

# PROCEEDINGS OF THE 12<sup>th</sup> ANNUAL SOUTHEAST QUAIL STUDY GROUP MEETING

August 6-9, 2006  
Auburn, Alabama



Hosted by:

**Alabama Department of Conservation  
& Natural Resources  
Wildlife & Freshwater Fisheries**



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**Southeast Quail Study Group**  
**12<sup>th</sup> Annual Meeting**  
 The Hotel At Auburn University  
 Auburn, Alabama  
 August 6-9, 2006



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# Southeast Quail Study Group 12<sup>th</sup> Annual Meeting

The Hotel at Auburn University  
Auburn, Alabama  
August 6-9, 2006



## Sunday, August 6<sup>th</sup>

Registration—3:00pm to 6:00pm

9:00am – 5:00pm      Steering Committee Meeting

6:00pm – 9:00pm      Welcome Reception  
(Sponsored by Alabama Power)

7:30pm – 9:00pm      Open Discussion: Potential for forming an  
Eastern Native Grass Alliance  
*led by Don McKenzie*

## Monday, August 7<sup>th</sup>

Registration—7:00am to 4:00pm

8:00 – 8:15am      Welcome and Comments  
*Gary Moody, Wildlife Chief*  
*AL Wildlife & Freshwater Fisheries*

8:15 – 8:30am      SEAFWA Directors' NBCI Committee  
*Dan Forster, Director*  
*GA Wildlife Resources Division*

8:30 – 9:15am      2007 Farm Bill  
*Matt Coley, Professional Staff*  
*Senate Committee on Agriculture,*  
*Nutrition & Forestry*

9:15 – 9:30am      Northern Bobwhite Conservation Initiative  
*Don McKenzie, Coordinator*  
*Northern Bobwhite Conservation Initiative*

**SOUTHEAST QUAIL STUDY GROUP  
12<sup>TH</sup> ANNUAL MEETING**

9:30 – 9:45am	Alabama Quail Council <i>Kim Price, Chairman, Alabama Quail Council</i>
9:45 – 10:15am	Challenges to Prescribed Burning: The Ecological Imperative <i>Johnny Stowe, Chairman</i> <i>South Carolina Prescribed Fire Council</i> <i>Heritage Preserve Manager, SCDNR</i>
10:15 – 10:30am	Break
10:30 – 11:00am	Population Dynamics of Northern Bobwhites In Fire Maintained Longleaf Pine Forests <i>Travis Folk, Alabama Cooperative Fish &amp; Wildlife Research Unit</i>
11:00 – 11:30am	Quality Vegetation Management <i>Michelle Isenberg, Forestry Products Specialist, BASF Corporation</i>
11:30 – 12:00pm	Filling Up At The Grass Station: Native Grasses as Biofuel <i>Steve Capel, Farm Wildlife Supervisor</i> <i>VA Department of Game &amp; Inland Fisheries</i>
12:00 – 12:15pm	Chairman's Charge to Committees <i>Steve DeMaso, Chairman</i> <i>SEQSG Steering Committee</i>
12:15 – 1:15pm	Lunch
1:15 – 5:00pm	Committee Meetings
5:30 – 6:30pm	Awards Banquet
6:30 – 7:30pm	Poster Session
7:30 – 9:00pm	Open Discussion: NBCI Revision <i>Dave Godwin, Bill Palmer, Don McKenzie</i>

**SOUTHEAST QUAIL STUDY GROUP  
12<sup>TH</sup> ANNUAL MEETING**

**Tuesday, August 8**

8:00 – 11:30am	Committee Meetings
11:30 – 12:00pm	Alabama Quail Project <i>Dr. Lee Stribling, Auburn University School of Forestry &amp; Wildlife Sciences</i>
12:00 – 12:30pm	Load for Field Trip (box lunch provided)
12:30 – 5:30pm	Field Trip at Sehoy Plantation
5:30 – 9:00pm	Dinner/Social/Sporting Clays (Sponsored by BASF and Quail Unlimited)
9:00pm	Return to Hotel

**Wednesday, August 9**

8:00 – 8:15am	Role of New Agricultural Wildlife Conservation Center <i>Ed Hackett, Wildlife Biologist with USDA Natural Resources Conservation Service, Madison, Mississippi</i>
8:15 – 8:30am	Release of Pen Reared Bobwhites: Genetic Integrity of Resident Wild Populations <i>Dr. Wes Burger, Mississippi State University Department of Wildlife and Fisheries</i>
8:30 – 10:00am	Committee Reports
10:00 – 10:15am	Break
10:15 – 11:45am	Business Meeting
11:45 – 12:00pm	Closing Remarks





# COMMITTEE REPORTS

## 2006







## Agricultural Policy Committee Meeting

August 6-9, 2006

Bill White, Chairman

### Committee Charges:

1. Develop a Farm Bill section for the NBCI Revision
2. Determine how the Farm Bill can be used to improve BWQ habitat
3. Develop quail friendly recommendations for the 2007 Farm Bill

### Major Topics, Day 1:

- **Chair of the Agricultural Policy Committee:** Dan Figert is stepping down and will be replaced following the conclusion of this meeting. Bill White, Chuck Kowaleski, & Mark Gudlin (all full-time Farm Bill Coordinators) were nominated to fill the vacancy. Bill was elected new Chair. Duties were described as providing ~ 3-5 letters of coordinated response for ag policy issues per year, ~2 trips to SEQSG Steering Committee meetings, and coordinating the Ag Policy committee meetings.
- **AFWA 2007 Farm Bill efforts:** Dan Figert, Mark Whitney, and Jen Mock have helped develop white papers through about 1 dozen meetings in 2005-06. They aim to help provide direction for upcoming legislation. AFWA is taking a broader role than in the past. They have pulled together NGOs and conservation partners. A strong unified message will be very important.
- **World Trade Organization negotiations:** ended without agreement. Commodity groups are wanting 'buy-in' from conservation communities for the sake of commodity payments.
- **Conservation Effects Assessment Project:** Most studies have been done on CRP, of which most deal with birds. The report summarizes some studies and encourages others (e.g., radar recording of birds). FSA has invested in wildlife research documentation.
- **Silvopasture – Opportunities and Dangers:** Bill White said that MO had to deflect efforts of hardwood forest conversion to fescue silvopasture. Jim (NRCS Silvopasture specialist) supported pine-fescue silvopasture (whether loblolly or longleaf). NRCS has already converted 2.5 million acres to silvopasture, has an Agroforestry Training program and website. At this meeting, Jim recruited Bill and others from other committees to help him write a NWSG proposal for integrating these in silvopastures.
- **Biofuels:** DOE and USDA are reporting on bioenergy. It was recommended that the committee work with AFWA to send wildlife conservation opinions to others currently involved in biofuel work expressing our concerns throughout the research phases of biofuels, versus waiting until they have progressed too far before commenting. SEQSG needs to stay tuned in to AFWA process and NWF's paper on the issue.
- **Opening of the New Agriculture Wildlife Conservation Center, Madison MS:** Ed Hackett briefed the committee on the 12 grants accepted last year that are worth \$1.6 million total.
- **Healthy Forest Reserve Program:** \$2.5 million were directed to Maine, Arkansas, and Mississippi for cost-share and easements.

- **Senate Agriculture Subcommittee oversight hearing on TSP on July 27, 2006:** Arkansas Game & Fish testified that (1) TSP agreements should be required with state fish and wildlife agencies and (2) TSPs should be funded adequately through multi-year contracts.
- **Invasive, Exotic Plant Control:** USDA Awarded \$4.1 million in grants to control and manage invasive, exotic plants affecting grazing lands (27 projects in 20 states at \$50-300,000 each).
- **Committee Charge # 3 2007 Farm Bill Recommendations for Quail:** Ray Evans will be putting together a second draft of Farm Bill speaking points and will send it to this agricultural policy committee for comments. The first draft was distributed at the meeting and initial comments given to Ray.

#### Conservation Programs, Day 2:

- **Conservation Reserve Program:**
  - **FSA created a conservation partner group** that meets ~quarterly to get input from TNC, DU, TWS, and AFWA.
  - **Letter of Comment:** Bill White will send a letter to FSA with our suggestions for EBI revision, cc'ing Jen Mock with AFWA, on behalf of SEQSG.
  - **Residual CRP:** a potentially new program may offer reduced payments to keep CRP in grass versus rowcrops and be allowed to hay under wildlife guidelines. Longer contracts @ 25 years.
  - Aims to keep the most environmentally sensitive acres in CRP (e.g., large portions of Prairie Chicken habitat in KS.)
  - **Conservation Reserve Enhancement Program:** Concern was offered that marginal pasturelands should address keeping savannahs and ecologically appropriate areas for grasses.
  - **CP33:** Kentucky developed table mats advertising CP33. There may be some additional CP33 acres allocated. 'First come first serve' concept for leftover acres was proposed by Dan. Many states are not finished with, but almost finished with enrollments. Breck said that we need to help those states that aren't allocated. Bill said that Iowa opened up CP33 outside of the quail range (north) and is concerned about getting a quail response during the monitoring phase. The Ag. Policy committee decided to write a letter requesting that a 20% bonus rental rate be paid for future participants.
  - **CP11:** in MS and other states has been integrated with Quality Vegetation Management (QVM) for managing pines.
- **Environmental Quality Incentives Program:** There is a new national effort to use a systematic set of yes/no questions, divided into national, state and local sets, where each cumulative total is weighted. This provides a conservation-based score that can be used to rank applications. NRCS State Technical Committees are involved in developing state questions and local NRCS organizes public participation meetings to develop local questions.
- **Environmental Benefits Index:** EBI was written by AFWA using SEQSG and PIF input. AFWA tried to simplify soil (100 points), water (100 points), and wildlife considerations (100 points); promoted State Habitat Teams, points for wildlife priority areas, promotes practices most needed in each state, ridded of 'enduring benefits' portion and bonus points. "Cost" factor was reduced from 150 to 100 points. It added



25 points if at least one of the following exists in a contract: (1) restored wetlands, (2) 51%+ conversion from monocultures and no re-enrollments, (3) established rare habitats, (4) established hardwood CP3A. SEQSG will provide another letter detailing a few more points, such as further defining "monoculture" conversion by limiting considerations to grasses, herbaceous/forb plants and upping percentage to 75%. Mark Gudlin recommended to remove water development practice and provide incentive for more than 51% conversion. Dan Figert mentioned that food plots and water areas were recommended to be removed from the EBI.

- **Committee Charges #1 and #2: Quail in Farm Bill Success Stories:** Bill will work to find NBCI related success stories on practices and programs benefiting quail for putting in the NBCI revision which will meet 2 of the charges for our committee.
- **Dan was thanked for his past leadership of the committee and his work on behalf of quail and ag policies. Thanks to Mark Gudlin and Eric Darracq for their help with meeting minutes.**



## **Cropland Management Committee**

August 6-9, 2006

Mike Hansbrough, Chairman

Monday, August 7

Reggie Thackston – Ran nomination of selection of new committee chair.

Mike Hansbrough – nominated as new chair, committee approved nomination. Reggie will take nomination to Steering Committee.

Wes Burger, Reggie Thackston, Dave Godwin, Don Mckenzie and Steve DeMaso discussed intent of 5,000-acre GIS analysis.

Mark Whitney – spoke to committee about AFWA farm bill initiative. AFWA website to view.

Charge 1: Filters for 5,000-ac. GIS cell:

### Filters

- Urban lands
- Forested Land
  - o Assuming forestry committee will pick this up
- Hydric Soils

### Factors

- Field Size
- Percent and type of CRP
  - o CP1, CP2, CP4D, CP10, CP21, CP22, CP33
- Percent crop land (% cotton vs. grain)
- Percent no-til
- Percent shrub
- Percent GRP, WHIP, WRP \* (wildlife oriented programs)
- Percent idle land
- Interspersion - # of changes in cover type
- Distance to next available cover
- Nearest management area (public or private) or overlapping CWS landscapes.
- Ag. crop land without base
- Distance to higher quail pop. (BBS routes, CP33 monitoring, etc.)
- Soil type (fertility and rental rates)
- Irrigated vs. non-irrigated cropland.
- Existing wildlife plans (NRCS 645 or any upland wildlife plan – state and fed.)
- In CSP watershed

### Improvable Practices:

- Field size and Interspersion
  - o Buffers (field borders, filter strips, etc), edge enhancement
- Existing CRP
  - o Mid-contract management on longer rotation
- Percent Cropland
- Percent Shrub
  - o Push existing programs (native shrubs) – EQIP, WHIP, CP33
- Percent idle lands
  - o Flex fallow – program
- Distance to next available quail cover
  - o Within 5,000 ac. scale – ave. distance to
  - o Also outside 5,000 ac. block
- Irrigation
  - o Fallow corners program – “Corners for Upland Wildlife”
- Ag. Lands without base
- Soil rental rates
  - o Counties with higher rental rates – high priority for buffers
- Large landowner
  - o Identifying potential landowners with wildlife interest
  - o Fewer turnovers in land ownership with larger landowner (general assumption).

Tuesday, August 8

Brainstorming informational needs for quail opportunities in Farm Bill programs, NBCI.

- Need to mainstream management info. – outdoor TV shows, Cabela's, etc.
- National level interagency training on NBCI
- Easy calculator tool for landowners to determine economic returns of FB programs.
- States need to develop individual costs/benefits calculator for landowners.
- Boiled down - Develop national NBCI campaign – BIG TIME – prime time commercials, outdoor shows, etc. and greater need for step down cooperation among state and federal agencies within states.
- Develop publication – target both producers and recreational landowners.
  - o Outlet
    - Recreational landowners
      - Slogan: Only You Can Create Wildlife Habitat
      - Image: wildlife scene with grandfather and grandson.

Committee Adjourned

## Forestry Committee Meeting August 6-9, 2006

### Billy Dukes, Chairman

(Action Items in **Bold Type**)

Handouts provided to Committee members (for informational purposes):

- SEQSG Committee Charges for NBCI Revision
- Draft Proposal – Enhancing Forest Health and Improving Habitat for Northern Bobwhite and Other Wildlife in Densely-stocked Pine Stands
- Letter to Robert Stephenson, FSA Director, Conservation and Environmental Programs, in support of continuous signup longleaf pine initiative
- A Rangewide Recovery Plan for Longleaf Pine Ecosystems (The Longleaf Alliance)

### **August 7, 2006**

Dukes opened the meeting with introductions around the room, presented a proposed agenda, and noted that the Steering Committee had been given specific charges which need to be addressed at this meeting (see below).

Dukes then presented a review of Forestry Committee accomplishments over the past year and progress on action items identified at the 2005 meeting.

Following the 2005 SEQSG meeting, the FC meeting minutes and the “consensus priority functions for the 2007 Farm Bill” developed by the Southeast Forestry and Wildlife Farm Bill Working Group were distributed to meeting participants via e-mail. Revised consensus priority functions were sent to Committee members on August 3, 2006.

Forestry Committee representatives have begun compiling the amount of “restorable” longleaf pine acreage for individual states as a means of linking LLP acreage targets to the NBCI quail population goals. **Restorable acreage figures have been received from Louisiana, Virginia, and North Carolina, and are still needed from TX, MS, AL, GA, and SC.** Restorable acres figures should be developed independently of the Longleaf Alliance recommendations.



A program neutral draft proposal, "Enhancing Forest Health and Improving Habitat for Northern Bobwhite and Other Wildlife in Densely-stocked Pine Stands" was developed by the FC and forwarded to the SEFWFB Working Group for consideration.

Forestry Committee members were (and are) instructed to review the "Southern Pine Forests" chapter of the NBCI and begin compiling comments and needed revisions. No comments have been received to date. **Written comments and suggestions for revision should be compiled and forwarded to the FC Chairman for incorporation in the rewrite of the NBCI.**

During 2005, significant progress was made in developing BCR-specific forest management implementation strategies for the NBCI. Strategies have been developed for 7 of 9 BCR's, with BCR 21 (Oaks and Prairies) and BCR 27 (Piedmont) yet to be completed. Steve DeMaso has recommended Mike Sams (OK) or John Hendrix (OK) to develop strategies for BCR 21. Haven Barnhill (originally assigned to BCR 27) has changed jobs and a replacement for BCR 27 has not yet been identified. **BCR-specific implementation strategies have yet to be compiled into a consistent format and consolidated into a single document.**

Additional activities of the SEQSG Forestry Committee Chairman during 2005 included drafting comments on the Emergency Forestry CRP for the Steering Committee, attending SE FWFB Working Group meetings, and representing SEQSG and the SE FWFB Working Group on the Alliance for the Future of Southern Forests.

Patrick Cook (VA) and Mike Sams (OK) provided an update on the development of an "Oak Woodlands/Oak Savanna Restoration and Management" chapter for the NBCI revision. Significant progress has been made, and work is continuing. The drafting team pointed out that restoration and maintenance of oak savanna is not of economic benefit, and would primarily be a wildlife/aesthetic enhancement practice. It was recommended that management strategies should incorporate prescribed fire options with and without herbicide applications. Questions were also raised by the drafting team as to whether oak-pine system management should fall under this chapter or under the pine management chapter. Forest Inventory and Analysis (FIA) data indicate that the oak-pine system is experiencing dramatic declines in the Southeast. Committee members should remain available for consultation with the drafting team for consultation on these and other questions.

Mark Whitney (GA) provided an update on efforts of the Association of Fish and Wildlife Agencies' (AFWA) Agricultural Conservation Committee. A Farm Bill working group, consisting of 2 representatives from each regional association, was established to develop white papers on "big picture" Farm Bill issues (e.g. necessary changes to legislation). Mark Whitney and Dan Figert (KY) are serving as SEAFWA representatives on the working group. Mark indicated that white papers should be uploaded for review on the AFWA web site, and the working group was looking for comments in advance of the AFWA meeting in Colorado.



Much of the remaining time was spent addressing the Steering Committee Chairman's 2006 charges to the Forestry Committee. Charges and the results of those discussions are listed in Attachment A.

Following completion of the Chairman's charges, additional items were discussed. The SEQSG Ag Policy Committee is developing silvopasture workshops, and is need of a contact person from the Forestry Committee. **Wade Teague (QU) agreed to serve as the Forestry Committee silvopasture contact.**

There was also discussion on more closely linking the SEQSG FC with the SE FWFB Working Group in order to increase participation by FC members in the SEFWFB Working Group. The working group spends a significant amount of time on Farm Bill forestry issues, and FC members need to be engaged in these discussions. **The FC Chairman will forward meeting notices of the SE FWFB Working Group to all members of the Forestry Committee and encourage participation.**

Dukes presented information on Alliance for the Future of Southern Forests (AFSF). The Alliance is a coalition consisting of the American Forest Foundation, Environmental Defense, National Wildlife Federation, Society of American Foresters, Southern Region National Association of University Forest Resource Programs, Southern Environmental Law Center, The Nature Conservancy, and other partners. The current focus of the Alliance is insuring that the next Farm Bill contains adequate programs and provisions for the preservation, management, and enhancement of non-industrial private forest lands. Farm Bill principles of the Alliance are closely aligned with those of the SE FWFB Working Group. Dukes will continue to represent the SEQSG and the SE FWFB Working Group with the AFSF.

As a final order of business, an election was held for a new SEQSG Forestry Committee Chairman to replace Billy Dukes, who was elected to the Steering Committee. Wade Teague (QU), Rick Hamrick (MSU), and Fred Kimmel (LA) were nominated and votes were cast by secret ballot. The election was overseen by Steering Committee past Chair Reggie Thackston as per the SEQSG Bylaws. Wade Teague was elected as SEQSG Forestry Committee Chairman for a 3-year term. Dukes expressed his thanks to the Committee members for their support and participation over the past 2 years, and urged members to continue to support the work of the Forestry Committee.

Dukes agreed to compile minutes from the 2006 meeting and arrange an orderly transfer of Forestry Committee files and electronic documents to Teague.

**Meeting adjourned at approximately 11:15 a.m. on Tuesday, August 8, 2006.**

**Special thanks are due Chuck McKelvey (FL) and Fred Kimmel (LA) for taking detailed meeting notes that were invaluable in compiling meeting minutes.**



## Research Committee

August 6-9, 2006

Mark D. Smith, Chairman

The Research Committee met from 1:15-5:00pm on Monday, August 7<sup>th</sup> and from 8:00-10:00am on Tuesday, August 8<sup>th</sup>. Approximately 22 people attended Research Committee sessions, most of which were from southeastern states. However, representatives from KS, OH, and NJ were also present as well as representatives from Southeast Partners in Flight.

Mark Smith, Mississippi State University, reported National CP33 monitoring was progressing exceptionally well given that most states did not receive CP33 contract packets from MSU until mid-late April. Eleven states conducted breeding season sampling in 2006 with an additional 3 states to begin sampling in fall 2006. Approximately 435 contracts (459 treatment and 459 control points) were sampled. Tony Elliot, Missouri Department of Conservation, presented results from MDC's distance sampling training. Ensuing discussion focused on the potential effects of observer error in distance estimation and resulting estimates of detection probability and density. Mark Smith provided the Committee with an anticipated field protocol for sampling of winter songbirds on CP33 fields. Winter songbird sampling will be voluntary and will dovetail with existing CP33 monitoring. Only 4 states (Arkansas, Kentucky, Mississippi, and Tennessee) are anticipated to conduct winter songbird sampling using existing non-game biologists and internal funding. Catherine Rideout, Arkansas Game and Fish Commission/Southeast Partners in Flight will be coordinating all winter songbird sampling and received the support of the Research Committee and Mississippi State University.

The Research Committee was given two charges: 1) determine actions needed to create a comprehensive database of quail hunter and harvest statistics and 2) develop a spatially explicit means to estimate the number of improvable acres that could provide long term support for bobwhite recovery. Wes Burger, Mississippi State University, explained the need and importance of estimating the amount of improvable acres of bobwhite habitat for the upcoming NBCI revision. The Committee discussed potential modeling approaches (mathematical, statistical, simplistic filtering) and types of input data that may be used (CLU, NRI, NLCD, GAP, NWI, REGAP). However, several members noted the lack of most input data sets to adequately discriminate between pertinent cover types such as cool and warm season grasses or open and closed canopy pine plantations. Mark Smith presented preliminary data on the types of harvest survey methods currently being employed by states within the bobwhite range. It was anticipated these statistics may be used for measuring long term response of bobwhite populations as NBCI becomes widely implemented. Mark Smith will follow-up with state small game biologist to gather harvest and hunter statistics to assemble the comprehensive database. After much discussion, the Committee concluded that

harvest statistics, even if standardized among states via a common survey protocol, would likely not be sensitive enough to detect population trends and most states would be unwilling to modify their existing survey protocols. Therefore, the Committee recommended more emphasis should be placed on developing an extensive infield sampling framework to monitor long term bobwhite populations (e.g., a greatly expanded distance sampling-based BBS within each state, likely occurring once every 5 years) rather than proxy measures such as harvest.



# STATE REPORTS 2006





# **2006 Southeast Quail Study Group State Report – Alabama**

**Submitted By:**

**Stan Stewart, Alabama Department of Conservation and Natural Resources**

## **Bobwhite Restoration Initiatives**

The Alabama Department of Conservation and Natural Resources formed the Alabama Quail Council in December, 2004 to facilitate the implementation of the Northern Bobwhite Conservation Initiative in the state. Quail Council members include a wide spectrum of conservation partners representing state and federal agencies, academia, private conservation organizations and landowners. The Quail Council created a Quail Technical Committee to formulate a bobwhite restoration plan for the state, based on the NBCI. During the past year, the Technical Committee completed an analysis to identify bobwhite habitat zones across the state and determine the amount and distribution of potential bobwhite habitat within each zone based on a recently updated National Land Cover Data set. The Technical Committee will be using this data to develop a recovery plan, formulate bobwhite restoration strategies, and identify focus areas for restoration actions.

Various initiatives are in progress on public lands across the state to restore habitat types suitable for bobwhites. The USDA Forest Service, in cooperation with the Alabama Division of Wildlife and Freshwater Fisheries and other partners such as Quail Unlimited, Alabama Power, and the National Fish and Wildlife Foundation, continues to expand the Choccolocco Upland Initiative on the Choccolocco Wildlife Management Area and Shoal Creek District of Talladega National Forest. The initiative tailors prescribed fire regimes and forest management practices to enhance bobwhite productivity within a context of longleaf pine restoration and red-cockaded woodpecker management. The Forest Service is engaged in a similar initiative with its Elliotts Creek Quail Area on the Oakmulgee Wildlife Management Area, Oakmulgee District of Talladega National Forest. The Alabama Division of Wildlife and Freshwater Fisheries recently initiated a shortleaf pine-bluestem restoration project on the Freedom Hills Wildlife Management Area in the northwest part of the state. This project will restore a land cover type that was historically prevalent in the region and will benefit a number of declining wildlife species including the bobwhite. Another habitat restoration project is proposed on the Barbour Wildlife Management Area in southeast Alabama to restore a longleaf pine-bluestem community to benefit bobwhites and other species dependent on fire-maintained habitats.

## **Private Lands Outreach**

The Alabama Division of Wildlife and Freshwater Fisheries and USDA Natural Resources Conservation Service continue in a cooperative agreement that funds three



wildlife biologist positions to deliver wildlife technical assistance to landowners who participate in USDA conservation programs. The biologists are employed by ADWFF and located in NRCS offices in the north, central, and south regions of the state. Efforts are underway to expand the agreement to add a fourth biologist position.

## **Research**

### **Effects of growing season prescribed fire on productivity and survival of bobwhite populations**

James. B. Grand, Principal Investigator, USGS, Alabama Cooperative Fish and Wildlife Research Unit, School of Forestry and Wildlife Sciences, Auburn University, Auburn, Alabama.

Travis H. Folk, Graduate Research Assistant, Alabama Cooperative Fish and Wildlife Research Unit, School of Forestry and Wildlife Sciences, Auburn University, Auburn, Alabama.

The longleaf pine (*Pinus palustris*) ecosystem is ecologically significant in North America, yet its geographic extent has been greatly reduced by several factors including fire suppression. There is, however, increasing interest in restoring longleaf pine forests, and this necessarily entails the reintroduction of prescribed fire. Longleaf pine forests naturally burned as a result of lightning-ignited fires in late spring and early summer (referred to as growing season burns), yet land managers in the Southeast have historically used prescribed fire in late winter (referred to as dormant season fire) to avoid detrimental effects of growing season fire on wildlife, especially nesting game birds like bobwhite (*Colinus virginianus*). While research indicates season of burn can have substantial effects on the plant community and vegetative architecture of longleaf pine forests, less is known about the influence of season of burn on the life history of native and endemic vertebrates in the longleaf pine ecosystem. Because federal and state agencies are charged with management of public lands, which may entail management for the native ecosystem and game species, it is important to establish the influence of season of burn on animal populations. Thus, we undertook a study at Conecuh National Forest (CNF), Alabama to evaluate productivity, survival, and population dynamics of bobwhites in longleaf pine forests managed with either growing or dormant season prescribed fire.

Nest success at CNF did not vary appreciably with time since most recent prescribed fire or season of last prescribed fire, but nests in areas that had burned, regardless of season of burn, were 1.8 times more likely to survive each day when compared to nests in unburned longleaf pine forests. Estimated nest success was 47.0% over a 24-day incubation period, similar to the highest estimates in the published literature. Of bobwhites that survived through the nesting season (1 September), 17.9% of males and 27.3% of females had hatched  $\geq 1$  nest. Published estimates of reproductive success for males are similar to those documented at CNF, yet most other published estimates for females are  $\approx 75\%$ .



Daily survival rate of bobwhites varied in relation to season of burn, timber type, and daily movements. Bobwhites in longleaf pine forests managed with growing season prescribed fire were 1.5 times more likely to survive each day than individuals in longleaf pine forests managed with dormant season prescribed fire. Of several timber types (pine, pine-hardwood, upland hardwood, bottomland hardwood, and miscellaneous areas [food plots, etc.]), bobwhite daily survival was highest in pine stands. However, extent of daily movements had the greatest influence on survival of bobwhites at CNF, and daily survival decreased as daily movements increased. Thus, we investigated factors related to daily movement rate. Daily movement rate varied by season of year and association with food plots. Daily movements of bobwhites also varied intra-annually, and were greatest in late spring prior to the breeding season. Bobwhites associated with food plots were less mobile than those not associated with food plots.

Based on a literature review and demographic analyses described above, we constructed matrix population models for bobwhites. Population models based on a literature reviews indicated that observed variation in productivity had the greatest impact on observed changes in population growth rate, yet in our analysis changes to survival rates in the non-breeding season had the greatest potential influence on population growth rate. Population models based on demographic rates estimated for the CNF bobwhite population suggest a similar dynamic—increases in non-breeding season survival had the largest potential to increase population growth rate.

### **Management Implications**

We documented higher survival in areas burned with prescribed fire during the growing season as compared to dormant season fire. The difference between the two burn types is likely a result of decreased abundance of hardwoods in the midstory and an abundance of herbaceous and shrubby species in the understory in growing season burned habitats. These factors may decrease habitat quality for common bobwhite predators and increase food availability. We also documented a decrease in daily survival rate for bobwhites that moved greater distances. In turn, movement rate was lower for bobwhites near food plots (i.e., unburned areas) in fire-maintained longleaf pine stands. We suggest that cover associated with these unburned areas provided protection from predators throughout the year. Finally, population models we developed for bobwhites were consistent in identifying that increases survival during fall and winter has the largest potential to increase the population growth rate. This finding was consistent for populations with characteristic of bobwhites in longleaf pine forests managed with either growing or dormant season prescribed fire. Further research should investigate whether harvest mortality at CNF is compensatory or additive to natural fall and winter mortality.

Our research suggests that productivity, in terms of nesting effort or success, of bobwhite females at CNF was low. Although aspects of bobwhite productivity did not differ appreciably between burn types, further research should address low female

reproductive success at CNF. Low nesting effort may be the result of poor nutritional status of females; while poor nest success may result from a variety of factors related to nutritional or predation. We found that bobwhite survival was better in pine woods with prescribed fire applied in the growing season as compared to dormant season areas. We also found that survival of bobwhites was higher for birds that moved less, and that birds moved less when associated with food plots. This may be the result of increased cover associated with unburned areas, which provided better protection from predators because they were unburned, or because birds using food plots moved less to forage. While this population would certainly respond to management that increased productivity, we found that it would likely respond more quickly to improved survival during the fall and winter. Thus, we recommend the continued use of growing season fire and retention of unburned areas for use by bobwhites to improve survival during this critical period.



# 2006 Southeast Quail Study Group State Report – Arkansas

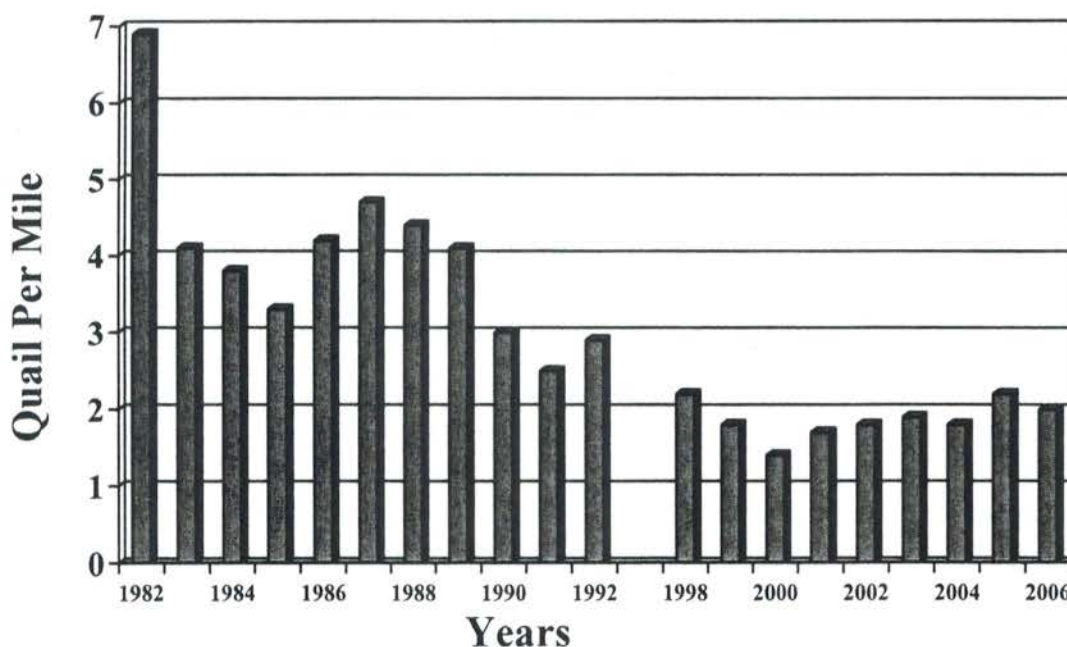
Submitted By:  
Steven Fowler, Arkansas Game and Fish Commission

## Bobwhite Population Status

According to Breeding Bird Survey data, northern bobwhite numbers in Arkansas declined by 42 percent during the period of 1966-1980. This rate of decline accelerated to 5 percent annually during the period of 1980-1998.

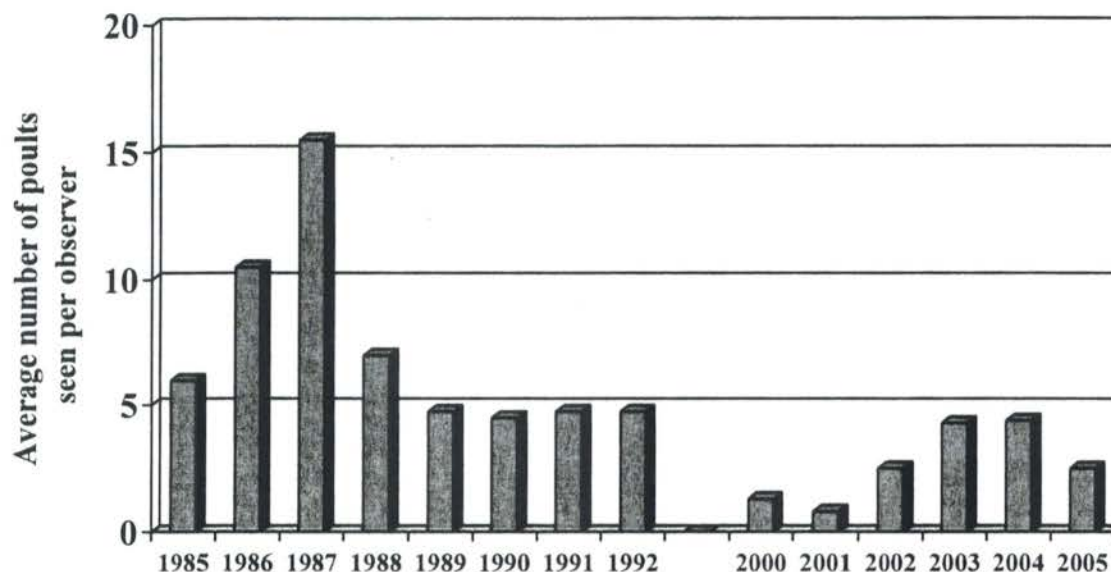
Currently, the Arkansas Game & Fish Commission continues to monitor population trends annually through quail call counts conducted during late May and quail brood surveys conducted from June 15-August 31. Since the inception of these survey methods in the early 1980's, data from both of these surveys also indicate a precipitous decline in quail numbers in Arkansas (Figure 1 & 2). In 2004, the number of routes was increased to 2 routes per county (150 total routes). The data presented below was derived from only those 57 routes that have been surveyed annually throughout the entire survey period.

Figure 1. Quail Call Count Trend 1982-1992, 1998-2006



The 2006 statewide average of 2.0 quail heard per mile represents a 9% decrease from the 2.2 quail heard per mile during 2005. The 2005 quail call count average is 43% above the survey's low point of 1.4 quail heard per mile in 2000. Regionally, during the 2006 survey, the number of quail heard per mile ranged from 0.6 in the Gulf Coastal Plain to 3.3 in the Ouachitas.

Figure 2. Quail Brood Survey Trend 1985-1992, 2000-2005



The 2004 quail brood surveys indicated a statewide average of 2.5 poults seen per observer. This represents a decrease from the 4.4 poults seen per observer in 2004. Regionally, the number of poults seen per observer ranged from 0.5 in the Delta to 4.6 in the Ouachitas.

## Quail Management Initiatives

As a result of the approval of the Arkansas Game & Fish Commission's Strategic Quail Management Plan in May 2001 and the subsequent release of the Northern Bobwhite Conservation Initiative (NBCI) in March 2002, the Arkansas Quail Committee has been formed in an attempt to achieve the goals outlined in the two plans. The Arkansas Quail Committee is a coalition of representatives from several organizations including the Arkansas Game & Fish Commission, NRCS, U.S. Forest Service, U.S. Fish & Wildlife Service, Cooperative Extension Service, FSA, Arkansas Forestry Commission, Arkansas Natural Heritage Commission, Quail Unlimited, industrial timber companies, private consultants and academia.



The first action item of the Arkansas Quail Committee has been to initiate the development of 2 quail "focal areas" within each of the three Bird Conservation Regions (BCRs) within the state as outlined in the NBCI. At this time, two focal areas have been identified (one in Searcy Co. and one in Fulton Co.), both of which lie within the Central Hardwoods BCR of northern Arkansas. Each of these focal areas are comprised of relatively contiguous tracts of property each in excess of 17,000 acres.

The two quail focal areas were declared as "Special Project Areas" for the 2003-2006 WHIP sign-ups. Along with the status of "Special Project Area", each focal area received an allocation of up to \$100,000 in WHIP funding for each sign-up to provide 75% cost-share on select practices to landowners within the focal areas. In addition, the Arkansas Game & Fish Commission provided the remaining 25% cost-share on those same practices to insure that the landowners did not incur any out-of-pocket expenses. To date, there have been over 11,000 acres enrolled in WHIP within the Fulton Co. area and over 1,600 acres enrolled within the Searcy Co. area. During the 2006 WHIP sign-up, 15 additional landowners in Fulton Co. and six additional landowners in Searcy Co. enrolled in the program.

Initial habitat manipulations began within the two focal areas in October 2003. Meanwhile, members of the Arkansas Quail Committee have been working to gather baseline data on these two areas pertaining to quail numbers, resident songbird numbers as well as vegetative data in order to document responses to future habitat manipulations.

Additionally, members of the Arkansas Quail Committee worked in partnership to develop a Landowner Incentive Program (LIP) proposal that was funded in February 2004 through the U.S. Fish & Wildlife Service. The grant is a partnership between the Arkansas Game & Fish Commission, The Nature Conservancy, Arkansas Forestry Commission and Arkansas Natural Heritage Commission and will establish 2 burn crews that will conduct prescribed burns on private lands in Arkansas within 5 pre-determined areas (including the two quail focal areas within the Central Hardwoods BCR). During this past burn season, these two burn crews conducted 17 prescribed burns consisting of 3,587 acres in three focal areas. This brings the to-date total for LIP to 5,967 acres over 32 burns. Burning was somewhat hindered this past year due to adverse weather conditions. In addition to prescribed burns, a landowner prescribed fire workshop was conducted in Searcy County on 10/06/05. Thirty guests from the Interior Highlands focal area attended a prescribed fire field tour and an evening of land management presentations.

In order to promote the Continuous-CRP practice CP-33, 21 landowners meetings were held around the state in strategically selected agricultural communities during January and February 2006. Overall, the meetings were well received with attendance averaging about 15 individuals. The approval of CP-33 contracts has been slow due to the extensive coordination required between our agency, NRCS, FSA and the landowners. In addition, once planting season arrived, many landowners are now waiting until after their crops have been harvested this fall to enroll in the program. The

AR Quail Committee intends to monitor contracts spatially to identify "clusters" of CP-33 contracts that will serve as focal areas for the Mississippi Alluvial Valley BCR.

## Research

A research grant received through the NRCS/MSU Bobwhite Restoration Project has provided funding for a combined research project on both the Searcy Co. and Fulton Co. focal areas. The project is titled: "RESPONSE OF NORTHERN BOBWHITE POPULATIONS AND THE ASSOCIATED AVIAN COMMUNITY TO LANDSCAPE-LEVEL MANAGEMENT IN THE CENTRAL HARDWOODS BCR".

This focus of the project is determining the scale (intensity and number of acres) of habitat management required to elicit population-level responses of bobwhites. Bobwhite management on several small (<200 acres) farms scattered throughout the landscape in piecemeal fashion may not produce measurable population-level responses; however, concentrating management efforts to a few well-defined focal landscapes may produce measurable responses. Two privately owned focal landscapes (>15,000 acres each) in north-central Arkansas (Central Hardwoods, BCR 24) will be managed to provide habitat for bobwhites by using early succession field borders around pastures and hay fields, prescribed burning and thinning of forested lands, and restoration of native warm season grasses. This research will assess the extent to which management guidelines specified in the NBCI will create a landscape that will increase productivity and population densities of bobwhites. Specifically, this research will determine 1) the collective response of bobwhite and songbird populations to landscape-level habitat manipulations and 2) determine practice-specific bobwhite use (nesting and brood rearing) of field borders, prescribed burned forests, and prescribed burned and thinned forests.

Initial data collection for this project is underway with no preliminary findings available at this time.



# **2006 Southeast Quail Study Group State Report – Florida**

**Submitted By:  
Tommy Hines, Florida Fish and Wildlife Commission**

Quail populations still remain at low levels in Florida, except on areas which are managed specifically for quail. But efforts to reverse the trend continue with research and management efforts being implemented.

There are three ongoing research projects, all of which address various management problems. One study under the direction of Dr Ralph Dimmick, working through the Florida Coop Unit with FWC funding, is measuring the effects of quail harvest on the Webb WMA. Preliminary results indicate heavy hunting mortality is occurring and may be one of the important factors suppressing the Webb quail population. Hunting mortality during the 2005-06 season was 35.2% on two zones with restricted hunting and 55.7% on the two unrestricted zones. Overall annual survival over the last three years has been less than 12%. It is apparent that such high harvest rates cannot be sustained and an adaptive management approach to managing harvest is being implemented for the second segment of the project. As we move into a quail program on public lands, it is clear that the control of harvest is one of the important aspects of managing quail on intensively hunted areas.

The South Florida Ranch Land Project directed by Dr. Bill Palmer continues with James Martin working on a PhD investigating the effectiveness of specific management practices such as chopping and burning on restoring bobwhite habitat on native range land. These are practices which are cost shared under the USDA, EQIP program. This is a multi-faceted research project designed to understand the relative importance of landscape and patch metrics on wildlife communities, effects of management actions on restoration goals, and the economics of restoration for landowners. Impacts of management on species other than bobwhites are part of the overall evaluation of effects on wildlife communities. Adam Butler has completed the field work for one segment of the overall project for an MS documenting the effects of various land management practices on song birds in the south Florida rangeland habitat. Dr Bill Giuliano from the University of Florida has two graduate students beginning a companion project in the ranch land region of the state. Objectives include further investigation of the effects of various land management practices, including grazing, on quail population dynamics.

Considerable progress has occurred in establishing an infrastructure to implement achievable restoration and management objectives. The statewide comprehensive plan is in draft form and out for review. However, significant actions are occurring even before the plan is finalized. A state wide summit of the major land management agencies was held in the fall of 2005. There was a multiple agency



agreement to establish a position to coordinate a statewide effort to restore early successional upland habitat on public lands. This position was funded by the Fish and Wildlife Commission and other state land management agencies. Greg Hagen was hired to fill the position which is under the supervision of Tall Timbers Research Station; a steering and technical committee provides direction. It is early in the public lands program effort. But, progress is being made in identifying the initial focal areas. A companion position to emphasize habitat restoration on private lands is currently being advertised by the University of Florida. It is expected that these two positions will work cooperatively and implement restoration efforts in focal areas made up of both private and public lands where prospects for landscape scale changes are good.

# **2006 Southeast Quail Study Group State Report – Georgia**

**Submitted By:**

**Reggie Thackston, Georgia Department of Natural Resources**

## **Status**

The 1966-2005 USGS Breeding Bird Survey Data show bobwhite populations in Georgia declining at the rate of - 4.2 percent per year. Likewise, Georgia Department of Natural Resources, Wildlife Resources Division (WRD) surveys show both quail hunter numbers and estimated harvest have declined dramatically during this time. In 1966 an estimated 135,000 hunters harvested about 3.3 million quail while in the 2005 – 2006 season an estimated 22,850 hunters harvested 622,123 quail, of which 494,162 (79%) were pen reared and 127,961 (21%) were wild (note: 1966 and 2005 – 2006 estimates derived by different survey techniques). Compared to 2003, quail hunter numbers have declined by 23%, the pen-reared quail harvest has increased by 14% and the wild bird harvest has declined by 25%. In general, quail populations are very low across the Ridge and Valley, Blue Ridge Mountains, Piedmont and Lower Coastal Plain physiographic provinces with populations in the Upper Coastal Plain varying from moderate to low with localized abundance on properties being managed intensively for quail. Empirical evidence indicates bobwhites have been extirpated from portions of the Piedmont and Mountains.

## **Management Initiatives**

### **Georgia Department of Natural Resources Private Lands Program**

During this past year WRD consolidated efforts with habitat management on private lands, including the Bobwhite Quail Initiative (BQI), Forest Stewardship Program (FSP), Forestry Wildlife Partnership Program (FWP) and Farm Bill cooperative positions/efforts, into one program called the WRD Private Lands Program (PLP). The following provides a short summary of accomplishments for bobwhites under each of these efforts.

### **Georgia Bobwhite Quail Initiative (BQI)**

For 2003-2005 there were 137 BQI Cooperators, with 292 crop fields and 61 forest stands enrolled in the 15 county program area. In total, these Cooperators have established 346 miles of field borders, hedgerows, and filter strips and along with other



BQI practices have positively impacted more than 18,000 acres for bobwhites, certain songbirds and various other wildlife. Additionally, BQI wildlife biologists have provided technical assistance on more than 600,000 acres since 1999 when the program began. For the 15 BQI counties these habitat impacts represent about 10% and 3% of the NBCI cropland and forestland goals, respectively.

Based on 2005 summer monitoring bobwhite occurrence averaged 2.28 on BQI treatment fields and 0.37 on control fields. Bobwhite occurrence on both treatments and controls increased during 2004 - 2005 and were essentially equivalent to levels detected during 2003. Pooled across all years 2003 – 2005, bobwhite occurrence averaged 2.02 (SE=0.16) for treatments and was significantly higher (ANOVA,  $F=8.008$ ,  $df=1$ ,  $P=0.005$ ) than the 0.92 (SE=0.22) detected for controls.

The 2005 - 2006 BQI Youth Quota Quail Hunts on volunteer BQI Cooperator farms were popular, successful and highly sought after. A total of eight hunts were conducted with 16 youth participating, hunting for 47 hours, locating 20 coveys and harvesting 6 birds. Many of the youth had never hunted wild quail before and this proved to be an exciting, educational and memorable experience. Many favorable comments and letters of appreciation were received.

The Bobwhite Quail License Plate, is one of two license plates currently issued by the Georgia Department of Motor Vehicles to generate funding for WRD wildlife programs. The first BQI tag originally was issued in December 2001 and the current tag issued in 2003. Both tag versions have featured similar scenes – a whitetail deer with bobwhites taking flight. Combined, sales from the first and second versions of the tag total more than 336,265 tags with revenue reaching over \$5,777,642 million.

BQI continues to show that bobwhites can be increased on working farm and forestlands. The key ingredients are adequate funding for landowner incentives and dedicated technical staff for program delivery.

### **Georgia Bobwhite Technical Team (GBTT)**

The Georgia Department of Natural Resources Wildlife Resources Division (WRD) formed the Georgia Bobwhite Technical Team (a 12 member multi-organizational task force of state, federal and private partners) in 2003 to work collaboratively with WRD in the implementation of state, private and federal programs to achieve NBCI goals and objectives in Georgia. In December 2005 these organizations signed a Memorandum of Agreement pledging support of NBCI and assistance as feasible with implementing NBCI in Georgia. As part of this effort a very coarse level habitat database is being developed and will be maintained by the WRD Private Lands Program to track NBCI habitat accomplishments. (Submitted by Reggie Thackston, GA DNR Private Lands Program Manager and Bobwhite Quail Initiative Coordinator)



## **Forest Stewardship (FSP), Farm Bill and Forestry For Wildlife Partnership (FWP)**

Georgia WRD has two FSP wildlife biologists that are supported by and work with the Georgia Forestry Commission, the Natural Resources Conservation Service and private consultants to provide technical guidance to landowners who have an interest in wildlife management. During the past year biologists were involved with developing 224 FSP plans, representing 78,764 acres. The majority of landowners rated wildlife in the top 2 of 5 objectives. Additionally, the majority of these landowners selected game species as their primary wildlife objective.

Biologists attended, participated in and/or helped host a large variety and number of wildlife and natural resource related workshops. At least 36 letters & correspondence of comment were written and provided to external conservation related partners, many of which promote early successional habitat restoration. These included recommendations for NRCS practice standards, input regarding wildlife management continuing education for both natural resource management professionals and the public, programs providing technical guidance and financial assistance such as those through Farm Bill programs, and other efforts focusing on habitat and ecosystem restoration and maintenance. Georgia's 2005 EQIP Sustainable Forestry & Wildlife Management Program that promotes thinning and prescribe burning over a 10 year period received 245 applications and \$1.1 million of requests. Also, in an effort to help promote native warm season grass restoration, technical guidance was provided for the establishment of demo areas as a part of a region wide (6 state) effort and to the Jimmy Carter Plant Materials Center regarding their publication: "Plant Materials for Wildlife: A Resource Guide and Native Warm Season Grasses: Georgia, Alabama, South Carolina."

The DNR FWP provides public partnership recognition to companies with commercial forestlands for achieving a minimum threshold of wildlife conservation. This past year Georgia Power, International Paper, MeadWestvaco, Temple-Inland and Plum Creek were selected as DNR FWP Partners for their wildlife conservation accomplishments. These companies received awards from GA's governor for their accomplishments on over 2 million acres.

Submitted by: Eric Darracq, Georgia DNR Private Lands Program Assistant Manager, Forestry Stewardship Program and Farm Bill Liaison

## **Research Updates**

### **University of Georgia, D.B. Warnell School of Forest Resources**

1. UGA hosted Gamebird 2006 where we had about 110 papers and posters. Presently we are finalizing the proceedings, which will include about 60 manuscripts from the conference. We hope to have this completed by the end of 2006.

2. We are now in the 7th year of the collaborative predation management project with USDA Wildlife Services, Tall Timbers Research Station, and Auburn University. Susan Ellis is now completing fieldwork and is presently assisting the project partners in developing a manuscript on the experiment. She will develop other parts of the project as part of her Ph.D. dissertation.
3. Elizabeth Doxon completed her research on bobwhite and pheasant brood ecology and CRP in western Kansas. This project was undertaken in collaboration with Kansas Department of Wildlife and Parks. Elizabeth has 4 manuscripts submitted from this research. She has started her Ph.D. at Oklahoma State University.
4. Jessica Rodriguez has completed her research on the effects of intensive management and rearing on gut parasites in bobwhites. She is defending her thesis in July 2006.
5. Brant Faircloth has finished fieldwork and is now completing lab work on his Ph.D. study of quail parentage and relatedness at Tall Timbers Research Station.
6. Theron Terhune has completed fieldwork and is now undertaking lab work for his Ph.D. study of gene flow in a population of translocated quail in Georgia. This is a joint project with Tall Timbers Research Station and the Albany Quail Project at Auburn University.
7. James Martin is in the field collecting data on a collaborative project looking at range management and bobwhites in central Florida. This is a collaborative project with Tall Timbers Research Station, Florida Fish and Wildlife Conservation Commission, and the University of Florida.
8. Soo Hyung Eo has now collected tissue samples from more than 30 sites around the U.S.A. to undertake his Ph.D. project on the systematics of bobwhites.
9. Randy Cass is completing fieldwork on the behavioral ecology and survival of reared bobwhites. This is a joint project with Tall Timbers Research Station.

(Submitted by Dr. John Carroll, Professor of Wildlife Management)

### **Auburn University, Albany Quail Project**

This summer marks the 15<sup>th</sup> consecutive year of fieldwork by Auburn University's School of Forestry and Wildlife Sciences on Quail Plantations in southwest Georgia. This cooperative effort has taken a unique adaptive resource management approach where research results have immediately been applied in the field with results measured by quail density and hunting success. Many aspects of quail ecology, management, and hunting have been studied during this time with radio-transmitters



placed on over 8,000 quail. This science-based approach to management has resulted in quail populations and hunting success at record levels on many of the Albany area Plantations.

Current research work includes the final year of the 7-year predation management project in conjunction with UGA, TTRS, and GA USDA-WS. We are also finishing up Theron Terhune's PhD project on relocation of wild quail in Georgia, which has resulted in several more projects around the southeast to create new population centers of wild quail by restocking. We have completed another experiment on "genetic exchange" of wild quail, which did not show any benefits to swapping wild quail among existing populations in an attempt to stimulate breeding by introducing new blood. We are currently conducting an experiment in Alabama where we are relocating wild quail onto a property that has traditionally released birds in an attempt to establish a wild population there.

Our staff has been active over the last year with SEQSG activities as well as planning for and participating in Quail 6 in Athens. We presented information from our work at this conference on long term data sets on survival and causes of quail mortality, hunting success on Albany Plantations, renovation of modern farm landscapes to benefit quail, whistling male counts, and telemetry effects on quail. We also participated in special sessions on wild game bird relocation and effects of radio-transmitters.

Our field staff continues to be active in providing management advice on plantation properties as well as with several large-scale projects to develop new quail properties in Georgia, South Carolina, and Alabama.  
(Submitted by Clay Sisson, Project Coordinator)

### **Georgia DNR Pen-reared Bobwhite Return To Bag Study**

A study was conducted on an approximate 1,000-acre portion of a private shooting preserve in the Georgia Piedmont to assess the return to hunter bag and flight behavior of pen-reared bobwhites using two release techniques. A total of 1,529 five-week-old wing-tagged pen-reared bobwhites were released using the Surogator® system during June, August and September; and 1,000 12-16 week old bobwhites were "dump released" during November. Birds were liberated into intensively managed pine savanna habitat that included supplemental feeding and predator control. Fifteen hunts totaling 70 hours were conducted during November – January with 21 different "coveys" located, 99 "covey" flushes, 93 birds harvested - of which 81% were leg banded, 14% wing banded, 5% unmarked and presumed to be wild reared. Relative to the total number of birds released, hunter bag returns were 0.80% for the wing-tagged chicks and 7.5% for the leg-banded adults. Based on subjective ratings, the summer released wing-tagged chicks exhibited flight behavior exceeding that of fall released leg-banded adults and equivalent to that of wild reared birds, but hunter bag return rates were very low. (Submitted by Reggie Thackston, Project Leader, GA DNR)





## **2006 Southeast Quail Study Group State Report – Kentucky**

**Submitted By:**

**John Morgan, Kentucky Department of Fish and Wildlife Resources**

### **Infrastructure of Small Game and Private Lands program**

Once again, this past year has seen many changes and new faces at the program and the field level. Fortunately, we were able to fill two much needed positions in the Small Game Program that had been vacant for some time. Unfortunately, Brian Grossman, Small Game Biologist, accepted a position with Quail Forever, so one of those positions is vacant again! Field staff saw a lot of turnover in 2005 as some folks went on to work for other agencies and some moved into other positions within the KDFWR. The net result was a loss of two of our NRCS Liaisons and four Farm Bill Biologists, as well as the addition of three new faces in the Private Lands program. All tolled, KDFWR now has 15 private lands biologists (PLBs) supervised by our 5 regional coordinators and 8 NRCS cost-shared positions and a LIP Coordinator supervised by Dan Figert.

### **Partnerships**

The Nature Conservancy (TNC) continues to be a valuable partner. TNC contributed the matching funds towards KDFWR's first and third LIP grant, hired a LIP biologist for the Bayou de Chien area, and supervised the LIP work crews this past winter/spring (see LIP section later). Unfortunately, TNC in KY has fallen upon fiscal limitations, and we are not partnering on any cooperative positions, but KDFWR staff continue to work with TNC on a routine basis.

Along with TNC, the KY State Nature Preserves Commission (KSNPC) also partnered with us on our first and third LIP grant. They hired a statewide plant ecologist to assist in locating potential LIP projects. Both TNC and KSNPC assist with ranking LIP projects, assigning cost-share rates, and oversight of the LIP grant. KDFWR's second LIP grant adds in another partner—Rocky Mountain Elk Foundation (RMEF). They are providing the matching funds and will assist in locating projects. We received another LIP grant as an extension of our first LIP grant, and we submitted an additional grant for more funding.

Quail Unlimited (QU) continues to be supportive of KDFWR through equipment grants, seed distribution, and creative thinking. QU, KDFWR, and NRCS are currently testing several different grass/forb mixes on WMAs throughout the state in an attempt to reduce stand thickness, prevent winter blow down of grasses, and increase the amount of diversity and bare ground. QU state chapters donated the grass and forb seed, Dave Howell coordinated the seed delivery, and QU will also purchase signs to note the demonstration areas. QU and KDFWR were awarded a NFWF grant to promote CP-33 and mid-contract management. The grant will create a 3-year internship program to promote wildlife-friendly practices. Interns have supported NRCS and FSA staff with CP-33 implementation, conducted CP-33 monitoring, and are promoting mid-contract management. State chapters also purchased two fully-outfitted Mules, supported 330 acres of WMA habitat work, purchased burning equipment, funded advertisements for conservation programs, and matched a grazing lands projects.

KY Division of Conservation (DOC), already partnering with us on CREP, is now involved in LIP as well. DOC is coordinating the payments for LIP cost-share to landowners.

## **Kentucky Department of Fish and Wildlife Resources Private Lands Programs: descriptions and 2005-06 accomplishments**

### **Habitat Improvement Program (HIP)**

We are in the 19<sup>th</sup> year of the Habitat Improvement Program. The program is our primary state funded program for private landowners across Kentucky. Any landowner can receive technical assistance, a management plan, and equipment loan. From March 1, 2005 to April 30, 2006 we have provided technical guidance to 652 landowners with 115,196 acres. Additionally, we cost shared a wide variety of practices, helping to improve numerous acres for wildlife across the state (Table 1). The program provides these funds at a rate of 75% with a \$1000 limit per landowner per year. In many instances, we deliver cost-share in the form of equipment use, seed, and herbicide for landowners. Therefore, bulk prices for those products extend limited financial resources and maximizes habitat on the ground. The cost share money for next years' budget is \$156,000. Over the life of the program, we have provided technical guidance to over 10,000 landowners owning over 2 million acres across Kentucky.

### **Kentucky Bonus Programs**

In Kentucky, there are 4 bonus programs sponsored by KDFWR and Kentucky Quail Unlimited, in cooperation with USDA Farm Service Agency and Natural Resources Conservation Service. These programs allow landowners participating in USDA's Continuous Conservation Reserve Program (and EQIP in one case) to take advantage of bonus payments by selecting to use native species, increasing forb rates, or implementing various practices. For example, the "Buffers for Bobwhites" program



provides landowners a one time payment of \$25.00/acre (Maximum 20 acres/\$500 per landowner) for planting native warm season grasses and legumes or wildlife friendly cool seasons on all or a portion of filter strips, grassed waterways, and riparian buffers on CCRP acreage. Another 4 county "Wildlife Bonus Program" in the Purchase region offers bonus payments for wildlife friendly practices including light disking, prescribed burning, and native grass & forb plantings on CCRP and general CRP acres. The "Bobwhite Bonus Program" in 7 counties of the Bluegrass region provides bonus payments for planting CCRP buffers and EQIP pasture and hay plantings to warm season grasses, and incentives to strip disk or convert fescue on non-CRP lands. The final bonus program targets Mclean, Ohio, and Webster counties and provides additional incentives to enroll acres in CP-33. The program pays a \$150/acre bonus payment for up to 10 acres. The following accomplishments have been completed under these programs in 2005:

- Buffers for Bobwhites (12 counties Green River region) – 95 acres of projects
- Wildlife Bonus Program (4 counties Purchase Region) – 303 acres of projects
- Bobwhite Bonus Program (7 counties Bluegrass Region) – 259 acres of projects
- CP-33 Bonus Program (3 counties Green River region) – 387 acres of projects

## **CREP**

Kentucky's CREP program is starting its 5th year, and the program is continuing to grow. In 2005, the Green River CREP had 109 contracts approved, totaling 1,147 acres, for a grand total of 503 contracts and 9,542 acres since the project's inception. Two practices, riparian buffers and native grasses, accounted for 97% of the acreage contracted.

## **Landowner Incentive Program (LIP)**

To date, Kentucky has received over \$3 million dollars through the USFWS's Landowner Incentives Program. These funds have been used to hire biologists, field crew, and provide cost-share and incentives to landowners. Approximately 336 applications have been received and 240 have been approved and implemented across the state. Practices include tree planting, removal of exotic and pest species, prescribed burning, native warm season grass establishment, cave gating, fencing, stream restoration and wetland creation/restoration. Our partners, TNC, KSNPC and RMEF continue to provide valuable technical support and project guidance. The Kentucky Division of Conservation continues to process payments to insure a quick return to landowners of out of pocket expenses. KDFWR has hired a LIP coordinator for the state and will soon be hiring a biologist for the eastern region of the state and crew continues to be a valuable asset across the state. Kentucky has submitted its' fourth LIP grant this spring and is committed to putting quality projects on the ground.



## **What's New – Programs, Initiatives and Partnerships**

### **Northern Bobwhite Conservation Initiative**

Over the next 20-25 years, Kentucky must add 135,000 coveys to the population through habitat improvement to achieve their portion of NBCI's goal. Obviously, this will take an aggressive approach to achieve such lofty goals, but the momentum is building on a national level to devote more funds towards this project. In Kentucky, we have already begun to capitalize on the push to restore quail numbers. We've worked with NRCS and FSA to maximize benefits to grassland birds in Farm Bill programs and to maximize the amount of acreage getting into programs. We are currently in the process of defining one to two 10,000-acre-plus blocks of land per wildlife region (5) to focus our quail habitat restoration efforts. These blocks will include private and public lands and utilize reclaimed coal mine land where feasible. Increased marketing efforts are underway, research ideas are being discussed, and quota hunts are being evaluated in effort to better manage the quail resource. Many more partnerships are needed to accomplish NBCI's goals in KY, but we have a strong start with our staff and equipment. CP-33 contracts are steadily growing, and we hope to reach our 9,000-acre allocation within the next year.

### **Private Lands Committee**

KDFWR formed a private lands committee to critically evaluate private lands activities. The committee includes a program coordinator, regional coordinators, private lands biologists, and a farm bill biologist. The aim of the group is to clearly identify goals and objectives of private lands work, improve administration and program tracking, and improve communication. In an effort to afford time for proactive efforts, the committee recommended a 25-acre minimum size for an on-site technical guidance visit. The group also recommended that regions should determine budget utilization, ArcGIS delivery should move forward, and a standardized practice list should be created for tracking purposes.

### **ArcGIS and associated databases**

KDFWR is in the process of delivering an ArcGIS application to field staff. The initial impetus is to create a professional quality map for landowners and quick, accurate measurements of acreage. The second step will involve linking databases to the spatial information. Connecting extensive attribute data to spatial information will be a powerful planning and reporting tool that will save time and money. Currently, field staffs are being connected to high speed internet access. A sum of 25 ArcGIS licenses were purchased and distributed to the field. Five regional experts were identified and took ESRI on-line training. Finally, a basic mapping template is in the design phase.

Table 1. Habitat Improvement Program accomplishments by practice, 1 March 2005 through 30 April 2006.

<b>Recommendation</b>	<b>Acres/Units</b>
Cool Season Grasses	215 ac
Cropland Management	43 ac
Fencing	1,295 ft
Fescue Eradication	628 ac
Forest Openings	38 ac
Legumes	488 ac
Mowing (i.e., strip mowing of NWSG)	375 ac
Native Warm Season Grasses	1,046 ac
Nesting Structures	14
Prescribed Burning	3,646 ac
Shallow Water Wetlands	57 ac
Soil Amendments	1121 ac
Strip Disking	4 ac
Water Holes	39 units

Table 2. Landowner Incentive Program (LIP) accomplishments by practice for KDFWR's first LIP grant, in partnership with TNC and KSNPC. These accomplishments are from the first year of a 3-year grant. Numbers are lumped into general groups (e.g., all tree planting information was combined), and not all practices completed are listed.

<b>Practice Title</b>	<b>Quantity</b>	<b>Units</b>
<b><u>Cave/Sinkhole Practices</u></b>		
Cave Gate	1	gate
Cave/Sinkhole Protection Incentive	2	caves/sinkholes
Sinkhole Cleaning	2	holes
<b><u>Wetland Practices</u></b>		
Wetland Creation	12	ac
<b><u>Grassland Practices</u></b>		
Grass Cover Herbicide Application	650	ac
Grass Seeding and Seedbed Preparation	251	ac
Native Warm Season Grass	2,000	lbs
Introduced Grasses (for grade projects)	24	lbs
Forbs	902	lbs
Legumes	25	lbs
Old Field Regeneration - Herbicide	8	ac
<b><u>Labor</u></b>		
Crew Labor - Prescribed Burning	3,921	ac
Crew Labor - Miscellaneous*	1312	hrs
Prescribed Fire - Landowner Labor	191	ac
Tree/Shrub Planting - Landowner Labor	156	ac
<b><u>Tree/Shrub Practices</u></b>		
Tree/Shrub seedlings	98,608	seedlings
Local Ecotype Tree/Shrub Seedlings	336	seedlings
<b><u>Erosion Control Practices</u></b>		
Streambank Stabilization	200	ft
Grade Control	5	projects
<b><u>Other</u></b>		
Bat Boxes	11	boxes
Permanent Protective Fencing	17,720	ft

\* Includes hand-control of invasive woody species, planting trees, and creating firebreaks.



# 2006 Southeast Quail Study Group State Report – Louisiana

Submitted by:  
Fred Kimmel, Louisiana Department of Wildlife and Fisheries

## Status

Fall whistling surveys were conducted along 36 routes in 5 habitat types. There were 12 assumed zero routes. The Southeast Loblolly Region had the highest call per stop value, followed by the Northwest Loblolly-Shortleaf-Hardwood Region, the Longleaf Region, the Acadiana Rice Belt, and Mississippi/Atchafalaya River Agricultural Belt. Changes from 2004 were not statistically significant ( $P \leq 0.10$ ) for any region.

Table 1. Statewide fall bobwhite whistling survey results, 2005.

<b>Habitat Type</b>	<b>Calls Per Stop 2005</b>	<b>Calls Per Stop 2004</b>	<b>Change From 2004</b>	<b>Long-Term Mean Calls per Stop 1983-2004</b>
<b>SE Loblolly</b>	0.08	0.08	No change	0.21
<b>NW Loblolly- Shortleaf- Hardwood</b>	0.05	0.07	-29% (NS)	0.12
<b>Longleaf</b>	0.03	0.04	-25% (NS)	0.14
<b>Acadiana Rice Belt</b>	0.03	0.03	No change	0.10
<b>Miss./Atchaf. R. Agricultural Belt</b>	0.02	0	NS increase	0.04

S = Significant ( $P \leq 0.10$ )

NS = Not Significant ( $P \geq 0.10$ )

The 2005 regional indices (calls per stop) remain below the long-term averages. The number of routes in which no quail were heard was the second highest recorded since the inception of this survey. This year no quail were heard on 24 routes, including those assumed to be zero. The previous high number of routes on which no quail were heard was 27 routes in 2004.

The historic longleaf region of western and central Louisiana once contained some of the best bobwhite habitat. However, in recent years the index from that region has declined considerably. The 2005 index is the lowest recorded for this region. The declining trend in this region has accelerated since 1999. The average index for the Western Longleaf Region from 1983-1998 was 0.18 calls per stop with an average of 1.4 routes per year on which no quail were heard. During 1999-2005, the average index was 0.05 calls per stop, with the number of routes on which no quail were heard averaging 8 per year. Habitat quality in this region has deteriorated as more land is subject to intensive pine management practices. The decreased use of prescribed burning as a forest management tool is probably the most important change in this area in the past several years. As a result, even when weather is favorable for bobwhite production, negative habitat influences may keep production (and resulting populations) at a low level.

### **Quail Management Initiatives**

The Louisiana Quail and Grassland Bird Task Force was formed in 2005 to implement the NBCI in Louisiana. Quail Task Force activities were limited in 2005 due to the disruptions caused by Hurricanes Katrina and Rita, however, progress was made in the following areas:

- NWSG Drills – The lack of equipment capable of planting NWSG is an obstacle to their use in LA. Funding was secured from the LA Chapter of the National Wild Turkey Federation, NW LA Chapter of Quail Unlimited, LA Dept. of Wildlife and Fisheries, and a CWCP grant to purchase 3 drills. Drills will be rented to LA landowners for NWSG establishment.
- USDA Service Center Visits – Lack of familiarity with CP-33 and its benefits was identified as an obstacle to its implementation in LA. NRCS program staff and LDWF staff visited selected USDA Service Centers to promote CP-33 and provide training to NRCS and FSA personnel.
- NWSG Demonstration Areas – Two NWSG demonstration areas were developed. Additional areas will be developed in 2006.
- LLP Workshops - Longleaf pine field days were held in Tangipahoa and Beauregard Parishes in late April. Both workshops were well attended. Future workshops may be directed at technical personnel who are responsible for providing technical assistance to landowners.

### **Research**

LDWF has contracted with Dr. Michael Chamberlain of the LSU School of Renewable Natural Resources to examine bobwhite responses to use of selective herbicides for habitat enhancement. Chick foraging experiments have been conducted to determine foraging efficiency in stands with various treatment regimes.



# **2006 Southeast Quail Study Group State Report – Mississippi**

**Submitted By:  
Dave Godwin, Mississippi Department of Wildlife**

1. Technical assistance on quail management was provided to private landowners in each region of the State.
2. Technical assistance on quail management was provided to public land managers (e.g., U.S. Forest Service, Corps of Engineers, and MDWFP Wildlife Management Area personnel) within the state.
3. Statewide program provided funds and technical support to conduct quail habitat management on numerous agency Wildlife Management Areas, including Marion County WMA, Black Prairie WMA, Hamer WMA, and Hell Creek WMA.
4. Continued work with Mississippi Bobwhite Quail Initiative Technical Group, a cooperative venture between State, Federal and private conservation interests within Mississippi. This group helps advance bobwhite conservation within the state, and has provided guidance for state level step-down planning efforts relative to NBCI.
5. Cooperated with Mississippi State University to fund and implement small game research projects. Continued work with MSU to conduct spatial analysis of bobwhite habitat and an assessment of habitat restoration potential for use in NBCI-related restoration efforts. MSU continues to play an integral role in the implementation of the NBCI in Mississippi as well as CP-33 monitoring.
7. Conducted 8 public presentations (e.g., Quail Unlimited Chapter meetings, local and statewide television shows, county wildlife dinners) on quail management.
8. Cooperated with Extension Service to maintain the mobile classroom "The Life and Times of Bobwhite Quail in Mississippi", which is used in 3<sup>rd</sup> and 4<sup>th</sup> grade classrooms across the State.
9. Cooperated with Extension Service to administer Mississippi 4-H Quail and Small Game Youth Project Grant Program. Youth develop quail and small game management plans for their private land, and are given funds and guidance to implement the plan. Projects are evaluated and ranked, with finalists giving oral presentations on their projects at a statewide contest. Top ranking finalists are awarded scholarship prizes.
10. Provided technical assistance to federal agencies (e.g., NRCS, FSA, etc.) in the implementation of federal Farm Bill Programs (e.g., WHIP, CRP, EQIP, WRP,

etc.) at the local, county and state levels, including serving on NRCS State Technical Committee. Working with FSA to encourage the establishment of CP-33 acres in Mississippi.

11. Implemented quail monitoring programs: in addition to data from the mail hunter survey, quail populations are monitored in Mississippi using 2 means: a volunteer quail hunter survey, and summer and fall call counts conducted on managed tracts across the state.
12. Cooperated with Extension Service to write, publish and distribute small game management information in booklets and video.
13. Wrote and published 12 small game-related popular articles.



# 2006 Southeast Quail Study Group State Report – Missouri

Submitted By:  
Elsa Gallagher, Missouri Department of Conservation



## QUAIL POPULATION & HUNTING STATUS

- Missouri's 2005 statewide quail index of 2.86 quail/route was a record low since the survey began in 1983. The 2005 index was 64% below the long-term average (7.94, 1983-2004). The estimated number of licensed hunters that hunted quail during the 2005 season was a record low, 33,458, 61% below the long-term (1967-2004) average of 105,098 hunters. The harvest of 352,535 was 74% below the long-term average (1967-2004) of 1,665,402. Hunting success was fair, with an average 1.7 quail bagged per day of hunting, 24% below the long-term (1967-2004) average of 2.3.

## QUAIL RESTORATION

- CP33: Missouri received 2,600 reallocated acres. The Missouri 2006 CP33 sign-up has slowed due to crops in the field. Over 17,000 acres in contracts have been finalized and an estimated 3,000 to 5,000 acres are signed up waiting for crops to come out this fall. This will exhaust our allocation. Use of CP33 to meet field border requirements in CSP has fueled the sign-up in many counties. An NRCS grant which allowed QU to hire two buffer coordinators has fueled the sign-up in several other counties. Landowners and staff continue to report heavy use of new buffers by broods and calling males.
- MOCREP: The Missouri Department of Conservation and the Missouri Department of Natural Resources are providing the state match for a CREP that will focus on bobwhite quail habitat and public drinking supply watersheds throughout Missouri. Only native grass mixes which include forbs will be allowed and mid-contract management will be required on all grass practices. Approximately 20,000 acres are being targeted.
- CSP: The Conservation Security Program continues to be one of the largest quail restoration efforts in Missouri with an estimated 10,000-12,000 acres of native grass buffers being applied in the program thus far. One county has already reached a portion of their NBCI goals due to the CSP field border enhancement. Continued funding by USDA continues to put the cap on the vast potential for this program to put habitat on the ground.
- CRP: The Department cooperated with FSA and NRCS to hold a 20th anniversary of CRP media tour on June 28. Approximately 75 dignitaries and media representatives attended. Much of the tour centered on wildlife friendly CPs and much of the discussion

focused on partnerships needed to get the job done. The goal of the tour was to put a positive spin on CRP as Congress begins 2007 Farm Bill hearings and discussions.

- Regional Quail Recovery Plans: Regional staff are implementing practices to meet the goals of their regional plans.

## **QUAIL & GRASSLAND BIRD LEADERSHIP COUNCIL**

- Ten lifetime hunting licenses from the Missouri Conservation Heritage Foundation were donated to Quail Unlimited (5) and Quail Forever/Pheasants Forever (5). Chapters participating in youth hunting events are eligible to be considered to receive these awards.
- The Council discussed the addition of a statewide youth weekend hunt for quail and pheasants – this will be discussed by MDC at the August Regulations Committee Meeting.
- The Council had special guests, Don McKenzie & Charles Elliot (Texas Quail Council co-chair) at their July meeting in conjunction with the QU National Convention.
- Several members of the Council (4), representing Quail Unlimited, Missouri Prairie Foundation, and Audubon attended the Farm Bill Forum with Agriculture Secretary Mike Johanns to make remarks about the 2007 Farm Bill. Jeff Churan spoke on behalf of the MO Quail and Grassland Bird Leadership Council.
- Pat Graham, MO State Quail Technical Committee member, was recognized by Quail Unlimited and the Southeast Quail Study Group for outstanding action in helping implement and promote the Northern Bobwhite Conservation Initiative (NBCI).
- The Council supported a proposal by the Missouri Prairie Foundation to implement a pilot grazing program in several NW Missouri counties on CRP ground.

## **RESEARCH**

- CP33: In fall 2005, MDC Resource Science Division, in collaboration with the USDA and Mississippi State University (MSU), initiated measurement of quail response to CP33. MDC assisted MSU in providing training for other state biologists on CP33 measurements of fall calling coveys and singing breeding birds.
- Herbaceous Crop Field Borders: We are wrapping up manuscripts on a study of effect of herbaceous crop field borders on corn and soybean production. This study provided support for the notion that it can be more economical for farmers to enroll in CP33 than to farm edges of fields. Corn and soybean yields measured at sample intervals 10 feet into the field were significantly ( $p < 0.05$ ) less than yield from samples at 29, 40, 60, and 89 feet into the field. We also



found that vegetation composition of borders had no effect on adjacent crop yields, suggesting that farmers should not be overly concerned about weeds, insect pests, and herbaceous vegetation in borders. We did, however, find a potential major benefit for corn producers, with infestation of European corn borer being significantly lower in association with borders planted to native warm-season vegetation. For further information, see study report on field borders at this meeting.

- In another study of crop field borders, MDC is measuring soil erosion in association with CP33 monitoring, and working with University of Missouri agricultural specialists to study adoption of CP33 by farmers participating in a long-term study of decision-making by agricultural producers.
- GIS-based Evaluation of Quail Habitat Suitability: GIS maps of quail habitat suitability are available for all of Missouri's portion of the Central Hardwoods BCR and Eastern Tallgrass Prairie BCR. The BCR-level analysis is based on 30-meter pixel data, and thus could miss important habitat features such as woody fence rows. By the end of 2006, we will have an ARCVIEW tool for analyzing quail habitat suitability using high-resolution data. This tool will provide more thorough and accurate evaluation of landscape features; however, it will typically require digitized data, limiting application to smaller tracts of land.
- Landowner Attitudes: Work continues on the research funded by the USDA-NRCS/MSU Bobwhite Restoration Project, Use of habitat and landowner spatial suitability models as tools for selecting large-scale quail habitat restoration areas on private land in Missouri. Based on evaluation of landscape and landowner suitability for quail restoration, two 15,000-acre focus areas have been selected for implementation of quail habitat restoration. For further information, see the 2 study reports at this poster session.
- Quail Population Dynamics: Quail are being banded by managers on 3 MDC Conservation Areas in an effort to determine the feasibility of using band returns in hunter bag checks as a way to determine population growth, with particular interest in the effect of harvest.
- Quail Habitat Management Paradigms: Two MDC management biologists are using radio-tagged quail to compare quail habitat use to their predictions of habitat use on 2 conservation areas. Tagging begins the fall of 2006.
- Missouri Monitoring of Quail Restoration: We have implemented a plan for evaluating effects of our efforts on quail abundance and quail hunter activity. At a statewide scale we continue to use our long-term index of quail observed along roadsides. At the scale of Conservation Areas, we are using point-distance measurements of calling coveys in fall, and grassland birds in June, to estimate bird population abundance. See attached document on QEA sampling.

## OUTREACH

- The Department's Outreach and Education Division has been instrumental in increasing quail articles in the *Conservationist* and developing quail promotional materials for regional staff using the Covey Headquarters concept.
- The "Covey Headquarters" readership now tops 14,000 [[www.coveyheadquarters.com](http://www.coveyheadquarters.com)].
- The Department and Quail Unlimited jointly held the 15<sup>th</sup> Missouri Quail Academy for youth interested in quail biology and management.
- MDC partnered with QU to host the QU National Convention and pre-convention habitat tour. The tour drew many participants (>200) and showcased the work done by Tom Lampe (QU West-Central Chapter) and Nick Prough (MDC) as well as a host of landowners and other resource professionals.



# **2006 Southeast Quail Study Group State Report – North Carolina**

**Submitted By:**  
**Terry Sharpe, North Carolina Wildlife Resources Commission**

## **Status**

Northern bobwhite quail (*Colinus virginianus*) populations have declined drastically throughout the southeastern United States during the last several decades. North Carolina's quail population has followed this same downward trend. Although there have been minor annual fluctuations, both quail call count survey results and avid hunter survey results over the last six to seven years seem to indicate that quail abundance may be stabilizing at a low level consistent with the limited amount of available habitat on the Coastal Plain while populations in the Piedmont and Mountains continue to decline.

## **Private Lands Programs**

### **Cooperative Upland Habitat Restoration and Enhancement Program**

The CURE Program was established as a result of Commission approval and funding in 2000. Three focal areas were selected based on habitat criteria that provided the greatest potential for impacting bobwhites through habitat projects. Within these focal areas, three pilot Cooperatives, or groups of private landowners, were selected to enroll in the CURE program. Forty-two landowners with 16,801 acres of land are currently participating in the program. Each landowner (with two exceptions) has agreed to participate through 2006. Habitat improvements consist primarily of volunteer vegetation field borders, native grasses, and prescribed burning. For the second year permit quail hunts occurred on the Rowland CURE during last November.

A staff proposal to carry the private lands CURE program through the next three years was developed and approved by the Commission and funded at \$750,000 per year. The expanded program will be available to landowners currently enrolled in or adjacent to Coastal Plain CURE Cooperatives, Game Land CURE Cooperatives, and our cooperate CURE Cooperative. Six practices will be funded with emphasis on field borders and burning in open forest stands. The program will fund and facilitate the establishment of native warm season grass stands greater than 5 acres in size in the Piedmont focal area. Three time-limited CURE Biologists will begin work this fall.

## **Corporate CURE Area**

A position to coordinate activities on a corporate CURE area at Ammon in Bladen County was established and filled. The goal for this area is to demonstrate the compatibility of wildlife and water quality practices with operations on farms managed for intensive production of hogs and poultry. Written management plans were developed and a variety of buffer and block habitats established on ditch banks. Field work on bird use and productivity in border and block habitats on livestock farms in southeastern North Carolina has been completed by NC State University and 3 years of baseline monitoring on bird use has been completed on the Ammon farm.

## **US Fish and Wildlife Service Landowner Incentives Program**

A position to locate and manage activities on a new private lands cooperative aimed at restoration of populations of at risk species associated with grass, shrub, and savannah habitats has been established and filled. To date this Biologist has acquired necessary equipment and data has been assembled including at-risk species lists/locations and current longleaf pine distribution maps. The employee assembled and met with an advisory board to identify a Focal Area on the southern coastal plain in Bladen, southern Sampson, and southern Cumberland counties. The LIP Biologist is developing a network with state and federal agencies as well as private individuals to identify landowners interested in the program. Plant and animal monitoring surveys to track the success of the program are being developed. The biologist developed a ranking system to evaluate and rank potential cooperatives and a cost share practice list for use on the cooperative. The LIP Biologist plans to have cooperatives identified and ranked by August/September 2006 with landowner MOUs completed in September/October 2006.

## **Technical Assistance Biologists in NRCS Area Offices**

Three technical assistance biologists are working in Natural Resource Conservation Service Area offices. These employees work with District Conservationists and landowners to plan and implement projects to focus resources toward landscape scale private lands early succession projects. During the year these three employees designed conservation plans on 20,535 acres, assisted with installation on 336 acres, and conducted status reviews on 1,745 acres of conservation practices. They worked primarily with 4 conservation programs: Wildlife Habitat Incentives Program, the Conservation Reserve Program, the Environmental Quality Incentives Program, and the Wetlands Reserve Program. Notable accomplishments were the planning of prescribed burns in forest stands adjacent Upland Bird Habitat Buffers of which 2,490 acres were burned with Environmental Quality Incentives funds during the year and 5,054 acres contacted for future burns for longleaf pine habitat restoration through the Wildlife Habitat Incentives Program. These positions are significantly improving the quality, quantity, and effectiveness of private lands habitat management across the state.



## **Public Lands Programs**

We have established CURE areas on portions of four state-owned Game Lands. A total of 21,266 acres are being managed as part of this early succession habitat initiative. Habitat projects are now well underway on these areas. Since these areas are primarily forested primary techniques for habitat establishment are timber harvest, prescribed fire, and herbicide treatments. Habitat improvements in forested settings are occurring more slowly than on the private areas where much of the habitat is in association with agriculture. To date only a small part of these areas support high quality quail habitat, but with a good growing season many additional acres of useable habitat will develop in thinned pine stands this growing season. Monitoring has been initiated using protocols similar to private lands CURE cooperatives. These areas are closed to quail hunting until habitat improvements have been implemented and monitoring indicates that populations will support quality hunting through a permit system.

## **Research and Surveys**

### **Avid Quail Hunter Survey**

A total of 84 avid quail hunters reported on 1,132 hunts during the season. Following a slight four year upward trend, the 2005-2006 season statewide average flush rate declined 3% to 1.93 coveys/party trip while the average harvest rate also declined by 3% to 1.23 quail bagged/hunter trip. Regionally, the average flush rate in the Coastal Plain was 2.34 coveys/party trip (-8%), the average flush rate in the Piedmont was 1.01 coveys/party trip (-10%), and the average flush rate in the Mountains was 1.26 coveys/party trip (+14% but a very small sample size). The one bright spot was in the Central Coastal Plain where the average flush rate was 3.57 coveys/party trip (+39%).

### **Bobwhite Quail Call Count Survey**

In 2006, twenty-seven routes were surveyed; ten routes in the Coastal Region, eleven routes in the Piedmont Region, and six routes in the Mountain Region. In the Coastal Region, the average number of quail heard per route (24.9) was down 11% from the previous year. In the Piedmont Region, the average number of quail heard per route (5.1) was down 20% from the previous year. In the Mountain Region, the average number of quail heard per route (1.0) was down 33% from the previous year. The number of quail heard per route in the Coastal Region has been relatively stable since 1999, the Piedmont has varied up and down at a low level since 1999, and the Mountain Region has been down in three of the last four years.

The long term trend in quail numbers in North Carolina is obviously downward. Although there have been minor annual fluctuations, survey results over the short term



(six to eight years) seem to indicate that quail abundance in the Coastal Region may be stabilizing at a relatively low level consistent with the limited amount of available habitat. Survey numbers obtained in the Piedmont and Mountain Regions are so low that a change of only a few birds heard (or not heard) dramatically alters the percent change between years and real increases or decreases in abundance are difficult to detect. Although it is difficult to assess the last six to eight years in the Piedmont, the downward trend in quail abundance in the Mountain Region appears to be continuing. An examination of the data demonstrates that certain survey lines, that apparently traverse more suitable habitat, contribute the majority of the total calls heard within the Piedmont and Mountain regions.

## **Biological Monitoring for CURE Program**

To evaluate the impacts of CURE on birds and habitat, we conducted spring and winter songbird surveys, summer and fall quail surveys, summer and winter vegetation surveys, a fall evaluation of useable habitat for quail, and photoplot surveys. The 2005/2006 season represents the fourth year of post-treatment surveys for the CURE private cooperatives, the third year for the CURE Game Lands, and the final year of pre-treatment surveys for the corporate CURE area at Ammon .

The 2005/2006 survey season provided evidence that habitat improvement efforts have stimulated positive quail population responses on some CURE areas. Quail population trends on the Rowland cooperative have increased annually during both summer (+3.4 quail heard/10 listening points/year) and fall (+8.8 coveys heard/10 listening points/year) surveys. Sandhills Game Land CURE area also demonstrated an annual positive growth trend during the summer surveys (+4.9 quail heard/10 listening points/year) and an increasing number of coveys heard during the fall surveys. Counts in both of these areas have nearly doubled since baseline observations were conducted in the 2001-2002 season. No significant trends in quail counts were identified for the other 2 private lands and 3 Game Lands CURE areas. No significant fall or summer quail population trends have developed on Benthall Plantation, Turnersburg, Suggs, South Mountains, or Caswell CURE areas. Counts on non-CURE reference summer quail routes have remained stable or have slightly declined, consistent with statewide trends.

Quail population responses on private CURE cooperatives may be attributed to changes in the amount of useable habitat created on the landscapes. CURE habitat improvements have been largely successful at converting "breeding-only" cropland into "most of year" habitat. Habitat management did not significantly change the amount of available breeding habitat since 2001 (our survey considers cropland to be useable during the breeding season), but it did almost double the amount of available winter quail habitat.

Summer vegetation surveys revealed that fallow CURE habitat areas provided adequate cover for quail within the first growing season and generally maintained



adequate cover through 2005. However 2005 surveys in Turnersburg indicated a decrease in quail suitability primarily caused by unprescribed mowing of field borders by landowners/lessees. Vegetation composition within fallow habitats has evolved from an annual dominated grass/forb community to a predominantly perennial plant community.

The 2005/2006 breeding songbird survey season provided the first significant evidence that habitat management on CURE private cooperatives increased focal shrub nesting songbird population trends. Within the shrub-nester group, counts of indigo buntings, field sparrows, and blue grosbeak have increased with CURE management. These species have appeared to benefit the most from the taller, denser vegetative cover produced on fallow CURE field borders and fields. Little change was noted in counts of other songbird species.

Wintering CURE focal songbird species have also appeared to benefit from management activities on some CURE cooperatives. CURE efforts have significantly reversed regionally decreasing winter focal songbird species trends. Focal bird trends were primarily driven by migratory white-throated, song, and savannah sparrows. Significantly higher densities were found along CURE-managed fields and field borders with heavy horizontal cover. Within habitat improvement areas, the percentage of forbs appeared to be the most important vegetative parameter correlated with wintering songbird densities. However, geographic and annual effects may cause greater fluctuations in annual density estimates than habitat improvements alone.

## **NC SEQSG Contact Information**

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# **2006 Southeast Quail Study Group State Report – Oklahoma**

**Submitted By:**  
**Mike Sams, Oklahoma Department of Wildlife Conservation**

## **Status**

Quail Populations in Oklahoma have declined 1.3 percent annually since 1966 according to the breeding bird survey. However, quail populations in portions of the Western part of Oklahoma have remained stable since 1966.

Roadside surveys during the fall of 2005 increased 44% over the previous year and 32% above the previous 15-year average. Reports from the field and the annual roadside counts suggested the 2005-2006 quail season would be a good one. However, dry, warm and windy weather condition persisted throughout the season and scenting conditions were meager. Many sportsmen from across the state reported seeing good numbers of quail this year but were largely unsuccessful at harvesting them due to the drought conditions.

The estimated number of quail hunters that hunted the 2005-2006 season was 41,524 the second lowest total in 20 years. Quail hunters hunted on average 6.64 day during the 2005-2006 season and averaged 3.25 birds in the bag. Oklahoma's estimated quail harvest for the 2005-2006 season was 857,856 birds which was down 16% from the previous season (1,023,086) and third lowest total in 20 years.

## **Management Activities**

### **Quail Habitat Restoration Initiative**

The Quail Habitat Restoration Initiative is operated under the auspice of the Environmental Quality Incentive Program (EQIP). The Initiative was approved by the State Technical Committee in July of 2006 and will begin in October of 2006. The Initiative is planned for 5 years with an approved budget of \$4 million. (See "Focal Area Approach to Bobwhite Restoration" below for more details)

### **Technical Assistance**

Over the past five years the ODWC has annually averaged 250 technical assistance contacts involving 100,000 acres.



## **Equipment Rental**

With help from the National Wild Turkey Federation, Quail Unlimited, Charles Blankenship (Big John Tree Spade Company) and private donations, the Department has some specialized equipment for habitat enhancements. The Department has two tree spades with support equipment and one roller chopper that are available for landowners to use for wildlife habitat enhancement projects. The equipment can be rented for a small fee that is used to defray maintenance costs.

## **Wildlife Habitat Improvement Program (ODWC)**

Annually the ODWC provides on average \$90,000 in cost-share to Oklahoma landowners for improving wildlife habitat. Funds administered are specific to quail, deer, turkey, prairie chickens, waterfowl and pheasant. Biologists are currently developing management plans for 80 applications for this year's allocation.

## **Landowner Incentive Program (LIP)**

The ODWC received a LIP grant to provide cost-share incentives to landowners in Western Oklahoma to address habitat restoration for species of special concern. Restoring habitat for Bell's Vireo, Bewick's Wren and Lesser Prairie Chickens will have a positive effect on Northern Bobwhite populations. To date there is no activity but the current allocation is \$200,000.

## **Wildlife Habitat Incentive Program (WHIP)**

Since July of 2003 the ODWC has served as a Technical Service Provider for the NRCS's WHIP. Four technicians with ODWC provide the project rankings, management plans and conducts status reviews as part of the agreement. This year's appropriation for the WHIP in Oklahoma totaled \$670,000 with preliminary funding of 28 projects. Oklahoma's annual appropriation for WHIP consistently ranks in the top three nationally. Since its inception, WHIP has provided 641 Oklahoma landowners with financial assistance totaling \$5.6 million. However, to date over 550 proposed projects remain un-funded totaling more than \$3.8 million.

## **Buffers for Upland Birds (CP-33)**

Buffers remain a hard sell to Oklahoma farmers. With the current grazing restrictions wheat farmers are unwilling to sign up for a program that mandates fencing. After reallocation Oklahoma has been allotted 2,000 acres. To date just over 600 acres of CP-33 has been contracted in Oklahoma.

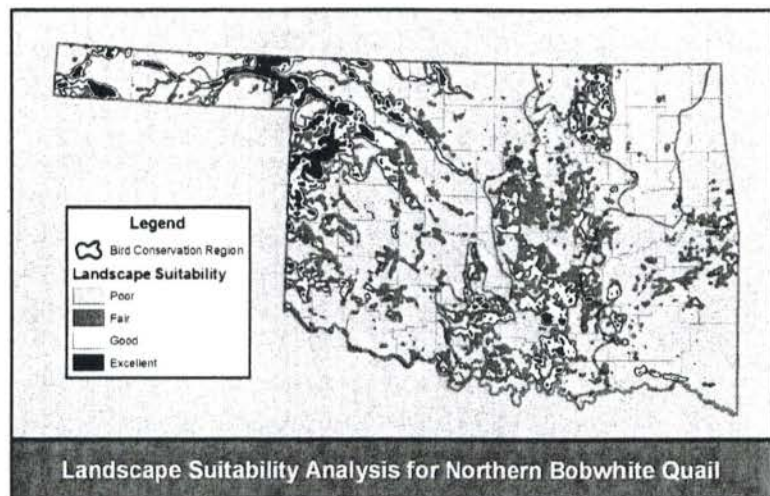
In October of 2005 we monitored 4 fields along with paired controls via flush counts. One covey was observed.

## Research

### Focal Area Approach to Bobwhite Restoration

Habitat suitability for quail was modeled using Geographic Information System (GIS). GIS aided in identifying areas where restoration efforts are deemed to be most likely to succeed.

The Suitability Model along with discussions with resource professionals, and information on local conservation needs, agriculture production, USDA program activity, threat of conversion and partnership opportunities were used in identifying Focal Areas. A Focal Area was identified within five of the Bird Conservation Regions (BCR) to deliver regional restoration, enhance partnership opportunities and abide by the habitat and population goals set forth in the Northern Bobwhite Conservation Initiative. A sixth Focal Area to be located in the Shortgrass Prairie BCR was suspended due to limited resource opportunities.



We conducted Scoping meetings with natural resource professionals and held Focus Group meetings with landowners from each of the proposed Focal Areas. Information gathered at these meetings was used to script a proposed initiative under the auspices of the Environmental Quality Incentive Program (EQIP) – Local Emphasis Area. We proposed a combination of cost-share and incentive based conservation practices to be offered through the Quail Habitat Restoration Initiative. Conservation practices will provide financial assistance to landowners agreeable to incorporating land management practices to restore and/or manage native grasslands (mid-tall native warm season grasses) to benefit quail.

On July 12, 2006 the Quail Habitat Restoration Initiative was approved for funding by the State Technical Committee. The Initiative will run for a five years period beginning with the 2007 fiscal year. The project will be funded at \$500,000 for each of the first two years and \$1 million for each of the final three.

We are in the process of developing outreach strategies as part of our marketing plan.



# **2006 Southeast Quail Study Group State Report – South Carolina**

**Submitted By:**  
**Billy Dukes, South Carolina Department of Natural Resources**

## **Status**

South Carolina's quail population has declined dramatically over the past 40 years as a result of large-scale changes in land use and the resultant habitat loss and degradation. Between 1952 and 1999, pine plantation acreage in South Carolina increased from approximately 200,000 acres to approximately 2,400,000 acres. Urban sprawl and changes in farming practices have also reduced habitat availability and suitability. USFWS Breeding Bird Survey results indicate an approximate decline of 4.5% annually in bobwhite quail abundance in South Carolina from 1966-2004. Private lands and Wildlife Management Area (WMA) lands under intensive quail management support good to excellent quail populations.

Efforts are underway to establish a Grassland Birds Initiative to achieve greater private land participation in the establishment, enhancement and maintenance of early succession habitat. A state grassland bird conservation plan is near completion. Bobwhite quail habitat and population goals from the Northern Bobwhite Conservation Initiative are being incorporated into state planning efforts, as well as regional bird conservation efforts such as the South Atlantic Migratory Bird Initiative (SAMBI).

## **Habitat Improvement**

SCDNR offers small game management technical assistance to private landowners through the Small Game Project. Eleven management plans were written by Project staff during the past year, covering over 8,400 acres. Select properties in the Wildlife Management Area (WMA) program are intensively managed for quail. Habitat enhancement for quail on WMA's consists of the standard practices of annual plantings, prescribed burning, strip disking, timber thinning, and creation of forest openings. Establishment of native grasses has been attempted on several areas with limited success. Herbicide application for the control of invasive sod-forming grasses and understory hardwoods is being utilized on several areas.

## **Seasons And Bag Limits**

Quail season in South Carolina runs from Thanksgiving Day to March 1 in the majority of the state, with some games zones having slightly longer seasons. Bag limits range from 10 to 15 birds per day throughout the state.

## **SURVEYS**

### **Bobwhite Quail Whistling Cock Survey**

This survey has been conducted for the past 27 years, producing reliable trend data that parallels field observations and the USFWS Breeding Bird Survey. Sixty-one permanent routes are established statewide, and survey routes (5.5 miles) are conducted on one morning between June 15 and July 10 each year. The average number of calling males per route during the 2005 survey was 12.7 per route. The 2000 survey year marked an historic low of 9.3 calling males per route.

### **Quail Brood Sighting Survey**

A sighting survey for quail broods is conducted in conjunction with an annual Turkey Brood Sighting Survey. All quail observed by field personnel from July 01 to August 27 are recorded. From these sightings, an annual index of productivity (juveniles/adult) is calculated. Statewide, the ratio of juveniles to adults in the 2005 survey was 1.8:1, the lowest such ratio recorded since 2000. The 2006 brood sighting survey is currently underway and results will be available to interested parties in the fall of 2006.

### **Quail Hunter Survey**

Quail hunters are contacted prior to the season and provided with a hunting diary, data sheet, wing tags, and return envelopes. Hunters are asked to provide up to 10 wings for calculating a productivity index (juveniles/adult). Hunters are asked to provide information on hunt locations, hours hunted, flush rates and harvest rates. The coveys per hour index increased from 0.53 coveys per hour in 2003-04 to 0.54 coveys per hour in 2004-05. Quail hunters participating in the survey bagged 0.55 birds/hour in 2004-05. Results of the 2005-06 survey will be available to interested parties in the fall of 2006.

### **Fall Covey Counts**

Fall covey counts were conducted on 9 WMA's during October and November, 2005. Quail densities were estimated at 1 covey/25-50 acres on three of the nine areas. Preliminary fall covey counts in South Carolina indicated the following: (1) Inexperienced observers could be easily trained to utilize the technique; (2) Average time of first call was 35 minutes before official sunrise; (3) Active calling by coveys ceases after approximately 10 minutes; (4) Playback of recorded covey calls failed to elicit response outside of the peak calling period; and (5) Calling rates remain consistently high until at least the third week of November. Fall covey counts will again be conducted on select WMA's during 2006.



## **CP-33 Monitoring**

SCDNR staff have implemented monitoring of CP-33 buffers on 40 treatment farms and paired controls throughout the upper coastal plain of South Carolina. Target species for monitoring include eastern kingbird, eastern meadowlark, field sparrow, indigo bunting, painted bunting, and northern bobwhite. Bird ID workshops and field data collection training sessions were conducted for cooperators. Monitoring is being conducted by existing DNR Wildlife Section staff.

## **Educational Programs and Technical Literature**

For the past 19 years, the Small Game Project has conducted annual quail management seminars for private landowners, land managers, and agency personnel. Over 1000 people have participated in this highly-successful seminar series which combines classroom instruction with field demonstrations.

In 2003, a new illustrated color brochure, "Nesting and Brood Rearing Habitat: Critical to Quail Management Success," was produced by Project personnel.

## **Agricultural Liaison Activities**

Farm Bill coordination and implementation activities have been re-assigned to the DNR Small Game Project. Staff continue to work with NRCS and other USDA agencies to incorporate quail-friendly practices into farm conservation plans. Three Farm Bill cost-share biologists have been hired to provide private lands technical assistance and program delivery. These positions will be supervised by the SCDNR Small Game Project and will be housed in NRCS offices in the upper coastal plain of South Carolina. Each biologist will be responsible for a 6-8 county area.

CP-33 was successfully implemented in South Carolina, with the entire initial allotment of 5000 acres allocated. Ninety percent (4500 acres) were allocated in an eighteen county "focus area" in the upper coastal plain. The remaining 500 acres were allocated to counties that submitted proposals demonstrating need and demand. South Carolina received an additional allotment of 5000 acres during acreage reallocation. The additional 5000 acres will be available to eligible producers statewide. Minimum average buffer width was set at 45 feet in South Carolina.

## **Focus Area Initiatives**

Within the past two years, Project staff have been successful in establishing a 16,000-acre public land (USFS)/private land habitat enhancement cooperative. WHIP funds have been designated for habitat enhancement on private lands within the project boundary. National Forest lands within the project boundary are slated for early-

successional habitat restoration through selective thinning and prescribed burning, including growing season burns. This innovative partnership includes representatives from the USDA Forest Service, USDA NRCS, SCDNR, Quail Unlimited, National Wild Turkey Federation, Clemson Cooperative Extension Service, the local Conservation District, and the Regional Resource Conservation and Development Council. The Indian Creek Wildlife Habitat Restoration Initiative was formalized with an MOU signing by all agency partners on July 21, 2005. Fourteen WHIP plans have been written for private lands within the project boundary.

Another special WHIP project is underway at Clemson University's Pee Dee Research and Education Center (REC). This area is comprised of 2800 acres, and has traditionally been used for research on production agriculture technology. The Center has shifted emphasis to an agroecology focus, and habitat improvements for northern bobwhite and other species are being implemented through the WHIP program.

## **Research Projects**

Two research projects are being conducted under the USDA-NRCS/MSU Bobwhite Restoration Project, examining the effectiveness of selected Farm Bill practices and the result population responses of northern bobwhite and other species.

One project is being conducted in the upper coastal plain at the Pee Dee REC, and another project is being conducted in the lower coastal plain on a private plantation. Both projects are being conducted through Clemson University.

One research project is being conducted in cooperation with Tall Timbers, Inc. and the owners of a private plantation to examine survival and productivity of wild translocated quail.



# **2006 Southeast Quail Study Group State Report – Tennessee**

**Submitted By:**  
**Roger D. Applegate, Tennessee Wildlife Resources Agency**

The bobwhite quail is Tennessee's state game bird. Near the geographic center of the species' range, Tennessee is steeped in quail hunting tradition. The Ames Plantation in southwest Tennessee has long been the site of the National Bird Dog Field Trial Championships.

Bobwhite quail are found across the state but are most abundant in middle and west Tennessee, where row-crop grain farming is most common. Until recently, quail were the most pursued game bird in the state in terms of hunter days afield. Due to declining quail populations and decreased accessibility to quail hunting on private lands, quail hunter numbers have dropped sharply in the last decade. Quail now takes second place to doves as Tennessee's most pursued game bird.

Since 1972, quail season has traditionally opened on the second Saturday in November and closed on the last day in February (Table Q-1).

In order to obtain better quail population and harvest data, the TWRA initiated the "Quail Hunter Survey" in 1992. Information gained through this survey provides long term trends on fall quail populations and hunter success, as well as insights on where and when hunters pursue quail across the state. These data can help biologists determine factors which affect quail population abundance and distribution and assist in developing hunting season recommendations, while other information can be useful in regards to TWRA better serving the quail hunter.

## **2005-06 Season Summary**

This year, 110 hunters (13% increase from last year) submitted usable data in time for analysis, reporting their success on 1,031 quail hunting trips. TWRA Avid Hunter survey data indicates that statewide quail hunting success was down (56%) based on covey flushes per hour. Harvest rates decreased 57 % from 1.20 to 0.68 quail harvested per hunter day.

The 14 year trend in Avid Hunter Survey data for quail indicates 4 important relationships. The number of active quail hunters in the data and the number of trips that they take for quail does not show a significant trend (Figure Q-1). The number of coveys flushed by survey participants also does not have a significant trend (Figure Q-2). However, the number of quail harvested per hunter day is significantly downward in trend (Figure Q-3).

Approximately 87% of the trips and 91% of quail harvested occurred on private land. Flush rates were 78% higher on private lands than on public lands. Overall success on private lands was substantially higher based on flushes per party hour, harvest per party hour and trip. Typically, success on private lands is much higher, as most public lands hunted for quail receive more hunting pressure when compared to private lands. Three public lands had 10 or more hunting trips reported. These were Ft. Campbell, Percy Priest WMA, and Wolf River WMA. Hunting success on Ft. Campbell was significantly higher than any other public lands, at .43 covey flushes per hour of hunting. Covey flushes at Wolf River were .27 and Percy Priest .08.

Average covey sizes reported indicate that the stable optimum covey size of 10-11 birds/covey (Williams et al. 2003) was not seen on most hunts

Thanks to all the dedicated hunters who contributed data for this survey. The hunt records you provide to TWRA are vital to our biologists in determining changes in Tennessee's quail populations and hunter trends. Your interest and cooperation is appreciated. As a token of TWRA's appreciation, all survey cooperators will receive a copy of this report as well as a cap.

Tables in the appendix show details of the Avid Survey hunt data.

### **Quail Management Efforts**

Long-term wildlife population trends are often habitat based. Unfortunately, bobwhite quail populations have been in a long-term decline since the late 1960's. Urban sprawl has consumed habitat at an alarming rate, and changing land use practices and farming techniques have often negatively impacted habitat, further reducing quail populations. In addition, big game hunting leases and posting of private lands to hunting have diminished access to lands with huntable quail populations. This trend has been similar across the Southeastern states. In Tennessee, quail hunting success has remained fair to poor since statewide quail populations plummeted as a result of the severe drought in the late 1980's.

Year to year fluctuations will occur in quail populations, and are most often weather-related. Most unfortunately, two consecutive springs with poor breeding weather coupled with the long-term habitat woes resulted in our two worst quail seasons ever during 1998 and 1999. However, recent years indicate that populations may be increasing.

TWRA is aggressively combating problems facing quail and the quail hunter. In cooperation with other Southeastern states, TWRA has worked to positively influence long-term federal farm programs such as the Conservation Reserve Program (CRP). TWRA biologists, particularly from Regions I and II (where most CRP land is located) continued to be very active in meeting with landowners and USDA personnel to promote and explain the CRP's revised Environmental Benefits Index, the supplemental TWRA cost-share incentives, and promoting conversion of fescue to native warm season grasses.



USDA's Natural Resources Conservation Service (NRCS) began a federal program in 1998; the Wildlife Habitat Incentives Program, or WHIP, which provides technical assistance and 75% cost share to landowners who agree to significantly improve wildlife habitat on their property under 5 to 10 year contracts. Landowners who sign up for the WHIP program have a NRCS conservationist and a TWRA wildlife biologist develop a wildlife plan for their property, free-of-charge. Signups for the new WHIP program began in March 1998 and continued through last fiscal year. TWRA Farm Bill Specialists usually assisted USDA-NRCS personnel on writing wildlife plans, and also coordinated with CRP landowners to use TWRA herbicide sprayers and native grass no-till drills for habitat conversions.

In 2002, the Southeast Quail Study Group, sanctioned by the Southeastern Association and Fish and Wildlife Agencies, published the Northern Bobwhite Conservation Initiative or NBCI, to guide the focus of federal, state and private dollars into large-scale habitat improvement programs. TWRA personnel participated in the writing of the NBCI and are working to develop step-down plans that will provide specific goals and objectives for habitat improvement in each of Tennessee's regions. The NBCI covers most of the range of the bobwhite and is one of the largest species management plans ever developed and implemented.

Technical assistance by TWRA biologists is always provided to landowners free of charge, and other cost-share assistance, planting materials or equipment use is often available to private landowners and sportsmen's groups. TWRA works cooperatively with the Quail Unlimited (QU) organization and its local chapters on public lands habitat projects and to provide seeds to landowners who will plant them for wildlife food and cover. Additionally, TWRA partnered with NRCS to hire three Upland Wildlife Biologists to work with District Conservationists the each of the Tennessee Grand Divisions. These positions have resulted in a better understanding by NRCS District Conservationists of wildlife practices and more wildlife friendly habitat being added to the landscape.

In the 2005-06 season, Tennessee hunters had access to almost 235,000 acres of Public Hunting Area Program Lands. These areas are the result of a cooperative effort between the Tennessee Wildlife Resources Agency and various landholding companies to provide public hunting with the landowner setting, collecting and administering permits and the TWRA enforcing the rules and regulations governing these areas. TWRA provides lespedeza to the timberland companies to sow around recent clear cuts planted to pines. These newly planted areas provide productive quail hunting for 4-5 years, and are scattered across PHA tracts.

TWRA Wildlife Management Areas also incorporate quail habitat practices where compatible with other species management. A major Agency objective has been to eradicate fescue from all WMA lands and the task has been completed on most areas. Native Warm Season Grasses have been planted on many WMA lands to provide

critical nesting cover for quail. Additional NWSG projects are being planned and implemented each year as TWRA strives to improve small game habitat on its WMAs.

Native prairie restoration, youth education, and research are other facets in which TWRA focuses its management efforts. Recent developments in herbicides are also offering hope to start making some large-scale conversions of fescue into productive quail habitat. Together with efforts from other governmental agencies, private organizations, and concerned conservationists, we may be able to increase populations of quail and other wildlife dependent upon early successional habitats.

**Table Q-1**  
**TENNESSEE QUAIL HUNTING SEASONS, 1940-2005**

YEAR	SEASON DATES	BAG LIMIT	YEAR	SEASON DATES	BAG LIMIT
05-06	NOV 12-FEB 28	6	71-72	NOV 6-FEB 15	8
04-05	NOV 13-FEB 28	6	70-71	NOV 26-FEB 15	8
03-04	NOV 8-FEB 28	6	69-70	NOV 17-FEB 15	8
02-03	NOV 9-FEB 28	6	68-69	NOV 18-FEB 15	8
01-02	NOV 10-FEB 28	8	67-68	NOV 20-FEB 15	8
00-01	NOV 10-FEB 28	8	66-67	NOV 21-FEB 15	8
98-99	NOV 14-FEB 28	8	65-66	NOV 22-FEB 5	8
97-98	NOV 8-FEB 28	8	64-65	NOV 23-FEB 6	8
96-97	NOV 9-FEB 28	10	63-64	NOV 18-JAN 25	8
95-96	NOV 11-FEB 29	10	62-63	NOV 19-JAN 25	8
94-95	NOV 12-FEB 28	10	61-62	NOV 20-JAN 25	8
93-94	NOV 13-FEB 28	10	60-61	NOV 21-JAN 25	10
92-93	NOV 14-FEB 28	10	59-60	NOV 27-JAN 25	8
91-92	NOV 9-FEB 29	10	58-59	NOV 27-JAN 25	8
90-91	NOV 10-FEB 28	10	57-58	NOV 28-JAN 25	8
89-90	NOV 11-FEB 28	10	56-57	NOV 22-JAN 25	8
88-89	NOV 12-FEB 28	10	55-56	NOV 24-JAN 25	8
87-88	NOV 14-FEB 29	10	54-55	NOV 25-JAN 25	6
86-87	NOV 8-FEB 28	10	53-54	NOV 26-JAN 25	6
85-86	NOV 9-FEB 28	10	52-53	NOV 27-JAN 25	8
84-85	NOV 10-FEB 28	10	51-52	NOV 22-JAN 25	8
83-84	NOV 12-FEB 29	10	50-51	NOV 25-JAN 25	8
82-83	NOV 13-FEB 28	10	49-50	NOV 24-JAN 25	8
81-82	NOV 14-FEB 28	10	48-49	DEC 1-FEB 1	10
80-81	NOV 8-FEB 28	10	47-48	DEC 1-FEB 1	10
79-80	NOV 10-FEB 29	10	46-47	*	
78-79	NOV 11-FEB 28	10	45-46	NOV 25-JAN 25	10
77-78	NOV 12-FEB 28	10	44-45	*	
76-77	NOV 13-FEB 28	10	43-44	NOV 25-JAN 25	10
75-76	NOV 1-FEB 29	10	42-43	NOV 25-JAN 25	10
74-75	NOV 28-MAR 1	10	41-42	NOV 25-JAN 25	10
73-74	NOV 22-FEB 23	10	40-41	NOV 25-JAN 25	12
72-73	NOV 18-FEB 10	10			



Figure Q-1

Trend in number of quail hunters and quail hunting trips

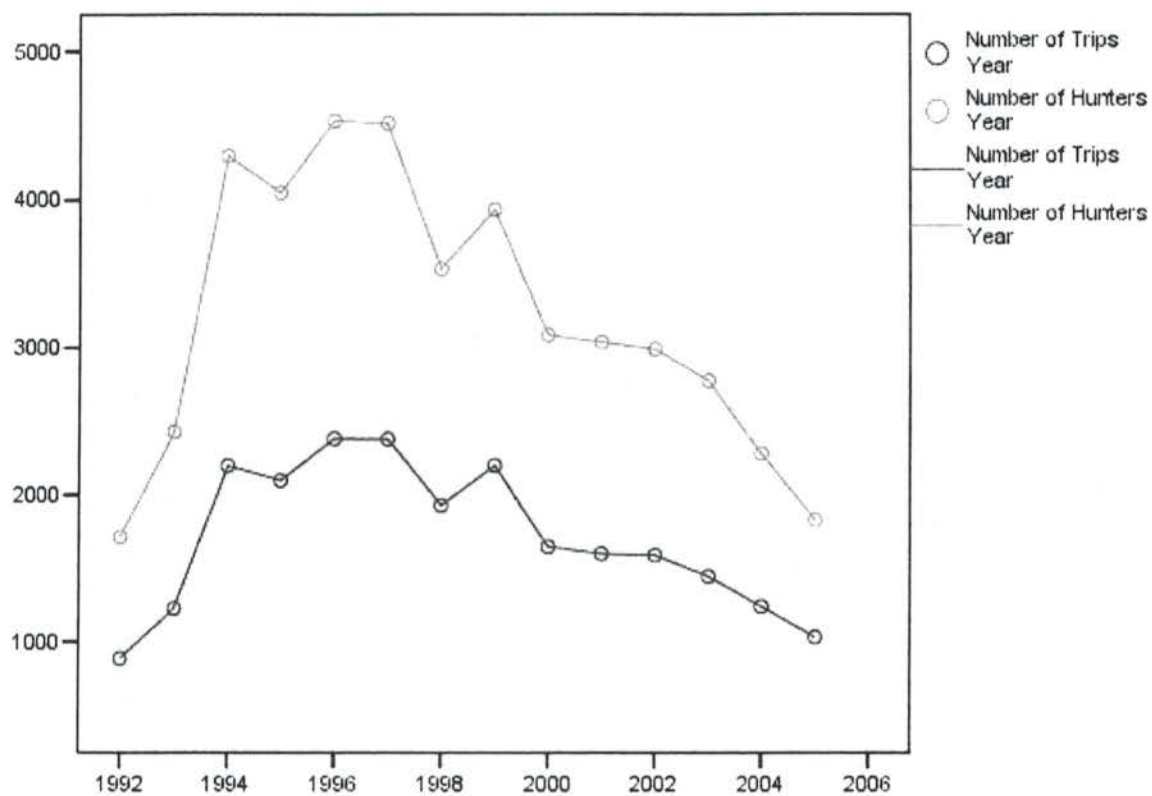


Figure Q-2

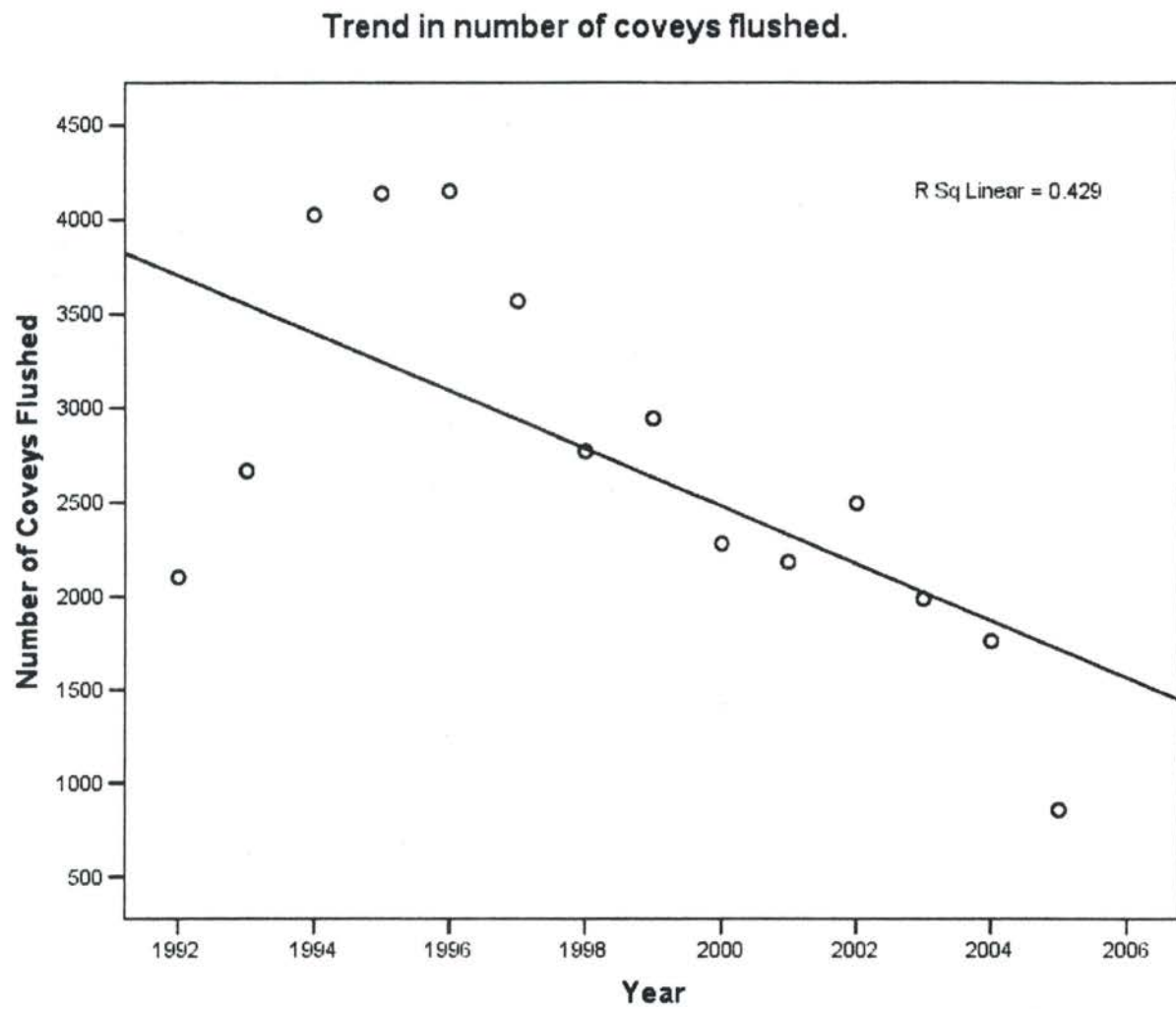
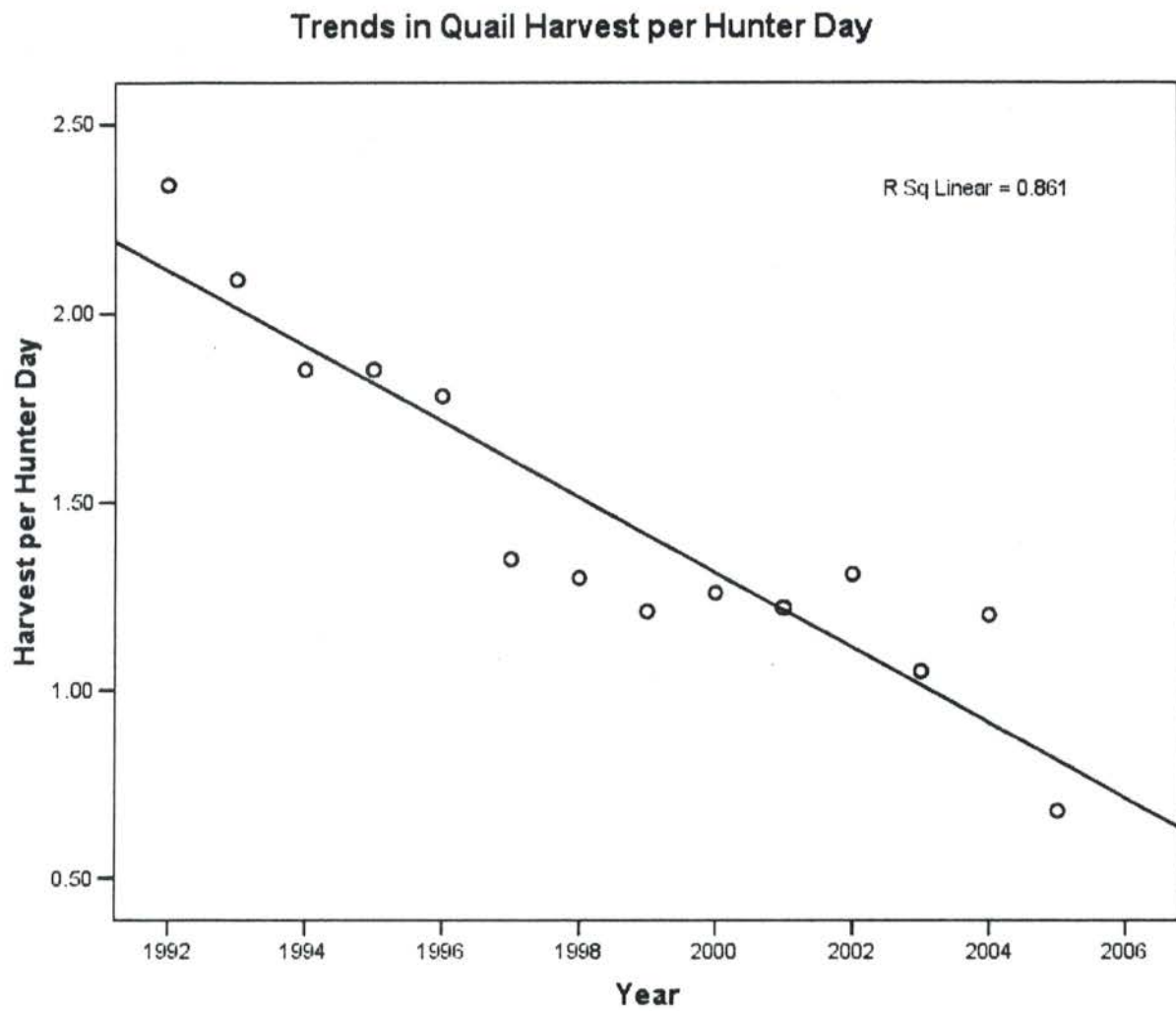




Figure Q-3



# 2006 Southeast Quail Study Group State Report – Virginia

Submitted By:

Patrick Cook & Steve Capel, Virginia Department of Game and Inland Fisheries

## Quail Hunter Cooperator Survey

During the 2005-2006 season, 74 cooperating quail hunters reported the results of 732 hunts. Statewide quail hunter success was lower than the previous season. The average number of quail bagged per hunter hour was 0.26, down 10.3% from 2003-2004. The number of coveys flushed per hunter hour averaged 0.25, down 7.8% from the previous year. The greatest decline in hunter success was observed in the West Piedmont region (-43.6%). Slight declines were observed in the East Piedmont (-4.0%) and Tidewater (-2.86%) regions. Hunter success remained unchanged in the Northern region. Statewide, the average number of quail bagged per covey flushed was 1.1, below the long-term average of 1.3. Quail age was determined from 1,259 of the wings submitted by cooperators. Juvenile quail comprised 81.1% of the harvest, the highest ever recorded in the survey's 29 year history. The proportion of juvenile quail hatched after 15 August was 5.9%, well below the long-term average of 12.14%. Statewide, the percentage of juvenile quail greater than 84 days old (full sized birds) during the opening week harvest averaged 89.2%, above the desired goal of 82.0%. Quail wing age data suggests that the reproductive effort in the early part of the breeding season contributed more to the fall population than normal. Although hunter success was down slightly this season, hunter survey data from this season and those in recent years suggest that quail populations may have stabilized somewhat on certain lands in Virginia.

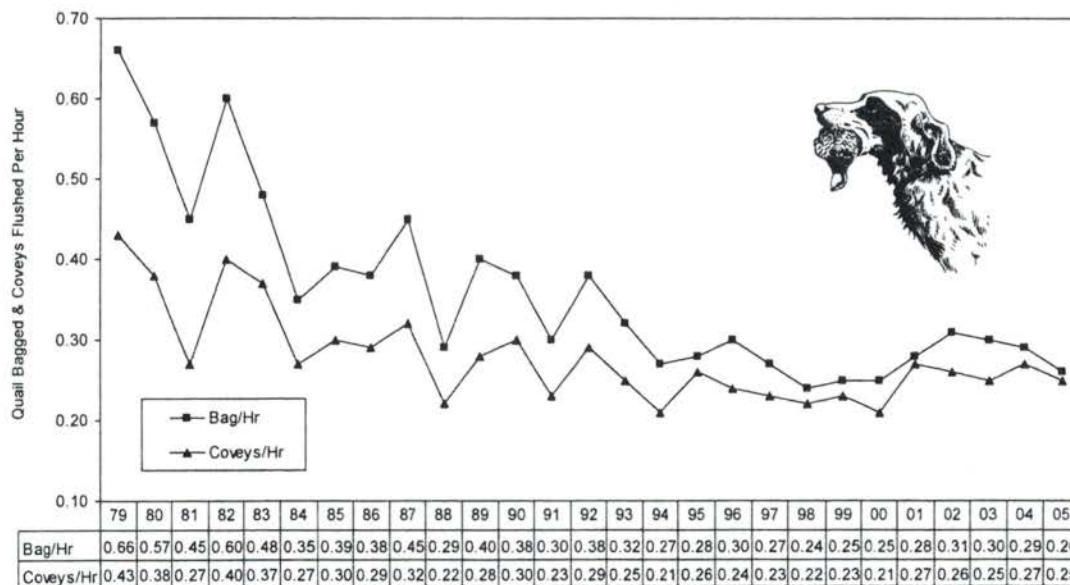


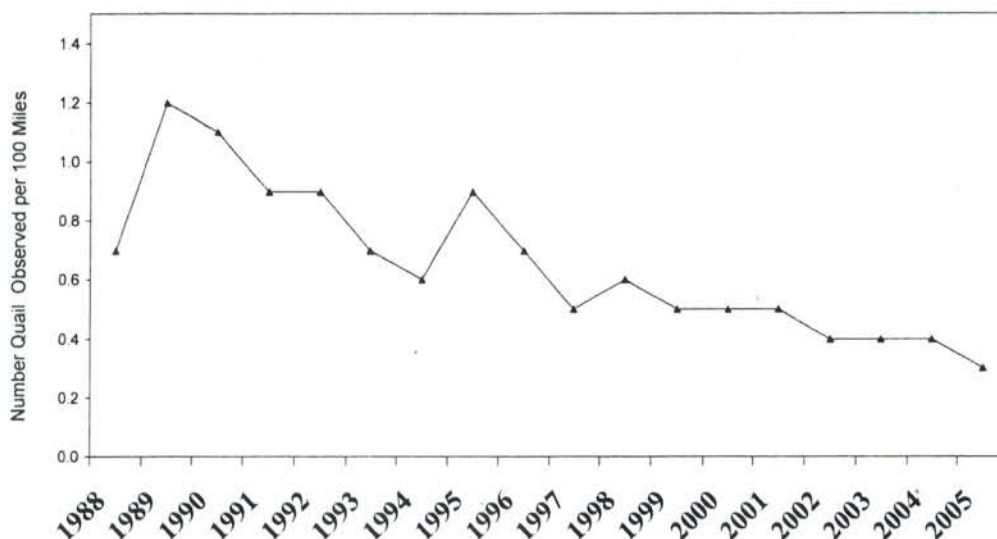


Figure 1. Quail bagged and coveys flushed per hunter hour by Virginia quail hunter cooperators, 1979-1980 to 2005-2006.

## Rural Mail Carrier Survey

During 2005, 885 mail carriers counted 668 quail while traveling 214,770 miles. An average of 0.31 quail were observed per 100 miles of mail route traveled. Compared to the previous year, this quail population index decreased substantially (-34.5%). Regionally, quail population indices were highest in the East Piedmont region and lowest in the Central Mountain region.

*VA Rural Mail Carrier Survey (1988-2005)*



## Pen-raised Bird Disease Study

We completed a small-scale pen-raised bird disease study winter 2005. The purpose of this study was to take an initial step towards assessing these potential risks by determining how prevalent certain diseases are in pen-raised bobwhites in Virginia. Five-bird batches were sampled from nine propagators in Virginia. Testing revealed that the birds submitted were generally healthy. Only slight cecal infections of *Coccidia* and *Capillaria* sp. were detected. However, the results of this study should be viewed with caution because of several reasons including non-random sampling and small sample size. Although the results of this study are of limited utility in assessing the disease risks posed by the release of pen-raised bobwhites, knowledge gained during the conduct of this study may be valuable in designing future studies of this type such as future Avian Influenza surveillance.

## Oak Savanna Research

Data from the USFS's Forest Inventory Analysis, scores of research projects, and various other sources indicate that oaks are losing their historical dominance in the hardwood forests of eastern North America, except on the least productive sites. One of the major reasons cited for the decline of oaks is fire suppression. Fire increases the proportion of oaks relative to other less fire-tolerant species. A shelterwood-burn

technique has been shown to regenerate oaks. However, those sites on which regeneration is occurring are occupied by dense brush for 20-40 years. During this time, they are not very accessible and generally are not considered aesthetically pleasing. Another option may be to regenerate oaks in a more open way by creating and maintaining oak savanna. This will involve conducting a shelterwood cut and then following up with treatments, such as herbicides, to reduce the amount of regeneration. These areas could then be managed with fire that mimics historical fire regimes, hopefully allowing oak to regenerate but not in an overly dense manner. These stands should be aesthetically pleasing, accessible, and provide benefits to many wildlife species including quail. Information is needed on how best to create these stands in a short period of time. Before initiating a large-scale research project, we will conduct a pilot project to narrow the list of treatments by eliminating those that are impractical for economic and/or logistical reasons and those that are obviously ineffective. The pilot project will be conducted on a 50-acre tract of storm-damaged oak forest on Amelia WMA. Initial treatments are scheduled for April 2007.

## **Management/Farm Bill Activities**

### **Co-generation Using Switchgrass**

Biofuels developments, specifically the potential use of switchgrass added to coal to co-generate electricity, have become a significant development in Virginia. The most interest has been right in the middle of Southside (southern Piedmont), some of our better quail range.

A Virginia Tech study has identified 4 existing power plants that are potentially capable of using switchgrass blended with coal to produce electricity. These plants have the potential for a Chariton, IA type project, using 5% switchgrass. At that level, it would take 50,000 acres of switchgrass per plant per year. Since there is virtually no native grass of any kind in this region, we anticipate that the vast majority of such acreage would go in on tall fescue pastures and hay meadows and former tobacco fields.

Switchgrass harvest for this use would be dormant (November-March). Thus the wildlife issues of mulch build-up in unharvested switchgrass are avoided. Not all of the fields would be harvested in early winter, so some fields would provide winter cover as well as nesting and, to some extent, brood cover. Neotropical migrants would significantly benefit from the addition of undisturbed growing season switchgrass for nesting cover.

This summer the first power plant will begin test burns to see how the boilers handle the blend, how the plant has to handle the switchgrass to be compatible with their existing equipment, etc.



## **WHIP And EQIP**

Virginia's WHIP allocation was down significantly in FY 06. The NRCS' shifting emphasis to more aquatic and T&E use of WHIP meant that only 25 early succession plans were funded, compared to over 100 last year. It appears that this trend will continue into FY07. To compensate, the EQIP Program will feature @ a 5% allocation to wildlife practices in Virginia in FY07. With an \$11M EQIP allocation, that will mean @ \$550,000 for wildlife projects. We are trying to add a Flex Fallow provision under EQIP as well as a significant incentive for the planting of native grass in addition to cost share. Most other provisions are likely to be standard upland habitat practices.

A complication has occurred with prior year WHIP plans that included prescribed burning. A large amount of unspent funds has accumulated in the VA WHIP account as a number of landowners decided NOT to burn after their plans were approved. This is mostly a case of the landowners not being able to find a contract burner and being uncomfortable carrying out the planned burns themselves. We are trying to figure out how to resolve this issue without discontinuing inclusion of prescribed burning in WHIP plans.

## **CP-33**

The sign-up for CP-33 Upland Bird Buffers in Virginia has been underwhelming. With an initial allocation of 3,600 acres, we initially thought we were being shortchanged, and would be back asking for additional acreage within the year. To date, we have less than 600 acres enrolled. Summer is a time when DCs/FSA offices accumulate applications until row crop harvest is completed, but we do not expect to see a large jump in enrollment. As a result we have opted out of the cooperative monitoring (at least for the time being), as we would have to monitor virtually every field border enrolled. We have carried out a post card survey of CP-33 landowners. Those that have been enrolled over a year have seen an increase in quail coveys on their property since enrollment (but it is a paltry sample size!).

# POSTER ABSTRACTS 2006







## **Herbaceous buffers and corn and soybean production: farmer attitudes and benefits accrued.**

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Decisions by farmers to enroll in buffer programs are related to costs, relative to benefits, and farmers' perception of threats by pests. To shed light on these issues, we studied pests and crop yield in corn and soybean fields with, and without buffers, in central Missouri during 2000-2002. In another study, we surveyed 750 Missouri landowners in 2005 as to their willingness to adopt buffers. In the field study, buffers were 30-feet wide and planted to 1 of 3 mixtures: (1) tall fescue, (2) cool-season mixture (orchard grass, timothy and red clover), and (3) warm-season mixture (little bluestem, side oats gramma and Korean lespedeza). Control areas had the 30-foot buffer area planted to corn or soybeans. Crop yield was measured 10, 29, 40, 60 and 89 feet into the field. Corn and soybean yields sampled at 10 feet into the field were significantly less ( $\alpha = 0.05$ ) than yield from all other distances. Among treatments, there were no significant differences in crop yields when years were combined. The warm-season buffer significantly reduced infestation of European corn borer in adjacent corn fields. Herbaceous buffers had no effect abundance of bean leaf beetle in soybean. Overall, our field findings provide evidence that support the economic advantage of 30-foot wide herbaceous buffers, and alleviate farmers' concern about pests. Landowner willingness to replace margins of cropland with grass buffers was high: 69% checked positive (very or somewhat likely to replace cropland with grass border) or neutral responses. Despite this interest, only 4.3% of respondents indicated they were enrolled in CP33. We conclude that participation in CP33 could be aided by further study of economic and sociological characteristics of landowners.



## **Use of habitat and landowner spatial suitability models as tools for selecting large-scale quail habitat restoration areas on private land in Missouri.**

Dailey, T. V.<sup>1</sup>, R. A. Reitz<sup>1</sup>, C. D. Scroggins<sup>1</sup>, H. J. Scroggins<sup>1</sup>, T. B. Treiman<sup>1</sup>, R.A. Pierce II<sup>2</sup>, and W. B. Kurtz<sup>2</sup>.

<sup>1</sup>Missouri Department of Conservation and <sup>2</sup>University of Missouri, Columbia.

Much of the potential success of northern bobwhite (*Colinus virginianus*) restoration programs is dependent on management of habitat on large tracts of private land. Efficacious selection of restoration areas requires a foundation of ecological and sociological information. Although we know much about bobwhite ecology, our skill at engaging landowners in habitat restoration is meager. Our objective was to develop a systematic approach for using ecological and sociological data to identify potential private land restoration areas. We used models of quail habitat suitability to identify areas of northern Missouri suitable as study areas for evaluation of landowner characteristics, and randomly selected 5-28,000 ha study areas. We then used a mail questionnaire to measure landowner willingness and ability to carry out restoration. Of 1,659 landowners who received the questionnaire, 735 responded (44% response rate). Other quail surveys have reported <50% response rate. Because these 'data holes' limit the application of human dimensions data as a tool for selecting restoration areas we are further evaluating nonrespondents using telephone interviews. For the 735 landowners that did respond, we transformed their answers into a GIS format and worked with local resource managers to identify areas with desirable landowner characteristics. The questions most useful for deciding where to locate restoration were: (1) would you participate in a habitat restoration cooperative? (15% chose 'yes,' 24% chose 'maybe,' and 61% chose 'no'), and (2) a question about their willingness to use practices beneficial to bobwhites. We are now offering habitat restoration programs in two 5,000-ha study areas to determine actual landowner participation.

## **Northern Bobwhite and grassland bird response to landscape-scale edge feathering,**

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Throughout their range, Northern Bobwhite (*Colinus virginianus*) continue to decline for reasons that remain unclear. Many grassland birds are facing a similar decline due to woody encroachment from unmanaged fencelines and woody draws that have fragmented grasslands. As a result, succession has also reduced or eliminated the shrubby habitat component used by bobwhites. In Missouri, wildlife managers are aggressively combating woody succession using management techniques like edge feathering, which involves cutting down mature trees to simulate shrubby cover. Our objective was to evaluate the effects of edge feathering on whole-field CRP enrollment contracts for quail and grassland songbirds. We used point counts to estimate fall covey numbers and breeding bird abundance for three species of game birds and six species of songbirds on control and edge feathered fields between 2003 and 2006. Preliminary results indicate Northern Bobwhites, Field Sparrows, Henslow's Sparrows, Grasshopper Sparrows, Dickcissels, and Eastern Meadowlarks increased on edge feathered fields compared to control fields. Northern Bobwhites in particular were nearly twice as abundant during the summer breeding season on edge feathered sites compared to control fields, but this difference was negligible during fall covey counts. Our results are important because edge feathering has become a dominant practice in Missouri for Farm Bill and State cost share programs to improve early successional habitat for quail and grassland songbirds. Based on preliminary data, edge feathering appears to be a successful approach for restoring appropriate shrubby cover in early successional habitats for quail and grassland songbirds in Missouri.

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## **Dispersal Pattern And Acclimation Period Of Translocated Northern Bobwhites**

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Northern bobwhites (*Colinus virginianus*) are generally thought to be sedentary in nature, with daily movements rarely exceeding 2 km. As a result, home ranges for bobwhites typically are rather small (30–50 ha). However, several factors can affect bobwhite movements such as season, habitat conditions, and social interactions. As part of a reintroduction effort, we translocated 218 and 140 bobwhites onto 2 sites (Caldwell and Fayette counties) during 2004 and 2005, respectively. Upon release, bobwhites dispersed considerable distances, often >2 km. Consequently, estimates of kernel home ranges were unusually large (1,000 ha) for bobwhites. Translocated bobwhites, however, appeared to settle into home ranges with time. We therefore quantified bobwhite movements (Mar–Aug) on a temporal scale for 1-, 2-, and 3-month post-release intervals. We discuss the existence of an acclimation period for reintroduced northern bobwhites and the resulting management implications for future restoration efforts.

## Effects of seasonal herbicide applications with and without discing on tall fescue renovation and resulting habitat for bobwhites in Tennessee.

John P. Gruchy. Department of Forestry, Wildlife, and Fisheries. University of Tennessee.

Craig A. Harper. Department of Forestry, Wildlife, and Fisheries. University of Tennessee.

Conversion of tall fescue (*Festuca arundinacea*) to managed native warm-season grasses (nwsg) benefits many wildlife species associated with early successional habitat. Planting nwsg, however, may not be necessary depending on the composition of the seedbank. Treatments were implemented in a randomized complete block design with replication during 2003 and 2004 at 3 study sites across Tennessee to determine the effects of seasonal herbicide applications and discing on tall fescue eradication and resulting vegetation composition and structure. Treatments included: fall glyphosate (2 qt/acre); fall glyphosate followed by spring discing; fall imazapic (12 oz/acre); fall imazapic followed by spring discing; spring glyphosate; spring glyphosate followed by fall discing; spring imazapic; and spring imazapic followed by fall discing. Vegetation composition and structure were measured in June, July, August, September, and November 2004 and February, April, June, July, and August 2004. All treatments reduced percentage tall fescue cover (0.0 – 17.9%) compared to control (85.3%, SE=2.7) one growing season after treatment. Fall glyphosate (1.5%, SE=0.75), fall glyphosate followed by spring discing (2.8%, SE=1.2), fall imazapic (10.2%, SE=8.7), and fall imazapic followed by spring discing (8.9%, SE=5.8) reduced tall fescue coverage more effectively than spring herbicide applications (19.8 – 37.0%) two growing seasons after treatment. Reduction in tall fescue coverage improved openness at ground level during the brooding season (33 – 15 cm vs. 0 cm control) and angle of obstruction during the wintering period (14.1 – 36.5° vs. 7.2° control) for bobwhites. Discing following herbicide application increased desirable forb coverage, including common ragweed (*Ambrosia artemisiifolia*), beggar's-lice (*Desmodium* spp.), and beggar-ticks (*Bidens* spp.). Imazapic reduced coverage of some undesirable species, such as johnsongrass (*Sorghum halepense*), and increased coverage of broomsedge (*Andropogon virginicus*); however, on 2 sites, imazapic applications resulted in increased coverage of orchardgrass (*Dactylis glomerata*), which was structurally identical to tall fescue. Fall glyphosate applications are recommended to eradicate tall fescue. If discing is implemented in the spring, an imazapic application may be necessary to control johnsongrass, crabgrass (*Digitaria sanguinalis*), yellow nutsedge (*Cyperus esculentus*), and other undesirable species.



## **Attitudes of north Missouri landowners toward quail habitat restoration areas on private land.**

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<sup>1</sup>Missouri Department of Conservation and <sup>2</sup>University of Missouri, Columbia.

Much of the potential success of northern bobwhite (*Colinus virginianus*) restoration is dependent on management of habitat on private land. Efficacious selection of restoration areas requires a foundation of ecological and sociological information. Although we know much about bobwhite habitat management, our skill at engaging landowners in habitat restoration is meager. As part of a study to develop a systematic approach for using ecological and sociological data to identify restoration areas, we determined landowner attitudes. We used a self-administered, mail-back questionnaire to assess landowner willingness and ability to carry out habitat restoration. Questionnaires were delivered to 1,659 landowners in 5 28,000-ha study areas in northern Missouri. We received 735 completed questionnaires, for a response rate of 44%. Although 82% of respondents indicated they were 'somewhat' or 'very' interested in quail, when asked if they would participate in a habitat restoration cooperative, 15% chose 'yes,' 24% chose 'maybe,' and 61% chose 'no.' Of 'maybe' and 'no' respondents, 72% chose 'might attract unwanted hunters' as the chief reason for their dislike of a habitat restoration cooperative. For respondents that chose 'yes' to participation in a cooperative, chief desire was to know how quail numbers change on their property. Decisions by landowners about general land management were effected primarily by quality of life (enjoying land ownership with their family), and by economic considerations. As expected, farmers were less interested in wildlife than were recreational landowners. We discuss landowner responses in the context of implementation of private land habitat restoration.

## **The East Gulf Coastal Plain Joint Venture: a regional, landscape-scale approach to all-bird conservation.**

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The East Gulf Coastal Plain Joint Venture (EGJV) is a newly formed public/private partnership whose mission is to enable integrated bird conservation at a regional scale.

The East Gulf Coastal Plain corresponds to that portion of the Southeastern Coastal Plain Bird Conservation Region (BCR 27) west of the Georgia-Alabama state line, and includes the western portion of the Florida panhandle, most of Alabama and Mississippi, portions of west Tennessee and Kentucky, and eastern portions of Louisiana.

The EGJV Management Board is composed of representatives from federal and state agencies, conservation non-governmental organizations (including the Northern Bobwhite Conservation Initiative), and private industry. Planning, implementation, monitoring, and evaluation activities to conserve all priority birds and habitats throughout the ecoregion will begin during the summer of 2006.

Priority habitats include coastal longleaf pine savannas, grasslands, and maritime and bottomland forests. The most heavily altered habitat type in this physiographic area is pine forest, where conversion of longleaf to shorter rotation pine species and fire suppression have changed species composition and vegetative structure. Priority species include bobwhite quail, Swainson's warbler, Bachman's sparrow, cerulean warbler, bewick's wren, black rail, and reddish egret.

The East Gulf Coastal Plain Joint Venture welcomes collaboration with all members of the bird conservation community.



## Preliminary Results from the CP33 Evaluation in Missouri.

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Northern bobwhite (*Colinus virginianus*; quail) and grassland songbirds have been declining throughout their respective ranges for several decades. New Farm Bill programs, such as Upland Wildlife Habitat Buffers or Conservation Practice 33 (CP33), offer a potential solution for habitat restoration on private land. Using a standardized national protocol, we randomly selected 40 enrolled fields and 40 paired, non-enrolled fields for comparison in similar landscapes. We used distance sampling methods at point counts to assess fall quail covey densities. We also quantified buffer width, planting mix type and degree of buffer establishment. The change in number of quail coveys between control and enrolled fields statewide was negligible during the first fall after buffer establishment. However, regional trends within the state indicate covey numbers on enrolled fields were higher than on control fields in at least two regions. Average buffer width was  $77 \pm 41$  ft, however a majority (93%) of buffer widths were either <50 ft or >90 ft. The majority of enrolled fields (75%) were planted with a seeding mix dominated by Little bluestem, Sideoats grama, Indiangrass, and several native forbs. At least half (58%) of the enrolled fields were in the annual weeds stage that provided brood cover. However, few fields showed residual grass cover for nesting, indicating that two years of growth may be required to satisfy nesting requirements. Observations from related work suggest that edge feathering in enrolled fields may be associated with increased quail abundance, a result we plan to investigate as this study continues.

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