

# the Upland GAZETTE



◆ North Carolina Small Game Notes ◆

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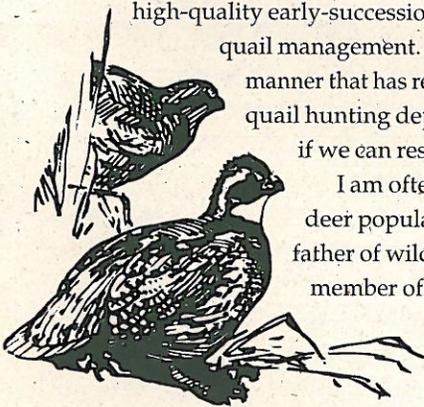
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## The Future of Quail Hunting in North Carolina

*In the following article, David Cobb, Chief of the N.C. Wildlife Resources Commission's Division of Wildlife Management, offers his thoughts and perspectives on the future of quail hunting in our state. While he does not guarantee a bright future, he does offer hope.*

**A**S A TEENAGER ON MY FAMILY FARM in Guilford County, I hunted quail with my dad over a Brittany Spaniel. The mosaic of small agricultural fields and thickets on our farm and surrounding properties supported several coveys each year. We hunted quail because we enjoyed them as sport and table fare, and their abundance indicated whether the farm had had a good or bad year. Quail were, in retrospect, also an indicator of the condition of our land and its value as habitat for other small game.

Many quail hunters talk about "the good old days" when numerous covey flushes on a hunt were common and quail populations were high enough to justify keeping bird dogs. However, quail populations in our state have always been an artifact of how our society used the landscape. In "the good old days," quail thrived in readily abundant, high-quality early-succession habitats; not as the result of direct landscape-scale quail management. Quail have declined because land use changed in a manner that has reduced early-succession habitats. So, the future of quail hunting depends upon how our society uses the landscape and if we can restore a large percentage of early succession habitats.



I am often asked why, if we can restore wild turkey, bear and deer populations, can't we also restore quail? Aldo Leopold, father of wildlife management in America, once wrote: "When a member of a scientific group tries to uproot himself and describe his own undertakings with the objective pen of a spectator, the task is liable to put quite a strain both on his modesty and sense of humor." Turkey, bear and deer populations declined early in this century

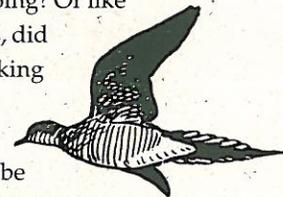
because of widespread habitat alteration and over hunting. To reverse these trends, aggressive restoration programs were undertaken. Overharvest of turkey, bear and deer is no longer a concern because of increased interest by sportsmen and landowners and regulation by the Commission. While over harvest is not a significant problem for quail, landscape-scale degradation of quail habitats continues. Consequently, quail populations continue to decline.

Because quail hunting historically reflected how our society used the landscape, the

*continued on back page*

## Dove Population Status & Management

WHILE DRIVING DOWN A COUNTRY ROAD between 5:30 a.m. and 7:30 a.m. in late May, have you ever seen a man standing near a state truck parked alongside the highway? Have you ever stopped to offer assistance or to ask what he was doing? Or like so many other motorists, did you just drive on by shaking your head wondering what in the world would a state employee be doing out that early in the morning parked along a quiet, lonely stretch of country road? If you had stopped to inquire what the person was doing, you probably would have discovered that he was conducting an annual Mourning Dove Call-count Survey.



So just what is a Mourning Dove Call-count Survey? Call-count routes are usually located along secondary roads, and each route has 20 listening stations, or stops, spaced at 1-mile intervals along the route. At each listening station, a biologist records the number of doves heard calling, the number of birds seen at each stop and the level of noise (disturbance) that might affect the observers ability to hear doves calling. The observer also records the number of birds seen while driving between stops. Observers spend three minutes at each stop and then spend approximately three minutes driving between stops. Each route is run once each year, May 20-31, and

*continued on page 4*

## Counting Coveys

**M**ANY PEOPLE STOP AND ASK small game biologists, "What can we do to increase bobwhite quail on our farm property?" The answers are rarely simple and often limited by constraints of the primary objective, a productive farm. The Farm Wildlife Recovery Team (FWRT), made up of researchers and biologists from N. C. State University and the N. C. Wildlife Resources Commission, was established to investigate practical methods to increase local bobwhite populations and be incorporated into modern farming systems. Previous work found quail on farms that were limited by early-season nesting cover. Fallow areas, weedy edges and ditches previously used by nesting birds early in the breeding season are now mowed or converted to fescue. Reduced cover forced quail to nest in lower-quality habitats, greatly decreasing nest success. This loss of early production diminished the number of surplus birds available to hunters in the fall.

FWRT began investigating the use of field borders to increase early-season nesting cover and brood areas. Fifteen-foot strips of native vegetation were allowed to establish along the farm's field edges. Plants such as broomsedge, goldenrod, ragweed and blackberry invaded and were left undisturbed throughout winter, providing excellent spring cover when other areas had been mowed clean. A radio-telemetry study on Alligator River National Wildlife Refuge revealed quail predominantly nested in field borders prior to July 15. Concentration of nesting activity in these narrow habitats may have created a problem by increasing

hunting behavior of mammal predators, such as foxes, raccoons and opossums.

In 1996 a follow-up project was initiated to study the combination of field borders and mammalian predator removal. Wildlife technicians were hired to remove as many target mammals as possible between February and May, before nesting started. Sixteen 300- to 500-acre farms in eastern North Carolina and central Virginia were selected for the study. Four farms were randomly assigned one of the following treatments: field border, predator removal, combined field border/predator removal, or no treatment (control). This design allowed analysis of the quail population's response to each specific treatment. The FWRT predicted field border and predator removal sites would have a positive increase in quail numbers over control farms, and sites with the combination of the two would see an even higher increase in numbers.

To determine differences between the treatments, FWRT estimated early fall populations after covey formation. Increased nest success and chick survival would be seen with more coveys. Getting an accurate fall population count, however, is harder than it seems. Previous methods using flush counts and bird dog surveys were not feasible with the large number of farms to be surveyed. One option would be to count covey calls in the early morning. In the past, hunters have used this to find birds, and biologists in other states attempted calling surveys, but there was little scientific information on when and what were the best conditions for hearing calling coveys. Using radio telemetry to locate coveys, the FWRT found that on clear, still mornings in October, coveys will call an average of 77 percent of the time. The ability to count this high percentage of the population in a selected morning would give the accurate estimates needed to compare treatments.

The first covey call survey was in 1997, after one year of growth in the field borders

and one season of highly effective trapping. Treatment areas containing field borders had almost double the number of coveys heard compared to non field border treatment areas. There was an increase in coveys on the field-border/predator-removal treatment over the field border only treatment, but the increase was not statistically different. The predator-removal-only treatments had essentially the same number of coveys heard as the control farms. In 1998, standard crop rotations were seen on the study farms, which can have a strong effect on quail production. Field borders became more structured with increased amounts of blackberry, honeysuckle vines and goldenrod's. Trapping efforts in 1998 were similar to 1997 and almost the same number of target mammals were removed. Results from morning covey surveys conducted in fall 1998 (see figure 2) were a repeat of the previous year. Field border treatments

again had double the number of calling birds compared to control areas.

After two seasons of trapping, the predator-removal-treatment areas still did not show an increase compared to non-trapped treatment areas. Combination field-border/predator removal treatments had essentially the same number of coveys heard as field border-only-treatment areas.

These are the results from the first two years of the study. The research will be continued for another two years, further examining quail populations under different crop rotations and weather patterns. Mammal predation is always a factor in reducing production of birds, however, two years of extensive mammal trapping has not resulted in additional increases. More years of trapping may be needed before predator populations are adequately reduced. So far, the data shows that quail are positively responding to early season cover provided by field borders, causing a two-fold increase in coveys. Field borders placed on the edges of row-cropped land can be a simple and practical application for increasing covey numbers. ♦

—Shane Wellingdorf, N.C. State University



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Established 1996

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# 1998-1999 Hunting Season Roundup

## Bobwhite Quail



One hundred and twenty-nine quail hunters provided data on 1,858 quail hunts during the 1998 hunting season. Statewide, hunters located an average of 1.69 coveys per party trip and harvested 1.09 birds per individual trip. Coastal Plain hunters reported slightly improved hunting success, while Piedmont and Mountain quail hunters found fewer birds than during the 1997 season. The best news was from the southern coastal region where 1998 success (1.7 coveys/party/trip) was the highest reported since 1993. The northern and central coastal regions, where hunters average just over 2.1 coveys/party/trip, continue to provide the best hunting in the state. Piedmont hunting success averaged 1.15 coveys/party/trip and mountain success 0.95 coveys/party/trip.

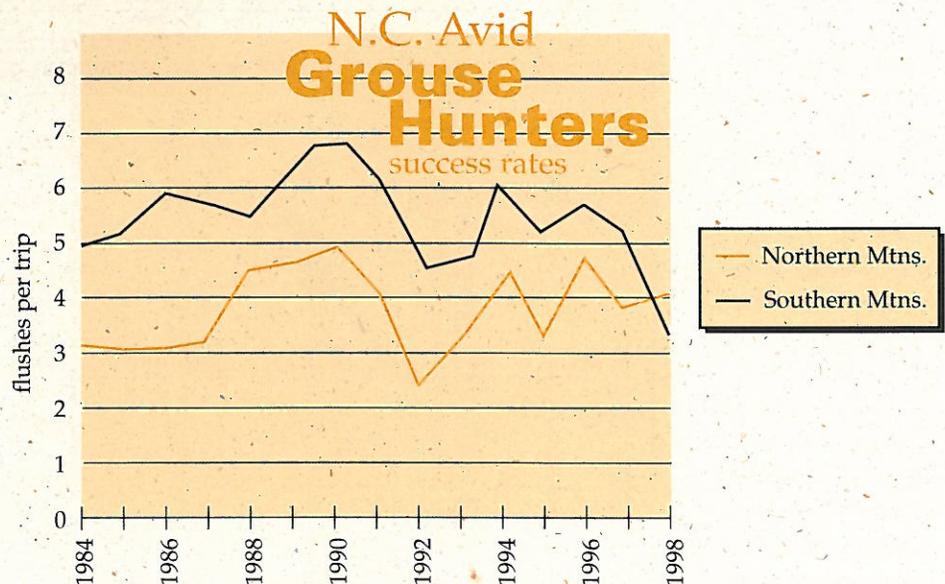
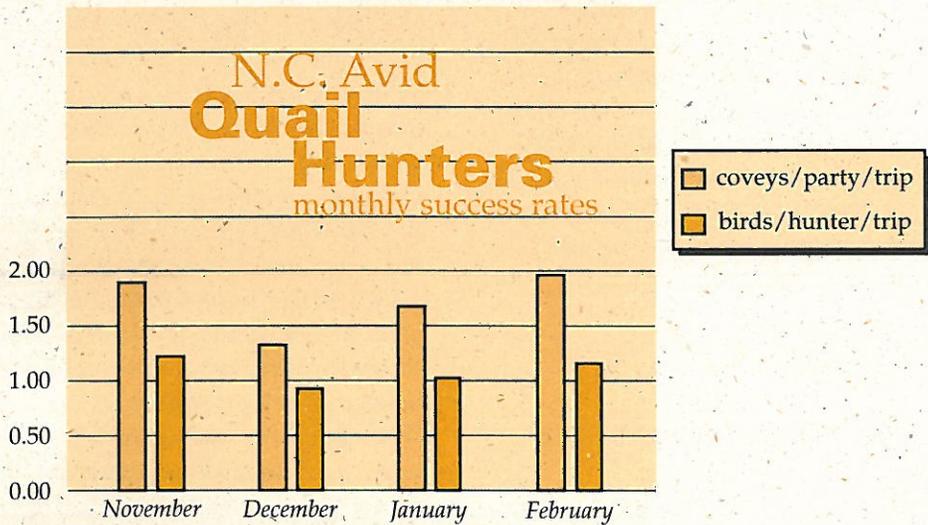
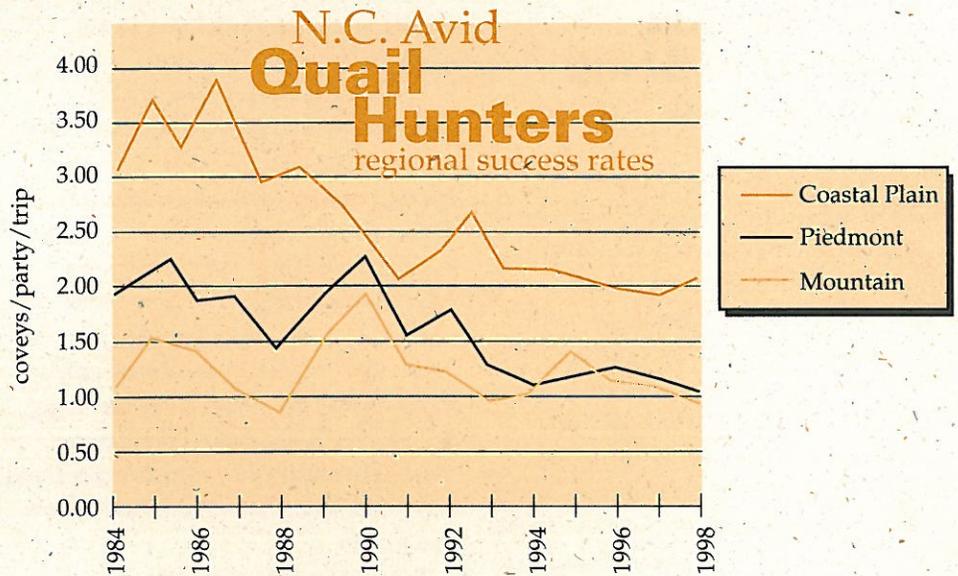
Hunters reported good success in finding and harvesting birds in November, when hunters averaged locating 1.82 coveys/party/trip and harvesting 1.27 birds/hunter/trip. Lower success in both covey finds and harvests occurred during December and January. February success rates climbed to 1.95 coveys/party/trip but the harvest rate (1.16 birds/hunter/trip) did not reach that reported in November.

## Ruffed Grouse



The past season was frustrating for many grouse hunters. Statewide flush rates and harvest rates were the lowest in the 16 years that the survey has been conducted. Flush rates per party trip dropped precipitously from 4.9 birds per party trip in 1997 to 3.5 birds per party trip in 1998. Closer examination reveals just how unusual the season was. For the first time in 16 years, the Northern Mountain area (Ashe, Alleghany, Avery, and Watagua Counties) experienced higher flush and harvest rates than the Southern Mountain region. Hunting success within the season followed the usual trend with the poorest success in October, before leaf fall, and the best in February, when birds often congregate near dense cover patches. ♦

—Terry Sharpe, Small Game Project Leader



## Deer Season Extension Being Considered

THE WILDLIFE COMMISSION HAS RECEIVED a lot of input concerning a deer season extension in some western Piedmont and Mountain counties for the 2000-2001 season. An expanding deer population in the area has prompted hunters to request the extension to provide more deer hunting opportunity. The staff took a variety of options to public input meetings to discuss different possibilities. The Commission will receive staff recommendations in October and make a decision on whether or not the proposal will be presented for public comment. If the proposal is carried forward, it will be presented at each of the Commission's nine annual district public hearings held across the state during January and February. The Commission would like to receive your comments! Watch your local newspaper for the public hearing announcement. ♦

### Dove Population *continued*

the counts begin a half hour before sunrise and last about two hours. Studies have indicated that individual dove-calling activity in the eastern U.S. is relatively stable during this late-May period. If wind velocities exceed 12 miles per hour or if rain occurs, surveys can not be conducted. In the United States, there are currently more than 1,000 randomly selected routes located in all major regions. There are 20 randomly selected routes located in Canada, parklands and prairie areas. In

North Carolina, we have 21 randomly selected routes across the state.

The total number of doves heard on each route is used to determine population trends and provides the basis for determining an index to the population size during the breeding season. Although both the number of doves heard and seen are counted during the survey, they are recorded separately. An index for the number of doves seen is developed and used only as supplemental information for comparing to the doves-heard index. Population trends are measured by comparing changes in the number of doves heard calling from year to year.

Because the mourning dove is a migratory bird, the U.S. Fish and Wildlife Service (USF&WS) has jurisdiction, management authority and responsibility for the species in the United States. The Migratory Bird Treaty Act of 1918 established treaties between the United States and other countries for the protection and management of all migratory birds. Everyone is familiar with the mourning dove, as it is one of the most abundant bird species across the country. In fact, it is estimated that the North American fall population is about 475 million doves each year. Sport hunting for mourning doves is recognized as a legitimate use of a renewable natural resource and it has been estimated that the mourning dove provides more than 10 million days of hunting annually. In 1989, it

was estimated that about 2.3 million hunters harvested 41.3 million doves in North America. During the 1995-96 hunting season, we estimate that 81,470 North Carolina hunters harvested 1,454,178 doves.

Maintaining healthy and productive mourning dove populations is a primary management goal of the USF&WS and the individual states. Dove management is somewhat complex due to the fact that doves do migrate and typically spend part of the year in different regions of North America (from Canada to Mexico). Management activities include determining the breeding population level and regulating the harvest of mourning doves. In the U.S., state and federal biologists conduct annual call-count surveys to monitor mourning dove populations. Biologists with the Office of Migratory Bird Management, USF&WS, analyze the call-count survey data each year and provide information on the dove population status and trends to administrators of the various state Fish and Wildlife Management agencies for their use in setting annual hunting regulations.

The USF&WS has divided the lower 48 states into three management zones that contain the major breeding, migration and wintering areas for each population in the U.S. North Carolina is in the eastern dove management zone, or unit, that includes 26 other states and comprises 30 percent of the land area of the U.S. The eastern management unit roughly encompasses the area

## Mourning Dove

### Populations in the Eastern Management Unit

YEAR	DOVES HEARD	DOVES SEEN	YEAR	DOVES HEARD	DOVES SEEN
1966	23.4	15.5	82	20.7	13.25
67	21.3	14.25	83	19.1	12.8
68	20.4	13.5	84	17.4	12.25
69	20.8	13.8	85	18.6	13.5
70	21.9	14.0	86	18.8	13.9
71	19.8	13.5	87	19.9	13.1
72	20.4	16.1	88	19.6	14.6
73	19.6	14.0	89	20.6	14.8
74	19.7	13.6	90	19.0	14.5
75	19.0	14.0	91	18.3	15.1
76	19.5	14.2	92	19.4	14.3
77	20.8	13.75	93	18.7	14.2
78	20.0	12.6	94	19.3	14.8
79	18.3	13.25	95	19.5	14.8
80	19.3	13.4	96	17.0	13.6
81	19.5	14.8	97	17.2	12.4
			98	18.5	15.3



## Pass It Along...

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, 1722 Mail Service Center, Raleigh, NC 27699-1722

(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 \_\_\_\_\_  
Address \_\_\_\_\_  
City \_\_\_\_\_ State \_\_\_\_ Zip \_\_\_\_\_

Name \_\_\_\_\_  
Address \_\_\_\_\_  
City \_\_\_\_\_ State \_\_\_\_ Zip \_\_\_\_\_

east of the Mississippi River, including Louisiana. States in the eastern management unit that do not allow dove hunting are: Minnesota, Wisconsin, Iowa, Michigan, New York, Vermont, New Hampshire, Massachusetts, Connecticut and New Jersey.

During the 1997-98 breeding season, North Carolina routes had a mean count of 30 doves heard per route and South Carolina had a mean count 20-29.9 doves heard per route. These were the highest counts of any of the states in the eastern management unit. North Carolina showed an increase of 2.4 percent in 1998 as compared with 1997, a 4 percent annual increase for the 10-year period 1989-98, and a 0.4 percent annual decrease for the 33-year period 1966-98.

A significant increase in the breeding population was detected for the eastern unit from 1997 to 1998 with an average increase of doves heard per route of 8.2 percent. However, the data analysis indicated significant declines in the numbers of doves heard for the unit when compared to the most recent 10 and 33-year periods. Interestingly and in contrast to the number of doves heard, an analysis of the number of doves seen indicated no significant changes over time for the eastern management unit.

Following analysis of the call-count survey data each year, the USF&WS determines what hunting season and bag limit options they will offer to the various states within each management unit. The dove

hunting states then select the hunting season options they wish to have and advise the USF&WS of the options selected. Hunting season options for the eastern management unit and for North Carolina do not usually change much from year-to-year and are typical of the following: Between Sept. 1 and Jan. 15, states may select hunting seasons and bag limits with not more than 70 days with a daily bag limit of 12, or not more than 60 days with a bag limit of 15. The season may be split into no more than three periods. In recent years, North Carolina has chosen a three-way split season of not more than 70 days with a bag limit of 12 doves per day.

While I do not know how other states select dove season options, I am familiar with the procedure that is used in North Carolina. The Commission's staff makes recommendations to the commissioners on the board of the Wildlife Resources Commission each July. The Wildlife Commissioners who are appointed to serve on the North Carolina Wildlife Resources Commission consider these recommendations along with input they receive from sportsmen and make the final decision. Surveys have indicated that a majority of sportsmen prefer full-day hunting. As a result the Commission, based on law enforcement concerns, has chosen a season comprised of afternoon hunting during the first week when hunting pressure is highest, and full-day hunting thereafter.

If you wish to provide input to the com-

mission about your preferences for dove seasons, you may call or write Division of Wildlife Management, N.C. Wildlife Resources Commission, 1712 Mail Service Center, Raleigh, N.C. 27699-1712, phone 919-733-7291. Because of deadlines for the states to get their framework selections to the USF&WS, comments must be received prior to the Commission's July meeting of each year in order to possibly influence the decision on the upcoming seasons.

Wishing you continued safe, happy, and productive dove hunting! ♦

—Denny Baumbarger, *Small Game & Migratory Bird Research Program Coordinator*

## New Recruits Needed

Keep us in mind when visiting hunting friends this fall. We would like to continue to add avid grouse and quail hunters to our roster. The data provides valuable information about gamebird-population trends. Each participating hunter receives a small reward and a subscription to *The Upland Gazette*. Mail the name and address potential of new recruits to: Terry Sharpe, small game project leader, 317 Hamlet Ave., Hamlet, N.C. 28345

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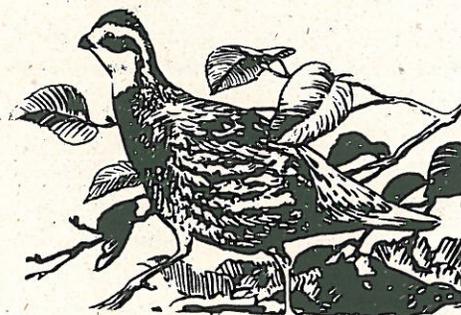
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### Quail Hunting *continued*

future of quail hunting depends upon future trends in land use. Quail population declines are closely correlated to increases in mechanized farming initiated early in this century. These declines are driven, in part, by agricultural economics. The future of quail hunting depends upon land-management agencies and private landowners working together to incorporate benefits of early succession habitats into agricultural profit margins. Aldo Leopold also wrote: "Game management is the art of making land produce sustained annual crop of wild game for recreational use." Southeastern plantations continuing to sustain high quail populations and high quality quail hunting do so because it is economically feasible. We must take steps to impart this economic feasibility to quail management programs. One result will be improved quail hunting. This approach requires the cooperation of the Commission, other agencies and private landowners; no one of these entities can succeed alone in this endeavor.

The future of quail hunting in North Carolina is bright if, as a society, we make restoration of high-quality quail habitats a priority. Restoration of other wildlife species has been based on this assertion followed by proactive conservation. Restoration of quail populations and quail hunting in North Carolina requires no less. ♦

—Dr. David T. Cobb, Chief of the Division of Wildlife Management



### Quail at the Edge

The N.C. State University Cooperative Extension Service has recently produced a video outlining the results of extensive farm wildlife research conducted in North Carolina and Virginia. Directed by Dr. Pete Bromley, the 26-minute video provides a quick glimpse at the research results and management opportunities that Bromley and his team have explored during the long-term study. Topics addressed include: bobwhite and songbird ecology, the role of nest predators and the ecology and economics of buffers. To obtain a copy, call or write Dr. Bromley:

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