



THE UPLAND GAZETTE

North Carolina Small Game Notes

Summer 1997

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Woodcock Regulations May Change

Woodcock populations in the eastern United States have been in a long-term decline since the mid 1960s. Population data collected and compiled by the U.S. Fish and Wildlife Service indicate a decline of 2.5 percent per year since 1968. Due to the decline, the Fish and Wildlife Service considered a regulations change in 1996, but it was not implemented. However, according to the Ruffed Grouse Society publication *The Drumming Log*, increased restrictions on woodcock hunting may be in store for the 1997-1998 season.

Wildlife professionals recently discussed the plight of woodcock at the Ninth Woodcock Symposium held in Baton Rouge, La. Professionals realize that the loss of habitat, especially the aging forest in prime nesting areas in New England, is the major culprit. However, the impact of harvest can't be discounted.

It is not yet known what the Fish and Wildlife Service proposal for the eastern region in 1997-1998 will be, but last year it favored a season reduction from 45 to 35 days, a season opening no earlier than Oct. 10 and a bag limit of three birds. This year's proposals were set for public hearing in June. Interested hunters who want to comment, should write the Director of the U.S. Fish and Wildlife Service, 1849 C Street, N.W., Washington, D.C. 20240 and ask for a copy of the proposal when it becomes available. ◆

The Pen-raised Bird Issue

In my opinion the greatest threats to wild quail are: Pen-raised birds for the reason that if you let yourself be satisfied with pen birds you will not do the hard things necessary to have wild birds . . . — excerpt from How to Propagate and Care for Wild Quail in South Texas, Joe E. Coleman, Houston, Texas

It is true that pen-raised birds serve a useful purpose for training dogs and for stocking on heavily used controlled-shooting preserves where they are harvested soon after release. Unfortunately, Coleman is correct since most hunters and trainers quickly become spoiled by the "sure thing" offered by pen-raised birds.

Well-meaning sportsmen have released millions of quail costing millions of dollars in unsuccessful

attempts to restore declining wild quail populations. These restoration efforts could be characterized as "quick fix" attempts to restore quail populations. Through the years, a constant stream of "revolutionary" release techniques have been touted. Articles about the "Anchor Release System" that appear in national publications sound good, but keep in mind that the authors have a financial motive—to sell release systems.

Though pen-raised birds often survive the winter, and a very few have even been documented to nest successfully, there are few if any documented cases of the release system resulting in long-term restoration of quail populations. It is likely that the "Anchor Release

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Wildlife Habitat Incentives Program

New farm programs developed under the 1996 Farm Bill are beginning to take shape. Landowners have new opportunities to obtain financial assistance to implement wildlife habitat improvements. This summer, funds and planning assistance will be available through both the Environmental Quality Incentives Program (EQIP) and the Wildlife Habitat Improvement Program (WHIP). Landowners who agree to enter long-term contracts can receive 75 percent cost-share (\$10,000 maximum) for a variety of wildlife practices.

EQIP is a broad program that addresses issues like animal waste disposal, excessive soil erosion, loss or fragmentation of native wildlife habitat, and agricultural-chemical leaching and runoff. WHIP focuses on practices that improve habitat for quail and other species which live in grassland/brushland habitats.

Examples of wildlife practices that can qualify for cost-share through one of the programs include field border and hedgerow establishment, alternative vegetation management on ditchbanks, management of vegetation adjacent to field edges, fescue conversion to native grasses, livestock exclusion, prescribed fire and timber stand improvement for wildlife.

Contact your local Natural Resources Conservation Service Office for more details on the programs and assistance with sign-up.

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**Planting Native Grass/
Wildflower Meadows**

Native warm-season grass meadows can be established to serve as both cover and food for small game, small mammals and songbirds. A mixture of wildflowers will attract butterflies and hummingbirds, and create an aesthetically pleasing view for humans. Sites for establishing native meadows should be carefully chosen since meadows are best maintained with prescribed burning.

If wildflowers are going to be an important component of your meadow, choose only the shortest-growing species and varieties of warm-season grasses (little bluestem, indiagrass and no more than 1 or 2 pounds of shelter or blackwell switchgrass) so that wildflowers will receive enough sunlight and can be easily seen. Plant a mixture of no more than 10 pounds of warm-season grass per acre with wildflower seeds planted at about one-quarter the rate recommended if they were planted alone. To optimize growth of wildflowers, this mixture should be planted in late fall or early spring.

To lessen weed competition, fertilizer should not be added until after the mixture becomes dominant in the field. Meadows typically don't become fully established until the second or third year. Perennial wildflowers will

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Warm-Season Grasses

- Atlantic Coastal Panic Grass
- Broomsedge (very abundant and will likely appear without seeding)
- Eastern Gamma grass
- Indiangrass
- Little Bluestem
- Switchgrass (*Panicum virgatum*) (use the short cultivated varieties)



Wildflowers (annual = A, perennial = P)

Native

- Asters P
- Bee Balm (attracts hummingbirds) P
- Black Eyed Susan (*Rudbeckia hirta* or *fulgida*) P
- Blanketflower (*Gaillardia aristata*) P
- Blazing Star (*Liatris* species) P
- Butterfly Weed (*Asclepias tuberosa*) P
- Calliopsis (*Coreopsis tinctoria*) A
- Clasping Coneflower (*Rudbeckia amplexicaulis*) A
- Purple Coneflower (*Echinacea purpurea*) P
- Coreopsis (*Coreopsis lanceolata*) P
- Goldenrod A or P
- Indian Blanket (*Gaillardia pulchella*) A
- Lupines P
- Phlox P
- Scarlet Sage (*Salvia coccinea*) (attracts hummingbirds) A
- Sunflowers (*Helianthus* species) A or P
- Tickseed Sunflower (*Bidens* species) A or P

Non-Native

- Ox-eye Daisy P
- Poppies A
- Queen Anne's Lace A
- Yarrow P



The following planting list works well for Piedmont meadows and should provide a grassland mixed with native herbs that will last for years. Unfortunately, the young seedlings are finicky and planting instructions for the grasses must be followed closely to establish the stand.

Planting Material	Seeding rate/acre	Notes
Little Bluestem	3 lb.	Spring Planting
Big Bluestem	2 lb.	Spring Planting
Indiangrass	3 lb.	Spring Planting
Eastern Gamma Grass	3 lb.	Spring Planting
Switchgrass		
(Kanlow or Alamo)	1 lb.	Spring Planting
Partridge Pea	3 lb.	Winter Planting (Year 2)
Tickseed Sunflower	1 lb.	Winter Planting (Year 2) wet areas
Swamp Sunflower	1 lb.	Winter Planting (Year 2)
Black-eyed Susan	1 lb.	Winter Planting (Year 2)

Contact the Division of Wildlife Management, NCWRC, 512 N. Salisbury St., Raleigh, N.C. 27604-1188 for a list of plant material suppliers.

A good reference for planting and maintaining meadows is *The Tallgrass Restoration Handbook* edited by Stephen Packard and Cornelia Mutel, Island Press, Suite 300, 1718 Connecticut Ave. N.W., Washington, D.C. 20009.

North Carolina/Virginia Research Roundup

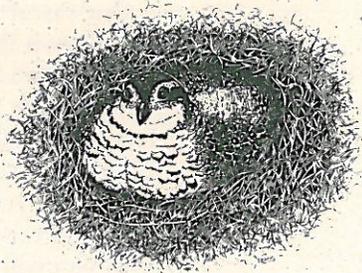
As we reported in the last issue of the Upland Gazette, the N.C. Wildlife Resources Commission, the Virginia Department of Game and Inland Fisheries, and N.C. State University have teamed up to initiate a major quail and songbird research project. We have located and initiated habitat management and mammalian predator control at study sites on farms in Wilson County, Hyde County, and Tyrrell County in North Carolina and in Amelia County, Va. The project is in the first of four field seasons, and we will keep you updated on our progress.

The North Carolina/Virginia study is only one of several studies currently underway or recently completed in the Southeast. We thought you might be interested in learning a little about some other quail studies across the region. The following are excerpts from a recently completed study in Virginia, and ongoing work being conducted by Tall Timbers Research Station and the Albany Area Quail Management Project.

Virginia Quail Nesting Study

During the past three years, the Virginia Department of Game and Inland Fisheries has used radio telemetry to study the nesting ecology of bobwhites.

Research biologist Mike Fies and his field crews did an extraordinary job of unraveling the complex interactions surrounding the secretive nesting activity of bobwhites. Mike and his crews radio tagged 429 individuals. The large sample of marked birds allowed them to locate and monitor 102 quail nests. A preliminary analysis of



ILLUSTRATED BY KIMBERLY K.C. SCHOTT

these data have revealed a number of facts that should be of interest to hunters and managers. The following is a brief synopsis of some of their major findings as reported by Mike in the newsletter, *Bobwhite Quails & Cotton Tales*.

First, bobwhites are persistent and the nesting season is extremely long, lasting from May through September. Clutch sizes ranged from nine to 19, averaged 13.2, and were larger early in the nesting season. Male birds incubated 26.5 percent of the nests which left females free to lay and attend another nest. Sixty-eight of 102 nests were unsuccessful and predators were responsible for 95.5 percent of nest failures.

The researchers learned that incubating a nest is hazardous duty. Thirteen of 102 (12.7 percent) incubation attempts resulted in the death of the incubating bird. Even more dangerous, however, is leading a brood of young chicks through comparatively open brood habitat. One of the most alarming results of the study was that 37.9 percent of radioed birds that hatched a brood were dead within 10 days after hatching. The fate of their broods is unknown, since researchers lost contact with the brood when the radioed parent was killed.

By placing remote cameras at the site of disturbed nests and refilling the nest with intact eggs, the Virginia researchers were able to get thousands of photos of critters visiting the nests. They learned that the most common predators were skunks and opossums, but the long list of nest predators included raccoons, domestic dogs, gray foxes, black

snakes and even a groundhog.

The Virginia quail nesting study is providing a wealth of information that we are using to guide our current cooperative research effort. Upon completion of data analysis, researchers also hope to provide managers with recommendations for improving nesting success and brood survival.



Intensively managed quail plantations in the Deep South face a different set of challenges from the typical small landowner or quail hunter in North Carolina. The large quail plantations with their regularly burned open forests with grass/weedy ground cover and small agricultural fields are more concerned with "fine tuning" their management activities. Conversely, here in the real world of intensive timber production and agriculture, our biologists struggle to convince landowners to implement the basics of quail management. Even so, results from quail research conducted on well-managed plantations can be useful. The following two items from the Tall Timbers Quail Report and Albany Area Quail Management Project should be of interest to North Carolina hunters and landowners.

Tall Timbers Quail Research

May Fire Results Show Hardwood Control and More Birds!

At May's Pond Plantation, the difference between hunting success for the past two years on a shooting course burned in March and one burned in May has been quite surprising. The answer to

North Carolina/Virginia Research Roundup *(continued)*

the initial research question "Can you burn in May for hardwood control and not hurt the birds?" is Yes! During 1994 and 1995, the shooting course burned during May produced better hunting success than a comparable course burned two months earlier. Insects available for quail during the breeding season were also more abundant on the course burned during May.

These figures are significant for quail managers because of the huge cost savings that can be realized by using fire as opposed to mechanical equipment for hardwood control. All quail managers are locked in a war to control ever-encroaching hardwoods. Using lightning-season fire to control hardwoods is one way to work with the system, rather than against it.

Disking Instead of Feed Patch Planting Results in 70% Cost Savings Without Quail Loss!

During the past two years, results from disking versus feed patch experiments have shown that it is possible to switch from planting feed patches to using

simple disking or harrowing, and not cause a decrease in the quality of quail hunting. Bobwhite hunting success between the disked-only and comparable feed patch courses varied widely, with no consistent pattern at both May's Pond and Millpond-Sedgwick plantations during the past two years. Managers have calculated that huge cost savings are possible by using simple disking or harrowing as opposed to planting and fertilizing feed patches. Managers at both study sites estimate that the costs of planting, fertilization and cultivation can be reduced approximately 70 percent by substituting seasonal disking for planting and fertilizing feed patches.

For more information about Tall Timbers research, write them at Route 1, Box 678, Tallahassee, Fla. 32312-9712.

Albany Area Quail Management Project

Brood Habitat Project

Important Points—Data from more than 150 radio-tracked quail broods clearly show that quail prefer fields containing a lush

growth of annual weeds when broods are hatching due to the abundance of insects and good cover found there. Furthermore, hunting courses with a higher percentage of this habitat in the summer have better hunting in the fall and winter:



Take Home Message—Quail plantations in and around our study areas are fortunate that fall and winter disking is all that is required to produce this habitat for quail broods. The point here is that everyone cannot solely rely on seasonal field disking to produce brood habitat.

To produce quail, you have to provide a significant percentage of high quality (weedy and buggy) summer brood habitat.

This has to be accomplished, however possible, within a given set of circumstances on your property. For some, this may mean a system of rotated agricultural plantings. For others it may mean making use of crop field edges or roadsides (or no-till farming). Land use, soils and economics all come into play here.

Our research and experience have shown that brood habitat is most often lacking on quail management areas. You have to decide the best way to provide this critical component of the habitat on your property. The more you can provide, the more birds you will have.

For more information about quail research and management activities with the Albany Area Quail Management Project, contact Lee Stribling at 331 Funchess Hall, Auburn, Ala. 36849. ♦



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We are working to expand our mailing list to include other interested landowners and sportsmen. Please pass along your copy to friends who may be interested. Send names of others who may find the information useful to: The Upland Gazette, Division of Wildlife Management, N.C. Wildlife Resources Commission, 512 N. Salisbury Street, Raleigh, N.C. 27604-1188.

(Note: Hunters who participated in last season's Avid Quail and Grouse Hunter Survey will automatically be included in future mailings and do not need to reply.)

Name _____	Name _____
Address _____	Address _____
City _____ State _____ Zip _____	City _____ State _____ Zip _____

Planting Native Grass *(continued)*

take two to three years to become well-established and warm-season grasses usually take two years. Planting sites with significant slopes should be mulched with straw.

Native meadows must be maintained in an early-successional stage by either prescribed burning or mowing. Prescribed burning is the best method because leaf litter is removed to enable small wildlife to use the meadow, and nutrients stored in the dead plant material are released into the soil much faster. Burning or mowing should be conducted in late February or early March just prior to spring greenup. This allows standing dead vegetation to provide winter cover and prevents damaging new growth. Only one half of the field should be burned or mowed each year to leave half the standing vegetation for wildlife cover. This strategy maintains diversity within the meadow.

Fire lines should be disked around the section to be burned. After disking, fire lines can be planted with annual wildflowers or seed producers such as millet, milo, Egyptian wheat or sunflowers. If desired, some or all fire lines can be



planted in a permanent orchard grass and clover mixture to provide wildlife grazing and bugging habitat and a walking path around and through the meadow. ♦

Georgia Pacific Makes Commitment to Bobwhites

The Georgia Pacific Corp. has begun a long-term project to increase quail populations on an 8,000-acre tract (2,000 acres of uplands) in Robeson County. The Schoolfield tract is located on the South Carolina line along the Lumber River. The land was a favorite hunting spot for area quail hunters when the Schoolfield tract uplands were regularly burned and forested in an open longleaf pine stand. However, in the mid-1960s the tract was planted with loblolly pine and protected from fire. Today quail are scarce on the tract due to the closed canopy forest and lack of ground cover. Though quail are occasionally spotted in the area, not a single quail was heard there during initial call surveys conducted last summer.

Georgia Pacific land managers John Read and Gary Grubbs hope to change that. In keeping with the company's goal of increasing wildlife recreational opportunities, they have committed to a long-term habitat enhancement

project that should substantially increase bobwhite numbers. The plan calls for conversion of old loblolly pine stands to longleaf pine—the original species to inhabit the uplands on the site. Additionally, land managers will aggressively burn the understory, and thin the overstory to allow light to reach important quail food and cover plants.

Work during the first year of the project indicates that the managers are serious about their goals. Following recommendations from Wildlife Commission biologists, they have developed a 10-year management plan for the area. During 1996, they planted 261 acres of former loblolly pine plantation with containerized longleaf pine seedlings. Managers also clearcut 163 acres of older loblolly pine plantation and burned 1,000 acres. To track the impact of their management on quail populations, they conducted the first of what will become annual quail call counts during June.

This year, foresters plan to plant another 192 acres to longleaf pine, clearcut or heavily thin about 300 acres and burn another 1,000 acres in a patchwork fashion. We look forward to continuing to work with Georgia Pacific to help bring back quail to the Schoolfield tract. ♦

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Pen-raised Bird *(continued)*

System," when used in good habitat, can hold birds over winter. However, without habitat improvements on a landscape scale, the survival of quail will be short lived. The "Anchor System" fails to establish a viable quail population because the emphasis has been on the release and not on habitat improvements on a large scale in preparation for the release.

Research, including recent work supported by the N.C. Wildlife Resources Commission and conducted by N.C. State University, shows that habitat problems are causing a rangewide decline in bobwhite populations. Our current statewide program targets quail habitat restoration on a landscape scale. We are working closely with the farming and forestry communities to influence land management decisions on a

scale that will significantly improve quail populations.

In reviewing recent quail restoration efforts through releases, it seems that the missing factor is still habitat. It is much easier to release quail in a small area of good habitat than to influence land use on a large enough scale to support a viable quail population.

The task ahead of us—to influence land use—is a monumental undertaking. However, working with the farming and forestry communities to change land use is the only way that we can have a lasting impact on quail populations. In areas with no quail, we may one day need to use release techniques to restore populations. However, we should first be certain to avoid the mistake of previous release programs. Good quail habitat, on a large scale (scattered across thousands of acres) and a sound

plan for sustaining it through time, must both be in place before the first bird is released.

Our past successes restoring deer and turkey populations were possible because we had abundant suitable habitat, but no breeding stock existed to fill the voids. The potential to increase quail over large areas of the state lies in maintaining our focus on habitat improvement. Stocking quail in areas of unsuitable habitat is not only an unwise use of our resources, but is counterproductive. It sends the wrong message to hunters and land managers by focusing their attention away from the real problem—the loss of suitable small-game habitat at the landscape level. ♦

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