots, those extra sets come from the Jefferson salamander.

If the species’ genetic ambiguity wasn’t strange enough, its sexual habits are guaranteed to raise eyebrows. Populations of these hybrid species complexes generally consist only of females. Yet, despite having no males, they still need male sperm to reproduce. During the breeding season, female unisexual salamanders “steal” sperm from males of closely-related species. Male salamanders release sperm packets in the water of breeding areas before the females

arrive. Once the females arrive at the breeding areas, they deposit the sperm packets in their bodies. The “stolen” sperm initiates egg development, but generally, the genetic material is not incorporated into the young. This type of sperm-stealing reproduction has been recently termed “kleptogenesis.”

At first blush, this sort of reproductive strategy may seem unusual. Yet, throughout New England’s wetlands, genetically muddled female salamanders use sperm from unrelated males every spring. The rare exceptions occur in three known populations of sexually reproducing, genetically pure blue-spotted salamanders — on the eastern tip of Long Island, New York at Montauk; in the Hockomock Swamp in Massachusetts; and in the Quinebaug River watershed in eastern Connecticut. These diploid populations are thought to be of the same lineage which remained geographically isolated from the unisexual, kleptomaniacal masses after the last glaciation.

The rare, puritan diploid bluespots look a little different from their complex cousins. Genetically pure blue-spotted salamanders are the smallest of Connecticut’s mole salamanders; they are black with blue or bluish-white spots on the sides of the body and tail. Their narrow heads taper to a rounded snout. Unisexual blue-spotted salamanders tend to be larger, brownish, and have considerably wider heads.

Most studies of blue-spotted salamanders focus on genetics of unisexual populations, and little is known about their life history. Most published studies on the species recognize that they were working with unisexual populations, but do not attempt to reconcile their ecology with their genetics. Studying the ecology of diploid bluespots serves as a baseline for examining the influence of other species’ genes on unisexual populations.

Connecticut Study

The current Connecticut study is tak-

ing place at two field sites in the eastern part of the state that are both inhabited by eastern spadefoots and pure-diploid blue-spotted salamanders. Specifically, the objectives of this study are to assess the animals’ breeding population sizes, fidelity to breeding sites, movement patterns to and from breeding wetlands, the proportion of juveniles surviving to become adults, and non-breeding habitat use. Tried-and-true methods complement a few new techniques to collect information on both animals.

Pitfall Trapping

Pitfall trapping is a technique used in ecological studies to capture small animals, such as insects, small mammals, reptiles, and amphibians. It allows researchers to determine the species present on a site, and to estimate population size. Due to problems with indiscriminate capture, the Wildlife Division currently only permits pitfall traps to be used for long-term permitted studies like this one.

Species composition, as determined by pitfall trapping, also gives clues to possible between-species competition for breeding sites and/or food resources; aids in the assessment of potential predator-prey interactions; and gives insight into facultative use of pools by other species.

The layout of pitfall trap arrays at research sites surrounds breeding pools and compartmentalizes the habitat types present. This allows the assessment of population-wide movements.

Blue-spotted salamanders and eastern spadefoots captured in pitfall traps are surgically implanted with Passive Integrated Transponders (PIT tags). PIT tags are glass-encased microchips that emit a unique identification number when scanned by a reading device. From that moment on, each animal with a PIT tag is identifiable at the individual level, and subsequent recaptures can be tracked.

Radio-telemetry

A subset of blue-spotted salamanders and spadefoots toads have been implanted with radio-transmitters, allowing their every move to be tracked. Each time an animal shifts its location, a suite of macro- and micro-habitat information is recorded, including canopy cover, leaf litter depth, and soil temperature. Habitat information is recorded at two random sites for each animal location to compare the habitats that study animals are using versus other available habitats.

continued next page

Blue Spots and Spade Feet

continued from page 7

PIT Tag Scanning

PIT tags are being employed as a novel method of detecting blue-spotted salamanders in situ via methodical scanning with a PIT tag reading device equipped with a modified antenna. The ordeal is reminiscent of a person searching for buried treasures with a metal detector. Locating salamanders in this fashion allows for the examination of habitat use at both coarse and fine scales. If salamanders are found using a habitat disproportionately to the amount of a particular habitat, then the salamanders may be exhibiting a preference for that habitat type. As with telemetry, micro-habitat information is collected at each salamander location.

Toad-totes

To collect data on non-breeding emergences of eastern spadefoots, the antenna of another type of modified PIT tag reading device, dubbed a “toad-tote,” is placed over the burrow of a PIT tag-implanted individual. The reader subsequently records the animal’s PIT tag number as well as the date and time the tag number was recorded. Once a spadefoot emerges from its burrow and moves away from the antenna, its tag is no longer read, which is reflected in the stored data in the PIT tag reader. When the spadefoot returns to its burrow, the

reader again begins to record the PIT tag number. Collecting data in this fashion provides an assessment of when and for how long spadefoots emerge. Comparing emergence data to weather information will be helpful in determining what spurs spadefoots to the surface for both breeding and non-breeding emergences. This knowledge may in turn be useful for conducting presence/absence surveys as new sites can be searched when spadefoots are likely to be active.

Spadefoot searches

To discover new localities of eastern spadefoots in eastern Connecticut, researchers have been searching at night during presumed peak spadefoot activity periods. Surveys have been concentrated on areas identified by the “Predicted Spadefoot Toad Habitat Map” created by Wildlife Division technician Kate Moran. The map is based on a Geographic Information System (GIS) model which incorporates elevation and soil characteristics of known spadefoot locations to predict further areas of suitable habitat (see “GIS Aids in Identifying Potential Spadefoot Toad Habitat,” in the July/August 2009 issue of *Connecticut Wildlife*).

An Opportunity to Act

Amphibians are sentinels of planetary health – the proverbial canaries in a coal mine – and they are declining worldwide more rapidly than any other vertebrate group, including birds and mammals. In

North and South America, nine species have been extirpated in the past 100 years and the present existence of another 117 species remains unknown. Of North and South America’s 1,187 amphibian species, 39% face extinction, 337 of which are classified as critically endangered.

In the northeastern United States, habitat degradation, loss, and fragmentation have been identified as the main causes of decline in amphibian species.

The best-intentioned conservation efforts risk crumbling if their foundation is not one of sound science. While much of the Northeast experiences significant industrial, commercial, and residential development, eastern spadefoots and blue-spotted salamanders face greater and greater habitat loss. And, while it is a logical enough response for concerned citizens to wring hands and decry bulldozers, solid research into how these animals make their living can be used to guide most development around them. Their long-term viability hinges on the public’s understanding of the value of biodiversity, the dedication of scientists logging long hours in the field and lab, and willingness of local planning departments and the development community to be open to changes in business as usual.

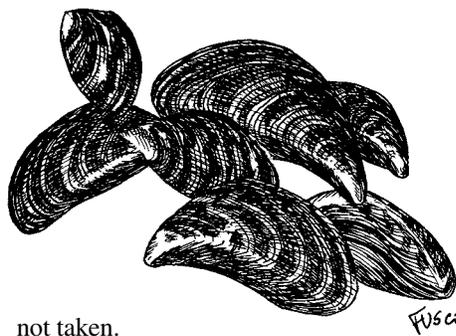
Kevin J. Ryan is a graduate research assistant from the University of Maine Wildlife Ecology Department



Zebra Mussels Discovered in Lakes Zoar and Lillinonah

The aquatic, invasive zebra mussel has been discovered in Lake Zoar and Lake Lillinonah, two large impoundments on the Housatonic River in western Connecticut. This is the first report of a new infestation since zebra mussels were discovered in Connecticut in 1998 in East and West Twin Lakes in Salisbury. It is uncertain if the mussels found in Lakes Lillinonah and Zoar are the result of downstream migration from upstream sources or a separate introduction.

Zebra mussels have the potential to cause much damage by displacing native mussels, clogging power plant and industrial water intakes, affecting public drinking water distribution systems, and disrupting aquatic ecosystems. This invertebrate can spread from one water body to another through boating and fishing activities if proper precautions are



not taken.

The zebra mussel is a black and white-striped bivalve mollusk, which was introduced into North American waters through the discharge of ship ballast water. Since its discovery in Lake St. Clair (Michigan/Ontario) in 1988, the zebra mussel has spread throughout the Great Lakes, Mississippi River system, and most of New York State.

Zebra mussels have specific water

chemistry requirements, and are limited to waters with moderate to high calcium concentrations and pH. In Connecticut, suitable habitat for zebra mussels is mostly limited to a number of water bodies in western portions of the state.

Signs are being posted at Lakes Lillinonah and Zoar to alert the public about the presence of the zebra mussels and what precautions should be taken to prevent their spread. The DEP will continue to monitor these lakes and others throughout the state. Possible sightings of zebra mussels and other aquatic nuisance species should be reported to the DEP Inland Fisheries Division at 860-424-3474. More information can be found on the DEP Web site (www.ct.gov/dep). Look for an in-depth article about zebra mussels in a future issue of *Connecticut Wildlife*.

CT Hunting & Fishing Appreciation Day Is a Huge Success

Written by Kathy Herz, Photography by Paul Fusco

The DEP and Friends of Sessions Woods cosponsored Connecticut Hunting & Fishing Appreciation Day on September 25 at the Sessions Woods Wildlife Management Area in Burlington. This first-time event was a huge success as approximately 1,000 people, mostly families, attended. There were activities for all ages, along with interesting programs and workshops about hunting and fishing, target shooting, 3-D archery, casting pools, and hunting dog demonstrations. The Congress of Rough Riders of Naugatuck provided scheduled demonstrations of Cowboy Action Shooting. Most importantly, attendees had the opportunity to speak face-to-face with DEP staff from the Wildlife, Inland and Marine Fisheries, Law Enforcement, Boating, and Forestry Divisions, as well as with representatives from over 30 conservation, hunting, and fishing organizations. Attendees age 16 and older were able to enter a drawing for door prizes, including a kayak, shotgun, and fly-rod.

Children participated in several fun activities and crafts, such as track making, face painting, a blindfolded ropes course, and a scavenger hunt. Those who completed the scavenger hunt received a bird identification book and were automatically entered into a drawing for a backyard wildlife gift package.

Financial support for the event was provided by the Friends of Sessions Woods, the Main Street Community Foundation, and the Clinton S. Roberts Foundation.

Those who attended Hunting & Fishing Day were able to make turkey calls, learn about forestry and boating in CT, observe Cowboy Action Shooting, and practice flycasting.



A certified range safety officer helps a youngster as he shoots a .22 rifle at a target.



Friends of Sessions Woods members staff the welcome table.



The hands-on wildlife quiz was a popular activity.



Attendees age 16 and older were able to enter a drawing for door prizes (left). Archery was another popular activity (right). Conservation Education/Firearms Safety instructors were on hand to provide instruction.



Large and in Charge - The Great Black-backed Gull

Article and photography by Paul Fusco

Gulls are common and familiar birds to most Connecticut residents. Some species breed here, some migrate through the state, and some spend the winter. Ten species of gulls regularly occur in Connecticut at one time of year or another. Among them is the largest gull in the world, the great black-backed.

The great black-backed gull is a resident, meaning that individuals can be found in Connecticut year round. The population in our region has increased dramatically since the first half of the twentieth century. The great black-backed is an opportunist that has adapted to taking advantage of human-related food sources. Landfills and trash along the shoreline, including fishing waste, provide a readily accessible source of food.

Description

Great black-backed gulls share the same body structure as other members of the gull family, except they are bigger. They have long, broad wings; a short, rounded tail; and webbed feet. Adults have a black back and black topside to their wings (mantle). The head, body, and wing undersides are snowy white. First year immatures have contrasting back markings, a pale head, and a black bill.

With a body length of 32 inches and a wingspan of up to five and one-half feet, the great black-backed is truly an impressive and powerful bird. The large bill is strong and stout. It has a slight hook that is used to catch and kill prey, and tear flesh. Adults have a red spot on their lower mandible that chicks will peck at to get the adults to feed them.



The strong, heavy bill of the great black-backed gull is frequently used for catching and killing prey.

Distribution

Common within their range, great black-backed gulls are found on both sides of the north Atlantic. Their breeding range extends from the middle Atlantic states north along the coasts of the Canadian Maritime provinces to southern Greenland, Iceland, and the coast of Europe from Scandinavia to Portugal. Although they are primarily sedentary, many withdraw from the northernmost latitudes in winter. Some birds may move as far south as coastal Florida and inland to large rivers or lakes as far west as the Great Lakes.

Great black-backed gulls are primarily coastal species. They often seen foraging far out at sea as they are known to follow feeding humpback whales and tuna to take advantage of smaller fishes that may be forced to the surface. The scientific name, *Larus marinus*, is both descriptive and fitting, meaning ravenous bird of the sea.



Above, a gull calls in an aggressive posture, while at right, a great black-backed gull exits the water carrying a freshly-killed black skimmer fledgling.



Behavior

Gulls are expert fliers, using minimal energy by gliding and soaring to cover large distances in their search for food. The great black-backed is capable of covering extreme distances as it surveys its coastal and open water domain. Like an eagle, it can be seen riding the wind to circle high above the shoreline, dropping down in smaller circles to join a feeding group on the water.

It is the great black-backed gull that takes control in a group of other gulls. Its domineering behavior is so aggressive that no smaller gull dares to challenge it. Even amongst themselves, great black-backed gulls will sometimes battle one another for dominance to the point of injury. Attacks are carried out by using their powerful wings, feet, and sometimes bill to mercilessly subjugate their opponent. In fact, injuries are one of the principle causes of death in the population.

Along with scavenging, most gulls feed on small fish and invertebrates, including mollusks. The great black-backed gull also is a ruthless predator that is known to attack and kill chicks and adults of other birds, including puffins, murrelets, ducks, terns, skimmers, and smaller gulls. These gulls are known to knock smaller birds out of the air, coming in to kill them once they hit the water. Great black-backed gulls also are pirates, regularly robbing other seabirds of their catch.

Great black-backed gulls usually start breeding at four to five years of age. They nest singly or in loose colonies on small rocky or grassy islands, barrier beaches, and other isolated coastal areas that are free of mammalian predators.

Conservation and Management

Along with many other avian species, great black-backed gulls were once widely hunted for their eggs and feathers. That



A great black-backed gull starts to make off with its catch of flounder as a common loon looks on.

practice was halted when two bird conservation laws, the Lacey Act (1900) and Migratory Bird Treaty Act (1918), were passed, preventing exploitation. Since that time, the population has been increasing and slowly spreading southward. On this side of the north Atlantic, the great black-backed was once constrained to the Canadian Maritimes. The first documented nesting in Massachusetts was in the 1930s, and Connecticut followed with its first nesting in the 1950s.

When great black-backed gulls are in close proximity to sensitive nesting colonies of terns and other seabirds, problems sometimes develop. The gulls have the capacity to greatly impact nesting and productivity of the other species. The smaller birds, along with their eggs and chicks, are highly vulnerable to the aggressive predatory behavior of the larger gull. In some situations, whole colonies of terns and other seabirds can be at risk of total nesting season failure or colony abandonment.

Wildlife managers in the Northeast region have undertaken measures to control populations of great black-backed gulls at sensitive locations to provide better nesting opportunities for endangered and threatened birds. Some of these measures have had success in protecting a few of the region's tern colonies.

Paul Fusco is the Art Director and Wildlife Photographer for the Wildlife Division's Outreach Program



© PAUL J. FUSCO
All Rights Reserved



© PAUL J. FUSCO
All Rights Reserved

Both adults (left) and immatures (right) exhibit long, broad wings and short, rounded tails. Adults have a black mantle (topside of wings and back), while young birds have contrasting markings with a pale head.

2010 Atlantic Population Canada Goose Banding: *A Personal Experience*

Written by Kelly Kubik

Three distinct populations of Canada geese are present in Connecticut during certain times of the year. Two are migratory, spending their winters in the state. The third is a year-long, resident population. One of the two migratory populations is the Atlantic Population (AP). These geese nest primarily on the Ungava Peninsula in Nunavik, in northern Quebec, Canada, and spend the winter from Massachusetts southward to the Chesapeake Bay region of the Atlantic Flyway.

Banding at Breeding Grounds

The Atlantic Population was once considered the largest Canada goose population in North America, peaking at nearly one million birds during the 1970s. Unfortunately, the AP suffered a precipitous population decline during the late 1980s and early 1990s that led to the closing of the regular Canada goose hunting season in the Atlantic Flyway in 1995. After this closure, waterfowl managers decided that AP geese needed to be monitored directly on their breeding grounds rather than on their wintering grounds, as was traditionally conducted. Part of this new monitoring program was the initiation of a breeding ground band-

ing program in 1997. This banding project is conducted in two separate regions on the Ungava Peninsula: Hudson Bay and Ungava Bay.

This pre-season banding program is vital to the management of AP Canada geese, not only in Connecticut but throughout the entire Atlantic Flyway. The data derived from this project are essential for monitoring adult and juvenile survival rates, timing and distribution of harvest, and population delineation. The program is a collaborative effort between the Arctic Goose Joint Venture, Canadian Wildlife Service, Ducks Unlimited Incorporated, Makivik Corporation, Nunavik Hunting, Fishing and Trapping Association, United States Fish and Wildlife Service, and the Atlantic Flyway Council, of which the Connecticut Department of Environmental Protection is a member.

Corralling Geese by Helicopter

This year, I participated in the pre-season banding of Atlantic Population geese along the Hudson Bay for a second time. On August 5, 2010, I arrived in



K. KUBIK, MIGRATORY BIRD PROGRAM

Airplanes, helicopters, and boats are the primary means of transportation in the remote Ungava Peninsula in northern Quebec, Canada.

the Inuit community of Puvirnituk via a seven-hour plane ride from Montreal, Quebec. I subsequently rendezvoused with an Ontario Ministry of Natural Resources (OMNR) helicopter that took me 40 miles south to our lodge on the Pol- emond River. There were nine individuals in our camp and we worked in two separate banding groups. I was a member of a four-person crew that was also comprised of an OMNR pilot, OMNR engineer, and a waterfowl biologist from Delaware. The other banding crew in the camp included a helicopter pilot from Nunavik Rotors and four Canadian Wildlife Service employees.

While banding geese in this remote sub-arctic region is similar to the resident Canada goose banding that occurs in Connecticut, it does have some very distinct differences. Because this area is comprised of roadless wilderness, a helicopter was used to locate, drive, and corral the geese into a portable net. After the geese were captured, we separated the goslings from the adults and then sexed and banded each goose. We also recorded the band numbers of any birds that were banded in previous years. To increase the probability of not capturing any molt migrant resident geese, only flocks of molting geese that contained goslings were caught. Skull mea-



One of the banding crews consisted of (left to right) Rob Hossler (Biologist from the Delaware Division of Fish and Wildlife), Chuck Brown (OMNR Engineer), Gord Bain (OMNR Pilot), and Kelly Kubik, author and Connecticut Wildlife Division Technician.

P. LABONTE- CANADIAN WILDLIFE SERVICE



An A-Star B2 helicopter was used to local, corral, and drive molting geese into a portable net. The net was carried in a container attached to a skid on the helicopter.

Measurements were taken on approximately 10% of the geese that were caught. These measurements allowed us to differentiate between other subspecies of Canada

geese that were encountered.

Our camp banded 2,398 geese, which included 1,015 adults and 1,383 goslings. Eighty-one previously banded adults also were recaptured. The two groups conducted banding between August 6 and August 14, 2010. We made 84 catches with an average capture size of 30 geese. All of the captures occurred in an area that ranged approximately 115 miles north to south along the northern Hudson Bay coast and extended 25 miles inland. Collectively, the banding operations along



The topography of the study area in northern Quebec consists of numerous ponds, lakes, rivers, and rocky outcroppings intermixed among the tundra.



A nesting rough-legged hawk was one of the many wildlife species we observed while working in this area.

Hudson Bay and Ungava Bay banded a total of 4,594 AP geese this past year. Overall, productivity of AP geese in 2010 was classified as moderate to good.

Kelly Kubik is a wildlife technician for the Wildlife Division's Migratory Gamebird Program. The Atlantic Flyway Council, through the existing Cooperative Canada Goose Project, provided the funding for Kelly to travel to Canada to assist with this project.

Waterfowl Hunters in CT, an Aging and Declining Population

Written by Min T. Huang

Participation in waterfowl hunting in Connecticut and throughout North America has been declining since the 1980s. The reasons for this decline are varied, including low duck populations in the 1980s, steel shot requirements enacted in the late 1980s, closure of the Canada goose seasons in the Atlantic Flyway in the mid-1990s, and a general loss of interest. Changes in society, lack of leisure time, and a changing population demographic also are likely causes. The

gradual decline in the number of waterfowl hunters is not unique. Participation in hunting, in general, is declining.

Increasing recruitment and retention of waterfowl hunters in Connecticut, for the short and long-term, is crucial as waterfowlers are the single most ardent supporters of wetland habitat conservation. Waterfowl hunters constitute a small percentage of total hunters in Connecticut, but their contributions to conservation programs are significant. The sale

of annual Connecticut Duck Stamps to waterfowl hunters has provided over one million dollars that have been used exclusively for the acquisition, enhancement, and restoration of over 1,700 acres of inland and tidal wetlands since 1993. Many of these hunters also belong to nonprofit waterfowl organizations that annually raise funds to benefit not only waterfowl but all wetland dependent wildlife. Developing meaningful strategies for recruiting and retaining waterfowl hunters requires looking at a broad array of factors that affect participation.

Assessing Waterfowl Hunters

Starting in 2004, the Wildlife Division has sent two comprehensive surveys to over 1,000 waterfowl hunters. Objectives were to assess the demographics of waterfowl hunters in Connecticut but, most importantly, to gauge levels of participation, motivations for hunting, and satisfactions derived from participation.

It is clear that Connecticut's waterfowl hunter population is aging. The average age of a waterfowl hunter in the state is approximately 46, with over 20 years of waterfowl hunting experience. Annual participation is high, averaging around 85%. However, despite hunting seasons that have become more liberal in recent years, the number of days spent waterfowl hunting is decreasing. This decline can be attributed to changes in other commitments, decreasing access to hunting spots, and using limited recreational time to hunt other species, such as deer. Hunters that reported not participating in the past one or two seasons cited the same reasons as active hunters for spending fewer days hunting. At least 26% of "dropout hunters" cited lack of access to hunting areas as the overriding reason for not participating. Twenty percent cited other commitments as keeping them from waterfowl hunting, and 18% said that they hunted other species instead of waterfowl with their limited time.

Participation in Hunting

The factors that motivate hunters to participate in the activity and the satisfactions they derive from participating also can provide meaningful insight into how to maintain and recruit hunters. Spending time outdoors with family and friends has the greatest influence on participation by

M. HUANG, MIGRATORY BIRD PROGRAM



Retired Wildlife Division Assistant Director Greg Chasko (right) is an avid waterfowl hunter and former head of the Division's Waterfowl Program. He has made an effort throughout the years to mentor younger hunters interested in gaining the skills necessary to become a "waterfowler."

active waterfowl hunters. This is in stark contrast to the motivations of hunters that reported not hunting in the past year or two. Those “dropout” hunters were more motivated by the desire to harvest ducks than any other factor.

Satisfaction from Hunting

The factors that governed the satisfaction derived from a given hunt also were different between active participants and non-participants. Most participants gained satisfaction from a hunting experience through spending time outdoors with family and friends, working with hunting dogs, and seeing wildlife in general, ducks in particular. “Dropout” hunters were more inclined to derive satisfaction from taking a lot of shots on a hunt or harvesting a given number of ducks. Seeing wildlife and just being outdoors did not resonate as much with this group as it did for the hunters who participated annually.

Differences Between Active and “Dropout” Hunters

The differences in expression between active hunters and “dropout” hunters shed some light on why those who are dropping out may not continue to pursue duck hunting. Previous studies have found that hunters that pursued their sport for achievement-related reasons were more likely to drop out than those that were motivated by appreciative-related reasons. Motivations for non-participants in Connecticut to hunt ducks were less appreciative-related than for those who did participate. Non-participants were not as motivated to hunt for reasons such as merely spending time outdoors, nor were they inclined to list spending time with friends or family as highly as participants.

These motivational preferences were further exemplified in the factors that each group identified as important toward their overall satisfaction. Non-participants were more likely to derive their satisfaction from harvest-related factors than were participants. For instance, firing a lot of shots (achievement-related) on a given duck hunting trip was a greater determinant of satisfaction for non-participants. Appreciative-related satisfactions, such as working with a hunting dog and honing one’s individual hunting skills, also were not as important to non-partici-



P. J. FUSCO

© PAUL J. FUSCO
All Rights Reserved

Despite hunting seasons that have become more liberal in recent years, such as the resident goose season, a recent Wildlife Division survey found that waterfowl hunters are spending less time hunting waterfowl.

pants as they were for participants. These differences point to the need to foster an identity in potential duck hunters. Hunters going into the field to experience more than just the harvest are more likely to remain hunters and conservationists for life, rather than transients.

Mentoring Is Crucial

Duck hunting is a specialized sport; it involves a great investment in time, equipment, and skill. Recruitment may be difficult if hunting access to some areas is not easy, initial experiences are not characterized by high satisfaction, and there is a lack of parental/mentor influence. One of the tools that has been touted as a way to introduce new hunters to the sport has been the establishment of Youth Waterfowl Hunter Training days by the U.S. Fish and Wildlife Service. Unfortunately, only 5% of hunters have been mentored during a youth hunt day and only 15% of hunters have mentored a youth at one of these special days. Numerous studies have indicated that participation in hunting, particularly a specialized segment such as waterfowl hunting, takes a great deal of mentoring. An overwhelming 91% of hunters said that they were mentored in becoming a waterfowl hunter by a parent, relative, or close friend.

How to Increase Participation?

The reasons for participation and dropout of waterfowl hunters are numerous and their interactions complex. It is clear, however, that longtime waterfowl hunters continue to hunt waterfowl for many reasons other than merely harvest-

ing ducks. There is an appreciation for being in a marsh with a dog and friends that is borne over many experiences and years of trial and error. Given the way that new waterfowl hunters are brought into the fold (mentoring), it is critical that waterfowl hunters give back to the sport in more than just financial ways.

The factors identified by hunters as deterring participation, such as lack of access, are issues that are difficult but not impossible to address by state agencies. Concerted efforts to increase access and potentially create more permit-only areas are merely a matter of resource allocation and diligence. More importantly, perhaps, is developing ways to foster a greater appreciation for the totality of experiences that is waterfowl hunting in new and perspective waterfowl hunters, not just the shooting and harvesting aspect.

From a conservation standpoint, it also is apparent that hunters who are annual participants were more likely to be a member of Ducks Unlimited or some other conservation organization. Many dropout hunters reported not being a member of such an organization or had recently suspended membership. The focus should not only be on how to recruit new waterfowl hunters, but also on maintaining those that already participate and fostering more mentoring from existing participants. This might be the key to maintaining the waterfowl tradition.

Min Huang is the leader of the Wildlife Division’s Migratory Gamebird Program





Fees and Credits for Fishing and Hunting Licenses, Permits, and Tags

Legislation was approved and signed into law in April during the 2010 session of the Connecticut General Assembly reducing many of the fees for sportsmen's licenses and permits. This was followed in June by legislation authorizing a credit to be applied against the fee for any 2011 sportsmen's license, permit, or tag when purchase of a license, permit, or tag had been made at the higher prices in place between October 1, 2009, and April 14, 2010. The credit amount will be the difference between the higher amount paid during that time period and the amount set by the new fee structure established on April 14, 2010.

Credit redemption is not available from town clerks, retail vendors, or through DEP's Online Sportsmen Licensing System. You must purchase your 2011 license, permit, or tag by mail or in person at one of the following DEP facilities to obtain a credit (2011 licenses/permits/tags will be available starting December 1, 2010):

- **Marine Headquarters**, 333 Ferry Road, Old Lyme; 860-434-6043; Mon.-Fri. 8:00 AM-4:00 PM,
- **Eastern District Headquarters**, 209 Hebron Road (Route 66), Marlborough; 860-295-9523; Mon.-Fri. 8:30 AM-4:00 PM
- **Western District Headquarters**, 230 Plymouth Road, Harwinton, 860-485-0226; Mon.-Fri. 8:30 AM-4:00 PM
- **Franklin WMA**, 391 Route 32, Franklin, 860-642-7239; Mon.-Fri. 8:30 AM-4:00 PM
- **Sessions Woods WMA**, 341 Milford Street (Route 69), Burlington, 860-675-8130; Mon.-Fri. 8:30 AM-4:00 PM
- **DEP Main Office, License & Revenue Office**, 79 Elm St, Hartford, 860-424-3105; Mon-Fri 9:00 AM-4:00 PM and the **DEP Store**, 860-424-3555; Mon.-Fri. 9:00 AM-3:30 PM

Mail-in Option: A form to purchase your license, permit, or tags by mail when redeeming a credit will be available on-line at www.ct.gov/deep/sportsmensfeereduction after December 1, 2010.

To see a running tally of the 2010 archery deer harvest, go to www.ct.gov/deep/hunting and click on "2010 Archery Deer Harvest Update."



PHOTO BY P. J. FUSCO

Puritan Tiger Beetle Update

The 20th year of adult Puritan tiger beetle surveys at current and historic sites was completed in 2010. The Puritan tiger beetle is a federally threatened and state endangered species. It only occurs in New England on sandy beaches along the Connecticut River and in Maryland along the shores of the Chesapeake Bay. This handsome beetle has a two-year life cycle, spending one year as a grub-like larva feeding until emerging the next summer as a mature adult to mate and lay eggs.

Puritan tiger beetle larvae are fascinating in their own right. After a tiger beetle egg hatches, the larva digs a burrow to live in for the next year. The larva is specialized to live inside this burrow and is not often seen outside of it. It will sit in the burrow and wait for a prey item, often a spider or ant, to get close to the entrance, and then it will pop out and grab its meal. The larva has recurved spines on its back to anchor it into the burrow and keep it from getting pulled out by prey during an ambush.

The Puritan tiger beetle, like many other species, seemed to be affected by the unusually warm weather experienced this past spring, and emerged about two weeks earlier than in past years. Peak numbers of adult beetles were observed during the third week of June in 2010. Peak numbers typically are observed in the first or second week of July.

Overall, since surveys began 20 years ago, the number of adult beetles observed at Connecticut sites has either increased or remained stable. This is good news, but there still is much work to be done. Habitat management is needed at a few sites and the search continues for new locations as sandy beaches are often ephemeral due to the scouring and deposition processes of a river system. These small victories are to be savored though, as there are many hurdles and chronic issues that plague endangered species recovery.

Section 6 of the federal Endangered Species Act has provided funding for the Puritan Tiger Beetle Project.

Laura Saucier, Wildlife Diversity Program

Shelter for Bluebirds

The Wildlife Division is offering bundles of rough-cut lumber to groups free-of-charge for building bluebird nest boxes. The wood can be reserved by **organized groups only** on a "first come, first serve" basis beginning November 1, 2010. Group leaders should contact Wildlife Division technician Geoffrey Krukar at 860-675-8130 (Mon.-Fri., 8:30 AM-4:00 PM) or send an E-mail to Geoffrey.Krukar@ct.gov to make a reservation. Requesters must provide the following information: contact name, group name, mailing address, daytime phone number, E-mail address (if available), and number of bundles requested (limit 3 per group). Fifty bundles will be available by January 2011. Each bundle of wood yields approximately 15-20 nest boxes. The lumber consists of planks, and all groups will be responsible for cutting the wood to the correct dimensions. Only one request per group will be accepted, and participants will be mailed information packets which contain box designs and instructions, directions to a pick-up location, and claim tickets. When notified, groups will be responsible for picking up their wood at either Sessions Woods Wildlife Management Area, located at 341 Milford Street (Route 69) in Burlington, or at DEP Eastern District Headquarters, located at 209 Hebron Road (Route 66) in Marlborough.

Participating groups will be expected to construct, erect, and monitor the bluebird boxes throughout the nesting season (March-July). To be eligible to participate in future years, an annual report of box usage must be sent to the Wildlife Division.

Restoration Project at Long Beach West

A ceremony was held in late September 2010 to break ground for a project to restore Long Beach West, in Stratford, one of Connecticut's longest stretches of barrier beach. The project, supported by nearly \$1 million in American Recovery and Reinvestment Act stimulus funding, involves demolishing the dilapidated remnants of a former summer community, removing debris and contaminants, and ultimately re-establishing 35-acres of beach to its natural state for people and wildlife.

U.S. Congresswoman Rosa DeLauro joined officials from the U. S. Fish and Wildlife Service and numerous project partners for the ground breaking ceremony at the project site.

The restored beach, which has been designated as an internationally significant area by the National Audubon Society, will provide critical habitat for migratory birds, including the state and federally threatened piping plover and state-threatened least tern; rare plants; and other wildlife. Passive public access to the beach also will be restored.

Raccoon

Procyon lotor

Background

Raccoons are common throughout Connecticut. The state's expanding human population has probably benefited this opportunistic species; concentrations of people provide easy access to food sources, such as garbage, gardens, and bird feeders. Raccoons are adaptable, thriving in a large variety of habitat types. They are abundant in urban, suburban, and rural areas.

The raccoon has been an economically important furbearer in Connecticut due to its abundance and pelt value. Raccoons are harvested each year during the regulated hunting and trapping seasons, providing recreation for many Connecticut sportsmen and helping to control local raccoon populations.

Range

Raccoons range from Canada and throughout the United States (excluding the high elevations of the Rocky Mountains and much of the Southwest) into Mexico and Central America.

Description

One of the most easily recognized furbearers, the medium-sized raccoon is distinguished by a black mask across the eyes and cheeks and black rings around the bushy tail. Long, thick fur gives raccoons a typical gray-brown color, with variations ranging from sienna to silver. Other characteristics include short, slightly rounded ears bordered by white fur, and a long, pointed snout. Most adults weigh between 10 and 20 pounds, with males typically larger than females. Raccoons range in length from 23 to 38 inches, including the tail.

Habitat and Diet

Raccoons prefer wooded areas near streams, ponds, and marshes but are highly adaptable and can live in agricultural areas and in close proximity to human developments. They make their dens in tree cavities, abandoned woodchuck or fox burrows, rock crevices, brush piles, chimneys, attics, sheds, and other structures.

Opportunistic and omnivorous, the raccoon has a varied diet that includes fleshy fruits, mast (especially acorns, hickory nuts, and beechnuts), grains, invertebrates (particularly crayfish and insects), rodents, young rabbits, birds, turtles and their eggs, fish, and carrion. Raccoons are known for raiding garbage, agricultural crops, chicken coops, and pet food left outdoors.

Life History

Raccoons breed in late winter or early spring. The male does not remain with the female after breeding. The young are born in April or May after a 63-day gestation period. Females produce one litter per year, with an average of four cubs per litter. The cubs



PHOTO BY P. J. FUSCO

are born blind, helpless, and are covered with yellowish-gray fur. After 30 to 40 days, the cubs leave the den and will travel with the female for short distances to search for food. At three to four months, the cubs begin to forage on their own.

Interesting Facts

Raccoons are most closely related to the weasel (*Mustelidae*) and bear (*Ursidae*) families. They have keen senses of hearing, sight, and touch, but taste and smell are less well developed.

The front and hind paws of raccoons have five digits each. The dexterous front paws enable the raccoon to grasp and manipulate food items. Raccoons are excellent climbers, and can descend a tree head first.

Raccoons are primarily crepuscular (active at dawn and dusk) and nocturnal (active at night). They occasionally venture out in daytime, but that does not mean that they are diseased. Raccoons often adjust their feeding schedules, especially in spring when rearing their young. They may "den up" during the coldest periods in late fall and winter; however, this is not true hibernation, and the animals will wander out during warm spells.

Generally, raccoons are not social, but some pairs and families travel together.

Raccoons, especially large populations, prey on birds and their nests. In Connecticut, they often raid bluebird nest boxes that are not protected with predator guards. They also are problematic for herons and egrets on offshore islands where repeated predation can cause abandonment of the entire colony.

Diseases

Raccoon Rabies: Raccoon rabies first appeared in Connecticut in 1991 and raccoons are the primary carriers of this virus in the northeastern United States. Other mammals, including dogs, cats, skunks, foxes, woodchucks, and livestock, also have been infected with rabies. The following symptoms may indicate an

infection from rabies, distemper, or other diseases: unprovoked aggression, impaired movement, paralysis or lack of coordination, unusually friendly behavior, and disorientation. Daytime activity alone is not indicative of a raccoon with rabies; other symptoms also must be obvious. Contact with any wild or stray animal should be avoided, especially if it is behaving abnormally. Report sick or strange-acting animals to the local police, animal control officer, or the DEP. Contact your local health department or visit the DEP Web site (www.ct.gov/dep/wildlife) for more information on rabies.

Canine Distemper: Other diseases, such as canine distemper, can cause neurological symptoms similar to rabies. Distemper is a common disease that is usually fatal. However, it is not transmissible to humans and most domestic dogs are vaccinated against this virus.

Roundworm: Raccoons are primary carriers of roundworm, which is shed in raccoon feces. The roundworm rarely causes problems for raccoons, but it can be dangerous to other mammals, including humans. A person can become infected if he or she comes into contact with an item that is contaminated with raccoon feces. Therefore, it is important to keep children's sandboxes covered as raccoons may use them as latrine sites.

Management of Problems

Because of their ability to coexist with humans, raccoons can become a nuisance when they damage gardens, raid garbage cans, or inhabit human structures. They can be especially destructive on farms, where they feed heavily on crops. Because they may carry rabies, problem raccoons cannot be relocated, and only specified wildlife rehabilitators can accept injured or orphaned raccoons for rehabilitation with certain restrictions.

There are several preventive measures that homeowners can take to control or reduce problems from raccoons:

Do Not Feed or Touch Raccoons: Raccoons are wild animals. Feeding, whether directly or indirectly, may cause them to lose their fear of people.

Secure Garbage: Keep garbage in tightly closed containers. Store containers in an outdoor storage bin or in a garage or shed, and set out garbage on the morning of pickup instead of the night before. Run a rubber strap, rope, or wire through the lid and attach to the can handles. Placing ammonia directly in the can may help to repel raccoons. Keep compost in secure, vented containers to prevent access.

Feed Pets Indoors: Pet food should not be put out outside. Outdoor pet food inadvertently feeds a variety of wildlife species, including raccoons. Raccoons that congregate at a feeder also can facilitate the spread of diseases from raccoons to other wildlife or domestic animals. Livestock food should be stored in secure containers and not left outside where it is available to raccoons. Bird feeders should be placed away from trees or other structures that can be climbed by raccoons.

Eliminate Potential Denning Areas: Close off openings under porches and buildings. Seal any openings that lead into sheds or attics.

Eliminate Access Points: Raccoons can easily access roofs by climbing trees, downspouts, vines, or a trellis located near the house. Roofs and chimneys should be well-maintained to prevent

raccoons from entering houses. Replace loose shingles and repair any holes near the eaves of the roof. Limiting access to the roof by trimming trees and shrubs also may be helpful.

The simplest and most effective, permanent solution to the problem of raccoons living in a chimney is to cap it. However, there may be young present, depending on the time of year. If the young are old enough to climb out, cap the chimney after the raccoons have left for the night. Sometimes, a female raccoon can be encouraged to move her young to another location by the use of repellents, such as ammonia or moth balls, combined with a light and noise from a portable radio placed near the damper.

Install Fencing: Electric fences may help to keep raccoons out of gardens. Wires must be spaced close together and close to the ground to be effective.

Hunting and Trapping: On farms, where more effective methods are needed to control a large number of animals, hunters and trappers can harvest problem animals on the property during the regulated hunting and trapping seasons or by special permit at other times of the year.



Because of their ability to coexist with humans, raccoons can become a nuisance when they raid garbage cans, damage gardens, and inhabit human structures.

Tracks

Raccoon tracks are easily identified by the five long toes on each foot.

The front foot is shaped somewhat similar to a human hand. Tracks are usually paired, with the front and hind tracks positioned next to each other as the animal walks along.

Front 2¼" Long
Hind 3¼" Long



© PAUL J. FUSCO
All Rights Reserved

P. J. FUSCO

Wildlife Calendar Reminders

Programs at the Sessions Woods Conservation Education Center

Programs are a cooperative venture between the Wildlife Division and the Friends of Sessions Woods. Please pre-register by calling 860-675-8130 (Mon.-Fri., 8:30 AM-4:30 PM). Programs are free unless noted. An adult must accompany children under 12 years old. No pets allowed! Sessions Woods is located at 341 Milford St. (Route 69) in Burlington.

- Dec. 11 **Children's Program: Wildlife Tracks & Signs**, starting at 1:30 PM. Learn about wildlife tracks indoors with Natural Resource Educator Laura Rogers-Castro and then head outside for a short walk to look for animal signs. Children also will make a wildlife track to take home. An adult must accompany all children. Meet in the exhibit area of the Conservation Education Center.
- Jan. 9 **12 Practical Tips for Successful Wildlife Photography**, starting at 1:30 PM in the education center. Wildlife photographer and Master Wildlife Conservationist Gary Melnysyn will provide participants with 12 tips to successful wildlife images. Gary's beautiful images will support a discussion on each tip. This will be an open forum that encourages questions about photo techniques or the wildlife itself. Gary recently returned to Connecticut after working as a National Park Service Ranger in Yellowstone National Park. He has travelled throughout North and Central America concentrating on digitally documenting a variety of wildlife species.

Hunting Season Dates

- Sept. 15-Dec. 31 Deer and turkey bowhunting season on private land (private land bowhunters in deer management zones 11 & 12 may hunt deer until January 31, 2011).
- Nov. 17-Dec. 7 Private land shotgun/rifle and revolver deer hunting seasons.

Shepaug Bald Eagle Observation Area to Open on December 26

The Shepaug Bald Eagle Observation Area, in Southbury, opens for its 26th season on December 26, 2010. The Observation Area is run by FirstLight Power Resources, a GDF SUEZ Energy North America company, which owns and operates several hydroelectric facilities along the Housatonic River.

Observation times are Wednesdays, Saturdays, and Sundays between 9:00 AM and 1:00 PM from Sunday, December 26, 2010, through Wednesday, March 16, 2011. Although admission is free-of-charge, advance reservations are required and will be taken beginning on Tuesday, December 7. To make reservations for individuals, families, and groups, call toll-free at 1-800-368-8954 between 9:00 AM and 3:00 PM on Tuesdays through Fridays.

The Shepaug Observation Area is one of the top eagle viewing areas in New England. It is a popular spot for eagles in winter when the turbulence below the dam keeps the water from freezing, and the fish below the dam provide a ready food source. Local experts report an average of eight eagles feeding per day. Other birds seen at the area include red-tail hawks, sharp-shinned hawks, goshawks, great blue herons, and a variety of waterfowl.

Specialists will be on site with high-powered telescopes to help visitors see the eagles in action and to answer questions about America's national symbol. Visitors are encouraged to dress warmly because the observation area is unheated and to bring binoculars, if possible, given the limited number of on-site telescopes.



The 2010 Connecticut Hunting and Trapping Guide and 2010-2011 Migratory Bird Hunting Guide are on the DEP Web site (www.ct.gov/dep/hunting), and also at town halls, DEP facilities, bait and tackle shops, and outdoor equipment stores. Go to www.ct.gov/dep/sportsmenlicensing to purchase Connecticut hunting, trapping, and fishing licenses, as well as all required deer, turkey, and migratory bird permits and stamps. The system accepts payment by VISA or MasterCard.

Connecticut Wildlife

Subscription Order

Please make checks payable to:

Connecticut Wildlife, P.O. Box 1550, Burlington, CT 06013

Check one:

- 1 Year (\$8.00) 2 Years (\$15.00) 3 Years (\$20.00)

Name: _____

Address: _____

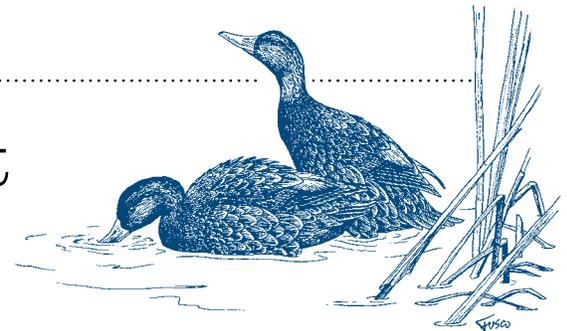
City: _____ State: _____

Zip: _____ Tel.: _____

Check one:

- Renewal
 New Subscription
 Gift Subscription

Gift card to read: _____



Donation to the Wildlife Fund:

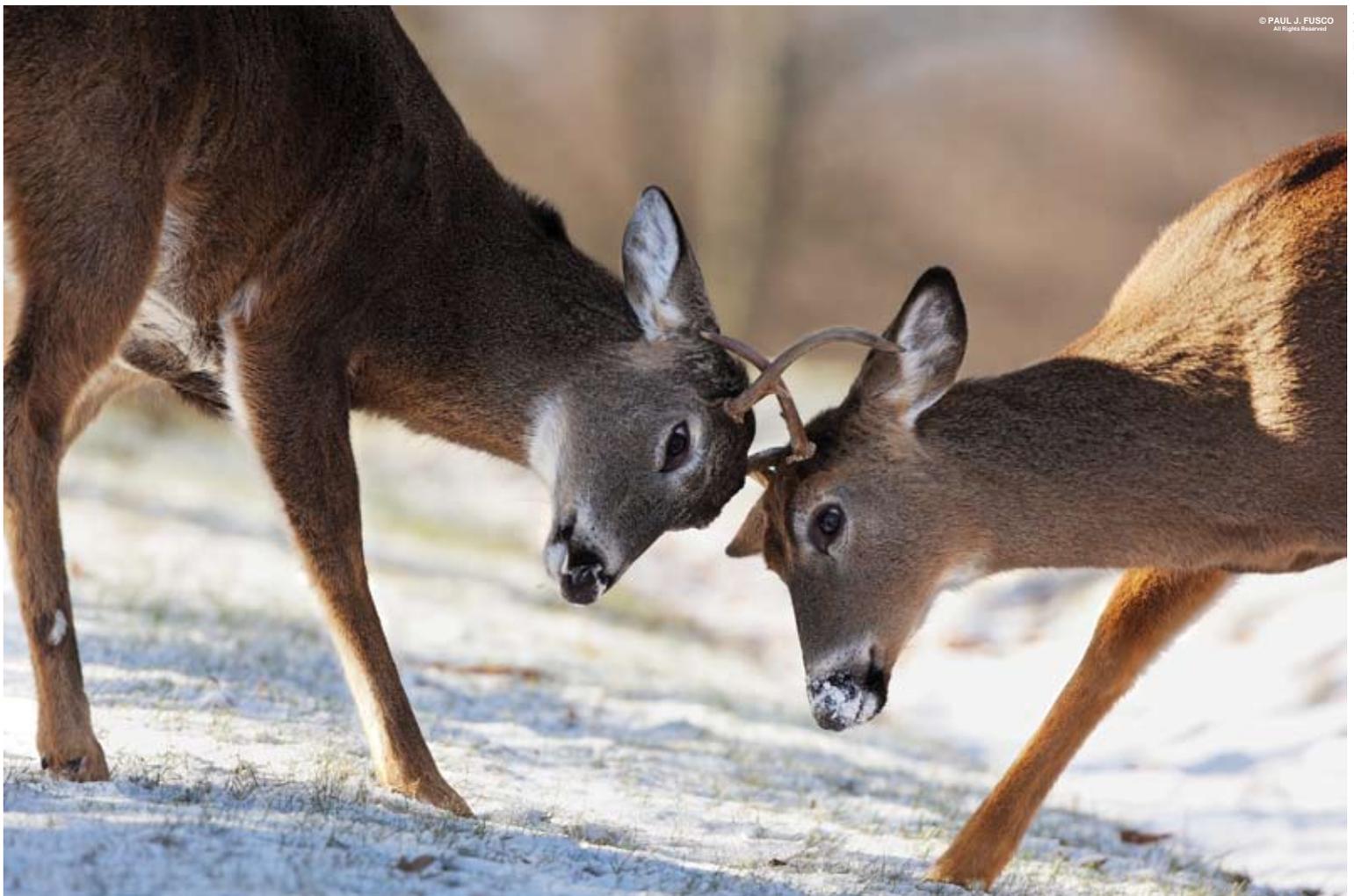
\$ _____

Help fund projects that benefit songbirds, threatened and endangered species, reptiles, amphibians, bats, and other wildlife species.

Connecticut Wildlife

Connecticut Department of Environmental Protection
Bureau of Natural Resources / Wildlife Division
Sessions Woods Wildlife Management Area
P.O. Box 1550
Burlington, CT 06013-1550

PERIODICALS
POSTAGE PAID AT
BURLINGTON, CT,
AND ADDITIONAL
OFFICES



P. J. FUSCO

Two young bucks square off in a battle to practice the skills they will need in later years when the confrontations will be much more serious.