



CONNECTICUT'S WILDLIFE PUBLICATION

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FILE PHOTO

*Connecticut's successful Wild Turkey Restoration Program began in 1975 with the release of 22 wild-trapped birds from New York State. One of the first turkeys to be reintroduced in the state is released by former Turkey Program Biologist (and current Wildlife District Supervisor) Steve Jackson in Canaan.*

1991 marks the 125th anniversary of the Connecticut Bureau of Fisheries and Wildlife. This special, expanded issue of SCOPE highlights the 125-year history of wildlife management in Connecticut, from

the early days when employees of the Board of Fisheries and Game managed only game species to today where Wildlife Division responsibilities encompass all wildlife species.



## The Once and Future Wildlife

Connecticut's fragrant forests are teeming with wild turkey and black bear. At night, the dense, tangled woodland resounds with the high-pitched howls of timber wolves and the wailing screams of mountain lions. At the Connecticut shore, heath hens forage for seeds and berries in the shrubby barrens, and shorebirds--plovers, terns, egrets, yellowlegs--passenger pigeons and ducks of all shapes and sizes darken the sky when they gather. This was the scene in 1633 when Connecticut's first settlers arrived. From the salt marshes of the coast, to the fertile valleys of the Connecticut and Farmington Rivers, through the rolling hills of the central portion of the state, and climbing to the Berkshire foothills in the northwest, Connecticut's geographical features provided ideal living conditions for a wide variety of wildlife.

By the twentieth century, Connecticut's wildlife was decimated, due chiefly to uncontrolled market hunting and habitat destruction brought about by man's agricultural, lumbering and industrial activities. The wildlife conservation movement had

begun, but it was woefully inadequate. Laws were passed which brought improvement, but then came the dirty 30s: waterfowl populations hit an all-time low; the Depression encouraged wildlife poaching; a burgeoning human population and increase in hunters brought about a need for more wildlife management. Game wardens, who had served as the primary "wildlife managers," were gradually supplemented with professional wildlife biologists, as the Federal Aid in Wildlife Restoration Act made funds available. This Act, pushed through Congress by a coalition of hunter-conservationists in 1937, imposed an excise tax on sporting arms and ammunition, with the funds generated to be distributed to the states for wildlife restoration. The Pittman-Robertson (P-R) Act, as this Act is called in honor of its legislative sponsors, made monies available for land acquisition, wildlife research and surveys, technical assistance, and the establishment of a hunter education program; thus began the era of modern wildlife management.

### Historical Wildlife Facts

- 1648 - Connecticut prohibited deer hunting.
- 1677 - Connecticut law prohibited the export of deer hides and venison.
- 1842 - Beaver reported extirpated from Connecticut.
- 1850 - Connecticut was one of the first states to enact a law protecting nongame birds.
- 1866 - Connecticut Board of Fisheries began with the appointment of two commissioners.
- 1883 - The first game wardens were appointed.
- 1893 - Connecticut passed a law giving complete protection to deer for 10 years; the law was subsequently extended to 1917.
- 1895 - The Connecticut Board of Fisheries and Game was established.
- 1899 - Land acquisition and development by the Board of Fisheries and Game began with the purchase of land for the Windsor Locks Hatchery.
- 1900 - Lacey Act imposed federal penalties for interstate transportation of wildlife taken illegally.
- 1906 - Connecticut made funds available to landowners with crop damage caused by deer.
- 1907 - Owners or lessees were allowed to shoot deer found damaging crops on their land.
- 1907 - Sale of hunting licenses began.
- 1914 - Beaver reintroduction began with the establishment of a colony in Union.
- 1918 - Migratory Bird Treaty Act between the United States and Canada gave federal governments power to regulate harvest and manage waterfowl.
- 1932 - Establishment of a comprehensive Waterfowl Restoration Program.
- 1934 - Migratory Bird Hunting Stamp Act established the Duck Stamp Program.
- 1934 - Cooperative Wildlife Research Unit established at the University of Connecticut in Storrs.
- 1937 - Federal Aid to Wildlife Restoration Act (Pittman-Robertson) was passed to provide funds for wildlife management projects and land acquisition.
- 1954 - First annual midwinter waterfowl survey.
- 1956 - Hunter Safety Program established.
- 1971 - Connecticut Department of Environmental Protection established.
- 1974 - Deer Management Act passed.
- 1975 - Connecticut held its first deer hunting season.
- 1975 - Wild turkey reintroduced in Connecticut.
- 1981 - Connecticut held its first wild turkey hunting season.
- 1981 - Technical Assistance Program established.
- 1982 - Conservation Education/Firearms Safety Program began.
- 1986 - Nonharvested Wildlife Program officially established.
- 1986 - Connecticut became the first Atlantic Flyway state granted a liberalized hunting season for nuisance resident Canada geese.
- 1989 - Fisher reintroduced into northwestern Connecticut.



## History of Wildlife Management in Connecticut

When the Connecticut Board of Fisheries and Game celebrated its 100th anniversary in 1966, Arroll Lamson, who was then the Chief of the Game Division, identified six eras of wildlife management (with some overlap) over those first 100 years, each reflecting the prevailing philosophy of the times:

1. 1866 and earlier – Restriction of market hunting
2. 1885–1925 – Control of predatory or competing species
3. 1895 – Establishment of sanctuaries and refuges
4. 1908 – Artificial replenishment and the introduction of exotics (pheasant)
5. 1930s – Research and investigation
6. 1950s – Management of habitat

Two additional eras should be added to describe wildlife management activities since Mr. Lamson's article was written in 1966:

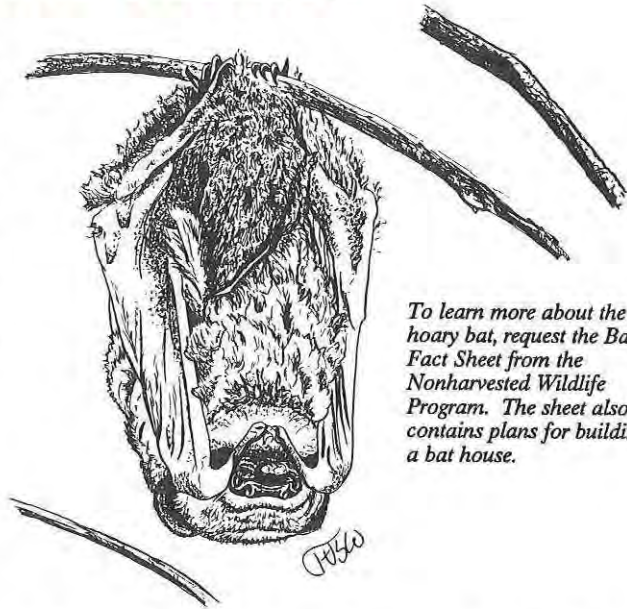
7. 1970–1991 – Single species management and restoration; species groups assessment
8. 1980–1991 – Education, sociology, public awareness

Since the former Board of Fisheries and Game celebrated its 100th anniversary, the science of wildlife management has become more complex and challenging due to an increasing human population and the degradation and loss of wildlife habitat. The Wildlife Division has moved from the intensive management of habitat on state-owned lands to staffing itself with "specialists" who work directly with a single species, or closely related groups of species, assessing population levels and developing long-term planning objectives. The planning process reflects sociological and biological factors, with emphasis on public education, communication and attitudes. The species programs that exist today include white-tailed deer, wild turkey, upland wildlife, furbearer, waterfowl and nonharvested wildlife.

A significant change since Mr. Lamson's day has been the addition of the Non-harvested Wildlife Program in 1986. Program activities center around the inventory, research, management and conservation of wildlife species that are not traditionally hunted. These species include songbirds,



Emblem used to celebrate the 100th anniversary.



To learn more about the hoary bat, request the Bat Fact Sheet from the Nonharvested Wildlife Program. The sheet also contains plans for building a bat house.

raptors, shorebirds, small mammals, reptiles, amphibians and invertebrates. The program's efforts include activities as diverse as monitoring and protecting endangered, threatened and special concern species; drafting legislation designed to safeguard Connecticut's wildlife resources; and providing wildlife information and technical assistance to private citizens, organizations and municipalities.

In the 1990s, the Wildlife Division finds itself faced by a public with varying interests that often conflict with management goals. Many of these conflicts result from a misunderstanding of wildlife management practices and principles by a growing urban population that is losing touch with the natural world. To respond to this situation, the division's Public Awareness Program, which was established in 1984, continually develops educational materials such as SCOPE, species program summaries, a wildlife checklist, fact sheets, annual reports and news releases to help foster a better understanding and respect for wildlife.

Currently, the lack of adequate funding limits the ability of the Wildlife Division to effectively manage the wildlife resource. Although the public is showing more interest in wildlife issues, particularly those concerning nonharvested wildlife and endangered species, the funding base for nearly all wildlife work still lies with the sportsmen. The future of Connecticut's wildlife depends not only on public understanding and knowledge, but also on whether or not all citizens who have an interest in wildlife are willing to pay for the conservation and management of this valuable renewable resource.



## Flaherty: New England's Field Trial Showplace

The Dr. John E. Flaherty Field Trial Area is a 361-acre, state-owned parcel located in East Windsor. It is managed as a sanctioned field trial area through the cooperative efforts of the Wildlife Division and the Dr. John E. Flaherty Field Trial Club Association. This working relationship dates back to 1942 when the Board of Fisheries and Game leased the area. In 1948, the state acquired the original parcel for "one dollar and other considerations." Through years of cooperative management planning, the area is now recognized as the premier field trial area in New England, and many say the entire eastern seaboard. Field trials are competitions designed as a testing place for the abilities and skills of both bird dogs and their handlers.

The DEP's management policy for this open space is to encourage multiple-use recreational activities which are compatible with existing and surrounding land uses. When organized field trial events are not scheduled, the area is used by the public for a variety of recreational activities such as hunting, dog training, birdwatching, photography, hiking and cross-country skiing.

## Changes in Land Use

Since the 1630s, when colonists first settled in Connecticut, the state has seen several phases of land use that have had both beneficial and detrimental effects on native wildlife populations. By the mid-1800s, farmland covered three-quarters of the state. Vast mature forests were replaced by a checkered landscape of agricultural fields, occasionally interrupted by woods. Wildlife habitat was significantly reduced and some wildlife populations dwindled or disappeared from the state.

The productivity of the farms supported an expanding human population that soon outgrew the available land. Much of the land was overworked, resulting in erosion of topsoil. This marked the start of the decline of agriculture in Connecticut. With the growth of manufacturing centers in the river valleys by the mid to late 1800s, people began moving to mill towns and away from farming towns. This wide-scale abandonment of farms allowed fields to become overgrown, yielding increased food and cover for wildlife, such as deer and turkey.

The next phase of land use, from 1860 to 1945, was one of decreasing agriculture and increasing industrialization and urbanization. During this time, there was a second wave of deforestation as



*As an example of the excellent cooperation between the Wildlife Division and the Dr. John E. Flaherty Field Trial Club Association, the division acknowledges the recent gift of \$4,000 presented to the state by the association. The money was used for habitat management activities and is appreciated during these difficult fiscal times. Pictured (l to r) are Rich Garini, past president of the association; Peter Bogue, Assistant Director, Wildlife Division; Jim Moreau, president of the association; and Paul Rothbart, Wildlife District Supervisor, Wildlife Division.*

the recovering forests were cleared again to make way for expanding industry and the mining of valuable minerals. Once again, wildlife populations and their habitats suffered.

The coastline has not escaped from the effects of development and changing land use either. Many of the salt marshes, which provide habitat for a wide variety of wildlife species, have been filled in so that, today, less than one-half of the state's original acreage of coastal wetlands remains.

Suburbanization is the newest phase in Connecticut's land-use history; farmlands and forests have become residential areas and shopping malls. Stone walls that still run through the woods and rolling hills are the only reminders of where agricultural fields and pastures once existed. Although forestland has increased in the state, forests are now faced with growing development pressures. As more land is developed (3,000 acres of forests are lost each year in Connecticut), there is less area that wildlife can call home. The changes humans have brought upon the land leave no alternative but to manage wildlife species in a manner which is compatible with existing land uses.

*Wildlife Fact: The last recorded wild mountain lion in New England was killed in 1881 in Barnard, Vermont.*



## Habitat Management in Connecticut 1866-1991

Wildlife habitat management (the alteration, enhancement and conservation of physical and biological factors to benefit wildlife populations) is an important responsibility of the Wildlife Division. However, many management ideas and practices were not even conceptualized until the 1920s.

Current habitat management in Connecticut bears little resemblance to the practices carried out at the turn of the century. At that time, when a wildlife population was declining, little thought was given to habitat management or to what effects changing land use patterns were having on wildlife. The prevailing thought is best described by a statement from the 1910 Connecticut Report of the Commissioners of Fisheries and Game, "As has been said before, the only way to propagate game is to protect it while there is still some to protect." Therefore, closed seasons and bag limits were established, and the artificial stocking of gamebirds became an important activity.

As wildlife workers in the 1920s and 1930s gained more knowledge and developed a clearer understanding of the link between wildlife and habitat, Connecticut initiated a habitat management program. Although the program was mainly directed toward game species, many nongame species benefited from the management activities. One aspect of the program involved the management of habitat in state forests where shrubs that provided food and cover for wildlife and strips of grain crops were planted in forest openings. Open strips were created in extensive areas of hardwood forests where conifers were planted for winter cover. The Civilian Conservation Corps (CCC), which was involved with many management projects, created some of these clearings.

Habitat management received more emphasis in the 1940s and 1950s. Improvement work continued in the state forests and many of the projects were monitored to determine how wildlife populations were responding. Wetland areas, which are important to waterfowl and a variety of other wildlife species, were enhanced through level ditching (creating open water channels) and the construction of wildlife impoundments. A wood duck nest box program was started in 1953 to supplement natural nesting cavities in suitable habitat. Today, approximately 1,000 boxes are maintained by biologists and conservation officers.

The 1960s and 1970s brought change to the Wildlife Unit. Game management became comprehensive wildlife management with a new regard for all species. Biologists began to consider nonharvested wildlife species when planning habitat management projects.

The Agricultural Agreement Program, which was initiated in the 1970s, continues to provide farm-type habitat for many wildlife species. Wildlife Division administered lands are leased to area farmers who must abide by a written land/habitat management plan designed to benefit wildlife. Approximately 1,600 acres are currently under agricultural agreement.

During the early 1980s, biologists began to work with private landowners who wanted to manage wildlife habitat on their property. The Technical Assistance Program was established to provide private landowners, who own the majority of land in Connecticut, with technical advice on habitat improvement. The program has expanded to include providing assistance to federal and state agencies, organizations and municipalities.

The Habitat Management Program faces new challenges in the 1990s. Management priorities have shifted from the labor intensive practices of maintaining clearings and planting shrubs to working with the Forestry Division to achieve habitat management projects through forestry operations. State land management activities for wildlife habitat serve as examples for the private landowner to follow. Landowners play a critical role in Connecticut's wildlife conservation efforts; the Wildlife Division's goal is to get them involved.



*One management concept that has become important in recent years is the retention of snags (standing dead trees) and den trees during forestry operations to provide valuable habitat for cavity-nesting wildlife species such as this hairy woodpecker.*



## Ospreys – A History

Since 1903, ospreys have been protected in Connecticut. During the 1940s, there were a reported 1,000 breeding pairs between New York and Boston; approximately 200 pairs nested on and around Great Island in Old Lyme. As shown in 1941 file photos, many of the nests were on the ground at this 300-acre salt marsh which is separated from the mainland. Although extremely high tides, which could inundate the nest, were a limiting factor to ground nests. In spite of this, the open area of a salt marsh is preferred by ospreys because they can land easily and it is near water and food.

Ospreys usually nest together, and islands like Great Island historically have had the largest and densest colonies. Ground predators were limited

FILE PHOTO



*This 1941 photo of an osprey ground nest was taken at Great Island in Old Lyme.*

and pairs often built nests as close as 300 feet apart. Today, a ground nest is a rarity and is seldom successful. Ground predators, especially raccoons (which have increased with shoreline development) and salt marsh destruction have altered the choice of nesting sites for ospreys, forcing the birds to move up.

Where trees along the shoreline have not been available for ospreys to use, the birds have adapted further by using telephone poles, light stanchions and channel markers.

Not only did development of the Connecticut shoreline put pressure on ospreys to adapt, but the greatest threat came in the 1950s and 1960s, when the pesticide DDT was used for mosquito control in salt marshes. Absorbed by fish, on which osprey depend for food, DDT ultimately caused eggshell thinning, resulting in nest failures due to cracked eggs. Studies concluded that the Connecticut population was declining at an annual rate of 31 percent; the ban on the use of DDT and other pesticides in the early 1970s brought about a steady recovery of osprey populations in the Northeast.

**Wildlife Fact:** *Fifty years ago, state game wardens and authorized trappers removed a number of predators from state land in "an attempt to maintain a balance of nature." The most commonly removed predators were snapping turtles, crows, hawks and foxes.*

Where are we today osprey population-wise? In 1985, Connecticut had a banner year: 44 active pairs fledged 72 young. Three years later when some of those fledglings were old enough to breed, they returned to Connecticut, where 51 active pairs with 95 fledged young were recorded. In 1991, many of these fledglings returned to the state; of 66 active nests, 56 were successful, fledging a record 122 young.

Can we ever support the breeding pair numbers of the past? Despite their ability to adapt to new nest sites like platforms and channel markers, a return to historical osprey population levels is impossible, due to land use changes that have limited nest sites and reduced feeding areas. Also, ospreys are still exposed to pesticide contamination at their wintering grounds in the West Indies, Central America and South America. The division will continue to monitor osprey productivity by assessing nesting activity and determining the number of young fledged.



FILE PHOTO

*A 1941 Connecticut game warden checks osprey chicks in a ground nest. A ground nest today would not be successful due to the increase in raccoons and other predators.*



## Suburbanization Encourages "Nuisance" Wildlife

As Connecticut's population has become larger and more concentrated, the increase in garbage, bird feeders and gardens has provided unlimited food for wildlife. Such man-made spaces as attics, chimneys, sheds, crawl spaces and even storm drains have served as denning sites and shelter. Combine these trends with fewer areas open to hunting and trapping and more isolated pockets of woodlands acting as reserves for some wildlife populations, factor in homeowner unfamiliarity with wildlife, and you will begin to understand the proliferation of human/animal conflicts.

Since the appointment of the first game wardens in 1883 and, later the hiring of conservation officers and biologists, the state has assumed responsibility for assisting homeowners in controlling "nuisance" wildlife. Although it didn't replace the role of conservation officers and biologists in handling wildlife problems, the Nuisance Wildlife Control Volunteer Program, implemented in 1981, used volunteer trappers to handle the growing numbers of problem wildlife. Since 1985, this program has largely been replaced by the user-pay services of licensed Nuisance Wildlife Control Operators

(NWCOs). Strict licensing requirements and wildlife control guidelines help to maintain the effectiveness of the NWC program.

Most problems handled by NWCOs are resolved through live-trapping and relocation. However, local overpopulation of some species (raccoon, squirrel, skunk, woodchuck), lack of adequate release sites, extensive wandering of displaced animals and the perpetuation of the nuisance problem have made the work difficult and sometimes ineffective.

NWCO regulations and policy allow the humane killing of all species which licensed operators are authorized to handle. In response to the recent rabies outbreak, current restrictions prohibit NWCOs, volunteers, humane societies, local animal control officers and the public from translocating any raccoon, skunk or fox. In the future, "no translocation" regulations may be extended to other species whose increased populations are such problems that relocation can no longer be considered a legitimate management option.

## The Changing Status of Connecticut Furbearers

The historical outline which follows illustrates how human activities have been a primary influence on the abundance of Connecticut furbearers:

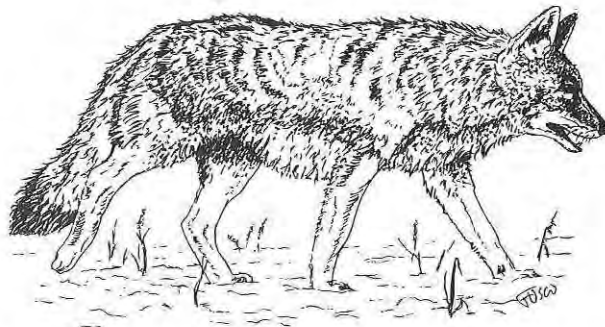
**Precolonial Connecticut:** Forest-dependent furbearer species such as black bear and beaver were found throughout the state. Wolves and mountain lions were present. Opossum range had not yet expanded to Connecticut from the South.

**Colonial through mid-1800s:** Black bear, fisher and beaver were considered extirpated by the mid to late 1800s. Populations of some species were probably additionally reduced by exploitation (beaver) or because they were viewed as a threat to human activities (wolves). Species, such as the red fox, that prefer meadows and openings may have benefited from increased agricultural and cleared land.

**Late 1800s through 1940s:** Beaver were reintroduced for wetland creation late in the period. Expanding human population probably benefited opportunistic species such as raccoons and opossums and limited prospects for the return of wolves and mountain lions.

**1940s through present:** River otter populations are doing well and may have benefited from the expansion of beaver. Raccoons, abundant in both urban and rural areas, are a frequent cause of

problems for homeowners and farmers. Black bears are regularly sighted; the state hosts a small resident population for the first time in about 100 years. Fisher range expansion into eastern Connecticut was documented in the 1980s, and the Wildlife Division initiated a fisher reintroduction program in northwestern Connecticut in 1989. A non-native furbearer, the coyote, expanded its range, entering the state in the 1950s or 1960s. The coyote population has grown quickly and currently occupies virtually the entire state.



Coyote



## 1991 State Land Deer Lottery

A total of 8,204 applications were received for the 1991 state land deer hunting lottery. Since some applications are for party permits (applications may represent up to three hunters), the actual number of hunters selected for each season is higher than the number of applications. In 1991, 6,427 hunters (representing 3,599 applications) were chosen for the shotgun A season, 4,849 (2,745 applications) for the shotgun B season and 1,399 (940 applications) for the muzzleloader season, a total of 12,675 hunters. Of all the applications received, eight percent were sent non-select notices. An additional 123 applications were received after the March 15 deadline and were not included in the lottery.

Of the 8,204 applications, 446 (representing 826 hunters) were rejected due to errors. The major causes for rejection were the failure of the applicants to indicate whether they were applying for the shotgun or muzzleloader season (53%) and invalid, missing or duplicate license numbers (37%). Only 219 applications (representing 406 hunters) were rejected due to full quotas for selected hunting areas. This means that, overall, a correctly completed application has a 97 percent chance of being selected for one of the seasons.

## Bluebird Box Project Affected by Budget

Due to budgetary constraints, the Wildlife Division will not be able to provide wood for building bluebird nest boxes this year.

## Attention State Land Deer Hunters!

January 1 marks a new change in the state land deer lottery application form. In past years, hunters had an option of selecting either shotgun or muzzleloader as their choice of season. However, **starting in 1992, muzzleloader permits will not be issued through the lottery.** Lottery application forms will be valid, when applying for state land and controlled hunt areas, for the shotgun season only.

Over the past two years, demand for muzzleloader permits has decreased. Therefore, permits will be available only upon receipt of applications. Those interested in hunting during the state land muzzleloader season should apply for permits after July 1, 1992. An extra benefit to muzzleloader hunters is that they will not be restricted to a specific state land area but will have the option to hunt on any state land that is open to muzzleloader hunting. Please consult your 1992 Hunting and Trapping Guide before applying.

## In Memoriam: Roland Fortin

We are saddened to report that Roland Fortin of Bridgeport died on August 25. Roland was an instructor with the Conservation Education/Firearms Safety Program for 26 years, retiring from active service in December of 1990. He was a dedicated man who offered his expertise to hundreds of students, especially the Boy Scouts, in the Bridgeport area for many years. Our condolences are offered to his family and his many friends in the instructor corps. All of us will miss him.



## Time to Maintain and Build Wood Duck Boxes

During winter, when ice covers wetland areas, it is time to install, maintain and collect nesting data on wood duck boxes. The ice simplifies access and maneuverability. Although the Wildlife Division cannot provide materials, we do provide detailed nesting box plans, biological information and, if warranted, on-site assistance to private landowners interested in a wood duck nest box program. For further information, contact the Wildlife Division at the Eastern or Western District offices.

## Wildlife Holiday Gift

The 40-page booklet "Discover Wildlife in Connecticut's Backyard" and "Winter Picnics Are for the Birds" poster set is a great holiday gift. The booklet has information on landscaping for wildlife, nest boxes, winter foods and much more. To order this set, send a \$5.00 check, payable to the Non-harvested Wildlife Fund to: Discover Connecticut's Wildlife, P.O. Box 1238, Burlington, CT 06013.

*Another Wildlife Holiday Gift Idea: SCOPE is the perfect gift for the wildlife enthusiast who likes to stay informed about wildlife issues in Connecticut. For ordering information, please see the back page of this issue.*



## Dispelling Lottery Myths

The Wildlife Division uses unbiased computer-run lotteries to select deer and turkey hunters for state land areas which have been assigned a predetermined quota to limit hunter density. Comments frequently heard by lottery applicants indicate that there are some misconceptions about how the random selection works. In particular, two myths should be dispelled.

**Myth #1:** *If I get my lottery application in early, I'll have a better chance of being selected.*

**Fact #1:** All valid lottery applications are entered into the lottery at the same time (after the deadline has passed). The person who applies a week before the deadline has the same chance as an applicant who applies a month earlier.

**Myth #2:** *Since I didn't get selected last year, I'll have a better chance of being selected this year.*

**Fact #2:** Last year's result is inconsequential in this year's lottery. Hunters who consistently get the area of their choice are doing so by the luck of the draw or because the area is undersubscribed.

All applications are treated equally and the process is totally random. To improve your chances of selection, list as one of your choices a zone or area which has a history of being undersubscribed.

## DEP Signs Agreement with NWTF

On August 27, the Connecticut Department of Environmental Protection and the National Wild Turkey Federation (NWTF) signed a memorandum of understanding, formalizing cooperation on management projects to benefit the wild turkey. Through the NWTF's Superfund program, local chapters (there are currently two in Connecticut) raise monies to fund wild turkey management

programs administered by the Wildlife Division. Connecticut becomes the 46th state to sign a memorandum of understanding with NWTF. The Superfund program demonstrates the willingness of sportsmen to go above and beyond the costs of licenses and permit fees to pay for important wildlife conservation programs.



*Present for the signing of the memorandum of understanding between the Department of Environmental Protection and the National Wild Turkey Federation were (l to r) Paul Herig, Director, Wildlife Division; Ron Brenneman, representing NWTF; Thomas Dudchik, Deputy Commissioner, DEP; John Mullen, President of the Connecticut chapter of NWTF; and Dale May, Turkey Program Biologist, Wildlife Division.*

## Wildlife Calendar Reminders

- |                         |  |
|-------------------------|--|
| <b>December 16</b>      | 1992 Connecticut Hunting & Trapping Guide available from Town Clerks and Wildlife Division offices |
| <b>December</b>         | Return Turkey and Deer Hunter Survey Cards   |
| <b>December</b>         | Wintering bald eagles arrive in the state  |
| <b>December-January</b> | White-tailed deer shed their antlers   |



## Connecticut's Wild Turkey – A Success Story

As many as 10,000 wild turkeys inhabited Connecticut when the first settlers arrived. However, a combination of high human density, adverse land uses, subsistence hunting and a series of severe winters brought the decline of the turkey. By 1813, the turkey had been extirpated from Connecticut.



*The cannon net is used by biologists to live-trap wild turkeys that are to be relocated into new areas. The trap consists of a large, light net which is carried over the baited birds by rockets.*

Turkey woodland habitat returned in the twentieth century as much marginal pasture was abandoned. Market hunting was outlawed and strict conservation laws were adopted. In the 1950s and 1960s, attempts at wild turkey restoration through artificial propagation were largely unsuccessful. The major breakthrough in wild turkey restoration occurred when free-roaming wild turkeys were captured and translocated using the cannon net. Connecticut's present wild turkey population, estimated at 6,500 birds, originated from a single translocation in 1975: 22 wild-trapped birds

## Historic Osprey Egg Heist

Back in the 1960s, when the causes of the decline in osprey populations were not immediately obvious, Connecticut ospreys played a major role in the solution to the nest failure puzzle. As scientists looked for answers, environmental contaminants became prime suspects. But if pollutants were responsible for the nest failures, how so? Were there toxic effects on the eggs? Or were nest failures a result of pesticide-induced behavioral changes that altered the nest attentiveness of the female or even the ability of adult birds to catch and provide fish for nestlings?

Aware that production by Chesapeake Bay ospreys had remained stable, researchers proposed a

obtained from New York State and released in Canaan. These wild turkeys possessed survival characteristics that the propagated birds did not, and when introduced into suitable habitat, quickly became acclimated and expanded their range and numbers. Since then, turkeys trapped in northwestern Connecticut have been relocated to 14 sites throughout the state.

Connecticut's first legal, modern-day wild turkey hunting season was held in the spring of 1981. The spring season, restricted to male birds only, is conducted during the peak nesting period when females are on the nest and not susceptible to hunters. Also, because hunters must call the birds in, they are very selective of their targets. In addition to helping disperse turkeys and keeping them wary by reinforcing their fear of humans, controlled hunting has provided Connecticut sportsmen with quality recreational opportunities, greatly increasing public awareness of the turkey restoration program. Since 1981, when 21 birds were taken, the harvest and hunter participation have steadily increased; 10 years later, in 1991, 672 gobblers were harvested by nearly 3,000 spring hunters. In 1990, the turkey population in parts of northwestern Connecticut was large enough to support the first fall firearms turkey season in restricted zones.

Seeing a wild turkey is a thrilling experience for more and more Connecticut residents who are aware that less than two decades ago such a spectacle would not have been possible. Much of the success of monitoring the population growth is due to the public's contribution of sighting reports. With proper management and public support, wild turkeys should continue to prosper in Connecticut.

dramatic "egg switch" program. In the springs of 1968 and 1969, osprey eggs were taken from the failing Connecticut nests and placed in the productive Chesapeake Bay nests, and vice versa. After the switch, incubation of 30 Connecticut eggs by Maryland ospreys did not improve the hatching rate. However, 45 Maryland eggs incubated by Connecticut birds hatched at their normal rate of success. This result indicated that nest failures were not due to aberrant adult behavior and that the most probable cause was contamination of the eggs. Further testing solved the mystery and verified that DDT-induced egg-shell thinning was responsible for the nest failures.



## Ducks, Geese and Swans Respond to Habitat Changes

The greatest threat to Connecticut's waterfowl since colonial times has been the disappearance of the habitat on which they depend for food and nesting. According to the DEP Inland Water Resources Division, Connecticut has lost an estimated 40 percent of its original freshwater wetlands and 65 percent of its tidal wetlands. Habitat changes and restoration programs in the twentieth century have resulted in significant



*The mute swan feeds extensively on aquatic vegetation, frequently uprooting more plants than it consumes. The vegetation is often so reduced by flocks of swans, that native waterfowl species may be unable to find adequate food supplies.*

swings in both waterfowl abundance and species composition. In general, duck populations have declined while Canada goose and mute swan populations have mushroomed. The wood duck was abundant prior to 1900 but, by the 1930s, had dropped in status to a rare breeder in the state, due largely to deforestation and spring market hunting. Judicious hunting season restrictions and a wood duck nest box program allowed the wood duck to make a dramatic comeback.

The black duck was also a prolific breeder in the state, but habitat loss and suburbanization have caused a rapid decline since 1960. However, these same habitat changes have allowed the highly adaptable mallard and Canada goose, both rare in the state prior to 1950, to become so prevalent as to cause nuisance problems. Likewise, the mute swan, which is not native to North America, is now common in Connecticut, exhibiting aggressive behavior which threatens other waterfowl. The species that can adapt to human habitat changes have done well, while those intolerant of humans have fared poorly.

*Histories of 27 species of Connecticut waterfowl are documented in "Waterfowl in Connecticut," published by the Wildlife Division. To order this publication, call Franklin W.M.A.*

## The Ups and Downs of White-tailed Deer

White-tailed deer were uncommon in Connecticut from 1700 to approximately 1900 due to over-harvest by settlers (who relished venison and treasured deerskins for clothing as well as for trade), market hunting by professionals and a general loss of deer habitat due to extensive clearing and farming. Numerous laws were enacted during this period to protect the dwindling deer resource. This extensive legal protection, plus the improvement in deer habitat as a result of farm abandonment, contributed to a slow but steady rebound in deer numbers. This is evidenced by increasing deer damage complaints from Connecticut farmers during the early 1900s, which resulted in the restricted harvest of deer by farmers suffering deer damage.

In the late 1930s, Connecticut's deer herd consisted of an estimated 3,000 animals. For the next 35 years, harvest regulations were gradually liberalized to deal with a growing herd and increasing deer damage problems. With the exception of bowhunting on state land, deer hunting was restricted to agricultural properties.

Deer were considered a pest species and deer hunting was considered a remedy for agricultural damage. Consequently, public participation in deer hunting was limited. In the early 1960s, a minimum of 6,000 to 8,000 deer were estimated to reside in Connecticut. Annual harvest during the 1960s averaged approximately 450 deer.

The passage of Connecticut's Deer Management Act in 1974, and its implementation in 1975, had a profound impact on the state deer resource, changing the status of white-tailed deer from agricultural nuisance to game animal. Deer management authority was mandated to professional biologists in the Wildlife Unit (as it was then called), and archery, muzzleloader and shotgun deer seasons were established on state and private land.

As predicted by the Wildlife Division in the 1970s, the population is rapidly increasing as deer continue to benefit from man's land use activities, evidenced by their adaptation to well-manicured suburban environments and their response to the forest cutting practices of the last four decades.



## Regulated Hunting Programs – A Cooperative Effort

The Permit-Required Hunting Program is a cooperative effort between landowners, such as farmers, corporations, water companies and other utilities, and sportsmen's clubs that allows the state to regulate and control public access for small game hunting. In 1929, the first of many regulated hunting grounds was established in Farmington and Plainville by the former Board of Fisheries and Game.

As the ranks of Connecticut's licensed hunters grew from approximately 30,000 in 1940 to more than 60,000 in 1960, there was a severe drop in the amount of acreage available to the program. Fifty years ago, 149,100 acres were administered under the program, compared to 41,406 acres today. During the 1941 hunting season, only 6,825 daily permits were issued for the regulated areas, compared to more than 14,000 annually today. As many landowners expressed concern over the increase in hunting pressure on their properties, it became obvious to program administrators that more emphasis had to be placed on a regulated system that limited the number of hunters.

Access to lands under the Permit-Required Program is restricted and controlled through a

daily permit system. Quotas are established based upon size of the area, expected demand from the public and individual landowner attitudes.

Considering this great increase in hunting pressure, it is interesting to note changes in small game harvest indices (see table). Most striking is the jump in the number of pheasants harvested per 100 acres; this is due to a reduction in the total acreage in the program and a concurrent increase in the numbers of pheasants stocked.

**Comparison of Small Game Harvest per 100 Acres on Permit-Regulated Hunting Areas.**

	1941-42	1985 through 1989 5-Year Average
Pheasant	4.6	31.1
Ruffed Grouse	1.1	1.6
Woodcock	1.0	2.5
Cottontail	6.7	2.1
Squirrel	3.4	3.3

*Report of Hunting Accidents: From 1982 to 1990, 788,001 sportsmen were licensed in Connecticut. During this same period, 38 hunting-related accidents were reported; none were fatal and no non-participants were involved. On average, there were 4.8 injuries per 100,000 participants; this accident rate is much lower than the rates for soccer, swimming, tennis, ice hockey and golf. According to the Hunter Education Association, 8.6 hunting accidents per 100,000 nationally-sold licenses were reported during the same period. Connecticut continues to be far below the national average in hunting-related accidents.*

## Hunter Education Grows by Leaps and Bounds

In 1955, Connecticut sportsmen and personnel from the Board of Fisheries and Game, recognizing the increase in hunting and outdoor education, supported laws mandating hunter safety instruction for all persons intending to hunt in our state.

Formal hunter education is a relatively recent development among state wildlife agencies. When Connecticut's Hunter Safety Program was established in 1956, approximately 125 interested individuals helped educate our future sportsmen. These dedicated volunteers had good intentions but few state resources, and the program lacked consistency from one instructor's course to another. The achievements of the current Conservation Education/Firearms Safety Program (CE/FS) would have amazed these early instructors. The Wildlife Division now provides quality education for all new

hunters and trappers and, since its implementation in 1982, the program has received the highest rating possible from the International Association of Fish and Wildlife Agencies. In the past nine years, Connecticut's volunteer CE/FS instructors have donated over 120,000 hours and more than 40,000 students have completed the program. Since mandatory hunter training began in 1956, over 130,000 students have participated. In 1991, 310 instructors taught 5,415 students the principles of wildlife conservation and safe hunting.

As we look back, hunter education in Connecticut has progressed in a manner far exceeding the expectations of those few concerned individuals who had the foresight to start a program educating our sportsmen to be safe, knowledgeable and informed.

*Wildlife Fact: In 1939-40, Connecticut received \$3,931 in Federal Aid in Wildlife Restoration (P-R) funds.*



## Connecticut's Black Bear, Past, Present, Future?

At one time, black bears ranged throughout most of North America. As human populations grew, bears were viewed as food, pests or threats. The following excerpts make note of some early Connecticut bear experiences:

About 1677-89, Simsbury - "The inhabitants were much annoyed by wild beasts. Bears and wolves were so plenty, as to be particularly troublesome." (*Phelps, 1845:76*)

1748 or 49, Bristol - 12-year-old Abigail Peck shot the last Bristol bear one summer Sunday. (*Bristol, CT, 1907*)

1754, Haddam - A bear "weighing 12 score" was killed; in the same year, Israel Putnam, later a famed Revolutionary soldier, lost a hog to a hungry bear, which he tracked to its den and killed. (*Peters in McCormick, 1877*)

1766, Hartford, as reported in the "New London Gazette" - "There are the greatest number of bears come down among the town that ever was known; they destroy great quantities of Indian corn and make great havoc among the sheep and swine. Last Tuesday morning a large he-bear was discovered in an enclosure opposite the Treasurer's, and, being pursued, he took to the main street . . . and was followed into the South Meadow, where he was shot." (*Shepard, 1939:74*)

Late 1700s - Bears remained in the forests of Woodstock until 1790, and one was killed in Bethany in 1796. During the late 1700s, at least 33 bears were killed during one year in Goshen alone. (*Adams, 1896*)

1847 - "The timid deer, the bear, the wolf, the

panther, and the wildcat . . . seem now to be exterminated." (*Roys, 1847:59*)

As Connecticut's abandoned farms reverted to woodland, bear sightings became more frequent. During the last decade, the Wildlife Division has expanded monitoring of black bears, and there is recent evidence that Connecticut now has a small resident bear population. Bears have been protected in our state since 1973; habitat loss and societal intolerance may be their biggest threats today. Bear problems do occur, even with an estimated population of less than 30. It is expected that the bear population and related conflicts will continue to grow. The approaching question is: What number of bears is best for Connecticut?



## Plover Plight Continues

If you had been browsing through the Connecticut General Statutes in 1903, you might have read that the closed season for plover was from April 1 to August 31. No person was allowed to kill more than 50 plover in any one day.

By 1926, the commissioners of the Board of Fisheries and Game reported: "Shore birds . . . appear to be on the decrease. . . . The sandy grounds in many instances have been turned into shore resorts and the places in this state for hunting shore birds are gradually decreasing." By 1934-36, the commissioners reported: "There appears to be little hope for any substantial increase in shore birds. The salt marshes which they formerly

frequented in great numbers, have been so thoroughly drained in a popular effort to control mosquitoes, that the environment which they require has been largely destroyed. The drainage has also affected the supply of waterfowl by destroying aquatic and other vegetation upon which they depend for food."

It is unfortunate that actual numbers for each plover species were not recorded every year to provide a correct historical aspect. However, plover pairs appear to have been very plentiful. It is interesting, and distressing, to note that shoreline development and the degradation of salt marshes have been problems for over 60 years.

*Wildlife Fact: The house sparrow, which is not native to North America, was introduced into New Haven in 1867.*



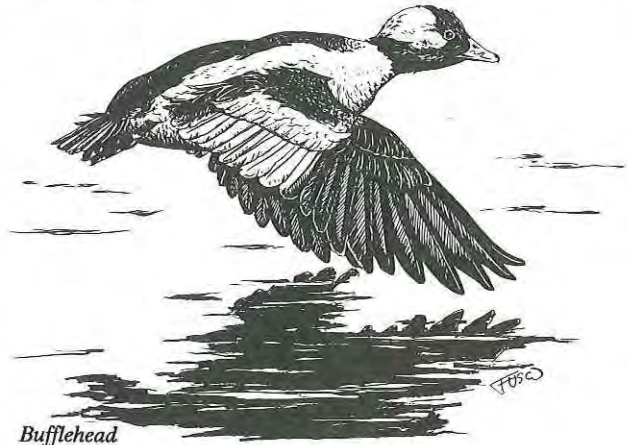
## Long-Term Survey Looks at Waterfowl Trends

Although biweekly aerial waterfowl surveys conducted by Connecticut wildlife biologists in the early 1950s and late 1960s provided valuable data, it wasn't until 1954 that a nationwide waterfowl population survey was initiated. Every year since then, the first two weeks in January have been set aside for the midwinter waterfowl survey, which is coordinated among flyways throughout the country. Connecticut has participated in the Atlantic Flyway's survey since its beginning.

To facilitate estimating waterfowl populations, surveys are conducted from the air, using either small, fixed-wing planes or helicopters flying at low altitudes (around 400 feet). Experienced biologists identify the species of ducks and geese they see and estimate their numbers. The surveys must be conducted within a limited "window" period, the first two weeks in January, to minimize the possibility of birds moving between states and being double-counted.

Results of the midwinter survey have been used to monitor population trends for major waterfowl

species and are particularly useful for species like black ducks, where data on breeding populations are difficult to obtain. In fact, a recent evaluation of midwinter surveys conducted by the U.S. Fish and Wildlife Service proved the midwinter inventory to be a reliable estimate of wintering black duck numbers.



Bufflehead

## Following the Pheasant Through the Century

The first recorded release of ring-necked pheasants in Connecticut was in 1908 when 88 birds were liberated in Windsor Locks. The pheasant, which could be produced on game farms, was brought into the state by concerned agencies and individuals to reduce hunting pressure on ruffed grouse and bobwhite quail. These native gamebirds were declining as a result of natural population cycles and changing land uses.

Prior to 1949, the pheasant stocking program was based on the prospect that natural pheasant production would sustain an acceptable level of hunting opportunity. Fish and game laws outlawed the shooting of hen pheasants in order to maintain a natural breeding population.

Following the initial release, other large-scale stocking programs were developed and state game farms began raising pheasants on a regular basis. Early stocking programs involved the release of mature pheasants as breeding stock in the spring. Fall releases of mostly adult male pheasants began in 1913. In 1908, under the Ten-week Pheasant Liberation Program, state facilities and private farms began raising pheasants to 10 or 12 weeks of age and distributing them throughout the state for release in August and September.

Several state-sponsored cooperative pheasant

programs, including the Cooperative Egg Program, Day-old Chick Program and Six-week-old Pheasant Program, were established in the 1940s. These programs provided stock to cooperators who agreed to raise the birds to maturity for release on public hunting areas. These stocking techniques were constantly monitored and revised. The popularity of pheasant hunting grew enormously, and the demand for pheasants soon exceeded the numbers available.

Biologists realized that the previous stocking methods would not succeed at establishing a naturally reproducing population. In addition, changes in farming practices and agricultural production reduced the amount of pheasant habitat available to support an adequate population of pheasants for hunting purposes. In 1949, a law was passed to allow sportsmen to harvest hen pheasants. This event marked a major change in the foundation of the state's pheasant program.

Connecticut's pheasant program is now designed to provide maximum recreational opportunities for the greatest number of sportsmen at no cost to the taxpayer. The program focuses on the release of adult birds during the fall hunting season. The pheasant is rated as the most preferred small game species sought in the state.



## A Look at the Past: Lands Open to Public Hunting

In 1939, there were 73,043 acres of state forests, 31,894 acres of state-leased land and 115,000 acres of land under the Farmer-Sportsman Cooperative Program available for hunting. Current state land ownership, including forests and wildlife management areas, totals 155,356 acres. State-leased land now accounts for 11,297 acres, with 41,406 acres in the Permit-Required Program.

Although some acreage has been lost in the past 52 years, there is now more land under permanent

state ownership. A program has been initiated to purchase permanent hunting easements on land whose development rights have been acquired by the Department of Agriculture.

### Comparison of Lands Open to Public Hunting

1939: ± 219,937 acres

1991: ± 209,605 acres

## Ruth Billard, Biologist/Pioneer

FILE PHOTO



Game Biologist Ruth Billard in the early 1950s

What was it like to be a Connecticut wildlife biologist 40 or 50 years ago? Habitat management and game research, especially on ruffed grouse, were high priorities, explained Ruth Sawyer Billard in a recent interview. As a game biologist for the Board of Fisheries and Game, Ruth participated in frequent grouse, pheasant and waterfowl surveys, helped create food plots and worked on habitat improvement projects. During her 27 years with Fisheries and Game--she was the first female wildlife biologist in the nation with any continuity--Ruth also wrote and illustrated 72 wildlife profiles for the "Connecticut Wildlife Conservation Bulletin." Additional articles published in the "Bulletin" and other publications were instrumental in stimulating public interest and action, especially one on the need for protecting Connecticut's tidal marshes, written with Federal Aid Coordinator Jim Bishop and published in the July, 1958, "Connecticut State Journal."

## What P-R Has Done for You

If Pittman-Robertson sounds like a Broadway collaboration to you, it's time you learned that the "show" is all around you in the form of improved habitat for wildlife and wildlife-based recreation. Pittman-Robertson (P-R) is an "act"--the Federal Aid in Wildlife Restoration Act--passed in 1937 to help put wildlife back on its feet after several centuries of exploitation.

The monies apportioned to Connecticut from excise taxes paid by sportsmen and then redistributed through the P-R program have made possible, among other projects, the acquisition of 10,843 acres of land (at a cost of \$4,570,629), including key

parcels of tidal wetland along Long Island Sound and the Connecticut River. This state's wetlands, although still of vital concern, are now protected by one of the most conservative wetlands protection laws in the country. Purchase of prime farmland has become increasingly important and challenging in a state with rapidly dwindling open space and a declining agricultural community.

Connecticut's land acquisition program has been greatly aided by P-R funds, which have provided flexibility and independence from the constraints of limited state funding.

*Wildlife Fact: In 1933, Aldo Leopold, the "Father of Wildlife Management" published the monumental book, Game Management. This book provided the framework for modern wildlife management principles and practices.*



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