

**SUMMARY OF THE 6TH ANNUAL MEETING OF THE
SOUTHEAST QUAIL STUDY GROUP**

**CAMP KANUGA
HENDERSONVILLE, NC
OCTOBER 2-5, 2000**

BOBWHITE RESTORATION: A REGIONWIDE EFFORT



**HOSTED BY
NC WILDLIFE RESOURCES COMMISSION
NC QUAIL UNLIMITED**

**COMPILED BY
EVIN STANFORD
NC WILDLIFE RESOURCES COMMISSION**

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MEETING AGENDA

Monday, October 2

- 4:00 PM •Registration, Mike Carraway
- 5:30 PM •Mixer—"heavy snacks" at the pavilion, Quail Unlimited
- Mountain Music—David Sawyer, Jim Keeper, and Marc Puckett

Tuesday, October 3

- 8:00 AM •*Breakfast*
- 8:45-9:10 AM •Introductory Comments
- Roll Call of Southeastern States, Terry Sharpe
- Welcome
- Dr David Cobb, Chief, Division of Wildlife Management
- Mr. Bill Ashburn, Chairman, North Carolina State Council of Quail Unlimited

- 9:10-10:30 AM **Committee Reports**
- Steering Committee, Terry Sharpe
- Agricultural Policy Committee, Reggie Thackston
- Forest Management Committee, Allen Houston
- Funding Committee, Dave Howell
- Habitat Implementation Committee, Patty Moore
- Publicity, Information, and Education Committee, Dean Stewart
- Research Committee, Bill Palmer

- 10:30-11:00 AM •*Break*

- 11:00-12:30 AM **Regional Updates**
- Southeast Regional Bobwhite Management Plan, Dr. Ralph Dimmick
- Farm Bill 2002, Don McKinzie
- Early Succession/Grassland Wildlife Update, Chuck Hunter
- Early Succession/Grassland Opportunities on USFS, Tom Darden

- 12:30-1:30 PM •*Lunch*

- 1:30-3:30 PM •Breakout to Committees

- 3:30-4:00 PM •*Break*

- 4:00-5:00 PM •Breakout to Committees

- 6:30 PM •*Supper*

- 7:30 PM **Open forum—Where to go with quail seasons and bag limits**
- Biology, Tom Dailey
- Social issues, Mike Fies and Mark Gudlin
- Discussion

Wednesday, October 4

- 8:00-8:45 AM • *Breakfast*
- 8:45-10:45 AM **Perspectives**
- Private forest landowners, Rick Hamilton
 - Forest Industry, Dr. Bently Wigley
 - Grassland managers
 - Opportunities, Mike Hall
 - Barriers, Bruce Pinkerton
- 10:45-11:00 • *Break*
- 11:00-12:30 PM • Poster Session
- 12:30-1:30 PM • *Lunch*
- 1:30-2:30 PM • Quail Plan Discussion
- 3:00-8:00 PM **Field Trip/Social**
- Birthplace of Professional Forestry in US, Wade Teague
 - Grouse Research Update and Field Techniques, Dr. Craig Harper
 - Supper/Social, Quail Unlimited
 - Special Awards Presentation

Thursday, October 5

- 8:00 AM • *Breakfast*
- 8:45 AM **Committee Reports—Issues and Actions**
- Agricultural Policy Committee, Reggie Thackston
 - Forest Management Committee, Allen Houston
 - Funding Committee, Dave Howell
- 10:00 AM • *Break*
- 10:15 AM **Committee Reports—Issues and Actions (continued)**
- Habitat Implementation Committee, Patty Moore
 - Publicity, Information, and Education Committee, Dean Stewart
 - Research Committee, Bill Palmer
 - Steering Committee, Terry Sharpe
- Closing Remarks

SIXTH ANNUAL SOUTHEAST QUAIL STUDY GROUP MEETING

EXECUTIVE SUMMARY

The Sixth Annual Meeting of the Southeast Quail Study Group (SEQSG) was held in Hendersonville, North Carolina from October 2-5, 2000. The meeting was hosted by the North Carolina Wildlife Resources Commission and one hundred and five persons representing 17 states attended.

The theme for the meeting, inspired by the group's work to develop a Bobwhite Management Plan, was "Bobwhite Restoration: A Regionwide Effort". Presentations included updates on progress on the Bobwhite Plan and efforts to increase wildlife emphasis in the 2002 Farm Bill. Forestry perspectives were presented for public lands (USFS), Forest Industry, and non-industrial private lands (NC Cooperative Extension Service). SC Cooperative Extension Service and NRCS presented opportunities and impediments for establishment and management of native warm season grass forages. An open forum provided lively discussion on the dilemmas of setting seasons and bag limits on a species experiencing a long-term population decline. In an effort to set aside ample time for committee activities, research and management updates were accomplished through a poster session during which approximately 20 displays were exhibited. The group recognized Rocky Evans for his service as Funding Committee Chairman, Steering Committee Member, and representative of "bird" hunters.

Good progress was made on the **Bobwhite Management Plan**. Assignments were made for write-ups for each of the 14 Bird Conservation Regions providing significant opportunity for bobwhites. Ralph Dimmick, who is coordinating the plan development, visited with each of the working committees to discuss issues in which the committee's involvement was needed for development and implementation of a successful plan. Plans for a progress report for the Directors during the Southeastern were finalized.

The **Habitat Implementation Committee** agreed to send a letter to each SE State Fisheries Division to request them to appoint someone to work on Farm Bill matters. The group revisited Plateau herbicide labeling and will send another letter to EPA in order to re-emphasize our desire to have them approve the label review for Plateau. The committee asked Quail Unlimited to submit a letter to the Steering Committee requesting SEQSG to endorse QU's "Project Urgent Habitat".

The **Research Committee** heard updates from the major projects underway and discussed coordination of research projects.

Tom Darden representing the USFS and Bently Wigley representing Forest Industry met with the **Forestry Committee** and invited each state to be involved in the USFS planning process and Sustainable Forestry Initiative. A letter from the SEQSG, to Darden, will address concern with USFS's lack of harvest, and litigation problems. The SFI Advisory Panel agreed to consider a proposal for the SEQSG to have representation on the panel. The committee is pursuing development of a forestry management pamphlet. The committee agreed to draft a letter regarding to USDA regarding the bermudagrass problem being encountered in the longleaf CPA.

Finally the committee agreed to pass on to the research committee the challenge for the SEQSG to provide nesting rates of quail and neotropical migrant birds in thinned pine stands.

The **Public Relations, Information, and Education Committee** narrowed their previous charge. They provided a proposal for the SEQSG website as their first priority. They want to continue the newsletter and need continuous reminders for members to provide information. Marc Puckett will be the new Chair of the Committee, and Dean Stewart will head the newsletter.

The **Agriculture Policy Committee** discussed Senate Bill 2890, and suggested we could propose a similar request for a pilot wildlife field borders CRP continuous signup addition. The Committee agreed to develop a proposal in CRP for a short-term multi-year set-aside program, with broad sideboards for specific state practices and a proposal for a wildlife biologist to be added to USDA's Conservation of Private Grazing Lands Council.

The **Steering Committee** held a brief meeting, during which they adopted a plan for attaining tax exempt status through Quail Unlimited. A decision was made to use \$1000 donated by the Southern Maryland Chapter QU for special funding needs (e.g. Promoting the quail plan). The Steering Committee charged the **Funding Committee** with developing a proposal as how to prioritize funding requests. The committee agreed to ask the Directors to continue to support staff time devoted to Farm Bill issues as the 2002 reauthorization approaches.

The SEQSG Steering Committee for 2001 will be: Mark Gudlin (Chair), Reggie Thackston (Chair-elect), Terry Sharpe (Past Chair), Don McKenzie, Pat Keyser, Ralph Dimmick, and Dave Howell.

The printed meeting summary from the Fifth Annual Meeting held in Starkville, Mississippi was distributed. The Seventh Meeting of the SEQSG will be held in conjunction with the Fifth National Quail Symposium planned for January 2002 in Corpus Christi, Texas.

INTRODUCTORY COMMENTS

DAVID COBB, Ph.D.

Chief, Division of Wildlife Management

North Carolina Wildlife Resources Commission

On behalf of the North Carolina Wildlife Resources Commission and especially the Division of Wildlife Management, I welcome you to this 6th annual meeting of the Southeast Quail Study Group and hope this will be a productive meeting for each of you. I'm confident the overall result will be improved quality in our collective quail research and management efforts. Division of Wildlife Management staff have been involved in planning for this event and are in attendance this week. I especially appreciate the efforts of the program steering committee lead by Terry Sharpe. I also appreciate contributions from the North Carolina Chapter of Quail Unlimited, not only for the excellent reception last night but also for co-sponsoring this meeting. If any one of us can assist you in any way, please let us know.

I appreciate the invitation and opportunity to open this session with some introductory comments. The conference theme "Bobwhite Restoration: A Region-wide Effort" is a certainly a timely and important topic.

I'd like to begin by discussing some general perspectives, giving you some perspectives from North Carolina, and then addressing this concept of a region-wide approach.

First a bit of an historical perspective. In 1905, nearly one hundred years ago, Sylvester Judd, who then worked for the U.S.D.A. Bureau of Biological Survey wrote that "[w]ith few exceptions our quails welcome the extension of agriculture, and the added food supply in farmed areas results in an increase in their numbers. This is equally true of the bobwhite of the east. So fully does the bobwhite appreciate the advantages of the farm that its range has increased with the extension of the cultivated area."

Then in 1931, Herbert Stoddard wrote that "[t]he bobwhite quail occurs over a vast area of the Eastern ... United States ... During the pioneer period of our country, the species increased greatly and extended its range, for the crude agriculture then in vogue created conditions that were ideal for its multiplication. With the increase of the human population, however, and with improvements in farming methods and farming machinery and expansion of the livestock industry, came conditions less favorable to the species. As a result, difficulty is now being experienced in maintaining these bird numbers in many parts of their range."

In 1969, Walter Rosene stated that "[h]istory does not tell us when white man first heard or saw a bobwhite, but our present relationship with quail goes back to the time of land settlement. Through these many years quail prospered, particularly after men opened up fields for cultivation and planted a variety of crops. Many wild plants volunteered around the field edges and in cutover woodlands. On every farm there were numerous spots where woodland, brush, and cropland came together to make the right living quarters for a covey of quail. Just by chance this early American agriculture made excellent quail environment."

Then in 1991, Lenny Brennan summarized the state of affairs in the bobwhite universe by pointing out that "[n]orthern bobwhite populations have been declining at an alarming rate

during the past 3 decades. If the current population trend continues, we are likely to lose bobwhite hunting opportunities across the majority of this quail's geographic range ... The irony of this projection is nearly unfathomable because effective habitat management techniques for bobwhites have been known for over half a century. Nevertheless, until a broad-scale, well-coordinated effort in education, management, and research is made by the agriculture, forestry, and wildlife communities, bobwhite populations most likely will continue to decline and the tradition of hunting wild bobwhite coveys will largely be a thing of the past." None of this is news to anyone of you but these points set the stage for what is required if we are to successfully address declines in quail and associated wildlife populations and habitats.

Now, I'd like to highlight some pertinent information relating to North Carolina. Quail populations in our state declined by 3.6% per year from the mid-1960's through 1980 and by 6.2% per year from 1982-1991. Based upon the Commission's Avid Quail Hunter Survey, harvest/hunter trip declined significantly from 1984 through the 1999-2000 hunting season from >2 to 1 quail/hunter trip. Since 1931, North Carolina's human population has increased from >3.1 million to >7.4 million people. Since 1950, we have lost an estimated 2,000 farms per year with an overall decrease of >72%. While the number of farms and total acreage in farmland has decreased, the average size of farms has significantly increased. Since 1958, cropland acreage in North Carolina decreased by >19%, pastureland acreage increased by 30%, urban land increased 130%, and forestland acreage decreased by >8%. Since 1949, 700,000 acres of hay habitats have been converted to other uses, and the number of idle acres of farmland has decreased from >1.7 million to approximately 400,000 acres. These land use statistics clearly demonstrate the significant loss and reduced quality of millions of acres of valuable quail habitats that once occurred on the landscape.

As you know, populations of our big game species, black bear, wild turkey, and white-tailed deer, declined in the early 1900s because of widespread habitat alteration and over hunting, but populations of these species are now generally stable or increasing. Like many of you, we are often asked why we simply cannot replicate previously successful big game management efforts towards small game, particularly quail, management and in doing so see the same results? As you all know, this approach would not result in increased or recovered small game populations. Our previous inability to reverse statewide trends in small game is primarily due to objectives that have been inconsistent with the jurisdictional authority of the Commission. Big game restoration efforts have been achievable under the jurisdictional authority of the Commission, have been successful because significant statewide changes in land use patterns have favored these species, and have required relatively little direct habitat management by Commission biologists on private lands. In general, quail, unlike big game species, have historically been an artifact of the landscape. Habitat degradation continues in large part because wildlife management agencies do not have jurisdiction to regulate land use. We simply do not have the ability to change the factors most significantly impacting statewide quail populations, namely increasing human population growth, urbanization, large-scale and monotypic agriculture, and land use conversions.

However, the Commission could regulate quail harvest if needed, manage for quail and associated species on Game Lands, create or modify existing incentive programs, and provide increased technical assistance in a variety of forms to interested private landowners. We believe

that our management efforts should be focused in these areas, and this is the approach that our agency will pursue.

Our Commission recently approved and funded a small game management plan that includes nine elements. The most important of these are to

- 1.) Identify specific geographical areas in the state where the potential to improve quail habitats and populations on private lands are greatest, and concentrate resources and target programs into these geographical areas,
- 2.) Develop an outreach program to proactively promote management of small game and associated species,
- 3.) Develop a system of Small Game Cooperatives to enable private landowners to effectively manage for quail and associated species,
- 4.) Evaluate and propose revisions to North Carolina tax codes, and
- 5.) Establish new Commission funding for small game management and habitat cost-share and incentive programs.

Lenny Brennan and most of you advocate a broad-scale, region-wide, well-coordinated effort in education, management, and research by the agriculture, forestry, and wildlife communities to arrest the current decline in quail populations. I agree, but we must do more. We must have the biological and management expertise to get the job done were opportunities currently exist, but for our efforts to be successful regionally, in addition to being biologists, we must also become part sociologist, economist, and politician. We must develop inroads into land use planning processes, and develop and demonstrate the compatibility and economic feasibility of early successional habitat management in the broad context of our 21st century landscape. Identifying and satisfying common biological, economic, and sociological objectives must become the norm. Otherwise we will be relegated to artifacts of our 21st century landscape ... artifacts which typically do not include quail.

Again, I appreciate the opportunity to speak to you today and if any of our North Carolina staff can assist you in any way, please let us know.

COMMITTEE REPORTS

STEERING COMMITTEE & COMMITTEE CHAIRS REPORT

Attending: Terry Sharpe (Chair), Mark Gudlin (Chair-Elect), Ralph Dimmick, Breck Carmichael, Reggie Thackston, Dave Howell, Patty Moore, Steve Capel, Allan Houston, Bill Palmer

1. SEAFWA Technical Committee – what do we need to do to prepare for the upcoming SEQSG Tech. Comm. Meeting in Baton Rouge?
 - a. Call Col. Bob Brantley, Exec. Secretary, and ask to be put on the agenda at the Director's meeting (Terry will do). Cover what happened at this annual meeting, especially any action items. Have a one-page written summary for the Directors. Also need to take minutes of the SEQSG Tech. Comm. Meeting (Gudlin will do).
 - b. Ask the Directors how to avoid the procedural problems we encountered with the predator resolution last year.
 - c. Don McKenzie will need to give a BRIEF overview of the Quail Plan status. Also, ask the Directors to continue to allow their staffs time to work on the Quail Plan and 2002 Farm Bill.
 - d. Advise the Directors that the position in IAFWA is posted and probably close to being filled.
 - e. Distribute a copy of last year's meeting summary.
2. Funding – Dave Howell
 - a. Was looking into solution for our attempts to get tax exempt status. Possible solution: Every Quail Unlimited chapter has a tax exempt number. A number could be assigned to the SEQSG as a "branch" of QU, with no cost to the SEQSG. Only incoming money would have to be reported. SEQSG Bylaws require annual financial audit (internal) anyway. We would encounter periodic audits, satisfied by a simple Form 990, of how much money was spent, if more than \$25,000. Dimmick made motion to adopt, Gudlin seconded, motion unanimously passed.
3. Annual financial audit. Breck will head up committee after this meeting. Bylaws require 2 other SEQSG members, other than Chair and Chair-Elect. Breck will organize committee.
4. Do we want to ask the Directors for funding to print the Quail Plan? Decided this action needs to wait until after the Directors have reviewed a completed (or near completed) plan.
5. What should we do with the \$1,000 donation from the Maryland QU chapter? It was decided that we need to hold this money separately in our account for a special needs project (e.g. promoting the Quail Plan, etc.), instead of just absorbing into the general fund.
6. It was decided to continue to transfer our account to the host state for the upcoming year's annual meeting, and make sure to identify the \$1,000 not to touch (MD QU donation).

7. Habitat Implementation Committee – Patty Moore
 - a. Plan to send a letter to each SE state Fisheries Division to request them to appoint someone to work with the wildlifers on Farm Bill 2002 matters. Need the support and involvement of this important faction.
 - b. Will re-send the Plateau letter to EPA, in order to re-emphasize our desire to have them approve the label review for Plateau.
 - c. Will ask Dave Howell to submit a letter to the Steering Committee to endorse QU's "Project Urgent Habitat".

8. Research Committee – Bill Palmer

They had many discussions regarding research, but none involving any needed actions at this time.

9. Forestry Committee – Allan Houston
 - a. Tom Darden (USFS) and SFI representatives were present at the Committee meeting. They gave an invitation for states to be involved in the USFS planning process.
 - b. A letter from the SEQSG, to Darden, will address our concern with USFS's lack of harvest, and litigation problems. They are pretty well stuck with just thinning down to reduced basal areas. May be some good longleaf management.
 - c. They would like the SEQSG to have a seat at the SFI Advisory Panel. SFI will get back to Allan Houston in December regarding this proposal.
 - d. Pursuing a forestry management pamphlet.
 - e. Will draft a letter regarding to USDA regarding the bermudagrass problem being encountered in the longleaf CPA (resulting in seedling establishment and wildlife habitat quality problems).
 - f. Will pass on to the research committee the challenge for the SEQSG to provide nesting rates of quail and neotropical migrant birds in thinned pine stands.

10. Public Relations/I&E – Dean Stewart
 - a. The committee narrowed their previous focus, which was quite lengthy.
 - b. They provided a proposal for the SEQSG website as their #1 priority, needing approximately \$9,000. This would fund a part-time position to revise the website (\$3,000 the first year), and \$1,500 each year for 4 more years to maintain it. Would like to operate this out of a central location; Tall Timbers was suggested. It is presently housed at MS State, and run by Dean Stewart (on his spare time).
 - c. They want to continue the newsletter; need continuous reminders for members to provide information. Marc Puckett will be the new Chair of the Committee, and Dean Stewart will head the newsletter.
 - d. A proposal for a Bobwhite School Enrichment Program CD Rom (interactive) as a funding item.

Note: The Steering Committee charged Dave Howell with developing a proposal as how to prioritize funding requests.

11. Ag. Policy Committee – Reggie Thackston
 - a. Dave Howell discussed Senate Bill 2890, and suggested we could propose a similar request for a pilot wildlife field borders CRP continuous signup addition. Breck will contact Parks Shackelford (USDA-FSA) to see if he is still receptive to the idea. If so, he will draft a proposal from the SEQSG.
 - b. There is a need in CRP for a short-term multi-year set-aside program, with broad sideboards for specific state practices. Mark Whitney (GA DNR) will develop a draft proposal for consideration.
 - c. Don McKenzie will email a proposal to the Group for a wildlife biologist to be added to USDA's Conservation of Private Grazing Lands Council.
 - d. Need a reminder to the Directors to support staff time on Farm Bill 2002 issues.
12. Committee Chairs commented that they appreciated the extra time allotted at this year's meeting for the committees to meet, and desire that it continue in other annual meetings.
13. We proposed for the next annual meeting to be in Sept. 2001 in Georgia. NOTE: This was revised later in the annual meeting to instead be held on the front end of the Quail V Symposium in Corpus Christi, TX, on January 23, 2002. This will consist of Committee meetings only, as the program itself will consist of Quail V. The next annual meeting will then be held in fall 2002 in Georgia.
14. Elections – Will make announcement at the close of the meeting as to who our new Steering Committee members are. They will officially become effective at the close of the SEAFWA SEQSG Tech. Comm. Meeting in Baton Rouge, LA. Mark Gudlin, Chair-Elect, will decide when and where to hold our spring 2001 Steering Committee meeting.

Meeting adjourned at approximately 8:00 am.

AGRICULTURAL POLICY COMMITTEE REPORT

The Agricultural Policy Committee of the Southeast Quail Study Group (SEQSG) met at the SEQSG annual meeting in Hendersonville, NC on October 3, 2000. A total of 15 people attended (list attached). Committee Chair Reggie Thackston moderated the meeting.

Louis Justice, state NRCS biologist for Georgia provided an update on the Longleaf Pine Conservation Priority Area established under the Conservation Reserve Program (CRP). A total of 168,549 acres in 8 states has been enrolled to date. Enrollment figures by state were distributed (see below).

Justice noted that contrary to popular belief, longleaf pine seedlings are available. Mark Haynes, with the Longleaf Pine Alliance, tracks seedling availability and should be contacted by anyone looking for seedlings.

The problems being experienced with severe Bermuda grass competition were discussed, especially on sites that met CRP cropping history requirements at the time of enrollment but had

been converted to Bermuda hay. Low enrollment in the Longleaf Pine priority areas in certain states was also discussed, and suggestions were made as to how these situations could be improved.

Action Item: Reggie Thackston is to follow-up with the U.S. Forest Service regional office concerning uniform Longleaf Pine priority area eligibility guidelines that are being drafted.

Dave Howell of Quail Unlimited discussed a pilot project proposal for 6 Midwestern states to be able to enroll small, infrequently farmed wetlands into the CRP. He suggested that a similar proposal might be drafted for the Southeast to allow enrollment of field borders in the Continuous CRP Signup, something the SEQSG has sought for several years.

Action Item: Breck Carmichael agreed to contact Parks Shackelford, with Farm Service Agency in Washington to gauge the potential for such a proposal. If it seems feasible, a subcommittee will be formed to draft the proposal.

Other discussion on the Continuous CRP included comments that the dollar incentives offered are not high enough because of the small acreage enrolled, and that poor quality cover types from a wildlife habitat standpoint continue to be established through buffer practices. It was suggested that an Environmental Benefits Index (EBI) that incorporates wildlife habitat quality be proposed for the Continuous CRP.

A number of issues related to the regular CRP signup were discussed. These included:

- the predominance rule, which still allows for the EBI score for a CRP offer to be based on what constitutes 51% of the cover type (except for re-enrolled trees)
- the fact that high scores for soil erodibility are still allowing CRP offers with poor wildlife cover types to achieve high EBI scores and be accepted
- confusion over whether light disking is permitted for maintenance within certain CRP practices (same for allowing vegetation establishment through natural succession)
- concern over a recent CRP notice related to CP15 - terrace vegetation, and the stipulation that the practice could not be utilized to create wildlife habitat – seems contrary to the “wildlife is co-equal” mandate
- how do we gain improvements in CRP pine plantations after they leave the program, or after they are re-enrolled a 2nd time (age 20+)
- problems with compliance checks in some states and who is responsible for them
- potential for increase in the CRP acreage cap and whether this would be good for the Southeast – it was general consensus that we could support an increase to 45 million acres, but any more than that would better be placed in a short-term set-aside (flex fallow type program)

Action Item: Mark Whitney, GA DNR, will draft a concept paper for a 15 million acre short-term set-aside program, and circulate for review and comment.

The Conservation of Private Grazing Lands (CPGL) program was discussed in the context of the over-all need for wildlife habitat improvements through grassland programs. It was noted that wildlife is a purpose of the CPGL program, and that there was a great need for a wildlife biologist on the USDA National Grazing Lands Institute. It was also discussed that there is a Grasslands Coalition in every state that could be encouraged to make wildlife habitat part of their activities.

Action Item: Don McKenzie, Wildlife Management Institute, will circulate a proposal for a grasslands improvement program for review and comment.

A great concern of the Committee is the need for monitoring of habitat improvements accruing from the 1996 Farm Bill in order to show a need for continuing similar programs in the 2002 Farm Bill. One method may be to compile data that has been collected through relatively small management or research projects such as the Pinelands Stewards Project, field border research in NC and VA and the GA Bobwhite Quail Initiative. It was noted that the NRCS Wildlife Habitat Management Institute would be a logical entity to coordinate a monitoring effort. The use of status review information already being collected by NRCS would also offer possibilities.

Action Item: Louis Justice will investigate the potential for data collection on farm bill wildlife habitat improvements through routine NRCS status reviews.

Another item discussed by the Committee was support of increasing funding for the Forestry Incentives Program (FIP) and the Stewardship Incentives Program (SIP) – choose one or support both?

It was noted that the Emergency Conservation Program would provide funding to assist landowners with re-establishment of exotic grass pastures destroyed by drought, but the funding could not be used to convert those pastures to a native warm season grass that would be more drought hearty.

General discussion of strategies for the 2002 Farm Bill then ensued. It was agreed that a major goal of the wildlife community should be seeking a stronger statement in the new bill that wildlife is co-equal with soil and water. Also, there are many more groups that seem to be interested in farm bill issues than ever before, and wildlife interests need to forge coalitions and find common ground with these groups. A good suggestion was to build state level farm bill coalitions.

Terry Sharpe, SEQSG Steering Committee Chair agreed to incorporate the need for state fish and wildlife agency involvement in farm bill deliberations into his comments to the SE Fish and Wildlife agency directors this year at the Southeastern Conference.

Submitted By: Reggie Thackston – GA DNR, Breck Carmichael – SC DNR

Longleaf Pine National CRP CPA Update as of 9/29/00

Total For All States Involved: *168,549* Acres

Total For All States CRP Signup 18: *102,154* Acres

Total For All States CRP Signup 20: *66,395* Acres

Total By States As Of 9/29/00:

Alabama	23,249	Acres
Florida	9,904	Acres
Georgia	118,863	Acres
Louisiana	560	Acres
Mississippi	455	Acres
North Carolina	4,249	Acres
South Carolina	11,258	Acres
Texas	-	Acres
Virginia	11	Acres

Total By States Signup 18:

Alabama	13,480	Acres
Florida	5,968	Acres
Georgia	74,398	Acres
Louisiana	178	Acres
Mississippi	270	Acres
North Carolina	1,407	Acres
South Carolina	6,450	Acres
Texas	-	Acres
Virginia	3	Acres

Total By States Signup 20:

Alabama	9,769	Acres
Florida	3,936	Acres
Georgia	44,465	Acres
Louisiana	382	Acres
Mississippi	185	Acres
North Carolina	2,842	Acres
South Carolina	4,808	Acres
Texas	-	Acres
Virginia	8	Acres

Louis Justice, NRCS, GA.

Agricultural Policy Committee Meeting Attendees			
02-Oct-00			
Hendersonville North Carolina			
<i>Name</i>	<i>Organization</i>	<i>Phone</i>	<i>E-Mail</i>
Reggie Thackston	GA DNR	(912) 994-7583	reggie@mylink.net
Mark Gudlin	TWRA	(615) 781-6614	mgudlin@mail.state.tn.us
Elsa Gallagher	Dept. Cons.	(660) 385-2616 ext 118	gallae@mail.conservation.state.mo.us
Jeff Thurmond	USDA NRCS	(601) 965-4559 ext 241	jthurmond@ms.nrcs.usda.gov
Louis Justice	USDA NRCS	(706) 546-2115	louis.justice@ga.nrcs.usda.gov
Dave Godwin	MDWFP	(662) 325-5119	dgodwin@cfr.msstate.edu
John Cole	IL DNR	(217) 782-6384	jcole@dnrmail.state.il.us
Steve Capel	VA DGIF	(804) 598-3706	scapel@dgif.state.va.us
Breck Carmichael	SC DNR	(803) 734-3941	brecke@scdnr.state.sc.us
Chris Garland	KN Dept. Fish & Wildlife	(800) 858-1549 ext 351	chris.garland@mail.state.ky.us
Don McKenzie	WMI	(501) 941-7994	wmidm@ipa.net
John Hendrix	ODWC	(405) 742-1278	jhendrix@onenet.net
Mark Whitney	GA DNR	(770) 761-1697	mark_whitney@mail.dnr.state.ga.us
David Howell	QU	(812) 536-2272	dhowell@psci.net
Larry Robinson	NRCS	(301) 504-2334	larry8847@hotmail.com

FUNDING COMMITTEE REPORT

The following activities resulted from Funding Committee participation in the SEQSG annual meeting. Talked with all committee chairmen, but only attended all or portions of Ag Policy, Habitat Implementation, Public Relations/I&E, Bobwhite Management Plan and Steering Committee meetings.

- Presented proposal to Steering Committee on establishing tax exempt status by assigning SEQSG a Quail Unlimited chapter tax exempt number. Motion was unanimously accepted by Steering Committee. SEQSG chair will send Quail Unlimited Executive Director a letter requesting tax exempt number.
- Request made by Steering Committee for Funding Committee to develop standardized procedure for review and prioritizing funding proposals of SEQSG. Report will be submitted at the Spring 2001 Steering Committee meeting.
- Agreed to work with Public Relations/I & E Committee on their #1 funding priority – relocating and revising SEQSG website. Estimated that \$9,000 needed over 5 years to maintain site. Also agreed to help secure funds for a bobwhite CD Rom School Enrichment Program.
- Assistance will also be provided to the Habitat Implementation Committee on development of a pamphlet on “Basic Bobwhite Habitat Management Practices.”

- Quail Unlimited will continue to provide another \$50,000 for QU/SEQSG Predator Project.
- A \$1,000 donation by the Southern Maryland QU Chapter will be allocated for use on a specially designated project.
- Discussed printing and publication costs with Bobwhite Management Plan chair, Dr. Ralph Dimmick. Funding Committee agreed to work to help secure needed dollars for final production and promotion of this important plan.

Submitted by David Howell

HABITAT IMPLEMENTATION COMMITTEE REPORT **Patty Moore, Chairman**

The Habitat implementation Committee members this year include: Judy Barnes (SC), Jerry Bearden (NC), Billy Dukes (SC), Dan Figert (KY), Randy Guthrie (AR), Joe Tousignant (MO), John Vogel (MO), Tim white (MD), Fred Ward (AR), Chris Wolkonowski (TN), Robert Perez (TX), Jason Plemmons (SC), Kathy Cooper (MO), Stan Sechler (MO), Phil Rockers (MO), Brad Jump (MO), David Darrow (MO), Fred Kimmel (LA), Matt Curry (MO), Brian Infield (AR), Mike Sams (OK), David Howell (IN), Harry Spiker (MO), Jim Keeper (NC) and myself.

The committee has a very broadly defined charge of: **“determining what it takes to get landowners interested in managing wildlife habitat in general, and more specifically, in developing ways to get landowners to restore bobwhite quail habitat at the landscape level.”**

During the sixth annual meeting of the Southeast Quail Study Group, the items below were discussed:

- 1) Committee reviewed last years' accomplishments. It was decided that the previously printed fescue eradication pamphlet and the pine plantation pamphlet needs to be put on the SEQSG's web page. Dave Howell will get it to the PR and I&E.
- 2) Committee decided that the burn survey revealed some interesting information, the biggest one is that the Division of Forestry works for Mr. Smokey and Division of Wildlife works for Mr. Bob. The states without legislation did not want to open a can of worms by presenting information from the survey. The information will be kept on file for future use.
- 3) Dave Roberts, NRCS-VA gave an overview of the functions of Plant Material Centers. He encouraged states to get involved with their State Technical Committee and/or the Plant Materials Committee to enable them to have input on actions of the PMC. Suggested we ask for a source identified release rather than a cultivar release and that would reduce the time for the release from 10+ years to 2 to 3 years. **TN, KY, VA and NC** will put together a wish list for the new Alderson WV PMC. Dave and Roger will take this to Alderson in mid Oct.

- 4) Dan Figert reported on KY's new nwsg haying and grazing booklet. It is an 8 x 10, 10 to 12 pages in four-colors targeting producers with wildlife interests. It is at the printer and they should have it for distribution in less than a month. Contact Dan for a copy and if you need a quantity, he can give you prices.
- 5) Committee decided to not proceed with the development of the nwsg bibliography. It was felt that the same information is available on the Internet (for those of you who have access!).
- 6) Dave Howell, QU, gave a short talk on Operation Urgent Habitat. QU is looking for a letter of support from the SEQSG. The HIC supports the concept. This will go to the Steering Committee along with additional information on the program.
- 7) Dave presented a draft copy of a brochure on simple management techniques. Committee thought this was a good idea. **Patty Moore and Tim White** will help write the remainder and help with layout. **All comments from Committee should be e-mailed to Dave by December 1st** (dhowell@psci.net). Committee felt that photos were needed to make a quality brochure even though the cost would be greater. Once the brochure is complete, **Dave Howell** will get bids. **Patty Moore** will e-mail state representatives to find out the quantity needed. **Dave Howell** will get printing done and bill agencies. He will also coordinate with QU National and get this published in the March/April magazine.
- 8) **Chris Wolknowski** read a draft letter he wrote. This letter will be sent to AFS and Fish and Wildlife agencies' Fisheries Divisions asking them to appoint a representative to work directly with us on the Farm Bill Programs. **Patty Moore** will amend the letter per committee advice and send to the Ag./Policy Committee and the Steering Committee.
- 9) Committee felt that another letter should be sent to the EPA regarding the Plateau label and use on CRP and haying and grazing lands. **Patty Moore** will write the letter and send it to the steering committee.
- 10) Ralph Dimmick came in and talked to the committee about the plan.

Meeting adjourned at 5:00 p.m.

PUBLIC RELATIONS, INFORMATION AND EDUCATION COMMITTEE REPORT

Members present: Pete Bromley, Rick Chastain, Vicki Heidy, Walter Lane, Marc Puckett, Dean Stewart

- 1) Old business was reviewed.

2) Mission statement was reviewed by Dean Stewart. Pete Bromley suggested that it was too broad. The committee members agreed and revisited the mission statement, narrowing its focus.

New Mission Statement: The mission of the PR/I&E committee is to facilitate communication within the SEQSG by acting as a conduit for information within the group and to communicate information about the existence of the SEQSG and its activities to conservation organizations such as Quail Unlimited and other interested parties.

In addition, committee members agreed that the objectives were also too many and too broad. The objectives were narrowed to:

- a) produce a newsletter to communicate to QU members the activities of the SEQSG
- b) produce and maintain a website to foster communication with all interested parties
- c) to insure communication within the SEQSG throughout the year

On this note, to maintain good communications throughout the year, and to facilitate publication of the SEQSG newsletter, the committee suggested that better communication was needed to the PR/I&E committee from other committees. It was suggested that this be brought up at the steering committee meeting. It was. The Steering Committee chair asked all committee chairs to please copy the PR/I&E committee chair and the SEQSG Newsletter editor concerning noteworthy activities throughout the year.

3) Members discussed ways of maintaining our website. Dean Stewart established the website at MSU several years previous, but did not have the resources to properly maintain it. Dean submitted a proposal for funding that would maintain the site for 5 years (contact Dean if you need an electronic copy of the proposal).

Members also felt that it would be best to centralize the website at a location where it could be maintained in perpetuity. Tall Timbers Research Station was suggested as the best possibility. This was discussed with Bill Palmer of TTRS. Bill agreed the idea was sound and that there should be some way to work this out. It was agreed that this proposal would be submitted to the Steering Committee with input from Bill Palmer and Dave Howell of the Funding committee.

The committee felt that, once developed, the website should contain reports on the progress of the quail management plan, copies of the plan once it is completed and approved, the SEQSG Newsletter, a list of sources for technical assistance by state for landowners, a list of seed sources for wildlife plantings – particularly native species beneficial to quail and links to QU and state agency websites.

4) The committee was visited by Dr. Ralph Dimmick who discussed the regional quail management plan's progress.

5) Walter Lane (Ga. DNR) gave a fine presentation on Georgia's Bobwhite Quail Initiative. Their program is going well. Follow-up is a big part of the program. They have done a great job insuring cost-share practices are correctly installed. They also monitor each farm's quail population through time (Contact Walter, or Program Manager Reggie Thackston, both with Georgia DNR, for further details).

6) A need for funding the Bobwhite Quail Mobile School Enrichment Program interactive CD was discussed. While the website is first priority, the school enrichment program is also important. The school enrichment program would consist of a large free standing display, computers with interactive CD roms, video-tape of bobwhite ecology and management, slide presentation on quail management, lesson plans for classroom activities, pre- and post-testing materials and a covered trailer for transportation. Dean Stewart, Wes Burger (MSU) and Dave Godwin (Mississippi WFP) submitted a proposal for funding requesting \$20,000 for completion of the interactive CD rom (contact Dean if an electronic copy of the proposal is needed). Funding has been secured for all other aspects of the Bobwhite School Enrichment Program. Total cost will be around \$50,000. The \$20,000 is requested of QU and the SEQSG.

7) The committee also discussed the need to continue a search for funding for the creation of and televising of public service announcements concerning early-succession species. It appears that initial suggestions for funding such PSAs were deadends.

8) After 5 years as committee chair, Dean Stewart felt a need to change jobs. The committee is indebted to Dean for 5 years of hard work. No one on the committee was overly enthused about becoming chair. Dr. Bromley suggested Marc Puckett take over the chair and Marc suggested Dr. Bromley become chair. The committee felt Marc should become chair. Dr. Bromley was not interested. He is soon to take on additional job responsibilities and felt time would be too limited. So, Marc stepped down after 4 years of editing the SEQSG Newsletter to take over as chair. Dean then accepted the job of SEQSG Newsletter editor – in effect Marc and Dean traded jobs.

9) Walter Lane took on the task of creating a new e-mail address list for members.

10) It was suggested that our committee needs more members. Someone suggested that each state seek out a member of their I & E sections and see if any would be interested in bringing their expertise to future meetings.

* Dave Howell joined the committee for most of the discussion on funding issues.

** The Steering Committee was approached with the PR/I&E funding proposals. The Steering Committee felt they should first come up with some method of reviewing proposals and prioritizing funding issues. Dave Howell agreed to pursue other funding sources this year while the Steering Committee ironed out the SEQSG funding protocol. The committee intends to find ways to fund at least the first year of the website.

STATE REPORTS

ALABAMA

During the course of the year, Alabama Division of Wildlife and Freshwater Fisheries personnel have presented a number of bobwhite management programs at various locations across the state to wildlife and landowner interest groups as concern for bobwhite populations widens. Wildlife technical assistance to landowners seeking improved bobwhite populations continues to expand.

We also conducted, for the third year, an annual bobwhite management seminar in cooperation with the Alabama Wildlife Federation, Quail Unlimited, Alabama Quail Hunters, and hosting landowners. The seminars have all been popular, with 150 to 200 or more persons attending and residents of several states represented.

Currently the Division of Wildlife and Freshwater Fisheries is investigating the development of a cooperative statewide Early Succession Wildlife Habitat Initiative that will include bobwhites as a feature species. A broad coalition of interested cooperators attended a meeting to investigate the feasibility and potential avenues for instituting a program that would address the declines of numerous wildlife that require early succession habitats. Participants included representatives of state and federal natural resource agencies in the state, various wildlife and natural resource advocacy organizations, farm and forest organizations, and public utility providers. Consensus was reached that measures should be pursued to address these wildlife declines, and many agreed to support and participate in the development of a formal initiative. In follow-up, a working group has met to identify habitat needs/deficiencies in landscapes across the state, and define practices to address those needs. This will be reported at another full meeting of initiative cooperators, who will deliberate means to deliver practices to landowners.

Bobwhites across the state have not yet been informed of these goings-on, so their response remains to be seen.

Stan Stewart

ARKANSAS

Two Northern Bobwhite research projects are underway in Arkansas in cooperation with the U.S. Forest Service, Oklahoma State University, Arkansas State University, and Arkansas Tech University.

One project is being conducted by Oklahoma State University on the Ouachita National Forest (ONF) and is titled *The Effects of Pine-Grassland Restoration on Bobwhite Quail*. This project was initiated in July, 1999.

A major objective of the study is to determine the comparative population density in stands managed for the red-cockaded woodpecker versus traditional ONF management strategies. Currently, little information exists on habitat preference, use and nesting in these habitat types. Additionally, insect abundance will be examined in these managed stands. The goal of this study is to determine if bobwhite densities increase in response to pine-grassland

restoration, and why a response or lack of response occurs. This study will benefit the U.S. Forest Service by providing general and specific information about the manner in which particular forest management practices affect habitat features and densities of bobwhites on the ONF.

The second research project was started in July, 2000 and is in cooperation with Arkansas State and Arkansas Tech Universities. It is being conducted on the Camp Robinson Wildlife Demonstration Area, a high use field trial area. Objectives of this study are to: (1) Compare estimated survival rates of pen-raised and wild Northern Bobwhites. (2) Document the cause-specific mortality of pen-raised and wild Northern Bobwhites. (3) Determine and compare the habitat use of pen-raised and wild Northern Bobwhites. (4) Identify specific habitat features that are associated with the highest survival rates of pen-raised and wild Northern Bobwhites. (5) Determine movement patterns of pen-raised and wild Northern Bobwhites within the Camp Robinson Wildlife Demonstration Area. (6) Evaluate the incidence of disease in the released birds. (7) Identify any disease problems in wild quail that may be due to the release of pen-reared Northern Bobwhites.

The Game and Fish Commission reinstated bobwhite call counts during the spring of 1998, following a five year lapse in the collection of any population data. Fifty of the 50 permanent quail call count routes established in 48 counties during the 1982-92 survey period were used again.

Wildlife Management Division personnel surveyed all routes between May 15-26, 2000. Each 4.2-mile route consists of 15 stops with two-minute listening times. The stops are 0.3 miles apart. Surveys start at sunrise on clear, calm days with a wind speed of no more than 7 mph. Counts are made outside of and 30 feet away from the vehicle.

Results of this year's survey show a statewide decrease of 22% over 1999 in the average number of quail per mile. The 2000 quail call count results show decreases of 53% in the Gulf Coastal Plain Region (Southern AR.), 19% in the Ouachita Region (Western AR.) and 24% in the Delta Region (Eastern AR.) when compared to 1999. The Ozark Region (Northwest AR.) showed an increase of 13% over 1999. It should be noted that these results are possibly responding negatively as a result of diminishing productivity of the habitat along some survey routes. These routes were set up eighteen years ago in areas of good quail habitat. Obviously, the habitat has changed considerably, even dramatically, along these routes especially those near clear cuts that have grown up in the intervening years. However, the routes were established to document annual as well as multi-year population changes. So, as habitat quality and quantity changes over a period of time, the quail population should adjust accordingly.

Trend data were correlated with Conservation Reserve Program (CRP), Farmers Home Administration (FmHA) and Conservation Easement enrollments in counties with the highest acreage enrollments. CRP is a large-scale federal land-retirement program that established permanent grass cover for wildlife habitat and other purposes. FmHA lands are federally owned lands that have been transferred to the Arkansas Game and Fish Commission to manage for fish and wildlife recreational purposes. Conservation easements allow private landowners to reduce their mortgages with FmHA by giving easements on a portion of their lands to the Arkansas Game and Fish Commission to be used for wildlife and other recreational uses. The objective of this correlation was to determine if any response could be noted in the breeding populations since the initiation of these programs in 1985. Current program acreages were added together for the top twenty counties in the state. As expected, a majority of these counties occurred in the Delta Region (eastern AR) where most of the cropland acres occurs. The acreage percentages

for the programs in each county were calculated by dividing the cropland acreages into the program acreages. The percentages ranged from a high of 31 percent to a low of 2 percent. Although program figures were tabulated for the top 20 counties, five of these counties do not have call count survey routes in them.

The Delta showed a higher call count trend starting in 1986; however, other regions also experienced increases during that time. The Ozark and Ouachita Mtn. Regions showed more dramatic improvements for a couple of years whereas the Delta was more gradual and lasted over a longer period of time. At this point, whether this is a response to these land conservation programs is anyone's guess as the counts are beginning to show a downward trend since peaking out in 1990.

The breeding population is lower this year than any year since the survey was started in 1982. However, breeding spring populations are usually at lower levels when compared to fall populations because of natural mortality. Therefore, it is somewhat difficult to ascertain what the fall population will be like without some knowledge of how successful reproduction was this summer. However, as the population, in general, has been down for a number of years and habitat on a statewide basis has experienced little improvement, it is anticipated any rebound in the population is simply an annual cyclic response to weather or other factors affecting quail reproductive success. Summer brood counts were started again this summer (2000), so hopefully, these data will provide needed information on reproductive success in the following years.

Fred Ward

GEORGIA

Management Initiatives

In 1999, the Georgia Department of Natural Resources, Wildlife Resources Division began implementation of the Bobwhite Quail Initiative (BQI). BQI began as pilot project in three focus areas comprised of 14 counties across Georgia's Upper Coastal Plain and is primarily directed at providing nesting cover and brood range for quail, as well as improved habitat for other early successional wildlife.

BQI provides cooperators with technical assistance and in certain cases financial incentives for the establishment and maintenance of quality early successional habitat. Results from the first enrollment period, which ran from September 1999 – January 2000, included technical assistance plans for 103,000 acres. In addition, approximately \$51,000 were allocated under three year contracts to 27 cooperators across 67 row crop fields in the 14 county area, for the establishment of: 87 miles of field borders and hedgerows; 34 acres of center pivot corners; and prescribed burning on 70 acres of pine stands. BQI cooperator compliance rate for the first enrollment was 74 percent.

The program was expanded in the spring of 2000 to include three additional counties in Southwest Georgia. Additional program changes included modifying BQI eligibility requirements to include lands enrolled in the Conservation Reserve Program Longleaf Pine Conservation Priority Area; and increasing annual incentive payments from \$30 per acre to \$40 per acre for dry land and \$120 per acre for irrigated field borders and hedgerows. Participation in the current enrollment period appears to be up by about 400% over 1999.

Regulatory Changes

Significant regulatory changes occurred during 1999 – 2000 that potentially relate to quail management. A permit process was established to allow landowners and managers to trap furbearers outside of the normal trapping season, including the nesting season for quail. The interpretation of state baiting regulations was modified to accommodate the feeding of quail on lands where quail are being hunted.

Research Update

Dr. John Carroll, Rick Hamrick, and other researchers with the University of Georgia, D.B. Warnell School of Forest Resources (UGA) are monitoring the impacts of BQI habitat practices on quail and songbird populations on sample farms distributed across the BQI focus areas. Preliminary results from baseline monitoring indicated that quail and many of the declining songbirds species occurred on almost all of the farms, but at very low levels. The upcoming monitoring season should provide the first evidence of BQI practice benefits. Other UGA research efforts with quail include examining the benefits of intercropping cotton and clover. In this project clover is used as a cover crop and cotton is strip-tilled into it. In plot studies these fields have gone as long as 7 years without insecticide spraying. In 2 years of field trials this system is showing improved quail brood habitat as a result of better vegetative structure and higher insect numbers. In addition, brood habitat quality is being investigated using small block patches on farmland. The Pineland Steward project continued with radio-tracking of quail habitat use in an ecosystem dominated by dense pines and agriculture.

Cooperative research efforts are underway between UGA, Tall Timbers, and the Albany Quail Project with a quail nest depredation study using remote video cameras. Preliminary results are providing new insight into the role and interaction of predators relative to quail nesting and reproductive success.

Georgia has study sites that are part of the SEQSG Research Committee Predator Research Project that is being funded by Quail Unlimited. This study is examining the relationship between predator densities and quail nesting success across the Southeast.

According to Clay Sisson the Albany Quail Project (AQP) located at Pineland Plantation, Baker County Georgia, is continuing to monitor the effects of removing hardwoods within pine stands on quail population demographics. Results to date indicate a positive response in quail nesting success, reproduction and survival. Also, the AQP is conducting research in central Georgia to determine the response of quail populations to intensive habitat improvements in an agricultural landscape. Preliminary results indicate that quail have responded positively to the establishment of field borders, hedgerows and field corners in quality early successional vegetation.

Submitted By:

Reggie Thackston

Ga. DNR, Bobwhite Quail Initiative Coordinator

ILLINOIS

Population Status

Like most states in the eastern half of the country, bobwhite populations in Illinois have declined sharply in the last three decades. Prior to World War II, bobwhites flourished on the landscape created by small, general farms with wood lots, wooded fence rows, crop rotations of corn, wheat, oats, clover, and permanent pasture of bluegrass and shrubs. After the War, farms in south central and west central Illinois became larger and less diversified shifting to continuous corn and soybeans; however, the transition was mitigated by large scale production control programs that returned many acres to grass/legume mixtures or fallow fields providing good nest cover and brood habitat. In far southern Illinois, many farms were converted to fescue grazing land. From **1960 to 1975**, estimated annual harvests ranged between 1.5 and 2.6 million birds. During the same period, an average of 152,000 hunters spent about 840,000 days hunting quail each year. Between **1975 and 1980**, large scale reductions in short term set aside programs and two consecutive severe winters reduced estimated harvest by 50 to 60 percent. Hunter numbers declined proportionately. From **1980 through 1993**, milder weather and low grain prices made possible a modest recovery. During this period, short term set asides returned and the Conservation Reserve Program began. The ACR (annual set aside) program annually idled between 500,000 and 3,000,000 acres in Illinois as other land was enrolled in the Conservation Reserve Program. Between 1985 and 1995, CRP enrollment reached 822,000 acres in Illinois. These programs dramatically increased available nest cover and brood habitat for quail. Between 1985 and 1994, estimated quail harvest reached 900,000 to 1,000,000 birds in four of ten years. From **1995 to 2000**, the population decline has become more severe. Once again, weather and agricultural policy appear to be primarily responsible. Between 1995 and 1996, quail harvest fell from 706,000 to 426,000 birds. Spring 1996 was cold and wet and annual set aside had been eliminated. In addition, over 200,000 acres of CRP grasslands returned to production while remaining acres had succeeded to poor quality grass monocultures including considerable tall fescue. Weather moderated in 1997 and 1998 and harvests increased to 468,000 and 520,000 respectively. Winter of 1998-99 negatively impacted quail in south-central and west-central Illinois. Call counts in June 1999 were down 30 percent statewide. Summer 1999 was hot and dry probably causing an early termination of nesting. A quail wing survey conducted by Southern Illinois University indicated a juvenile to adult ratio of 2.87, the lowest recorded since the study began in the 1950's. The long term average is 5. In **1999-2000**, 46,000 hunters harvested 413,000 quail in 309,000 days afield, the second lowest estimated harvest since the 1950's.

Recent Research

Three recent studies at Southern Illinois University focused on analyses of quail habitat conditions at the landscape scale. In the first, county level comparisons of quail population indices with landscape variables indicated quail were most abundant in landscapes with 30-65% row crops, 20-30% grassland and at least 30 meters/hectare of woody edge. Results are being used to focus habitat management efforts in regions with the greatest potential for responses by quail. A second study examined temporal shifts in distribution and abundance in relation landscape level habitat conditions and extirpations and colonizations. Preliminary findings indicate a near contiguous distribution of occupied habitat in west central and southern Illinois

with some areas of highly disjunct and isolated habitat in east central and northern Illinois. Finally, a landscape level review of CRP land in 11 sample counties in the quail range revealed that CRP tracts tended to be located in already heterogeneous landscapes; the proportion of woodland and grassland increased as crop land was removed from production; and CRP tended to increase grassland patch size and reduce edge density which may be counterproductive for quail. The Illinois Natural History Survey has begun a study of bobwhite ecology at the 15,000 acre Jim Edgar State Fish and Wildlife Area in central Illinois. This recently purchased area is undergoing habitat development for quail. Studies will include development of density estimates, year round monitoring of habitat utilization, nesting ecology (focusing on habitat structure and incidence of predation) and brood movements.

Bobwhite Management Activities

In Illinois, private land habitat restoration is the responsibility of 35 district biologists in districts ranging from 2 to 4 counties. In 1999, 5,200 landowners received habitat planning assistance. Through the program, 1,700 acres of food plots were established, 2,900 acres of trees and shrubs were planted and 16,000 acres of grasslands were planted. Through the Quail Unlimited/Habitat Stamp Project, a grant of \$144,000 was made to the Illinois State Quail Unlimited Chapter for distribution to local chapters providing 10 percent in matching funds to provide incentive payments to landowners planting native grasses and forbs or wildlife friendly cool season grasses and legumes on filter strips, reenrolled CRP or old pasture areas. Funds are also available to owners who strip disc CRP areas 5 or more years old to increase annuals and legumes. To date, 17 of 19 chapters are participating. Through July 2000, 297 cooperators have established 617 acres of native grass/forb filter strips, 564 acres of native grass/forb CP10 conversions, 2,165 acres of CP2 and CP4D CRP, 603 acres of non-CRP fescue conversions and 480 acres of strip discing on CRP. Total cost of these projects is \$134,000.

John Cole, Upland Wildlife Program Manager
Division of Wildlife Resources
Illinois Department of Natural Resources
phone 217-782-6384
fax 217-785-2438
jcole@dnrmail.state.il.us

KENTUCKY

General Information:

Wildlife Division Reorganization and Restructuring – The reorganization last year continues to pay dividends. The wildlife division continues to reach new landowners through the various private lands programs with the 15 Private Lands Biologists and 3 NRCS Liaisons across the state. They are working hard to reach as many landowners as possible. The increase in biologists focusing on private lands habitat improvement has allowed the division to eliminate the long backlog of landowners waiting for a visit. This has allowed biologists to spend more time with landowners, do additional farm field days as well as look for new ways of generating interest in our wildlife habitat improvement program. Biologists across the state have worked with 483 landowners on 93,735 acres from July 31, 1999-July 31, 2000.

The NRCS Liaison positions have been a resounding success. So much so, that the wildlife division is looking at the possibility of adding 2 NRCS Liaison positions. This would create 1 position for each of the 5 wildlife division regions. In addition, the NRCS staff is very happy with the cooperative effort that has been put forth and it is paying big dividends with farm bill programs. Many of the NRCS District Conservationists are more comfortable recommending wildlife friendly practices knowing that there is staff available to assist them.

Partnerships more than double the states native warm season grass drill supply- The Kentucky Department of Fish and Wildlife Resources has teamed up with the Division of Conservation, The Nature Conservancy, and Quail Unlimited Chapters to purchase 32 new native warm season grass drills this year. Through a creative agreement with our County Conservation Districts, 24 new drills have been purchased. In Kentucky, County Conservation Districts have the opportunity to purchase agricultural equipment by paying one-third of the equipment's cost. The state Division of Conservation office then pays the remaining two-thirds. Then, the county has two years to pay back the state Division of Conservation and they make that money by renting out the equipment over that time two-year time frame. In this deal, KDFWR agreed to pay the initial one-third the county is required to come up with for the purchase of a warm season grass drill.

In separate agreements the Kentucky Chapter of The Nature Conservancy will pay half the cost of five drills as will three of Kentucky's Quail Unlimited chapters. KDFWR will pay the other half of these eight drills. This brings the state total to approximately 52 drills available to private landowners for establishment of native warm season grasses.

KDFWR Habitat Improvement Programs:

Habitat Improvement Program (HIP) - This is the lucky 13th year for the HIP in Kentucky. To date the program has provided technical guidance to 6469 landowners, writing management plans for 1,413,543 acres across the state. Cost-Share money for HIP in next year's budget is expected to be \$380,000 which is the same as the current years allotment.

Focused HIP Projects Ongoing- Each of our 5 regions are continuing "focused" habitat projects. The overall goal of all of these projects is to implement enough habitat work in concentrated areas to demonstrate wildlife population responses. A secondary goal is to discover new methods regarding how to most efficiently get habitat on the ground. Each region is working on its' own project and trying new things. These vary from providing bonus cost-share money tied to other state or federal cost-share programs to providing 100% of the needed plant materials and labor for implementing the practices.

Mobile planting crew pilot concluded: The Southeast region implemented a roving planting crew last year for the establishment of native warm season grasses on private lands. The program was very successful planting about 133 acres of native warm season grasses at a cost of \$47.00/acre. This cost included technician salary and tractor rental. The average size of the plot was about 5 acres. Larger plot size would greatly reduce the cost-per acre figure.

In addition, one of our QU Chapters acted as a planting crew for landowners in their area. This worked out very well. The chapter members were able to make some hunting contacts and it reduced the workload for the area biologist. In both cases, the landowner was responsible for getting seed, site prep and he was required to be at the site during the planting.

Forest Stewardship Program (FSP)- KDFWR remains very active in the FSP. Our cooperative efforts with the KY Division of Forestry to implement FSP have remained strong, even with the lack of Stewardship Incentives Program (SIP) cost-share money. To date we have worked with 2908 landowners with 505,132 acres through this program. Currently the FSP committee is looking at ways to keep the landowner's interested in the program with the absence of the SIP cost-share money.

Technical Guidance Evaluation – Last year Kentucky contracted out a research project to look at the impact our private lands programs are having on wildlife populations. This work started last summer and will be continue this summer. Although results are only preliminary, it appears researchers from Eastern Kentucky University are finding small but significant differences in wildlife populations (game and non-game) on farms who have implemented some of our recommended practices compared to similar farms our biologists have not visited.

Surveys:

Quail and Rabbit Roadside Survey- ABSTRACT: A total of 1440 quail and 3312 rabbits were observed by rural mail carriers as they delivered mail over 266,575 miles of rural roads during the last week of July 1999. The number of quail observed per 100 miles was 44.9 percent lower than was recorded in 1998 on a statewide basis and was the lowest recorded in the 39 years of this survey. Decreases in quail observations occurred in every weather division as follows: -50.0 percent in the Western weather division, -46.9 percent in the Central weather division, -18.4 percent in the Bluegrass weather division, and -3.8 percent in the Eastern weather division. Rabbit observations decreased by 21.7 percent on a statewide basis compared to 1998 observations. Decreases in rabbit observations by physiographic region occurred as follows: -60.1 percent in the Jackson Purchase, -44.8 percent in the Western Pennyroyal, -18.9 percent in the Western Coalfield, -21.0 percent in the Inner Bluegrass, -21.3 percent in the Outer Bluegrass, -49.7 percent in the Hills of Bluegrass, and -0.5 percent in the Eastern Coalfield. Rabbit observations increased by 9.9 percent in the Eastern Pennyroyal physiographic region.

Quail Hunter Cooperative Survey- ABSTRACT: Data were gathered on Kentucky quail harvest and quail hunter effort utilizing a diary type hunting log kept by volunteer quail hunters. Thirty-four (34) hunters participated in the survey, averaging 12.3 hunting trips, each being 3.3 hours in length. Data were provided from 418 hunts in 42 counties. Hunting effort was slightly skewed toward the front of the season. Nearly 30% of the hunts occurred during weeks 4 and 5 of season. This is the traditional opening, immediately following the close of modern gun deer season. After these opening weeks hunting decreased in weeks 6 and 7 with increased pressure during the Thanksgiving and Christmas holidays and on the last week of the season. Only 5.3% of the hunts took place during the first 12 days of November, before the gun deer season. Flush rates averaged 0.45 coveys/hr of hunting (2.3 hr/covey) for the season. The hunters averaged harvesting 2.0 birds/trip with average bag rates of 0.62 birds/hr for the season. These rates

represent no change for covey finds and a decrease of 8.8% for birds bagged from the 1998-99 season.

Quail Wing Survey- ABSTRACT: Data were gathered on Kentucky quail harvests and quail hunter effort utilizing a mail-in wing collection survey. Seventy-one (71) quail hunters cooperated in the mail-in survey by sending in 638 quail wings from 39 counties and 177 different hunts. Harvested quail were composed of 55.1% males. Quail hunters found an average of 2.0 coveys on each trip at a rate of 0.6 coveys/hr. The average quail bag/trip was 3.9 birds. The harvest was composed of 78.7% juveniles resulting in a productivity index of 9.0 young / adult hen or 3.7 young / adult. Juvenile quail were aged and the primary hatch dates determined to be essentially the mid-July through mid-August. At the November 1 opening, 79.6 % of the juvenile birds were 70 days old or older and 46.5 % of the juveniles were at least 90 days old. This compares to an average of 77.0 % of the birds being 70 days or older and 51.6 % of the birds being 90 days old or older for the first 13 years of this survey.

Research:

Survivability of Pen-Raised Bobwhite Quail "Soft" Released into The Wild for Field Dog Trials-In the second phase of a two-phase project, pen-raised bobwhite quail to be used in field dog trials are being released on to the Central Kentucky Wildlife Management Area. The birds are being "soft released", i.e., groups of 12 birds are being released at sites in which Covey Base Camps have been installed. Within each covey of 12-birds/base camp, two birds are being radio-tagged with radio units equipped with mortality sensors. Radio-tagged birds are tracked on a daily basis. Birds are being released at least one month prior to the first field dog trial. Movements and, if possible, sources of mortality are being determined. Phase I of the project involved monitoring birds subject to a hard release and immediate dog trail activities--long-term survival of these birds was extremely low. The Phase II study is being conducted to determine if Phase II birds survive significantly longer than did Phase I birds.

NWSG Research at the University of Kentucky- We have just started a four year research project which will compare stand emergence, heading, establishment, total yield, and season yield several of the major cultivars including Kentucky varieties of eastern gamagrass, big bluestem, indiangrass, and switchgrass. Also, we are looking at a much larger research project that will look at the possibility of using NWSG for forage production in the horse industry.

Dan Figert

LOUISIANA

Louisiana Department of Wildlife and Fisheries (LDWF)

Quail Restocking – We are attempting to reintroduce wild bobwhites into an area where quail are absent. This is a unique area located in the Atchafalaya Basin consisting of 1000 ac. of formerly cultivated fields. About 500 ac. have been reforested and the remaining land is managed for small game (rabbits, woodcock, doves). Our goal is to introduce at least 30 bobwhites per year for 3 years. Results will be monitored by use of fall and summer call counts.

Jackson-Bienville WMA – Work is continuing to develop quail habitat through the Jackson-Bienville Habitat Program. This is a cooperative project with LDWF, Willamette Industries, Entergy, Monsanto, BASF, Barenburg Seed Co., Quail Unlimited and the National Wild Turkey Federation cooperating to enhance quail and wild turkey habitat. Cooperative efforts have involved pipeline right-of-way plantings, herbicide applications, prescribed burning, food plots, mechanical brush reduction, and fallow discing. Intensive call counts are made to document population response.

Louisiana Army Ammunition Plant – This is a 13,000 acre pine dominated site in northwest Louisiana. The Louisiana Army National Guard has taken over management of this property. We will be working with the National Guard and The Nature Conservancy to develop a management plan for the property. The management regime is expected to favor bobwhite quail.

Bobwhite Quail Booklet – We are working on the draft of a new bobwhite quail booklet for Louisiana. The booklet will cover life history, status, and management of bobwhite quail in Louisiana. This booklet will be tailored toward providing direction to land managers and will address the most common habitat limitations in Louisiana.

Louisiana State University (LSU)

Effects of Selective Herbicide Applications – Dr. Michael Chamberlain is investigating the effects of selective herbicide applications on habitat quality for bobwhites in managed pine forests. The effects of prescribed burning in sawtimber pine stands will be compared to applications of Arsenal and Arsenal/glyphosate applications. Variables being measured include vegetation structure and floristics, plant diversity, diversity and abundance of invertebrates, and abundance of important bobwhite food plants. The project began this summer and will continue through the summer of 2002. This is a cooperative project involving the LSU Agricultural Center and BASF (formerly American Cyanamid).

Bobwhite Response to Land Management Practices – This project is in the formative stages, but Dr. Chamberlain proposes to measure individual and population level responses to specific land management practices. The project will involve 3 study areas in northwest Louisiana.

Fred Kimmel

MISSOURI

Quail Population & Hunting Status

- Missouri's statewide quail index (August roadside visual survey initiated in 1983) reached a record low in 1999.
- Preliminary 1999 hunting season results: 52,500 hunters; 515,000 quail harvested.

Private Land Programs

- New Private Land Services Division formed with quail conservation as a priority; \$1.93 million budgeted for staff of 82; \$1 million annually for cost share (<http://www.conservation.state.mo.us/landown>)
- “Open Lands” Private Land Initiative: 4-county private & public land habitat programs with extensive monitoring of small game and select songbirds and GIS-based habitat modeling; \$300,000-\$400,000 annual budget with potential for major increase for research

Research

- Open Lands Initiative
 - CRP vegetation trends
 - Small game/songbird population trends
 - Quail habitat evaluation software
- Accuracy of Fall Whistle Count (<http://news.prairiefork.net>)
- Public Land Quail Population Dynamics & Habitat Use (<http://news.prairiefork.net>)
- Crop Field Border effect on Arthropods and Corn and Soybean Production (<http://www.cafnr.missouri.edu/borders/index.html>)
- Annual Quail Population & Hunting Surveys (<http://www.conservation.state.mo.us/hunt/>)
- Small Game Hunter Attitude Survey
- Copper Quail Thermoregulation
- Intranet web site for quail management
- Update of 10-year MDC quail plan

Tom Dailey

NORTH CAROLINA

During its August 2000 meeting the NC Wildlife Resources Commission approved and funded an ambitious plan presented by the Division of Wildlife Management (DWM) which included a proposal to reorganize its staff to increase the organization’s efficiency and effectiveness.

The plan includes the addition of 8 new positions including: one Section Manager of the new ‘Surveys and Monitoring / Technical Guidance Section, one Extension Wildlife Biologist, one

Special Projects Biologist, one Mountain Technical Guidance Supervisor, three Wildlife Management Technicians and one Processing Assistant III. Additionally, a number of employees have been reassigned. Among them are four employees who have been associated with the SEQSG. Carl Betsill, Research Section Manager, will become the Special Projects Biologist, Denny Baumbarger, Small Game and Migratory Bird Project Coordinator, will become the Piedmont Region Technical Guidance Coordinator. Terry Sharpe, Small Game Project Leader, will become the Ag Liaison Biologist. And Evin Stanford, Assistant Small Game Project Leader, will become Survey and Monitoring Biologist.

An increased emphasis on small game was a driving force behind the plan. Three "focal areas" on private lands will be identified (i.e., specific geographical areas) on which small game work will be implemented under a system of cooperatives. Focal area selection will be based on biological selection criteria appropriate to the region and specific to management of small game. Small Game Cooperatives of at least 5,000 acres will be established within each focal area. Enrollment would be for a minimum of five years through a MOU. The Commission will provide technical assistance, and economic incentives.

The plan also includes:

- Continuation of management and monitoring on one or more farms currently serving as study areas in the Ag Ecosystem Research Project.
- Review of our involvement in existing agricultural and forestry programs (e.g., Forest Stewardship, CRP, CREP, etc.) and consolidation of efforts into identified focal areas.
- Providing marketing and promotion to private landowners and other agencies to promote small game management through the Extension Wildlife Biologist.
- Review of NC tax codes and to make recommendations for revisions to establish economic incentives for landowners to manage for wildlife.
- Intensive small game management on selected Game Lands.
- Financial incentives for landowners participating in the Cooperative System.

The approval of the DWM reorganization and implementation plan and funding at one million dollars for the first year marks the end of a year long planning process and the beginning of the implementation phase. We will keep you posted!

Terry Sharpe

OKLAHOMA

Unusually hot and dry weather conditions plagued much of the 1999 quail season contributing to poor hunter success. The 1999 estimates of average number of quail in the daily bag (2.2) and total harvest (1,028,316) were the second lowest recorded since 1986. Despite the low harvest total, harvest during 1999 only declined 2% from the 1998 estimate (1,048,878). Similarly, the estimated number of quail hunters declined 2% from 1998 to 1999 (60,477 and 59,263, respectively).

With over 97% of Oklahoma's land base in private ownership, the Oklahoma Department of Wildlife Conservation (ODWC) has focused much of its efforts toward providing technical assistance and cost sharing opportunities to the private sector. During the past year, ODWC biologists have made numerous presentations, field days, and provided technical assistance to 110 landowners representing 137,000 acres. A quail symposium, spearheaded by Dr. Fred Guthery, provided information to biologists and land managers on topics of northern bobwhite life history traits, habitat management, and landowner opportunities. Participants in the symposium included state and federal wildlife biologists, university personnel, non-profit organization representatives and landowners.

During the past year, ODWC biologists have worked on farm bill programs with the Natural Resources Conservation Service (NRCS) and served on the state technical committee. ODWC biologists assisted county NRCS personnel in the assessment of 431 applications for the second enrollment period for the Wildlife Habitat Incentive Program (WHIP). Approved WHIP projects during the second enrollment period represented 21,219 acres. ODWC biologists also assisted NRCS personnel with the assessment and ranking of applications for the Environmental Quality Incentives Program.

The ODWC is continuing with roadside quail surveys and its research on northern bobwhite chick mortality at the Packsaddle Wildlife Management Area. From 1997 through 1999 ODWC personnel monitored 67 nesting attempts and 93 radiomarked bobwhite chicks. The Packsaddle research project is scheduled for completion in June of 2002.

Mike Sams, Upland Game Biologist, Oklahoma Department of Wildlife Conservation, 1801 N. Lincoln, Oklahoma City, OK 73105

John Hendrix, Private Lands Biologist, Oklahoma Department of Wildlife Conservation, 100 USDA Suite 203, Stillwater, OK 74074

Scott Cox, Wildlife Technician, Oklahoma Department of Wildlife Conservation, P.O. Box 633, Cheyenne, OK 73628

SOUTH CAROLINA

STATUS: South Carolina's quail population has declined dramatically over the past 30 years as a result of large-scale changes in land use and the resultant habitat loss or degradation. Between 1952 and 1996, pine plantation acreage in South Carolina increased from approximately 200,000 acres to approximately 2,000,000 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 1966-1999. Combined with decreased habitat availability and quality, consecutive droughts during the summers of 1998 and 1999 negatively impacted reproduction and survival, resulting in decreased populations and decreased hunter success across most of the state.

Improved weather conditions and improved nesting cover during the summer of 2000 is expected to result in improved reproduction and improved fall populations over the past two years. Anecdotal reports from the field indicate a high number of brood sightings during the summer. Results of the SCDNR Quail Brood Sighting Survey will be available prior to the 2000-01 quail season.

HABITAT IMPROVEMENT: SCDNR offers small game management technical assistance to private landowners through the Small Game Project. Twenty-five management plans were written by Project staff during the past year, covering approximately 20,000 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 implemented 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 22 years, producing reliable trend data which parallels field observations and the USFWS Breeding Bird Survey. Sixty-four permanent routes are established statewide, and survey routes (5.5 miles) are conducted on consecutive mornings or afternoons between June 15 and July 10. The Bobwhite Quail Whistling Cock Survey index was the lowest in the history of the survey in 2000.

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 25 to August 25 are recorded. From these sighting, an annual index of productivity (chicks/adult) is calculated.

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.

Hunter Effort and Harvest Survey - SCDNR has recently completed a multi-species Hunter Effort and Harvest Survey through Responsive Management. Results of this telephone survey will include numbers of small game hunters (by species hunted), as well as days afield and harvest information.

QUAIL RESEARCH

Red Imported Fire Ant Impacts on Northern Bobwhite Populations and Insect Resources-

The South Carolina Cooperative Fish and Wildlife Research Unit at Clemson University is conducting research at several study sites within the southern lower coastal plain region of South Carolina to examine possible effects of red imported fire ants on bobwhite populations and insect resources. One plot from each of five pairs of plots will receive a single aerial or ground application of Amdro™ prior to the peak of bobwhite quail nesting. Plots are approximately 300-500 acres in size. Fire ant densities, quail densities and invertebrate abundance will all be monitored following treatments and compared to pre-treatment values.

AGRICULTURAL LIAISON ACTIVITIES

SC DNR staff continue to work with NRCS and other USDA agencies to incorporate quail-friendly practices into farm conservation plans. The SC State Office of NRCS has conducted an aggressive technical field training program over the last year covering topics such as planning and management for grazing systems, forestland management, conservation buffers and stripcropping, and upland wildlife habitat management. DNR staff have participated in a number of these sessions, encouraging NRCS staff to consider habitat development for bobwhites and other early successional species through the use of native vegetational field borders and filter strips, establishment of native warm season grasses, and prescribed burning. Additionally, plans are underway to again focus SC's allocation of WHIP funds on bobwhite habitat restoration.

Billy Dukes

TENNESSEE

The purpose of the Tennessee Statewide Small Game Coordination project is to improve Tennessee's habitat for small game populations, and to improve recreational opportunities for small game users. Project implementation and operation was conducted primarily by one statewide program coordinator and 8 regional small game biologists. A wide variety of programs and efforts are being utilized to address the project's goals and objectives.

The Small Game Program Coordinator was actively involved in state, regional and national meetings and activities in efforts to influence wildlife considerations in the USDA conservation programs. The bill, signed into law on April 4, 1996, now specifically identifies wildlife habitat as an objective of federal farm programs co-equal to soil erosion control and water quality. This offers TWRA the best opportunity we've ever had to influence wildlife habitat on private lands.

CONSERVATION RESERVE PROGRAM

During the past year, TWRA designated 25 field personnel as regional *Farm Bill Specialists*, who are being trained regarding implementing wildlife practices into conservation plans, and are directed to assist local USDA personnel. These personnel have spent considerable time this year assisting landowners on CRP fescue eradication and native warm season grass plantings.

As of September 8, 2000, a total of \$572,370 of TWRA's CRP incentive payments were requested by CRP applicants, and \$319,731 has been paid for completed practices. Habitat practices completed to date include 7,797 acres of native warm season grasses, 3,752 acres of good cool-season grass-legume mixtures, and 6,447 acres of fescue eliminated (much of the fescue killed was subsequently planted to the other grass mixtures). Several other practices were included for a total of 11,827 actual acres of CRP habitat impacted through the TWRA incentive payments.

TWRA biologists continued to be very active in meeting with landowners and USDA personnel to promote and explain the CRP's revised Environmental Benefits Index, and promoting conversion of fescue to native warm season grasses. Nationwide, and in Tennessee, this CRP signup was small (similar to Signup 18) due to few current contracts expiring and current farm economics. Out of 37,115 acres offered for CRP in the 20th signup, 28,488 acres were accepted, which was a higher acceptance rate for Tennessee than the 18th signup. The acceptance rate since Signup 15 has increased from 47% to 78%, and has largely been influenced by TWRA efforts in promoting good wildlife cover, TWRA incentive payments (which were available in signups 15-19). To encourage habitat changes on private land, TWRA loans native grass drills and spray rigs free-of-charge to private landowners involved in these habitat programs.

UPLAND GAME BIRD HABITAT PROGRAM

TWRA's *Upland Game Bird Habitat Program* was largely inactive the past two years as USDA's *Wildlife Habitat Incentives Program (WHIP)* offered similar incentives for wildlife habitat development. However, Congress did not appropriate additional funds for the federal WHIP program this year. So, TWRA is reactivating the Upland Game Bird Habitat Program, which provides standard cost-share reimbursement for habitat practices. Cost-share rates are typically 60-75% of practice costs. Upon approval of a plan, the landowner signs a contract agreeing to implement the practices and protect and maintain them for 5 years. Cost-share payments are received after the practices have been completed and inspected. Maximum cost-share is \$1,000. Applicants are considered on a first-come first-served basis.

WILDLIFE BUFFERS PROJECTS

\$200,000 was budgeted for five years for a pilot wildlife buffers project. This project is paying landowners up to \$100 an acre to set aside wildlife-friendly field borders to complement and expand the impact of USDA program buffers in the targeted watershed areas. An additional pilot project, *Bordering On The Wildside* was implemented to promote native grasses in the Chickasaw-Shiloh RC&D District in West Tennessee.

SEED DISTRIBUTION

During the past year, TWRA purchased over 155,000 lbs. of seed (lespedezas, clovers, native grasses, annual grains), which was enough to plant over 8,678 acres of wildlife food and cover. TWRA also paid the shipping for 545,750 lbs. of donated Quail Unlimited seeds (milo, corn, wheat, sunflower, soybeans) for distribution to WMAs, PHAs, sportsmen's groups and private landowners for wildlife habitat improvements. This was enough seed to plant approximately 28,100 acres of wildlife food plots.

QUAIL UNLIMITED GRANT

TWRA provides a five-year grant to Quail Unlimited for habitat development and technical guidance in Tennessee. Quail Unlimited has a regional director position in Tennessee, and through efforts of this individual in working in developing new QU chapters, providing chapter guidance, providing technical assistance efforts and coordinating TWRA resources with QU programs and chapters, it is expected that TWRA will realize at least four times its investment in planting materials, in-kind labor in habitat projects by QU members and personnel, and donations of equipment and research dollars to the State.

CHEROKEE NATIONAL FOREST CHALLENGE GRANT

For the eleventh straight year, a challenge grant was conducted with the U.S. Forest Service-Cherokee National Forest. By TWRA providing \$30,000 in 1998-99, the USFS provided an additional \$30,000 for small game habitat improvement work on the Cherokee National Forest/WMA. A total of 359.1 acres of habitat improvements were made in the four (previously six; districts were revised) ranger districts of the forest. Work performed included creation of 15.8 acres of new openings, 21.5 acres of existing field renovation, 35.8 acres of day lighting seeded logging roads, 146 acres of prescribed burning, and 140 acres of mowing.

In addition to the challenge grant, TWRA worked with the Forest Service on a project to convert 70 acres of fescue to native vegetation by using Plateau herbicide on a site along the Nolichucky River near Del Rio. This project was successful. Several acres may still need to be spot treated to complete the fescue eradication. Positive quail responses were noted.

TEXAS

The Texas Parks and Wildlife Department (TPWD) considers quail to be an extremely valuable natural resource of the state. Texas is one of the few remaining strongholds for wild quail populations in the United States. In order to ensure the viability of these populations the department has focused its research efforts on landscape issues affecting quail populations. Over the past year TPWD has been involved with several innovative quail research projects, which address factors influencing quail dynamics/abundance. Some of the projects are summarized as follows:

ASSESSMENT OF SCALED QUAIL POPULATION DYNAMICS IN TEXAS

Raquel Leyva-Texas Tech Univ., Nick C. Parker-Texas Cooperative Fish and Wildlife Research Unit, Markus J. Peterson-TPWD

This project tests the hypothesis that long-term habitat changes can account for long-term declines in scaled quail abundance in Texas. Remotely sensed data and existing databases are being used to describe changes in the biotic and abiotic habitat composition of scaled quail. A Geographical Information System is being used to assemble all the databases for habitat

description. These include soil description, scaled quail population surveys, historical climate data, and vegetation description.

Completion of this project is expected to provide a tool for managing scaled quail populations in Texas. The remote sensing techniques employed should prove to be important management tools not only for scaled quail, but other wildlife populations as well.

LANDSCAPE CHANGES RELATED TO SCALED QUAIL HABITAT IN TEXAS

X. Ben Wu, Nova J. Silvy, and Fred E. Smeins-Texas A&M Univ., and Markus J. Peterson-TPWD

The objective of this study is to determine whether scaled quail abundance has declined across much of its range in Texas as a consequence of landscape changes that have occurred over the last 2 decades. The focus of the analysis is on the Rolling Plains, where the decline of scaled quail is most apparent, and the South Texas Plains, where there is no apparent decline.

Remote sensing, GIS, and landscape analysis approaches are used to look at how the composition and spatial pattern of landscapes have changed from the early 1980s to the mid 1990s; determine which changes are closely related to trends in quail abundance; and evaluate what land use or management practices contributed significantly to the landscape changes.

Determination of landscape changes and their relationship to trends in scaled quail abundance, as well as the land use and management practices that contribute significantly to these, should provide useful information, which can be used to design, and implement management plans to reverse the decline in scaled quail abundance.

A NEURAL ANALYSIS OF THE RELATION BETWEEN QUAIL POPULATIONS AND WEATHER VARIABLES IN TEXAS

Jeffrey J. Lusk, and Fred S. Guthery-Oklahoma State University

Using an artificial neural network as a modeling tool, the effects of weather on bobwhite abundance in 6 eco-regions in which the bobwhite occurs were studied. TPWD abundance data (1978-1997), weather variables (June, July, and August mean maximum temperature; winter, spring and summer rainfall), the proportion of county area in cultivation, the number of head of livestock per hectare of non-cultivated land, and the previous year's bobwhite count were included in the analysis.

The most important variables contributing to the network model's prediction were winter and fall rainfall, and the previous year's count. Statewide simulation results indicate that bobwhite abundance decreased with June temp., summer and fall rainfall, and livestock density. Bobwhite abundance increased with July and August temp., winter rainfall, and the previous year's bobwhite count.

These results indicate that a potential confounding effect may exist in the survey protocol resulting in artificially inflated counts during years of excessive July and August temp. and high summer rainfall. They also provide a better understanding of expected bobwhite responses to variation in weather.

RECENTLY FUNDED PROJECTS:

After habitat loss, exotic species invasions may be the second greatest threat to native ecological communities. TPWD has recently funded two projects, which involve exotic grasses. The first study was submitted by Bill Kuvlesky with CKWRI, TAMU Kingsville and examines the impact of invasive exotic grasses (Buffelgrass) on south Texas bird communities. It will measure avian species diversity and abundance, and reproductive success on a buffelgrass dominated site and a native grass dominated site with at least two 500-acre replicates for each group. The second, submitted by one of Matt Wagner (TPWD), Fred Smeins and Steve Whisenant (TAMU) is aimed at determining the most efficient and cost effective method to reduce bermudagrass turf and re-establish native vegetation in the Post Oak Savannah ecological region of Texas.

To date there have been few studies on quail species other than bobwhite in Texas. With the advent of radio telemetry, we are now able to examine the life history and ecology of these lesser-known birds. Dale Rollins (TAES), Bobby Buntyn (Angelo State Univ.), Scott Lerich (TPWD), and Louis Harveson (Sul Ross State Univ.) are currently examining the role of moist-soil management in the reproductive ecology of scaled quail in the Trans-Pecos region of Texas. This study is using radio telemetry to assess survival and nest site selection on 5 sites. Additionally, Louis Harveson, Froylan Hernandez (Sul Ross State Univ.) and Clay Brewer (TPWD) are studying the ecology of Montezuma quail at Elephant Mountain Wildlife Management Area. Radio telemetry is also used in this study to assess/evaluate several factors including general life history, density, nesting ecology, habitat selection, and potential interactions between scaled quail and Montezuma quail.

Robert Perez

VIRGINIA

1. *Beyond The Food Patch: A Guide To Providing Bobwhite Quail Habitat* printed in quantity, full color, heavily illustrated.
2. Completion of field work on the four-year *Predation and Habitat Management Study* being carried out cooperatively by North Carolina State University, North Carolina Wildlife Resources Commission, Virginia Dept. of Game and Inland Fisheries, and Tall Timbers.
3. Completion of the field work and most of the data analysis and write-up on the *Quail Survival Study*--paper to be presented at 2000 SEAFWA meeting and published in the proceedings.
4. 13 Workshops attended by 484 people (includes NRCS and Forestry In-service training workshops)
5. 172 plans written for Early Succession Wildlife habitat improvements
6. A slight increase in hunter success (4.2% increase in quail bagged) was experienced in the 1999-2000 quail season. Preliminary indications are that the 2000-2001 hunting season will be comparable to slightly improved over 1999-2000.

Steve Capel

POSTER ABSTRACTS/SUMMARIES

RESPONSE OF A NORTHERN BOBWHITE POPULATION TO THINNING OF CRP PINE PLANTATIONS

Parnell¹, I. B., S. H. Schweitzer¹, L. A. Lewis², and C. G. White¹

¹D. B. Warnell School of Forest Resources, University of Georgia, Athens, GA 30602-2152

²Southeast Cooperative Wildlife Disease Study, College of Veterinary Medicine, University of Georgia, Athens, GA 30602

The northern bobwhite (*Colinus virginianus*) population in the southeastern United States has been declining since the 1920s. Changes in land use that reduced habitat availability and quality for the species are thought to be primary causes of the decline. We examined responses of a bobwhite population to the thinning of dense (1,797 trees/ha) pine plantations established through contracts of the Conservation Reserve Program. Our objective was to restore early-successional habitat within our study area, a landscape of pine plantations and row-crop agriculture in the upper coastal plain of Georgia. We determined the home range, habitat selection, nesting success, and survival rates of 151 radio-marked bobwhites during 1997-2000. Selection of habitats by radio-marked quail supported our hypotheses that they would use early-successional habitats preferentially, and that thinning pine stands would benefit quail by providing improved habitat. Bobwhite selected open canopy planted pine and fallow field habitats in preference to closed canopy planted pine and agricultural areas. Nesting success ranged from 35-88%, and rates of survival ranged from 17-38%. Nesting success was greater in fallow fields and edges of closed canopy planted pine habitats than in open canopy planted pine in 1997 and 1998. In 1999, nesting success did not differ among habitat types. Survival rates of quail in our study were similar to those reported elsewhere in the southeastern United States. Our preliminary results suggest that row thinning 35-50% of pines in plantations will provide improved habitat for northern bobwhite.

PRELIMINARY OBSERVATIONS OF COOPER'S HAWK (*Accipiter cooperii*) FORAGING STRATEGIES AND DIETS IN NORTH-CENTRAL FLORIDA

Alex Kropp, Brian Millsap, Elizabeth McConnell, Laura Phillips

Cooper's Hawks (*Accipiter cooperii*) were radio tracked intensively in two different study areas in North-Central Florida year-round from 1997 through 2000. The Tall Timbers Research Station Study Area consisted of an old field, loblolly pine (*Pinus taeda*) dominated quail plantation. The Dowling Park Study Area was located in habitat dominated by agriculture, slash pine (*Pinus elliottii*) plantations and small blocks of laurel oak (*Quercus hemisphaerica*) woodlands. Cooper's hawk nest sites, roost sites, and plucking perches were identified in each study area and prey remains from Cooper's hawk kills were collected year-round. Of 143 prey items collected at Tall Timbers, 18.9% of kills (27) were identified as northern bobwhite

(*Colinus virginianus*) while 7.7% (11) of kills were identified as mourning dove (*Zenaidura macroura*). Of 689 prey items collected at Dowling Park, only 5.1% (35) were identified as bobwhite but 26.4% (182) were identified as mourning dove. Songbirds made up the largest percentage of remains collected with 50.4 % (72) of kills being songbirds at Tall Timbers and 45.6% (314) at Dowling Park. At Dowling Park, prey deliveries to nests were video taped from late May through early July in 1998. Of 53 observations, bobwhite made up a similar 5.7% (3) of prey deliveries while mourning doves made up only 7.6% (4) of prey deliveries. Songbirds remained relatively constant at 44.1% (23) of deliveries. All data for this project had not been entered at the time of this poster. The full data set is currently being analyzed as part of the larger Cooper's Hawk Ecology study being conducted by the Florida Fish and Wildlife Conservation Commission.

REGIONAL PREDATOR AND HABITAT RESEARCH PROJECT

Bill Palmer, Wes Burger, D. Clay Sisson, John Carroll, and Rachel Chambers

Predator composition and abundance or "context" may help to explain quail demographics on localized areas. Predator contexts likely vary in time and space and may interact with different habitat/landscape contexts to produce repeatable demographic signatures for quail populations in the Southeast. We measured predator abundance and quail demography on areas of good to excellent habitat to determine if predator abundance was related to quail reproduction, survival and density. Other long-term objectives include determining (1) if landscape features can help to predict predator contexts and (2) if standardized methods to measure of predator contexts prove useful for developing Integrated Predator Management. Study areas were restricted to those with > 3000 acres of active quail habitat management, GIS habitat system, estimates of quail density. Quail demographics were determined from telemetry of at least 40 quail per area. We avoided areas with limited useable space because we wanted to see if predator context explained variation in production of young when useable space was not limiting. During October, mammals (raccoon, armadillo, skunk, opossum, fox and bobcat) were censused using tracking stations baited with FAS tablets. In 1999, mammals were censused in conjunction with quail demographics on 10 areas in TN, MS, FL and GA. A total of 420 quail were monitored April to October. First year, preliminary analyses, indicated that nesting, hatching and production of successful nests were negatively related to predator abundance ($P < 0.05$). The number of nests per hen, number of hatched nests per hen, and population productivity (population productivity includes the male component of production), were correlated to our indices of mammalian nest predators. Nesting rate, survival and hatching rate of nests were significantly correlated among populations. As suspected, variation in predator contexts was large across areas. These preliminary results suggest that measuring predator contexts along with habitat (local and landscape) and weather variables may be important to understanding quail demography at the local scale.

SOUTHEAST BOBWHITE BRIGADE – 2000

Billy Dukes (SCDNR) and Daniel Stillinger (QU)

The Bobwhite Brigade was started in 1992 by Dr. Dale Rollins of the Texas Cooperative Extension Service. As a one-week, intensive training program for young adults, the Bobwhite Brigade focuses on biology and management of bobwhite quail while teaching team building skills and life skills such as public speaking.

In June of 2000, cooperating partners held the first Bobwhite Brigade in the Southeastern U.S. at the Webb Wildlife Center in Garnett, South Carolina. The Bobwhite Brigade curriculum topics and activities included quail biology, habitat management, population dynamics, morphology and physiology, movements and survival, radiotelemetry, brood habitat appraisal, predator/prey relationships, dummy nest evaluation, firearms safety, and clay target shooting. Twenty-two students from Georgia and South Carolina participated in the inaugural event. Based on a comparison of pre-test and post-test scores, participants' knowledge of bobwhite quail biology and management increased by an average of 96% as a result of information received during the camp. Scholarships in the amounts of \$1000 and \$500 were awarded to the top two participants.

Limiting factors for conducting a Bobwhite Brigade or similar youth camp include suitable accommodations and field sites, youth recruitment, and competition from other summertime activities. Those interested in conducting such a program are encouraged publicize the event as much as possible, recruit through school programs, and utilize established complimentary programs such as 4-H and FFA to aid in recruitment. Individual and corporate sponsors are extremely important in funding necessary materials and supplies to conduct classroom and field activities. Local Quail Unlimited chapters can aid in recruitment and may also serve as camp sponsors.

Based on improved knowledge, favorable evaluations, and demonstrated skill development, we believe that the first Southeast Bobwhite Brigade was a beneficial program for participants, cooperating partners, and quail conservation efforts.

ALBANY QUAIL PROJECT

School of Forestry and Wildlife Sciences - Auburn University

D. Clay Sisson and H. Lee Stribling

The Albany Quail Project (AQP) began in the Spring of 1992 on Pineland Plantation in southwest Georgia. Since that time the project has grown and expanded in both size and scope so that research is now being conducted on 5 different Plantations that make up over 50,000 acres of land. The AQP is a unique combination of research, monitoring, and management with the objective of understanding the ecology of Bobwhite Quail in southwest Georgia and using this information to produce high quality quail hunting for our constituents. Our cumulative sample size of radio-tagged birds is now over 3,500 with projects having been conducted on a wide range of topics all pertaining to practical quail management and hunting.

Management/monitoring projects are being conducted in two distinctly different landscapes. These projects are monitoring population response to intensive modification of a farming landscape on one area and intensive hardwood "clean-up" on the other. The farm study area has shown dramatic population response over the last three years on a row crop farm that established field borders and terraces on all Ag fields as well as initiated a predator trapping and supplemental feeding program. The hardwood removal site has shown dramatic increases as well after mechanical removal of hardwoods from a pine woodland site. This resulted in much better groundcover for the birds but is also believed to have impacted avian, mammalian, and reptilian predators negatively. Our research experiments are currently focusing on nest predation and supplemental feeding. We are providing several of the study sites for the SEQSG/QU cooperative project that is measuring nest predator abundance on areas where radio-tagged birds are providing estimates of reproductive success. We are also working with Tall Timbers and UGA on a nest camera study to identify just what the important nest predators are in the southeast. Next Spring we will begin a large scale predator management experiment as well. Our earlier studies on supplemental feeding documented benefits from this practice that included increased overwinter survival and an earlier onset of nesting activity. Additional study revealed benefits from year-round feeding as well in the form of increased reproductive output and juvenile survival, especially in drought years. Our current feeding research is focusing on the effects of high protein summer feeding. For more information on the AQP send us your name for our newsletter mailing list or visit our web site at www.quailmanagement.com.

IMPACTS OF RED IMPORTED FIRE ANTS ON NORTHERN BOBWHITE QUAIL

Craig Allen, Evan Myers, and Mac Horton

For reasons not clearly understood northern bobwhite quail populations have declined since the early 1900's. Some of this decline is clearly associated with land-use change. However, land-use change does not explain all of the decline in bobwhite populations, especially on quail plantations and other sites where land management practices are designed to enhance populations. Another factor that may have contributed to the bobwhite decline is the introduction of the red imported fire ant. Bobwhites are vulnerable to both direct and indirect fire ant impacts. Impacts include predation upon chicks, non-lethal effects of stings (reduced weight gain and reduced survival), irritation affecting feeding and resting behavior, and competition for insect food resources. All these impacts have been documented on bobwhite in areas of high fire ant density in Texas.

To determine fire ant impacts in the Southeast, we are combining empirical analyses with large-scale field manipulations. To determine effects of fire ants on northern bobwhite quail abundance over time, we used the long-term data sets available from Christmas Bird Counts. We averaged bobwhite quail abundance across count sites in the southeast (Florida, Georgia, South Carolina) for each year prior to and after invasion by fire ants. Bobwhite abundance was nearly four times greater prior to fire ant invasion. There was no trend in bobwhite abundance prior to fire ant invasion, but there was a significant negative trend after invasion. Across the region, the number of years fire ants have been present in a county explained 75% of the year-to-year variation in

bobwhite abundance.

To determine the impact of monogynous fire ants on wild bobwhite we selected 12, 100-400 acre sites on 6 plantations in the coastal plain of South Carolina, and, after the collection of pre-treatment data, treated half of the sites (1610 total acres) in the spring of 2000 to reduce fire ant populations. Pre-treatment, there was no significant difference between bobwhite populations, bobwhite whistle counts and fire ant abundance on treated and untreated sites. Post-treatment fire ant abundance was significantly reduced on treated sites; we will collect post-treatment bobwhite data in the fall of 2000 and 2001.

MACROINVERTEBRATE AVAILABILITY AND USE BY NORTHERN BOBWHITE QUAIL CHICKS IN FOUR AGRICULTURAL CROPS

Denise Maidens, Randy Hudson, and John Carroll

Blocks of agricultural crops are often planted for quail management in the southeastern United States. Although normally planted for winter food and cover, we believe that some may be valuable as brood habitat. The most important feature of quality brood habitat is the abundance and availability of macroinvertebrates. We tested the efficacy of four agricultural crops as brood habitat in terms of macroinvertebrate assemblages and habitat structure. Each set of fields contained one plot each of four field types: millet, sorghum, soybean, and wheat. Macroinvertebrate biomass was determined by using human-imprinted chicks and D-Vac vacuum sampler. Gut samples to date reveal that the greatest quantity and volume of insects eaten was in millet, that sorghum and soybean are intermediate in both regards, and that wheat is poorest.

EFFECTS OF ALTERNATIVE COTTON CROPPING SYSTEMS ON NORTHERN BOBWHITE BROOD HABITAT

Elena B. Goldberg and John P. Carroll
Daniel B. Warnell School of Forest Resources
University of Georgia, Athens, GA 30602

Changes in agriculture in the state of Georgia and the Southeast have had a tremendous effect on populations of northern bobwhite quail *Colinus virginianus* and many early successional songbirds. The change from rather diverse small farms to large operations, generally geared to production of a few crops, has generally had a negative impact on farm wildlife. Heavy pesticide use to battle key agricultural pests has had a carryover effect by removing neutral and beneficial insects required by many breeding birds. Cotton, which requires more technological inputs than many row crops, has therefore traditionally been viewed as detrimental to wildlife. The use of clover strip-cropping has been shown to revitalize beneficial insect communities in cotton fields. This diverse community reduces the need for traditional pest control while also avoiding unnecessary or costly inputs that many alternative techniques currently require. The inherent structure of cotton rows along with the boost in insect diversity with strip-cropping

suggests a possible positive agriculture/wildlife interface. Initial results suggest that the use of cotton as brood habitat by northern bobwhites is possible and alternative management of these fields will allow them to become better habitat.

ILLINOIS WILDLIFE ENHANCEMENT BONUS PROGRAM

John Cole, Larry David, Steve Kern--Illinois DNR, Division of Wildlife Resources
Kent Macy--Illinois NRCS
David Howell--Quail Unlimited

Landowners participating in USDA's Conservation Reserve Program (CRP) can take advantage of Illinois Wildlife Enhancement Bonus Program payments for completing wildlife friendly habitat practices on new or re-enrolled CRP acres in 42 Illinois counties. This program is sponsored by Illinois Quail Unlimited, the Illinois Habitat Stamp Fund and the Illinois DNR – Division of Wildlife Resources in cooperation with the Farm Service Agency (FSA), Natural Resources Conservation Service (NRCS) and local Soil and Water Conservation Districts (SWCD). Landowners not in the CRP program can also receive per acre payments for strip disking and eliminating tall fescue.

Thru October 2000, 236 landowners had completed work on 3,380.95 acres and received payments totaling over \$107,000 thru the program. In 2001, \$150,000 will be available for Bonus Program Projects in Illinois.

Current Bonus Program practices for 2001 are:

- **Native Grass & Forb Plantings on CRP Acres (CP10-CP2-CP4D)** – A \$25/acre bonus payment to assist with planting native grasses and forbs on existing or new CRP acres, with a maximum of 40 acres/landowner/year.
- **Light Strip Disking (CRP or Other Idle Areas)** – A \$25/acre payment for completing light strip disking on old (3+years) CRP tracts and other idle acres, with a maximum of 25 acres or \$625/landowner/year.
- **Fescue Conversion on Non-CRP Acres** – A \$50/acre payment for changing fescue cover on private lands to wildlife friendly cover, with a maximum of \$1,500/landowner/year.

EFFECTS OF SEASONAL DISKING ON NORTHERN BOBWHITE NESTING AND BROOD HABITAT IN VIRGINIA

Michael L. Fies, Bonnie Larson, and David E. Steffen
Virginia Department of Game and Inland Fisheries

Disking the soil surface is an inexpensive management technique for maintaining early successional northern bobwhite (*Colinus virginianus*) habitat. From 1990-1992, we conducted a

study to determine the effects of seasonal disking on plant species composition, vegetative canopy cover, and insect biomass. Ten fields on 6 wildlife management areas were divided into twelve 0.10 ha plots. Two plots in each field were disked once during March-April, May-June, July-August, September-October, and November-December; two control plots in each field were left untreated. Percent canopy cover of grass varied by crop type ($F_{2,70} = 15.42$, $P < 0.001$), and was greater ($P \leq 0.05$) in fescue fields than row crop and wheat fields. Vegetation characteristics effected by disking period included percent forb cover ($F_{5,70} = 21.62$, $P < 0.001$), percent grass cover ($F_{5,70} = 12.35$, $P < 0.001$), percent woody cover ($F_{5,70} = 3.97$, $P = 0.003$), and average vegetation height ($F_{5,70} = 41.92$, $P < 0.001$). Forb cover was greatest in plots disked during the July-August period; grass and woody cover were greatest in the undisked control plots. The percentage of bare ground varied by treatment ($F_{5,70} = 78.41$, $F < 0.001$) and was highest in the plots disked during May-June. Insect biomass was not affected by crop type ($F_{2,34} = 0.88$, $P = 0.455$), but varied by disking period ($F_{5,34} = 5.99$, $P < 0.001$). The number of insects in each plot was also influenced by disking period ($F_{5,34} = 2.45$, $F = 0.053$). Plots disked during March-April had the greatest biomass and number of insects. Biomass was lowest in plots disked during May-June. Disking during late summer (July-August) and early fall (September-October) encouraged growth of forbs in fescue fields. In other crop types, forb cover was greatest in plots disked during July-August, but the percentage of total cover represented by forbs was similar between treatment periods. Spring disking favored grasses in fescue fields and resulted in more bare ground in all crop types. Using a habitat suitability index model, nesting habitat quality in fescue fields was highest in plots disked during March-April. In row crop and wheat fields, nesting habitat was best in plots disked during July-August and September-October, respectively. Brood habitat in all crop types was likely best in plots disked during March-April, since insect biomass was greatest. For areas that are disked annually, we recommend disking nesting areas in fall (after nests have hatched) and brood habitat in the late winter or early spring. Disking on a 2-year rotation might further enhance nesting habitat by increasing the availability of dead grasses used for nest construction.

THE BOBWHITE INITIATIVE: RESTORING GEORGIA'S STATE GAMEBIRD WHILE IMPROVING THE ENVIRONMENT

Chris Baumann¹, Bobby Bond¹, Joy Bornhoeft¹, John Carroll², Richard Hamrick², and Reggie Thackston¹

¹ Georgia Department of Natural Resources, Wildlife Resources Division

² The University of Georgia, Daniel B. Warnell School of Forest Resources

Like many southeastern states, Georgia's bobwhite quail population has declined by more than 70% since the 1960's. Wildlife biologists have determined through research that the primary cause of this decline is the reduction in habitat quality resulting from intensification of agriculture and forestry. To address this problem, members of Georgia's General Assembly worked with the Department of Natural Resources Wildlife Resources Division (WRD) and other conservation organizations during the 1999 legislative session to develop and fund the Bobwhite Quail Initiative (BQI). The BQI is a voluntary and experimental program designed to restore habitat for quail, songbirds and other farm wildlife on private lands in a 17 county area of east central, central and southwest Georgia. Upon request, WRD wildlife biologists assigned to

BQI provide landowners with technical assistance, and in some cases, financial incentives for nesting and brood-rearing habitat restoration. The program also provides benefits by reducing soil erosion and improving water and soil quality. Researchers with the University of Georgia's D. B. Warnell School of Forest Resources are monitoring impacts of these habitat improvements on quail and songbirds.

The BQI was successfully publicized in state and local newspapers, sporting and agricultural magazines, various television and radio interviews and through numerous public and professional meetings. As a result BQI personnel responded to over 300 landowner contacts, providing technical assistance for over 103,000 acres of land. Twenty-four cooperators enrolled and successfully met compliance for 69 crop fields in the incentives portion of the program. In total, 90 miles of field borders, hedgerows and filter strips were developed in conjunction with prescribed burning of 70 acres of pine stands and the management of 34 acres of pivot corners. Over \$51,000 was allocated to enrolled landowners for the first contract period of the Bobwhite Quail Initiative. With the addition of fields in the Longleaf Pine Conservation Priority Area of the Conservation Reserve Program to the BQI eligibility requirements, BQI enrollment for years 2001-2003 is significantly above last year's enrollment rates at this time.

IDENTIFYING NEST PREDATORS AND NEST FATES OF NORTHERN BOBWHITES USING VIDEO CAMERAS

Eric Staller, John Carroll, and Bill Palmer

No abstract provided.

