

July/August 2008

Connecticut Wildlife

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



From the Director



“Is it dangerous?” State agencies are asked that question more frequently as the interface between people and wildlife becomes less distinct. In general, people are less knowledgeable about nature than their forefathers, so there is a mystery factor. There also appears to be a fascination factor as television audiences are treated to a nightly tooth, fang and claw buffet of crocodile wrestling, venomous snake collecting and searches for unidentified carnivores that are terrorizing backwoods communities. Is wildlife dangerous? No matter what your level of expertise, if for some inexplicable reason you jump onto the back of a fifteen foot crocodile, the answer is probably yes. However, if you are a typical resident of the Northeastern United States, statistics would indicate the answer is no.

In Connecticut, most of the public concern is directed towards bears and coyotes, with slightly less attention to fishers, bobcats and foxes. As human development encroaches into natural areas, these adaptable carnivores are colonizing suburbia. It is not uncommon for any of these species to be seen in populated areas displaying indifferent behavior towards people. While this has not proven to be dangerous to people thus far, it is always in the best interests of wildlife, humans and their pets to take actions that reinforce the instinctive wariness that predators have towards people. This requires a coordinated effort to remove food attractants and make backyards inhospitable to predators.

On very rare occasions, predators may exhibit a truly aggressive behavior towards people and these situations are taken seriously. The Department’s Wildlife Division and ENCON Police work cooperatively with local officials to assess the level of threat and to determine an appropriate response to locate and remove an aggressive animal. However, many citizens demand the same response in non-aggressive situations. In other words they want predators that are behaving naturally removed as a preventative measure to eliminate the chance that they could become aggressive in the future. Such an extreme response is not practical and is not warranted given the level of risk and the other preventative options that could be employed.

Assessing levels of human risk among the hundreds of telephone calls that come in daily is a difficult task. While some predatory species are capable of injuring humans, the chance of such an injury in most circumstances is extremely small. Taking common sense actions to maintain a healthy respect and a healthy distance between predators and people will go a long way towards allowing us to live compatibly.

Dale W. May

Cover:

The indigo bunting breeds in Connecticut, preferring to use open fields, brushy openings, farmlands and forest clearings. Habitat management projects being conducted by the Wildlife Division create and maintain these types of habitat to the benefit of the indigo bunting and other birds that use early successional habitats (see page 4 to learn more.)

Photo courtesy of Paul J. Fusco

Connecticut Wildlife

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

Gina McCarthy..... Commissioner
 Edward C. Parker..... Chief, Bureau of Natural Resources

Wildlife Division

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

Dale May Director
 Greg Chasko Assistant Director
 Mark Clavette Program Specialist/Recreation Management
 Laurie Fortin Recreation Management Biologist
 Elaine Hinsch Program Specialist
 Brenda Marquez Secretary
 Shana Scribner Office Assistant
 Chris Vann Technical Assistance Biologist
 Kenneth Metzler..... Natural History Survey
 Dawn McKay Natural History Survey
 Nancy Murray Natural History Survey
 Karen Zyko Natural History Survey

Eastern District Area Headquarters
209 Hebron Road, Marlborough, CT 06447 (860-295-9523)

Robin Blum.....Habitat Management Program Technician
 Ann Kilpatrick..... Eastern District Biologist
 Carrie Pomfrey.....Habitat Management Program Technician
 Paul Rothbart..... District Supervising Biologist
 Jane Seymour..... Belding WMA Steward
 Judy Wilson..... Private Lands Habitat Biologist

Franklin W.M.A.
391 Route 32, N. Franklin, CT 06254 (860-642-7239)

Charles Bruckerhoff..... EP Safety Representative
 Paul Capotosto..... Wetlands Restoration Biologist
 Michael Gregonis..... Deer/Turkey Program Biologist
 Min Huang Migratory Bird Program Biologist
 Howard Kilpatrick Deer/Turkey Program Biologist
 Kelly Kubik.....Migratory Bird Program Technician
 Andy LaBonte.....Deer Program Biologist
 Heather Overturf..... Office Assistant
 Winnie Reid Secretary
 Julie Victoria Wildlife Diversity Program Biologist
 Roger Wolfe..... Mosquito Management Coordinator

Sessions Woods W.M.A.
P.O. Box 1550, Burlington, CT 06013 (860-675-8130)

Trish Cernik Secretary
 Jenny Dickson Wildlife Diversity Program Biologist
 Peter Good Supervising Wildlife Biologist
 Jason Hawley Furbearer Program Technician
 Shannon Kearney-McGee..... Wildlife Diversity Program Technician
 Christina Kocer Wildlife Diversity Program Technician
 Geoffrey Krukar Wildlife Diversity Program Technician
 Lauren Pasniewski Clerk
 Peter Picone Western District Biologist
 Kate Moran Wildlife Diversity Program Technician
 Paul Rego Furbearer Program Biologist
 James Koert Riley District Maintainer
 Laura Rogers-Castro Natural Resource Educator
 Laura Saucier Wildlife Diversity Program Technician
 Jim Warner Facilities Manager

Connecticut Wildlife

Kathy Herz Editor
 Paul Fusco Media Designer/Photographer

Wetlands Habitat & Mosquito Management Crew
51 Mill Road, Madison, CT 06443

Steven Rosa Mosquito Control Specialist
 Daniel Shaw Mosquito Control Specialist



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 Department of Environmental Protection is an affirmative action/equal opportunity employer, providing programs and services in a fair and impartial manner. In conformance with the Americans with Disabilities Act, DEP makes every effort to provide equally effective services for persons with disabilities. Individuals with disabilities needing auxiliary aids or services, or for more information by voice or TTY/TDD, call 860-424-3000.

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

Using GIS Technology to Assess CT's Changing Deer Habitat

Written by Andrew LaBonte, Deer Program

Accurately estimating wildlife populations is difficult and requires considerable investments of resources and time. One factor that plays a key role in estimating wildlife population changes is the change in habitat availability and suitability.

In the late 1980s, biologists calculated potential deer habitat in Connecticut based on the State Planning Units land use figures from 1970. Ten different habitat types were delineated (residential, manufacturing, recreation areas, active agriculture, undeveloped wetlands, open land, forest, water, utility right-of-ways and transportation, and other). Residential, manufacturing, recreation areas, and water were considered non-suitable deer habitat and were excluded from the analysis. In the late 1970s through the early 1980s, potential deer habitat was estimated to be 4,000 square miles. In the late 1980s, it was estimated that deer habitat in Connecticut had been reduced by at least 10% as a result of development, shrinking the amount of available deer habitat to approximately 3,618.6 square miles. Since the late 1980s, the amount of available deer habitat used to estimate Connecticut's deer population has not changed.

With advances in computer technology, the Wildlife Division's Deer Program staff initiated a project to reevaluate the

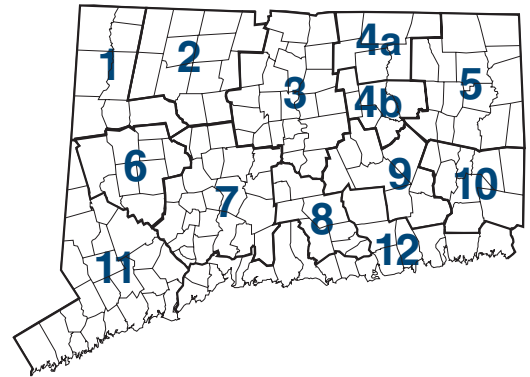
amount of deer habitat in Connecticut. To determine the amount of potential deer habitat, land cover maps from 1985 and 2002 were obtained from the University of Connecticut's Center for Land Use Education and Research (CLEAR). Land cover, as its name implies, shows the "covering" of the landscape. CLEAR's land cover information comes from remotely sensed data from satellites. Sensors aboard the satellite collect radiation in a number of different wavelengths that is reflected from the surface of the earth. A Geographic Information System (GIS) is used to evaluate the data. GIS allows one to view, understand, interpret, and visualize data in different ways to reveal relationships, patterns, and trends using maps.

Land cover maps were delineated into 11 cover types (developed, turf and grass, other grasses and agriculture, deciduous forest, coniferous forest, water, non-forested wetland, forested wetland, tidal wetland, barren, and utility rights-of-way). Using a GIS, land cover maps were divided using the existing 12 deer management zones. Each zone was reclassified into areas of suitable and non-suitable deer habitat. High-density, built-up areas typically associated with commercial, industrial, and highly developed residential areas with substantial impervious surface (developed) and non-agricultural areas free of vegetation (barren) were considered non-suitable deer habitat, as were open water bodies (water), areas predominantly wet throughout the year (non-forested wetlands), and wetlands affected by tidal change (tidal wetland). Although it's possible that some areas of residential development that deer use were excluded as available deer habitat, this method of classification provided a reasonable criterion for differentiating between suitable and non-suitable deer habitat.

Total deer habitat, based on land cover data, was estimated at

4,120 square miles in 1985 and 3,785 square miles in 2002. Over this 17-year period, total estimated deer habitat declined by eight percent. This decline probably comes as no surprise given the fact that Connecticut is the fourth most densely human populated state in the United States and a substantial increase in development has occurred in the past 20 years.

Connecticut Deer Management Zones



At this point, readers may be asking how there could be more available deer habitat today than there was based on the original calculation of habitat 20 years ago. Although the particulars are unclear of how the original method determined suitable deer habitat, advancements in technology available today probably provide better information for assessing habitat availability. Additionally, deer are an adaptable species that have learned to coexist within the close confines of humans. Some residential areas in the 1980s may have been considered non-suitable deer habitat, whereas today deer live in these areas. The benefit of using GIS technology compared to the previous methods is that GIS will provide a more consistent, accurate, and easier method of tracking changes in Connecticut's landscape, specifically how it relates to available deer habitat. Estimating the amount of available deer habitat is important for modeling deer population dynamics. This technology will enable the Wildlife Division to more accurately identify areas to target for deer management in Connecticut's urban deer management zones.

Estimated Deer Habitat and Changes between 1985 and 2002.

Zone	Estimated Deer Habitat 2002 GIS Data	Percent Change in Estimated Deer Habitat Between 1985 - 2002
1	344.59	-1.2%
2	410.69	-2.4%
3	273.33	-26.2%
4	334.16	-4.9%
5	445.94	-3.9%
6	260.03	-4.8%
7	373.08	-8.0%
8	169.11	-8.2%
9	279.39	-7.4%
10	244.36	-7.3%
11	291.53	-15.1%
12	358.39	-8.9%
Total	3,784.6	Avg. -8.1%

Wildlife Habitat Incentives Program Projects Continue in CT

Written by Paul Rothbart, Ann Kilpatrick, Peter Picone, and Jane Seymour, Habitat Management Program

The Wildlife Division continues to use the Wildlife Habitat Incentives Program (WHIP) to fund many habitat enhancement activities throughout Connecticut. WHIP is a U.S. Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) program that is funded through the Farm Bill and is intended to elevate wildlife resources to equal footing with other conservation programs offered through the USDA.

WHIP was initiated in 1998 and the Wildlife Division has been fully engaged since its inception. Staff has provided technical expertise regarding management practices and implementation costs, technical assistance to landowners enrolled in the program, and specialized seeding equipment for planting warm season grasses.



A feller buncher is used to clear an area at Bishop Swamp Wildlife Management Area in Andover for the regeneration of aspen.

P. J. FUSCO (2)



©PAUL J. FUSCO
All Rights Reserved



©PAUL J. FUSCO
All Rights Reserved

Birds that depend on early successional habitats (open fields, grasslands, etc.), like the blue-winged warbler (top) and the eastern towhee, benefit from habitat management projects being conducted by the Wildlife Division.

To date, the Division has entered into 77 contracts with the NRCS to manage habitats on DEP lands (wildlife management areas, parks, and forests) throughout the state. These contracts have provided \$1,649,031 and have resulted in the enhancement of over 1,780 acres of wildlife habitat. Activities have included reconstruction of dams and water level control structures, riparian shrub plantings, native warm season grass establishment, non-native invasive plant control, sand dune restoration, pitch pine enhancement, and aspen/forest regeneration management. Many of these activities have and will continue to focus on early successional habitats which are used by many declining wildlife species. Early successional habitat and associated species (e.g., American woodcock, New England cottontail, blue-winged warbler, golden-winged warbler, bobolink, savannah sparrow) are addressed in Connecticut's Comprehensive Wildlife Conservation Strategy.

Although the Farm Bill is currently going through the Con-

gressional re-authorization process, the conservation community throughout the nation is actively involved and all parties are hopeful that the critical conservation programs offered in the Farm Bill will remain intact and at existing funding levels.

Bishop Swamp WMA Forest Regeneration Project

In May 2008, a whole-tree harvest operation was conducted on a five-acre site within the 692-acre Bishop Swamp Wildlife Management Area (WMA) in Andover for the purpose of creating early successional habitat for wildlife. The project involved clearcutting and removing sapling, pole, and sawtimber-sized aspen and other hardwoods (oak, hickory, birch, maple) using a feller buncher and whole-tree chipper. A select number of trees were retained within the project site for their food and cover value (e.g., cavities, mast, downed logs). The objective of the project is to increase the density of aspen stems and create a seedling/sapling forest that will be allowed to regenerate over the next 15 to 20 years. A variety of wildlife species that require young stages of forest growth are expected to benefit from the project.

A. KILPATRICK, HABITAT MANAGEMENT PROGRAM

Pitch Pine Restoration at Belding WMA

To save one of the last remaining pitch pine stands in the state, the DEP initiated a project to promote regeneration of this disappearing species on a three-acre site at Belding WMA in Vernon. The property contains a viable population of mature pitch pines, but there has been no new growth for over 50 years. Without new growth, this species will eventually disappear. In this area the project will create conditions that will allow a new generation of pitch pines to become established.

A globally rare forest type, pitch pine woodlands are found only in the northeastern United States. Pitch pines were once abundant in Connecticut due to frequent wildfires across the landscape. Pitch pine woodlands and the species that inhabit them, are dependent on disturbances such as wildfires. Fire burns the leaf litter on the forest floor and causes pitch pine cones to open and release their seeds on the exposed soil. However, with human settlement, forest fires, which usually started with lightning strikes, are no longer allowed to burn. Along with fire suppression came the decline of disturbance-dependent species, such as pitch pine. Foresters estimate that more than 95% of pitch pine habitat in the state has been lost to development and fire suppression.

Wildlife species that use regenerating stands of pitch pine include prairie warbler, whip-poor-will, eastern towhee, and brown thrasher, a species of special concern in Connecticut.

Invasive Non-native Black Locust Management Project

Efforts were undertaken this past spring to manage non-native invasive black locust at Sessions Woods WMA in Burlington. The Division received a WHIP grant from the U.S. Department of Agriculture to manage an 18-acre area that was overtaken with about 600 black locust trees.

Early this past spring, black locust trees were cut using a feller buncher operated by a private logging company. A feller buncher is mechanical tree shearing machine capable of shearing large diameter trees by gripping the whole tree at its base, cutting it, and moving it to a landing area. Merchantable black locust logs were piled and later brought to the DEP's



A clearing was established at Belding WMA in Vernon to encourage the restoration of a pitch pine woodland, which is a unique and declining habitat in Connecticut.

saw mill in Portland for processing into lumber for use in various projects, ranging from picnic tables, boardwalks, walk bridges, and parking lot barriers.

Historically, black locust did not occur in Connecticut. It was brought in from the Appalachian mountains. The wood of the tree is revered for being rot resistant and durable lumber. The rot resistance of black locust is truly remarkable. Some have likened it to being almost as good as pressure-treated lumber. Black locust is highly prized as a building material for boats, fences, and horse trailers. The wood is also highly desirable as fuel-wood.

The management of invasive non-native black locust helps restore the natural plant community of Sessions Woods WMA. As an overstory tree, black locust usurps much of the sunlight, water, and nutrients from an area. The black locust also can compete more aggressively



Seasonal resource assistants Kristen Ponak and Chris Craig store lumber made from a black locust removal at Sessions Woods WMA.

than native trees because of its ability to convert atmospheric nitrogen into compounds that are used by the tree (nitrogen-fixation).

Follow-up herbicide treatments will be administered over the next two years to manage any black locust stump sprouting or root suckering that may occur.

The black locust management project is a win-win for improving habitat quality at Sessions Woods WMA and also for providing quality rot-resistant lumber for a variety of projects at the DEP.

Planning Underway for Woodcock Demonstration Areas

Written by Min T. Huang, Migratory Gamebird Program

In 2002, in response to concerns over the status of Connecticut's American woodcock population, the Wildlife Division initiated a research project to assess its population status, delineate current and potential woodcock habitat, and determine habitat use and survival rates of woodcock in the state.

Gathering Information

The study began by assessing current and potential woodcock habitat using a Geographic Information System (GIS). Layers used in the analysis included cover type, current land use, soil type, topography, ownership, and hydrology. Special attention was given to identifying areas that could become potential quality woodcock habitat if management was pursued. The analysis encompassed the entire state, both private and public lands. A sample of the areas identified through the GIS analysis as currently possessing favorable characteristics for woodcock was verified on the ground.

Next, 30 singing ground surveys were established throughout the state. Initial survey transects were established with the use of GIS and were then ground truthed. Surveys were conducted using U.S. Fish and Wildlife Service protocols and survey points along the routes were classified as high, medium, and low quality. The habitat was then quantified at each stop, and information was collected on stem density, standing basal area, herbaceous cover, and several other variables.

Surveys were conducted for three years with the same observer running a particular route for all three years. Over the course of this effort, it was learned that woodcock were indeed present in areas where the habitat was suitable for woodcock. The number of displaying birds, however, was dictated by the quality of the habitat. The better the habitat at a particular stop, the more birds were present.

In 2006, 10 of these routes were surveyed as an index to woodcock population and habitat status. Although no statistically significant decline on these routes was detected, there has been a steady, gradual decline in the number of birds that was heard on these routes. Much of this decline is likely due to the changes that are occurring along the routes. Since the surveys began, 19 stops

have been altered due to new house construction. Land use changes are expected to continue along the survey routes. Some will be deleterious to woodcock, others beneficial. Mostly, however, the changes being noted along the routes, such as new home construction, are not good for the birds. There have been a couple of clearcuts along survey routes, and in time, these may prove beneficial as breeding sites.

All in all, this survey has proven to be a good one. The index covers the bulk of existing woodcock habitat in the state, and, as long as the routes continue to be surveyed diligently, they will provide a good measure of woodcock abundance in the state.

Habitat Use and Survival

Following up on the GIS habitat and survey work, a study was initiated in 2005 to look at habitat use and survival of woodcock. Study sites were either excellent quality (large, contiguous blocks of habitat specifically managed for early successional species) or lower quality (disjunct and patchy habitat, mostly in the suburban interface). Study sites were in Westbrook, Madison/Guilford, Lebanon, and Columbia. Researchers hypothesized that survival rates and, potentially, habitat use would differ between woodcock living in large, high quality blocks of habitat and those found in more patchy, fragmented, lower quality habitats.

Woodcock were captured on display grounds using mist nets from March to June in 2005, 2006, and 2007. Small radio transmitters, with a range of 0.5



T. HARVEY, MIGRATORY BIRD PROGRAM

The Wildlife Division, with the help of several partners, plans to develop woodcock demonstration areas, the first one being at Roraback Wildlife Management Area in Harwinton.

miles, were placed on the birds, along with a leg band. Radio-tagged birds were followed at least twice a week. Habitat variables were measured at each location a woodcock was found. Radio telemetry data were used to develop home range estimates, habitat use models, and survival rate estimates.

Survival differed between high and low quality areas in two of three years. The average survival rate in high quality sites was approximately 59%, while it was approximately 34% in low quality areas. One of the major determinants of survival was the distance to an opening from the location that the birds were found. Surviving birds were located farther from openings than birds that had died. It was found that habitat quality and quantity are largely governing survival rates of male woodcock in Connecticut. Higher quality habitats in the study were characterized by higher standing basal area, fewer stems per acre, and fewer and larger openings than lower quality sites.

Developing Woodcock Demonstration Areas

Results from these studies will benefit future land management for woodcock. The traditional thought that numerous small openings within a matrix of younger-aged forest stands represents the most beneficial management for woodcock may not apply to urbanized states such as Connecticut. The Wildlife Division plans on applying what was learned through the research to conduct habitat work on the ground. One of the first projects is the development of woodcock habitat demonstration areas.

The first of these demonstration areas will be located at Roraback Wildlife Management Area in Harwinton and on some of the adjacent private lands. The goal of the demonstration areas is to use the woodcock, New England cottontail, and eastern towhee as 'poster' species to foster public appreciation and understanding of early successional habitat and what can be done on the landscape to maintain and enhance this habitat in Connecticut.

Current partners involved with the demonstration area are the DEP, Connecticut Woodcock Council, Wildlife

Management Institute, and likely the U.S. Army Corps of Engineers. Active discussions about this project are currently underway with adjacent landowners and other potential partners.

The educational component of this demonstration project will serve to better inform municipal planners and conservation commissions about early successional habitat. Hopefully, it will also get them to think about areas within their respective towns and adjacent towns where early successional habitat can either be maintained or created, within the



M. HUANG, MIGRATORY BIRD PROGRAM

Small radio transmitters, with a range of 0.5 miles, were placed on live-captured woodcock so that their movements and habitat use could be monitored.

overall context of open space planning for recreation and wildlife habitat. With this in hand, the ultimate goal is for towns to begin working with nongovernmental organizations, such as The Nature Conservancy, local land trusts, and the DEP to plan and implement projects.

The 2008 Connecticut Envirothon Competition

Written by Peter Picone, Habitat Management Program

The day's weather started out a little uncertain but then transformed into nice and sunny at the 17th Annual Connecticut Envirothon competition, which took place at Northwest Park in Windsor this past May. The Housatonic Valley Regional High School team took the top spot this year. Housatonic's five student team won by achieving the best cumulative test scores of five tests.

Thirty teams registered for this year's event. They competed in natural science subject areas including forestry, wildlife, aquatics, soils, and environmental impacts from human recreation and use of the land.

The Housatonic Valley Regional High School team will be returning to the National Canon Envirothon competition which will be held in Arizona this summer. Housatonic Valley Regional High School placed first last year at the 2007 National Canon Envirothon competition.



K. PONAK, HABITAT MANAGEMENT PROGRAM

The Housatonic Valley Regional High School team won the 2008 Envirothon. From left to right are Ryan Long, Jeremy Kleinsasser, Sunny Kellner, Andrea Kleinsasser, and Rebekah Borgert.

Tracking Annual Mast Production in Connecticut's Forests

Written by Michael Gregonis, Deer/Turkey Program

Knowledge about mast is important because the availability of mast can have significant influence on the productivity of squirrels, deer, bears, wild turkeys, and ruffed grouse. States from Maine to West Virginia are participating in a cooperative research project, resulting in a single online database available to wildlife biologists and the public that tracks annual hard mast productivity. The goal of this survey is to gather regional information regarding hard mast production, which will aid in the management of wildlife species in the northeastern United States.

In 2007, the Wildlife Division initiated a field study to assess hard mast production in each of Connecticut's 12 deer and turkey management zones (see map on page 3). This information, in conjunction with an ongoing acorn abundance assessment from the deer hunter survey, will assist the Division's knowledge of annual acorn productivity throughout Connecticut's oak forests.

At 11 of 12 sites, 25 trees from the white oak group (e.g., white, chestnut, swamp oak species) and 25 trees from the red oak group (e.g., red, black, pin, and scarlet oak species) were selected for sampling. At one site, Scantic River State Park, 50 trees were selected from the red oak group because of the limited number of white oaks available for sampling. Sample trees were numbered

and marked with white paint indicating species from the white oak group and red paint for the red oak group. Marking the trees with paint and a metal numbered tag assists with locating each tree on an annual basis. To assess annual hard mast productivity, the crown of each tree is scanned for 30 seconds with binoculars to detect the presence or absence of acorns. All surveys will be conducted within the time frame from August 15 to September 1, and all trees will be assessed to determine the proportion of sample trees that have mast.

Since 1993, deer hunters have been assisting with a second type of acorn abundance index. On the annual deer hunter survey, hunters are requested to rank their perception of the acorn crop in the zone where the majority of their deer hunting took place. The ranking scale runs from 0 (scarce acorns) to 6 (abundant acorns). From this information, a zonal and statewide index was developed.

The statewide index for both the field mast survey (3.9) and the deer hunter survey (4.5) resulted in an index of moderate to abundant acorn productivity throughout Connecticut during 2007. The two zonal mast indices do have several discrepancies. Because the field mast index is derived from a single site within a management zone, localized events such as late spring frost or insect infestation

can cause mast failure where the field survey was conducted. Whereas, with the deer hunter survey, the information is gathered throughout the zone and hunter perceptions are based on acorns that have fallen to the forest floor.

Over time, there are plans to track the mast index from both surveys to identify correlations that exist between the two data sets. The information will also be used to predict productivity in some wildlife populations and the deer harvest. Past research has shown that in years with high acorn abundance, more food is provided for some wildlife species (e.g., tree squirrels), creating conditions that enhance survival and increase production of young the following year. In addition, the deer hunter mast index has shown a good correlation between mast and hunter harvest. In years with abundant acorn mast, the deer harvest tends to decrease. This decline in deer harvest is attributed to reduced movements of deer from feeding to bedding areas, resulting in a decreased potential of deer being harvested by a hunter.

Acorn mast is very important to many wildlife species and can affect the increase and decrease of the populations on an annual basis.



2007 Hard Mast Survey Results

Zone	Field Study Site	% of Trees with Acorns		Avg. % of Oaks with Acorns	Field Mast Index	Deer Hunter Mast Index
		White	Red			
1	Housatonic WMA	76	64	70	4.2	4.6
2	Sessions Woods WMA	76	84	80	4.8	4.1
3	Scantic River State Park	0	68	68	4.1	4.4
4	Belding WMA	64	76	70	4.6	4.6
5	Yale Forest	64	64	64	3.8	4.2
6	Aldo Leopold WMA	92	88	90	5.4	4.8
7	Sleeping Giant State Park	20	64	42	2.5	4.7
8	Cockaponset State Forest	4	32	18	4.7	4.4
9	Hurd State Park	8	12	10	0.6	4.4
10	Franklin WMA	60	64	62	3.7	4.4
11	Huntington State Park	96	100	98	5.9	4.9
12	Barn Island WMA	36	72	52	3.1	4.2
Total					3.9	4.5

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

Wild Turkey Brood Habitat Project at Griggs Pond

Written by Michael Gregonis, Deer/Turkey Program

A cooperative wild turkey brood habitat project between the DEP and the National Wild Turkey Federation (NWTf) was initiated in March 2008 at Griggs Pond, located in Nipmuck State Forest in Woodstock. The project was designed to convert an eight-acre overgrown field into an open field grassland. This was accomplished by removing a layer of multiflora rose, autumn olive, and white pine shrub that was rapidly encroaching over the field. A crew of NWTf volunteers, Cub Scouts, and DEP staff used chain saws and loppers to remove trees and shrubs. Afterwards, a brush hog was used to mow down any remaining smaller shrubs or grasses.

The goal of the project was to create wild turkey brood habitat. One might ask “what is wild turkey brood habitat and why is it important?” Brood habitat is composed of three essential components: 1) vegetation that provides habitat for an abundance of insects; 2) a large enough forest opening that allows foraging throughout the day; and 3) low level vegetation where poults can actively forage and where a hen has an unobstructed view for protection from predators.

Low ground vegetation creates an environment which is conducive to abundant insect production. Insects are very important to poults for the first month of their life. In the first few weeks, when poults are rapidly developing muscles and feathers, insects provide the protein building blocks. During the first month of a poult’s life, as much as 90% of their diet is composed of insects. The major insects that poults consume include beetles, grasshoppers, and leafhoppers.

At many of Connecticut’s state forests the habitat is predominately mature forests with few forest openings, resulting in very limited wild turkey brood habitat. This is especially true in Nipmuck State Forest. The Griggs Pond area was chosen for this project because the old field could easily be converted back to open grasslands. The creation and maintenance of forest openings are beneficial to wild turkeys, as well as prairie warblers, New England cottontail rabbits, box turtles, and meadow voles.



(Before) This eight-acre field at Griggs Pond in Nipmuck State Forest was overgrown with shrubs and small trees, such as multiflora rose, autumn olive, and white pine shrub.



(After) Once the shrubs and trees were removed, the field was converted to an open grassland to benefit turkey broods.

D. LITTLE, NATIONAL WILD TURKEY FEDERATION

B. EMBACHER, SMALL GAME MANAGEMENT PROGRAM

Icon of the Eastern Forest - The Ovenbird

Article and photography by Paul Fusco, Wildlife Outreach Program

There are few creatures inhabiting the Eastern forests that are as typifying as the ovenbird. This common and widespread member of the wood warbler family inhabits mature forest habitats throughout the east. And, its presence in the forest is easily felt through its song. It would be difficult to take a walk through a Connecticut forest in May or June without coming across the song of the ovenbird. It is an iconic symbol of the eastern forest.

Loud, louder, and loudest is one way to describe the sound of the ovenbird. Its song of “tea-cher, TEA-CHER, TEA-CHER” resonates through the woodlands of Connecticut in rising crescendo. While the ovenbird’s song is loud and distinctive, the bird itself is often difficult to see. Ovenbirds normally sing from the low to mid-level forest habitat layers as well as from the ground.

Warblers are slightly smaller in size than a sparrow and have slender, pointed bills. Some have wingbars and some have bold streaking. Most males are brightly colored and have bold plumage patterns, while females are duller but show similarity to the males’ color and pattern.

The ovenbird’s plumage is white below with a heavily streaked breast, plain olive back, and an orange crown bordered by black stripes. The bird has a white eye ring and pink legs. Its color and markings blend into its surroundings so well that the ovenbird is seemingly invisible within the forest.

Thirty-nine members of the wood warbler family have been documented in Connecticut. Of those, the ovenbird is one of 26 that breed in the state.

Distribution

During the breeding season, ovenbirds are typically found in mature upland deciduous or mixed deciduous-coniferous forests where there is an ample supply of leaf litter. They will use other habitats, including thickets and edge, during migration.

Their breeding range includes most of southern Canada and the United States east of the Rocky Mountains, and south



Ovenbirds are loud songsters that frequently sing from the ground or close to it.

to northern Georgia and Arkansas. Ovenbirds winter mainly in Mexico, Central America, and the West Indies, with smaller numbers in the southern United States and northern South America.

Ovenbirds, as well as most other warblers, are neotropical migrant songbirds. Neotropical migrants are birds that live in Latin America for most of the year, but travel to North America for the breeding season. Neotropical migrant songbirds migrate north to take advantage of the huge insect bloom that occurs in North American forests and other habitats every spring. By migrating to breed, the birds have less competition for food resources and they can raise more young than they could if they stayed in Latin America.

Ovenbirds migrate mainly at night when weather conditions are favorable. With the distances involved, the migrants need to build up fat reserves to maintain their flights. They must flap their wings constantly for hours on end without feeding or drinking water. Night-time temperatures are cooler than during the day. Therefore, by migrating at night, the birds are able to keep their bodies from overheating from the high energy output

and stress of migration.

There are other benefits to night migration. Moisture in the form of condensation is frequently in the air. That gives the birds the opportunity to take in a little moisture, helping to prevent dehydration. Also, predators, such as hawks and falcons, are daytime migrants so neotropical migrant songbirds can avoid them under the cover of darkness.

Behavior

Most warblers are extremely active birds. While feeding, they flit from twig to twig, and from insect to insect. Ovenbirds are a little different in that they usually forage by walking among the leaf litter and fallen logs on the forest floor. As they look for food, they turn over leaves and search around the base of plants, frequently bobbing their tail as they go. Even though they are active, ovenbirds appear to be a bit more sluggish compared to most other warblers.

An ovenbird’s diet consists almost entirely of invertebrates, including spiders, worms, snails, slugs, beetles, weevils, aphids, crickets, grasshoppers, ants, moths, and caterpillars. On occasion

they may consume fruits, such as mulberry.

Nest

Ovenbirds build a dome-shaped nest with a side entrance, similar to an old dutch oven, which gives the birds their name. Nests are always built on the ground within the forest, and frequently close to a trail or road. Cryptically camouflaged against the forest floor, the nests are made from leaves, pine needles, rootlets, grasses, moss, and animal hair. The roof of the dome shelters the eggs and young, as well as conceals them from parasitic cowbirds and avian nest predators, such as blue jays and crows. The typical clutch size for ovenbirds is three to six eggs.

Conservation

Like all other neotropical migrants, ovenbirds must navigate their way to and from their breeding and wintering grounds. They face many perils along the way. Bad weather, collisions with towers and glass buildings, loss of stopover habitat, hawks and falcons, food shortages, and feral cats all take their toll. Some of these threats are natural, while some are man-made and possibly avoidable.

In many parts of their range, including areas of Connecticut, ovenbirds must contend with overpopulated deer herds on their breeding grounds. The deer overbrowse the forest understory, leaving ground nesting birds, like ovenbirds, with little cover in which to hide their nest and raise their young.

The biggest threats to ovenbird and other neotropical migrant forest bird populations are forest fragmentation and outright habitat loss. Ovenbirds do best in large tracts of mature forest. The larger the forest, the better they will do. Smaller, unconnected patches of forest are less desirable and the birds do not fare as well there.

When large blocks of forest are chopped into smaller pieces by develop-

ment, suburbanization, and road building, populations of these birds experience tremendous stress, and usually population declines will follow. Ovenbirds cannot withstand being squeezed into smaller, less desirable spaces without being affected in a negative way. Fragmented forests have more edge habitat where nest predators can find a pathway into remaining forest buffer areas. The predators may include cats, dogs, raccoons, skunks, blue jays, and more. Cowbirds also gain easier

access to forest interiors through fragmented forests.

Not only are neotropical migrants losing habitat on their North American breeding grounds, but they are also losing habitat in stopover areas and in Latin American wintering areas. Habitat conservation at the breeding and wintering grounds and migratory stopover areas is critical for maintaining the presence of all neotropical forest migrants into the future.



©PAUL J. FUSCO
All Rights Reserved

Male and female ovenbirds are similar in appearance, but the orange crown on the male (above) is brighter than on the female.

Urban Wetland Restoration Along the West River Corridor

Written by Paul Capotosto and Roger Wolfe, Wetlands Habitat and Mosquito Management Program

The West River Memorial Park parallels the Ella T. Grasso Boulevard (Route 10) in New Haven and has been one of the focus areas of the community-based West River Neighborhood Revitalization Plan. The invasive plant phragmites (*Phragmites australis*) has dominated the site since the early 1960s. The DEP Wetlands Habitat and Mosquito Management (WHAMM) Program has been working with several groups interested in controlling phragmites and restoring native plants in the area.

Tidal flow is restricted on the West River by a series of one-way tidal flap gates located just south of Route 1. The gates are designed to allow excess storm water out during low tide, while stopping the influx of tidal salt water from flowing in at high tide. Because of restrictions to tidal flow caused by the tide gates, coupled with placement of dredge spoil on the salt marsh in the early 20th century, much of the wetlands are dominated by phragmites. The proliferation of phragmites has degraded the natural



Looking southwest at the upper area of West River in New Haven. The phragmites is the gray area which was treated with herbicide and mowed in 2004.



Looking south down Ella T. Grasso Boulevard (Route 10) at the West River Reflection Pool, with Long Island Sound in the background.

diversity of the area, formed visual barriers of the river, and prevented access and recreational opportunities to much of the park.

Several studies have been done about opening the tide gates and allowing salt water into the system. Most of the studies have concluded that above Route 34, the Tennis Center near Yale Bowl will be flooded if one gate is opened.

Control Methods

The objective of phragmites control is not to completely eradicate the species, because in certain circumstances it may contribute to overall habitat diversity of tidal wetlands. Instead, the objective is to reduce the extent of monotypic stands that have invaded brackish and tidal-fresh water wetlands. Two methods are commonly used to control the spread of phragmites.

The first method involves the restoration of salt water tidal flows. The DEP's Office of Long Island Sound Programs, Tidal Wetland Restoration Program uses

this method for restoring degraded tidal wetlands. Because phragmites is intolerant of salinities greater than 18 parts per thousand (ppt), reintroduction of salt water results in a gradual replacement of phragmites by native vegetation. However, this method generally takes between 10 to 20 years. Planting of native vegetation is usually not necessary because of abundant natural seed sources. Since 1980, this restoration technique has been applied to approximately 1,500 acres in Connecticut.

The second method involves herbicide applications over a three-year period combined with mowing. Various aquatic herbicides are used to control dense stands of phragmites in brackish tidal marshes. An aquatic surfactant (sticking agent) is typically mixed with the herbicide prior to its application. Spraying occurs during mid-summer until the first frost. A month after spraying, mowing with low ground pressure equipment can begin. About 80% of the phragmites will be eliminated after the first year. Since 1997, the WHAMM Program has controlled 1,650 acres using this method.

West River Project

The WHAMM Program began phragmites control in the West River area after receiving a request from the Friends of West River. Members of the group had read an article in *Connecticut Wildlife* magazine about phragmites control projects on the lower Connecticut River. Other partners for the West River project were the Friends of West River Memorial Park, West River Neighborhood Revitalization and Zoning Committee, City of New Haven, USDA Natural Resources Conservation Service, and the DEP Wildlife Division's WHAMM Program. The Natural Resources Conservation Service funded a three-year program of herbiciding and mowing of phragmites through a grant from the Wetlands Habitat Incentive Program (WHIP). Matching funds were received from the other organizations.

Over the past five years, efforts to control phragmites by herbiciding and mowing have resulted in the restoration of approximately 75 acres of wetland and upland habitats. While this work will continue for several more years, efforts thus far have enhanced native plant diversity and wildlife habitat and have allowed the city to increase recreational opportunities within the park.

Ecology of Phragmites

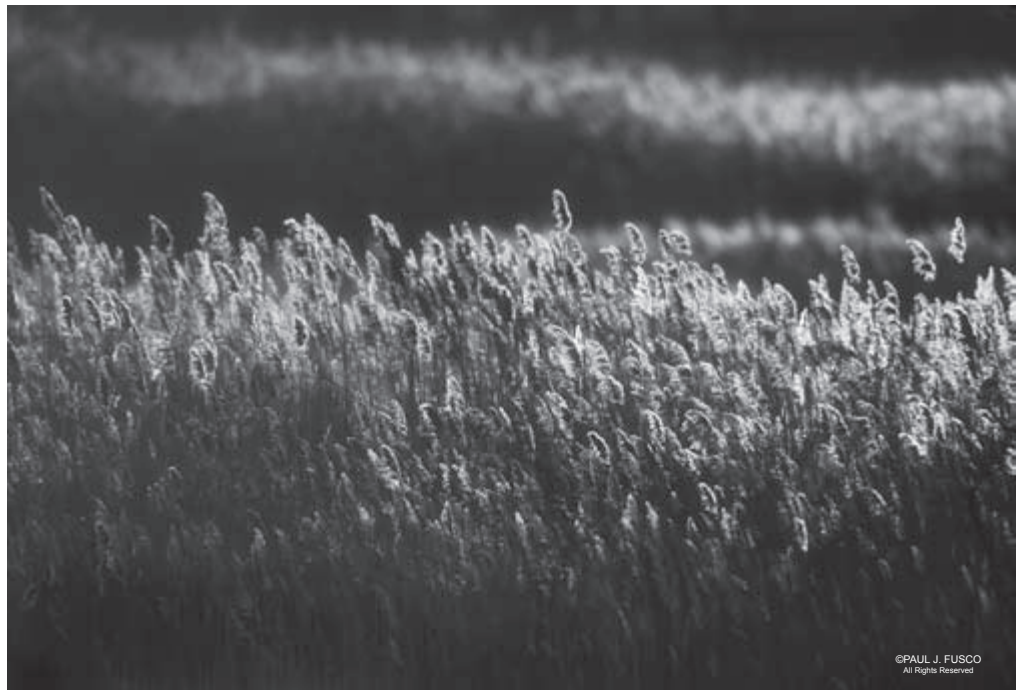
Phragmites (also known as common reed) is a tall, perennial grass that grows in brackish, tidal freshwater and non-tidal freshwater wetlands. Native phragmites may have been present as a minor component of Connecticut tidal marshes as early as 3,000 years ago. In the last 30 to 50 years, mono-typical phragmites has begun spreading at rates as high as one to three percent per year in areas like the lower Connecticut River. It is estimated that approximately 10% of Connecticut's tidal wetlands are dominated by phragmites. It has been confirmed that the new, pestiferous type of phragmites, which is most commonly found in Europe and was introduced, possibly on ballast stone from ships, is genetically different from the native plant stock.

Scientists, environmental managers, and conservationists are increasingly concerned about the potential threat that the spread of phragmites poses to tidal wetlands throughout Connecticut. Phragmites is intolerant of soil salinities greater than 18 ppt, and is not typically found in salt marshes, unless the salinity regime has been altered through impounding, diking, or some other means of restricting tidal flow. Phragmites is most abundant in brackish and tidal fresh marshes. Other factors that may contribute to the spread of phragmites include disturbances like excavation, sedimentation, and increasing nutrient concentrations.

Phragmites forms dense colonies or clones, mainly spreading through thick underground rhizomes. New shoots form at the nodes along the rhizomes. In nutrient rich areas, such as tidal marshes, this simple and rapid method of spread allows phragmites to out-compete native plant species for both nutrients and light. In addition to the threat imposed on native plant and animal species, the density of phragmites stems and the slow rate of decomposition in winter after the stems die provide an ample supply of combustible material that creates a serious fire hazard, particularly in suburban areas.

Thick stands of phragmites form nearly impenetrable barriers to the movement of animals and large birds, such as ducks, shorebirds, and wading birds. These thick monotypic stands result in a degradation of habitat by raising marsh elevation and filling in open water areas. This habitat loss starts the decline of bird species diversity in a marsh. The seaside sparrow and saltmarsh sharp-tailed sparrow (both Connecticut species of special concern), as well as the willet and marsh wren are far less abundant in phragmites marshes than in healthy tidal marshes. In part, this is because they are highly adapted to nesting in native plant-dominated salt and brackish marshes. A few common wildlife species, such as red-winged blackbirds and deer frequently use phragmites marshes; however, most other animals and birds avoid these areas because they cannot penetrate the thick stands of vegetation.

The shade from these large stands also hinders the growth of native plants. Studies have shown that plant diversity is greatly reduced after forming dense monocultures of phragmites, and that it appears to be detrimental to the overall ecological functioning of tidal wetlands.



P. J. FUSCO

©PAUL J. FUSCO
All Rights Reserved

Scientists, environmental managers, and conservationists are increasingly concerned about the potential threat that the spread of phragmites poses to tidal wetlands throughout Connecticut.

A Special Thanks to the Connecticut Waterfowl Association

Written by Paul Rothbart, Habitat Management Program

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

Recently, 13 members from CWA, including Paul Capotosto, Frank Davis, Matthew Davis, John Pawelec, Dave Proulx, Eric Nelson, John Barry, Ian Gereg, Kelly Kubik, Chris Samor, Clint Herdman, and Jim Gavin met with Wildlife Division staff member, Jack Berlanda, at the Division's Flaherty Management Area, in East

Windsor, and built 52 wood duck nest boxes, donating 39 of these to the state. The donated boxes will be used as replacement boxes in the Division's wood duck nest box program.

CWA also contributed a drill press used in constructing the nest boxes and two digital cameras for documenting wetland related projects throughout Connecticut.

Connecticut



Waterfowl Association



CONNECTICUT WATERFOWLERS ASSOCIATION

CWA members built 52 wood duck boxes, 39 for the State on March 15, 2008, at Deerborn. Under the supervision of Jack Berlanda (far left), the boxes were built by Paul Capotosto, Frank Davis, Matthew Davis, John Pawelec, Dave Proulx, Eric Nelson, John Barry, Ian Gereg, Kelly Kubik, Chris Samor, Clint Herdman, and Jim Gavin.

The Wildlife Division again extends its gratitude to CWA for its cooperation on this valuable conservation project. The Division also looks forward to many future partnerships that will benefit wetland habitats and the species that use these important sites.

National Hunting and Fishing Day, September 27

National Hunting and Fishing Day will be celebrated on Saturday, September 27, 2008. This special day, observed on the fourth Saturday of every September, was formalized by Congress in 1971 and created by the National Shooting Sports Foundation to celebrate conservation successes of hunters and anglers.

It is important to recognize the outstanding contributions that hunters and anglers have made and continue to make to conservation efforts. Since the Federal Aid in Wildlife Restoration Program, or Pittman-Robertson (PR) Act, became law in 1937, and the Federal Aid in Sport Fish Restoration, or Dingell-Johnson Act, became law in 1950, monies collected through sportsmen's fees and taxes have provided over \$23 billion nationally for conservation.

Connecticut's hunters and anglers have a significant impact on the economy. The state's 297,000 hunters and anglers are among the most prominent and influential of all demographic groups, spending more than \$339 million a year on

hunting and fishing, according to a new report. This report, "*Hunting and Fishing: Bright Stars of the American Economy - A force as big as all outdoors*," spotlights the immense impact hunters and anglers have on the economy at the national and state level.

In Connecticut, spending by hunters and anglers directly supports 5,500 jobs, which puts \$191 million worth of paychecks into pockets of working residents around the state. Of course, government coffers also benefit -- spending by sportsmen in pursuit of these outdoor activities generates \$36 million in state and local taxes. These latest figures demonstrate that season after season hunters and anglers are driving the economy from big businesses to rural towns, through booms and recessions.

Sportsmen-financed programs have led to the dramatic comeback of many fish and wildlife species and have also been instrumental in the protection and management of wildlife habitat. In Connecticut, approximately 8,000 acres of

land have been acquired using Pittman-Robertson (PR) funds. The PR program also supports staff and operations to manage approximately 90 Wildlife Management Areas (WMAs) comprising some 25,500 acres scattered throughout Connecticut. These WMAs provide opportunities for citizens to view wildlife, hike, fish, and hunt.

Programs financed by hunters and anglers have been directly responsible for restoring populations of many species, including the wild turkey and striped bass. Sportsmen-funded programs have also supported white-tailed deer and game bird management, enhanced fluke and scup in Long Island Sound, and established northern pike, trout, and walleye in many of Connecticut's lakes and streams.



Annual Breeding Waterfowl Survey Completed

Written by Kelly Kubik, Migratory Gamebird Program

The Wildlife Division completed the annual spring breeding waterfowl surveys in April. States in the Atlantic Flyway from Virginia north to New Hampshire all participate. The survey began experimentally in 1989 and became operational in 1991. In Connecticut, this ground survey targets 56 randomly selected one-square kilometer plots of varying habitat types. Sample plots are distributed within three ecological strata: Litchfield highlands, central lowlands, and coastal salt marsh. According to survey protocol, 20% of the plots were checked at either dawn or dusk.

The information derived from this survey provides part of the data that are used in the Eastern Mallard Adaptive Harvest Management (AHM) models. These models are used for determining season lengths and bag limits for waterfowl hunting in the flyway.

Habitat conditions during the survey and for the breeding period varied. By and large, breeding conditions were good throughout the state. Many inland plots contained low water levels due to either the breaching of beaver dams or the absence of substantial precipitation during late winter and early spring. One anomaly that was observed this year was a plot along the upper Connecticut River that was extremely flooded due to runoff from record precipitation in northern New England in late winter and early spring. These conditions helped create ideal wood duck habitat by inundating forested habitats along this portion of the Connecticut River.

Mallards continue to dominate Connecticut's survey. The estimate for 2008 was 17,936 pairs, a seven percent increase from 2007 and a nine percent increase from the five-year average. Mallards are very adaptable and tolerable of human disturbance, regularly nesting in urban, suburban, and rural landscapes.

For the second year in a row, the estimated number of breeding wood ducks

was higher than the estimate of Canada goose pairs. The wood duck estimate for 2008 was 10,550 pairs, a five percent decrease from the previous year but 43% higher than the five-year average. The Canada goose estimate for this year was 9,851 pairs. This represents an 11% increase from the previous year and an 11% decrease from the five-year average. Canada goose numbers continue to remain stable.

Black ducks were observed in coastal plots, but not in any inland plots this year. The black duck estimate was 228 breeding pairs, a decrease of 282% from the previous year and a 63% decrease from the five-year average. The large variation in black duck pair estimates is likely attributed to ever changing habitat conditions and, in

particular, the secretive nature of this species. In inland areas, black ducks prefer forested wetlands where detectability by surveyors is difficult. The large variation in estimates is also due, in part, to the small number of black ducks counted in the survey.

Hooded mergansers were not detected, but, as has been the case in previous surveys, common mergansers were. These cavity nesting species continue to expand their breeding range and numbers in Connecticut.



P. J. FUSCO

©PAUL J. FUSCO
All Rights Reserved

Black duck pair estimates usually vary greatly from year to year, probably due to ever changing habitat conditions and, in particular, the secretive nature of black ducks.

Connecticut Breeding Waterfowl Population Survey Results for Major Species

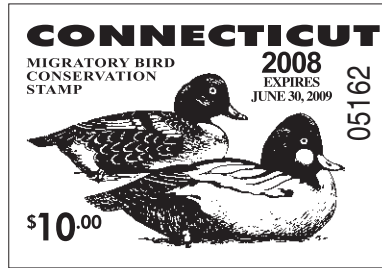
Species	2007 Pairs	2008 Pairs	Five-year Avg.
Black Duck	870	228	371
Canada Goose	8,855	9,851	10,928
Mallard	16,716	17,936	16,423
Wood Duck	11,038	10,550	7,372

Don't wait until the last minute! Sign up for a Conservation Education/Firearms Safety course today. Check the DEP website (www.ct.gov/dep) for class times and locations.



Work of Local Artist Featured on 2008 CT Duck Stamp

The 2008 Connecticut Duck Stamp features a pair of common goldeneyes illustrated by Burt Schuman, a wildlife artist from Rocky Hill, Connecticut. Burt is a graduate of the Parsons School of Design, in New York, and a member of the Society of Animal Artists. His artwork has been entered in several art shows, including the Society of Animal Artists Show, Images of New England Show, Pacific Rim Wildlife Art Show, and the New England Wildlife Art Expo where his work was awarded best in class and show and second best of show. Burt was also awarded second place in a State of Washington Duck Stamp competition. In addition, Burt painted a mural depicting the show "Good News" along 42nd Street in New York and he has designed numerous greeting cards and prints.



The 2008 Connecticut Duck Stamp is available for \$10 at town clerks' offices.

Field Trips at Belding WMA

In May, third graders from all five elementary schools in Vernon visited the Belding Wildlife Management Area (WMA). For seven days, students arrived in the morning and spent the day visiting four different habitats – field, forest, stream, and vernal pool. An instructor was stationed at each habitat to teach the students about the importance of these habitats and what animals could be found there.

At the forest station, students viewed nest sites of forest-dwelling birds, examined skulls of mammals, learned how to measure and age a tree, found signs of wildlife, such as deer trails, chipmunk holes, spider webs, and owl pellets, and received a tree "cookie" to take home.

In the field habitat, students were asked to think about what might be found in a field. They listened to birds, searched for signs of wildlife, and found burrows, egg casings, feathers, bones, and a variety of insects. The students also learned about "alien" plant species and that fields grow into forests if not mowed, grazed by livestock, or burned. After exploring, the children made booklets containing tracks of animals that might be found in the field.

In the stream, the third graders got close-up looks of fish, crayfish, and other freshwater invertebrates. They learned about the importance of water quality to the animals that live in the stream and then explored the stream bank and turned over stones in search of aquatic organisms.

At the vernal pool, students learned about the importance of vernal pools as breeding sites for wood frogs and spotted salamanders. They heard toads sing, saw birds feed and drink at the pool, found bullfrogs, and searched under logs for salamanders and other animals.

These field trips tie in with the science framework for third grade, which requires students to learn that "organisms can survive and reproduce only in environments that meet their basic needs." During the field trips, the students learned that different animals live in different types of habitats and how some animals protect themselves from predation. By the end of the field trips, the students were able to identify animals that use each of the habitats that they visited and were well aware of what happens to an animal when its habitat disappears.

Educating young people about wildlife and conservation was one of the main goals set forth by Max Belding when he donated Belding WMA to the DEP. This cooperative program with the Vernon school system is a big step forward in fulfilling his vision.

Jane Seymour, Habitat Management Program



Students on a field trip at Belding WMA examine turkey feathers.

Cheshire High School's 10th grade biology program recently participated in the release of Atlantic salmon fry into the Eightmile River, one of only four permitted release sites in the state. This valuable high quality river is in Devil's Hopyard State Park located in East Haddam. The river was recently classified as a Wild and Scenic River, assuring its long-term protection.

One hundred students, led by biology teachers Tom Lewoc, Jr. (son of recently retired DEP Conservation Officer Tom Lewoc, Sr.) and Dr. Steven Harris, released 400 young salmon about the size of guppies into the river. The ones that are fortunate enough to survive, as they grow from fry to adulthood, will migrate to the North Atlantic Ocean and return to the Eightmile River as adults to reproduce. This salmon release is part of an ongoing effort by the DEP and numerous partners to restore populations of this native fish. Efforts include watershed protection, riparian zone plantings, removal of dams that obstruct fish migration, and the release of young salmon into suitable habitat.

Cheshire High School was one of 72 state schools that worked with the Connecticut River Salmon Association to raise the young salmon from eggs, coordinate the release, and become better informed about the species, its requirements, and how to help assure its continued existence.

"The opportunity to participate in this hands-on program has really opened the eyes of many of the students to environmental issues," said Tom Lewoc, Jr. He and all the students were excited to help in the coordinated statewide initiative that uses genetically superior eggs to increase the chances that released fry will survive and return to Connecticut as adults.

Paul Rothbart, Habitat Management Program

New Website for Chimney Swift Project

The Chimney Swift Project is a joint venture between the UConn Ornithology Research Group and the DEP. Goals of the project include the development of an effective monitoring program and a newly designed artificial nesting structure. Researchers plan to test the effectiveness of the nesting structure and also gain a better understanding of the habitat associations of chimney swifts.

Tanner Steeves, a graduate student at UConn, has developed a website for Connecticut chimney swift work. Those who are interested in learning more about chimney swifts and the research project should check out the new website (http://hydrodictyon.eeb.uconn.edu/eebmedia/index.php/Chimney_Swifts_in_Connecticut).



Swimming Owl?

Bob Warren, of South Windsor, was able to photograph a young great-horned owl after it had a little flying mishap. Bob wrote:

“As I approached my South Windsor irrigation pond to try to spot one of a pair of green herons nesting there, a large buff-colored bird flew over my head and attempted to grab a maple branch over the pond. It missed, flailed, and fell backwards 15 feet into the water. The heron took off like a shot! After gaining composure, the owl “paddled” to the trunk, lifted itself to the ground and scampered two feet into brush by the pond. It stayed from 5:00 PM until dark. I’ve seen it in other “branching” flights at least five times since.”



Do you have an interesting wildlife observation to report to the Wildlife Division? Please send it (and any photos) to:
Wildlife Observations, DEP - Wildlife Division, P.O. Box 1550, Burlington, CT 06013, or email: katherine.herz@ct.gov



Watch Out Little Critters, Don't Lose Your Tail!

Ken and Bonnie Beatrice from East Haddam recently got a rare look at a family of weasels and sent *Connecticut Wildlife* a photograph. They wrote:

“While sitting at our patio, seven little baby critters came to visit. They sure were cute and quick and they did not want to stop for a pose. Our 14-year-old yellow lab Sandy was lying under the patio table. They all looked at her, stopped, gave a sniff, and continued to run.”

Birding from a Kayak

Hugh McManus from Norwalk sent Connecticut Wildlife several photographs that he took while out in his kayak. Hugh wrote:

*“I’m a kayaker who paddles year round and that enables me to sometimes get pretty close to some of the wildlife in the Norwalk Islands, especially the shorebirds. Last December I was able to take a photo of a mixed flock of shorebirds, which I believe were ruddy turnstones and sanderlings, but there may be others there as well. It was interesting to watch them go about their business together and forage for food along the shoreline. Prior to this and reading *Connecticut Wildlife*’s Nov/Dec 2007 article on “Winter Shorebirds of the Connecticut Coastline,” I wasn’t aware that so many shorebirds remained.”*



Survey Shows Breeding Mute Swans Expand Inland

Written by Kelly Kubik, Migratory Gamebird Program

To better document the distribution of mute swans in Connecticut and their expansion into inland habitats, a breeding survey was initiated in 2004. This survey covers the entire coastline, along with a random number of 100 km² inland plots. A fixed-wing aircraft is used to survey the coastline, major rivers, and large inland water bodies. A helicopter is used to survey the remaining inland plots. Forty-three inland plots were surveyed in mid-May 2008.

A total of 191 breeding mute swan pairs and 526 grouped birds were detected during this year's survey. Fifty pairs were observed in the inland plots and 141 pairs were counted in coastal areas. The statewide estimate for mute swans pairs is derived by extrapolating inland swan numbers and then adding the coastal total. The 2008 statewide estimate for mute swan pairs is 291, representing an 11% increase from the 2007 estimate. There are an estimated

1,120 total mute swans statewide, nearly identical to the 2007 estimate of 1,128 birds. Twenty-eight percent of all coastal mute swan pairs were actively nesting, while in inland areas 74% of the swan pairs were seen on nests. The low number of swans observed on nests along the coast was likely due to flooding that occurred from a combination of factors. Substantial runoff into major Connecticut drainages from snow melt in northern New England along with some isolated precipitation events in March and April caused delayed mute swan nesting or failure in these areas. Inland water levels were stable during this time, resulting in a smaller percentage of nest failures. The mute swan population has stabilized along the coast and continues to expand into inland areas where these birds will compete for resources with native waterfowl.



Attend a Program at Sessions Woods Conservation Education Center

The Sessions Woods Conservation Education Center's Public Program Series is a cooperative venture between the DEP Wildlife Division and the Friends of Sessions Woods. Please pre-register for these programs by calling 860-675-8130 (weekdays from 8:30 AM-4:30 PM). Programs are free unless noted. An adult must accompany children under 12 years old. No pets allowed!

Evening Beaver Marsh Hike on July 16 (Wednesday) at 6:30 p.m.

Join Wildlife Division Natural Resource Educator Laura Rogers-Castro on an easy hike to the Sessions Woods Beaver Marsh. Laura will talk about the various types of wildlife that can be found at this interesting habitat. Wear comfortable shoes and bring a water bottle for this 2-mile roundtrip experience. Meet at the flagpole in front of the Sessions Woods Conservation Education Center.

Tree Identification Hike on July 27 (Sunday) at 1:00 p.m.

Sessions Woods Wildlife Manage-

ment Area hosts a diversity of trees in its 700+ acreage. Natural Resource Educator Laura Rogers-Castro will lead a 2-mile hike on the tree identification trail to identify trees and discuss their wildlife value. Participants should wear appropriate shoes for hiking along a woodland trail and bring a water bottle. Meet in the exhibit area of the Sessions Woods Conservation Education Center.

10 Tips to Successful Wildlife Photos on July 30 (Wednesday) at 6:30 p.m.

Wildlife photographer and Master Wildlife Conservationist Gary Melnysyn will provide participants with 10 practical tips to successful wildlife images. Gary's beautiful images will be used to support a discussion on each tip. This will be an open forum that encourages questions about photo techniques or the wildlife itself. Gary has photographed moose, bears, bald eagles, and various other wildlife species. The presentation will be visually impressive and informative!

Dragonfly Walk on August 3 (Sunday) at 2:00 p.m.

Join Master Wildlife Conservationists Carol and Henry Perrault for an exciting look into the world of dragonflies. Henry and Carol will introduce participants to dragonfly natural history and identification in this walk to the beaver marsh at Sessions Woods.

The Fascinating World of the Honey Bee on August 6 (Wednesday) at 6:30 p.m.

Life would sure be different without honey bees! Join Beekeeper and Master Wildlife Conservationist Jerry Horkey at Sessions Woods for an informative presentation on honey bees, beekeeping, and bee conservation. Jerry will discuss the social life of honey bees and their important role as pollinators.

Wildlife Calendar Reminders

- July-August..... Respect fenced and posted shorebird nesting areas when visiting Connecticut beaches. Also, keep dogs and cats off of shoreline beaches to avoid disturbing nesting birds. Herons and egrets are nesting on offshore islands in Long Island Sound. Refrain from visiting these areas to avoid disturbing the birds.
- Dispose of fishing line in covered trash containers or specially marked recycling receptacles. Improperly discarded fishing line is a hazard for wildlife.
- Aug. 9-10 **Sharon Audubon Festival** (See below)
- Sept. 15 Report use of bluebird nest boxes by sending in a Bluebird Nest Box Network survey card to the Wildlife Division. Cards are available by calling 860-675-8130.
- Sept. 27 National Hunting and Fishing Day (see page 14 to learn more).
- Sept. 30 Report use of bat houses to the Wildlife Division. Call 860-675-8130 for more information.

Hunting Season Dates

- September..... 2008 pheasant tags available from town clerks' office (\$14 for 10 tags) and online at www.ct.gov/dep/sportsmenlicensing.
- Sept. 1-30 Early squirrel season
- Sept. 15-Nov. 18 First portion of the deer and turkey bowhunting season (private land bowhunters in deer management zones 11-12 may hunt deer until January 31, 2009).
- Waterfowl season dates had not been finalized by the time this issue went to press. The 2008-2009 Migratory Bird Hunting Guide should be available at DEP and town clerk offices by mid- to late August. Also, check the DEP's website (www.ct.gov/dep) to view the guide.
- Consult the 2008 Connecticut Hunting and Trapping Guide for specific season dates and details. The guide is available at Wildlife Division offices, town halls, and on the DEP's website (www.ct.gov/dep).

Sharon Audubon Festival: August 9-10

The 41st Annual Sharon Audubon Festival will take place on Saturday and Sunday, August 9-10. As in years past, the festival will feature two days of various nature programs and hikes throughout the Audubon property, live animal presentations, musical performances, vendors, food, and more. Aside from general nature programs, the festival will also continue to focus on renewable energy and green living. Gates open at 8:30 AM on Saturday for an early morning bird walk and at 9:30 AM on Sunday. Volunteers are also needed for the event to help with setup, food booth, parking, front gate admissions, presenters, and more. If you are interested in volunteering, please contact the Center. Admission is \$7 for adults and \$5 for children 12 and under. Check the Sharon Audubon Center's website at www.sharon.audubon.org as the festival dates draw near for a complete list of vendors, program descriptions, featured performers, and more.

Online Licensing for Sportsmen Available on DEP Website

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 Master Card.



Step Up to the Plate for Wildlife...

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

There are two great designs to choose from: the state-endangered bald eagle or the secretive bobcat.

Funds raised from sales and renewals of the plates will be used for wildlife research and management projects; the acquisition, restoration, enhancement, and management of wildlife habitat; and public outreach that promotes the conservation of Connecticut's wildlife diversity.

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

Connecticut Wildlife

Subscription Order

Please make checks payable to:

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

Check one:

- 1 Year (\$6.00) 2 Years (\$11.00) 3 Years (\$16.00)

Name: _____

Address: _____

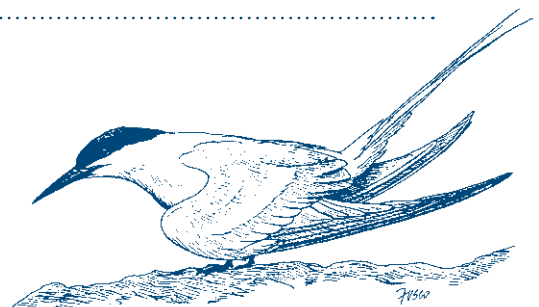
City: _____ State: _____

Zip: _____ Tel.: _____

Check one:

- Renewal
 New Subscription
 Gift Subscription

Gift card to read:





©PAUL J. FUSCO
All Rights Reserved

The green heron is common in Connecticut, inhabiting freshwater swamps, marshes, ponds, salt marshes, and the edges of lakes, streams, and creeks. It will feed on small fish, invertebrates, insects, frogs, and other small animals.

Bureau of Natural Resources / Wildlife Division
Connecticut Department of Environmental Protection
79 Elm Street
Hartford, CT 06106-5127

STANDARD
PRESORT
U.S. POSTAGE
PAID
BRISTOL, CT
PERMIT NO. 6