

WILDLIFE RESTORATION in North Carolina



North Carolina Wildlife Resources Commission
www.ncwildlife.org



The U.S. Fish & Wildlife Service Wildlife Restoration Grant Program

Fostering partnerships between federal and state fish and wildlife agencies, the sporting arms industry, conservation groups and sportsmen and women to benefit wildlife.

Since 1937, the Wildlife Restoration Program has helped state wildlife agencies restore and better manage America’s wildlife resources. The Wildlife Restoration Program, also known as the Pittman-Robertson Wildlife Restoration Act, is a cooperative effort among state and federal government agencies, the sporting arms and ammunition industries and sportsmen and sportswomen to increase wildlife-associated recreational opportunities and to manage wildlife and their habitats through the wise use of excise tax dollars.

If you’re a licensed hunter in North Carolina, then you are a key partner in the wildlife conservation work conducted by the N.C. Wildlife Resources Commission in this state. How?

Manufacturers of hunting and shooting arms and ammunition and archery equipment pay an excise tax on the equipment they produce. These funds are collected by the federal government and distributed to each state’s fish and wildlife agency.

You, the licensed hunter, contribute to the funding of conservation, management and enhancement of wildlife and their habitats, wildlife recreational opportunities and hunter education in three ways:

- You buy the goods produced by the manufacturers that are paying the excise taxes into the Wildlife Restoration Program;
- You buy hunting licenses, which provide much of the state funds that are required to match the federal Wildlife Restoration program funds; and
- You, along with the rest of North Carolina’s taxpayers, contribute to the funds appropriated by the General Assembly for the agency’s use.

The goals of these Wildlife Restoration Program-funded activities are to enhance wildlife habitat and populations, improve access and provide more and better wildlife-associated recreational opportunities in the Tar Heel state from the mountains to the coast.





It is through this cooperative effort that the Wildlife Resources Commission restored the eastern wild turkey population and improved habitats benefitting other game and nongame wildlife — all while managing more than 2 million acres of game lands for hunters, anglers, trappers and other outdoor enthusiasts.

In 2006, the last year statistics were reported by the U.S. Fish and Wildlife Service, more than 304,000 North Carolina resident and non-resident hunters age 16 and older spent \$431 million on hunting-related expenses of which 73 percent or \$315 million was on equipment alone. Those same hunters also spent an average of 16 days afield per hunter or 4.9 million days in all during 2006. Moreover, hunter expenditures not only benefit wildlife and their habitats, they also benefit North Carolina's economy.

In another document compiled by Southwick Associates entitled, *The 2006 Economic Benefits of Hunting, Fishing and Wildlife Watching in North Carolina*, those same hunters contributed \$1.7 billion in all to

North Carolina's economy that included more than 8,800 hunting industry-related jobs!

Today, the Wildlife Resources Commission uses Wildlife Restoration Program funds for many diverse projects, such as providing technical guidance to land owners and government officials, enhancing wildlife habitat on public lands, providing hunting opportunities and educating thousands of hunters through the agency's Hunter Education Program. These are just a few of the projects and programs funded with the help of hunters like you.

The Wildlife Resources Commission thanks the sporting arms and ammunition industries and North Carolina hunters and shooters for their continued support of the Wildlife Restoration Program. By working together, we can continue to manage North Carolina's diverse wildlife resources, enhance recreational opportunities and provide access to these opportunities for years to come. A few of the N.C. Wildlife Resources Commission's projects funded through the Wildlife Restoration Program are highlighted in this booklet.



Photos: NCWRC



Over the last 10 years the Wildlife Commission has received approximately \$7.3 million annually to acquire, improve and manage wildlife habitat, restore wildlife species into suitable habitats, conduct research, surveys and inventories of wildlife populations, educate hunters on conservation ethics and safety, and develop access opportunities for the public.



Eastern Wild Turkey Restoration Program

Increasing turkey harvest by 10,630 percent since 1977

Perhaps no other game animal in North Carolina has earned the admiration and respect of hunters than the eastern wild turkey — and for good reason. The eastern wild turkey is a wily bird with acute hearing and eyesight that have gotten even the best of hunters. There is not a turkey hunter out in the woods who doesn't have at least one tale to tell of the "gobbler that got away."

In North Carolina, hunters take to the woods and fields on the second Saturday of each April to match wits with the elusive gobbler. During 2012, North Carolina turkey hunters harvested 15,451 birds — a tremendous number and one that has continued to rise, thanks in large part to a restoration effort started by the N.C. Wildlife Resources Commission in 1971 and funded, in part, through Wildlife Restoration Program dollars.

At the turn of the 20th century, turkey populations in North Carolina — and throughout North America — were at an all-time low, due in large part to unregulated market hunting, rapid deforestation and habitat destruction. Their decline continued into the 1960s, despite sporadic efforts to increase their numbers.

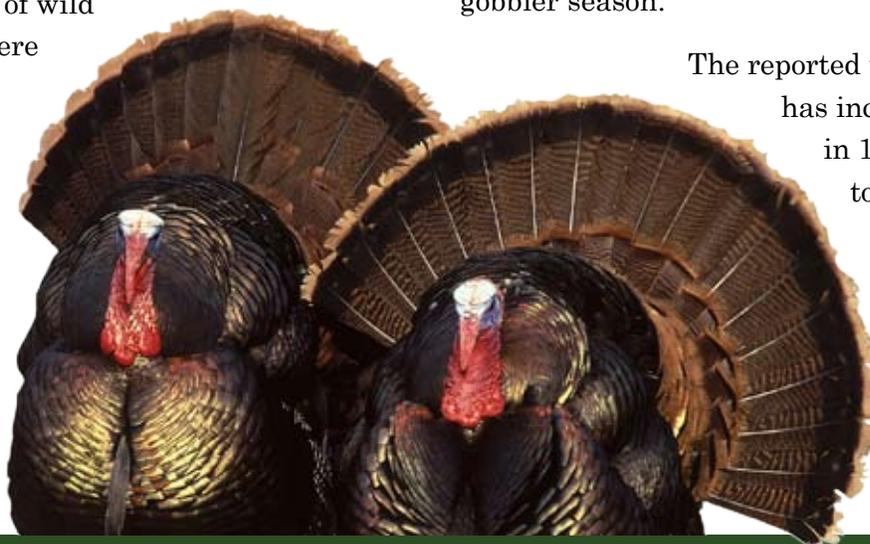
In 1971, the N.C. Wildlife Resources Commission implemented a restoration program to reverse the decline. Initially the source of wild turkeys for restoration were birds that staff trapped from sites in North Carolina supplemented with an occasional trade with other states for birds (e.g., North Carolina otters for West Virginia wild turkeys).



National Wild Turkey Federation

In later years more wild turkeys were acquired through a partnership between state fish and wildlife agencies and the National Wild Turkey Federation's Super Fund. Commission staff also made the bold — and unpopular — move to close a very liberal fall turkey season in 1971 and established a gobbler-only season in spring 1972. These two efforts were so successful that today, wild turkeys are found in all 100 counties in the state and all counties have a spring gobbler season.

The reported wild turkey harvest has increased from 144 birds in 1977, when mandatory reporting began, to 15,451 birds in 2012 — an increase of 10,630 percent! Along with the increase in turkey harvest levels came an increase



National Wild Turkey Federation



in hunter expenditures. According to the 2011 report, *The Benefits to Business from Hunting and Fishing Excise Taxes* from Andrew Loftus Consulting and Southwick Associates, the total amount of taxed ammunition and firearms purchased annually by North Carolina turkey hunters ranged between \$405,000 in 1990 and \$3.8 million in 2008.

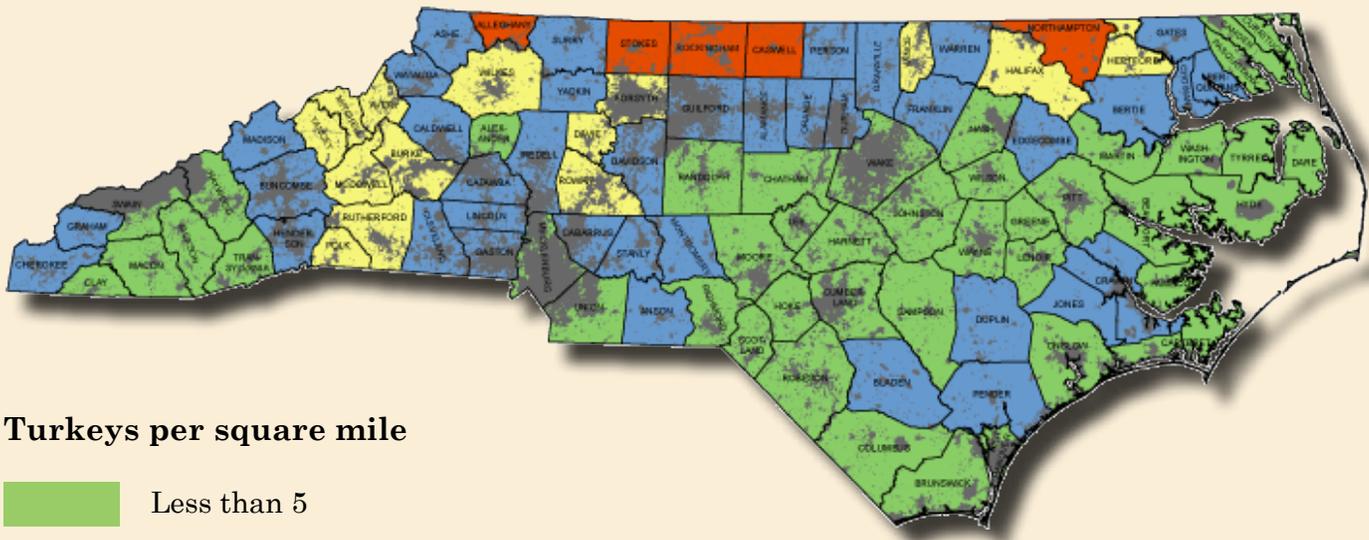
Adding in purchases of non-taxed hunting equipment, such as decoys, blinds and calls, the total amount of dollars spent in 2008 by turkey hunters in North Carolina was approximately \$7 million. The vast majority of the turkey-restoration work was funded through the Wildlife Restoration Program.

Between 1990 and 2008, money from excise taxes invested in the state's wild turkey programs ranged from \$43,000 to \$264,000 per year.

Because of the huge growth in turkey hunting's popularity, and corresponding spending by hunters, the return on investment of Wildlife Restoration funds has ranged from 191 percent per year up to 5,040 percent per year with a long-term annual average of 1,865 percent.



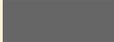
2010 North Carolina Wild Turkey Density Map



Turkeys per square mile

-  Less than 5
-  5-9
-  10-14
-  15 or more

No density estimate

 Where harvest data are not available to produce density estimates because hunting is limited or prohibited; includes federal and state parks, municipal boundaries, water bodies and human density greater than one person per two acres.



CURE Work on Game Lands

Conducting Cooperative Upland habitat Restoration and Enhancement (CURE) Initiatives on North Carolina's Game Lands

Up until the mid-1960s, the words “bird hunting” were synonymous with quail hunting. But a precipitous decline in northern bobwhite quail populations due in large part to the decline of early successional habitat threatened the recreational livelihood of many bird hunters in North Carolina.

In 2001, Division of Wildlife Management staff implemented a new program designed to increase early successional habitat and benefit local quail and songbird populations by managing habitat on large acreages of private and public lands within suitable landscapes.

The Cooperative Upland habitat Restoration and Enhancement (CURE) program focused initially on private lands to test land management concepts that would increase early successional habitat including establishing field borders on crop fields, thinning and prescribed burning of forests, and converting fescue to native grasses in pastures.

In an effort to “practice what we preach,” Wildlife Management personnel also designated portions of four state-owned game lands as CURE areas. Staff thinned timber, conducted controlled burns, used roller chopping and herbicides to control hardwoods, and restored grassy understory among other management techniques.

These activities were concentrated on approximately 5,000 acres on each of Suggs Mill Pond, Caswell, Sandhills and South Mountain game lands to create suitable habitat for quail and songbirds.



NCWRC



Jeff Marcus



Jeff Marcus

Using Wildlife Restoration funds, Division of Wildlife Management personnel conducted controlled burns, used roller chopping, herbicides and other management techniques on four state-owned game lands designated as CURE areas — all in an effort to improve habitat for quail and other wildlife species that depend on early successional habitat.

Each year, biologists conduct surveys to monitor quail, songbirds, and habitat conditions to evaluate the effectiveness of management techniques and to evaluate the program. Land managers have been very successful in establishing early successional habitat. Starting with a baseline of less than 10 percent of the CURE area in suitable breeding or wintering habitat, WRC land managers established habitat on 35 to 60 percent of the area within 10 years on most CURE game lands. The response of quail varied by site, with increasing results moving west to east.

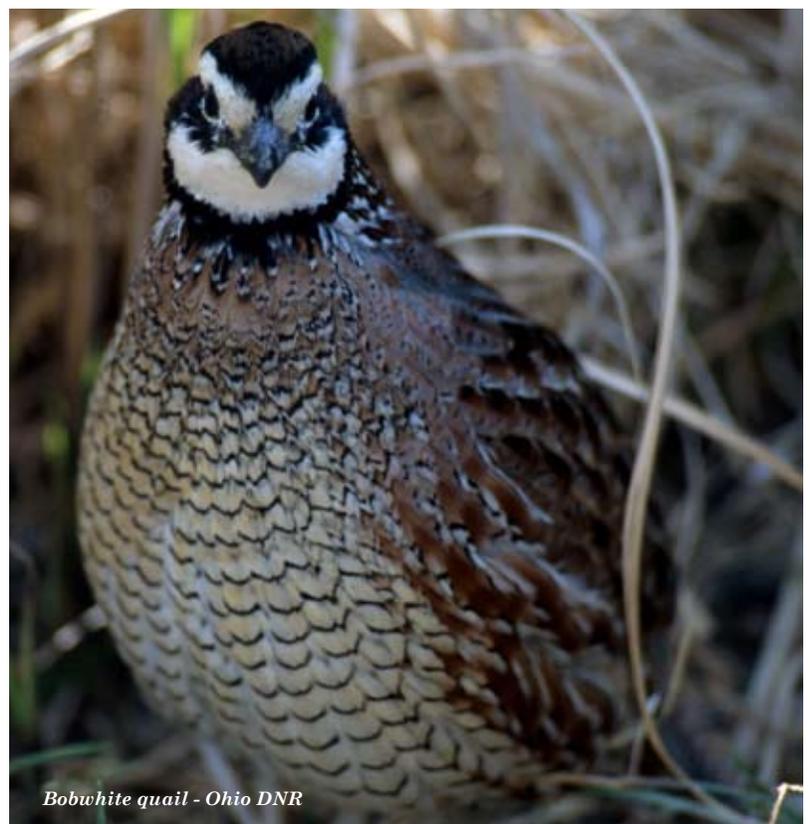
Quail counts were essentially unchanged at South Mountains, showed a very modest increase at Caswell, and were slightly higher at Sandhills. The biggest response was at Suggs. Most game lands saw an increase in shrub-nesting birds, including indigo bunting, yellow-breasted chat, field sparrow, blue grosbeak and prairie warbler.

On the Sandhills Game Land CURE area there was a significant increase in populations of Bachman's sparrow, a high priority songbird. Bachman's sparrow is a longleaf pine specialist that depends on clump grasses, much like quail, and it benefitted significantly from thinning, burning, and ground-cover restoration.

Wildlife Restoration funds were used for the game land management and survey work.



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Bobwhite quail - Ohio DNR



Bachman's sparrow - NCWRC



Dove Hunting in the Tar Heel State

Maintaining 1,364 acres on 23 game lands from the mountains to the coast

When dove season opens each September, thousands of hunters from across the state flock to more than 2,000 acres of publicly accessible game lands that the N.C. Wildlife Resources Commission manages to attract mourning doves.

While dove season lasts only 12 weeks, Division of Wildlife Management staff works throughout the spring and summer to maintain dove fields on 23 game lands from the mountains to the coast. They plant crops that are attractive to doves, such as millet, milo, sunflowers, corn, sorghum or a

mixture of some or all of these crops. To ensure that seed is available and that the areas will attract doves, staff prepares the fields by either burning and/or mowing



them approximately three weeks before the opening of dove season. In addition, information about each field is posted on the Wildlife Commission's website so hunters can plan successful hunting trips. Information includes maps and directions to the fields, the types of crops planted, hunting regulations specific to that game land and how many seeded acres are available for hunting.

While many of the dove hunts are on a first-come, first-serve basis, several are offered through the Commission's Permit Hunting Opportunities Program. In 2010, more than 45,000 hunters harvested 450,000 doves.



Technical Guidance

Providing Guidance and Expertise to the Public on Wildlife and Habitat Management Issues

With funds provided by the Wildlife Restoration Program, wildlife biologists with the Division of Wildlife Management provide free technical assistance and expertise to landowners, government officials and the public.

Biologists work with private landowners to apply appropriate wildlife population management strategies on their properties and to implement wildlife management practices that improve habitat on their lands.

Wildlife management biologists also provide advice and guidance towards addressing human/wildlife conflicts in multiple scenarios and settings across the state.

Finally, as part of the agency's technical guidance program, staff biologists provide professional expertise and direction to local, state and federal agencies regarding wildlife management and best conservation practices for lands they control.



Division of Wildlife Management personnel provide free technical guidance and expertise to landowners, government officials and the public on a wide range of issues from best management practices for improving wildlife habitat on private and public lands to removing nuisance wildlife from backyard gardens and trash cans.



Waterfowl Impoundments

Managing wetlands for robust waterfowl populations

With funding from the Wildlife Restoration Program, the Division of Wildlife Management creates and maintains more than 4,724 acres of waterfowl impoundments throughout the state. Although managed for waterfowl, impoundments benefit many other species, such as wading birds, amphibians, reptiles, and songbirds. Staff manages waterfowl impoundments using multiple methods.

Moist soil management, where soil moisture is manipulated to encourage native vegetation, is used to provide high quality foods and cover that waterfowl need. Another management technique utilized on impoundments involves planting crops that are attractive to waterfowl species. These crops include corn, milo, millet and sorghum.

A third practice, called green tree reservoirs, involves impoundments that include forests. Staff floods these impoundments periodically through water-control structures. Green tree impoundments capture mast, such as acorns, from trees for waterfowl food.

Hunting opportunities vary on waterfowl impoundments. Most are operated on a first-come, first-serve basis while others are open to permit-only hunting through the Commission's Permit Hunting Opportunities Program.



Mark Buckler



NCWRC

With funding from the Wildlife Restoration Program, Division of Wildlife Management staff maintains more than 4,724 acres of waterfowl impoundments throughout the state, which is renowned for its diversity and numbers of waterfowl that breed or spend the winter here.



Mark Buckler



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Hunter Education Program in North Carolina

Ensuring the future of North Carolina's Hunting Heritage

The N.C. Wildlife Resources Commission uses Wildlife Restoration Program funds to conduct free education courses throughout the year in every county of the state. By law, all first-time hunting license buyers must complete a hunter education course successfully.

Hunter education in North Carolina is more than just firearms safety. It includes instruction on

ethics and responsibility, conservation and wildlife management, firearms, wildlife identification, survival and first aid, specialty hunting and tree stand safety.

An incentive component to the N.C. Hunter Education Program is the Youth Hunter Education Skills Tournament, which is held annually for students in elemen-

tary, junior and high schools, as well as home-schooled students, throughout the state.

Tournaments are held on local, district and state levels with the winners on the state level advancing to compete at the national championship, the Youth Hunter Education Challenge. By participating in these tournaments, students hone their shooting skills while developing a more comprehensive understanding of hunting safety.



Because of the Hunter Education Program, which is funded in part with Wildlife Restoration money, hunting accidents in the state have decreased by more than 50 percent during the last 20 years, making hunting one of the safest recreational activities to enjoy. In 2011, 19,159 North Carolinians were certified in hunter safety.



Melissa McGaw/NCWRC



Geoff Cantrell



Black Bear Management in North Carolina

Maintaining a sustainable statewide bear population



With black bear harvests at an all-time high in North Carolina, it's hard to imagine that only 40 years ago, black bears, the only bear species found in the state, were restricted to remote areas and their numbers had bottomed out.

In 1969, the Division of Wildlife Management initiated its Black Bear Management Program, a plan for the long-term conservation of the black bear, whose population is estimated at 15,000-17,000 today, compared to the 1960s, when as few as 2,000 were estimated to be living in North Carolina.

One of the first things staff did as part of the program was create designated bear sanctuaries – places where females bears were protected and could produce offspring that would mature and

leave the sanctuary to be hunted without detriment to the bear population.

In addition to the designated bear sanctuaries, the Black Bear Management Program includes developing and enforcing regulations, collecting hunter data, conducting surveys and research studies, managing habitat, and educating the public on bear behavior to reduce the number of human-bear conflicts.

Commission staff oversees all bear research conducted in North Carolina through research and studies by Commission personnel, as well as participation and oversight on a variety of research projects involving professors and students from universities.

Division of Wildlife Management's work with black bears, which has been funded through the Wildlife Restoration Program, has been so successful that today, black bears have recovered in the mountains and coast, allowing for a sustainable hunting season in a majority of counties during the fall.



Mike Carraway

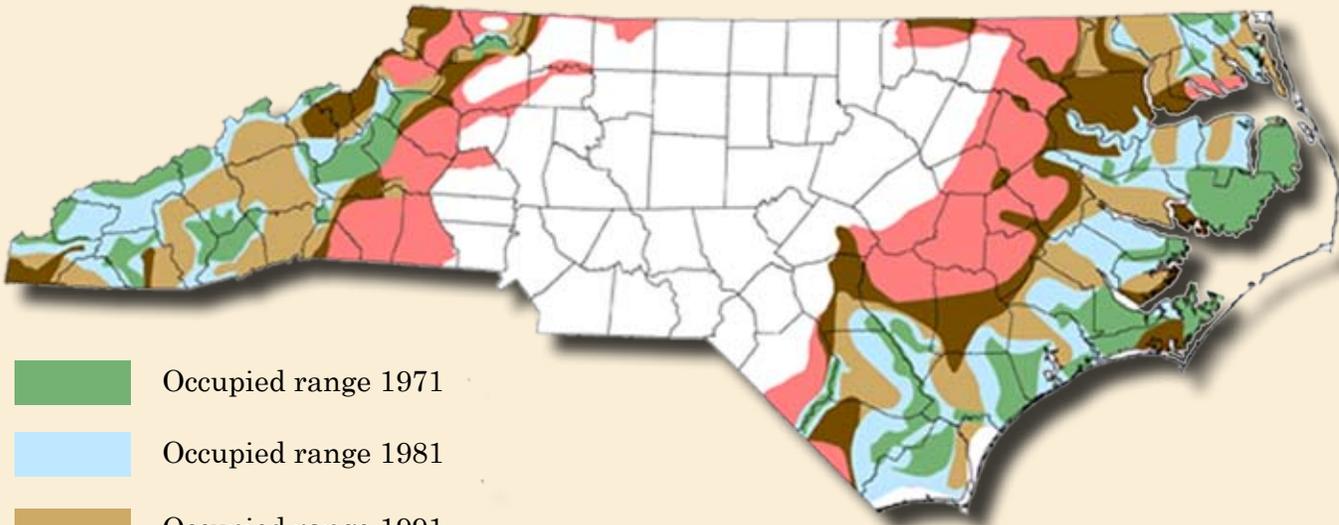


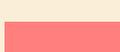
NCWRC



USFWS

Black Bear Range Map from 1971 to 2010



-  Occupied range 1971
-  Occupied range 1981
-  Occupied range 1991
-  Occupied range 2001
-  Occupied range 2010
-  Unoccupied range

Black bears were once restricted to remote areas and reached very low population levels in the mid-1900s. Today, black bears are found in approximately 60 percent of the total land area of North Carolina.